

Northern Ireland Electricity

Transmission and Distribution Price Controls

2012-2017

Draft Determination

19 April 2012

1. ABOUT THIS DOCUMENT

- 1.1 This document outlines our draft determination for the fifth price control for Northern Ireland Electricity Ltd. The paper covers the requirements for both the transmission and distribution elements of the business. The controls will apply from 1 October 2012 to 30 September 2017. They are referred to as RP5.
- 1.2 This document contains detailed information on the analysis we have undertaken to reach our ‘minded to’ positions for RP5.
- 1.3 We have also prepared a summary of the key issues, which we are publishing separately. It can be accessed by clicking [here](#). This provides an overview of our analysis and summarises the draft determination.
- 1.4 This price control will affect the network tariffs that are paid by all those who consume or generate electricity in Northern Ireland, as well as all generators who participate in the single energy market.
- 1.5 We welcome comments from all interested parties on this draft determination. The consultation is open until 19 July 2012. Information about how to respond is provided on page 4
- 1.6 Please contact Kevin O’Neill if you have any queries about this document or the consultation process.

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2. INTRODUCTION

- 2.1 In our role as The Northern Ireland Authority for Utility Regulation (the Utility Regulator), our principal statutory objective is to protect the interests of electricity consumers. We do this in relation to electricity generation, transmission and supply. We also regulate the water and gas industries in Northern Ireland. The transmission and distribution of electricity are generally accepted as being monopoly activities. In Northern Ireland the assets that are required to carry out these activities are owned by the transmission and distribution (T&D) business of Northern Ireland Electricity Limited. The company is also responsible for planning, developing and maintaining these systems.
- 2.2 We ensure that consumers receive value for money from these monopoly activities through a process of setting price controls. Typically, we review these price controls every five years. The objective is to ensure that Northern Ireland Electricity Ltd does not abuse its monopoly position by charging customers prices that are too high. At the same time we must ensure that it can finance its licensed activities.
- 2.3 This is the fifth price control that has been set for Northern Ireland Electricity Ltd since it was privatised in 1992. It is referred to in this document as RP5. In response to our business efficiency questionnaire, the company made a very detailed request for funding for the transmission and distribution parts of their business. This paper contains our analysis of those requests and our draft determination for the funding of the electricity transmission and distribution networks for the next five years.
- 2.4 We are now consulting upon our “minded to” position and we welcome comments from all interested parties on these proposals.

Consultation process

- 2.5 This consultation paper follows on from earlier engagement that we have undertaken with stakeholders during 2010 & 2011. This includes consultations on the overall strategy and workshops that we hosted with the Consumer Council for Northern Ireland (CCNI).
- 2.6 This paper contains our draft determinations for transmission and distribution. We will consider all responses in order to make an informed decision in our Final Determinations.

2.7 We have not posed specific questions in this paper, but instead invite stakeholders to express a view on any aspect of the paper or related matter. Responses should be received by 1700 on Thursday 19 July 2012 and should be addressed to:

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2.8 Our preference is for responses to be submitted by e-mail, although hard copy responses are also acceptable.

2.9 Individual respondents may ask for their responses not to be published (in whole or in part), or for their identity to be withheld from public disclosure. In either case, we will ask respondents to supply us with a redacted version of the response that we can publish.

2.10 As a public body and non-ministerial government department, we are bound by the Freedom of Information Act (FOIA) which came into effect in January 2005. According to the remit of FOIA, it is possible that certain recorded information contained in consultation responses can be put into the public domain. Hence it is now possible that all responses made to consultations will be discoverable under FOIA – even if respondents ask us to treat responses as confidential.

2.11 It is therefore important that respondents note these developments and when marking responses as confidential or asking responses to be treated as confidential, should specify why they consider the information in question to be confidential.

2.12 This paper is available in alternative formats such as audio and Braille. If an alternative format is required, please contact the office and we will be happy to assist.

Structure of this document

2.13 This Draft Determination sets Northern Ireland Electricity Ltd’s allowed revenues for transmission and distribution, for the period 2012-2017, to recover operating costs, depreciation and a reasonable return on investment. These revenues will be collected from customers via use of system charges over the

next five years. All costs are in 2009/10 prices unless stated otherwise. The areas on which we have focused our analysis are:

- capital expenditure (capex)
- operating expenditure (opex)
- pensions
- connections
- incentives
- innovation
- environment, health & safety
- the weighted average cost of capital (WACC)
- the regulatory asset base (RAB)
- depreciation
- financeability

2.14 Each of these areas is considered in turn in this document.

Company Overview

2.15 Northern Ireland Electricity Ltd is a subsidiary of the ESB Group. The group’s structure is shown in figure 2.1.

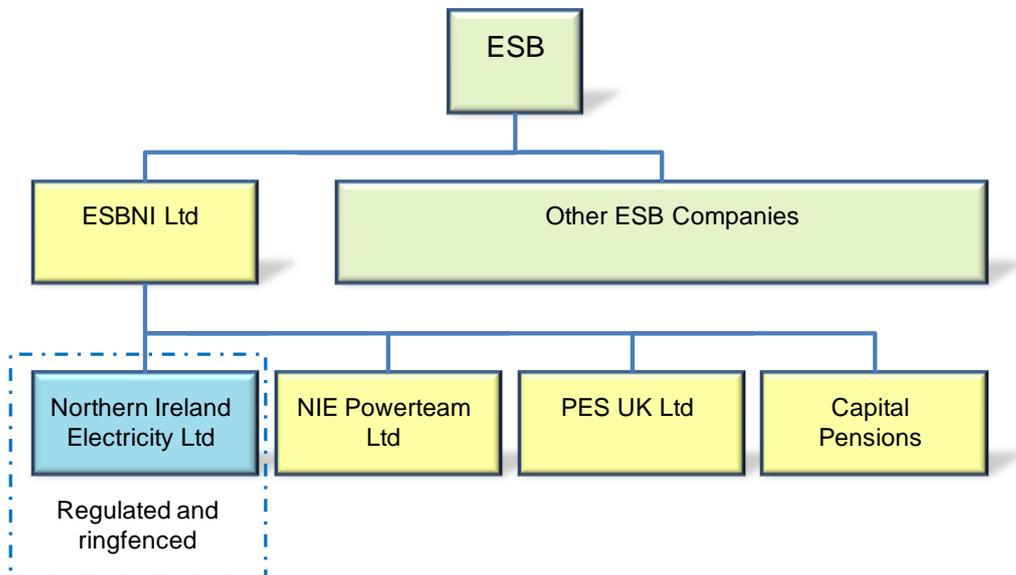


Figure 2.1 – Northern Ireland Electricity Ltd in overall ESB structure

2.16 Each of the companies under the ‘ESBNI Ltd’ group are discussed in the following sections.

Northern Ireland Electricity Ltd

2.17 Northern Ireland Electricity Limited owns, maintains, plans and develops the transmission network in Northern Ireland. It owns, maintains, plans, develops and operates the distribution network in Northern Ireland. Northern Ireland Electricity Ltd is referred to as NIE T&D throughout this paper.

2.18 A separate company, SONI Limited, operates the transmission network. Since the NIE network business is a natural monopoly, NIE T&D is subject to a regulated price control.

2.19 The NIE T&D network comprises overhead lines, underground cables and substations. The transmission network operates at 275kV and 110kV. This connects onto the distribution network, which operates at 33kV, 11kV and Low Voltage (LV). These networks connect the power stations and other sources of electricity generation to businesses and homes. NIE T&D's transmission system is connected to the Republic of Ireland through 275kV and 110kV Interconnectors and to Scotland via the Moyle Interconnector. A second interconnector between Northern Ireland and the Republic of Ireland is jointly proposed by NIE and Eirgrid¹. This proposal involves a 400kV power line running from Tyrone to Cavan².

NIE Powerteam Ltd

2.20 NIE Powerteam Limited provides technical expertise to NIE T&D. Powerteam was set up as a separate entity in 1998 to provide technical services to NIE T&D. In 2000, around 800 NIE staff were transferred to the Powerteam business, and in 2005, Powerteam was split into two separate legal entities: Powerteam Electrical Services Ltd and NIE Powerteam Ltd.

2.21 The organisational structure of NIE T&D and Powerteam is unusual. Powerteam effectively operates as a department of T&D. NIE T&D uses Powerteam for the majority of its subcontracted labour work on the network. Powerteam provides network services including metering, meter reading, overhead lines, customer operations and plant/technical support to NIE T&D, as well as providing other support functions under managed service contracts. Given the organisational structure, a number of business functions are shared

¹ <http://www.eirgrid.com/>

² <http://www.nie.co.uk/interconnector/docs/InterconnectorFactSheet.pdf>

² <http://www.nie.co.uk/interconnector/docs/InterconnectorFactSheet.pdf>

³ See Appendix A for full details

across T&D and Powerteam. Examples include: telecoms, IT, corporate service allocations, finance, technical, facilities management, HR and business improvement. NIE Powerteam Ltd is not a regulated entity.

Powerteam Electrical Services Limited

2.22 Powerteam Electrical Services Limited (PES) is a third party contractor that provides services on a commercial basis. There are limitations on the level of work that PES can carry out for Northern Ireland Electricity Limited. It is not a regulated entity.

Capital Pensions Management

2.23 Capital Pensions Management is the administrator of the ESBNI group's pension scheme in Northern Ireland.

3. STATUTORY DUTIES AND LEGISLATION

Introduction

- 3.1 Our statutory duties are defined in legislation³ and are set out below. In coming to the initial proposals in this paper, we have been mindful of our statutory duties. We have also tested our analysis and our ‘minded to’ positions against our statutory duties to ensure that we are complying fully with these.
- 3.2 We have also considered the impact of recent legislative changes and government policy for energy and how these were reflected in the RP5 submission from NIE T&D. The key changes are discussed below.

Our statutory duties

- 3.3 Our principal objective in carrying out our electricity related functions is:

“to protect the interests of consumers of electricity supplied by authorised suppliers, wherever appropriate by promoting effective competition between persons engaged in, or in commercial activities connected with, the generation, transmission, distribution or supply of electricity.”

- 3.4 In addition, we must also have regard to:

- (a) *“the need to secure that all reasonable demands in Northern Ireland or Ireland for electricity are met; and*
- (b) *the need to secure that licence holders are able to finance the activities which are the subject of obligations imposed by or under Part II of the Electricity Order or this Order”*

- 3.5 A more detailed description of our statutory duties can be found in Appendix B.

Legislative changes & government policy

- 3.6 It is our role to have regard to government policies and targets while ensuring that the delivery of the policies is in a manner that is efficient and beneficial to the end consumers.
- 3.7 The RP5 price control must be considered in the context of recent legislative and policy developments regarding the ownership and operation of electricity networks, renewable electricity generation and demand side participation.

³ See Appendix A for full details

- 3.8 Specific examples that form part of the new framework include the Third European Internal Market Directive (IME3), the Renewable Energy Strategy (RES) Directive and the Strategic Energy Framework⁴ (SEF). Of most significance for electricity networks are government targets for generation of electricity by renewable sources and the associated policy of smart metering.
- 3.9 In September 2010, the Department of Enterprise, Trade and Investment (DETI) published its SEF. This included a target that 40% of electricity consumption should be generated by renewable sources by 2020. However, the Department also voiced concern about the impact that this could have on prices. In its overview DETI states:

“Northern Ireland will also be considering the need to minimise costs to consumers in relation to electricity grid investment and increasing levels of renewable generation. We recognise that investment is needed in the short to medium term in order to deliver long term benefits, including net savings to consumers.

As Northern Ireland has the highest levels of fuel poverty in the United Kingdom we must ensure that our desire to develop a more sustainable and secure energy supply is not detrimental to energy consumers.”

- 3.10 The 40% target is for electricity consumption from renewable sources by 2020. In its plans for connecting generation, NIE T&D will need to consider connections from various renewable sources.
- 3.11 IME3 requires each member state to undertake a cost benefit analysis to assess the viability of the installation of smart meters for electricity and gas supplies to domestic customers. This work is currently ongoing for Northern Ireland but is not yet sufficiently advanced to allow funding for any investment to be included in the RP5 determination.

Transmission System Operator Certification for Northern Ireland

- 3.12 We recently published guidance⁵ for Transmission System Operators (TSOs) in Northern Ireland seeking certification under the IME3 legislation.

⁴ http://www.detini.gov.uk/strategic_energy_framework__sef_2010_-3.pdf

⁵ http://www.allislandproject.org/en/sem_publications.aspx?year=2011§ion=2, see document SEM-11-103

- 3.13 Under EC Directive 2009/72/EC, which has been transposed into Northern Ireland law in The Gas and Electricity (Internal Markets) Regulations (Northern Ireland) 2011, TSOs are required to be certified. The guidance sets out the means by which this can be achieved.
- 3.14 Implementation of IME3 could potentially result in a transfer of ownership of the transmission network and/or reallocation of major transmission functions including planning, development and maintenance.
- 3.15 This Draft Determination has been written under the assumption that the current structure of NIE T&D will stay in place. Changes to the Final Determination may be required pending any decision regarding TSO certification. The NIE T&D licence will be amended to allow these adjustments to be made, if necessary.

4. STRATEGY FOR RP5

Introduction

- 4.1 In developing our approach to RP5, we produced a strategy paper that outlined the high level objectives and proposed form of the RP5 price control. We also recently consulted on network price controls across the three utilities we regulate.
- 4.2 This section summarises how we have considered these consultations in determining our approach to RP5. It considers the form and duration appropriate for RP5 as well as discussing the preparation we undertook in terms of data collection and engaging with stakeholders.

Regulatory objectives

- 4.3 We published our RP5 strategy paper⁶ in July 2010. We received responses⁷ from a number of stakeholders. We published an update paper⁸ in May 2011. One of the topics that the paper discussed was the appropriate objectives for RP5. Stakeholders agreed that these should be to:
- ensure value for money for customers for the service provided;
 - ensure security of supply by maintaining and developing a network that is fit for purpose; and
 - facilitate sustainability in the generation and consumption of electricity.
- 4.4 The purpose of RP5 is to achieve these objectives while also ensuring that NIE T&D can finance its activities. In the final determination we will set out the outputs based on the regulatory contract.

⁶

http://www.uregni.gov.uk/uploads/publications/RP5_NIE_TD_Fifth_Price_Control_Strategy_Paper_FINAL.pdf

⁷ http://www.uregni.gov.uk/news/view/nie_price_control_rp5_strategy_paper_update_published/

⁸ http://www.uregni.gov.uk/uploads/publications/RP5_Strategy_Update_Paper_-_May_2011.pdf

Consultation on cross utility price controls

- 4.5 In September 2011 we published a consultation paper, ‘Network price controls: Proposals for a cross-utility approach’⁹, seeking stakeholders’ views on our future approach to price controls in the electricity, gas and water sectors.
- 4.6 The two key drivers behind the consultation were the changing policy context in which the sectors operate, and the need to achieve a more consistent approach to price controls across our three directorates (electricity, gas and water).
- 4.7 The paper covered the following aspects:
- background on the approach to price controls,
 - the changing policy context and its implications,
 - the form and duration of price controls,
 - incentivisation in price controls,
 - the cost of capital and financeability,
 - risk and uncertainty,
 - reporting and monitoring arrangements.
- 4.8 We have taken account of the issues discussed in the consultation in our approach to RP5.

The use of a Reporter

- 4.9 Our consultation on network price controls, discussed above, explained that our experience in recent years suggested an increased need to address the issue of asymmetry of information between the regulator and the regulated company. Based on our experience in water regulation, we are convinced that the use of a Reporter in electricity network price controls would help us to address this issue
- 4.10 A Reporter is an independent professional who audits, certifies and commentates on submissions made by regulated companies to the regulator. The reporter will be appointed by us.

9

http://www.uregni.gov.uk/uploads/publications/Proposals_for_a_cross_utility_approach_to_network_price_controls.pdf

4.11 The areas where a Reporter could be used in RP5 are highlighted throughout this paper. Once the issue has been addressed, we will further review the extent, if any, to which it is necessary to continue with this service.

Overall approach to RP5

4.12 The form of the NIE T&D price control has historically followed the traditional ‘building blocks’ approach. This is illustrated in figure 4.1.

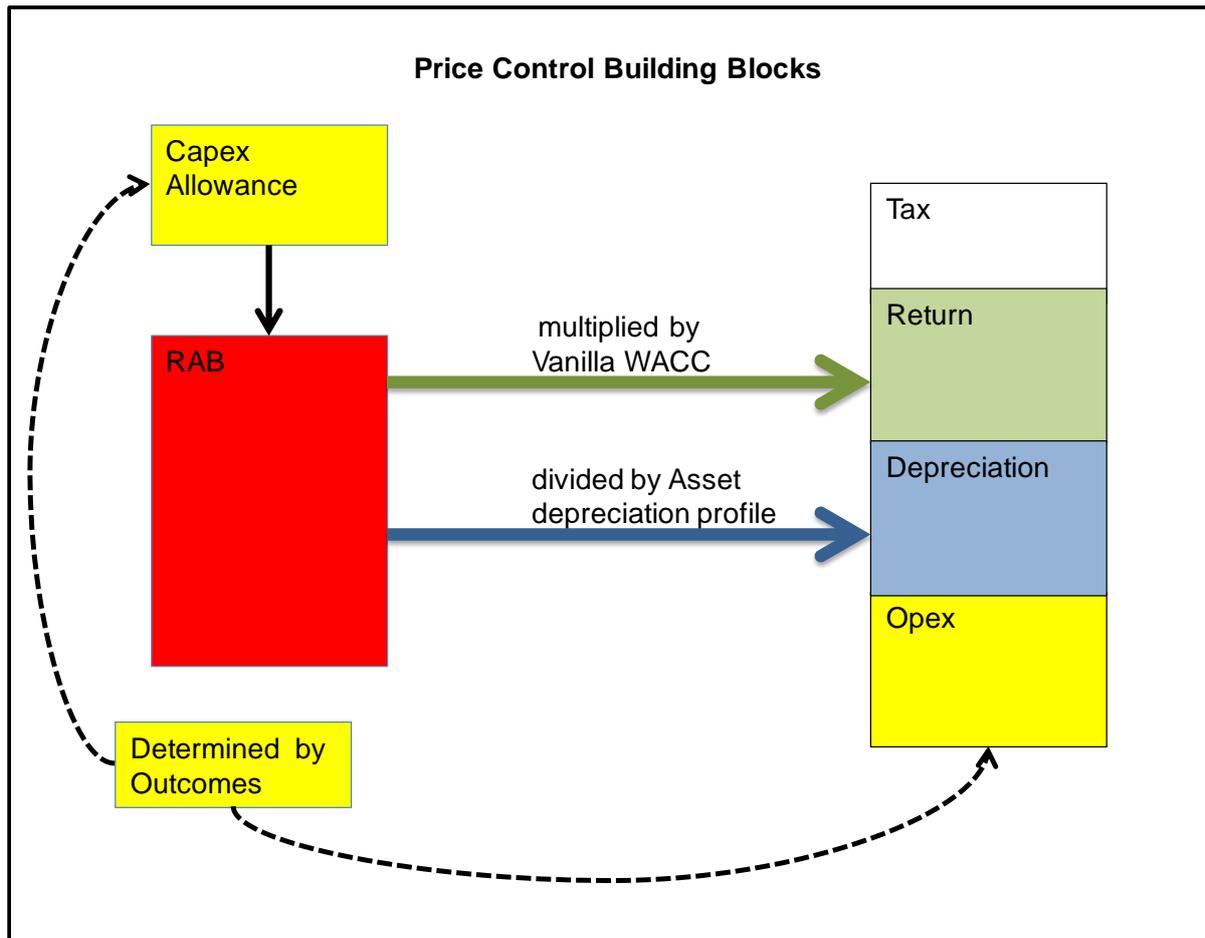


Figure 4.1 – Building blocks approach to price controls¹⁰

4.13 For RP4, the price control allowance was calculated using the formulae defined in NIE T&D’s licence¹¹. In a move away from the traditional methods applied to a price control, a number of new approaches to incentive mechanisms were

¹⁰ See section 16 for further details on Vanilla WACC and the tax wedge

¹¹ http://www.uregni.gov.uk/uploads/publications/2009-08-26_NIE_plc_-_Licensing_Scheme_Transmission_Licence_-_Consolidated.pdf

introduced for RP4. These included setting the capex allowance by using actual expenditure instead of forecast (pass through), and a 'rolling' opex mechanism. As well as opex and capex 'allowances', NIE T&D was allowed to request approval for any other expenditure. This expenditure sat outside these allowances and included areas such as renewable development, meter reading and the Tyrone - Cavan Interconnector development. We had the discretion to approve these as additional monies following detailed scrutiny of NIE T&D's proposals.

- 4.14 For RP5 we are minded to return to a traditional RPI-X type price control, with allowances designed to incentivise NIE T&D to control its operating and capital costs.
- 4.15 The risk allocation for RP5 is discussed in the relevant sections (RP5 capex, RP5 opex, pensions, and incentives). As with previous price controls for NIE T&D, RP5 will take the form of a revenue control. This means that the total revenue that NIE T&D are entitled to claim from customers is defined in the licence. The unit charges included in the tariffs paid by customers are then calculated to ensure that this revenue is collected in a cost reflective way.

Duration of RP5

- 4.16 RP4 was a five-year price control which began on 1 April 2007 and ended on 31 March 2012.
- 4.17 As discussed in the RP5 strategy paper, we are minded to continue with a five-year price control (to apply to both the transmission and distribution businesses).
- 4.18 We will implement RP5 from 1 October 2012, which means that RP4 will be extended from 1 April 2012 to 30 September 2012. This has been necessary because of delays in receiving the full RP5 submission from NIE T&D. As a result we needed more time both to complete a robust assessment of the submission itself and to deal with the significant issues that were subsequently identified.

Data collection for RP5

- 4.19 We sent a business plan, investment and efficiency questionnaire (BPQ) to NIE T&D in October 2010. This incorporated detailed questions about the transmission and distribution businesses of NIE T&D, and also NIE Powerteam.

4.20 The information we received included narrative, spreadsheets and databases for:

- capex (business as usual and renewables),
- financial reports,
- opex,
- pensions,
- connections,
- RAB,
- tax,
- environment & safety,
- standards of performance,
- benchmarking and incentives,
- innovation, and
- metering.

4.21 Although we did not request them, we were pleased to receive supporting papers relating to:

- renewables transmission baseline,
- HR strategy,
- workforce renewal,
- NIE T&D's proposals for RP5 incentives,
- Output measures,
- benchmarking indirect and repairs & maintenance (R&M) costs,
- benchmarking allowed revenue,
- NIE T&D unit cost benchmarking report,
- real price effects,
- RP5 and RP6 maintenance strategy,
- distribution network performance,
- managing uncertainty,
- non-network capex IT and telecoms,
- IT and telecoms opex,
- operating cost plan, and
- the WACC.

4.22 For RP5, NIE T&D has submitted significant expenditure proposals¹² which we have subjected to a high level of scrutiny and robust analysis. The various elements of the NIE T&D submission are discussed in the relevant sections of this paper.

Meetings with NIE T&D

4.23 We began to engage with NIE T&D about RP5 in the summer of 2010. We held numerous meetings with NIE T&D, both before our structured analysis began and during the review stage.

4.24 Although NIE T&D made a substantial submission, a large number of queries needed to be addressed.

Stakeholder engagement

4.25 We hosted a number of stakeholder events¹³ in conjunction with CCNI during May and June 2011. The purpose of these events was to make sure that informed regulatory decisions were made, with input from a wide range of interested stakeholders. The events gave NIE T&D the opportunity to present its views and allowed stakeholders to raise questions. We found responses to both the strategy paper, and at the stakeholder events to be very useful and have taken them into account in this draft determination.

¹² [http://www.uregni.gov.uk/uploads/publications/Capital Investment Requirements for RP5 NIE Paper.pdf](http://www.uregni.gov.uk/uploads/publications/Capital%20Investment%20Requirements%20for%20RP5%20NIE%20Paper.pdf)

¹³

http://www.uregni.gov.uk/publications/view/rp5_stakeholder_event_presentations_load_bearing_and_large_scale_renewable/

http://www.uregni.gov.uk/publications/view/rp5_stakeholder_event_presentation_small_scale_renewable_generation_connect/

http://www.uregni.gov.uk/publications/view/rp5_stakeholder_event_presentations_network_development_and_asset_replaceme/

5. RP4 CAPEX

Introduction

- 5.1 NIE T&D undertake capital spend on their network to ensure that it continues to meet the required standards, to expand capacity where required and to connect new customers and generators. This capital investment is added to the Regulatory Asset Base (RAB). Each year customers pay NIE T&D for the depreciation of the assets and a return on the amount of money they have currently invested in the RAB. The return is based on the WACC. The assets are depreciated over 40 years. This means that customers in NI will continue to pay for the investments made in RP5 until 2057.
- 5.2 Before determining the capex requirement for the RP5 period, we completed an assessment of the capex in RP4. The reason we did this was to assess:
- whether or not any adjustments were necessary;
 - the success of the approach that we had used at RP4 (pass through); and
 - the scope for efficiency during the RP5 period.
- 5.3 Our analysis and findings are discussed below.

RP4 capex background

- 5.4 The traditional approach to capex in price controls is to provide the company with an allowance that it is incentivised to beat by improving efficiency. In RP4, the approach was unique, in that it allowed for the actual spend to be added to the RAB, with efficiency incentive through a separate mechanism. This has presented a challenge when completing the ex-post assessment of the additions to the RAB as part of the RP5 process.
- 5.5 The published papers for RP4 were high level summaries of the complex work that was undertaken in the background by NIE T&D and Utility Regulator¹⁴ staff. Due to the unique nature of the settlement and a lack of specific precedent, this review is grounded on our statutory duties and on the obligations imposed on NIE T&D through statute law and the licensing process.
- 5.6 The background to the RP4 capex settlement is included here to help explain our conclusions.

¹⁴ The Utility Regulator was previously known as Ofreg and then NIAER. For ease of reading, the paper refers to the Utility Regulator throughout, rather than the various historical names.

5.7 The purpose of this assessment is to ensure that additions to the RAB during RP4 are in accordance with the principles stated in the papers associated with RP3 and RP4. This includes both those that we published and those that NIE T&D submitted to us. The papers before the first consultation on RP4 in December 2005 were considered to be confidential at the time, due to the impact that they might have on the share price of its parent company, and so they were not placed in the public domain. However this restriction is no longer relevant to this review and these documents are quoted where appropriate.

Intention of the mechanism

5.8 In our decision regarding the RP3 price control we highlighted the shortcomings of the traditional price control mechanism for customers in Northern Ireland. This is summarised in the following quote:

“The price control becomes a clash of opinion between two sets of experts on the revenue which an efficiently run business needs and there is no scientifically definitively correct answer. NIE T&D’s views must be robustly tested using independent experts in the sector because of their vested interest in maximising profits. But they do have the inside track in their detailed knowledge of their business.”¹⁵

5.9 In an attempt to move to a situation where both the company and customers ‘win’, we proposed the transition to an ‘aligned price control’. The purpose of this was to ensure that the company benefited from efficiencies in the short term through higher profits and customers benefited in the long term through lower costs.

5.10 During the first few years of RP3, our staff worked with NIE T&D to develop options that would be consistent with that aspiration. In November 2003, NIE T&D submitted a ‘composite proposal’¹⁶ for future price controls. This had three main pillars:

- rolling opex
- actual capex added to the RAB plus a separate efficiency incentive, and

¹⁵ Transmission and Distribution Price Control Review Final Proposals, Ofreg, June 2002 (RP3 Final Proposals) Page 2.

¹⁶ Developing the incentive framework for the T&D Business – 6 November

- the adoption of the WACC applied to electricity transmission and distribution businesses in GB.

5.11 In the context of capex, the aspirations of this mechanism were as follows:

“A framework which strengthens the incentives on the company to make efficient decisions in asset management, project management and procurement will promote confidence that the capital investments made within a regulatory period are in customers’ interests. A capex reporting mechanism that keeps Utility Regulator apprised of investments on a regular (say annual) basis would reinforce that confidence.”¹⁵

5.12 We issued a ‘minded to’ letter to NIE T&D in October 2005, accepting that RP4 would be based on the composite proposal.

5.13 The RP4 capex mechanism was based on a budget considered appropriate for NIE T&D to be able to discharge its licence obligations. Costs associated with stakeholder priorities (such as renewable development) would be passed through separately. In addition, a capex efficiency incentive was developed. Its aim was to encourage NIE T&D to improve labour productivity and procure materials and services efficiently.

5.14 The purpose of the efficiency incentive was to provide NIE T&D with an amount of money equivalent to five years of the savings they could demonstrate for procurement and productivity. This equated to 38.9%, with consumers benefiting from 61.1% of the savings.

Description of the mechanism

5.15 The RP4 mechanism was founded on a number of principles that NIE T&D proposed:

- *“the use of actual expenditure to determine future revenue entitlement removes ambiguity around the allocation of costs between opex and capex. For regulatory purposes actual expenditure is recovered either via the RAB over 40 years or via opex but not through both”¹⁷*
- *“High-level capex monitoring should add considerable value in providing Utility Regulator with the confidence that variances in the*

¹⁷ NIE “Composite Proposal” Paper submitted to Utility Regulator 04/03/2005

*expenditure profile are consistent with the efficient management of network investments against the capex allowance”.*¹⁸

- *“the company should retain a share of efficiency gains, representing five years worth of financing costs and depreciation. Capex efficiencies would be calculated outside of the RAB and the incentive added to the overall revenue entitlement.”*¹⁹

5.16 Consequently, the RP4 capex budget was based on the assessment of investment requirements in Table 5.1. The decision paper stated that:

“Regulated revenue includes an element to cover the costs of financing (return and depreciation) of new capital expenditure over the period. For RP4 it was proposed that the regulated entitlement would be dependent on actual Capex rather than allowed Capex. A separate mechanism would be introduced to incentivise capital efficiency (as outlined later) and NIE T&D would be required to continue to report annually on its investments.”

5.17 Over the first part of RP4 the number of new connections exceeded expectations. We therefore agreed that the portion of the original budget associated with connections would be ring fenced, with the option to increase it if required.

5.18 The mechanism allowed NIE T&D the freedom to prioritise spend on the areas necessary to ensure licence compliance, provided they reported any significant changes annually.

¹⁸ NIE Paper: “Developing The Incentive Framework For The T&D Business” 06/11/2003

¹⁹ NIE Paper: “Developing the Capex Efficiency Incentive Framework” 05/07/2004

Table 5.1 Summary of RP4 capex adjustments and recommendations**Price base = 2004/05**

Category	NIE T&D RP4 Proposal	NIAUR adjustment	Notes
Transmission			
Load related	£30m		
Non load related plant	£28m	-£2m -£2m	T auxiliary systems 110/33kV Power transformers
Non load related lines	£17m		
Distribution			
Load related	£35m		
Non load related	£179m	-£5m	D Switchgear
		-£6m	D Network refurbishment
Other Expenditure			
New Business (Net)	£46m		
Network Performance	£5m		
ESQCR compliance	£8m		
Metering	£11m		
Network IT	£3m		
Other Considerations			
Delivery Shortfall Risk			
SUB TOTAL	£362m	£347m	
NIE T&D 4% Volume Reduction	-£14m	-£14m	
NIE T&D 6% Efficiency Gain	-£22m	-£21m	
TOTAL	£326m	£312m	

5.19 Financial figures appearing above are quoted at 2004/05 price base.²⁰

Controls in place

5.20 The RP4 settlement aspired to move away from the “clash of opinions” that had existed during previous price controls, and to create a more balanced relationship based on openness. The RP4 capex mechanism did include a number of measures to protect consumers:

- annual reporting;
- efficiency savings verified by the Utility Regulator;

²⁰ http://www.uregni.gov.uk/uploads/publications/TD_Final_proposals_Sept_06.pdf

- customers benefit from efficiency savings after the first five years; and
- The obligations on NIE T&D to comply with statute law, their licence and other mandatory codes.

Efficiency incentives

5.21 NIE T&D set itself a 10% efficiency challenge as part of its RP4 submission. As actual amounts spent were being added to the RAB, NIE T&D was to receive its share of the efficiencies through a mechanism specified in the 2006 direction²¹ (see Appendix C). The capex efficiency incentive is designed to reward NIE T&D with a payment equivalent to five years of the savings generated by procurement or productivity improvements. The RP4 decision paper stated:

“The proposal is that for every £1m of efficiency, the company would retain 38.9% of the efficiency, which in NPV terms equates to £389k, with customers retaining 61.1%. The calculation of 38.9% represents five years worth of return and depreciation. The 38.9% is a figure which results from the application of the depreciation profile of NIE’s assets and the cost of capital proposed in the December paper. If NIE invested £1m in new capital it would be allowed a return on this investment (cost of capital) and the depreciation charge associated with the investment. Capex efficiencies will be calculated outside the RAB and the incentive added to the overall revenue entitlement in the year after the efficiency is made.”

5.22 The mechanism is defined in the 2006 direction to NIE T&D, which states that, for procurement, the saving is calculated as the difference between the price under the previous contract adjusted by RPI and the price in the current year.

5.23 For productivity improvements, the man hours required to undertake tasks was to be measured, and NIE T&D rewarded for improvements with respect to performance in 2006/07. A sample of tasks was to be used to ‘normalise’ for the overall performance. The appropriateness of the list of tasks identified by NIE T&D is discussed below.

²¹ Letter from Utility Regulator to NIE dated 19 December 2006, and referenced in Annex 2 of NIE’s licence. See Appendix C

Review of RP4 Capex

Capex spend – business as usual

5.24 NIE T&D’s submission was based on the position at the end of the 2009/10 financial year. This predicted that NIE T&D would spend up to its budget limit, precisely. The expenditure on load related projects was reduced, while asset replacement spends increased from those included in the original plan.

5.25 The RP4 budget included a provision for the implementation of the Electricity Safety Quality Continuity Regulations (ESQCR). As this legislation has not been enacted in Northern Ireland during RP4, the final budget has been reduced by this amount. NIE T&D made this reduction after its submission; therefore this placeholder is still included in table 5.1 (which is based on those in NIE T&D’s formal submission).

5.26 It is not possible to correlate exactly between the scope of the original plan and the actual volumes of work delivered. This is due to differences in the mix of assets NIE T&D has replaced and the fact that a number of the largest transformers have been ordered, partially paid for, but not yet delivered. However, the figures in table 5.2 indicate that overall volumes have not increased in proportion with the increase in spend. One issue with the RP4 capex mechanism is that the outputs to be delivered were not fully defined from the outset. We intend to address this in the mechanisms adopted for RP5.

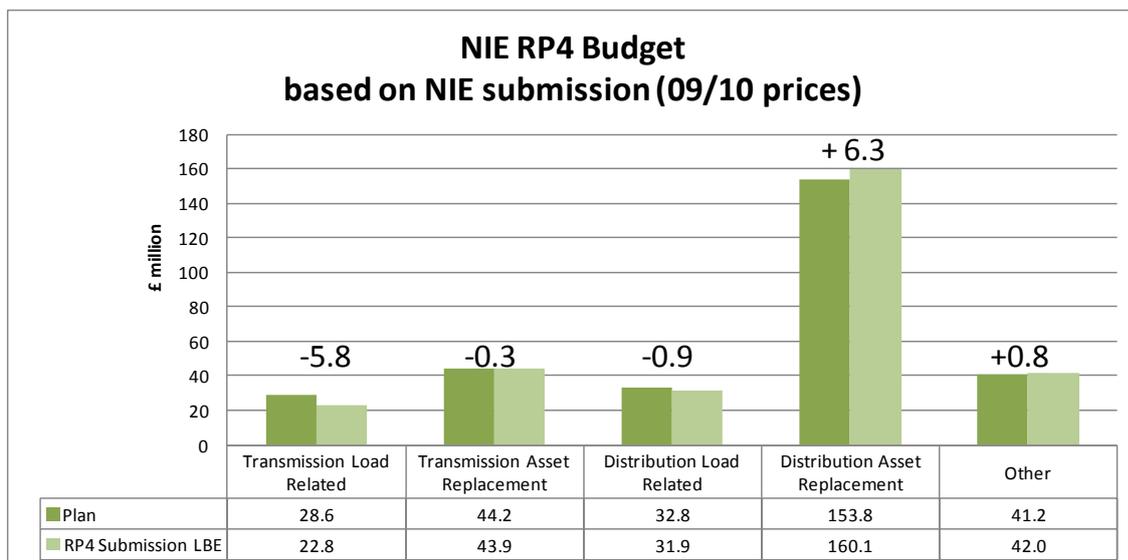


Figure 5.1 – RP4 Plan and Actual Spend (Latest best estimate²²)

²² Based on Latest Best Estimate March 2010. This will be updated in the Final Determination.

Table 5.2 – RP4 Plan and Actual Delivery

		Original Plan (07/08 Capex Report)	Planned Outputs at Date of Formal Submission	Final Plan (ESQCR Placeholder removed)	Percentage Delivery During RP4
TRANSMISSION					
Plant	275kV circuit breakers	10 units	10 units	10 units	100%
	110kV circuit breakers	17 units	8 units	8 units	47%
	275/110kV & 110/33kV substations	22 sites	22 sites	16 sites	73%
Transformers	275/110kV transformers	4 units	1 unit	1 unit	25%
	110/33kV transformers	9 units	7 units	6 units	67%
Overhead Lines	275kV & 110kV circuits	4,748 units	4,750 units	5,200 units	110%
DISTRIBUTION					
11kV Lines	11kV Lines	20,400 km	20,400 km	20,400 km	100%
Other Distribution Lines	33kV Lines	4,935 km	4,935 km	4,935 km	100%
	LV Lines	1,405 km	1,375 km	1,375 km	98%
Services & Cut-Outs	LV Undereaves	16,000 premises	17,800 premises	18,058 premises	113%
	LV Cut-Outs	8,000 cut-outs	8,300 cut-outs	8,805 cut-outs	110%
Primary Plant	33/11kV & 33/6.6kV substations	90 sites	90 units	85 units	94%
Secondary Plant	Ring Main Unit substations	500 sites	500 sites	500 sites	100%
	Urban Substations	18 sites	18 sites	14 sites	78%
	Rural substations	300 sites	300 sites	343 sites	114%
	LV Plant	440 sites	440 sites	442 sites	111%

Capex spend – renewables

5.27 The RP4 capex mechanism allowed for expenditure outside of the price control mechanism to be approved. This included the capital investments required by NIE T&D to facilitate government targets for generation of electricity from renewable sources.

5.28 DETI set a target of 40% of electricity from renewable sources by 2020. NIE T&D has divided the network expansion required to support renewable generation into three phases:

- Short-term plan: increases to capacity by using the existing assets better and making minor upgrades. This includes the dynamic rating of some transmission lines.
- Medium-term plan: investment in 110 kV assets to increase the capacity of existing transmission corridors. This includes restringing some sections with higher capacity wires and installing additional circuits in parallel to existing lines.
- Renewables Integration Development Plan (RIDP): this involves investment in new corridors and potentially installing 275kV lines.

5.29 During RP4 NIE T&D has completed the short-term works and started to implement the medium-term plan. NIE T&D is spending £48 million on capex developments to facilitate renewable generation over the RP4 period. Of this, £29.4 million has been funded by the developers of the new generation, and the remaining £18.6 million will be funded by all generators and customers over 40 years through the transmission use of system tariffs.

Real price effects

5.30 In its submission and annual capex reports, NIE T&D highlighted:

“significant increases in global raw material prices since 2005 (when NIE initially assessed RP4 capex requirements). This has particularly impacted on the price of copper and steel, which are the primary raw materials used in the manufacture of underground cables, overhead lines, transformers and circuit breakers. This increase in material prices is outside NIE’s control and represents a significant departure from the assumptions on which the RP4 capex budget was based. It will increase the cost of delivering individual projects and programmes that make up the RP4 network investment programme.”

In the July 2009 report, NIE provided a detailed analysis of additional costs amounting to almost £8m over and above that assumed when the RP4 budget was agreed, with c.£4m of that already incurred or committed through equipment orders. This £8m increase in costs would add c.3% to the capex requirements for RP4 assuming the physical outputs in the RP4 programme are to be delivered in line with what had been assumed when the overall budget was agreed. This effectively would require us to stretch our efficiency target by half as much again to deliver the RP4 programme within the agreed capex budget. We considered this target to be unrealistic.”

5.31 We have reviewed this claim. We agree with the facts behind the increase in prices and the magnitude of the impact on NIE T&D. As detailed in table 5.2, it is clear that NIE T&D delivered fewer units than was originally planned for in RP4.

Incentive Payments Claimed

5.32 The RP4 settlement allowed NIE T&D to claim incentive payments related to improvements in productivity and procurement. This was defined in the 2006 Direction.

5.33 The procurement incentive works by calculating the difference in cost between services and products procured in 2006/07 (adjusted for RPI) and in the current year. Some contracts have increased by more than RPI inflation, while in others NIE T&D has made savings with respect to RPI. The aggregate of the savings and increases is used in the mechanism. The amounts claimed each year are shown in Table 5.3.

Table 5.3 Amounts claimed for efficient procurement and productivity

Year	Procurement	Productivity	Total	NIE T&D Share
2007/08	£0.04m	£0.87m	£0.91m	£0.35m
2008/09	-£0.74m	£1.28m	£0.54m	£0.21m
2009/10	£0.01m	£1.50m	£1.51m	£0.59m
2010/11	£1.51m	£1.21m	£2.72m	£1.06m
2011/12	To be included in the annual capex report due to be submitted before 30 July 2012			
Total			£5.67m	£2.21m

5.34 The incentive to improve the productivity of NIE Powerteam Ltd uses “*key capex outputs to normalise the level of manpower employed in delivering the capex programme*”. NIE T&D proposed the following activities:

- Cable works (cable jointing)
- Overhead line construction
- 11kV line refurbishment
- Undereaves replacement
- Plant replacement

5.35 We have approved the amounts claimed for the first two years of RP4. However, further scrutiny of the total cost of Powerteam to NIE T&D (as part of the RP5 process) has called into question the appropriateness of this list of tasks as a benchmark for the total Powerteam productivity. The hourly cost of Powerteam to NIE T&D is approximately one-third direct labour and two-thirds back office staff. The productivity of the back office staff is not reflected in the normalisation, yet they comprise the bulk of the cost. We are currently working with NIE T&D to clarify the method used to measure the productivity of the Powerteam staff not already included in the mechanism. This should ensure that the mechanism provides an appropriate reward for improvements.

External Review of RP4 capex

Scope of the review

5.36 As part of this price control process, we undertook a review of RP4 capex to assess:

- NIE T&D’s progress in delivering its obligations with respect to the capex element of the RP4 determination and
- identify any risks that these obligations would not be delivered in full by the end of the RP4 period.

5.37 Our assessment considered the following elements:

- project selection (including budget revisions, project deferral and project substitution);
- the policy for replacing and refurbishing the assets based on the age profile of the network and performance at the end of the review

period and beyond; including the approach that NIE T&D used to assess the quality of the assets and the priority with which they were replaced;

- project governance;
- the impact of technical choices on the total cost to customers (operating cost, asset lives and energy losses);
- implications of the project selection and specifications on public safety; and
- the interface between connection assets funded by connectees and system asset upgrade funded by RP4 capex and the cost items included in the connection offers;

5.38 We also reviewed 15 individual projects, from the transmission and distribution sides of the business. Our review incorporated:

- schemes that had been cancelled;
- schemes that had been added to the RP4 work plan;
- schemes where the costs were significantly higher than originally budgeted;
- schemes where expenditure will be delayed to the following period (i.e. RP5);
- determination and allocation of capitalised overheads;
- capitalised interest; and
- the portion of customer-funded schemes added to the RAB.

5.39 To assist with this, we obtained technical assistance from SKM.²³

The process we followed

5.40 To assess outturn we reviewed NIE T&D's annual capital investment reports and its assessment of the impact of real price effects (RPEs). We paid particular regard to material prices that have been especially affected by the rise in commodity prices that occurred after 2005.

²³ SKM was working as part of a consortium of Cambridge Economic Policy Associates, PKF and Sinclair Knight Merz (SKM).

- 5.41 NIE T&D provided a summary of the present position of each of the projects in the RP4 plan and the reasons for any under or overspend. We undertook a review of a sample of projects that were chosen as being representative of the investment plan. This review included discussion with NIE T&D and SONI.
- 5.42 We reviewed the approach to network risk management that NIE T&D adopts and how this was applied. In addition, we assessed the company's policies and procedures on refurbishment and replacement which were used to determine which asset replacement projects and upgrades should be included in the RP4 programme.

Issues we identified

Comparative capex efficiency

- 5.43 We undertook a detailed assessment of NIE T&D's unit costs for capex and compared these with the average costs of distribution network operators (DNOs) in Great Britain (GB). This showed the following:
- The unit cost benchmarking that consultants undertook on behalf of NIE T&D is comprehensive and is based on a reasonable data set of unit costs. The benchmarking is consistent with the benchmarking that Ofgem undertook as part of the distribution price control period 5 (DPCR5). These unit costs have been used in NIE T&D's RP5 capex plan submission.
 - NIE T&D's direct unit costs are generally lower than the consultant's benchmark costs, although this varies with asset type. We applied two different costs to projects that NIE T&D had included in Pot 1 (see Section 9) to determine an overall impact of the difference. We found that NIE T&D's costs were 25% lower than the benchmark costs. If regional price adjustments were taken into account this difference fell to 20%.
- 5.44 Some caution is necessary when considering these figures as the technical content of the units differs between NIE T&D and the benchmarks. While we would agree that NIE T&D's consultants have demonstrated lower direct costs, our own analysis shows that the degree of outperformance is up to 20%.

- 5.45 We assessed NIE T&D's capital indirect costs in a similar way, by comparing the direct costs to NIE T&D's total cost and the benchmark total unit costs provided by NIE T&D's consultants. NIE T&D's indirect costs were found to be 32% of the direct costs, compared with the consultant's estimate of 17%. However, because the direct costs were lower, NIE T&D's total costs were still lower than the benchmark total costs.
- 5.46 That said, the RP5 programme includes a number of projects that would be identified as having indirect costs in the benchmarking exercise. This changes the assessment significantly, with NIE T&D's total cost exceeding the benchmark by 5%.
- 5.47 Given that there is a possible range of direct cost outperformance, we considered conservative estimates that the direct cost outperformance may be up to 50% of that calculated from NIE T&D's own figures. From this assessment we determined that NIE T&D's indirect costs associated with the capex programme would need to fall by between 27% and 54% to meet the benchmark values.
- 5.48 These conclusions are consistent with the findings of our assessment of opex costs during RP4, and are of concern to us. This is discussed further in Section 9.

Cost allocation

- 5.49 The RP4 mechanism relies on consistency of cost allocation between capex and opex. Therefore we reviewed NIE T&D's cost allocation processes and have the following general comments to make about its capitalisation policy:
- Capitalising storm costs: The company's approach to storm costs changed in 2009. Before then, storm costs were capitalised according to the assets that were replaced during the storm event. A unit cost was used, with a 20% uplift on the labour element to reflect more onerous working conditions. Since 2009 storm costs are capitalised according to the proportion of damage faults to non-damage faults. NIE T&D presented analysis based on a 2009 storm which demonstrated that the two different methods give similar results.
 - The current method depends on the type of storm event and the way the fault management system is used to log faults as damage or non-damage. This method is not always transparent. For

example a series of non-damage events on a feeder in a lightning storm could be masked by a damage event on the line that is then used to group all downstream events. SKM has recommended that events should be categorised according to the actual assets installed; this would remove the possibility that a cost to restore an asset is capitalised incorrectly.

- Overhead lines: The capital programme on overhead lines includes reengineering, refurbishment and Targeted Asset Replacement (TAR) (for example condition surveys and wayleaving). Most of the tree clearance work undertaken on the network, initial cuts and maintenance cuts would fall within this category. It would appear that the only overhead line task that is not capitalised is tree cutting to address 'hot spots' that are causing faults, and remedial tasks that cannot wait to be included in a five-yearly asset replacement (TAR) programme. Our view is that TAR is a five-year cyclical maintenance programme that would not normally be a capital programme; this is discussed further in Section 6.²⁴
- Treatment of defect resolution as a capital programme: As with the TAR, NIE T&D collates information on defects that are found during routine condition assessments. It then builds these into its defect resolution capital programmes.
- Faults: All faults are first raised as a revenue project using the unique fault reference number raised through the Trouble Management System. Each fault is then reviewed by the local Faults and Emergency Engineer to determine whether or not it should be classed as capital. When allocating faults to be capitalised engineers refer to a set of guidance documents. We have reviewed these documents; although they give a relatively wide interpretation of capital faults it is evident that they are intended to be interpreted pragmatically. This is supported by the fact that fewer than 20% of events and 40% of the total fault costs are capitalised.

²⁴ Note, this is not consistent with the principles stated in the RP3 First Consultation paper, published November 2001.

Comparison with the RP3 capitalisation process

5.50 There are significant differences between the current capitalisation policy document, presented as part of the RP5 submission, and that which was in place in RP3. The following elements are all classed as revenue activities in the RP3 policy (that is, they are expensed as operating cost whereas according to the policy that has been in place since 2005 they would be capital costs).

Table 5.4 Comparison of RP3 submission capex policy with current capitalisation practice

RP3 submission policy (non-capex)	Current practice
Tree cutting during light line refurbishment	Capitalised as part of TAR and refurbishment programmes
Restringing – storm damage	Capitalised as part of storm costs
Restringing like for like capacity (less than 35 years old)	35 years old is no longer part of the assessment of betterment
Cable faults < 50m	>10m LV and all HV cable faults are capitalised
Civil maintenance (i.e. replacement of doors, gates, fencing and posts)	Building ‘maintenance’ is stated as being capital in the capitalisation policy. The issues would generally be addressed through a programme to correct defects found during substation inspections.

5.51 The impact of these changes is to move costs from opex to capex. Given that the capex in RP4 is based on outturn expenditure this change does not have a significant impact on capex (other than spending in areas that were not planned to be financed in the capex plan).

5.52 However, as the RP4 opex is a fixed allowance based on the RP3 outturn this allows outperformance against the opex allowance. This issue is discussed further in Section 6.

Funding comparison

5.53 NIE T&D has prepared and presented its capex submission on the basis that there has been a funding gap between it and the GB DNOs. We undertook analyses to investigate this claim that NIE T&D had been underfunded.²⁵

²⁵ Page 9 paragraph 2:

http://www.uregni.gov.uk/uploads/publications/Capital_Investment_Requirements_for_RP5_NIE_Paper.pdf

- 5.54 The company highlighted the capital allowances these operators had received during the DPCR4 period. NIE T&D wished to demonstrate what it considered to be a widening funding gap based on an assessment of the increases in capital expenditure allowances from DPCR3 to GB DPCR4.
- 5.55 Instead of focusing on period on period differences in the allowance between NIE T&D and the GB DNOs at price controls, our review has focused on NIE T&D's RP4 forecast investment plan outturn against the actual outturn expenditure of the GB DNOs in DPCR4. This information was published by Ofgem in its DPCR5 final proposals.²⁶
- 5.56 We have converted Ofgem's data to a 2009/10 price base and used a composite scale variable²⁷ (CSV) to normalise the data. The GB DNO expenditure includes 132kV capex, which is comparable to NIE T&D's 110kV system. However, the distribution companies do not operate 275kV assets. So we have removed £10 million from NIE T&D's RP4 network programmes expenditure. This allows a comparison between the NIE T&D RP4 investment plan expenditure and the capex expenditure of the UK DNOs on a comparable basis.
- 5.57 This comparison of capex spend on a common basis puts NIE T&D at 35% more than the average cost per CSV and almost 70% more than the equivalent expenditure in the small DNOs which NIE T&D uses as peer comparators in its opex assessment.

²⁶ Table 3.2 - Ofgem cost baselines relative to distribution network operators' DPCR4 actuals and DPCR5 forecast (final proposals 144/09).

²⁷ The composite scale variable is the same as used by NIE T&D's consultants Frontier Economics in their assessment of OPEX efficiency and is weighted 50% network length, 25% customer numbers and 25% units supplied.

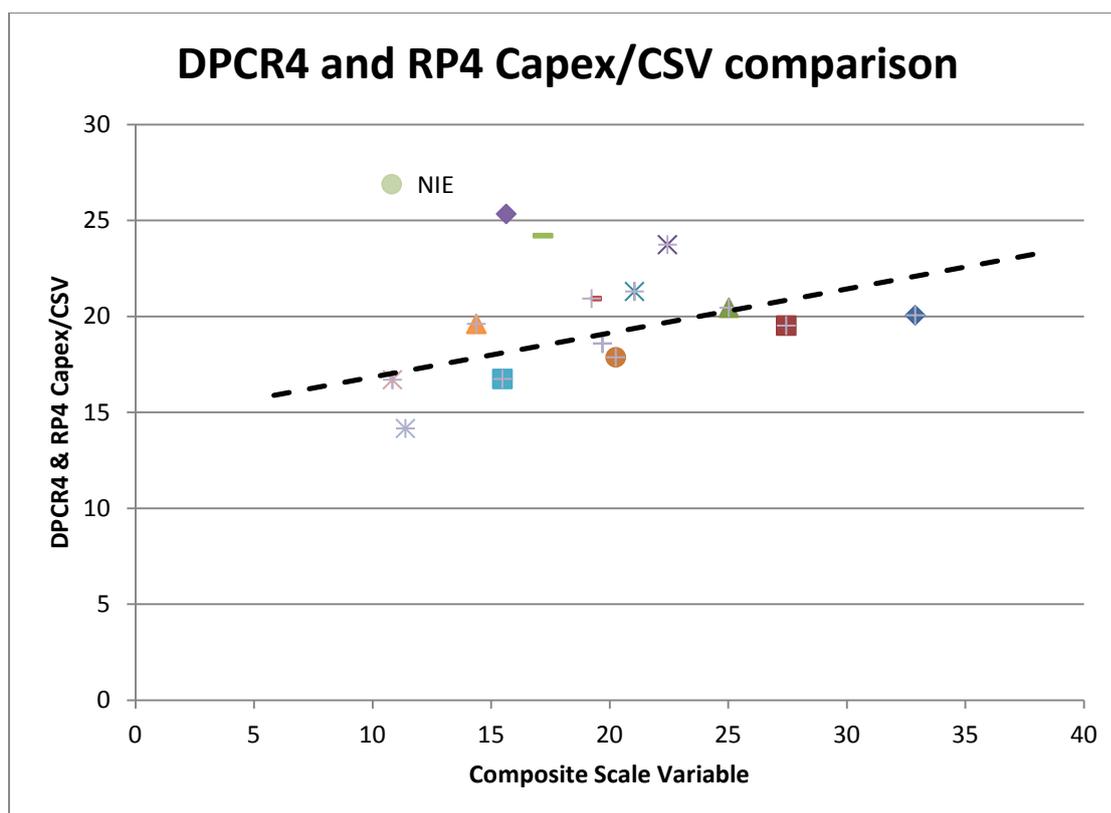


Figure 5.2 DPCR4 & NIE T&D RP4 Capex per CSV comparison

5.58 It may be observed from the comparisons presented that NIE T&D is significantly out of line with comparable GB distribution businesses with respect to capitalised expenditure. It is possible that this is more a reflection of its capitalisation policies than simply the number and value of capital projects. From our assessment of the investment plan it is clear that NIE T&D capitalises activities that would not usually have been capitalised by the GB DNOs, such as routine overhead line patrols and vegetation management. This may account for a proportion of the higher capex and lower opex.

5.59 To investigate whether or not the additional capex is offset by lower opex we compared total expenditure (that is capex and opex) for the distribution network operators and for NIE T&D for DPCR4 and RP4 (again adjusted to remove 275kV costs). This is illustrated in Figure 5.2. This shows that although NIE T&D’s opex per CSV is lower than that for most other companies, NIE T&D has the fourth highest total expenditure of all of the companies in the last price control period.

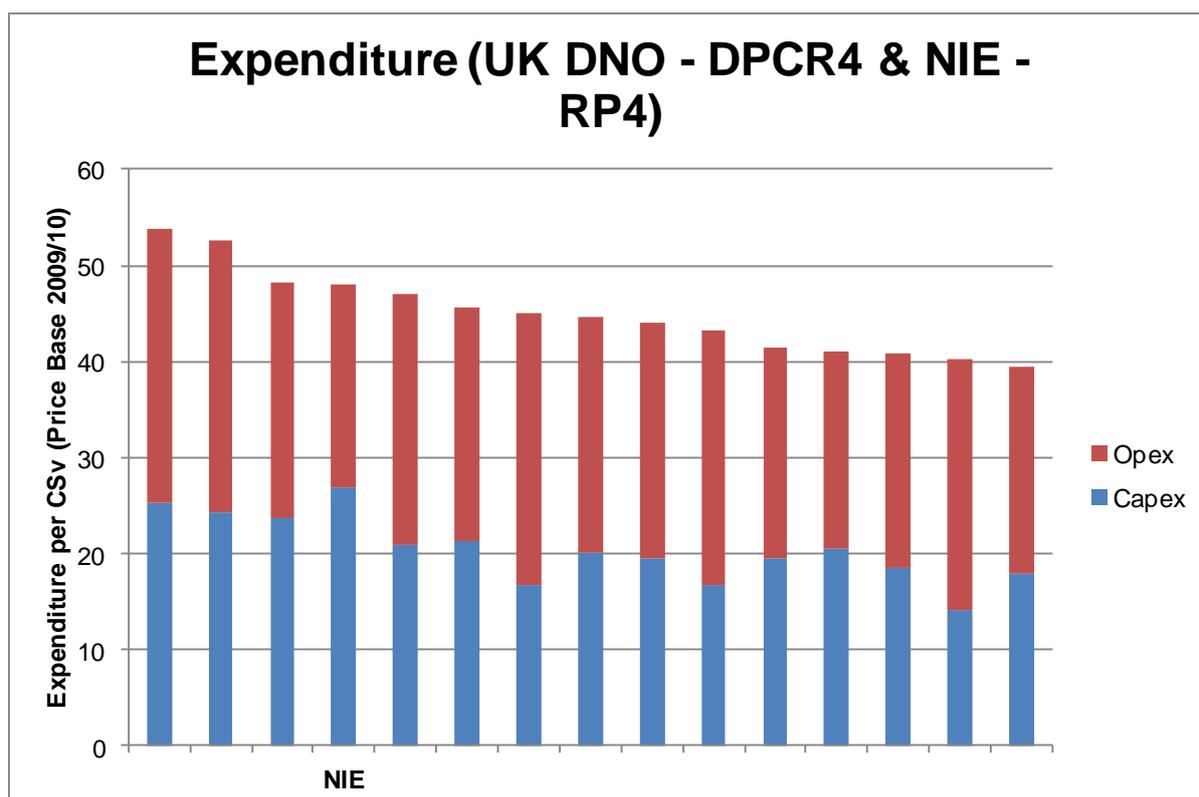


Figure 5.3 Totex per DNO

5.60 After excluding the atypical networks, it can be seen that NIE T&D’s total expenditure (Totex) is high in relation to other comparable businesses. However, it is also the case that the Totex/CSV spend for all of the comparable businesses lie within a relatively narrow band and there is little evidence that the size of the business influences this index.

5.61 NIE T&D has stated that it considers that it was underfunded through RP3 and RP4 when compared with funding received by the GB DNOs. This is based on:

- a comparison between the RP3 allowance and the ‘average’ GB allowance in DPCR3 (a 12% difference); and
- the relative increase between NIE T&D’s RP3 capex and its RP4 capex, compared with the average increase in GB between DPCR3 and DPCR4 (9% difference).

5.62 This leads NIE T&D to conclude that it has been underfunded by 21%.

5.63 Clearly, the assessment above shows that the comparison in RP3 to the ‘average’ GB DNO settlement is flawed. NIE T&D is smaller than the smallest distribution network operators in GB when viewed on a CSV or MEAV (Modern

Equivalent Asset Value) basis. As such, any comparison of allowances should be normalised by such factors.

- 5.64 The assessment demonstrates that NIE T&D has undertaken significantly more capital expenditure in RP4 than the normalised average for the GB DNOs. We therefore consider that NIE T&D's RP4 allowance was sufficient to operate a business and deliver an investment plan that is more than adequate for the size of the network. In addition, the relatively small reduction in the amount of physical units that NIE T&D delivered against those planned will not have an adverse impact on NIE T&D's ability to continue to manage the network appropriately.
- 5.65 The robust conclusion that NIE T&D has received adequate funding compared with that received by the GB DNOs is of particular significance. This is because the company prepared and presented its RP5 submission based on the assumption that the opposite was true.

Risk management

- 5.66 We reviewed NIE T&D's risk management practices. Our review included follow-up discussions with the staff responsible for this area. Based on our review we came to the following conclusions:
- The risk management and prioritisation policies that are used to determine what needs to be replaced demonstrate aspects of good industry practice. NIE T&D used multiple and appropriate failure drivers to determine a risk of failure. It then combined these with the consequences of failure to determine a risk score.
 - The consequences of failure do not, in all cases, cover all of the consequences that we consider should be included, particularly safety and environmental impacts.
 - The assessments also do not generally reference potential efficiency aspects such as increased losses or maintenance costs. It would appear that NIE T&D has only included these areas where it considers them to be a major issue. It would be useful to have a consistent approach across all of the asset classes.
 - The consistency and comparability of risk scoring across asset classes is a major concern with the current process. The risk scoring process for each asset class has different criteria and

maximum scores. This does not allow absolute risk to be compared across asset classes.

5.67 Furthermore, NIE T&D states that the risk prioritisation process is not the primary driver for assets to be included for replacement. The list is instead subject to engineering judgement based on whether or not selected engineers consider that assets should be included in the programme. This lacks transparency, and NIE T&D's assertion that it is applied in a consistent way because only a few engineers are involved does not make it a robust system. It is also potentially heavily influenced by how risk averse the engineers making the judgement are, as opposed to being guided by a corporate view on the level of risk the company is targeting. We are particularly concerned about this.

Licence compliance

5.68 The review identified two projects that NIE T&D has delayed. In the consultant's opinion, this may result in a situation where the company might not be fully compliant with its licence and statute law.

5.69 The two projects are 'Belcoo' and 'Statcom'. In both cases NIE T&D was unable to demonstrate to the consultant that it had fully considered the implications of its lack of action on the total costs paid by consumers. The company was therefore unable to demonstrate that its network is "efficient, co-ordinated and economical". Both projects were included in the submission for RP4. NIE T&D's internal procedures do not include a formal approval mechanism for removing an item from the approved capex plan.

5.70 We have raised our concerns with NIE T&D and we are committed to working with NIE T&D to improve its assessment and approval processes. The aim will be to make sure that the company takes account of all of the costs that its network imposes on customers. This will be undertaken in parallel with RP5.

Conclusions

5.71 The main conclusions of the review are as follows:

- i. One of the main issues with the RP4 investment plan outturn is that NIE T&D appears to be treating the agreed investment plan as an allowance. As such, it is investing to a limit rather than having a defined view of the efficient expenditure required to deliver the required outputs.

- ii. NIE T&D's view that it is being underfunded compared with the GB DNOs is not correct. We compared capex on a common basis and this put NIE T&D at 35% more than the average cost per CSV and almost 70% more than the equivalent expenditure in the small DNOs that NIE T&D has used as peer comparators. By comparing totex (to account for NIE T&D's capitalisation practice) the company's expenditure is still approximately 10% higher than the average.
- iii. NIE T&D has increased the number of physical units it delivers through the first three years of the five-year RP4 period. It should be possible for the company to deliver the remaining units in the final two years if current delivery rates are maintained; the budget should also be sufficient. This will be confirmed before we make our final determination.
- iv. There has been a real price effect in RP4 as a result of increases in material prices. NIE T&D's bottom up assessment was confirmed against independent sources.
- v. NIE T&D has been prudent in not undertaking investments where growth in the load on the network that had been forecast did not materialise.
- vi. Some project costs and scope have changed from the original investment plan submission because the initial project information was estimated or was based on partial information. We are satisfied that in these cases internal capital approval processes are in place to make sure that projects are appropriately appraised. This would have been improved if the original submission for RP4 had identified the level of confidence in the base data.
- vii. The unit costs that NIE T&D put forward for assets that were installed in the 2010 storm appear to be excessive. We therefore consider that the capitalised value should be reduced (if it is allowed to remain on the RAB – see Section 6).
- viii. We need to agree a reporting process with NIE T&D to show which projects are forecast to overlap successive price control periods. In this way the whole cost can be assessed, as can the amount of expenditure in forthcoming price controls that is already committed for projects that have started.

- ix. NIE T&D should work with SONI (System Operator for Northern Ireland) to determine the whole costs of deferring investments, including constraint costs. This would enable robust investment appraisals to be put in place for transmission projects.
- x. Given the nature of the opex settlement, it is important to understand changes to capitalisation that have occurred since the determination at the start of RP3. This is because NIE T&D can gain from a movement from opex to capex. Our review identified two areas where this has happened – capitalised overheads and storm capitalisation.

SKM therefore recommended that the following adjustments are made to the capital expenditure items submitted as part of the 'latest best estimate' of RP4.

- a. storm costs – reduce the capital amount to £2.0 million (if allowed to remain on the RAB – see Section 6).
 - b. capitalised interest – reduce capital amount from £0.7 million to £0.
 - c. capitalised overheads – consider the impact on the opex allowance that arises from changes to the percentage capitalisation. This had the effect of capitalising an additional £4.7 million (2009/10 price base) of overheads in network programmes and network connections in RP4 more than what would have been the case had the change not been made. This issue is discussed further in Section 6.
- xi. NIE T&D has robust policies and standards in place for capital investment planning. The company keeps these up to date through update bulletins.
 - xii. The capital approval process appears to be reasonable and for the projects we reviewed appears to be applied in a consistent way.
 - xiii. The risk management and prioritisation policies that are used to determine which assets need to be replaced demonstrate aspects of good industry practice. NIE T&D used multiple and appropriate failure drivers to determine a risk of failure and combine these with the consequences of failure to determine a risk score. The consequences of failure do not, in all cases, cover all of the consequences we consider should be included, particularly safety and environmental

impacts. The assessments also do not generally make reference to any potential impacts on efficiency, such as higher losses or maintenance costs. It appears that NIE T&D has only included these areas where it considers they are a major issue. It would be useful, however, to be consistent across all asset classes.

- xiv. The consistency and comparability of the way risk is scored across asset classes is the main concern we have with the current process. The risk scoring process for each asset class has different criteria and maximum scores. This does not allow absolute risk to be compared across asset classes.

Recommendations for RP4 capex

Overview

- 5.72 As part of its RP4 submission, NIE T&D included a 10% capex efficiency challenge. This equates to £36.42 million (in 2009/10 prices). The capex efficiency incentive mechanism meant that NIE T&D could have retained 38.9% of this (a maximum payment of £14.1 million). Instead it has only been able to demonstrate savings of £5.7 million. NIE T&D has therefore not met its own challenge.
- 5.73 In addition, the company has reallocated £6.8 million of load related capex to asset replacement projects, without increasing the output of the programme. The benchmarking exercise has shown that the overheads associated with the capex programme are inefficient (in the range of 27% to 54% higher than counterparts in GB).
- 5.74 Changes to NIE T&D's capitalisation practices appear to have resulted in items being charged to capex that have already been funded within NIE T&D's opex allowance. (See Section 6 for further details.)
- 5.75 Overall, the incentive mechanisms in RP4 were not as successful as first anticipated. The discussion above shows that NIE T&D is likely to spend the full budget allocated for RP4, but will have delivered fewer outputs than initially forecast. In addition, benchmarking shows that there are further efficiencies to be gained. These points will be considered in the assessment of RP5 capex discussed in Section 9.

Utility Regulator minded to position for RP4 capex

5.76 The consultants identified shortfalls in NIE T&D's processes and procedures, which we will take into account when determining the mechanism to adopt for RP5 capex.

5.77 NIE T&D has unilaterally reduced the RP4 budget, to remove the placeholder for ESQCR. We agree with that approach. This is to be considered in RP5.

5.78 The consultant identified three items that should be adjusted on the RAB. These are:

- Capitalised interest: £0.7 million reduced to £0;
- Storm costs: to be removed completely as all storm repairs were defined as opex in the RP3 capitalisation guidelines (this is a reduction of £4 million); and
- Capitalisation practice changes: this is discussed further in Section 6.

6. CHANGE TO CAPITALISATION PRACTICE

Background

6.1 When setting the RP4 price control, we adopted new approaches for the treatment of capex and controllable opex. These were based on submissions from NIE T&D. These included detailed proposal papers that the company submitted during 2005, key elements of which we accepted.

6.2 The approach included two key features:

- (a) Controllable opex was based on a five-year rolling mechanism. The allowed controllable opex in any year was the actual controllable opex five years previously. The effect of this was to allow NIE T&D to retain the benefit of any efficiency savings for the full five years. After this point the ongoing benefit passes to consumers in line with accepted regulatory practice. (See Section 7 for further information on the rolling opex mechanism.)
- (b) The approach to capex (subject to specific efficiency incentives) was to allow NIE T&D to add its actual capital expenditure to the RAB, and then recover that expenditure over a 40-year period at the relevant rate of return.

6.3 In our RP4 proposals paper (December 2005), we describe the rolling approach as simplifying

“the Opex calculation process while still incentivising the company to reduce costs with the savings automatically being passed back to customers in due course”.

6.4 The paper also reasoned that:

“... under the ‘traditional’ approach the incentive to reduce costs diminishes as the regulatory period progresses. This is because any efficiency measures implemented towards the end of the period will signal to the regulator that a reduction in allowed Opex is required for the next period. The company would therefore be incentivised to hold back from making efficiency improvements until after the next price control is negotiated. For RP4 it is proposed that a simpler and more mechanistic approach be adopted – one that strengthens the efficiency incentive by maintaining it constant throughout the period and ensuring that savings are automatically passed to customers through lower prices.”

6.5 In RP3, the controllable opex fell from £53.5 million in year 1 to £29.1 million in year 5. There was a step change of 23% between year 3 (£44.0 million) and year 4 (£33.9 million). This is demonstrated in figure 6.1. The audited regulatory accounts that would have highlighted this 23% reduction in controllable opex to us were not available until after we had published our decision paper for RP4.

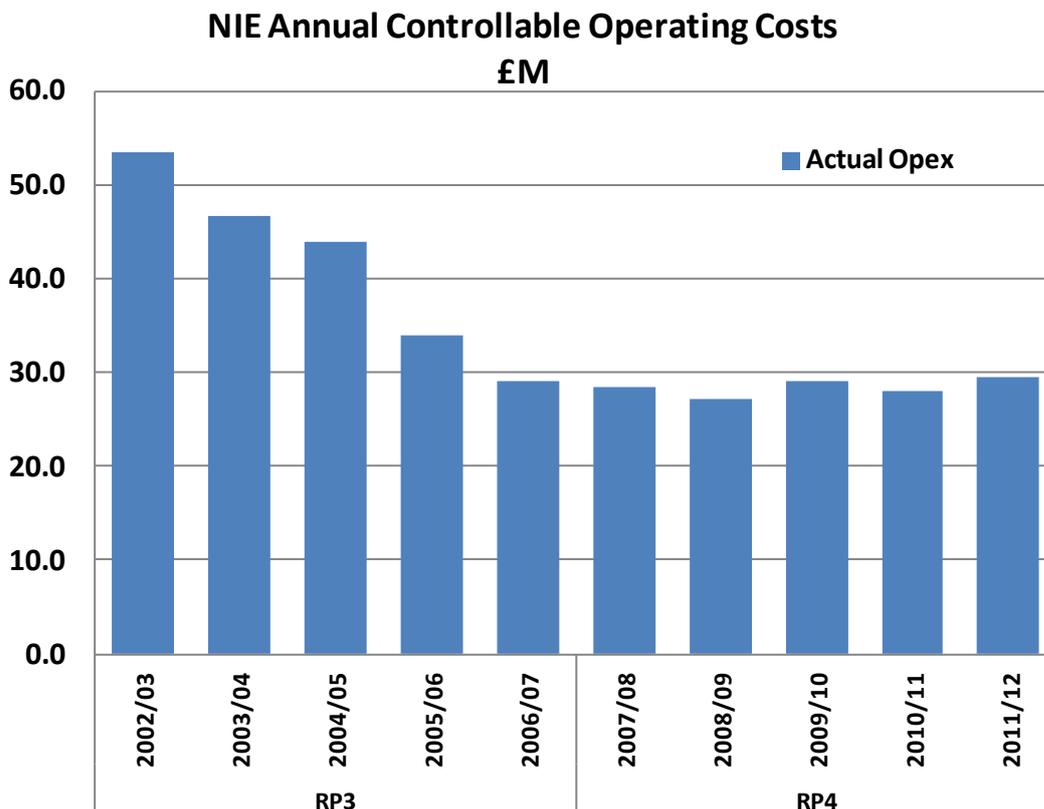


Figure 6.1: NIE T&D Annual Controllable Operating Costs RP3 & RP4

6.6 NIE T&D’s staff use its ‘capitalisation practice’ guidance document to determine whether to classify expenditure as opex or capex. We understand that in 2005/06 (year 4 of RP3), NIE T&D approved changes to this capitalisation practice. This was shortly after we had written to the company to confirm that we were minded to accept its proposal for a rolling opex mechanism to calculate allowances for RP4, with actual capex spend added to the RAB. The actual spend on controllable opex in each year of RP3 was used to set the allowance for the equivalent year in RP4.

6.7 In a non-regulated business a change of this nature is mainly of concern to financial auditors creditors and investors. However, in regulated businesses,

where capex and opex are treated separately, a change of this nature potentially has special significance. The change to the capitalisation practice, which allowed NIE T&D greater freedom to capitalise expenditure, could potentially have had the following impacts:

- a) NIE T&D retained a considerable element of its opex allowance, in excess of its actual spend and genuine efficiencies; and
- b) NIE T&D increased the size of its RAB, on which the company claimed a return and depreciation, without delivering additional assets.

6.8 This may mean that consumers have ‘paid twice’ for certain services that NIE T&D provided. It should be noted that this is the opposite of what NIE T&D said in making its proposals in relation to the RP4 price control.

“The use of actual expenditure to determine future revenue entitlement removes ambiguity around the allocation of costs as between opex and capex. For regulatory purposes actual expenditure is recovered either via the RAB over 40 years or via the opex allowance but not through both.”

6.9 The change to capitalisation practice was not highlighted to us as part of the RP4 submission. In addition, a statement from our consultants said the following:

“NIE’s capitalisation policy proposed for RP4 is unchanged from RP3. We therefore assume that it is generally in line with what has already been agreed with Utility Regulator, with a few notable exceptions.”

6.10 As part of the RP5 analysis, NIE T&D explained that overheads associated with the network are charged to opex and a (monthly) adjustment is made to transfer a proportion of those costs to capex. However, when comparing RP4 to RP3 capitalisation rates, the results can be illustrated as shown:

Review of Capex / Opex split	Price control period	Year 1	Year 2	Year 3	Year 4	Year 5
Powerteam Managed Service / Supply Chain						
Actual Capitalisation Rate Applied	RP3	65.0%	65.0%	65.0%	72.5%	80.0%
Actual Capitalisation Rate Applied	RP4	80.0%	80.0%	80.0%	80.0%	80.0%
Connections Department						
Actual Capitalisation Rate Applied	RP3	65.0%	65.0%	65.0%	77.5%	77.5%
Actual Capitalisation Rate Applied	RP4	77.5%	77.5%	77.5%	77.5%	77.5%
Networks Department						
Actual Capitalisation Rate Applied	RP3	65.0%	65.0%	65.0%	72.5%	72.5%
Actual Capitalisation Rate Applied	RP4	72.5%	72.5%	72.5%	72.5%	72.5%
Technology Department						
Actual Capitalisation Rate Applied	RP3	40.0%	40.0%	40.0%	45.0%	45.0%
Actual Capitalisation Rate Applied	RP4	45.0%	45.0%	45.0%	45.0%	45.0%

Table 6.1 Capitalisation of overheads

6.11 The table highlights the following:

- NIE T&D made a change to its capitalisation practice in year 4 of RP3.
- The change in practice was made before we published our final proposals for RP4, but NIE T&D did not disclose the change.
- Had the company highlighted the change, we may have reduced or adjusted the RP4 controllable opex allowance accordingly.

Our analysis of the capitalisation practice

6.12 The decision ('final proposals') paper for RP4 states that

"...Since (the December 2005)... paper was published ... the Authority ... has continued to liaise with NIE with the aim of developing final proposals which would strike a fair balance between the interests of customers in terms of fair prices and the interests of shareholders in terms of a fair return to their investment."

6.13 However, the nature of the RP4 determination left NIE T&D with an incentive to maximise levels of capitalisation in order to maximise outperformance against the controllable opex allowance.

6.14 A comparison of the two capitalisation practices (pre- and post-2005) confirms that there is greater flexibility in the current guidelines with regard to costs that could be capitalised.

6.15 We carried out a top level assessment of the opex allowances for RP3 and RP4 and the actual outturn. NIE T&D has demonstrated that it made a number of changes in early RP3 which resulted in some outperformance of opex

allowance. The company also stated that efficiencies have been more difficult to achieve in RP4.

6.16 The total outperformance against the controllable opex allowance in the five years between 2005/06 and 2009/10 was £118.5 million. We accept that some of this may be due to genuine improvements in operational efficiency. It is not clear however how much is due to efficiency and how much may be due to the change in capitalisation practice.

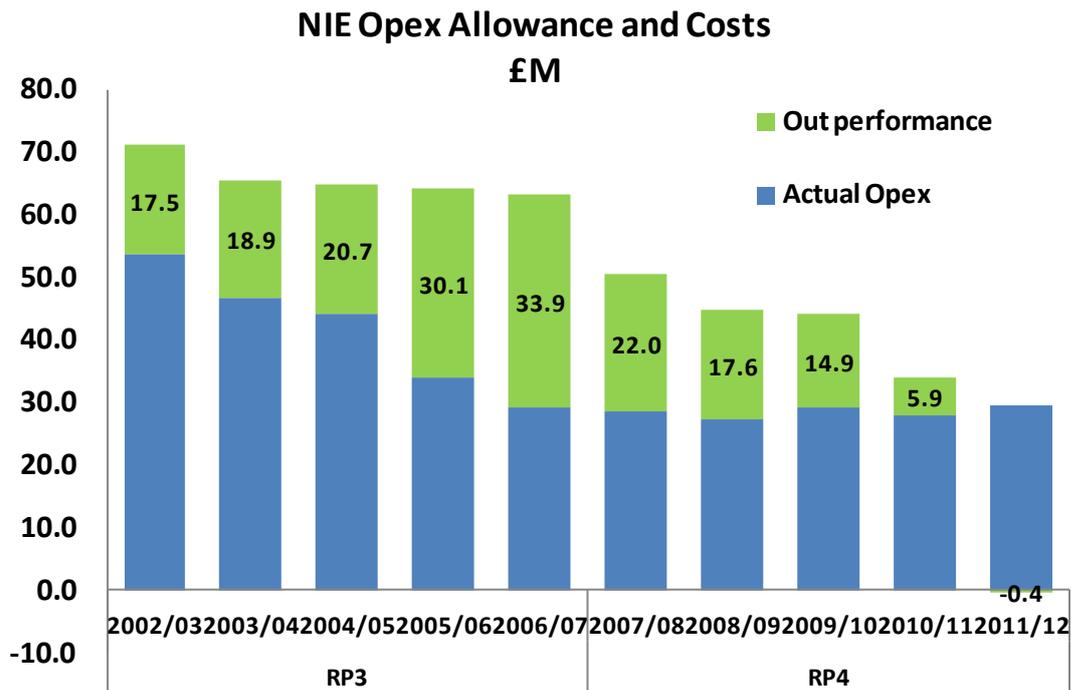


Figure 6.2: NIE T&D opex out-performance RP3 & RP4

Our minded to position

6.17 We have initiated an investigation into NIE T&D’s accounts. To determine whether or not any outperformance has resulted from the change in capitalisation practice, the regulatory accounts from 2005/06 onwards will be restated, based on the pre-2005 capitalisation practice. The investigation will be completed during the consultation period of this draft determination. The investigation will provide us with a better understanding of the level of any ‘double payment’ that consumers may have funded during RP3 and RP4.

6.18 If it is appropriate, once the investigation is complete, we propose to make an adjustment to the RAB for Years 4 and 5 of RP3 and Years 1, 2 and 3 of RP4. This would reflect the capitalisation practice that was in place in RP3. Years 4

& 5 of RP4 would not need to be adjusted, as the capitalisation practice in place at the time was consistent and therefore comparable.

6.19 Once we have completed our investigation, we will consider the balance of costs relating to opex and capex and determine whether or not to introduce a set of regulatory accounting guidelines.

7. RP4 OPEX

Introduction

7.1 As part of its RP5 submission to us, NIE T&D provided opex information for the regulatory periods RP3, RP4, RP5 and RP6. We reviewed RP4 opex in order to:

- gain an insight into any outperformance of the opex allowance that had been achieved in RP4; and
- assess how well the rolling opex mechanism had worked for controllable costs.

RP4 actual opex

7.2 Opex refers to expenses incurred in the course of ordinary business, such as wages, utilities and rent. Opex forms part of NIE T&D's regulated entitlement, along with a reasonable return on investment and depreciation. From 2007 to 2012, operating cost allowances made up around 34% of NIE T&D's annual regulatory entitlement, so represented a substantial element of the price control.

7.3 NIE T&D's opex is broken down into 'controllable' and 'uncontrollable' expenditure. In addition to this, a proportion of the total opex spend in RP4 was approved outside the price control. This was approved via the 'Dt' term in NIE T&D's licence²⁸. Dt accounts for revenue adjustments arising from assessed expenditure. Any costs that NIE T&D proposes during the price control in this category require regulatory approval, and were not included in the original price control proposals. These relate mainly to the development of renewable generation, new responsibilities and changes in legislation.

7.4 The table 7.1 shows a total RP4 actual opex spend of £283 million

²⁸ http://www.uregni.gov.uk/uploads/publications/2009-08-26_NIE_plc_-_Licensing_Scheme_Transmission_Licence_-_Consolidated.pdf

Table 7.1: RP4 Opex Spend

£M	2007	2008	2009	2010	2011	Total
<i>Controllable opex</i>	£32m	£30m	£30m	£29m	£31m	£153m
<i>Uncontrollable opex</i>	£16m	£17m	£18m	£17m	£18m	£87m
<i>Dt</i>	£5m	£9m	£9m	£10m	£10m	£43m
Total	£53m	£56m	£57m	£56m	£59m	£283m

7.5 Actual opex in RP4 is made up of £153 million of controllable opex, £87 million of uncontrollable opex, and £43 million of Dt approvals. Each of these cost categories are discussed in turn below.

RP4 controllable opex

7.6 An operating cost is deemed controllable if the company has an element of influence over its occurrence and magnitude. During RP4, NIE T&D outperformed the controllable opex allowance to the tune of £60 million.

7.7 For RP4, the allowance for controllable opex was based on a unique rolling mechanism which reflected the cost categories actually incurred in RP3. We set and defined the formula that was used to calculate the allowance in NIE T&D's licence²⁹. The mechanism was straight-forward in that actual controllable opex incurred in Year 1 of RP3 was rolled forward, with inflation, to form the controllable opex allowance for Year 1 of RP4 and so on. The concept was different from the one that is used GB

7.8 The rolling mechanism created an imbalance of incentives (discussed in Section 6.)

7.9 We are of the view that a benchmarking exercise combined with the traditional RPI-X regulation to encourage efficiencies is a more robust method than the rolling opex mechanism.

Uncontrollable opex

7.10 A cost is classed as uncontrollable if the company has limited or no discretion over its existence or level.

²⁹ http://www.uregni.gov.uk/uploads/publications/2009-08-26_NIE_plc_-_Licensing_Scheme_Transmission_Licence_-_Consolidated.pdf

7.11 Uncontrollable opex was not subject to the rolling mechanism. Instead, the expenditure was recoverable on a pass-through basis (subject to being reported to, and approved by, us on an annual basis).

7.12 During RP4, rates, wayleaves and licence fees were classed as an uncontrollable operating expenditure. Uncontrollable costs totalled £87 million in RP4.

7.13 Further consideration will be given to the classification of each uncontrollable opex in Section 10 (RP5 Opex).

Additional costs incurred in RP4 (Dt)

7.14 We approved additional expenditure via a separate term in NIE T&D's licence (Dt). After robust analysis on our part, these approvals came to a total £43 million. The main areas where we approved additional expenditure relate to new responsibilities, development of renewable generation and changes in law.

Table 7.2: Dt approvals during RP4

RP4 Dt items	Reason for approval	Total cost
Meter reading	New responsibility	£15.9m
Market opening costs	New responsibility	£12.1m
Tyrone - Cavan Interconnector costs of site and routing studies	Development of interconnection	£3.1m
Short and medium term projects	Renewables development	£1.3m
RIDP	Renewables development	£1.2m
Distribution code	Change in law	£0.5m
IME3	Change in law	£0.3m
Smart pilot	Renewables development	£0.2m
SONI pension deficit	New responsibility	£7.7m
Other		£0.7m
Total		£43m

7.15 Costs relating to meter reading, market opening and some work for the development of renewable generation are included in the RP5 controllable opex submission as continuing costs. NIE T&D has not submitted any Dt requests for RP5 and we intend to keep any approvals to a minimum.

Conclusion

7.16 A review of RP4 has shown that NIE T&D outperformed its controllable opex allowance by around £60 million. This is subject to a separate investigation, discussed in Section 6. Rather than continue with the 'rolling mechanism'

which was adopted for controllable opex into RP5, we believe it is more appropriate and robust to undertake a benchmarking exercise to determine any further level of efficiency that NIE T&D could achieve. We also propose to apply RPI-X regulation.

7.17 The validity of the classification of certain costs as ‘uncontrollable’ will be discussed in the RP5 opex review (Section 10). Uncontrollable opex was previously treated as pass-through, subject to annual reporting to us of outturn against budget. Any Dt approvals in RP4 sat outside of the original price control submission. We are aware that some of the Dt approval categories will continue into RP5, and these have been reclassified to controllable opex.

8. REVIEW OF NIE POWERTEAM LTD COSTS

Introduction

8.1 As well as reviewing NIE T&D's expenditure, we assessed the opex costs of NIE Powerteam Ltd. We completed this review to assess:

- the working relationship between NIE T&D and NIE Powerteam Ltd; and
- the relative efficiency of NIE Powerteam Ltd as a service provider.

8.2 The nature of the RP4 determination means that what appears as operating costs within NIE Powerteam Ltd's statutory accounts may be charged against NIE T&D's allowances for capex, controllable opex or additional operating costs.

Relationship between NIE T&D and NIE Powerteam Ltd

8.3 NIE Powerteam Ltd was created from within NIE T&D in the early 2000s, but is not a regulated entity. It is an exclusive engineering service provider to NIE T&D and all of its revenues are generated from NIE T&D. Customers are therefore indirectly funding all of NIE Powerteam Ltd's costs.

8.4 NIE Powerteam Ltd generates its income via:

- a time based charge-out rate for providing network services; and
- managed service contracts.

8.5 NIE Powerteam Ltd recovers all of its costs on a 'cost plus' basis from NIE T&D and does not bear any risk of loss. NIE T&D has not recently market tested any of NIE Powerteam Ltd's costs and has told us that it was unable to provide evidence of past market testing because of confidentiality.

8.6 Under its licence, NIE T&D is required to report annually on NIE Powerteam Ltd's profits. The licence refers to NIE Powerteam Ltd via a profit share mechanism that has been in existence since the start of RP4. The mechanism has resulted in 50% of NIE Powerteam Ltd's profits during the RP4 period being credited to customers via lower use of system tariffs.

8.7 NIE T&D and NIE Powerteam Ltd both use many of the same systems. NIE Powerteam Ltd's costs are charged directly into the internal orders that NIE T&D creates when allocating work for NIE Powerteam Ltd.

8.8 NIE Powerteam Ltd operates a number of mechanisms for cross charging NIE T&D for services. These are summarised in the table 8.1.

Table 8.1: Powerteam Charging Mechanisms RP4

Item	Percentage of Powerteam charges to NIE T&D	Basis of charge	Profit margin applied
Payroll and overheads	65%	Charge out rate, recalculated annually; applied to the actual hours worked by staff, who complete timesheets for opex and capex internal orders	2.2%
Fault & emergency response	10%	Standard monthly charge; covers fault and emergency response, survey employees and project engineers	5.7%
Technical engineering/asset solutions etc	11%	Managed service charge; covers technical engineering, asset solutions, ops and outages, safety, procurement and stores and logistics	0%
Metering charges	14%	Covers meter reading	15.8%

8.9 Managed service contracts are recharged at labour cost. No service level agreements (SLAs) are attached to these contracts and there are no penalties in place for underperformance. NIE Powerteam Ltd's 'managed service' charges are charged initially to the profit and loss account and a proportion is subsequently capitalised by NIE T&D. NIE Powerteam Ltd's managed services are charged 80% to capital while overhead costs in relation to connections are charged at 77.5% and networks are charged at 72.5% to capital.

Review of NIE Powerteam Ltd's efficiency

Our minded to position on NIE Powerteam Ltd

8.10 NIE T&D claimed that the cost allocation processes that it operates with NIE Powerteam Ltd are straightforward. However, it became clear during our RP5 analysis that the two businesses are closely integrated and that accounting for the separate legal entities is achieved through sophisticated cross-charging and cost allocation. The following points summarise our analysis:

- Average salaries at NIE Powerteam Ltd are above the NI average. They have increased at a higher rate over RP4 than equivalent wages in the private sector in NI.

- NIE T&D and NIE Powerteam Ltd are subject to a range of non-financial KPIs, such as headcount, absenteeism, lost time incidents, complaints and call handling performance. More efficiency gains can be achieved into RP5, and a wider range of more applicable KPIs should be introduced. A more proactive approach to benchmarking costs should also be adopted.
- It appears that there are seemingly unnecessarily complex charging arrangements from NIE Powerteam Ltd to NIE T&D, and a lack of any competition or local benchmarking. There does not appear to be sufficient evidence that consumers benefit from the current arrangement; nor is there evidence to support a continuation of the profit sharing arrangement for this company.

8.11 It is our conclusion that NIE Powerteam Ltd is not subject to competition or regulation. Under RP4, NIE T&D had an opex allowance and capex was treated a 'pass through'. NIE T&D capitalised a large portion of the costs charged by NIE Powerteam Ltd (80%). It therefore appears that consumers have been paying higher than necessary costs in relation to NIE Powerteam Ltd during RP4.

8.12 We are minded to bring the current arrangements between NIE T&D and NIE Powerteam Ltd to an end. This will require any references to NIE Powerteam Ltd to be removed from NIE T&D's licence. NIE Powerteam Ltd will in effect be treated like any other third party supplier of services and NIE T&D will have to demonstrate competitive procurement and report evidence of this to us. These steps will ensure better efficiency for consumers in RP5.

9. RP5 CAPEX

Introduction

9.1 NIE T&D is obliged to ensure that its network has the “long-term ability to meet reasonable demands for the transmission of electricity”³⁰. To discharge these duties, the company needs to continue to invest in the network. NIE T&D has asked for £775.9 million for the RP5 period to cover these requirements, and to finance changes necessary for the business to comply with new legislation. This is an increase of 107% over the budget for RP4. It is also an increase on the £606 million that NIE T&D stated it required in the paper published in May 2011.³¹

9.2 In addition, the company will require funds to provide the infrastructure required by renewable generation connecting to the system and for additional interconnection, in response to government targets and the associated financial incentives. NIE T&D has indicated that it is likely to require £291 million to develop the network for renewable energy.

9.3 This chapter describes:

- the current network performance;
- NIE T&D’s request for capex funding for RP5;
- the analyses we have undertaken; and
- our proposed capex mechanism and allowance for NIE T&D.

Current network performance

9.4 The reliability of the network is currently measured by the number of the number of customer minutes lost each year. The target for customer minutes lost has been achieved for the past nine years and overachieved in eight of the last nine years. This is shown in Figure 9.1 below.

³⁰ Electricity (Northern Ireland) Order 1992.

³¹ http://www.uregni.gov.uk/uploads/publications/Capital_Investment_Requirements_for_RP5_NIE_Paper.pdf

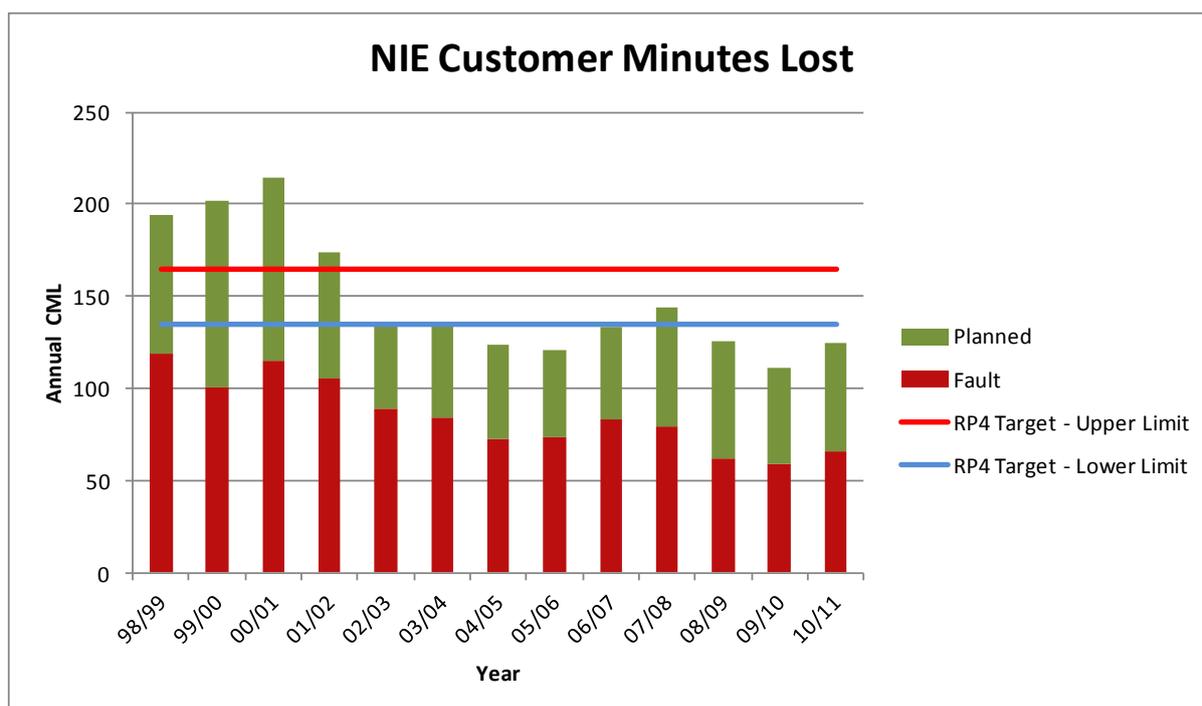


Figure 9.1 NIE T&D network performance

9.5 We commissioned research into customers’ attitudes towards the standards of service that utilities in Northern Ireland provide³². The research suggests that electricity services are satisfactory for most customers: just 10% had a problem or issue requiring contact with the electricity company in the previous 12 months, and the majority of these related to bill or payment queries.

9.6 Based on the metrics currently used to measure NIE T&D’s performance, the network is performing to the required standard. Other methods for measuring the performance and condition of NIE T&D’s network are discussed in Section 13 (Incentives).

NIE T&D’s request for capex funding for RP5

Summary of request

9.7 NIE T&D requested £775.9 million for RP5 to maintain current standards on the network. In addition it has indicated that it is likely to require £291 million to develop the network for renewable energy and interconnection. This is a substantial increase in the company’s historical spend at a time when network

³² http://www.uregni.gov.uk/uploads/publications/GSS_Report_May_2010.pdf

performance is better than the standards set for RP4. The actual spend in previous periods is shown in Table 9.1 and Figure 9.2 for comparison.

Table 9.1 NIE T&D capex request (£ million)

	RP2	RP3*	RP4**	RP5
Business as usual (incl. connections)	£398.5	£293.0	£364.2	£606.6
Renewables and interconnection			£17.8	£291.0
Submission total ³³	£398.5	£293.0	£383.0	£897.6
Meter certification & keypad meters (correction to submission values)			£10.0	£27.0
Upgrade of 11kV network				£127.0
Non-network capex				£15.3
Total				£1,066.9

Note: * = actual spend, ** = latest best estimate at time of submission

9.8 NIE T&D's original request for £897.6 million was submitted in response to our RP5 questionnaire. This formed the basis of the paper published in May 2011. While responding to further information requests, NIE T&D took the opportunity to request additional investment, taking the total to £1,066.9 million on 27 January 2012.

³³ http://www.uregni.gov.uk/uploads/publications/Capital_Investment_Requirements_for_RP5_NIE_Paper.pdf

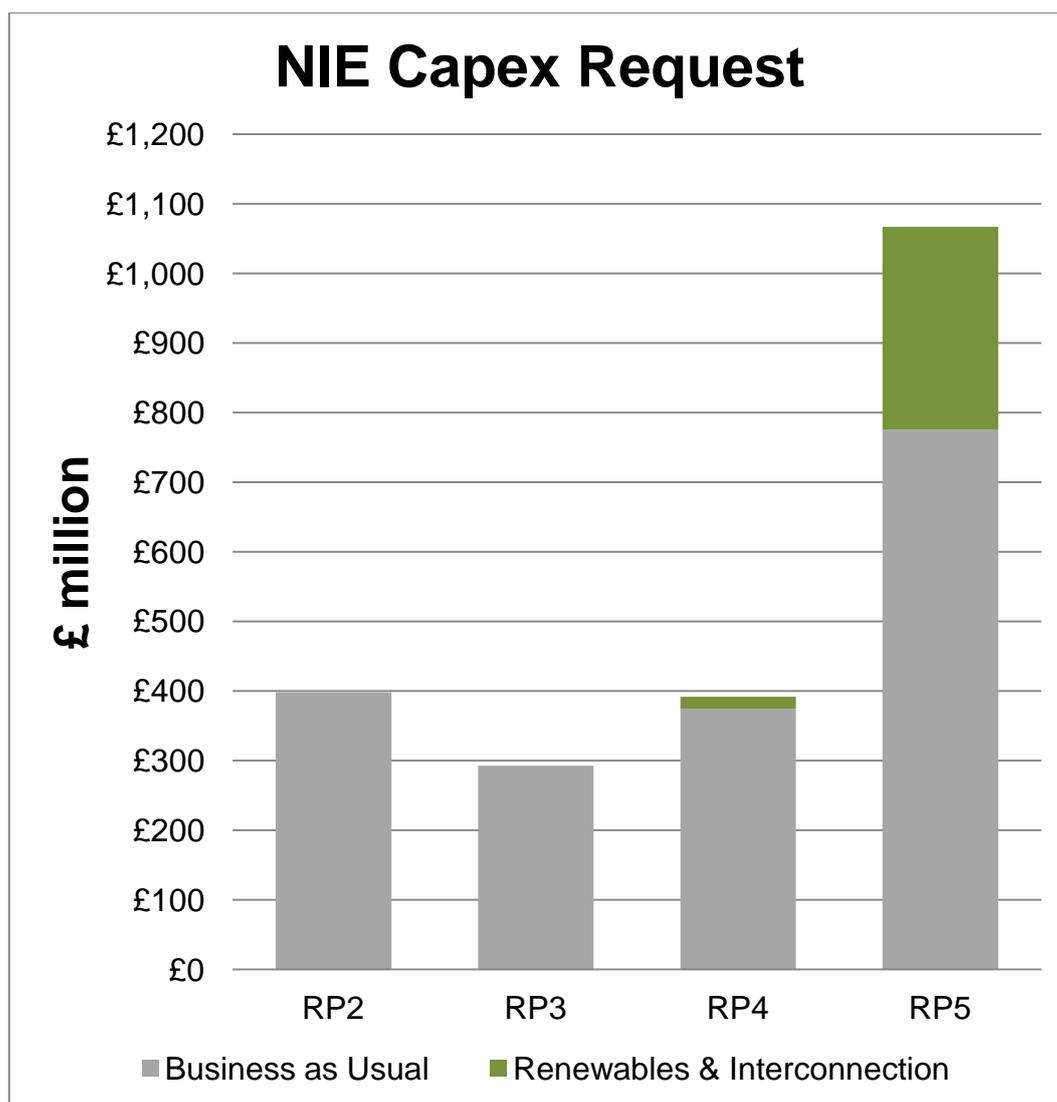


Figure 9.2 NIE T&D capex per regulatory period

Business as usual capex

9.9 NIE T&D has requested an increase of 107% in funding for this category of spend, which covers:

- asset replacement,
- increases in demand and fault level,
- customer connections,
- changes to legislation,
- capitalised overheads,
- customer and government priorities,
- metering
- IT & communications, and

- increased network resilience.

9.10 The split between the categories of spend is shown in Table 9.3 and Figure 9.3. The submission allows for a significant increase in the number of assets that the company would like to replace. A sample of the categories is shown in Table 9.2 below.

Table 9.2: A sample of the change in rate of asset replacement proposed

Asset Type	RP4**	RP5	change
Transmission circuits	4,750	11,078	212%
Transmission circuit breakers	18	30	66%
33 kV lines	4,935	5,180	5%
11 kV line	20,400	20,800	2%
LV plant	440	1,170	166%
Under eaves	17,800	16,000	-10%

Note: ** = latest best estimate at time of submission

Table 9.3: Breakdown of business as usual capex submission³⁴

Spend Category	Proposed spend £million	% of total
Asset replacement – distribution	£254.2	33%
Asset replacement – transmission	£107.4	14%
Increases in demand and fault level – transmission	£65.4	8%
Increases in demand and fault level – distribution	£24.6	3%
Customer connections	£59.3	8%
Changes to legislation	£29.4	4%
Capitalised overheads	£27.2	4%
Customer and government priorities	£21.9	3%
Metering* (includes meter certification and keypads)	£37.4	5%
IT & communications	£6.8	1%
Non-network capex	£15.3	2%
Network resilience (11kV conversion)	£127.0	16%
Total	£775.9	

³⁴ As updated on 27 January 2012.

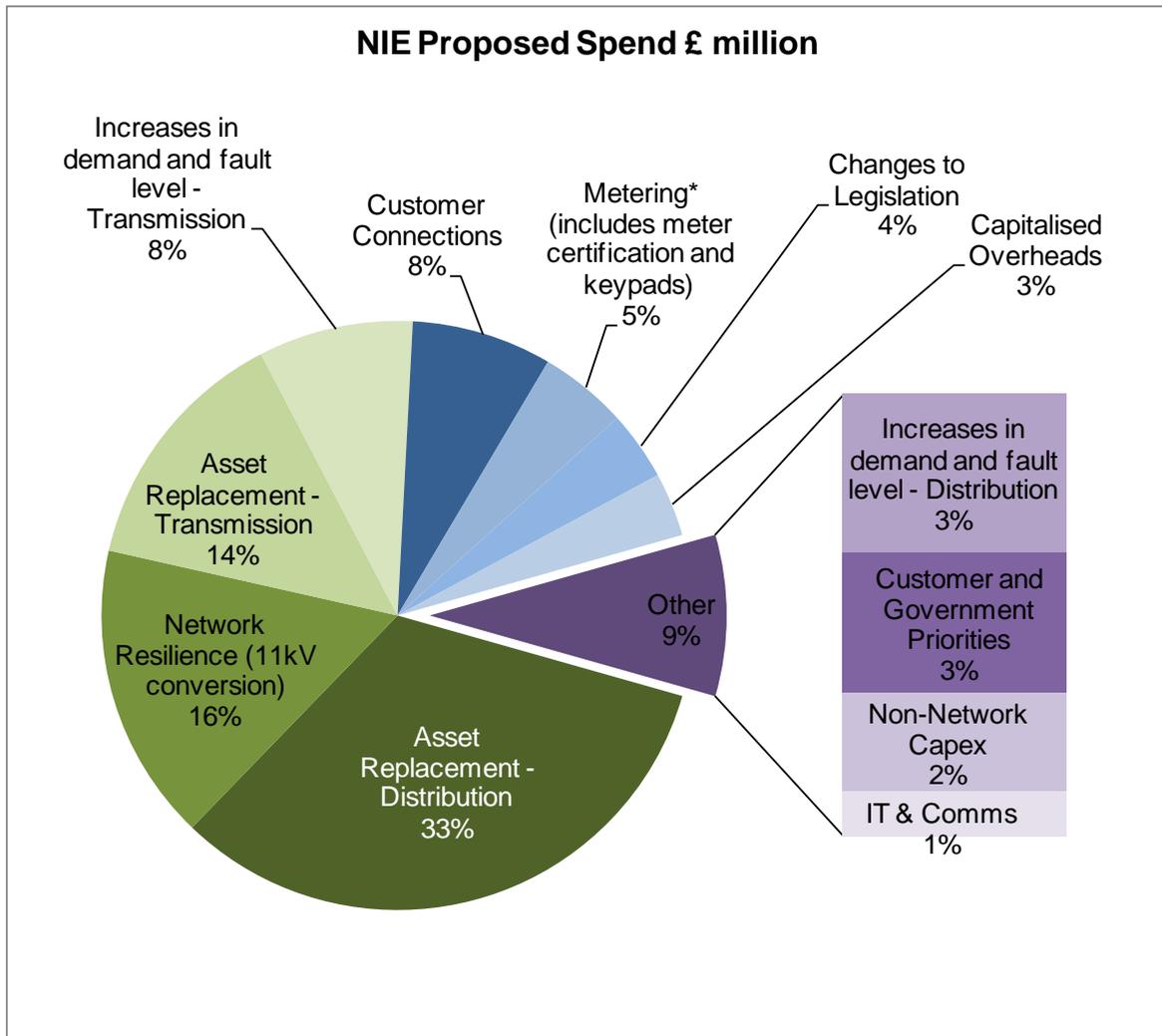


Figure 9.3: Breakdown of NIE T&D business as usual capex submission

9.11 In its submission NIE T&D stated that the calculations were based on a bottom up assessment of the network’s investment requirements. The company also stated that it had performed a series of internal reviews on the plan, before submitting this version as the ‘optimised plan’. NIE was unable to provide us with a detailed report of these internal reviews.

9.12 NIE T&D’s submission states that this plan:

“ reflects a continuation of the ramp up of asset replacement investment commenced in that period and seeks to address an increasingly ageing network of assets which were installed from the 1950s through to the 1970s and which are assessed as being at the end of their useful lives. This investment requirement has been evaluated on the basis of an assessment of equipment condition as well as risk and consequence of failure. Through improved condition monitoring and collection of condition information, we

have developed a better understanding of the relationship between age, condition, performance and risk.”

9.13 NIE T&D prepared a public summary of its request, which can be found on our website³⁵.

Investments for renewable generation

9.14 NIE T&D is currently preparing plans to develop the network to accommodate the large volumes of renewable generation that are expected to connect over the coming years. In its submission, the company presented sample schemes to illustrate the type of investment it expects will be required to achieve the 40% target.

9.15 As the plans are not sufficiently well developed, NIE T&D has not requested any specific funding for these capital investments as part of its RP5 settlement. Instead, it proposes to continue the current approval mechanism for funding outside the price control timelines to allow these schemes to be developed in a timely manner. NIE T&D have indicated that they expect the cost of these projects to be in the region of £291 million during RP5.

Other investment requested

9.16 NIE T&D also requested £15 million to invest in non-core assets. This is mainly IT and telecoms to support its personnel and for data management and billing systems.

9.17 NIE T&D classified this investment into the following categories:

- IT infrastructure: investment in computer hardware (including servers, desktop and mobile equipment) and associated operating systems which are used to deliver business functionality to end users.
- Corporate telecommunications: investment in the infrastructure to deliver business voice and data services to the desktop and the field.
- Business IT applications: investment in in-house and third party IT applications that NIE T&D and Powerteam use to operate the business.
- Renewables Development Group: minor investment in IT and telecoms equipment during RP5 to support the expansion of the Renewables Development Group. This group will deliver the network investment to enable the connection of renewable generation.

³⁵ http://www.uregni.gov.uk/uploads/publications/Capital_Investment_Requirements_for_RP5_NIE_Paper.pdf

9.18 We note that this submission includes the costs of IT services provided by NIE T&D to Powerteam, an associated and unregulated business. The issue of cross-subsidy and cost allocation between these two businesses was discussed in Section 8

Three pot mechanism

9.19 In its submission, NIE T&D highlighted the main areas of uncertainty associated with its submission:

“All forecasts are subject to some degree of uncertainty. There is therefore a level of uncertainty inherent in NIE T&D’s RP5 investment plan which needs to be managed throughout the period. The price review forecast for capex is being prepared in year 4 of the current regulatory period. The initial submission will therefore contain a 7 year forecast, 2 years covering the remainder of the current review period and five years for the new price control period. The expenditure tabled for the new regulatory period will be dependent on the accuracy of the forecasts for:

- *demand growth;*
- *asset deterioration; and*
- *unit costs.*

Not all aspects of these factors are within the control of the utility. In particular, demand and unit cost forecasts are directly linked to local and world economies.”

9.20 In order to mitigate the risks that it cannot control, NIE T&D proposed dividing the £775.9 million investment into three pots.

9.21 In its submission, NIE T&D states that it:

“believes that there are three pertinent categories of investment activity. As such, NIE T&D proposes that capex be subdivided into three pots, structured as follows:

- *Pot 1: high volume replacement activities, where the volume is more predictable and those volumes can be costed with reasonable accuracy;*
- *Pot 2: expenditure associated with activities that are less certain at present, or that will be triggered by events that are less controllable by NIE T&D, leading to some uncertainty over the exact scope, timing, physical volume of assets and cost of the investment that will ultimately be required in the course of RP5; and*

- *Pot 3: large, discrete projects where there is material uncertainty over the timing and extent of expenditure at present, but where that uncertainty will be reduced in due course (i.e. following agreement of the case of need and at the end of the pre-construction phase).*

Adopting this structure would allow NIE T&D and the Utility Regulator to agree jointly allowances for different activities, outputs associated with those allowances and what incentives should be imposed around each.”

9.22 NIE T&D’s proposed composition of the three pots is detailed in Table 9.4 below.

Table 9.4 NIE T&D’s proposed three pot model

Pot	NIE T&D description	Value £million	Number of schemes
Pot 1	High volume asset replacement	£ 186.2	9 projects / programmes
Pot 2	Projects that are less certain and/or less controllable	£ 315.6	68 projects / programmes
Pot 3	Large discrete projects with material uncertainty	£ 45.7	4 projects
Additional submission	Correction to metering and additional spend on 11kV network	£ 144.4	3 programmes
Outside pot mechanism	Connections, non-network IT capex and keypad meters	£ 84.0	
Total		£ 775.9	

Our assessment

Approach

9.23 Although their network performs better than the specified standard for customer minutes lost (see section 9.1), NIE T&D is requesting a 107% increase in its capital investment over the next five years. This excludes any investment to develop the network for renewable generation and further interconnection. We undertook robust scrutiny of these proposals through five separate assessments:

1. High level benchmarking of the total amount requested against that awarded to the GB DNOs in DPCR5 (their most recent price control).
2. Benchmarking of the unit costs that NIE T&D has used to calculate the cost of undertaking the work it intends to do.

3. A review of the policies and practices applied when determining the scope and cost of the proposed programme.
4. A structured assessment of the information NIE T&D provided for each project/programme.
5. A detailed review of a sample of projects to further test the conclusions drawn under assessment 4.

9.24 We have been supported by independent consulting engineer, SKM, during these assessments.

9.25 Each of the five assessments is discussed in the following sections. **These assessments were undertaken on the £606.6 million included in the original submission.** Following our assessments, we sought further clarity on NIE T&D's capex submission. As a result of this, NIE T&D submitted a revised request of £775.9 million on 27 January 2012.

High level benchmarking of the total against GB DNOs

Objective

9.26 The purpose of this assessment was to test the assumption that: the amount of capital that NIE T&D proposes to invest over RP5 is proportional to that awarded to the GB DNOs by Ofgem for DPCR5.

Data available

9.27 Ofgem provided our consultants with its full data set for the GB DNOs for DPCR4 and DPCR5. This included values for the allowances awarded to each DNO and the data required to calculate the composite scale variables that Ofgem used to benchmark between the DNOs.

9.28 The one discrepancy between the GB DNOs and NIE T&D is that the GB companies do not have assets at 275kV. The investments that NIE T&D proposes to make at this voltage were therefore removed from this assessment.

Method of assessment

9.29 To support its requested capex NIE T&D presented comparisons with the capital allowances for GB DNOs in the DPCR4 period. The company wished to demonstrate what it considers is a widening funding gap based on the increases in capex allowances from DPCR3 to DPCR4 and DPCR4 to DPCR5.

- 9.30 Rather than focusing on the period on period differences in price control allowance between NIE T&D and the GB DNOs, which do not take into account relative starting positions, we reviewed the NIE T&D RP4 and RP5 forecast investment plan against actual outturn expenditure of the GB DNOs in DPCR4. This information was published by Ofgem in the DPCR5 final proposals³⁶.
- 9.31 As Ofgem's data was published on a price base of 2007/08 we first converted it to a 2009/10 price base. To normalise the data we then applied a Composite Scale Variable (CSV). This was the same as NIE T&D's consultants used in assessing its opex efficiency and is weighted 50% network length, 25% customer numbers and 25% units supplied. We chose the CSV approach as it allowed normalising data to be used that was consistent with that used by NIE T&D's own consultants in their indirect benchmarking. We also repeated the normalisation using modern equivalent asset value (MEAV) with equivalent results.
- 9.32 The GB DNO expenditure includes 132kV capex, which we classed as being comparable to NIE T&D's 110kV system. However, the distribution companies do not operate 275kV assets so we inspected the RP4 and RP5 investment plan projects, identified 275kV expenditure and removed £10 million and £50 million from NIE T&D's RP4 and RP5 network programmes expenditure respectively. This allows us to compare NIE T&D's RP5 investment plan expenditure with the capex expenditure of the UK DNOs on a like for like basis.
- 9.33 From our RP4 capex assessment we are aware that there are differences in capitalisation between NIE T&D and the GB DNOs; we therefore included the opex and totex comparisons also.

Results

- 9.34 As in the RP4 assessment we undertook a totex comparison, again adjusted to remove 275kV costs, to confirm whether or not the additional capex is offset by lower opex. As can be seen in Table 9.5 this common basis comparison demonstrates that NIE T&D's requested RP5 capex is 102% more than the average cost per composite scale variable and 145% more than the equivalent expenditure in the small DNOs peer group, with totex at 50% greater than the GB average.

³⁶ Table 3.2 - Ofgem cost baselines relative to DNOs' DPCR4 actuals and DPCR5 forecast (final proposals 144/09)

9.35 For completeness, a comparison scatter diagram (figure 9.4) for DPCR5 and RP5 totex is presented below. The outlier nature of NIE T&D’s submission is still clearly evident and attributable to its significantly enhanced capex submission. It indicates an overall excess of around 45% above the GB norm.

Table 9.5 NIE T&D expenditure per CSV comparison with GB average

	RP4			RP5		
	Capex/ CSV	Opex/ CSV	Totex/ CSV	Capex/ CSV	Opex/ CSV	Totex/ CSV
GB average	19.9	24.9	44.8	25.5	28.7	54.2
Peer average	15.9	27.0	42.8	21.0	32.7	53.7
NIE T&D cf GB average	+35%	-15%	+7%	+102%	+1%	+49%
NIE T&D cf peer average	+70%	-22%	+12%	+145%	-11%	+50%

Note: Peer average uses SSE Hydro and WPD S Wales and S West. Comparison with GB and peer group average in the percentage above or below the average (shown in red on the chart).

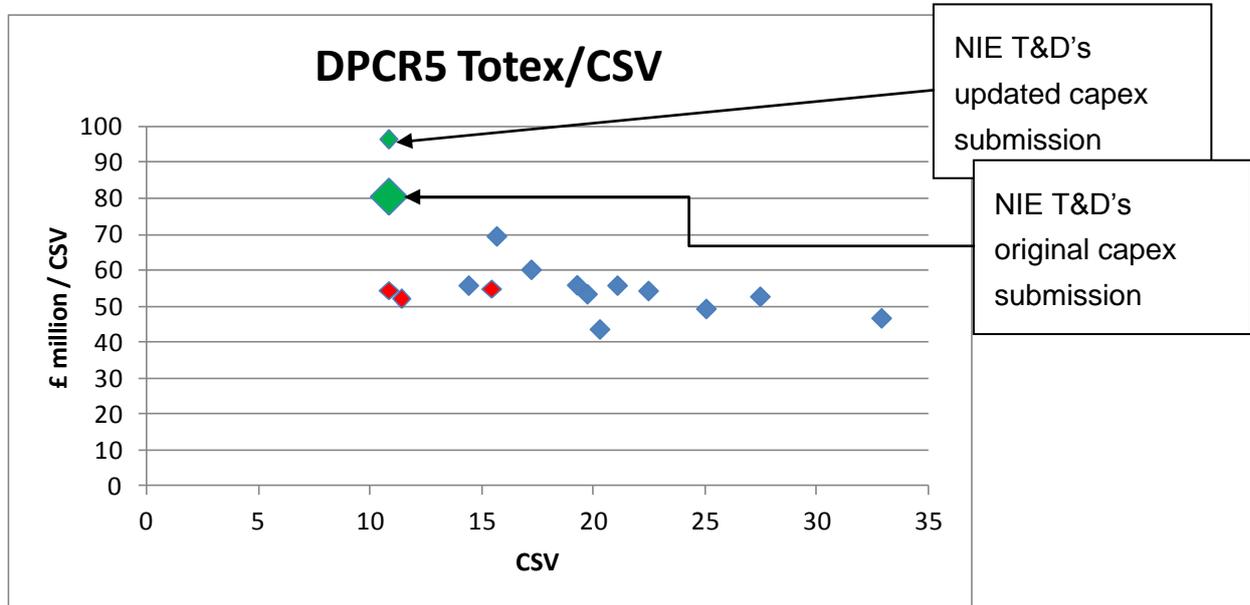


Figure 9.4: Comparison between NIE T&D and GB DNOs

Conclusion

- 9.36 NIE T&D's requested spend is considerably higher than the amount that Ofgem would have awarded to a similar GB company for DPCR5. This applies even when the data is adjusted to account for the differences in capitalisation practice. While some of the difference is related to industry structure, NIE T&D's submission is still significantly higher than the DPCR5 allowances that Ofgem awarded to its peers.
- 9.37 It should be noted that both this assessment and NIE T&D's were based on the original submission of £606 million. The differential would be even greater if based on the updated submission of £776m.

Benchmarking of the unit costs

Objective

- 9.38 A substantial amount of NIE T&D's submission was calculated by estimating the number of assets to be replaced during RP5 then multiplying these quantities by a unit rate. We must therefore examine these unit rates to ensure that they represent an appropriate and efficient cost. This assessment examined the assumption that:

“the unit costs used by NIE T&D when preparing their submission are efficient, when examined in a UK context.”

Data available

- 9.39 NIE T&D provided details of the unit rates it has applied as part of its submission. The company also provided a copy of a report by consultants NIE T&D commissioned to assess this. We also had access to the data Ofgem used for this benchmarking exercise.

Method of assessment

- 9.40 We reviewed the work that was undertaken by NIE T&D's consultants on the direct costs and then assessed the indirect costs. This captured the indirect costs included in the capex projects; it also captured the additional projects that NIE T&D has included in its submission that are also within the Ofgem model.
- 9.41 To adjust for different volumes of work, we costed the items that NIE T&D included in pot 1, based on NIE T&D's unit costs and the Ofgem benchmark.

Results

9.42 The analysis is described fully in Section 4.3 (Review of RP4 capex), with the full assessment published in Appendix D. The key results are as follows:

- No allowance for regional price adjustments had been made in the unit price assessment. We have investigated regional price adjustments as part of the efficiency benchmarking work for RP5 and note that average wages in Northern Ireland are approximately 10% lower than the GB average. This would account for some of the difference. However, given that this only applies to the labour elements then overall direct costs would still be approximately 20% less than the GB average (work content differences notwithstanding).
- The GB DNO cost varied considerably from the mean on a category by category basis due to different work content in each DNO's submission. NIE T&D's consultant has reviewed the NIE T&D work content against unit costs and provided assessments on where the content differs. We agree with the consultant's conclusions that even given differing content NIE T&D's direct costs are generally lower than the GB averages. However, we would caution that the calculated figure of 20% probably overstates the level of outperformance (even though it is based on NIE T&D's figures).
- When 'indirect cost projects' are included, NIE T&D's total unit costs of investments (including indirect costs) for the assessed projects are 5% higher than GB average benchmarks.
- When we assessed NIE T&D's capital indirect costs in a similar manner, by comparing the direct costs with NIE T&D's total cost and the consultant's benchmark total unit costs the indirect costs were found to be 32% of the direct costs compared with the consultants 17%. However, due to the lower direct costs NIE T&D's total costs were still less than the benchmark total costs. NIE T&D's RP5 programme includes a number of projects that would be covered under the tasks identified as indirect costs in the benchmarking exercise. This changes the assessment significantly, with NIE T&D's total cost exceeding the benchmark by 5%.
- Given that there is a possible range of direct cost outperformance, we considered conservative estimates that the direct cost outperformance may be between zero and 50% of that calculated from NIE T&D's own

figures. From this assessment we determined that NIE T&D's indirect costs associated with the capex programme would need to fall by between 27% and 54% to meet the benchmark values.

Conclusions

9.43 From our analysis we concluded that NIE T&D's unit costs are not efficient, relative to that of the GB DNOs. We shared this view with NIE T&D. The company welcomed confirmation that its direct costs are lower than those in GB. However it went on to suggest that there is significant ambiguity around the allocation of costs into the 'closely associated indirect costs' category. It stated that to produce a like for like comparison the GB costs should be inflated by a higher amount than SKM used. Having undertaken an equivalent analysis NIE T&D believe that its costs are 2.3% lower than GB. The implications this has on the RP5 capex allowance is discussed below.

Review of policies and practices

Objective

9.44 NIE T&D has asserted that the increase³⁷ required in its capital allowance

“reflects a continuation of the ramp up of asset replacement investment commenced in that period and seeks to address an increasingly ageing network of assets which were installed from the 1950s through to the 1970s and which are assessed as being at the end of their useful lives.”

9.45 This belief is founded on the outputs from NIE T&D's asset management policies and procedures. We are required to ensure that these reflect best practice in asset management and corporate governance. The third assessment undertaken examines the assumption that:

“the policies and practices adopted by NIE T&D when determining its capex requirements are robust, provide appropriate corporate control and will result in a network that is efficient, coordinated and economical.”

³⁷ This analysis was based on the original submission of £606.6 million for business as usual capex.

Data available

9.46 We asked NIE T&D to submit copies of all documents relating to the capex process. These have not changed significantly since the start of RP4 (except for some methods of cost allocation).

Method of assessment

9.47 We reviewed NIE T&D's submission and issued a large number of subsequent data requests to NIE T&D. We held a number of meetings with NIE T&D to ensure that our interpretation of the documents provided was correct. As the policies and practices did not change significantly during RP4, this work also formed part of the review of RP4.

9.48 We then compared the policies and practices adopted by NIE T&D with those of other DNOs. The review covered the replacement and refurbishment policies and how they consider risk in relation to:

- security of supply/network integrity;
- public safety;
- unnecessary work being undertaken; and
- higher costs being incurred by customers, either through direct operations and maintenance [O&M] or indirectly by increased losses and/or constraint costs.

9.49 We reviewed the approach that NIE T&D used to assess the quality of assets. We also looked at how the company prioritised asset replacement, including whether or not costs and efficiency assessments were included. This is important in determining whether the company had taken into account the overall cost to customers.

9.50 Our review also included a review of the governance NIE T&D used when approving projects and the expenditure required to deliver the investment plan.

Results

9.51 The comparison showed that although NIE T&D's system includes a method to assess both the risk of asset failure and the impact that would have on customers, this could be improved upon.

9.52 However, our biggest concern was with the methods used to translate this information into an investment plan. This is currently done using 'engineering judgement', with no explicit threshold criteria or corporate strategy to guide the process.

9.53 Our review also highlighted the fact that NIE T&D does not consider the total cost of potential schemes to customers when identifying a solution. For example, to date it has not considered the cost of network constraints and losses when planning investment.

Conclusion

9.54 Unless auditable processes are in place to ensure that ‘engineering judgement’ is consistent with corporate strategy, there is a high risk of drift within decision making. Current processes cannot be considered sufficiently robust.

9.55 The RP4 capex mechanism did not incentivise NIE T&D to take prudent risks with asset replacement, as it encouraged the company to spend up to a budget cap. This behaviour is therefore consistent with the company’s current regulatory settlement.

9.56 We also have concerns about how NIE T&D can demonstrate compliance with its statutory duty to ensure that the network is “efficient, co-ordinated and economical”³⁸ if it does not consider the total cost of the network to consumers when making investment decisions. While in many cases the only costs passed on to customers are those of NIE T&D, there are other cases where the cost of network constraints and avoidable losses might be significant enough to change the outcome of the analyses.

9.57 NIE T&D does not currently operate to a recognised auditable standard for asset management (such as PAS55), although it is currently working towards such a standard. This is widely used in other utility companies and we welcome the work NIE T&D is doing to move to best practice.

Structured assessment of each project/programme

Objective

9.58 We asked NIE T&D to complete a database detailing the information associated with each proposed project/programme of work in a structured manner (and to facilitate reporting and monitoring). This was to facilitate a structured assessment of its proposed investments.

9.59 In addition to this information, NIE T&D chose to submit a large number of supporting papers to justify the 66% increase in capital investment. These papers were complex and contained a mixture of fact and opinion. The purpose

³⁸ Electricity (Northern Ireland) Order 1992.

of our assessment was to add structure to the assessment of the submission and to grade each database entry in terms of the definition of the need for the work proposed and the accuracy of the scope/cost of that work.

9.60 This was to test the assumption that:

“NIE T&D’s submission contains well defined and clearly substantiated items of work that have been costed accurately.”

Data available

9.61 NIE T&D completed two databases: one for transmission and one for distribution. Due to the highly technical nature of the information provided, SKM assessed these entries in conjunction with the supporting papers. In addition, the outputs of the unit cost assessment and the review of policies and procedures were considered in this context.

Method of assessment

9.62 SKM reviewed each database entry and the associated papers. It then scored the entry against two criteria:

- need/priority, and
- scope/cost accuracy.

9.63 The criteria adopted in the scoring are listed in table 9.6. This exercise was subject to the consultant’s standard quality assurance procedures, including peer review and formal sign-off.

Table 9.6 Assessment criteria

Score	Need/priority criteria	Scope/cost accuracy criteria
1	No evidence of need in RP5 period	Project scope not sufficiently defined to allow cost assessment
2	Need in RP5 based on high level demand/condition assessment with no sensitivity assessment or option appraisal	Generic work programmes with defined unit costs. For example 30% of asset group to be replaced at £x/unit
3	Need based on site-specific demand forecast or condition assessment. Evidence of reasonable options considered or methodology for scheme selection in a work programme	Project/work programme defined by asset condition which aligns with unit costs (that is, selection based on a specific asset condition (risk) score)
4	Evidence of prioritisation based on assessment of not undertaking the project/asset failure. Strong evidence that the most appropriate option is selected. Strong methodology for scheme selection in a work programme	Project scope definition sufficient to allow detailed costing based on robust estimating system
5	Clear project-specific need with sensitivity assessment and evidence of prioritisation against the portfolio of possible projects. Strong evidence that the most appropriate option is selected. Detailed methodology for scheme selection in a work programme.	Project scope definition at a detailed level and costs based on tender returns and including internal engineering costs. For projects requiring planning permission a score or [should this be of] 5 will require tendered costs of an approved route.

Results

9.64 The consultants presented their results in a matrix format. The only items to be considered to be detailed in a robust way were the two entries for capitalised overheads and one critical transmission transformer project.

Combined T&D						
Scope / Cost	5					
	4		57,567,000		35,341,000	
	3		3,890,000	21,106,000	118,307,828	
	2	9,000,000	27,802,000	148,146,967	90,200,007	
	1	35,787,345	36,111,353	21,785,000	1,600,000	
		1	2	3	4	5
Need						

Table 9.7 Results of SKM’s scoring of NIE T&D’s submission

Conclusion

9.65 This structured assessment showed that NIE T&D has not demonstrated the need for the projects it has requested to an adequate standard. Concerns about the detail provided in relation to the scope of work led to significantly more queries and meetings than was initially envisaged. The unit cost data was however more robust.

9.66 The shortcomings in the methods NIE T&D used for converting risk assessments into investment plans have a significant impact on the scoring. This is because in the supporting papers NIE T&D list risk scores for some of the items it wants to replace, without interpreting the score or explaining why the assets will not be fit for purpose in 2017.

9.67 Based on this assessment, only £175 million out of the request of £607 million is considered to have been adequately scoped and justified. This is based on achievement of scores of ‘3’ or higher in both the ‘need’ and ‘scope/cost’ categories.

Detailed review of a sample of projects

Objective

9.68 The scoring of each scheme, as discussed in Section 7.4.5 was based on NIE T&D's overall submission. To verify these results we also decided to ask the consultant[s] to undertake a more detailed review of a sample of projects.

9.69 The assumption tested was that:

“The scoring based on the initial assessment is robust under deeper scrutiny.”

Data available

9.70 In addition to the information reviewed previously, NIE T&D was asked specific questions about the processes used to reach the solutions recommended in these projects/programmes and the methods for determining how much they would cost.

Method of assessment

9.71 The assessment was as before, but with additional data requests submitted to NIE T&D. In addition, SKM compared the volumes of asset replacement spend requested by NIE T&D and those planned for DPCR5 by the GB DNOs.

Results

9.72 NIE T&D did not provide any significant additional information during this period of questioning that would have resulted in the projects being scored differently.

Conclusion

9.73 This assessment indicated that the original scores were robust under closer examination, based on the information available to SKM.

Overall conclusions of assessments

9.74 These five assessments produced consistent results. From the information available, the processes used to build up the submission were based on subjective engineering judgement without any guiding corporate strategy and/or threshold criteria. This meant that the submission was heavy on opinion regarding the need for investment, but lacked supporting factual evidence.

9.75 We have not been able to identify why NIE T&D's request is substantially higher than a comparable company in GB. NIE T&D's current asset

management approach has not been assessed to a recognised standard designed to optimise spend.

9.76 Based on these assessments we cannot endorse NIE T&D's request for £607 million for business as usual capital investment. It should also be noted that the additional requests submitted on 27 January are not included in these assessments.

Proposed mechanism for RP5 capex

Our cross-utility policy

9.77 In autumn 2011 we consulted on our policy for price controls across all utilities. The key principles from this consultation that are relevant to the RP5 capex proposals are:

- ex-ante capex allowances wherever appropriate; and
- the delivery of tangible outputs/outcomes and the use of a Reporter to verify performance.

9.78 The mechanism that was adopted for RP4 is not consistent with these policies and should not be continued into RP5.

Proposed approach

9.79 We reviewed NIE T&D's proposals for mitigating uncertainty during RP5. We needed to make sure that the mechanisms proposed would also satisfy our statutory duties to protect consumers and ensure that NIE T&D can finance its activities.

9.80 When considering which capex uncertainty mechanisms should be incorporated into the price control it is important to understand the forms of uncertainty that exist. These include the following:

- **Volume uncertainty:** For some cost items the volume of work that has to be carried can be difficult to predict and this is partially outside the control of the regulated company. As a result, it is necessary to share the risk between both the company and customers. Examples of these types of costs include connections and load-related reinforcement.
- **Unit cost uncertainty:** Accurately forecasting the unit cost of some items can be difficult. Examples include materials like copper which are influenced by international commodity markets.

- **Unknown costs(both volume and unit cost):** For some expenditure items insufficient information is available on the scope and timing of the work when the price control is set. Examples of these cost items include changes to legislation or government policy which may not be fully clear at the beginning of a price control.

9.81 In its proposal NIE T&D separated its capex into three ‘pots’ based on the characteristics of the expenditure items. Given that there is a link between costs which can be incentivised and uncertainty, we consider that grouping similarly uncertain cost items into pots is an appropriate approach for RP5. We also agree with NIE T&D that three pots is the right number

9.82 However, our definition of the suitable ‘funds’ is not the same. Ours have the following characteristics:

- **Fund 1: All asset replacement:** Total units to be delivered and unit costs to be agreed before determination. Reporter to verify delivery and substitution between asset types.
- **Fund 2: Covers load growth, incremental costs of change of law, metering, IT & communications:** Logging up/down based on efficient cost of delivery. Verified by the Reporter. Includes ring-fenced amounts for metering and connections.
- **Fund 3: Large projects** for renewable generation or interconnection, where there is material uncertainty over the timing and level of expenditure.

9.83 To differentiate these proposals from those made by NIE T&D, we will use the term ‘funds’ .The scope of the proposed funds are summarised in Table 9.8 below.

Table 9.8: Proposed capex funds

Fund	Characteristics	Capex category
Fund 1	Measurable and reasonably predictable volumes. Unit costs can be calculated with reasonable accuracy.	All replacement capex, including reactive and proactive replacement.
Fund 2	Predictable cost areas, however uncertain cost levels. Costs that are 100% driven by external request that NIE T&D is obliged to deliver.	Load related capex (not covered in Fund 3); network IT; network performance; changes to legislation; non-network IT; new technology trials. Metering, meter recertification, the portion of new connections that are added to the RAB (excluding clusters) (note spend on each of these three categories will be ring-fenced).
Fund 3	Large projects with unpredictability around need, costs and timing.	Network development for renewable projects; Tyrone - Cavan interconnector; wind farm clusters.

Fund 1: Asset replacement**Mechanism: asset replacement**

9.84 The key features of the mechanism proposed for Fund 1 are as follows:

- It covers all network asset replacement (reactive and pro-active).
- An allowance will be set ex-ante, based on the volume of assets to be refurbished/replaced and the agreed efficient unit cost of that work.
- At the end of RP5, there will be an ex-post reconciliation of the volumes actually delivered (based on the ex-ante unit cost). This will remove any benefit accrued by NIE T&D by deferring investment over RP5. We do not expect NIE T&D to deliver asset replacement outputs beyond a level equivalent to that agreed in the final determination i.e. the fund is capped.
- Each year in RP6, the RAB will be increased or decreased to reflect the adjustment required to account for differences in actual unit cost and the efficient unit costs used to calculate the allowance. This way NIE T&D will retain the benefit of any efficiency for five years (at the appropriate WACC). If the actual unit costs exceed the efficient unit costs, they will only suffer the impact of any inefficiency for five years.

- The Reporter will verify the actual volumes delivered and the actual costs incurred to undertake the work.
- NIE T&D will not benefit from deferred capital investment, and customers will only pay for the actual volume of work that is delivered (at an efficient cost).
- Using a worked example, if NIE T&D make £1 million saving due to unit cost efficiency in year 2 of RP5, this will remain on the RAB until year 2 of RP6. In year 2 of RP6, the RAB will be adjusted by £0.86 million (£1 million minus 5 years of depreciation at 3%).
- Using a worked example, If NIE T&D defer £1 million of investment, an adjustment will be made to the starting RAB for RP6 to remove the amount remaining to be depreciated and to refund the depreciation and the return that had been paid by customers up to that time.

Our minded to position on Fund 1

9.85 Our minded to position is based on the unit costs that NIE T&D submitted. As its costs did not reflect the overheads, surveys and design costs, we updated them to include a proportion of these. However we note that reporting in this format will not be possible in the short term.

9.86 The draft determination is based on our assessment of responses received from NIE T&D up to 27 January 2012. NIE T&D will have a further opportunity to provide further justification of need during the consultation period.

Table 9.9: Initial proposals for capex Fund 1

Fund	Category of Spend	NIE Request £ million	Our Proposal £ million	Notes
Distribution	Overhead Lines and Cables	£249.2	£52.9	
	Substations	£79.0	£32.5	
	Other (incl. capitalised overheads)	£29.1	£33.4	Our proposal includes overheads reallocated from NIE's Fund 2 submission.
Distribution Total		£357.30	£118.80	
Transmission	Overhead Lines and Cables	£39.7	£12.0	NIE request includes Coolkeeragh to Magherafelt line which we have reallocated to fund 3
	Substations	£74.4	£52.2	
	Other (incl. Capitalised overheads)	£4.9	£10.4	Our proposal includes overheads reallocated from Fund 2.
Transmission Total		£119.00	£74.60	
Fund 1 Total		£476.30	£193.40	

Monitoring and reporting

9.87 The volume of asset replacement/refurbishment will be reported on each year via the RP5 capex database. The costs associated with each item are also included in the reporting. The objective of the reporting is to ensure that NIE T&D is carrying out the volume of asset replacement equivalent that was agreed with us, and is being funded by customers.

9.88 The Reporter will be required to sign off that they are satisfied that the work has been undertaken and that the cost of undertaking the work is reported accurately. The allocation of spend between the funds and between capex and opex will also be assessed.

9.89 The Reporter will also be asked to report on the development of the asset management practices and to comment on the development of asset health indices (see section 13).

Work ongoing during consultation period

9.90 NIE T&D will have the opportunity to provide additional supporting information before the end of May 2012. This will be reviewed by our consultants, and the volume of work to be delivered during RP5 will be based on their further bottom-up assessment of the entirety of NIE T&D's capex submissions.

9.91 During RP4, NIE T&D spent £204 million on asset replacement, and the network has met the required performance standards. Financial depreciation was approximately £240 million over the five years of RP4 (it should be noted that this includes connection and load growth assets).

9.92 We expect these two values to be an indication of the amount of spend required during RP5; any deviation from this historical trend would require extremely robust justification. We believe that our draft determination of £193.4 million is a reasonable estimate of the amount of asset replacement required.

Fund 2: Load growth, legislation and other

Mechanism: load related, legislation and other

9.93 The key features of the mechanism proposed for Fund 2 are:

- Fund covers
 - load related spend,
 - the incremental cost of changes in legislation,
 - IT and communications for both network and non-network functions, and any trials of new technology.
- Will include an explicit obligation for spend to be incurred efficiently.
- An ex-ante allowance will be calculated based on the best information available at the time our final proposals are published. This will be used to calculate tariffs for the five years of the price control.
- Logging up/down will take place at the end of RP5, based on efficient spend to deliver the outputs. We will be monitoring this on an annual basis, but will not make adjustments until the end of the price control.
- As with fund 1, each year in RP6, the RAB will be increased or decreased to reflect the adjustment required to account for differences in actual unit cost and the efficient unit costs used to calculate the allowance. This way NIE T&D will retain the benefit of any efficiency for five years (at the appropriate WACC). They will only suffer the impact of any inefficiency for five years.
- If overall demand continues to fall and less investment is required for localised increases in demand, then the RAB will be adjusted to remove any benefit that NIE T&D would have accumulated over RP5 as a result of not needing to increase capacity. This will be done in the same way as for fund 1 deferred capex.

- If demand increases and additional investment is required to meet localised shortages in capacity, then the RP6 starting RAB will be increased to ensure that NIE T&D are held neutral for undertaking the additional investment at the time it was required.
- For example, if NIE T&D need to invest £1 million for additional (justified and efficiently incurred) load growth in year 3 of RP5, the RP6 starting RAB will be increased to account for the initial investment plus two years of return on that investment.
- The Reporter will verify the need for the work that is undertaken, the volumes of work done and whether or not the costs have been incurred efficiently.
- NIE T&D will have no incentive to defer capex; and any spend that is not adequately justified or incurred efficiently will not be included in the logging up exercise.

9.94 The key features of the mechanism proposed for the ring-fenced items are as follows:

- These are items which are initiated by third parties, where NIE T&D has a mandatory obligation to facilitate their needs.
- All metering costs will be ringfenced, including recertification, keypads and smart meters.
- The ringfenced amount includes the portion of connection costs allocated to the RAB during the transition period. We expect all connection work that is committed to under the current policy to be complete within two years.
- Non-recoverable network alterations are also ringfenced.
- Only the actual efficiently incurred spend can be added to the RAB.
- These items are largely outside NIE's control. They should not be able to gain from them or lose either. This will be subject to scrutiny by the Reporter, in particular the non-recoverable network alterations which could potentially overlap with work undertaken in Fund 1.

Our minded to position on Fund 2

9.95 The ex-ante allowance for these items is based on specific projects that we believe are justified, based on the information provided by NIE T&D.

9.96 NIE T&D will have the opportunity to provide additional supporting information before the end of May 2012. This will be reviewed by our consultants, and the

volume of work to be delivered during RP5 will be based on their bottom-up assessment of the entirety of NIE T&D's capex submissions.

9.97 NIE T&D has requested funding for a number of capex items that are initiated by external requests. We propose that the amounts allowed for this are ring-fenced and capped. The costs for metering certification were submitted by NIE T&D on 27 January 2012. This did not allow us sufficient time to assess whether or not the proposals are efficient. Therefore they are not included in the current proposals.

9.98 The connections spend has been reduced to reflect a two-year transition to the new connection charging methodology.

9.99 Only the efficiently incurred actual spend will be allowed to be added to the RAB. Our capped amounts are listed in Table 9.10.

Table 9.10: Draft determination for fund 2

Fund	Category of Spend	NIE Request £ million	Our Proposal £ million	Notes
Distribution Fund 2	Defined projects	£13.6	£7.6	
	General load related	£31.5	£4.1	
	Metering	£37.5	£18.6	
	Connections	£59.3	£26.9	This will not reduce the revenue that NIE T&D receive for connections. Rather it means that the connectee pays the full cost of the connection to NIE T&D
	Other (incl. capitalised overheads)	£97.8	£29.3	NIE request includes some overheads that have been reallocated to Fund 1 in our proposals
Distribution Total		£239.70	£86.50	
Transmission Fund 2	Defined projects	£49.1	£32.1	
	General load related	£0	£0	
	Other (incl. capitalised overheads)	£11.0	£2.6	NIE request includes some overheads that have been reallocated to Fund 1 in our proposals
Transmission Total		£60.10	£34.70	
Fund 2 Total		£299.80	£121.20	

9.100 Note: the capped amount for metering will be reviewed to account for any new policy development for smart metering during RP5.

Monitoring and reporting

9.101 The volume of work will be reported each year via the RP5 capex database.

The costs associated with each item are also included in the reporting. The objective of the reporting is to ensure that NIE T&D is undertaking work that is required to comply with any changes in load growth or changes in legislation in an efficient and proportionate manner. This will include the way that network adequacy is assessed (currently deterministic methods are used, when probabilistic methods may provide significantly different requirements). The Reporter will also assess the development of load indices (see section 13).

9.102 In addition, the objective of reporting on the ring-fenced items is to ensure that NIE T&D is undertaking work that is required to accommodate these external requests in an efficient and proportionate manner. The Reporter will also assess the accuracy of the costs estimated within the connection offers.

9.103 The Reporter will be required to sign off that he is satisfied that the work has been undertaken and that the cost of undertaking the work is reported accurately. The allocation of spend between the funds and between capex and opex will also be assessed.

Fund 3: Integration of renewable generation Fund 3: Development for Renewable Generation and Interconnection

9.104 The biggest challenge for NIE T&D during RP5 will be developing the transmission network for the integration of renewable generation.

9.105 This fund is limited to investment required for the development of the network to facilitate renewable generation and interconnection, including the medium term plan, RIDP, Tyrone – Cavan Interconnector, wind farm clusters and the any upgrade to the Coolkeeragh to Magherafelt line required as part of the RIDP.

- No ex-ante allowance will be calculated or included in the tariffs.
- Will include an explicit obligation for spend to be incurred efficiently.
- Each item of work will be approved individually, up to a ceiling price, subject to the delivery of the specified functionality.
- Costs beyond the ceiling price will only be considered if they could not have been reasonably foreseen by a competent network developer.
- All costs in this fund will be added to a separate dedicated RAB. This RAB will have a separate WACC applied to it, as discussed in Section

16

9.106 NIE T&D has not requested funding for any of these projects within its RP5 submission. Instead it has included a selection of projects that would facilitate the DETI target of 40% of electricity consumed being provided by renewable sources by 2020. Although these are reflected in the tariff analysis presented in Section 20, we are not consulting on the allowance at this stage.

Network planning costs

9.107 The approval of the opex costs associated with planning the network for the expected volume of renewable generation is discussed in Section 10 (RP5 Opex). These costs should not be added to the regulated asset base.

Pre-construction costs

9.108 The pre-construction costs will be approved individually for each scheme. We expect each submission to include all of the costs of developing the project up to the start of construction, including design, wayleaves, procurement and all statutory approvals. Only costs that could not reasonably have been foreseen by a competent network developer could be considered in addition. Only the efficiently incurred actual costs can be recovered. If the assets are constructed this may be added to the RAB, otherwise the costs will be reallocated to opex.

Construction costs

9.109 Once all statutory approvals are obtained and the costs of the project are accurately known post tender, we will undertake a final review of the cost benefit analysis included in the statement of need. If this demonstrates that it is in the interests of customers for the project to proceed, then approval will be given for efficiently incurred costs to be recovered via the RAB, up to a ceiling price. This will be subject to the delivery of the functionality and outputs defined in the approval. Only costs that could not reasonably have been foreseen by a competent network developer could be considered above the ceiling price.

9.110 The indicative values submitted by NIE T&D for the renewable investment are listed in Table 9.11

Table 9.11: Indicative amounts for renewable generation and interconnection

Fund 3	Transmission	Distribution
Medium-term plan	£70.3 million	£0
Wind farm clusters	£17.6 million	£0
RIDP	£127.2 million	£0
Tyrone - Cavan Interconnector	£75.9 million	£0

Capex inflation and efficiency incentive

9.111 The cost of delivering the capex programme will vary with time, mainly as a result of changes in the cost of materials and labour and volume requirements. We have considered the risks associated with these changes, and the allocation of these risks, when calculating the WACC to be applied to NIE T&D's RAB over RP5. Based on this, and the allocation of price and volume risk inherent in the three capex funds, we are minded to apply RPI to the annual capital allowances. Risks associated with deviations between RPI and the basket of costs that are included in NIE T&D's capex programme is reflected in the asset beta that we use to calculate the WACC (see Section 16).

9.112 We are minded to apply RPI to the annual capital allowances. In addition, an X factor of 1% per year will be applied to close the efficiency gap of 5% that has been identified by our consultants over the five years of the price control (see above – RP5 capex unit cost benchmarking). This is related to the indirect costs associated with NIE T&D's capex programme.

9.113 When combined, these result in a capex inflation formula that would be included within NIE T&D's licence of:

$$\text{Capex inflation}_t = (\text{RPI}_t / \text{RPI}) - 1$$

Summary of draft determination for capex

9.114 The draft determination for the RP5 capex allowances is set out in tables 9.12 and figure 9.5.

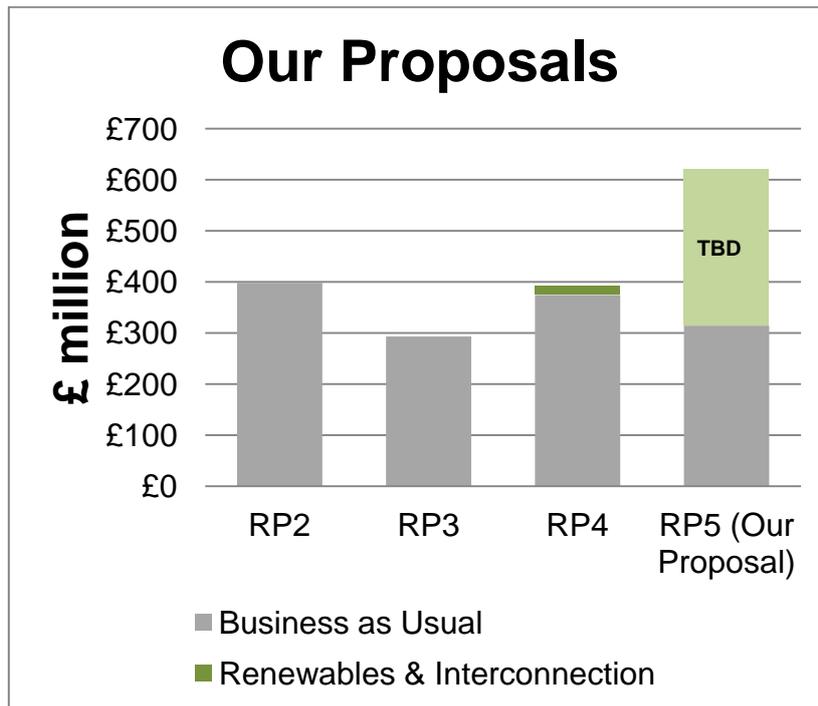


Figure 9.5: Our Proposals for RP5 Capex

Table 9.12 Summary of initial proposals

Fund	Spend area	NIE T&D submission £ million		Our initial proposals £million	
		Transmission	Distribution	Transmission	Distribution
1	Asset replacement	£119.0	£357.3	£74.7	£118.8
2	Load related capex Network IT; network performance; changes to legislation; non- network IT; new technology trials	£60.1	£142.8	£34.7	£41.0
R	Ring-fenced for metering	£0.0	£37.5	£0.0	£18.6
	Ring-fenced for connections and alterations	£0.0	£59.3	£0.0	£26.9
Subtotal		£179.1	£596.9	£109.4	£205.3
		£776.0		£314.7	
3	Medium-term plan	£70.3	£0.0	TBD	TBD
	Wind farm clusters	£17.6	£0.0	TBD	TBD
	RIDP	£127.2	£0.0	TBD	TBD
	Tyrone - Cavan Interconnector	£76.0	£0.0	TBD	TBD
Subtotal		£291.1	£0.0	TBD	TBD
Total		£470.2	£596.9	TBD	TBD
		£1,067.1		TBD³⁹	

³⁹ ³⁹ TBD is 'to be determined'

10. RP5 OPEX

Introduction

10.1 NIE T&D proposed a total opex of £345 million for RP5. This comprised controllable, uncontrollable and ‘new’ opex. The RP5 submission is 22% higher than the total actual opex incurred during RP4 of £283 million. NIE T&D also provided an opex benchmarking report as part of its RP5 submission.

Table 10.1: Comparison between RP4 & RP5 Opex

	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
RP5 controllable opex	£47m	£46m	£47m	£48m	£49m	£237m
RP5 uncontrollable opex	£21m	£21m	£21m	£22m	£22m	£107m
RP5 opex submission total	£68m	£67m	£68m	£70m	£71m	£345m
RP4 controllable opex	£32m	£30m	£30m	£29m	£31m	£153m
RP4 uncontrollable opex	£16m	£17m	£18m	£17m	£18m	£87m
RP4 costs approved outside price control (Dt)	£5m	£9m	£9m	£10m	£10m	£43m
RP4 actual total opex	£53m	£56m	£57m	£56m	£59m	£283m

10.2 Controllable opex includes the following items:

- payroll,
- Repairs & Maintenance,
- IT & telecoms,
- NIE Powerteam Ltd’s costs,
- corporate costs,
- insurance,
- property costs,
- professional services,
- meter reading, and
- other general controllable opex.

10.3 NIE T&D’s submission states that it took a ‘bottom-up’ approach to RP5 projections. These were then challenged by senior management. The company explains that it focussed on maintaining controllable opex on a like for like basis to actuals incurred in RP4, while also identifying ‘new’ costs either not previously experienced or accounted for in the original RP4 price control determination. The ‘new’ costs are set out in table 10.2.

Table 10.2: “New” cost categories in RP5

	RP5
Legislative and regulatory requirements	£3.7m
Workforce renewal costs	£7.4m
Real price effects (RPEs)	£8.8m
Storm costs	£1.6m
Renewables baseline	£19.3m
Enduring solution ongoing costs	£11.6m
Market opening costs	£10.9m
Total	£63.3m

10.4 Each of the new cost items in will be discussed below.

10.5 The RP5 uncontrollable opex submission consists of:

- rates,
- wayleaves, and
- licence fees.

10.6 It also includes a ‘new’ cost for injurious affection. Injurious affection is ‘the diminution in value to a property caused by the existence and/or use of public works carried out under, or in the shadow of compulsory powers’.

Base year and adjustments

10.7 Before assessing NIE T&D’s RP5 submission for ‘new’ opex, we derived a ‘base year’ as a starting point (for our analysis of controllable and uncontrollable opex). We focused on actual expenditure reconciled to the latest audited accounts (2009/10⁴⁰). We used 2009/10 as a base year for our analysis. We completed a bottom-up analysis of 2009/10 actual costs, then adjusted for ‘one-off’ costs and non-recurring costs.

10.8 In parallel with this, we also commissioned economic consultants, CEPA, to complete a benchmarking exercise of NIE T&D’s opex to gauge whether efficiencies could be achieved.

10.9 Our assessment of 2009/10 opex showed that a number of ‘one-off’/ non-recurring costs occurred that needed to be removed before rolling forward to

⁴⁰ 2009/10 annual accounts were the latest available accounts at the time of NIE T&D’s price control submission.

RP5. In addition, some costs that did not occur in 2009/10 needed to be added back because they ordinarily occur in other years.

10.10A summary of the base year adjustments proposed for opex is shown in Table 10.3

Table 10.3: Base year adjustments proposed for opex

	Controllable £ million	Uncontrollable £ million
BASE YEAR 2009/10 (ACTUALS)	£34.7	£18.4
Remove excess overtime	-£0.7	
Substation demolition provision written back	£0.4	
Billing charges that cease in 2009/10	-£0.6	
Remove innovation schemes	-£0.6	
Meter reading at reduced cost	-£1.6	
Adjust rates to NIE start point for RP5		-£0.9
Adjust licence fee to average of RP4		£0.1
Non-core adjustments	£0.1	
Adjusted base year amount	£31.7	£17.5

10.11 'New' costs (see Table 10.2) were assessed on a line-by-line basis and were not subject to the base-year or benchmarking exercise. Any 'new' costs that we warrant as efficient and appropriate will be added to the adjusted baseline.

10.12 Meter reading is subject to an adjustment after a bottom-up analysis of this exercise. NIE T&D's RP5 submission is based on the current annual allowance of £3.1 million for meter reading, and an additional agreed allowance of £0.4 million for reading keypad meters⁴¹ to meet the requirements of the Enduring Solution.

10.13 We completed an analysis of meter reading costs using the same assumptions used for the keypad meter reading approval issued during RP4. This showed that NIE T&D gained efficiencies in this area during RP4, but also applied a significant margin (15%) to the costs charged to NIE T&D by Powerteam for providing the service. From our analysis an appropriate cost for providing the meter reading costs in RP5 is £1.5 million a year.

10.14 The adjusted base year amounts provide a starting point for the review of NIE T&D's proposed operating expenditure for RP5. We also discuss the results of

⁴¹ Based on one reading a year. Twenty-two additional meter readers are required to capture reading within +/- 2 days of the due date.

a benchmarking exercise for RP5 controllable opex and .explain the consideration we gave to establishing an X value to RPI-X regulation of opex.

Our analysis of controllable opex

10.15 We noted in Section 7 (RP4 opex) that the rolling mechanism that applied to controllable opex would not continue into RP5. Instead, we propose to introduce the concept applied in GB, which allows a company to keep any savings for a fixed period of time (five years), irrespective of when the saving has been made. If NIE T&D overspends on opex, we will confine any penalties to within the price control period.

Benchmarking of controllable opex

10.16 We engaged CEPA to undertake an econometric assessment of NIE T&D's electricity network costs compared with those of the GB DNOs. Econometric benchmarking is viewed as best practice when assessing a regulated company's relative efficiency. CEPA's benchmarking report can be read in Appendix E.

10.17 CEPA's benchmarking analysis was carried out for NIE T&D's indirect opex and its total opex.

10.18 Indirect costs, unlike direct costs, can be defined as costs associated with those activities that do not involve physical contact with system assets. They include costs associated with network design, project management, system mapping, engineering management and clerical support, the control centre, the customer call centre, stores, health & safety, network policy, HR and non-operational training, finance and regulation, the CEO's office and IT & property.

10.19 CEPA's analysis excludes some costs that are not comparable with Ofgem's definitions (such as metering). CEPA chose not to benchmark NIE T&D's performance for R&M costs separately as they considered that the cost drivers available do not fully explain the volume of work (for example, the volume of spans of trees cut) conducted by NIE T&D.

10.20 CEPA used Ofgem's 2008/09 data for benchmarking purposes, whereas NIE T&D used 2009/10 data. We are aware that the 2009/10 data from Ofgem are allowances rather than actuals. We believe that NIE T&D's relatively unchanged performance over the period 2007/08 to 2009/10 supports the use of 2008/09 actuals. CEPA states that

“... there is no indication that NIE would be adversely affected, in relation to its own measured performance, by the use of the 2008/09 actuals”.

10.21 CEPA rank NIE T&D's indirect costs as 9th (out of 15). CEPA comments that

“Based on the results of the total opex and indirect benchmarking, we consider that NIE T&D's total opex performance appears to be enhanced by its relatively low spend on R&M. In other words, as NIE's relative performance increases as we are using the same cost drivers for both indirect costs and total opex we can assume that NIE is spending relatively less on R&M. However, we do not consider that the drivers we have available are suitable for benchmarking R&M costs alone. Without appropriate cost drivers for R&M costs (e.g. spans of trees cut) the total opex benchmarking analysis provides more insight into NIE relative expenditure levels rather than efficiency. We are therefore more confident in the efficiency results produced by the indirect costs' models”.

10.22 We are of the view that NIE T&D can achieve efficiencies in operating expenditure during RP5. We have noted CEPA's reference to a low spend on R&M. This may be as a result of the change to capitalisation practice and will be considered in the investigation discussed in section 6. CEPA's results based on the composite scale variable (modern equivalent asset value) resulted in an efficiency of 9%⁴². As this is the most recent benchmarking data, we propose to use this, rather than DPCR4 data (detailed in the CEPA report). An efficiency factor of 9% will therefore will be applied to an adjusted baseline for controllable opex costs.

10.23 We have considered whether the full impact of an efficiency adjustment should be applied in year 1 of RP5, or whether its extent should be experienced by the company in a more phased way. It may be difficult to achieve this level of savings during the first year. Our view is that a two-year glide path should be experienced by the company, rather than implicating the efficiency adjustment in year 1. One of the reasons for this is that NIE T&D may need to develop and implement additional procurement processes for engineering services. We consider that two years is a fair period for efficiencies to be gained.

10.24 In effect this will mean that NIE T&D is allowed £1.45 million of additional revenue during the first two years of RP5, compared with the position if we were to stipulate that 9% efficiency should be achieved immediately.

⁴² 9.46%, based on a total efficiency adjustment of 12.9% * 73.2% of total opex (which is made up of 'indirects').

10.25A 9% efficiency factor applied to controllable opex over the first two years of RP5 provides the following results:

Table 10.4: Application of Efficiency Factor

	£ million					
	2012	2013	2014	2015	2016	Total
Controllable opex baseline	31.7	31.7	31.7	31.7	31.7	
Adjusted controllable opex	30.1	28.7	28.7	28.7	28.7	144.9

10.26 This results in a total of £144.9 million for controllable opex, before any ‘new’ operating costs are considered.

Analysis of controllable ‘new cost’ areas

10.27 NIE T&D submitted the following ‘new’ opex for RP5:

Table 10.5: “New” opex

Category	RP5
Legislative and regulatory requirements	£3.7m
Workforce renewal	£7.4m
Real price effects	£8.8m
Storm costs	£1.6m
Renewables baseline	£19.3m
Enduring Solution and market opening	£22.5m
	£63.3m

10.28 We discuss each cost line in turn below.

Legislative and regulatory requirements

10.29 NIE T&D proposed an amount of £3.7 million over RP5 for legislative and regulatory requirements. The legislation includes ESQCR and Road and Streetworks legislation (RASW).

10.30 It is anticipated that ESQCR will be introduced in Northern Ireland in 2011/12. NIE T&D’s forecast costs relate to:

- the production of information leaflets and advertising in order to meet its obligations; and
- salary costs for a part-time administrator.

10.31 NIE T&D states that additional costs associated with the introduction of this legislation include: costs relating to permit schemes, fixed penalty notices, overrun charges, additional labour and out of hours/contract rates. Also included are IT costs associated with setting up and maintaining an IT system to help NIE T&D manage its compliance with this legislation.

10.32 We are minded to allow one additional resource for administrative purposes for the new legislation and one additional resource for regulatory requirements (such as enhanced annual reporting), at a total cost of £100,000 a year.

10.33 ESQCR legislation is planned and we appreciate that this will require NIE T&D to carry out additional work. However, we do not agree with NIE T&D as to the extent of additional resource required for regulatory purposes. If NIE T&D is required to provide us with more detail on an annual basis, we do not envisage this will require a large amount of extra manpower. We assume that NIE T&D has systems in place that are currently in place for their own internal reporting requirements and can be used to source the information for cost reporting.

Workforce renewal

10.34 NIE T&D submitted a 'workforce renewal' supporting paper to cover the costs (other than payroll) associated with:

- replacing those staff who retire during the RP5 period,
- the need for additional staff to support the expansion of the network during RP5 and RP6,
- the requirement of staff expected to be attracted to work in the energy sector in GB and mainland Europe, and
- the costs of recruiting and training new staff.

10.35 It is important to note that the 'workforce renewal' paper refers to a combination of both NIE T&D and NIE Powerteam Ltd.

10.36 We believe that in light of current employment pressures, NIE T&D will be able to recruit at lower remuneration packages than it projects, even in cases where 'specialist skilled labour' is required.

10.37 In addition, NIE T&D recruited 203 new employees between 2007 and 2010, primarily to replace retirees and leavers. We have taken into account the fact that further retirements will occur during RP5, but inevitably people who retire will almost always be replaced by staff at a lower or similar cost. We were not

provided with sufficient evidence to warrant an allowance to retain staff that might be attracted to work elsewhere.

10.38 Within its RP5 submission, NIE T&D states that with regard to salaries,

“the key cost driver is the additional staff needed in the business to meet the requirements of the RP5 capital investment plan”.

10.39 On further analysis of the projected staffing resources, NIE T&D’s proposed headcount during RP5 stays reasonably static (reducing from 290.5 to 288.5 FTEs) over the course of the regulatory period. This is inconsistent with the company’s comment. However, the level of NIE Powerteam Ltd staff is predicted to increase by around 400 FTEs in the relevant section of the questionnaire. NIE Powerteam Ltd is not regulated and is not subject to NIE T&D’s price control allowance.

10.40 We are therefore minded to disallow workforce renewal costs in RP5.

Real price effects

10.41 In DPCR5, Ofgem included an allowance for real price effects. NIE T&D submitted a real price effects claim for RP5 to cover both NIE Powerteam Ltd and NIE T&D, although all costs were included against NIE T&D.

10.42 Over RP5, NIE T&D anticipates that it will need to deal with significant price inflation, over and above that which can be expected to be captured within RPI, across a number of key inputs to its business (in particular wages and rates charged by contractors).

10.43 In 2009/10 prices, NIE T&D submitted an RPE allowance claim for opex of £8.8 million.

10.44 We note the following uncertainties around real price effects:

- Ofgem’s real price effect calculations are based on GB and there has been no regional adjustment for Northern Ireland in NIE T&D’s submission. There is insufficient evidence that the economy in Northern Ireland will be as buoyant as NIE T&D has indicated.
- A review of payroll indicates that NIE T&D pays above the Northern Ireland average. NIE T&D has claimed that its employees will be attracted to work in GB and mainland Europe, thereby forcing NIE T&D to raise its salary levels. Insufficient evidence has been provided by the company to support this.

- NIE T&D claims that 68% of its workforce is ‘specialist’. However, this is not supported by adequate evidence.
- The forecast increase in headcount in 2010/11 within NIE T&D’s RP5 price control submission did not materialise. This is evidenced by the information reported in its year end 2011 annual report and accounts.

10.45 For the reasons outlined above, and because NIE T&D’s submission includes an unspecified amount for Powerteam employees, we do not consider that it is appropriate or justified for real price effects to be incorporated into the opex allowance.

Storm costs

10.46 Over the period 2003/04 to 2009/10 the average opex cost of storms was £324,000 a year. This totalled £1.6 million over a five-year period. Costs of storms were previously included in R&M allowances. However NIE T&D considers that this is not sustainable moving forward into RP5, and has proposed that this cost is identified within an opex allowance.

10.47 NIE T&D included a provision of £300,000 a year within RP5 controllable opex. The proposal is ultimately a provision for uncertain events.

10.48 We recognise the likelihood of the occurrence of storms. We are content to base an allowance for storm costs on an average of the actual costs incurred, but will also take into account the level of network renewal taking place. An improved network should be able to withhold against extreme storms. We therefore propose an allowance of £200,000 a year, which will include any preparation work.

Renewables baseline

10.49 NIE T&D has asserted that our RP4 approval process for network developments for renewable generation was ad hoc and caused delays. The company submitted a paper setting out the case for a structural mechanism to address the anticipated expansion of this type of work in the form of an opex baseline of resources.

10.50 NIE T&D characterises these network development projects into three phases:

- preliminary development,
- pre-construction, and
- construction.

10.51 NIE T&D proposes that a regulatory approach that could be brought to this process might be as follows:

- an *opex allowance* for the internal and external resources needed for the preliminary development phases of all identified renewable transmission projects (a ‘baseline allowance’); and
- specific *capital approval* of individual project expenditure associated with the ‘pre-construction’ and ‘construction’ phases.

10.52 NIE T&D’s proposal for the opex allowance in the first bullet point includes a:

- fixed allowance for staff costs and overheads to plan, develop and propose a range of new build transmission projects;
- fixed allowance to cover external costs; and
- specific opex allowance regarding the ongoing development of the Tyrone - Cavan Interconnector and the RIDP.

10.53 The total proposal is £19.3 million.

10.54 With regard to the fixed allowance for staff costs and overheads to plan, develop and propose a range of new build transmission projects, NIE T&D estimates that an in-house baseline resource of 41 people is required for this work. At present, there are already 20 people in place.

10.55 NIE T&D states that

“Although not all of the additional people will be required immediately, the studies indicate that resource requirements will rise to their peak over a relatively short period of 2 to 3 years since a large number of projects will initially need to be developed in parallel, with consequent requirements for the people to manage these projects. RP5 requirements are presented on the basis that the full numbers of baseline resources will be required from the outset of the RP5 period in April 2012”.

10.56 NIE T&D estimated that this element of the baseline proposal will total £17.6 million.

10.57 With regard to the fixed allowance to cover external costs, NIE T&D stated that

“where such work requires the use of external resources for specialist studies or survey, for example, then the allowance proposed under “Baseline Element B” above will fund that category of expenditure”.

10.58 NIE T&D estimated that this element of the baseline proposal will be £57,000 a year for the first three years (totaling £171,000).

10.59 Finally, in relation to a specific opex allowance regarding the ongoing development of the Tyrone - Cavan Interconnector and the RIDP, NIE T&D estimates that this will cost £1.5 million. This comprises:

- £0.8 million with respect to external costs associated with the preparations;
- costs relating to administering the public inquiry into the Tyrone - Cavan Interconnector, and subsequent landowner consent and procurement activity in the year 2012/13; and
- £0.1 million each year of RP5 relating to miscellaneous external activities associated with preliminary development of submissions for preconstruction approval for RIDP.

10.60 We analysed NIE T&D's proposals for each component of the renewables baseline. We do not agree that a resource level of 41 is required, or that the full number of resources will be required from the start of RP5.

10.61 We therefore carried out a bottom-up analysis to assess the number, type and specialism of staff that is likely to be required, and the level of work likely to be undertaken during RP5. We propose that an additional one resource is needed on top of the existing twenty. This is significantly less than NIE T&D's submission.

10.62 We appreciate that the preliminary development phase is ongoing. However, with uncertainty around approvals for the Fund 3 capex projects it is our view that staff levels currently in place should be able to manage during this phase. Any additional individual staff proposed by NIE T&D will be more appropriate for the pre-construction and construction phases.

10.63 We have further adjusted NIE T&D's proposal by using average salary information provided by the company regarding various levels of staffing. The average salaries proposed by NIE T&D for the renewables baseline resources were relatively much higher.

10.64 We are minded to allow the extent of costs submitted by NIE T&D for external support. Specialist advice will be important given the focus on government targets for renewables. We also agree with the costs proposed in association with the Tyrone - Cavan Interconnector and the RIDP.

10.65 To conclude, the RP5 renewables baseline we propose is £10.6 million, which is summarised in as follows:

Table 10.6: Renewables baseline opex – NIE T&D submission and our proposal

Cost Category	NIE T&D submission	Utility Regulator proposal
A: Internal costs	£17.6m	£8.9m
B: External costs	£0.2m	£0.2m
C: Tyrone - Cavan Interconnector and the RIDP	£1.5m	£1.5m
Total	£19.3m	£10.6m

Enduring Solution and market opening

10.66 In 2005, non-domestic market opening occurred. Two years later, whole market opening occurred. This introduced a trading platform for the single electricity market and meter reading.

10.67 An option study was carried out at that time to look at all of the options and meet regulatory requirements. The ‘Enduring Solution’ was introduced with the objectives to provide:

- a level playing field for all suppliers;
- complete separation of NIE T&D and Power NI;
- unrestricted switching capability;
- support of global aggregation; and
- smart metering compatibility.

10.68 Stage 3 of the Enduring Solution project started in July 2010. It is anticipated to conclude in May 2012.

10.69 The introduction of the project systems associated with the Enduring Solution constitutes is the biggest ICT-driven change to take place within NIE T&D for many years. Business processes and the supporting IT landscape have had to change radically. This has required a significant step change for the business. Many of these changes are the result of NIE T&D’s decision to adopt a SAP ISU solution that is inconsistent with NIE T&D’s traditional customs and practices and more akin to those of ESB Networks.

10.70 £22.5 million of ongoing enduring solution and market opening costs were submitted by NIE T&D for RP5 in the original questionnaire submission. Of this, around 20% related to salaries and the remainder was for IT & telecoms.

Salaries

10.71 The original NIE T&D submission related only to areas of underlying change (i.e. no volumetric impacts). It identified at that time that seven additional resources would be required at a cost of £0.3 million a year. The submission excluded the impacts of ‘churn’ volume and the revised keypad process and highlighted that the forecast would potentially understate the final position.

10.72 In May 2011, NIE T&D provided an updated position. This forecast for 26 ‘underlying’ resources and 37 ‘volume related’ resources (assuming a ‘churn’ of 20%) at an annual cost of £1.6 million. NIE T&D’s confidence in projected costs was indicated as low or medium, implying a wide margin for error.

10.73 We met NIE T&D to discuss the additional £1.3 million staff cost, and requested benchmarking evidence to support the submission. NIE T&D was informed that it needed to articulate clearly what was included regarding the make-up of resources. NIE T&D again resubmitted projected costs relating to the Enduring Solution, to comprise an additional 45 resources (split by permanent or transitional staff). We analysed the resubmission and approved an allowance for a set number of additional resources and associated equipment costs for the period 1 January to 30 September 2012.

IT & telecoms

10.74 Support for the Enduring Solution project is currently contracted to an existing managed service contract with an IT service provider. There are two key assumptions underpinning NIE T&D’s projections.

- The first is that the Enduring Solution project will go live towards the end of May 2012 and that the steady state opex costs are shown as commencing on 1 June.
- The second is that the Enduring Solution outsourced services will be provided via a change control to the existing IT provider’s managed service agreement.

10.75 In July 2011 we indicated to NIE T&D that it was required to tender the Enduring Solution managed service contract. NIE T&D’s implied increase in managed services contract costs needs to be considered in the light of the modern (more efficient) technology now being employed, along with economies of scale driven from the adoption of harmonised systems and processes with the new sister company, ESB.

10.76 We realise that the Enduring Solution systems have additional functionality and size to support full competition. At a high level it could be expected that the ICT costs for 2012/13 will be higher as the new systems and processes bed down and teething issues are resolved. However, we would expect these additional costs to drop off within the first 12 months as the new systems mature and as business as usual levels of support are attained.

10.77 The increase in market opening related costs from RP4 is driven by the need for additional resource to provide a managed service, and by an allowance for other variable work. In addition, hardware cost, network costs and additional licence costs have been submitted for new applications. NIE T&D has noted, however, that some of these costs have been offset by the retirement of legacy applications.

Our proposal

10.78 Taking into consideration that an allowance for additional resources has already been approved for the period 1 January to 30 September 2012, we are minded to allow £16.4 million for Enduring Solution and market opening costs during RP5. This comprises £14.4 million of IT related costs and £2.0 million for resource costs.

Our minded to position for controllable opex in RP5

10.79 Our proposals for 'new' costs in RP5 are summarised below.

Table 10.7: Our proposals for new costs⁴³

Category	NIE T&D	Utility Regulator
Legislative and regulatory requirements	£3.7m	£0.5m
Workforce renewal	£7.4m	£0.0m
Real price effects	£8.8m	£0.0m
Storm costs	£1.6m	£1.0m
Renewables baseline	£19.3m	£10.6m
Enduring Solution and market opening	£22.5m	£16.4m
Total	£63.3m	£28.4m

10.80 Table 10.8 summarises our minded to position for controllable opex for the RP5 period. This compares with NIE T&D's requested allowance of £237 million.

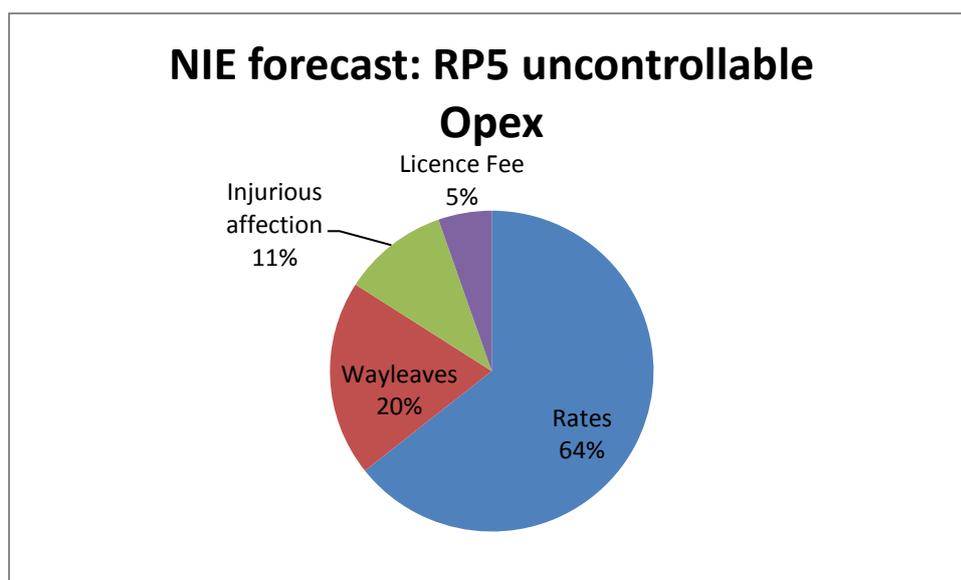
⁴³ Although not discussed above, an approval in respect of a pension deficit for SONI employees will continue during the first two years of RP5. This was agreed at the start of RP4, at a cost of £1.9 million a year over a seven-year recovery period.

Table 10.8: Our minded to position for controllable opex in RP5

	RP5 controllable opex (£ million)
Adjusted baseline opex (after benchmarking)	144.9
Add allowance for new costs:	+ 28.4
Sub total	173.3

Our analysis of RP5 uncontrollable opex

10.81 Uncontrollable opex refers to operating expenditure that the regulated company is deemed to have little or no impact on. This category has historically included rates, wayleaves and licence fees. For RP5, NIE T&D has also included injurious affection costs of £11.4 million. In total, uncontrollable opex during RP5 totals £107 million.

**Figure 10.1: NIE T&D's forecast of uncontrollable opex**

10.82 During RP4, uncontrollable opex was treated as pass-through. In other words, the allowance was adjusted to actuals once they became apparent.

10.83 In its response to the RP5 strategy paper that we published in July 2010, NIE T&D stated that it was

“NIE’s view that uncontrollable costs should be recovered on a pass-through basis”.

10.84 Because an element of subjectivity exists around the above cost lines, we asked stakeholders to comment on whether or not it was appropriate to classify rates and wayleaves as uncontrollable.

Licence fees

10.85 NIE T&D submitted an amount of £1.1 million a year for licence fees. We accept that this cost line is largely out of NIE T&D's control.

10.86 We propose to use the 2009/10 adjusted base year amount as a starting point (which is the average of licence fee charges over RP4). We are aware of the pressure on public sector costs and have therefore applied a reduction in each subsequent year. The proposed allowance equates to £3.6 million over the RP5 period.

Rates and wayleaves

10.87 NIE T&D predicts that rates will increase each year with the growth in the transmission circuit length and in the distribution MVA transformer capacity. NIE T&D also forecast that wayleaves will increase, based on the assumption that the size of the network will increase in load related and connections capex.

10.88 One argument for these costs being effectively pass-through is that although there can be an element of negotiation in rates and wayleaves, they are to a large extent uncontrollable.

10.89 Conversely, in its response to our RP5 strategy paper, SSE thought that wayleaves costs are controllable to an extent. Similarly, the Consumer Council for NI responded that

“Though wayleave payments may be set, consideration should be given as to whether there is a possibility for NIE to renegotiate these payments with land owners to increase the level of control of this operating expenditure. Rates are non-negotiable, though NIE does control the area and the size of land on which they locate, which ultimately determines the rates paid by NIE, it may be possible to consider to what extent this operating expenditure is uncontrollable.”

10.90 Our view is that rates and wayleaves are 'semi-controllable'; that is, an element of negotiation can be applied by NIE T&D to agree their amount. We are therefore minded to use an RP4 average as a baseline amount and apply a risk allocation approach to the cost.

10.91 The risk allocation policy is proposed whereby any under- or over-recovery of allowance is split on an 80/20 basis between consumers and the company. This limits the risk exposure of NIE T&D to 20% of the costs.

10.92 For example, if the baseline cost for rates and wayleaves in Year 1 of RP5 is £16 million and the outturn costs are £20 million, consumers will pay £19.2 million (£16 million + (80% x 4 million)). NIE T&D will need to fund £0.8 million of this from its own sources.

10.93 Conversely if the baseline cost for rates and wayleaves in Year 1 of RP5 is £16 million and the outturn costs are £12 million, consumers would pay £12.8 million (£12 million + (20% x £4 million)). NIE T&D will be rewarded for keeping the costs below the baseline.

Injurious affection

10.94 NIE T&D included £11.4 million for injurious affection costs under uncontrollable opex. Injurious affection is 'the diminution in value to a property caused by the existence and/or use of public works carried out under, or in the shadow of compulsory powers'.

10.95 NIE T&D believes that the number of claims and the trend towards significant settlements will have a similar impact as it has on the GB DNOs. However, to date this has not been NIE T&D's experience.

10.96 We are therefore minded to treat this as an uncertain cost. However we cannot agree to an allowance proposed as there are no historical costs on which to determine a suitable baseline. We will therefore wait for the results of the Lands Tribunal before considering how to treat these costs.

Our minded to position for uncontrollable opex in RP5

10.97 Table 10.9 summarises the proposed costs associated with the uncontrollable elements of opex. These total £88.8 million. As discussed in above, we are minded to introduce a risk sharing mechanism for costs associated with rates and wayleaves.

10.98 We propose to introduce a Reporter for RP5 (see Section 4) and an indicative value of £300,000 a year (or £1.5 million in total) is proposed in the uncontrollable opex category for this expenditure. This is 0.2% of the maximum additions to the RAB (including projected spend on renewable integration).

Table 10.9: Summary of proposals for uncontrollable opex in RP5

Cost category	NIE T&D submission	Utility Regulator proposal
Rates	£69.0m	£65.6m
Wayleaves	£21.2m	£18.1m
Licence fees	£5.7m	£3.6m
Injurious affection	£11.4m	£0.0m
Reporter	£0.0m	£1.5m
TOTAL	£107.3m	£88.8m

Projections for RP5

10.99 We have analysed NIE T&D's submission carefully, and conclude that £265.3 million is an appropriate opex allowance for RP5. This is made up of £173.3 million for controllable opex, and £88.8 million for uncontrollable opex, totaling £262 million. This is 8% lower than the actual costs experienced in RP4, but reflects the requirement to achieve further efficiencies and allows for the incurrence of costs that are new to RP5.

RPI - X

10.100 In this chapter we have explained our approach to setting the opex allowance for RP5.

10.101 The process has been as follows:

1. We reviewed RP4 opex.
2. We decided on a base year, and made appropriate adjustments to the base year for 'one-off'/non-recurring cost lines.
3. We commissioned consultants to carry out a benchmarking exercise of NIE T&D's controllable opex.
4. We applied an efficiency factor to the adjusted baseline for controllable opex as a result of the benchmarking exercise.
5. We analysed NIE T&D's RP5 submission for 'new' costs to assess the extent to which these would be added to the baseline.
6. We assessed uncontrollable opex on a line by line basis.

10.102 The effect of the benchmarking approach has been to apply a 9% efficiency factor to NIE T&D's controllable opex projections, excluding 'new' costs.

10.103 In addition, we are also minded to apply an **X of 1** to RPI-X regulation of controllable opex. The reasons for this are:

- Pay increases are likely to be below RPI in Northern Ireland over the next number of years.
- NIE T&D is currently paying above the Northern Ireland average – there is therefore scope for correction.
- Average salaries should drop as staff who retire are replaced by less experienced and therefore lower cost staff.
- Synergies should emerge following the ESB acquisition, and consumers should benefit from these.

10.104 The consultants First Economics advise that the expectation for the UK economy as a whole is that workers will suffer reductions in real incomes for another two years. It should be recognised that the owners of electricity networks will be among the firms that benefit from lower cost pressures as a result.

10.105 The application of an X factor of 1 will assert the requirement for further efficiencies on NIE T&D.

Summary of our opex proposals

10.106 Once an X of 1 is applied⁴⁴, the total opex proposal reduces to £257.0 million (comprising £168.2 million for controllable opex, and £88.8 million for uncontrollable opex). This is summarised in table 10.10.

Table 10.10: Summary of opex proposals

Cost category	£ million					
	2012	2013	2014	2015	2016	Total
NIE T&D						
Controllable	47.0	46.5	46.9	48.2	48.9	237.5
Uncontrollable	20.8	21.0	21.4	21.9	22.3	107.3
Total	67.8	67.4	68.3	70.1	71.2	344.8
Utility Regulator (No X applied)						
Controllable	37.1	34.2	34.1	33.9	33.9	173.2
Uncontrollable	17.8	17.8	17.8	17.7	17.7	88.8
Total	54.9	52.0	51.9	51.6	51.6	262.0
Utility Regulator (X of 1 applied)						
Controllable	36.8	33.5	33.1	32.6	32.2	168.2
Uncontrollable	17.8	17.8	17.8	17.7	17.7	88.8
Total	54.6	51.3	50.9	50.3	49.9	257.0

⁴⁴ Note that an X of 1 has not been applied to the approval aforementioned regarding SONI pension costs.

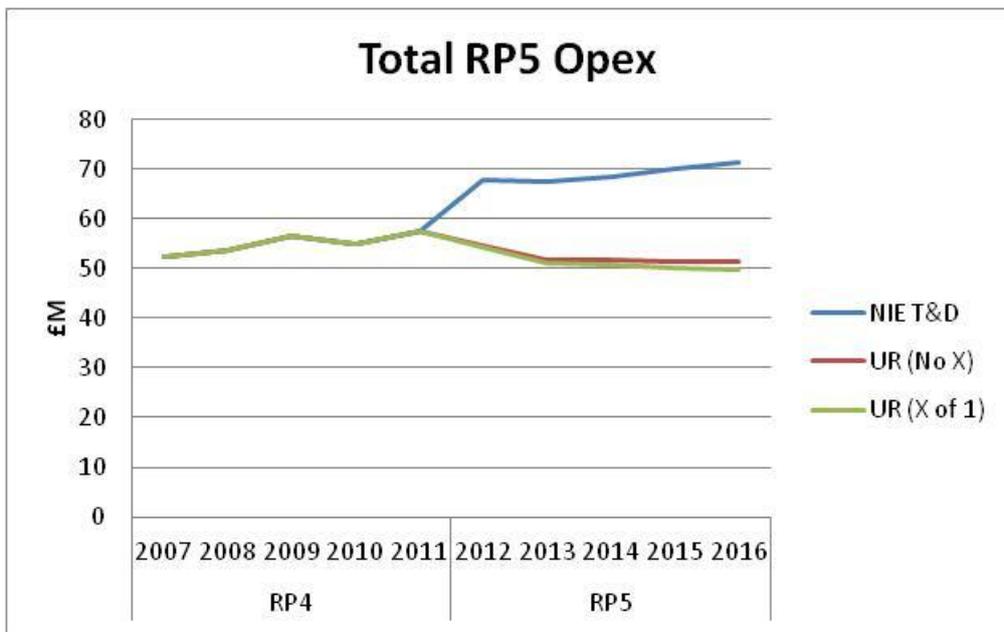


Figure 10.2: Summary of opex proposals

11. PENSIONS

Introduction

- 11.1 NIE T&D makes contributions to its pension fund on behalf of current employees who are members of the pension scheme. Since privatisation, the pension scheme has moved from a surplus to a deficit position (where the assets of the scheme are less than the liabilities). Therefore NIE T&D also currently pays contributions for deficit repair. The Utility Regulator has analysed NIE T&D's pension costs as part of the RP5 process to conclude an appropriate pension allowance for RP5.
- 11.2 NIE T&D proposed a separate allowance of £77.2 million (in 2009/10 prices) for pension costs during the RP5 period. This sum is to cover ongoing payments for current employees who are members of either a defined benefit or defined contribution pension scheme. It is also to cover the cost of repairing a deficit in the defined benefit scheme to ensure that accumulated liabilities for both current and past employees are met.
- 11.3 We commissioned consultants First Economics and the Government Actuary's Department (GAD) to provide expert advice. First Economics provided advice on regulatory policy issues relating to pension costs. The GAD focussed on the defined benefit pension section of the scheme and assessed NIE T&D's contribution history and investment strategy, actuarial assumptions and valuation results.
- 11.4 We also reviewed GB regulatory precedent on the treatment of pension costs.
- 11.5 A number of issues have arisen in relation to NIE T&D's proposals and these are considered in turn in this chapter. For deficit repair costs the issues include:
- the appropriate valuation to adopt,
 - the recovery period,
 - the share of the deficit for which NIE T&D is legally responsible, and
 - any adjustments necessary to account for previous avoidable or inefficient actions.
- 11.6 For on-going costs the main issue is ensuring that contributions are efficient and /or reflect legal requirements.

11.7 These issues are discussed in turn. In addition we set out the regulatory principles that we have used to reach this draft determination. We also provide some background information on the NIE pension scheme.

Regulatory principles

11.8 We reviewed NIE T&D's proposals in the context of our statutory duties and the following regulatory principles:

- NIE T&D should be allowed to recover the efficient ongoing pension costs for employees who are members of either the defined benefit pension scheme or the defined contribution scheme.
- NIE T&D should be allowed to recover any deficit repair costs, associated with the defined benefit pension scheme, which it cannot legally avoid.
- Pension scheme trustees have a legal obligation to manage the pension fund prudently and in accordance with good investment and actuarial practice. Assuming that these legal obligations are complied with, there is little opportunity for NIE T&D to achieve efficiencies in regard to managing the defined benefit scheme, other than by closing the scheme to new members.
- Pension deficits that occur in any price control period may have been influenced by avoidable or inefficient actions taken in previous price control periods. Therefore, in order to ensure that electricity consumers do not pay twice, it is important to take account of these effects.
- Pension deficits will be based on the most recent formal actuarial valuation.

11.9 The following implications flow from these principles:

- Electricity consumers, rather than NIE T&D, carry the risk of any pension deficit that was legally unavoidable. For example, a deficit could arise due to a fall in the market value of the pension assets.
- Electricity consumers cannot be responsible for any liabilities which were avoidable, or which rest with other unregulated participating employers in the NIE Pension Scheme (NIEPS). For example, an earlier avoidable decision to improve benefits when the pension fund was in surplus, could contribute to a later deficit.
- Given that consumers, and not NIE T&D, should pay for efficient ongoing pension costs and any unavoidable deficit costs, any historical contributions by NIE T&D, less than or greater than the regulatory allowances, must also be accounted for.

11.10 We have analysed the preceding four price control periods to examine whether the current deficit is partly or wholly a consequence of legally avoidable or inefficient past decisions. This is a necessary and proper part of the efficiency test, in respect of pensions only, that we are required by our duties to apply to any claim from NIE T&D for an increase in revenues.

The NIEPS

Membership

11.11 The NIEPS is a multi-employer scheme. This means that many companies (both regulated and non-regulated) are also members of the scheme. Current employers that participate in the NIEPS are: Northern Ireland Electricity Ltd (referred to as NIE T&D throughout this paper), NIE Powerteam Ltd, Powerteam Electrical Services Ltd, and Capital Pensions Management Ltd.

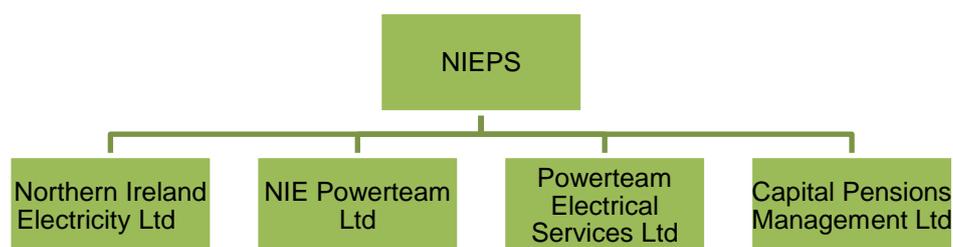


Figure 11.1: NIEPS membership

11.12 Before these companies were divested to the ESB Group in December 2010, the NIEPS was formerly known as the Viridian Group Pension Scheme (VGPS). In addition to the above companies, VGPS also included Viridian P&E, Viridian Group and others, NIE PPB and NIE Energy Supply (now Power NI). As part of the divestment to ESB, 91% of the VGPS deficit was transferred to NIEPS and 9% to the newly created Viridian Pension Scheme.

11.13 Active members of the NIEPS are either in a defined benefit plan or a defined contribution plan.

Rules and Regulations

11.14 The NIEPS is governed by a trust deed and rules and is managed by trustees. Under the scheme rules, each participating employer is required

to contribute to the scheme both by way of ongoing contributions and in terms of deficit repair. Trustees take into account the financial position of these companies and the strength of their covenants when forming a view of a deficit recovery plan for the scheme.

11.15 Participating employers make ongoing payments to the NIEPS associated with their current employees. With regard to the defined benefit plan, they are also responsible for deficit repair payments associated with the cumulated member liabilities. These members include current employees (active members), deferred pensioners and pensioners.

11.16 The Pension Regulator's role is "to ensure that people responsible for providing access to and managing work-based pensions fulfil their obligations"⁴⁵. The Pensions Regulator has considered pension schemes whose members are from companies that are subject to economic regulation⁴⁶. It concluded:

*"For sponsoring employers subject to economic regulation, the specific factors we would consider include: whether they are subject to periodic price reviews, because when formulating the recovery plan, trustees may need to consider how the periodic price reviews will impact on the employer's ability to eliminate the shortfall ..."*⁴⁷

Treatment of deficit repair costs

Introduction

11.17 NIE T&D's pension deficit arises from the defined benefit section of the pension scheme. Under a defined benefit scheme, the pension that a member accrues depends on years of service and final salary. A deficit is the amount by which the present value of the pension fund liabilities exceeds the value of the assets.

11.18 Deficit repair payments are cash amounts, agreed with the pension scheme trustees, which the company pays to reduce a pension fund deficit.

⁴⁵ <http://www.thepensionsregulator.gov.uk/about-us/our-objectives.aspx>

⁴⁶ <http://www.thepensionsregulator.gov.uk/docs/deficits-statement-dec-2009.pdf>

⁴⁷ <http://www.thepensionsregulator.gov.uk/docs/dc-scheme-reg-response.pdf>

11.19 This section considers the appropriate valuation to be used for RP5, the appropriate deficit recovery period and the regulatory fraction to be applied to NIE T&D.

Deficit valuation

11.20 The NIEPS is currently in deficit. The Utility Regulator wants to ensure that the most appropriate actuarial valuation is used to determine the RP5 pension allowance. The choice includes valuations based on:

- international accounting standard IAS 19; or
- an actuarial ongoing funding approach.

11.21 The IAS 19 valuation is an annual valuation that is used for the statutory accounts. The calculation gives a snapshot of the current assets and liabilities of the scheme (and therefore the existence of a surplus or deficit). It is based on assumptions chosen by the company. The 2011 NIE annual company accounts reported a pension scheme deficit of £40 million.

11.22 However, for the purposes of determining appropriate company funding levels, the pension trustees use an ongoing funding valuation. These valuations are carried out every three years. We consider this to be the most appropriate valuation to adopt since it is this which trustees use to determine the contributions to the scheme.

Deficit to be used in RP5 review

11.23 The NIEPS brought forward its triennial actuarial valuation (due in 2012) to 31 March 2011. This provides the most up to date formal valuation prior to the start of the RP5 period. It therefore makes sense to use this valuation for the purposes of determining appropriate consumer funding levels for the RP5 period.

11.24 The 31 March 2011 formal actuarial valuation reported a deficit of **£87.6 million**. This valuation contrasts with historic valuations, which are shown in figure 11.2.

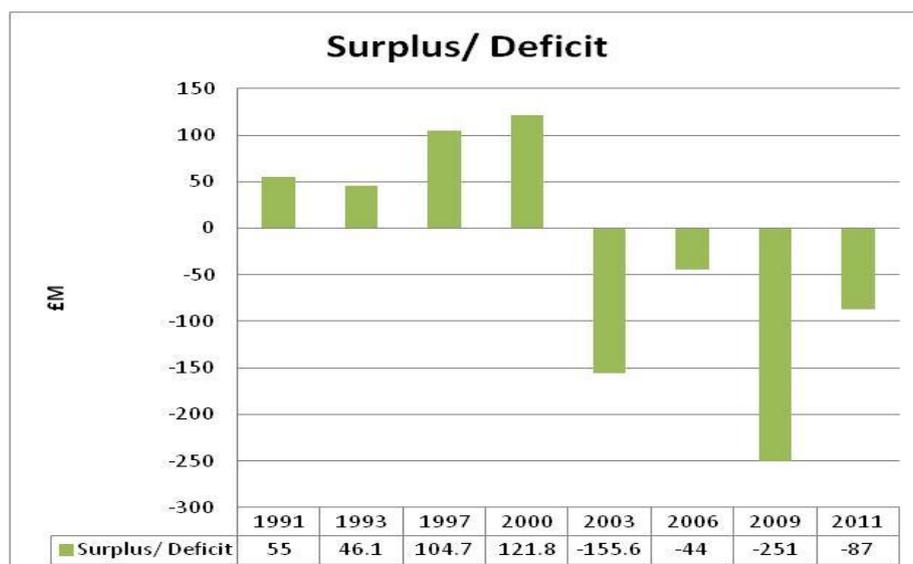


Figure 11.2: VGPS/ NIEPS Surplus/ (Deficit)

- 11.25 We received the results of the 31 March 2011 valuation in mid-January 2012. NIE T&D reported that, due to market changes experienced since the valuation date, the deficit had increased. A deficit amount of £150 million was agreed in a recovery plan between the Principal Employer (NIE T&D), acting on behalf of all participating employers, and the scheme trustees. The company did not seek any approval from the Utility Regulator before giving its consent to the trustees for this funding plan. We were informed after the event.
- 11.26 The Utility Regulator requested an explanation of the post-valuation experience which the NIEPS encountered. NIE T&D’s actuaries provided a commentary on the movements in the funding deficit of the NIEPS that had arisen since 31 March 2011 and the reasons for recognising this in the outcome of the actuarial valuation at that date. The main reason was due to adverse investment conditions. The document provided by NIE T&D’s actuaries notes that *“The information....is designed to give a broad picture of the direction of funding changes since the last actuarial valuation but does not have the same level of reliability as, and therefore does not replace the need for, formal actuarial valuations”*.

11.27 Our minded to position is that the deficit in existence at the formal valuation date of 31 March 2011 (£87.6 million)⁴⁸, should be used to determine consumer funding levels during the RP5 period. Any subsequent changes in the funding position subsequent to the 31 March 2011 formal valuation, or any additional contributions made by NIE T&D, will be accounted for at the next price control review.

NIE T&D share

11.28 In accordance with our regulatory principles, consumers should only pay deficit repair costs to the extent that an unavoidable legal liability rests with NIE T&D. Under the trust deed and rules, the allocation of deficit repair costs must be agreed between the participating employers.

11.29 We consider that, based on legal advice, for active members of the defined benefit plan, the legal liability rests with their employer. In regard to the allocation of costs associated with deferred pensioners and pensioners, we considered three options.

Option 1 (Active Membership)

11.30 We considered using the liability associated with current active membership only. This was the approach used to split the deficit between entities acquired by ESB in 2010, and entities remaining with Viridian. Using this approach, we calculate that 22% of the liability would be allocated against NIE T&D.

11.31 This option splits the liability ‘functionally’. It recognises that, even though NIE Powerteam Ltd was ‘split out’ from NIE T&D as a separate entity in 2000, the functions of the businesses have not significantly changed over time.

Option 2 (Last Employer)

11.32 The Electricity (Protected Persons) Regulations (NI) 1992 state that the employer of a protected person must at all times ensure that a relevant scheme is sufficiently funded in respect of active, deferred and pensioner members. As regards active members their employer is the legal entity with which the protected member is currently contracted to work. As regards

⁴⁸ This amount is based on the assumption that all section 75 payments (debts due for the share of liabilities from employers who depart from a multi-employer pension scheme) have been made to the scheme in advance of the valuation date. This may require further scrutiny during the RP5 consultation period.

deferred and pensioner members, their employer is defined so as to include “the person to whom the protected beneficiary is treated as allocated for the purpose of valuing the accrued pension rights of that beneficiary”. We are of the view that deferred and pensioner members should be allocated to their most recent employer at the time of deferment/ retirement.

- 11.33 The Pensions (Northern Ireland) Order 2005 states that the division of liability between participating employers is determined by the parent company and the Trustees of the scheme. The NIEPS is a multi-employer scheme which is not formally segregated. Any membership data received from NIE T&D for the scheme contains assumptions regarding members’ service periods. In the event of one of the participating employers ceasing to participate in the scheme, the division of liabilities to the most recent employer is an acceptable method of allocation for actuarial purposes if detailed and accurate historic service data is not available.
- 11.34 If we apply this method, 79% of the pension liability can be allocated to NIE T&D. This is based on the membership data that NIE T&D provided.

Option 3 (Length of Service)

- 11.35 The third option is to split liabilities according to the proportion of service of each employee with each participating employer. Take, for example, an NIE Powerteam Ltd employee who joined the (defined benefit) pension scheme in 1995. Taking account of the fact that the maximum service which that employee could have with NIE Powerteam Ltd is eleven years (given that NIE Powerteam Ltd was set up in 2000), then the employee would have five years’ service with NIE T&D, and eleven years’ service with NIE Powerteam Ltd. That person’s liability would be split according to apportionment of service with each employer.
- 11.36 Using NIE T&D data, we have calculated that this would result in 93% of the pension scheme liability being allocated to NIE T&D.

Conclusion

- 11.37 We are minded to adopt Option 2 (last employer) to apportion the deficit cost. This results in 79%, or £69.2 million, of the deficit cost being allocated to NIE T&D. The main reason for this is that NIE T&D is the regulated entity and a separate legal entity from other participating employers. We do not consider that NIE T&D has unavoidable legal liability for pension costs

associated with other participating employers, or for pensioners or deferred pensioners whose last employer was not NIE T&D.

Deficit recovery period

- 11.38 The deficit recovery plan that NIE T&D agreed with trustees in January 2012 was targeted to clear an actuarial deficit over 11 years to 31 March 2022. The deficit amount assumed by NIE T&D was £150 million.
- 11.39 We have referred to advice provided by the Pensions Regulator⁴⁹ regarding the treatment of pension scheme deficits in schemes with employers that are subject to economic regulation. NIE T&D is a monopoly network provider, operating in a mature regulatory environment. We consider that consumers should bear the risk of unavoidable deficit costs for which NIE T&D is legally liable. All of this represents a significantly strong covenant for trustees, and provides justification for a longer deficit recovery period.
- 11.40 We also note that NIE T&D was recently able to secure third party debt for a 20-year term. In addition, recent regulatory precedent indicates that a deficit recovery period of 15 years is not atypical:

Table 11.1 Recent regulatory precedents for deficit recovery period

	Date of decision	Recovery period
Ofgem – DNOs	December 2009	15 years
Ofwat - water & sewerage companies	November 2009	10-15 years
CC – Bristol Water	August 2010	15 years
CAA – NATS	December 2010	11 years

- 11.41 We therefore propose a 15-year deficit recovery period, beginning as of 31 March 2011. This means that the proposed deficit amount of £69.2 million (79% of £87.6 million) will be recovered through tariffs from 1 April 2011 to 31 March 2026.

⁴⁹ <http://www.thepensionsregulator.gov.uk/docs/gas-deficits-statement-jan2010.pdf>

11.42 Between 1 April 2011 and 31 March 2012 (ie Year 5 of RP4), NIE T&D already received an allowance of £11.0 million (in 2009/10 prices) in respect of deficit repair. In addition, for the six-month period of 1 April 2012 to 30 September 2012, NIE T&D will receive a further allowance of £4.5 million ((in 2009/10 prices) in respect of deficit repair costs. These allowances have been considered in the deficit repair proposals below. By the start of RP5, 18 months of the proposed deficit recovery period will have elapsed and £15.5 million (in 2009/10 prices) of the allowed deficit amount will have been paid. At 1 October 2012, the remaining deficit recovery period will be 13.5 years and the outstanding deficit amount will be £53.7 million.

11.43 A summary of our proposals compared to NIE T&D's is shown in table 11.2. Because we propose spreading payments over 15 years, we have applied a discount factor of 2.84%⁵⁰ (using 6.65% pre retirement discount rate and 3.7% implied inflation from the most recent formal actuarial valuation). A discount factor allows NIE T&D the right to delay full payment until a future date but ensures that consumers are not required to pay any additional costs associated with the effects of this delay. The annual payments by NIE T&D will increase each year by RPI but will have an X of zero applied, unlike traditional opex where the opportunity to achieve efficiencies exists.

Table 11.2: Our proposals for deficit repair

	£ million						Deficit recovery period
	2012	2013	2014	2015	2016	Total	
NIE T&D submission	£12.4	£12.4	£13.3	£14.3	£14.3	£66.7	11 years
Our proposal	£4.9	£4.9	£4.9	£4.9	£4.9	£24.3	15 years

Treatment of ongoing costs

11.44 The ongoing costs of NIE T&D's defined benefit scheme are the contributions it makes on behalf of current employees who are members of the scheme. There will also be ongoing costs associated with the defined contribution scheme.

11.45 The employer and employees pay a percentage of pensionable salaries by way of contributions to the scheme for both the defined benefit and defined

⁵⁰ 2.84% = 1.0665 / 1.037 - 1

contribution sections. Contribution rates are advised by the scheme's actuary, and approved by the scheme's trustees.

- 11.46 NIE T&D proposed a total ongoing pension cost of £10.5 million (in 2009/10 prices) for the RP5 period.
- 11.47 From our analysis we concluded that, although the contribution rates being paid to both the defined benefit and the defined contribution schemes align with the benefits, the benefits for the defined benefit schemes are more generous than other UK private sector defined benefit schemes. This is probably due to benefit improvements previously made and the effect of 'Protected Persons' regulations.

Conclusion

- 11.48 In determining a reasonable allowance for ongoing pension costs for RP5, we have given consideration to the extent to which ongoing costs of the pension scheme are efficiently incurred or legally unavoidable.
- 11.49 We are of the view that the ongoing costs for the defined benefit scheme are legally unavoidable and are based on an up-to-date actuarial assessment. We are also of the view that the ongoing costs for the defined contribution scheme are efficient. We are therefore proposing to accept the NIE T&D proposal for on-going pension costs.
- 11.50 A summary of NIE T&D's submission, compared with our proposals, is shown below.

Table 11.3: Our proposal for ongoing pension costs

	£ million					
ONGOING	2012	2013	2014	2015	2016	Total
NIE T&D submission	£2.2	£2.2	£2.0	£2.0	£2.0	£10.5
Our proposal	£2.2	£2.2	£2.0	£2.0	£2.0	£10.5

Accounting For Previous Legally Avoidable or Inefficient Actions

Introduction

- 11.51 Actions taken in previous price control periods may have contributed to the deficit at 31 March 2011. Therefore, in order to ensure that electricity consumers only pay once for costs which were either efficiently incurred or

legally unavoidable, it is necessary to carry out a historic analysis. This analysis needs to:

1. Compare actual contributions to the pension fund with the regulatory allowances. The impact of any differences on the present deficit then needs to be determined.
2. Identify and value any other historic actions which were either legally avoidable or inefficient. The impact of these actions on the present deficit then needs to be assessed.

11.52 As was seen from figure 11.2, during the RP1 and RP2 periods a pension scheme surplus existed. However, by 2003 the pension scheme had a reported deficit of £155.6 million and a deficit has remained ever since. We completed a historical review of the funding position since 1992 in order to better understand the various factors that have contributed to the deficit today.

11.53 This review analysed the impact on the defined benefit pension fund deficit of:

- Special or additional contributions over and above the regulatory allowance,
- Contributions less than the regulatory allowance, including pension holidays,
- Benefit improvements for active members beyond legal obligations,
- Early retirement programmes, and
- New membership after 1992.

11.54 Each of these actions will be discussed below, with further detail of calculations and analysis completed by the GAD available in appendix F.

11.55 As part of the transaction between Viridian and ESB, 91% of the deficit in the Viridian Group Pension Scheme remained with the companies purchased by ESB. The remaining 9% was transferred to the Viridian Pension Scheme. Consistent with this, we are of the view that 91% of the value of historic actions applies to companies with membership of the NIEPS and 9% to companies retained by Viridian. This is because the historic period which we have analysed relates to actions taken before the divestment occurred.

11.56 Further to this, adjustments proposed in respect of an avoidable deficit amount regarding special contributions, benefit improvements and early

retirement programmes have had a 79% regulated fraction applied (to align with our Option 2 calculation), as illustrated in figure 11.3.

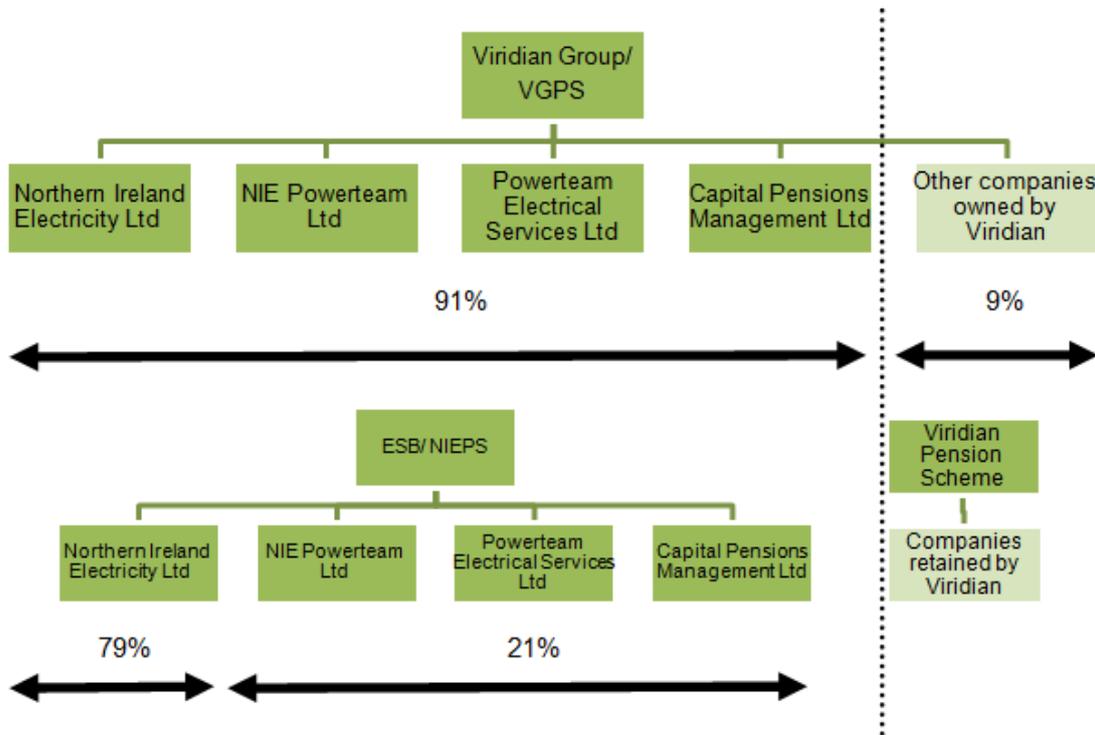


Figure 11.3: Identifying the regulated share of the VGPS deficit

Special Contributions

11.57 The company paid special contributions totaling £75 million into the scheme between 2005/6 and 2006/7 (RP3). A £25 million special contribution was funded by Viridian following the sale of a subsidiary company called SX3, and a £50 million special contribution was part of the offer by Arcapita to acquire Viridian in December 2006. As calculated by the GAD, at March 2011 the deficit was £77.5 million less that it could have been due to the payment of special contributions. This equates to £72.0 million in 2009/10 prices. When the fraction of 91% is applied, this amount becomes £65.5 million.

Table 11.4: Special Contributions

	Effect on 31 March 2011 deficit	2009/10 prices	91% fraction applied (2009/10 prices)
Special contributions	+£77.5 million	£72.0 million	£65.5 million

Actual Contributions less price control allowances

11.58 During RP1, NIE T&D used part of the existing pension scheme surplus to enable it to pay reduced ongoing employer contributions. Between 1991 and 1993 the overall surplus position reduced from £77 million to £46 million, however we do not hold detailed information on how much of this was attributable to reduced ongoing employer contributions. Paying reduced ongoing employer contributions was done to comply with Inland Revenue Surplus Regulations. These required NIE T&D at the time to reduce its surplus, either by augmenting benefits, paying pension scheme funds to participating employers, or by taking a contribution holiday. If NIE T&D had not taken these steps it would have been in breach of the conditions for tax approval at that time. Therefore, we are not proposing to make any adjustment for this.

11.59 The company also took an employer contribution holiday from 1997 to 2003 (ie RP2, and Year 1 of RP3). The effect of this on the March 2011 deficit was to increase it by £9.7 million. It was not uncommon at that time for companies to do this (depending on the content of the scheme's rules and advice from the scheme's actuary). The employer contribution holiday was enjoyed by the company while consumers funded an opex allowance (which included an element for salaries and related expenses). The related expenses would naturally have included pension costs due to the existence of a defined benefit pension scheme.

The CAA took a contribution holiday which resulted in a scheme deficit. Faced with a similar situation⁵¹, the Competition Commission⁵¹ made a determination and clawed back by making an adjustment to the RAB to offset the shortfall in BAA's pension fund contributions. The CAA, in its recommendation report to the Competition Commission states "*as a general*

⁵¹ http://www.competition-commission.org.uk/rep_pub/reports/2002/fulltext/473a7.5.pdf

matter, users (of airlines), should not be expected to pay again for contributions that were allowed for when setting the ... price controls but which were never actually paid by BAA to its pension fund”.

- 11.60 However, NIE T&D paid additional contributions to the scheme in RP3 and RP4 which were more than the pension allowances. The effect of these contributions on the deficit at March 2011 was to reduce it by £40.6 million.
- 11.61 We have calculated that the deficit at 31 March 2011 is £30.9 million less than it could have been if neither the pension holiday had been taken, or the special contributions had not been made. In 2009/10 prices this equates to £28.7 million. When the proposed fraction of 91% is applied, this amount becomes £26.1 million.

Table 11.5: Actual Contributions

	Effect on 31 March 2011 deficit	2009/10 prices	91% fraction applied (2009/10 prices)
Actual contributions less price control allowances	£30.9 million	£28.7 million	£26.1 million

Benefit improvements

- 11.62 Pension benefits in place at privatisation were further improved during RP1. Between the valuation dates at 1991 and 1993, the overall surplus position reduced from £77 million to £46 million. We do not hold detailed information on what impact the improvement to benefits had on the surplus position, but are aware that this action was taken to comply with Inland Revenue Surplus Regulations. Therefore, we are not proposing to make any adjustment for this.
- 11.63 Further enhancements to benefits occurred during RP2 and RP3. We have concluded that this action was not necessary to comply with Inland Revenue Surplus Regulations.
- 11.64 We have calculated that at 31 March 2011, the deficit was £86.0 million more than it could have been if benefit enhancements during RP2 and RP3 had not been made. In 2009/10 prices, this equates to £79.9 million. When the proposed fraction of 91% is applied, this amount becomes £72.7 million.

Table 11.6: Benefit Improvements

	Effect on 31 March 2011 deficit	2009/10 prices	91% fraction applied (2009/10 prices)
Benefit improvements	-£86.0 million	-£79.9 million	-£72.7 million

Early retirement costs

11.65 Early retirement exercises occurred during RP1 and RP2. Information in the actuarial valuation reports and MMC report state that the exercises were partly funded by a pension fund surplus. During RP1 we have concluded that, similarly to reduced employer contributions and benefit improvements, the company had to take this action to comply with the Inland Revenue Surplus Regulations.

11.66 As regards RP2, we asked NIE T&D to confirm an approximate value of the pensions paid and the overall added liability to the scheme. NIE T&D responded as follows:

'There were ... early retirements and deferred early retirements. The cost... was funded out of the scheme surplus as at 31 March 2000.'

11.67 Readers should note that a special allowance was provided for the early retirement exercise in the RP2 price control determination by the Monopoly and Mergers Commission (MMC). We have an outstanding information request with NIE T&D on the use of this allowance and will investigate this further during the consultation period.

11.68 We have considered whether the effect of redundancies represented an efficiency to the business, which then benefitted consumers through lower opex allowances in future price controls. An analysis of the benefit received by consumers and the company over a ten-year period shows that the likely split was 50:50 between consumers and the company. The age profile of retirees was 50-60. Therefore, consumers would have benefited from reduced opex after ten years due to natural retirements occurring. Under an opex allowance, the company keep the benefit for five years and then consumers receive the benefit. In this case the consumers would benefit for five years, so the benefit share is 50:50.⁵²

⁵² As noted in this section, the analysis will continue during the consultation period to ensure that all allowances funded by consumers in respect of early retirements/ redundancy exercises are taken into account. We have an open question with NIE T&D regarding exceptional costs paid in RP2 for a VSS exercise (see

11.69 Taking all of this into account, the decision to use the surplus to pay for early retirements increased the deficit in 2011 by £61.9 million.

11.70 In 2009/10 prices this equates to £57.5 million. In addition to this, acceptance that some of the early retirement exercise will have been in respect of other non-regulated entities, we have applied the 91% regulated fraction to this also. This equates to £52.3 million.

Table 11.7: Early retirement costs

	Effect on 31 March 2011 deficit	2009/10 prices	91% fraction applied (2009/10 prices)
Early retirements	-£61.9 million	-£57.5 million	-£52.3 million

New Membership After 1992

11.71 At privatisation the *Electricity (Protected Persons) Pensions Legislation (Northern Ireland) 1992* was introduced. This gave pension scheme members in the electricity industry what is commonly referred to as ‘protected persons’ status. This means that the pension scheme benefits enjoyed by any defined benefit members at or before privatisation could not be reduced without a members’ majority vote.

11.72 With regard to ‘protected persons’, NIE T&D informed us that 99 new entrants joined the pension scheme between privatisation and 1998 when the defined benefit section of the scheme was closed. These new members had access to the same level of benefits as ‘protected’ members.

11.73 We considered whether or not the level of benefits afforded to ‘unprotected’ members was inappropriate and have reached the following conclusions:

- In theory the company could have opened a brand new section of the pension scheme for ‘unprotected’ members, with a lesser level of benefits than ‘protected’ members.
- The company closed the defined benefit section of the scheme relatively early compared with other private sector firms.

Competition Commission report, appendix 8.2).

http://webarchive.nationalarchives.gov.uk/+http://www.competition-commission.org.uk/rep_pub/reports/1997/397northern.htm

- The 99 new entrants between 1992 and 1998 contribute to 4% of the active membership of the pension scheme (and 1% of the total membership of the scheme) at 31 March 1997. (This was the most recent formal valuation before the defined benefit section closed.)
- The additional liability accrued by new entrants with regard to an improved level of benefits is not likely to be very material.

11.74 Therefore, we are not planning to make any adjustment for this.

Summary

11.75 In summary the following actions taken by NIE T&D, which we consider to have been avoidable, led to an increase in the pension scheme deficit by March 2011 of £33.4 million.

Table 11.8: Summary of Avoidable Deficit

	Effect on 31 March 2011 deficit	2009/10 prices	91% fraction applied (2009/10 prices)
Special contributions	+£77.5 million	£72.0 million	£65.5 million
Actual contributions less price control allowances	£30.9 million	£28.7 million	£26.1 million
Benefit improvements	-£86.0 million	-£79.9 million	-£72.7 million
Early retirements	-£61.9 million	-£57.5 million	-£52.3 million
Total	-£39.5 million	-£36.7 million	-£33.4 million

Proposed Correction of Avoidable Deficit

11.76 Based on information available in actuarial reports, and further analysis by GAD, the NIEPS deficit appears to be £36.7 million (in 2009/10 prices) higher than it would have been if the avoidable decisions had not been taken by the company. When the Utility Regulator applies a fraction of 91% to this amount to recognise that the extent of historic actions was not entirely attributable to companies with membership of the NIEPS, the figure becomes **£33.4 million**. It is this amount which we propose is an avoidable deficit amount and should therefore not be funded by consumers.

Recovery of Avoidable Deficit

11.77 We have considered whether the avoidable deficit amount should be recovered:

- during the first year of RP5,
- over the five-year period of RP5,
- during an approved deficit recovery period of 15 years,
- over a period of 40 years.

11.78 Our minded to position is to recover the amount during a 15-year period in line with our position on deficit recovery.

Our minded to position for RP5 pensions

11.79 For RP5 pensions, our draft determination is as follows:

- We propose using the results of the 31 March 2011 formal valuation without taking account of any subsequent post-valuation experience. This indicates a scheme deficit amount of £87.6 million.
- The appropriate regulatory fraction should be applied to NIE T&D's pension costs. Our view is that a split based on legal liability rather than an accounting basis is appropriate. We have analysed allocation by current/most recent employer. We consider that 79% is an appropriate regulated fraction (which reduces the deficit at 31 March 2011 applicable to NIE T&D to £69.2 million).
- We propose a deficit recovery period of 15 years to align with recent regulatory precedent.
- Any deficit repair payments already made by the company by the start of RP5 (but within the 15-year recovery period) will be taken into account in our projections.
- We accept NIE T&D proposed allowances for ongoing pension contributions.
- We propose that £33.4 million of the deficit at March 2011 (in 2009/10 prices) is avoidable. We propose that this amount should be adjusted over fifteen years which implies £12.5 million during RP5.

11.80 A summary of our proposals for the RP5 pension allowance is shown below:

Table 11.9: Our proposals

	£ million					
	2012	2013	2014	2015	2016	Total
Ongoing	2.2	2.2	2.0	2.0	2.0	10.5
Deficit repair	4.9	4.9	4.9	4.9	4.9	24.3
Total	7.1	7.1	6.9	6.9	6.9	34.8

11.81 This compares to NIE T&D's submission of:

Table 11.10: NIE T&D Submission

	£ million					
	2012	2013	2014	2015	2016	Total
Ongoing	£2.2	£2.2	£2.0	£2.0	£2.0	£10.5
Deficit repair	£12.4	£12.4	£13.3	£14.3	£14.3	£66.7
Total	£14.7	£14.6	£15.3	£16.3	£16.3	£77.2

11.82 We are of the view that consumers should not be required to fund **£33.4 million** of the current pension scheme deficit, and this should be paid back to consumers **over 15 years**.

11.83 A summary of our proposal for an avoidable deficit during RP5 (calculated using the same methodology as for deficit recovery) is detailed in table 11.11:

Table 11.11: Summary of our proposal for recovery of an avoidable deficit during RP5

	£ million					
	2012	2013	2014	2015	2016	Total
Adjustment	-£2.5	-£2.5	-£2.5	-£2.5	-£2.5	-£12.5

Reference should also be made to Section 21 (Annual reporting) which proposes reporting requirements for pensions. We consider that it is good practice for the regulated company to discuss changes to the pension scheme in a timely manner with the Regulator.

12. CONNECTIONS

Connections policy

- 12.1 In November 2010 we published a consultation on electricity connection policy to the Northern Ireland distribution system⁵³.
- 12.2 NIE T&D is required by its licence to produce a statement of charges for connections to the distribution network.
- 12.3 The purpose of the consultation paper was to identify specific areas of the current statement of charges for connection to the distribution system that may need to be reviewed. These areas have an impact on the current costs to connecting customers and on those who pay to use the system.
- 12.4 In May 2011 we published a ‘Next Steps’ paper⁵⁴ on electricity connection policy. This identified a number of areas that are relevant to RP5. These are discussed in the following sections, with our minded to position stated for each.

Subsidy for new domestic and smaller business connections

- 12.5 NIE T&D produce a statement of charges for connecting to the distribution system. This contains the methodology used to calculate the cost of connection. Currently, domestic and small business customers are required to pay only 60% of the estimated cost of installing new and/or modified connection assets. The remaining 40% is added to the RAB and paid for by all customers by distribution use of system charges.
- 12.6 In our ‘Next Steps’ paper we considered that we would remove the 40% subsidy from the start of RP5. We are doing this in order to promote cost-reflective charging and to encourage connections to be made at the points of the network that require the fewest new assets to be built.

53

http://www.uregni.gov.uk/uploads/publications/Consultation_on_Electricity_Connections_to_the_NI_Dist_System_Vfinal.pdf

54

http://www.uregni.gov.uk/uploads/publications/Next_Steps_Paper_on_Electricity_Connections_to_the_NI_Dist_System_V_final.pdf

Our decision on the connections subsidy

12.7 We have informed NIE that, following consultation, we will not allow the 40% subsidy of connection assets to continue for offers issued after 30 September 2012.

12.8 The change will remove further increases in the value of the asset base (and the subsequent return on capital) associated with this subsidy.

12.9 For RP5, net connections for domestic and small businesses forecast by NIE T&D, and to be added to the RAB (including capitalised overheads), is £57.6 million.

12.10 We acknowledge that there will be a transition period, where NIE T&D installs the connection assets in relation to connection offers it has already made. Accordingly there will still be a need for some subsidy to be included in the asset base. This amount is ringfenced in Fund 2 (see Section 9) but will only include connection offers made before 1 October 2012⁵⁵ and completed before 1 October 2014. Any new connection offers issued after that date will be based on the revised connection policy.

12.11 This will not reduce the revenue that NIE T&D receive for connections. Rather it means that the connectee pays the full cost of the connection to NIE T&D.

Top-down assessment of distribution connection costs

12.12 In its RP5 submission, NIE T&D provided the details of the process it follows when determining connection charges. These include the methods and reasoning behind:

- adopting a detailed estimate,
- the ‘simplified desk top pricing’, and
- standard connection charges.

12.13 NIE T&D highlighted the Planning Officer’s important role in studying the system to determine existing capacity and suitable routes and locations for new connection assets.

12.14 We have undertaken a thorough assessment of NIE T&D’s connection costs. Details of this are shown in Appendix G. This showed that NIE T&D does not estimate costs with a consistent level of accuracy.

⁵⁵ www.uregni.gov.uk – publications - April 2012.

Bottom-up investigation to validate connection offers

12.15 As well as the top-down analysis discussed above, we also undertook a detailed assessment of several connection projects. The details of the projects are commercially sensitive and have therefore not been included in this paper.

12.16 The main issues arising across the projects we assessed were as follows:

- The inclusion of 'capitalised overheads' is inconsistent and ranged between 15.3% and 20.6%. The RP4 capital investment plan for customer work indicates that capitalised overheads should be 13.7%.
- NIE T&D does not appear to have taken into account material and labour price variations when using dated estimates to evaluate the company's contribution to the total cost in cases where a connection benefits both NIE T&D and the customer.
- the cost of the 'special protection scheme' appeared excessive in relation to the size of some of the wind farms examined. NIE T&D has not provided evidence that the functionality and performance of the schemes requires expenditure of this magnitude.
- The indicative costs set out in Schedules 2 & 3 of NIE T&D's statement of charges for connection are not sufficiently comprehensive to allow customers to estimate indicative costs for connections.
- Many documents included in NIE T&D's submissions were undated and unsigned.

Operation and maintenance costs

12.17 The two key responses from the connections consultation process were that:

- respondents felt that operation and maintenance charges were too high; and
- there should be an option to allow for annual payments, rather than upfront payments.

12.18 NIE T&D submitted information to us showing how it determined these costs. The company applied a ratio of its overall repairs and maintenance costs against its RAB. The figures show that in early RP3, operation and maintenance charges were close to 2%, but this fell towards 1% during RP4. This is shown in table 12.1

12.19 We consider this reduction may be due to a change in capitalisation practice (as discussed in Section 6). We will assess the impact of the reduction in repairs and maintenance costs being incurred by NIE T&D on the operation and maintenance charges levied on connecting customers. If appropriate we will ask NIE T&D to adjust the statement of charges.

Table 12.1: Repairs and Maintenance as a percentage of the core RAB

			Total repair & maintenance	Closing core RAB 2009/10 prices	Total repair and maintenance as a % of closing core RAB
RP3	2002/03	Actual	£15m	£845m	1.75%
	2003/04	Actual	£15m	£860m	1.71%
	2004/05	Actual	£15m	£869m	1.75%
	2005/06	Actual	£12m	£880m	1.36%
	2006/07	Actual	£11m	£893m	1.21%
RP4	2007/08	Actual	£10m	£899m	1.15%
	2008/09	Actual	£11m	£927m	1.14%
	2009/10	Actual	£10m	£944m	1.05%
	2010/11	Forecast	£10m	£971m	0.99%
	2011/12	Forecast	£10m	£987m	0.99%

Our minded to position on connection costs

12.20 Details of our assessment of the accuracy of NIE T&D's connection cost estimates are presented in Appendix G. Our assessment found that NIE T&D's budget cost estimating process consistently fell outside the parameters we believe should generally be achievable.

12.21 The net difference between the total estimated costs (paid by connectees) and the total actual outturn cost is added to the RAB. Therefore, there is little risk to NIE T&D from overestimating or underestimating connections.

12.22 To ensure that estimated costs are more accurate we recommend that NIE T&D provides a schedule of work and a bill of quantities as part of its connection offer. NIE T&D's systems for costing have been shown to us and we consider that providing this information will require minimal additional effort. In doing so, NIE T&D will ensure that it is fully transparent in its pricing methods. This in turn should improve consumer confidence in connection offers.

12.23 We have already written to NIE T&D to ask for a new statement of charges. We made the following suggestions:

- Changes should be made to the format, layout and content of the statement of charges in order to bring these into line with statements produced by DNOs in GB and the Republic of Ireland.
- There should be greater transparency on the build up of costs for various connection types; costs should be broken down into individual elements where appropriate.
- Customers should be provided with information about:
 - the requirements and costs associated with complying with grid code and trading and settlement codes;
 - the requirements and costs associated with SCADA (supervisory control and data acquisition) and communications;
 - operation and maintenance costs and payment options;
- Sufficient information to allow the customer to identify the method that will be used to prepare the connection offer.
- Details on what will be provided as part of a connection offer including the Format of Connection Offer letters, schedule of work and bills of quantities (sample templates to be included in Statement of Charges).

Timing of connection offers and connections

12.24 Condition 30 of NIE T&D's licence specifies the timescale that the company must adhere to when offering terms for connection or modification to an existing connection. This is currently set at three months, except where we consent to a longer period. There are no defined requirements for the time NIE T&D has for carrying out the work.

12.25 As stated above, we have instructed NIE T&D to revise its statement of charges for connection to the distribution system. As part of this revision we are minded to require NIE T&D to provide a regular detailed report on connections and the timing of connections. This will help us monitor performance in this area and ensure that the company is complying with its licence.

12.26 As part of the minded to decision on Incentivisation, we are proposing a new Guaranteed Service Standard to cover generator connections. Further details are provided in Section 13, Incentivisation

Review of NIE T&D's forecasts and growth assumptions

12.27 We have assessed the assumptions that NIE T&D used for forecasting and have made the following observations.

Load related distribution connections

12.28 The assumptions that NIE T&D used to forecast the future need for connections and for business planning in this area are highly simplistic. More complex techniques are available. Its forecast would benefit from better use of existing information, such as forecasts for the construction of new build accommodation and offices. Furthermore, no efficiency savings were built into the cost estimates. (It should also be noted that the forecast that was used to prepare the RP5 submission was prepared in the autumn of 2010.)

Generator distribution connections

12.29 Very limited information or evidence is provided to support the estimates and explain the rationale for deviating from historical levels. The estimated number of <1MW connections is forecast to increase from just 30 in 2010/11 to 250 in 2011/12. This is stated to be as a result of the introduction of financial incentives resulting from the Renewable Obligation Certificates for on-shore wind generation.

12.30 The assumption for the estimated costs of completing the connections for >1MW of £4 million compares with the historical average of £2.8 million. For <1MW the estimated £120,000 compares with an average of just £16,800 for the period 2007/08 to 2009/10.

12.31 As with the load related distribution connections no scope for efficiency savings are built into the cost estimates.

Transmission

12.32 NIE T&D's submission assumes that there will be just one transmission connection in RP5 of between 12MW to 60MW. While in RP6 it is forecast that there will be three connections, no information or evidence is provided to support the forecasts.

NIE T&D's resources

12.33 Respondents to the connections policy consultation paper identified their concerns about the resources available within NIE T&D to process connection

offers. The staff costs associated with connections will not be included in the RP5 determination, as they are not funded by use of system tariffs. We did assess the proposed resourcing levels that NIE T&D put forward for connections. Details of this assessment are included in Appendix G

Proposals for future staffing

12.34 Total staff numbers are forecast to increase from 59.3 FTEs in 2010/11 to 68.3 in 2012/13 and will remain at that level thereafter. Although we agree that the staffing level that NIE T&D proposes is appropriate for its estimate of offer volumes, it is highly dependant on the forecasts used.

12.35 We recommend that NIE T&D monitors its forecasts to consider a phased increase in the planning staff levels for distribution generator connection offers.

12.36 It should be noted that no allowance will be given during RP5, except for the connections added to the RAB during the transition period. The costs associated with staffing are funded by the connecting party and it will be NIE T&D's responsibility to resource appropriately to meet demand and ensure full licence compliance.

Competition in Connections

12.37 In the 'Next Steps' paper we stated that we would investigate further the introduction of contestability for connections. We will continue to work in this area, as highlighted in our draft forward work plan for 2012/13.

12.38 If contestability is introduced then the current arrangements for NIE T&D would need to be amended. Without amendments NIE T&D would be in a position simply to underestimate and in turn undercut any future competitors (with any shortfalls in contributions being made by the RAB).

12.39 At present customers benefit from the current charging arrangements for the following reasons:

- When receiving a quotation the customer knows exactly how much their connection and operations and maintenance charges will cost 'up front'.
- NIE T&D is unable to seek additional connection fees.
- Customers (over 1MW customers and authorised generators) have the choice to ask NIE T&D for an alternative charging arrangement that requires the customer to pay the outturn costs of those

works⁵⁶. This requires the customer to pay the estimated cost of the connection, with any reconciliation carried out after a determination of the final costs.

- Times and costs for providing a connection quotation can be reduced by NIE T&D using their simplified desktop pricing method, therefore avoiding the need to visit the site before issuing a quotation.

12.40 We intend to continue to work towards the introduction of contestability in connections as soon as is reasonably practicable. We will separately conduct a full consultation process on the charging arrangements surrounding contestability before implementation.

Proposals for RP5 connections

12.41 As discussed above, we are minded to introduce the following changes in connections:

- We have instructed NIE T&D to remove the 40% subsidy for domestic customers and small businesses that require a new connection.
- We will require NIE T&D to provide regular reports on connections and the timing of connections to ascertain NIE T&D's performance in this area.
- We will scrutinise operations and maintenance charges and will look to implement changes depending on the outcome.
- We will instruct NIE T&D to make changes to the statement of charges for connection to the Northern Ireland distribution system and to the transmission charging statement.
- We will consider options for contestability and intend to consult fully on this.

⁵⁶ See Section 4.2 of the Statement of Charges for Connection to the Northern Ireland Distribution System.

13. INCENTIVES

Introduction

13.1 When setting the RP5 price control, we are keen to ensure that incentives in place are properly balanced between capital and operating expenditure. If incentives are unbalanced, NIE T&D may be incentivised to:

- reclassify one type of expenditure as another; or
- faced with alternative capital and operating spending choices, make decisions that have a higher overall cost to customers in the long run

Incentive review

13.2 We reviewed potential incentive mechanisms for the RP5 period to cover areas such as customer service, renewables, environmental considerations, and losses.

13.3 A Guaranteed Standards Scheme (GSS) is already in place for NIE T&D. This sets levels of compensation for poor performance in specific areas of customer service, and acts as an incentive on NIE T&D to maintain standards at or above these levels. We are aware that the scheme has been operating since 1992 and therefore intend to assess this as part of the incentive review.

Approach to the review

13.4 We completed an assessment of potential performance measures and incentive options for RP5. Our aim was to produce incentives that would encourage a long-term perspective on delivery and costs.

13.5 Our review encompassed a number of aspects, as follows:

- A review of the incentives that are currently in place for RP4, and an assessment of whether or not any or all of these should continue for RP5.
- A review of the options for alternative incentives. We considered extending the scope of the incentive schemes to incorporate outputs delivery covering, for example, reliability, safety, environmental performance and social obligations).
- An assessment of the load indices and health indices that Ofgem uses, and whether or not these would be appropriate for RP5.

- An assessment of incentives in place for comparable companies elsewhere in the world, and whether or not any of these would be appropriate for RP5.
- An assessment of network losses mechanisms drawn from known schemes elsewhere in the world, to help us draw up proposals for a similar scheme for NIE T&D.
- An assessment of the complexity of implementation, risk sharing between NIE T&D and consumers (over the short and long term), and the potential for perverse outcomes.
- An assessment of the effect of the proposed incentive package on NIE T&D's risk profile and expected returns.

13.6 For each incentive area we considered:

- the current framework,
- NIE T&D's proposals for RP5,
- regulatory precedent,
- technical factors, and
- preliminary options for RP5.

13.7 We also considered stakeholder opinion gathered via the RP5 strategy paper⁵⁷ and the results of a customer survey on the GSS.

Responses to the RP5 strategy paper

13.8 Among responses to the strategy paper that we received were the following comments:

“Apart from refinements to existing incentive mechanisms, we believe that new incentives should be put in place for:

- *Quality of service – there need to be penalties as well as rewards*
- *Reducing network losses – results to be proved by actual metered values*
- *Reducing carbon from network operation – with associated reporting arrangements*
- *Delivering capacity improvements through technology, rather than building additional wires*
- *Extending scope of the SMART programme*

⁵⁷

http://www.uregni.gov.uk/uploads/publications/RP5_NIE_TD_Fifth_Price_Control_Strategy_Paper_FINAL.pdf

- *Information Quality Incentive (IQI) – to encourage better forecasting of capex required over the price control period.” (SSE)*

“It is important to ensure that during RP5 incentives encourage efficiency savings and that any under spend in Capex as a result of these savings is passed on to consumers through lower bills.” (CCNI)

The current framework: RP4

Opex

13.9 A rolling mechanism was in place for RP4 opex. Under this mechanism the actual controllable opex in each year of RP3 was rolled forward, with RPI, to create an allowance for the corresponding year in RP4. The aim of this approach was to simplify the opex calculation process yet continue to incentivise the company to reduce costs (as it was able to benefit from efficiency gains). Savings are then automatically passed back to customers in due course.

13.10 Further details of the rolling mechanism are discussed in the RP4 opex review (Section 7).

Capex

13.11 We introduced a capex efficiency incentive for RP4. This rewarded NIE T&D for efficiency in its procurement and labour costs, but not necessarily for lowering its capital expenditure. This approach meant that the difficult issue of capex underspend was avoided and the incentive to achieve efficiencies within the capital programme was strengthened (as customers benefit through the savings in RAB financing costs).

13.12 The efficiency incentive involved NIE T&D retaining 38.9% of every £1 million of efficiency savings, with customers retaining the remaining 61.1%. Capex efficiencies are calculated outside the RAB and the incentive is added to the overall revenue entitlement in the year after the efficiency is realised.

13.13 Further details of the capex approach are discussed in the RP4 capex review (Section 5).

Revenue Protection Program

13.14 The Revenue Protection Programme, which we introduced during RP4, incentivises NIE T&D to recover as much revenue as possible from illegal electricity abstraction at de-energised non-domestic sites. The scheme provides an incentive to NIE T&D by allowing the benefits of recovered revenue to be shared equally between NIE T&D and customers. The scheme therefore recognises that the ultimate cost of illegal abstraction is borne by customers. It requires NIE T&D to split the recovered amount on a 50:50 basis. Over a 3 year period, this mechanism has cost consumers £162,000 (funding for NIE T&D to set up the scheme and allocate resources). However, the return to consumers has been £570,000. This is a net benefit of £408,000.

Network performance

13.15 In the June 2006 RP4 consultation paper⁵⁸, we considered a proposal by NIE T&D for this category of £4.5 million.

13.16 The consultation paper states that:

“NIE has two strategies for network performance improvement:

- a) install remote control on the pole mounted sectionalisers; and*
- b) install remote control on critical air break switches (ABSs) to enable faster restoration of customers through remote network reconfiguration.*

Both of these strategies are technically sound and will inevitably result in improved network performance. However, MM⁵⁹'s observation is that NIE is already meeting Utility Regulator's CML target for RP3 and this additional £4.5m will invariably enhance CML (customer minutes lost) performance further. MM state that if there are no associated targets for improved network performance, then this expenditure should be removed. However, if appropriate improvements to network performance for worst served customers were agreed, then in MM's view this expenditure would be justified”.

⁵⁸ http://www.uregni.gov.uk/uploads/publications/T_D_Price_Control_2007-2012_Further_Consultation_Paper_June_06.pdf

⁵⁹ MM are Mott Macdonald, RP4 consultants commissioned by the Utility Regulator

13.17 We decided that the expenditure could be justified if NIE T&D demonstrated the necessary network performance improvement to worst served customers. Details of the improvement were to be reported in the annual capex reports to us. To date, NIE T&D has included a brief section in its annual capex reports on network performance. It has demonstrated an improvement in customer minutes lost, as Figure 13.1 shows.

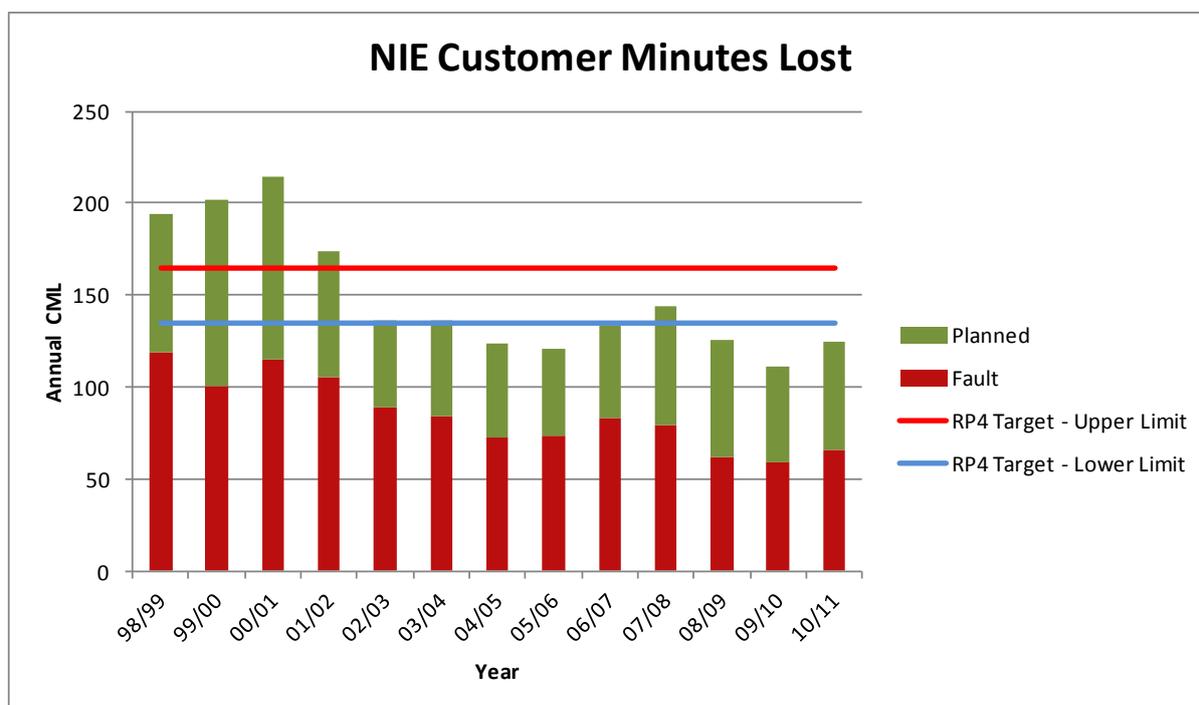


Figure 13.1: NIE Network Performance

Our objectives for incentives

13.18 It is our view that any mechanism designed to incentivise efficiency (both productive and dynamic) should ideally meet the following objectives:

- **Sufficient funding:** the company should be allowed to earn sufficient revenue to deliver the required standard of service and outputs.
- **Optimum capital investment strategy:** mechanisms should incentivise the company to make the optimum capital investment in its infrastructure in line with its long-term strategy. The company should not be incentivised to spend money on non-essential items; assets should be replaced before the risk of failure becomes unacceptable; asset condition should be at or above the basic acceptable standards at all times. In other words, the incentive

mechanism should not reward the company for deferred expenditure.

- **Continuous improvement:** mechanisms should incentivise the company to continuously look for and achieve efficiency, while ensuring that customers receive an appropriate share of any savings they fund. Efficiency should be rewarded for a period but the benefits to the company – which is paid for by consumers – should be appropriately time-limited.
- **Flexibility:** mechanisms should allow flexibility to revise the outputs as circumstances change. This includes the possibility of no payment for outputs that are not delivered by either deferral of spend or because an anticipated need did not arise (if, for example, projected increases in demand fail to materialise). Additional outputs that are required, such as those required as a result of new legislation, should be funded but only from the date that the legislation becomes active.
- **Accurate submissions:** mechanisms should incentivise the company to submit the most accurate information possible and there should be no benefit from inflating submissions.
- **Equalisation of incentives:** mechanisms should not provide an incentive to transfer expenditure inappropriately between opex and capex during the price control period.

NIE T&D's proposals for incentives

13.19 NIE T&D's incentive proposals closely follow the precedent set by Ofgem at its DPCR5 review. In its price control submission, NIE T&D highlighted that

“incentives should play a significantly increased role in the regulatory regime for RP5, with the incentive rates set to reflect the value placed by stakeholders on different performance measure”.

13.20 NIE T&D has stated that it recognises that we might wish to impose a higher level of challenge in the targets themselves, so that a well performing company might only be expected to just meet them. It commented that

“If this is the case, we would be happy to discuss how this approach might be accommodated within the overall settlement, for instance through the application of tighter collars and the adoption of a higher rate of return”.

13.21 NIE T&D proposed incentives in the areas shown in table 13.1 and suggested caps and collars⁶⁰ where applicable:

Table 13.1: NIE T&D’s proposed incentives with cap and collar

Area of incentive	Cap (% revenue)	Collar (% revenue)
‘Business as usual’ capex	1.50%	-1.50%
Transmission renewables capex	project by project	project by project
Opex	None	None
Losses – network	0.05%	-0.05%
Losses – theft (revenue protection)	None	N/A
Customer facing network performance	1.50%	-1.50%
Customer service	1.00%	-1.00%

13.22A summary of NIE T&D’s RP5 incentive proposals is provided below, along with our commentary.

Capex

Business as usual capex

13.23 NIE T&D suggest a ‘three pot model’ for business as usual capex in RP5. The model is discussed in more detail in Section 9. In summary, however, it involves NIE T&D bearing a set proportion of underspend or overspend relative to the allowance for business as usual capex, so that efficiencies can be encouraged through innovative approaches. NIE T&D groups capex activities together into three pots, according to the level of certainty attached to them. The company proposes that the output activity would be measured via various methods depending on the pot in question; it would then have an incentive to underspend the allowance for that pot.

Transmission renewables capex

13.24 NIE T&D proposes that a three phase approach (development, pre-construction and construction) is used when considering transmission reinforcement

⁶⁰ Caps and collars are terms used to define the maximum rewards or penalties that apply to an incentive scheme.

projects to support renewable generation. Under this approach a capex allowance is provided for each project. This would be agreed before the construction phase, when expenditure requirements have been considered in detail by NIE T&D and with the due diligence necessary to propose a capex allowance for completion. On this basis, the capex incentive would apply to performance relative to the agreed allowance for the construction phase.

Our position on capex incentives

13.25 We propose that capex will operate with three funds for business as usual, load related and renewables related work. This is fully discussed in Section 9.

Opex

13.26 NIE T&D believes that the rolling opex mechanism should be continued into RP5. It also believes that targets for RP5 should be based on an assessment of the activities that NIE T&D will now be expected to undertake in line with government targets.

13.27 NIE T&D stated throughout its questionnaire submission that the extent to which further efficiencies can be achieved is limited, given the large efficiencies delivered in preceding years. NIE T&D suggests, however, that a stronger incentive could be put in place to reduce controllable opex further.

Our position on equalisation of incentives

13.28 As discussed in Section 10, we are minded to discontinue the rolling opex mechanism (as implemented in RP4) into RP5. Opex allowances will be based on the RPI-X incentive mechanism with an efficiency target.

13.29 Our consultation paper, 'Network price controls: Proposals for a cross-utility approach' highlighted changes that Ofgem had introduced at its DPCR5 review in order to equalise incentives. The aim was to remove distortions between capex and opex decisions by awarding one allowance for total expenditure (totex) rather than two separate allowances. It involves applying a single incentive to a company's cash allowance for the price control period. Incentives are applied to aggregate over- or underperformance, and the composition of the expenditure has no bearing.

13.30 We do not intend to introduce the equalisation of incentives approach that Ofgem has adopted. We will instead continue to agree separate opex and capex allowances for NIE T&D. In doing so we will aim to minimise

opportunities for the company to ‘game’ incentives. We will also seek to minimise inefficient allocation of resources between opex and capex.

Distribution losses

13.31 In its submission NIE T&D stated its view that

“An output based approach could be used to incentivise reductions in losses provided that losses can be accurately measured, NIE T&D is able to influence the level of losses, and an appropriate target can be set”.

13.32 The company has concerns, however, that these three criteria may not be met.

13.33 NIE T&D considers that a level of uncertainty exists around measuring losses.

It puts this down to the inability of current metering arrangements to provide comparative simultaneous information about power flows entering and exiting the network. As a result the scope for errors in measuring distribution losses is large compared with the scale of absolute losses. NIE T&D also states that it has limited scope to influence the level of losses, which are ultimately determined by system design and the location of generating plant and its dispatch profile.

13.34 NIE T&D goes on to say that the connection of renewables generation is likely to increase losses in the future. Any incentive would therefore need to avoid penalising NIE T&D for this fact. NIE T&D points out that setting targets would be difficult

“since the methodology for measuring losses is likely to change (with changes in market billing systems and processes associated with the Enduring Solution project due to go-live in May 2012) and NIE T&D does not have accurate historical data”.

13.35 NIE T&D proposes instead:

- an alternative three-strand approach (rather than an output-based approach);
- the introduction of a tight cap and collar;
- an allowance for procuring low loss equipment; and
- an increased incentive to reduce theft.

Our position on losses

13.36 In order to introduce a distribution losses incentive, we would need to obtain historical data from NIE T&D then set a target using a rolling average. Given that such information has not been collated, we are minded to encourage NIE T&D to begin measuring network losses during RP5. If all measurement systems and reporting structures are in place we would set a symmetrical cap and collar for Years 4 and 5 of the control period.

13.37 Losses impose a cost on consumers as additional energy has to be generated and transported to replace the lost energy. Losses are effectively funded by consumers; we consider this to be unreasonable. It is estimated that 7.1% (worth around £70 million per year) of the electricity entering the distribution system in NI is lost before it reaches customers. NIE T&D can influence this cost, but at present has no incentive to do so. We are therefore keen to introduce a losses incentive.

13.38 NIE T&D does not have full systems in place to measure or manage distribution losses. NIE T&D has proposed a cap/collar of +/-0.05% of regulated revenue to cover reductions in losses (approx £500,000 a year).

13.39 We propose a pot of up to £1 million over the final two years of RP5. This would cover:

- an incentive to reduce losses;
- the cost of buying equipment; and
- costs associated with putting reporting systems in place.

13.40 We will identify the incentive formula once we have reliable baseline data. NIE T&D is currently developing this area.

Revenue protection

13.41 An incentive was in place during RP4 for NIE T&D to provide revenue protection unit services to all distribution exit points, including those with keypad meters. These services are required in relation to the theft of electricity from the distribution network.

13.42 NIE T&D has proposed an additional revenue protection unit incentive scheme for RP5. NIE T&D's submission proposes that additional revenue protection electricians are required to deal with the additional workload

“as a result of meter tampering required to meet the demands from keypad meter reading activity”.

Our position on revenue protection

13.43 The revenue protection unit service provided a net benefit for consumers in RP4 and we believe it should continue in RP5. NIE T&D did not provide us with sufficient information to justify an additional allowance for revenue protection unit services in RP5.

13.44 In a competitive market revenue protection is an integral function that underpins the market for all participants. Therefore with or without an incentive scheme, this work should be resourced to ensure that illegal extraction is kept to a minimum. We will require regular reporting of this area during RP5.

Network performance

13.45 NIE T&D proposes a network performance incentive based on customer minutes lost (CML) and customer interruptions (CI) as a result of unplanned outages on the distribution network. NIE T&D proposes to exclude planned outages, outages resulting from transmission faults and the levels of service received by their worst served customers. An incentive would be based on performance (excluding weather-related events) against annual targets for CML and CI resulting from faults affecting NIE T&D's distribution network.

Our position on network performance

13.46 An analysis of historical data which encompasses RP4 indicates that the allowance for improvements to network performance had a positive impact in RP4. The reduction in CML is shown in figure 13.1.

13.47 We propose applying a target CML/CI based on a historical average of 72 unplanned CML/CC). However, we are of the view that planned outages should be included so that NIE T&D is incentivised to minimise all outages.

13.48 Any incentive rate would be based on customers' willingness to pay for improved network performance. A customer survey carried out on our behalf in 2010⁶¹ indicated that only one in ten consumers experienced a problem or

⁶¹

http://www.uregni.gov.uk/news/view/publication_of_research_into_utility_customer_views_on_the_guaranteed_stand/

issue with their electricity supply, and most of these related to bill or payment queries. A survey that Ofgem commissioned on customer willingness to pay also found that customers were generally satisfied with their levels of service.

13.49 Ofgem service targets for comparable distribution network operators – WPD South Wales, WPD South West and SSE Hydro – were similar to NIE T&D's performance over RP4. Based on these results, we propose to implement a 'penalty only' incentive for Network Performance. This is an asymmetric incentive, in that NIE T&D would not be offered a payment for improving performance but would be incentivised to maintain it.

13.50 Given the lack of information on the willingness to pay of NIE T&D's customers the most appropriate data to use is the data Ofgem used to set incentive rates at its DPCR5 review. Ofgem's final incentive rates were based on the product of each customer type's willingness to pay and the DNO's number of customers.

Table 13.2: Comparison of NIE T&D's proposed incentive rates with Ofgem and CER

	CML incentive rate £million	CI incentive rate £million
NIE T&D's proposal	0.22	0.19
Ofgem SSE Hydro	0.18	0.03
CER (converted to £)	0.21	0.17

13.51 The rates that NIE T&D's closest comparator (SSE Hydro) has been awarded incentive rates are shown in Table 13.2. These were £0.18m for CML and £0.03 for CI, and reflected consumers' greater dislike of interruptions that lasted longer. We can see that the CML incentive rate proposed by NIE T&D is not very different from Ofgem's proposed rates. However, the CI rate is much higher. We have also included the equivalent values for RoI.

13.52 We believe that a penalty should be imposed for unplanned outages of >79 CML/CC (which is 10% more than the average of the five years' data shown above). An asymmetric penalty scheme will ensure that NIE T&D maintains its network performance, but does not require customers to pay for improvements they do not desire. We propose using the same incentive rates as those applied to SSE Hydro.

13.53 Before any network performance incentive is applied, we will review and audit NIE T&D's historical data relating to planned and unplanned outages. A final methodology will be agreed with the company, including auditing and information accuracy requirements. We will also agree how weather events are dealt with.

Customer service incentives

13.54 NIE T&D refers to Ofgem's approach to develop arrangements for measuring customer satisfaction, complaints and stakeholder engagement. This approach will be developed for introduction in April 2012. NIE T&D proposes that it would wish to discuss whether comparable incentives should be developed for Northern Ireland.

Our position on customer service incentives

13.55 We do not agree that such an incentive is required. Customers are content with current standards of service. However, as discussed below, we have reviewed the GSS.

Worst served customers

13.56 NIE T&D proposes delaying a worst served customers incentive until RP6. The company's questionnaire submission regarding benchmarking and incentives states that

“NIE control room systems do not facilitate the direct identification of those customers who experience the worst quality of supply”.

Our position on worst served customers

13.57 A specific form of incentive or standard for worst served customers may be required. This is because other general network performance incentives may not necessarily incentivise NIE T&D to improve its service to these customers.

13.58 Ofgem has a multiple interruption service standard in place. This requires DNOs to pay a customer £50 if they experience more than four interruptions lasting more than three hours in a year.

13.59 We consider that Ofgem's standard is equally appropriate for Northern Ireland as detailed in the GSS section below.

13.60 NIE T&D will be required to provide annual data regarding worst served customers to us as part of the annual report so that this can be monitored.

Our proposals for additional incentives

Network outputs (health and load indices)

13.61 We believe it is necessary to ensure that there is efficient expenditure on the network, and that capex occurs when it is required. We propose to work with NIE T&D to develop health and load indices for the networks so that the implications of any capex over or underspend by NIE T&D are understood.

13.62 If this incentive were to be imposed, we would need to assess and agree the current levels of health and load indices with NIE T&D. These indices would then be forecast at the end of the period in the absence of network investment. The forecasts would then be adjusted to take account of any proposed network investment and its likely impact on health and load indices rates. An ex ante level of capex would be agreed as ‘at risk’ prior to any investment. If standards are not met, then a proportion of capex could be removed from the RAB.

13.63 As with the losses incentive, NIE T&D would be encouraged to establish and start measuring health and load indices during RP5, so that an incentive could potentially be introduced in RP6. If NIE T&D has the systems in place to begin measuring the health and load indices, we would consider an incentive before the end of RP5. This would be subject to consultation.

Update of current GSS

13.64 NIE T&D has certain performance standards to meet in the course of its day to day activities. These include Overall Standards, which are targets that apply to customers as a whole; and the GSS, which applies to individual customers.

13.65 No payments are attached to the Overall Standards. The GSS, however, is monitored and when a standard is not met a payment can be claimed by the customer affected.

13.66 The Overall Standards are specified in a determination we make under Article 43 of the Electricity (NI) Order 1992. The GSS is specified in Regulations made under Article 42 of the same Order.

13.67 As part of the review of possible incentives for the company, we undertook a comparison against relevant standards in GB and RoI. The review highlighted some areas where it would be possible to develop or update the standards for NIE T&D.

13.68 Table 13.3 sets out the current standards that apply to NIE T&D and the changes we propose to make. Increases in payments are in line with RPI. This will require changes to the associated legislation.

Table 13.3: The current standards that apply to NIE T&D and proposed changes

Standard	Timescale	Payment Due on Default	Proposed Change
Replacing your main fuse	3 hours during a working day 4 hours on any other day	£25	Payment increased to £40
Restoring your electricity following a fault	24 hours	£50 (domestic) £125 (non-domestic) (extra £25 for every 12 hrs electricity stays off after first 24hrs)	timescale: reduced to 18 hours
Installing a meter and turning on your supply	2 working days (domestic) 4 working days (non-domestic)	£25	Payment increased to: £40
Failing to keep an appointment for the above purpose		£50 domestic £125 non-domestic	£80 domestic £200 non-domestic
Providing you with a cost estimate for a new electricity supply	7 working days (small jobs) 15 working days (larger jobs)	£50	Payment increased to £80
Notifying you of a planned interruption in your electricity supply	3 days	£25 (domestic) £50 (non-domestic)	Payment increased to: £40 (domestic) £80 (non-domestic)
Dealing with a complaint about your electricity voltage	7 working days to make an appointment 5 working days to offer an explanation if a visit is not required	£25 £25 (appointment not kept)	Payment increased to: £40 £40(appointment not kept)
Meter accuracy queries	7 working days to make an appointment 5 working days to offer an explanation if a visit is not required	£25 £25 (appointment not kept)	Payment increased to: £40 £40 (appointment not kept)
Queries about your bill and standard payments	5 working days 5 working days to make a refund if this is due	£25	Payment increased to: £40

Standard	Timescale	Payment Due on Default	Proposed Change
Keeping an appointment	AM (8.30am – 1.00pm) or PM (12 noon – 5.00pm)	£25	Payment increased to: £40
Making standard payments	10 working days	£25	Payment increased to: £40
Dealing with a problem with your pre-payment meter	3 hours during a working day 4 hours on any other day	£25	Payment increased to: £40
Responding to General Complaints	10 working days	£40	New Standard
Providing you with a cost estimate for a new electricity generation connection	90 days	£50	New Standard

Summary of our minded to position for incentives

13.69 It is apparent through the current RP4 price control that there is an imbalance of incentives concerning opex and capex for NIE T&D. We are of the view that an equalisation of incentives should be achieved. However, any incentive rates that are agreed for RP5 should take stakeholder and general consumer opinion into account.

13.70 We propose the following arrangements during RP5:

- A 'three fund model' will operate for capex to.
- An ex ante allowance will be set for opex, whereby NIE T&D is incentivised to outperform the allowance and consequently gain the rewards from this.
- A 'penalty only' incentive will be implemented regarding customer minutes lost. The proposed target is 72 unplanned CML/CC. An incentive may be introduced for NIE T&D to reduce distribution losses, assuming the company provides the necessary data.
- An incentive to reduce network losses, once adequate data are available

- Development and measurement of health and load indices will commence during RP5, with the intention to begin incentivising by the end of RP5/start of RP6 (or sooner if possible).
- A Guaranteed Standard will be introduced to the GSS to improve the network performance for ‘worst served customers’, general complaints and generation connections.
- The existing GSS will be updated

13.71 The distribution losses incentive and the network outputs incentive (health and load indices) will require a considerable amount of data collection and analysis before we can determine the values to be used.

14. INNOVATION

Introduction

14.1 NIE T&D has been responsible for three formal innovation programmes during RP4. These were:

- the Sustainable Management of Assets and Renewable Technologies (SMART) Programme;
- the Vulnerable Customer Programme.
- the Sustainable Networks Programme; and

14.2 NIE T&D reports annually to us on each of these programmes. We have assessed the programmes that were in operation during RP4, and those proposed by NIE T&D for the RP5 period.

The SMART Programme

14.3 The “Sustainable Management of Assets and Renewable Technologies” (SMART) programme started in 2002/03 as it was included in RP3. This continued into RP4.

14.4 For each year of RP4 the allowance was £400,000, resulting in a total of £2 million over the five-year period of the price control. Provision was also made to fund up to £1 million to support a small number of larger scale renewable projects.

14.5 NIE T&D and NIE Energy⁶² had specific responsibilities to promote renewable energy options. They worked together to identify and nominate programmes for inclusion for funding/part funding in the programme. Within this framework, NIE T&D had overall responsibility for the programme, while NIE Energy developed opportunities, submitted proposals to NIE T&D, managed implementation and coordinated delivery of approved projects.

Our position on the SMART Programme

14.6 Since the introduction of the SMART programme in 2002 the electricity market framework has undergone significant change. This includes introduction of the single electricity market in November 2007 and the opening of the retail market. In addition, ESB’s recent acquisition of NIE T&D means that operating conditions are quite different from those that prevailed in 2002.

⁶² Now Power NI

14.7 While the SMART programme overall can be regarded as a success, in light of the structural changes that have taken place in the market, we no longer consider it appropriate to continue with the programme. An alternative regulatory route to promote carbon reduction measures exists through the Northern Ireland Sustainable Energy Programme, which does not favour one particular supplier.

14.8 Therefore the SMART programme finished at the end of March 2012.

The Vulnerable Customer Programme

14.9 Under RP4, NIE T&D made funding of £1million available to establish, implement and deliver a Vulnerable Customer Programme up to 31 December 2010. The programme aimed to combat fuel poverty by helping low income householders identify unclaimed benefits to which they were entitled, thereby increasing their incomes.

14.10 The programme was delivered by Power NI on behalf of NIE T&D. This work, at the time, was said to have complemented other activity streams undertaken by Power NI in the areas of energy efficiency, offering discounted tariffs to customers through the 'keypad' pay as you go meter and other social action plan initiatives.

14.11 The programme has delivered good results and clearly benefited many of the people categorised as being fuel poor. It is reported that unclaimed benefits of £7.0m were identified during the period 2009/2010.

14.12 Whilst the process is geared to identifying unclaimed entitlements it has not been established whether all parties choose to follow through with the claims.

Our position on the Vulnerable Customer Programme

14.13 There will have been benefits to the individuals who received their additional entitlements. Fuel poverty is undoubtedly a major concern that the energy industry must seek to address.

14.14 The model developed to assist vulnerable customers through the RP4 period provides a good blueprint for subsequent social benefit programmes.

14.15 We recognise the success the Vulnerable Customer Programme has had. NIE T&D has not suggested implementing a similar programme in RP5 and we would be in agreement with this position. If a similar programme is to be

implemented the responsibility for it should sit with an appropriate external body funded through other means.

The Sustainable Networks Programme

14.16 In July 2007, we approved a five-year research and development programme to cover the costs of establishing, implementing and running the Sustainable Networks Programme (SNP). NIE T&D agreed to provide £1 million of funding for this, as part of the RP4 price control.

14.17 The programme has resulted in a number of initiatives with a practical application:

- A methodology for assigning dynamic line ratings to overhead line connections to wind farms. The intention is to maximise the network capacity to connect more wind generation to the network according to weather conditions.
- A software tool to investigate any undesirable interactions between individual special protection programmes associated with the connection of wind farms.
- A software tool that facilitates more robust financial appraisals of network investments to connect wind farms.
- A distribution voltage monitoring project to establish that the existing connection policy for wind farm connection complies with quality of supply standards.

Our position on the Sustainable Networks Programme

14.18 NIE T&D has stated that the Sustainable Networks Programme has allowed the company to gain experience in developing the structure and reporting processes required when managing smart technology projects. The programme has also helped the company to continue to promote a culture of innovation within the organisation.

14.19 NIE T&D proposes to build on this experience during RP5 and increase their efforts to take on more challenging innovation projects. These would include solutions that can be applied in both the short and long terms.

14.20 Recommendations for further work in this area have been considered as part of our review of NIE T&D's capex proposals for RP5. (See Section 9)

14.21 Perhaps as a result of the programme's focus on renewable generation connection, there was very little reference to losses. We are keen to see this area addressed in RP5 (see Section 13, Incentives).

NIE T&D's proposals for RP5 innovation expenditure

14.22 NIE T&D has developed a set of objectives and proposals for innovation expenditure in RP5. These are based on the experience from the Sustainable Networks Programme.

14.23 NIE T&D has structured its proposals around a 'technology readiness model', which represents the different stages of product readiness and risk, as well as the associated funding requirements.

14.24 NIE T&D plans to adopt the 'fast follower' principle that was established in RP4. The principle involves spotting relevant ideas of others, rapidly replicate these, and improving them where possible. This would appear entirely appropriate if the objectives, issues and characteristics of Northern Ireland were the same as elsewhere.

14.25 NIE T&D believes investment in research and development is still necessary for the following reasons.

- The smart technology solution that is most appropriate for NIE T&D will depend on local system characteristics, in particular the current and future generation mix, and legacy network design. It will not always be possible to incorporate smart technology design that has worked elsewhere. Effort will be required to determine the solution's feasibility, make modifications to suit the network in Northern Ireland and pilot the technology before it is put into use.
- The uncertain future of emerging technologies (such as electric vehicles, micro generation and clusters of heat pumps) makes it difficult to factor in these technologies when planning for the network's future capacity. However, it is necessary to keep up with recent developments and feed into current smart grid activity. Otherwise, without any consideration, the uptake rate of these technologies may overtake the pace of network reinforcement that is required, especially if additional transmission network assets are required.
- Provide the resource to continually assess emerging technologies and participate with collaborative research to leverage funding.

14.26 Details of the programmes that NIE T&D proposed are included in Appendix H.

Our position on innovation

14.27 In total, NIE T&D is seeking £14.93 million within RP5 to fund smart technology:

- £2.5 million for its research and development programme;
- £6 million for trialing smart technology projects;
- £3.35 million for applying advanced condition monitoring to network assets; and
- £3.08 million to upgrade the distribution network management system to facilitate smart grids.

14.28 NIE T&D states, however, that these costs do not include strategic investment in the development of communication systems that may ultimately be required, and developed in due course.

14.29 These funds were requested as part of NIE's capex submission and the programmes have been assessed as part of that submission (described in Section 9)

14.30 NIE T&D's licence condition 19 (system security and planning standards and operation of the distribution system) states that:

'The Licensee shall plan, develop and maintain the total system, and shall operate (including, without limitation and where necessary, coordinating the flow of electricity over) the Licensee's distribution system.'

14.31 Opportunities for innovative solutions should therefore be sought out as part of the wider development of the distribution system. For NIE T&D to do so we consider that NIE T&D should take into account any advancement in technology without having to be specifically rewarded for it.

15. ENVIRONMENTAL AND SAFETY

Introduction

15.1 As part of the RP5 submission, NIE T&D provided information about its environmental performance. This chapter summarises our review of this information.

Environmental requirements

15.2 Under the condition 19 of its licence, NIE T&D is required to produce an environmental policy statement. NIE T&D has published environmental policy statements that cover procurement, energy efficiency, transport and waste management. These are available on the company's website.

15.3 According to the ARENA⁶³ survey, NIE T&D also maintains a formal register of relevant environmental legislation. In addition the company has a formal system in place for identifying emerging legislation that affects its business.

Environmental reporting

15.4 NIE T&D has an environmental management system in place that is certified to the internationally recognised ISO14001 standard. This requires the company to produce an environmental management report each year. The report provides a summary of NIE T&D's environmental performance during the previous financial year, and outlines its targets and objectives for the forthcoming financial year.

15.5 NIE T&D has demonstrated commitment to its environmental requirements and we encourage the company to continue to resolve all of the issues identified in the reports.

15.6 Under its licence NIE T&D is not required to report to us on its environmental performance. However, reports created for its environmental management system are available on their website.

Our position on environmental reporting

15.7 We will require NIE T&D to undertake more reporting of its environmental requirements during the RP5 period. We will develop the requirements and

⁶³ ARENA Network conducts an annual Northern Ireland Environmental Management Survey . The survey is widely recognised as the principal measure of environmental engagement in Northern Ireland. It benchmarks organisations against both their sector peers and the leading Northern Ireland organisations on the basis of their environmental management and performance in key areas.

templates as part of the development of the overall annual reporting requirements.

15.8 As part of these new requirements the company will be obliged to produce performance and benchmarking figures.

Safety requirements

15.9 Under its licence NIE T&D is not required to report to us on its health and safety requirements. This is monitored by the Health and Safety Executive for Northern Ireland, which has responsibility for public safety aspects of the Electricity Supply Regulations.

Statutory requirements and policies

15.10 NIE T&D's licence condition 6 'Health and Safety of Employees' states that:

The Licensee shall:

- a. acting jointly and in co-operation with the holders of other licences granted under the Order, consider and discuss matters of mutual concern in respect of the health and safety of persons employed by them; and*
- b. establish and maintain appropriate processes for consultation with representatives of the Licensee's employees in respect of the health and safety of those employees.*

15.11 NIE T&D has not provided any record of a formal register of relevant health and safety legislation, nor does it have in place a formal system for identifying emerging legislation that affects its business.

Reporting on safety

15.12 To the best of our knowledge, health and safety policy statements are not available for viewing on NIE T&D's website and there are no publications regarding health and safety performance.

15.13 NIE T&D does, however, have a large section on its website that is dedicated to safety.

15.14 As part of the RP5 submission for distribution NIE T&D provided a list of all Director's inquiries and local inquiries that have been opened or closed since 2007. A description of each inquiry has been provided and the status of these (whether open or closed) is indicated. For closed inquiries, an explanation of

the actions taken to close them has been given. The status of any inquiries that are currently open is also given.

Our analysis on safety

15.15 Having examined the Director's inquiries and local inquiries we note that the processes NIE T&D follows appear to be robust and that in every instance the recommendations, persons responsible and implementation timescales have been determined. It would also appear that where recommendations are given these are part of a well thought-out process.

15.16 It should be noted that NIE T&D does mention changes required to policy documents, guidelines, training and specifications in some incidences. It is unclear whether these changes have been implemented as there is no provision for following up or noting when recommendations have been carried out.

Our position on safety

15.17 We will require NIE T&D to provide more reporting on its safety requirements during RP5. We will develop the relevant requirements and templates as part of the company's overall annual reporting requirements.

16. WEIGHTED AVERAGE COST OF CAPITAL

Introduction

16.1 The weighted average cost of capital (WACC) is the weighted average of two components: the cost of equity (Re); and the cost of debt (Rd), where the weightings represent the proportions of debt and equity in a firm's capital structure.

16.2 The WACC is calculated using the following formulae:

$$WACC \text{ (Vanilla}^{64}) = g \times Rd + Re (1 - g)$$

$$WACC \text{ (pre tax)} = g \times Rd + 1 / (1 - t) \times Re \times (1 - g) \text{ } g \text{ is gearing}$$

Rd is cost of debt

Re is post tax cost of equity

t is the corporation tax rate.

16.3 A company typically uses a combination of debt and equity to fund its capital expenditure.

16.4 In this chapter we examine proposals that NIE T&D put forward for an appropriate WACC for RP5. We then outline our own proposals and we draw on advice from First Economics.

NIE T&D's WACC proposal for RP5

16.5 NIE T&D's proposed approach comprises the following four stages:

1. Start from the cost of capital that Ofgem allowed the GB DNOs at DPCR5 in December 2009. Recognise, however, that the settlement included additional 'baked in' returns that all of the DNOs received, as well as additional performance-specific returns that varied across the DNOs.
2. Adjust the cost of capital from stage 1 to reflect factors that are specific to NIE T&D;
3. Test whether the financial market evidence has changed significantly enough to warrant a further adjustment.
4. Test whether the overall settlement would be financeable.

⁶⁴ Vanilla WACC abstracts from all considerations of tax. A separate tax allowance is included in the RP5 revenue allowance.

16.6 NIE T&D's submission concludes that it would be appropriate to use a vanilla WACC of 5.34% (real). This would be made up of:

- a post-tax cost of equity of 7.7% (in line with the average that Ofgem allowed at DPCR5);
- a pre-tax cost of debt of 3.6%; and
- an adjusted level of gearing for NIE T&D of 57.5%.

Table 16.1: Summary of NIE T&D's proposals for RP5 Vanilla WACC

	NIE T&D
Gearing	57.5%
Pre-tax Cost of debt (%)	3.6
Risk free rate (%)	2.0
Post-tax cost of equity (%)	7.7
Pre tax WACC (%) (real)	6.40%
Vanilla WACC (%) (real)	5.34%

16.7 The key arguments that NIE T&D puts forward, with counter-arguments from the Utility Regulator (in italics) can be summarised as follows:

- NIE T&D is one of 15 DNOs in the UK. It would be inappropriate to use a lower cost of capital than the one Ofgem allowed the other DNOs to earn. The company argues that doing so would have an adversely impact on investor sentiment towards NIE T&D at a time when it will need to compete with the other DNOs for finance to fund the large RP5 capex programme.
- *The primary determinant of NIE T&D's ability to obtain and maintain investors confidence is whether the returns that NIE T&D can offer investors sits no lower than NIE T&D's cost of capital. If we were to follow NIE T&D's proposal, electricity customers in NI could incur higher charges than necessary. In practice, the equity investor in NIE T&D is currently ESB and it is not obvious that NIE T&D is 'competing' with the other DNOs for ESB's equity investment.*
- The return that Ofgem is allowing the DNOs to earn between 2010 and 2015 comes partly from the stated cost of capital (4.7% vanilla, real) and partly from profits that are 'baked in' elsewhere in Ofgem's regulatory settlement. The cost of capital allowed for NIE

T&D should at least match the average overall return offered to the DNOs, which NIE T&D estimates to be 5.34% (vanilla, real).

- *NIE T&D has not been previously subjected to the GB incentives so a direct comparison is not applicable.*
- An adjustment for the higher levels of risk that NIE T&D presents to investors by comparison with the DNOs arising from the scale of NIE T&D's RP5 capital programme. This adjustment should take the form of a lower gearing assumption (57.5% versus Ofgem's 65%) along with unchanged cost of debt and cost of equity assumptions.
- *NIE T&D's argument is based around the presumption that the full capital programme will receive approval. A WACC for the renewable-driven capex (Fund 3) is discussed at the end of this chapter.*
- It is not necessary to make any further adjustments for changes in market data since Ofgem's determination of December 2009.
- *The Utility Regulator considers that the most up-to-date information should be used in WACC assessments.*
- NIE T&D will just pass rating agencies' ratio tests if it is permitted to earn the recommended 5.34% rate of return. A lower cost of capital will cause NIE T&D to fail financeability tests.
- *The estimation of the cost of capital and the testing of financeability via ratio tests are best thought of as two quite separate regulatory disciplines and there is no reason to attribute weak financial ratios to the selection of an inappropriate rate of return.*

Our WACC proposals

- 16.8 We commissioned First Economics to analyse NIE T&D's submission and to recommend an appropriate WACC for RP5. First Economics deliberately sought to estimate the cost of capital independently from NIE T&D's current ownership arrangements. It took this approach so that the allowed return would be capable of supporting any reasonable and efficient investor set.
- 16.9 We asked First Economics to assess the cost of capital for the separate transmission and distribution elements of the business. However, it

concluded that the same range of values could reasonably be applied to both.

16.10 In formulating its proposals, First Economics drew on UK market data (with cross-checks to international evidence where necessary) and paid particular attention to the Competition Commission's views.

16.11 First Economics provided a report identifying a range within which to decide an appropriate WACC. Its report on WACC can be read in full in Appendix I. Our views on the key WACC components are discussed below.

Cost of debt

16.12 NIE T&D's current borrowing comprises two main tranches of debt:

- A £175 million loan from the European Investment Bank which pays an interest rate of 6.875% a year and matures in September 2018.
- £400 million of publicly traded bonds which pay an interest rate of 6.375% a year and which mature in 2026⁶⁵.

16.13 First Economics calculated that the 6.875% fixed cost of debt on 30% of NIE T&D's borrowings, added to a 6.375% cost of debt on the remaining 70%, and adding 15 basis points for fees, resulted in a weighted average cost of debt of 6.65%.

16.14 This figure has to be converted from a nominal figure to a real figure for inputting into the cost of capital calculation. We have used inflation forecasts from HM Treasury in the past and regard this as a reliable source. We have used this in the calculation.

16.15 By applying the average from the latest inflation forecasts as detailed in table 16.2, the resulting cost of debt is 3.20%⁶⁶. This assumes an average inflation figure of 3.35%.

⁶⁵ We note that the cost of debt incurred for the recent bonds issue by NIE T&D is higher than for other utilities (See Table 9 in First Economics Report). However, we accept that there are potentially numerous reasons as to why this is so (timing, size, Northern Ireland perceived specific risk factors, or parent company/Ireland perceived specific risk factors).

⁶⁶ The conversion formula is $(1 + \text{real cost of debt}) = (1 + \text{nominal cost of debt}) / (1 + \text{forecast inflation})$.

Table 16.2: RPI forecasts (HM Treasury 2011)

	2012/13	2013/14	2014/15	2015/16	2016/17	Average
% change	3.05%	2.95%	3.15%	3.65%	3.90%	3.35%

16.16 Our minded to position is that the Cost of Debt should be 3.2% (pre-tax real).

Risk free rate

16.17 In its analysis, First Economics looked at pre-August 2008 data as an indicator of the 'true' risk free rate. This is because any data post-August 2008 has effectively been distorted by the effects of the financial crisis and subsequent recession.

16.18 First Economics reviewed the risk free rates that other regulators have applied in recent determinations. This led them to conclude that a risk free rate of 2.0% should be used for NIE T&D in RP5.

16.19 We agree that an assessment of market conditions post-2008 is misleading. Therefore we propose to use a risk free rate of 2.0% in the RP5 WACC calculation.

Equity risk premium

16.20 First Economics considered recent UK regulatory assumptions and analysis by the Competition Commission. Assumptions for recent years range from 5.0% to 7.5%. This is discussed further in First Economics' report.

16.21 Ofgem used a market return of 5.0% to 7.0% at DPCR5. The Competition Commission applied a spot WACC that implicitly used the very upper end of the 5.0% to 7.0% range in both its Heathrow/Gatwick, Stansted and Bristol Water inquiries.

16.22 First Economics proposes that we assume a range for the return of 6.5-7.0%, which would accord with the Competition Commission's thinking. When taken alongside the proposed risk-free rate of 2.0%, this gives a range of equity risk premia of 4.5%-5.0%.

16.23 We propose an equity risk premium of 4.8% for NIE T&D.

Asset beta

- 16.24 Northern Ireland Electricity Ltd (NIE T&D) is not listed on the UK stock market. This meant that First Economics had to approach the task of calculating an appropriate beta through comparator analysis.
- 16.25 First Economics used beta estimates for companies that are similar to NIE T&D. It considered:
- the betas for comparator firms with a stock market listing (whose asset betas were estimated using actual market data); and
 - beta estimates for regulated firms without a stock market listing that regulators have made in recent periodic reviews.
- 16.26 The ranges fall between 0.34 and 0.44 and 0.35-0.61 respectively.
- 16.27 In order to position NIE T&D’s transmission and distribution businesses at an appropriate point in the spectrum, First Economics assessed the relative systematic risk faced by NIE T&D’s shareholders. The main determinants of this risk included demand variability, cost variability, regulation and the company’s cost/revenue structure.
- 16.28 First Economics’ analysis concludes that conventional network businesses all exhibit negligible revenue risk, relatively low cost risk and have sizeable RABs. They therefore sit at the lower end of the beta spectrum. In fact First Economics reported an asset beta of 0.34 for the electricity DNOs and 0.36 for National Grid. By contrast, all companies at the higher end of the beta spectrum have characteristics which make them riskier in the eyes of investors, explaining their higher costs of capital.

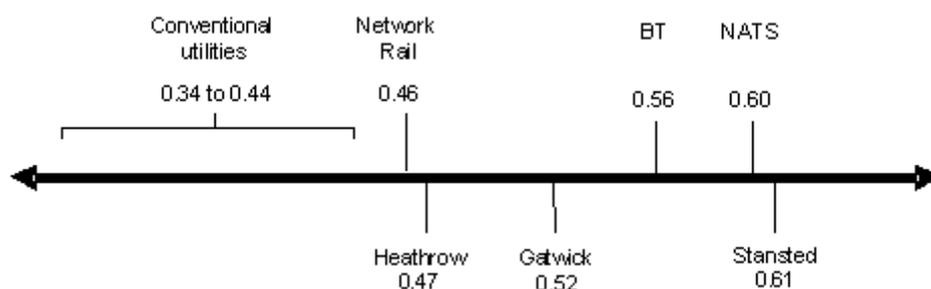


Figure 16.1: Asset Betas

- 16.29 NIE T&D’s price control is based on a revenue cap. As such, the company’s allowed revenues are not exposed to demand variability. In addition, capex to accommodate demand growth (allowed network investment, connections

and metering) will be adjusted ex-post in RP5 (captured under 'Fund 2' of the RP5 capex (see section 9).

- 16.30 NIE T&D's exposure to cost risk is generally low. Costs have a high labour content, although there is some exposure to commodity prices and the construction cycle. For capex on renewable integration, NIE T&D has limited exposure because capital costs are decided post tender. Furthermore, the risk of a deficit in NIE T&D's pension fund is borne mainly by consumers (although NIE T&D may have some cash flow exposure).
- 16.31 First Economics is confident that NIE T&D does not have a higher overall risk profile than a conventional GB regulated network and suggests that they should have a similar beta. An example of this risk is that NIE T&D is not exposed to consumer demand risk. It cautioned however that a beta lower than 0.35 would be too close to the observed cost of debt and therefore recommended a figure between 0.4 and 0.425.
- 16.32 Although First Economics reported that Ofgem has estimated the asset beta for electricity DNOs as 0.34, for the reason stated above, it has not recommended this for NIE T&D.
- 16.33 In our view, and as described above, there are elements that leave NIE T&D with less exposure to systematic risk than other UK electricity DNOs. These include the approach to the funding of capex as proposed earlier in the paper. Nonetheless, based on the advice from First Economics described above, we propose an asset beta of 0.42.

Gearing

- 16.34 First Economics' analysis states that there is a strong consensus that optimal credit rating for a regulated network business is A3/ A- to Baa1/BBB+. Gearing assumptions that other regulators have made for companies with a risk profile similar to NIE T&D's lie in the range 57.5%-65%. First Economics also observes that gearing assumptions appear to have risen overtime. It relates this back to the need for ongoing investment requirements due to increased borrowings, and the reduction in companies' risks as businesses and regulatory regimes mature.
- 16.35 First Economics recommends a 60% gearing level for both the transmission and distribution networks.

16.36 We agree with First Economics' analysis and propose a gearing level of 60%. In line with the arrangement under RP4, we expect NIE to remain below a 60% gearing level.

Summary of WACC for RP5

16.37 Our minded to position for a WACC for RP5 is summarised in Table 16.3.

Table 16.3: Summary of our proposals

Conventional WACC	Utility Regulator proposal
Gearing	60.00%
Pre-tax Cost of debt	3.20%
Risk free rate	2.00%
Equity risk premium	4.8%
Debt beta	0.1
Asset beta	0.42
Equity beta	0.9
Post tax cost of equity	6.32%
Pre tax WACC (%) (real)	5.25%
Vanilla WACC (%) (real)	4.45%

Comparison with GB DNO WACC

16.38 For comparison purposes, the values for the WACC awarded to the GB DNOs at DPCR5 is shown in table 16.4. Please note this WACC was set in December 2009, when inflation forecasts and investment market conditions were different.

16.39 Most of our parameters are comparable to the Ofgem estimates. The difference in the proposed RP5 figures is due to our lower cost of debt – i.e. 3.2% compared to 3.6%. It is important to highlight that this lower cost of debt is in turn attributable to the forecast that we have of RPI-measured inflation.

16.40 Although we have quoted a vanilla WACC in real terms, when the values are converted to nominal terms, our proposal is very comparable to that used for the GB DNOs in DPCR5. In nominal terms, our proposal for a real vanilla WACC of 4.45% becomes 7.9%. This compares to a DNO vanilla WACC of 7.5% (nominal).

Table 16.4: Comparison with GB DNOs

	GB DNOs	NIE T&D	Utility Regulator
Gearing	65.0%	57.5%	60.0%
Pre-tax Cost of debt (%)	3.6	3.6	3.2
Post-tax cost of equity (%)	6.7	7.7	6.32
Pre tax WACC (%) (real)	5.6	6.40	5.25
Vanilla WACC (%) (real)	4.7	5.34	4.45
Vanilla WACC (%) (nominal)⁶⁷	7.5	8.5	7.9

WACC for Fund 3 Capex

16.41 Our approach to capital investment during RP5 is that renewables-driven investment will be placed in a separate ‘fund’ and remunerated through a bespoke set of regulatory rules (Fund 3 as detailed in Section 9). The key features of the new arrangements are that:

- pre-construction development costs are to be passed through to customers in full; and
- allowances for construction costs are to be fixed on a project-by-project basis after planning permission and construction tender results.

16.42 This means that we will be setting renewables-related capex allowances throughout RP5 once the full scope and timing of the work is known. This significantly reduces NIE T&D’s exposure to systematic risk.

16.43 First Economics explored the introduction of a separate WACC for renewables-related capex and advise that it would be reasonable to consider that the bespoke regulatory rules might reduce NIE T&D’s asset beta by around 0.1. The following was considered in determining the appropriate asset beta:

- the bespoke arrangements should affect only the Utility Regulator’s assessment of beta. The risk-free rate and equity-risk premium are generic market parameters and the relevant cost of debt is the interest expense that NIE T&D will incur at corporate level;

⁶⁷ To convert the real vanilla WACC to a nominal WACC, the inflation used for GB DNOs was 2.7%, 3% for NIE T&D and 3.35% (average) for the Utility Regulator proposals.

- the asset beta cannot fall so low as to make the implied cost of equity for a company funded entirely by equity (i.e. risk-free rate, plus asset beta x equity-risk premium) less than the observed cost of debt. This would fail a test of basic plausibility; but
- neither should the asset beta be so high as to make the implied cost of equity for a company funded entirely by equity significantly more than the observed cost of debt, given the very limited exposure to systematic risk.

16.44 Our minded to WACC for renewables, as captured under ‘Fund 3’ of the RP5 capex (see section 9) is detailed in table 16.5

Table 16.5: Summary of our proposals for WACC for Fund 3 Capex

Fund 3 WACC	Utility Regulator proposal
Gearing	60.0%
Cost of debt	3.20%
Risk free rate	2.00%
Equity risk premium	4.8%
Asset beta	0.33
Equity beta	0.67
Post tax cost of equity	5.2%
Pre tax WACC (%) (real)	4.65%
Vanilla WACC (%) (real)	4.00%

Use of Vanilla WACC and a tax allowance

16.45 RP4 was the first NIE T&D price control where the rate of return was prescribed on a non pre-tax basis. This meant that the return on RAB was calculated using the vanilla WACC and an allowance for taxation was provided.

16.46 The vanilla WACC is calculated as a pretax cost of debt and a post-tax cost of equity.

16.47 In addition to a return based on vanilla WACC, a tax allowance will also be provided. This will be based on a similar calculation to that currently used in RP4 and will assume notional gearing in the interest calculation.

- 16.48 NIE T&D has a licence requirement for the company to submit an annual tax report to us. We propose that the tax return that is sent to HMRC is also made available during RP5.
- 16.49 Our proposals use a tax rate of 24% for year ending 31 March 2013. We propose to alter the return and tax allowance each year in RP5 to reflect the relevant corporation tax rate.

17. DEPRECIATION AND RETURN

Introduction

17.1 This section considers the issues surrounding NIE's T&D's RABs and the associated depreciation policy for each RAB.

17.2 Our analysis was based on information that NIE T&D supplied, together with comparable information that is published by Ofgem in Great Britain and the Commission for Energy Regulation (CER) in the Republic of Ireland.

17.3 The current RABs for NIE T&D are detailed in table 17.1. The table shows that NIE T&D currently has eight separately identifiable RABs, six of which are currently active, and two of which have almost expired. The most significant of these is the core T&D RAB, which includes both transmission and distribution elements.

17.4 Other smaller RABs were created to reflect specific projects. These are referred to as non-core RABs.

Table 17.1: RAB TABLE (at 2011) - with RAB status, depreciation life and RAB value

RAB name	RAB category	RAB status	Current depreciation life (years)	RAB Value (at 31/03/11)
CORE T&D RAB	Core	Currently active	40	£971m
Residential market opening RAB	Non-core	Currently active	10	£28m
Keypad RAB	Non-core	Currently active	15	£14m
Enduring Solution RAB	Non-core	Currently active	10	£11m
Non-residential market opening RAB	Non-core	Currently active	10	£7m
Rathlin RAB	Non-core	Currently active	40	£4m
Old North/South Interconnector RAB	Non-core	Almost expired	40	£1m
Balcas RAB	Non-core	Almost expired	10	£0m
				£1,037m

Separation of NIE T&D's RAB

Background to NIE T&D's RABs

17.5 As was the case for other UK utility privatisations, the initial value for the core regulatory asset base was based on the market value paid by investors at privatisation, rather than the book values of the business's assets. This was to ensure that the returns shareholders made from the regulated business would be based on the amounts they had invested.

17.6 Each RAB was then adjusted for movements each year. The key movements were as follows:

- Indexation – the value of the RAB was adjusted each year in line with RPI to ensure that it maintained its value in real terms.
- Additions – new assets were added to the RAB based on their cost as these are funds that the business (ie shareholders) has now invested in the asset base.
- Disposals – adjustments are made to the RAB for assets that have been disposed of.
- Depreciation – a reduction in the value of the assets as they are used over their lifetime.

17.7 These annual movements can be traced to additions or disposals in the accounting records of the company and to the RPI and regulatory calculations of depreciation. However, at any point in time it is very difficult to reconcile an individual RAB to the company's underlying assets in the company's fixed asset register. This is for the following reasons:

- The initial value for the core RAB was different from, and not based on, the book values of the company's assets.
- The methodology that the regulator used to calculate depreciation (a 40-year kinked depreciation applied to all assets in the RAB) is different from the depreciation calculations that take place in the company's accounting records. These are based on different depreciation lives for different categories of assets as considered appropriate by the company to ensure that its accounts give a true and fair view.

- The values of the assets in the company's accounts are not adjusted by RPI each year.

17.8 Two further key factors mean that the initial core RAB was not initially split into separate transmission and distribution RABs:

- The initial core RAB was based on the market value of the overall business at privatisation. It did not attribute separate values to transmission or distribution (or indeed other activities that existed at the time). There is therefore no basis for saying how much of that initial value related to each of the two elements at the time of separation.
- All movements in the core RAB since privatisation have been made on a combined basis. It would be extremely difficult, if not impossible, to go back now and separate those movements into transmission and distribution elements.
- However, for the purposes of this price control NIE T&D has provided separate RABs for the two elements. The split has been changed from the original 18% to transmission and 82% allocated to distribution, to a more cost-reflective allocation that reflects actual transmission or distribution assets from RP3 onwards.

Our minded to position with regards to separate T&D RABs

17.9 We have highlighted the fact that NIE T&D has a combined core RAB, which includes both transmission and distribution. This is inconsistent with all of the other major electricity network owners in GB. A split was provided by NIE T&D, but only in hindsight.

17.10 We believe that the distribution and transmission use of system tariffs should be as transparent as possible. In order to do this, separate RABs should be maintained for transmission and distribution.

17.11 Transmission assets are, for the most part, easily separable from distribution assets. Additions to each RAB should therefore be based on actual investment, as opposed to an arbitrary allocation in hindsight.

17.12 We expect NIE T&D to continue to improve its recording, management and asset register systems in order to ensure that appropriate additions are made to the respective RABs.

Depreciation policy

17.13 Depreciation is defined as the systematic allocation of the cost of an asset, or other amount substituted for cost, less its residual value, over its useful life.

17.14 This section details an assessment of the depreciation policies that are applied to the various RABs. We have also compared NIE T&D's approach with other international examples to determine if the current approach is appropriate for RP5.

17.15 At present the core RABs (transmission & distribution) are depreciated over 40 years. Consideration has been given to whether or not this depreciation rate should be applied to all of the assets in the core RABs or whether a number of depreciation rates should be used, reflecting the useful life of each asset type within the core RABs. For example the core RABs would include assets such as property, plant and equipment.

17.16 From a regulatory perspective depreciation is one of the three major inputs into determining allowed revenues of a regulated utility (the other two being operating costs and return). Since depreciation policy has an impact on not only the actual depreciation charge allowed in the revenue determination, but also the value of the RAB and thus the amount of return that will be allowed, it is fundamental to the calculation of allowed revenues.

17.17 We also note that depreciation periods can be adjusted to change the timings of cash flows for a regulated entity. This has been done in other regulatory frameworks.

CER depreciation for electricity transmission and distribution

17.18 For distribution, CER uses an average asset life of 45 years for network assets. This is an increase of five years on the previous assumption of average network asset lives of 40 years. These results in a consequential reduction in the amount of depreciation allowed each year for revenue determination purposes. CER's reason for increasing the assumption was based on evidence of general trends towards extending asset lives.

17.19 CER's approach to depreciation of transmission network assets is similar to that for distribution. The key difference is that the average asset life assumed for transmission is 50 years, rather than 45. This was an increase on the assumption of 40 years for transmission network assets that had been used at previous price control reviews. The change was made to take account of CER's

assessment that the network assets were in generally good condition and to reflect international practices.

17.20 For transmission fixtures and fittings and scada (supervisory control and data acquisitions) telecoms are depreciated over 10 years.

17.21 For non-network assets the lives assumed by CER depend on the category of asset, as summarised in the following table⁶⁸:

Table 17.2: CER assumed asset life for ESB distribution assets

Asset type	Asset life (years)
Network assets (distribution)	45
IT	5 or 7
Office equipment	10
Fixtures & fittings	5
Scada telecoms	15
Vehicles	7
Premises	50
Tools	5
Telecoms	10

17.22 CER applies depreciation on a straight line basis, as opposed to the kinked method that we use or any other method. It considers that this method matches most closely the costs of the asset with the economic benefits derived from its use.

17.23 By adopting different assets lives for non-network assets from those for network assets, CER has more closely aligned its regulatory depreciation with those in the statutory accounts. By doing so it is improving the relationship between the fair value of the assets and the value of the RAB.

17.24 Another feature of CER's approach to the RAB which impacts on its depreciation calculations is its treatment of capital work in progress. CER includes capital expenditure in the RAB as it is incurred, rather than when the assets are commissioned.

17.25 An alternative method that some regulators such as Ofgem adopt is to:

- include only the value of the asset in the RAB when it is commissioned, but

⁶⁸ Source: Decision on 2011 to 2015 distribution revenue for ESB Networks Ltd.

- allow interest incurred during construction to be added to the value of that asset to compensate for the financing costs during the construction period.

17.26 Allowing interest during construction ensures that the company makes the same return on its investments as it would have done had the expenditure been allowed to earn a return from the time it was incurred.

17.27 Half a year's depreciation is allowed on assets in the year they are added to the RAB. In other words, it is assumed that capital expenditure occurs evenly throughout the year and so on average takes place at the mid-point.

17.28 CER deducts capital contributions and grants from the value of capital expenditure before adding it to the RAB. In this way, depreciation is only provided on the net amount after taking account of those grants and contributions.

Ofgem's approach to transmission and distribution depreciation

17.29 When carrying out its DPCR5 review, Ofgem conducted a review of its approach to the RAB. This clarified Ofgem's view that the RAB was a 'financial construct' that aimed to allow certain costs to be recovered over a period of time, rather than during the year the expenditure is incurred.

"The RAV is a key building block of the price control review. RAV is a financial construct for providing funding for costs over a prolonged period and represents the value upon which the companies earn a return in accordance with the regulatory cost of capital and receive a depreciation allowance. In the DPCR5 review we have undertaken a fundamental review of the means by which costs are included in the RAV as a key element in our approach to equalising incentives for the DNOs. The speed of money will be the same as that proposed at Initial Proposals:

- *85 per cent of expenditure covered by the equalised incentive will be funded as "slow" money over 20 years through the RAV.*
- *The remaining 15 per cent of expenditure covered by the equalised incentive will be funded as "fast" money which is expensed and funded in the year of expenditure.*
- *Business support costs, non-operational capex and traffic management costs (excluding administration costs), which all sit*

outside the equalised incentive, will be 100 per cent funded as fast money.”

17.30 The impact of this is to move away from thinking of expenditure as capital or operating expenditure and instead to think of it as expenditure that will be recovered when incurred (“fast money”), or expenditure that will be recovered over a longer period of time (“slow money”). It also means that the period over which “slow money” expenditure is recovered is no longer linked to asset lives (since other expenditure items will be included in “slow money”).

17.31 The regulator can therefore choose a period which appropriately balances the impact on customer tariffs and financeability with incentives for the company. The recovery of “slow money” over time is akin to depreciation and any balance of slow money in the RAB earns a rate of return at the appropriate cost of capital – so the company should be neutral regarding the period over which it is recovered.

17.32 The proportion (85%) of total expenditure that is treated as slow money was derived so that the overall proportion of costs going into the RAB was consistent with the previous price control period. The period over which those costs are recovered (20 years) is largely determined by financeability issues which arose from the existence of significant numbers of fully depreciated pre-vesting assets.

Current approach to depreciation for NIE T&D

17.33 NIE T&D’s RAB is currently depreciated using a kinked method over 40 years. The first 20 years are depreciated at 3% whereas the remaining 20 years are depreciated at 2%. NIE T&D does not face the same financeability issues that arose from the use of straight line depreciation of pre-vesting assets over 20 years. Hence there would appear to be no justification to accelerate depreciation in the same way Ofgem did. Indeed this might be detrimental to consumer interests in the short term, as shorter depreciation lives mean higher depreciation charges and consequently higher tariffs. However, these assets will continue to be used after they have been fully depreciated. This means that in the longer term a balance is achieved between high cost new assets and older assets that customers are no longer paying for.

17.34 However there is an argument that the WACC figure will mean that there is no economic benefit/cost of the depreciation period being changed.

17.35 CER's decision to extend the regulatory depreciation period for network assets from 40 to 45 years for distribution and from 40 to 50 years for transmission was based on evidence of increased technical asset lives. The decision also points to a possible move to different asset lives for distribution and transmission assets.

17.36 A further point to consider from CER's approach is the use of different asset lives for different categories of assets. This has the advantage of linking the depreciation used for regulatory purposes with actual asset lives, so providing a stronger justification for the regulatory calculations. It also means that if the asset mix changes, overall depreciation will change to reflect that mix.

17.37 NIE T&D has a significant level of intangible assets (namely market opening systems (worth around £55 million) with further additions due to be made in future through the Enduring Solution. It would therefore be easier to manage the risks and rewards to customers if these were identified separately.

17.38 On the other hand this would require more detailed records, since RAB details will need to be maintained for each asset category. Furthermore, even within asset categories there will be some degree of averaging across different asset types (some distribution network assets, for example, will have lives of less than 45 years while others will have longer lives).

17.39 It should also be noted that the 45/50 year life that CER used applies only to network assets. Other categories of asset have different (generally shorter) lives. Network assets are by far the largest category by value but some of the other smaller asset categories, such as tools, IT and fixtures, have very much shorter lives (5 years). It may be the case, therefore, that when one looks at the weighted average life across all assets, the lives that CER used are close to 40 years used for NIE T&D.

17.40 Current RAB calculations for NIE T&D include work in progress. This means that they earn a return and a depreciation amount of the work in progress value, even though customers are not yet enjoying the benefits of these assets. Current values for work in progress are around £40 million each year⁶⁹.

17.41 The depreciation options we considered

⁶⁹ source Statutory Accounts

Option 1

17.42 We considered changing the depreciation lives to ensure that tariffs are more asset reflective. This would involve extending the depreciation lives of the transmission and distribution assets and/or reducing the depreciation life of the market opening RAB.

17.43 This option was also considered in anticipation of the significant level of asset investment that NIE T&D is proposing, and the fact that replacement assets should have longer lives than the original assets (considering that the assets being replaced must be relatively old (around 40 years)).

17.44 We understand that this would change the level of revenue that NIE T&D would receive over the five years of RP5.

Option 2

17.45 We have considered changing the kinked method of depreciation to the straight line method and breaking down each RAB into its component assets (for example, network assets, IT, office equipment, premises, tools and telecoms).

17.46 From a statutory accounting point of view, straight line depreciation is used in NIE T&D's accounts. This means that the regulatory depreciation would more closely reflect the statutory depreciation amounts of the company, if this were straight line also.

17.47 We believe that a reconciliation of the RAB value to the underlying statutory assets of the company may be easier to perform (for example by an auditor or Reporter) if the approach to the assets is as consistent as possible.

17.48 Breaking down the RAB into separate asset types would allow the depreciation on each RAB to be more reflective. The asset management systems that NIE T&D use would be categorised using this type of approach. Information requests from us should be easier for NIE T&D to fulfil.

17.49 Electricity customers would benefit because the tariffs they pay would be more reflective of the assets providing them the service

Option 3

17.50 We have considered leaving both the depreciation periods the same (40 years) and the depreciation type the same (kinked) for the RP5 period (for all of the RABs). During this time we would continue to monitor NIE T&D's assets and the appropriateness of depreciation methods and periods. This has been considered in the interests of stability and predictability.

Our minded to position with regards to NIE T&D's regulatory depreciation

- 17.51 We are minded to leave depreciation periods and the depreciation type the same in RP5 as in RP4, with the exception of the market opening RABs. We are also minded not to break the RABs down into their component assets, although this is something we may consider in future.
- 17.52 By leaving the depreciation periods the same (as detailed in Table 17.3) we are showing consistency and predictability for investors and NIE T&D.
- 17.53 As the Rathlin RAB is small and has a 40-year depreciation period, we propose to incorporate it into the core distribution RAB from the start of RP5.
- 17.54 In addition, historically, the RABs relating to market opening were recovered via the public service obligation tariff. We plan to move these RABs so that recovery is through the distribution use of system tariff.
- 17.55 We believe that the residential market opening RAB and non-residential market opening RAB are legacy systems that will be almost fully replaced by the Enduring Solution. Currently the depreciation period is ten years for these RABs. We consider that changing from ten years to five years would be more appropriate, and reflective of the assets themselves.
- 17.56 By reducing the depreciation period on this RAB, NIE T&D (and its shareholders) will receive the remainder of their investment twice as fast as previously envisaged. Under this new proposal, customers will not have to pay for two market opening systems at the same time (although they will have to pay for the legacy system over a shorter period).
- 17.57 Currently Non-network IT and telecoms investments are expensed rather than added to the RAB. We propose to continue with this policy, and will apply it to other similar items of spend (i.e. the network management IT system and network IT systems).

Table 17.3 Proposed RABs

RAB name	RAB category	RAB status	Proposed depreciation life (years)	RAB Value (at 13/03/11)
CORE distribution RAB	Core	Currently active	40	£780m
CORE transmission RAB	Core	Currently active	40	£191m
Residential market opening RAB	Non-core	Currently active	5	£28m
Keypad RAB	Non-core	Currently active	15	£14m
Enduring Solution RAB	Non-core	Currently active	10	£11m
Non-residential market opening RAB	Non-core	Currently active	5	£7m
Rathlin RAB	Non-core	Currently active	40	£4m
Old North/South Interconnector RAB	Non-core	Almost expired	40	£1m
Balcas RAB	Non-core	Almost expired	10	£0m
Fund 3 Capex RAB	Non-core	Proposed by NIE for RP5	40	£0m
				£1,037m

17.58 This can be compared to the original RAB table provided at the start of the chapter (table 17.1).

NIE T&D asset disposals

17.59 Asset disposal is most commonly thought of as being where a physical asset reaches the end of its useful life and is removed both from the network itself and from the utility's accounting records. There may be costs and/or proceeds associated with the disposal, and the asset may or may not be replaced by a new equivalent asset.

17.60 Disposal will also include the situation where some right or encumbrance is granted to a third party over an asset. This would include, for example, the grant of a wayleave across land, renting an asset to a third party or taking a mortgage or other charge over the asset. It also includes where an asset is replaced early because of storm damage, for example.

17.61 We have considered asset disposals as part of this price control, for a number of reasons:

- There is the issue of the appropriate treatment of any costs or proceeds arising from the disposal; the assets will have been funded by consumers by their inclusion in the RAB.
- The physical disposal of assets that were connected to the network or associated with its operation or control may impact on the way the network can then be operated or controlled.
- The grant of some right or encumbrance to a third party may impact on the future ability of the network owner/operator to control and operate the system.

17.62 We have put in place some restrictions on asset disposals and require NIE T&D to report all disposals.

17.63 Most companies have an asset disposal policy in place. This helps ensure compliance not only with regulatory restrictions and requirements, but also with any other restrictions or requirements concerning assets disposal (such as environmental restrictions in relation to contaminated land).

17.64 We have previously issued NIE T&D with a formal direction, known as the '2006 direction' (see Appendix C). This set out in detail how we expected NIE T&D to deal with disposals from a financial point of view; this included sharing the benefits of disposal proceeds between customers and NIE T&D.

17.65 Ensuring that disposals are treated appropriately is very important in ensuring that risk and reward are fairly appropriated between customers and NIE T&D.

17.66 In order to try to maximise the proceeds from disposals, the 2006 direction detailed how adjustments to the RAB were to be made for disposals, five years after the asset's disposal. In this way NIE T&D would enjoy the benefit of earning depreciation and return for five years while electricity customers benefited from 35 years worth of benefit. As part of RP5 we conducted a review of this area in order to evaluate the effectiveness of the mechanism and its application by NIE T&D.

Licence conditions

17.67 Condition 9 of NIE T&D's Transmission Licence (Disposal of Relevant Assets and Indebtedness) sets out the conditions under which the licensee may dispose of, or relinquish operational control over, any 'relevant asset'. It also

sets out the conditions in relation to the granting of any mortgage or charge etc, or entering into guarantees.

17.68 The comparable conditions in GB Transmission and Distribution licences are:

- Transmission Licence Standard Condition B3 ‘Disposal of relevant assets’;
- Transmission Licence Standard Condition B9 ‘Indebtedness’;
- Electricity Distribution Licence Standard Condition 26 ‘Disposal of relevant assets’;
- Electricity Distribution Licence Standard Condition 41 ‘Restriction of indebtedness and transfer of funds’.

17.69 The wordings of the GB transmission licence conditions are almost identical to NIE T&D’s transmission licence and we believe that standard practice has been adopted with regards to NIE T&D.

17.70 The GB electricity distribution licences differ in wording to some degree and have a few other minor differences. However, the overall principles are the same. An example of differences in the distribution licences is that the GB distribution licence specifies that the licensee may dispose of a ‘relevant asset’ without giving prior notice if the asset is ‘obsolete’ or ‘redundant’ (it then defines what these terms mean).

17.71 Relevant assets are assets which form part of, or are used to control, the licensee’s transmission or distribution system. The full definition of a relevant asset is included in Annex 2 of NIE T&D’s transmission licence. This is similar to the definition of relevant asset that is used in GB transmission and distribution licences.

Information that NIE T&D provided with regards to asset disposals

17.72 As part of the information provided on asset disposals, NIE T&D explained that it treats some disposals differently from others. Disposals for land and property are treated in line with the 2006 direction, whereas disposals of plant and equipment are treated as ‘unregulated income’.

17.73 In response to a further query regarding the treatment of income from disposal of plant and equipment, NIE T&D stated:

“For price control purposes the sale of scrap has traditionally been treated as ‘excluded services income’ and taken into account in setting the operating cost allowance.

For RP4, as set out in Appendix 1 of the 2006 Direction, the method for calculating the rolling opex allowance (ACOt) nets off excluded services income (of which the sale of scrap forms a part) such that the value of scrap sales is passed on to customers through a reduction in the opex allowance.”

17.74 NIE T&D provided details on the values of disposals with regards to land and property. This totalled £24 million for the 14 years 1998-2012.

17.75 NIE T&D also provided details on the values of disposals with regards to plant and equipment. This totalled £746,000 for the five years 2007-2011.

Analysis of NIE T&D’s approach to asset disposals

17.76 We can confirm that sales of land and buildings have been deducted from the RAB value during the five years 2007-2011 (totalling £12 million (09/10 prices)). These sales were made during the five years 2002-2006.

17.77 NIE T&D’s treatment of land and property sales was in line with our expectations and in line with the 2006 direction.

17.78 However, we do not consider that it is appropriate to treat the sale of plant and equipment as ‘excluded services’.

17.79 Disposal proceeds can be thought of a contribution towards the cost of an asset that is paid at the end of the assets life. Just as capital contributions are deducted from the value of an asset before it is added to the RAB, the same logic applies to deducting disposal proceeds from the RAB. This passes all of the benefit from disposal on to consumers which is appropriate as it is they who have funded the assets through tariffs.

17.80 We note that Appendix 1 of the 2006 direction provides details of ‘excluded services income’ within the calculation of the rolling opex allowance. The notes in the 2006 direction state that:

“income associated with excluded services is deducted on the basis that costs associated with these match the income received”.

17.81 It is clear that plant and equipment cannot be deemed as excluded services as the original costs of plant and equipment are recovered by their inclusion in the RAB (and hence tariffs paid by customers).

17.82 We also note the licence definition for excluded services; this makes NIE T&D non-compliant in its treatment of asset disposals, quoting (Annex 2 section 5.2).

“No service provided as part of the Transmission and Distribution Business shall be treated as an excluded service insofar as it relates to the provision of services remunerated under use of system charges in accordance with Condition 32 including (without prejudice to the foregoing).”

17.83 It would therefore appear that NIE T&D has misinterpreted or misunderstood the 2006 direction during its asset disposal procedures.

Our minded to position for asset disposals

17.84 We are minded to make an adjustment for £746,000 for asset disposals. We will also issue guidance to NIE T&D to clarify the intention of the 2006 Direction in relation to asset disposals.

17.85 We intend to consider this issue as part of the work of restating NIE T&D's accounts, as discussed in Section 6.

18. FINANCEABILITY

Introduction

- 18.1 As outlined in our statutory duties, we must have regard to;
- “the need to secure that licence holders are able to finance the activities which are the subject of obligations *imposed by or under Part II of the Electricity Order or this Order.*”
- 18.2 We recognise that the longer term interests of consumers in any capital intensive business depend on maintaining the confidence of investors. Customers’ value for money is maximised when a monopoly company can finance its investment efficiently.
- 18.3 Good regulatory practice in making these assessments is to refer to the methodologies used by credit rating agencies. These place some emphasis on financial ratios, which measure key relationships between:
- business assets;
 - business performance;
 - financing liabilities; and
 - financing costs.
- 18.4 They also consider other more subjective matters, for example the quality of a company’s management and, in the case of regulated companies, the quality of the regulatory environment.
- 18.5 Financeability analysis necessarily involves an element of judgement, by credit rating agencies and indeed Regulators.
- 18.6 In our analysis, we sought to understand any instances in which the network company;
- Fails to meet a target ratio for a sustained period (i.e. several years).
 - Deviates significantly from a target ratio (either above or below) for more than two consecutive years.
 - Repeatedly fails one target ratio, while passing all others.

Financial Metrics

- 18.7 NIE T&D is currently rated by two rating agencies, Fitch and Standard & Poor’s. Fitch identifies financial ratios that it considers relevant to the rating of NIE T&D, specifically the company’s gearing (or ‘leverage’, the ratio of debt to the value of the regulatory asset base) and the ‘Post Maintenance

Interest Cover Ratio' (PMICR). Fitch stated that “NIE's ratings would come under pressure if the expected leverage increased to above 57.5% and the PMICR decreased to below 1.4 on a sustained basis”.⁷⁰

18.8 We have been analysing the following financial ratios⁷¹:

- FFO (Funds from operations) interest cover
- FFO/Net Debt
- Net Debt/RAB (gearing)
- PMICR (Post maintenance interest cover ratio)

18.9 We have paid particular focus on PMICR in line with recent regulatory practice and due to this ratio showing the most stress. The PMICR relates interest costs to pre-finance earnings after taking into account tax and depreciation of the RAB.

18.10 We have defined PMICR as:

$$\frac{\text{EBITDA adjusted for over- or under recoveries, less regulatory depreciation, less cash taxes}}{\text{cash interest}}$$

18.11 Note that EBITDA is ‘earnings before interest, tax, depreciation and amortisation’.

Insights from our financial analysis

18.12 In our assessment of the company’s weighted average cost of capital (WACC), we have recognised that the company has an inherently low exposure to systematic risk.

18.13 However, the company faces a number of challenges. These can be summarised as:

- The company faces challenging but fair efficiency targets if it is to exceed our assumptions for RP5.
- Depending on what is agreed with the pension fund trustees, the company may be required to fund a deficit in its pension scheme at a

⁷⁰ 19th May 2011 Fitch Rating for NIE T&D

⁷¹ For more information on financial ratios, please refer to guidance by Fitch (13th July 2010 – “Rating EMEA Regulated Network Utilities”) (www.fitchratings.fr/getdocument.aspx?attid=1448) or Moody’s (August 2009 “Regulated Electricity and Gas Utilities) (<http://v2.moodys.com/moodys/cust/research/MDCdocs/28/2007400000653058.pdf?frameOfRef=corporate>)

faster rate than what is assumed in the regulatory allowance for RP5. In addition it will be required to fund the avoidable pension deficit (Please see the pension section for more info).

- The additional significant investment needed for network build to support renewable generation is expected to be substantial (up to £306m over RP5).
- There may also be an adjustment required to compensate for the change in capitalisation practice during RP3 and RP4.

18.14 As noted in our WACC analysis (see appendix H), the interest rate (6.375%) for the recent £400m bond issue was higher than that required for other GB DNOs over the same time period. However, we have taken the company's cost of debt fully into account in our assessment of the WACC to be allowed for RP5.

18.15 When considering this in the context of PMICR, as debt is only a proportion of the capital base, a higher cost of debt has a less than proportionate impact on projected pre-finance earnings (top line of PMICR formula) while it has a wholly proportionate impact on interest costs (bottom line of PMICR formula). The interest rate associated with the recent bond issue means that a higher cost of debt makes it more difficult to meet a threshold level for the PMICR.

Financeability test for RP5 Revenue

18.16 We have initially assessed the financeability of the company on a base case. We define the base case as the revenue proposed for RP5 excluding renewable capex (see table 19.2). The modelling assumed that NIE T&D took full dividends⁷² during the RP5 period. Given the size of the possible renewable capex programme this is considered separately below.

18.17 Our modelling highlights the financing challenge for the business given its debt obligations and the cost of that debt. We note that Fitch has suggested a PMICR value of 1.4 in relation to NIE T&D. We regard 1.4 as an acceptable level but regard a more desirable benchmark to be 1.5.

18.18 The PMICR for the base case, is detailed in figure 18.1 below. This calculation is based on the revenue allowance for RP5.

⁷² The term full dividends means that the company takes all their dividend entitlement. The entitlement is calculated as, (the closing RAB value)*(the cost of equity)*(RAB value, assumed to be financed by equity).

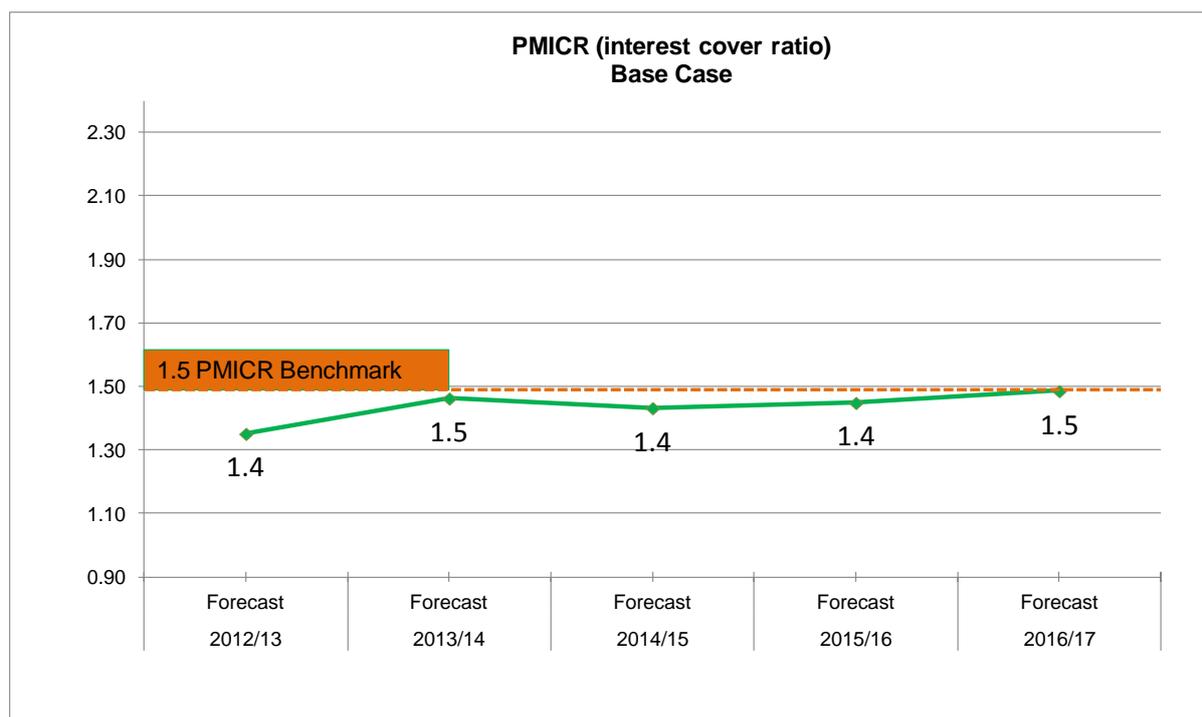


Figure 18.1 – PMICR for RP5 without renewable capex.

- 18.19 The graph demonstrates that NIE T&D are above the 1.4 level highlighted by Fitch, for most of the RP5 period. There is an increase in the metric over the RP5 period and by the end of RP5 they are at the desirable 1.5 benchmark.
- 18.20 In relation to gearing, our analysis shows that the actual gearing of NIE T&D averages 46% during the RP5 period.
- 18.21 In addition, we assume that any funding level agreed with pension trustees above regulatory allowance will be funded by NIE T&D. We expect to engage with NIE T&D further during the consultation period on this issue.
- 18.22 It is also worth noting that if an adjustment is required as a result of the capitalisation practice investigation discussed in section 4, we assume a similar approach would be used, where funding would be provided by the company. We await the results of the investigation and expect full engagement with NIE T&D prior to final determination.

Capex for renewables and Interconnection

- 18.23 Although no funding for supporting renewables generation has been requested or considered in our minded to position, we acknowledge that there will be capital expenditure in this area during RP5.
- 18.24 Considering the significant level of capex estimated for renewables (£306M) is similar to what we are minded to allow for funds 1 & 2, new capital will

almost certainly need to be provided. We would expect an investment of this scale to be funded via a mixture of both debt and equity to maintain the existing capital structure. From the submission provided by NIE T&D, we note that as well as debt via intercompany loans, they have also indicated reduced dividends and an equity injection towards the end of RP5.

- 18.25 Consistent with regulatory practice elsewhere, the onus would normally be on the company to resolve the financing issues through its dividend policy and/or an equity injection. For example, Ofgem’s RIIO Handbook notes:

“Under the RIIO model, we will not advance cash flow in light of apparent short-term dips in cash flow metrics. We will seek to understand the reason behind such failures (e.g. high capital expenditure relative to RAV) but the onus will be on the company to resolve the situation, including by injecting equity and/or reducing dividend payments as they see fit. In contrast, when relative expenditure levels decrease, the company may choose to remove equity if it considers this appropriate, e.g. through the payment of special dividends.”⁷³

- 18.26 If the scenario does arise where the company needs to raise new equity, we would regard it as reasonable to consider the efficient costs of raising equity as a recoverable cost.

- 18.27 NIE T&D have not yet formally submitted any funding requirements in this area. We expect to engage with NIE T&D and will also discuss this area with the rating agencies regarding the impact that this body of work will have on the financial position of the company. These discussions would include the steps that the company will be able to take to support the investment and to discharge its licence obligations. Consistent with the general principle we outlined above, we would require compelling evidence that the company cannot reasonably support necessary investment before we would look to adjust revenue profiles in an NPV neutral manner.

Summary

- 18.28 Having reviewed all of the financial ratios identified above, and in particular, the PMICR, we are assured that NIE T&D can finance its base case activities without the need for new debt or equity, or the need to retain

⁷³ Paragraph 12.27 of Ofgem’s Handbook for implementing the RIIO model, October 2010.

dividends. The improving trend of PMICR over the RP5 period and the relatively low level of gearing demonstrate this.

- 18.29 However the company faces certain challenges, namely: a significant additional investment programme for renewables and interconnection, as well as, the potential short-term additions to the pension fund over and above the regulatory allowance. Inevitably, this will require the company to retain dividends and/or inject fresh debt and equity.

19. REVENUE ENTITLEMENT

- 19.1 We have calculated the revenue that NIE T&D would have received based on their submission. This is £1.22 billion over 5 years. This is shown in Table 19.1. Due to the uncertainty about the timing of the investments required to integrate renewable generation and interconnection (fund 3), we have also presented the same information without these costs in table 19.2. The total revenue entitlement without these costs would be £1.16 billion over 5 years.
- 19.2 Our proposals are shown in tables 19.3 and 19.4. Again the revenue entitlement is shown with and without the cost of integrating renewable generation and interconnection. Excluding fund 3, the revenue entitlement would be £882 million. When the indicative costs for fund 3 are included, the entitlement increases to £910 million.
- 19.3 We have used the cost apportionment provided by NIE T&D to split the costs in the categories above across transmission and distribution. As a result the tariffs in RP5 should be fully cost reflective. The impact on the network charges paid by different types of customer are discussed in Section 20.

Table 19.1: NIE T&D submission including renewables and interconnection

Revenue Block\Financial Year	2012/13	2013/14	2014/15	2015/16	2016/17
Return on RABs	£60.8m	£66.5m	£73.3m	£81.4m	£91.1m
Depreciation of RABs	£64.4m	£68.5m	£72.6m	£78.0m	£83.8m
Tax Entitlement	£10.3m	£7.8m	£5.9m	£4.5m	£2.8m
Controllable Opex	£44.3m	£43.9m	£44.0m	£45.1m	£51.7m
Uncontrollable Opex	£20.8m	£21.0m	£21.4m	£21.9m	£22.3m
Pension costs (ongoing & deficit repair)	£18.9m	£18.9m	£19.5m	£20.4m	£20.2m
Non network Capex	£3.9m	£3.1m	£2.8m	£3.4m	£2.1m
Known Dt costs	£2.1m	£2.0m	£0.5m	£-0.7m	£-0.7m
NIE Requested Revenue	£225m	£232m	£240m	£254m	£273m

Table 19.2: NIE T&D submission excluding renewables and interconnection

Revenue Block\Financial Year	2012/13	2013/14	2014/15	2015/16	2016/17
Return on RABs	£59.1m	£63.2m	£67.9m	£73.0m	£78.1m
Depreciation of RABs	£63.1m	£66.3m	£69.7m	£73.3m	£76.2m
Tax Entitlement	£10.8m	£8.8m	£7.4m	£6.9m	£5.9m
Controllable Opex	£39.7m	£40.2m	£40.3m	£41.5m	£48.1m
Uncontrollable Opex	£20.8m	£21.0m	£21.4m	£21.9m	£22.3m
Pension costs (ongoing & deficit repair)	£18.9m	£18.9m	£19.5m	£20.4m	£20.2m
Non network Capex	£3.8m	£3.1m	£2.8m	£3.4m	£2.1m
Known Dt costs	£2.1m	£2.0m	£0.5m	-£0.7m	-£0.7m
NIE Requested Revenue	£218m	£223m	£229m	£240m	£252m

Table 19.3: Our proposals including renewables and interconnection

Transmission entitlement					
Revenue Block\Financial Year	2012/13	2013/14	2014/15	2015/16	2016/17
Return on RABs	£10.0m	£11.7m	£13.7m	£16.6m	£20.7m
Depreciation of RABs	£11.5m	£12.7m	£13.7m	£15.9m	£19.4m
Tax Entitlement	£1.4m	£1.3m	£0.9m	£0.4m	£0.2m
Controllable Opex	£5.5m	£5.0m	£5.0m	£4.9m	£4.8m
Uncontrollable Opex	£2.7m	£2.7m	£2.7m	£2.7m	£2.7m
Pension costs (ongoing & deficit repair)	£0.6m	£0.6m	£0.6m	£0.5m	£0.5m
Pension avoidable deficit	-£0.2m	-£0.2m	-£0.2m	-£0.2m	-£0.2m
Non Network Capex	£0.5m	£0.3m	£0.3m	£0.3m	£0.3m
Known Dt costs	£0.3m	£0.3m	£0.2m	£0.0m	£0.0m
Our Proposal - Transmission	£32m	£34m	£37m	£41m	£48m
Distribution entitlement					
Revenue Block\Financial Year	2012/13	2013/14	2014/15	2015/16	2016/17
Return on RABs	£37.9m	£37.0m	£36.4m	£36.1m	£36.0m
Depreciation of RABs	£56.6m	£57.1m	£51.0m	£46.1m	£46.1m
Tax Entitlement	£7.9m	£7.4m	£5.1m	£2.4m	£1.2m
Controllable Opex	£31.2m	£28.5m	£28.1m	£27.7m	£27.4m
Uncontrollable Opex	£15.2m	£15.1m	£15.1m	£15.1m	£15.0m
Pension costs (ongoing & deficit repair)	£6.5m	£6.4m	£6.3m	£6.3m	£6.2m
Pension avoidable deficit	-£2.3m	-£2.3m	-£2.3m	-£2.3m	-£2.3m
Non Network Capex	£2.9m	£1.7m	£1.7m	£1.7m	£1.7m
Known Dt costs	£1.6m	£1.6m	£0.9m	£0.0m	£0.0m
Our Proposal - Distribution	£157m	£153m	£142m	£133m	£131m
Total entitlement					
Our Proposal - Total	£190m	£187m	£179m	£174m	£180m

Table 19.4: Our proposals excluding renewables and interconnection

Transmission entitlement					
Revenue Block\Financial Year	2012/13	2013/14	2014/15	2015/16	2016/17
Return on RABs	£9.5m	£9.8m	£10.2m	£10.7m	£11.1m
Depreciation of RABs	£10.7m	£10.9m	£11.3m	£11.6m	£12.0m
Tax Entitlement	£1.5m	£1.5m	£1.1m	£0.9m	£0.8m
Controllable Opex	£5.5m	£5.0m	£5.0m	£4.9m	£4.8m
Uncontrollable Opex	£2.7m	£2.7m	£2.7m	£2.7m	£2.7m
Pension costs (ongoing & deficit repair)	£0.6m	£0.6m	£0.6m	£0.5m	£0.5m
Pension avoidable deficit	-£0.2m	-£0.2m	-£0.2m	-£0.2m	-£0.2m
Non Network Capex	£0.5m	£0.3m	£0.3m	£0.3m	£0.3m
Known Dt costs	£0.3m	£0.3m	£0.2m	£0.0m	£0.0m
Our Proposal - Transmission	£31m	£31m	£31m	£31m	£32m
Distribution entitlement					
Revenue Block\Financial Year	2012/13	2013/14	2014/15	2015/16	2016/17
Return on RABs	£37.9m	£37.0m	£36.4m	£36.1m	£36.0m
Depreciation of RABs	£56.6m	£57.1m	£51.0m	£46.1m	£46.1m
Tax Entitlement	£8.2m	£8.3m	£6.4m	£4.8m	£4.7m
Controllable Opex	£31.2m	£28.5m	£28.1m	£27.7m	£27.4m
Uncontrollable Opex	£15.2m	£15.1m	£15.1m	£15.1m	£15.0m
Pension costs (ongoing & deficit repair)	£6.5m	£6.4m	£6.3m	£6.3m	£6.2m
Pension avoidable deficit	-£2.3m	-£2.3m	-£2.3m	-£2.3m	-£2.3m
Non Network Capex	£2.9m	£1.7m	£1.7m	£1.7m	£1.7m
Known Dt costs	£1.6m	£1.6m	£0.9m	£0.0m	£0.0m
Our Proposal - Distribution	£158m	£153m	£144m	£136m	£135m
Total entitlement					
Our Proposal - Total	£189m	£184m	£175m	£167m	£167m

20. IMPACT ON ELECTRICITY TARIFFS

- 20.1 We have analysed the impact that these proposals will have on the prices paid by customers. This analysis started by calculating the average amount paid by each customer group under the current charges for use of transmission system (TUoS) and distribution system (DUoS). This formed the base case that any changes are measured against. We then assumed that the RP5 revenue would continue to be split among the customer groups in the same proportions. This analysis included the k factor that is being recovered by NIE T&D during this tariff year.
- 20.2 The allowed revenue for transmission is collected by SONI via the Transmission Use of System (TUoS) tariff and the allowed revenue for the distribution assets is collected by NIE T&D via the Distribution Use of System (DUoS) tariffs. These two values are added together for presentation purposes in the tables below.
- 20.3 Our analysis indicates that NIE T&D's proposals would have resulted in an increase in its annual use of system charges to customers of approx 40% over the RP5 period (excluding inflation). This includes the development of renewables and interconnection
- 20.4 As the timing and size of the costs associated with the development of renewables and interconnection (Fund 3) are not certain, these have been excluded from the detailed results we are presenting here. Without these costs, NIE T&D's proposals would still have resulted in an increase in tariffs of over 25% (excluding inflation). This is shown in Table 20.1
- 20.5 Our minded to position would result in a decrease in prices (before inflation). The precise impact will vary depending on the voltage at which customers are connected and their demand profile. The average reduction is shown in table 20.2
- 20.6 The impact shown is based on the average actual consumption at each voltage level. The actual impact on individual consumers will vary with their consumption volume and the timing of that consumption. The other costs included on the electricity bills, for example energy costs, SSS and PSO levies and tax are excluded from this analysis.
- 20.7 The tables below do not include any costs for the Tyrone – Cavan Interconnector or for the transmission investments for the integration of renewable generation. This is because the size and timing of these costs are

not yet known. However in Table 20.3 we have shown the potential impact that these investments could have on average network charges. This is based on the full cost estimated by NIE T&D being invested at the time indicated in the submission. We know that, due to delays to the Tyrone – Cavan Interconnector, these investments will be delayed. The actual cost to customers during RP5 is likely to be less than the values shown.

20.8 Figure 20.1 and 20.2 also show the impact each year on the average domestic consumer (4041 kWh per year) and the average EHV customer (27 GWh per year connected at 33kV). Comparisons of electricity costs across Europe are based on a standard consumption by domestic customers of 3300 kWh per year. The values should therefore be adjusted accordingly if they are to be used in such a comparison.

20.9 In summary, our proposals would result in a decrease of £85 over 5 years on the network charges paid by the average domestic consumer and a decrease of £99,151 for the average EHV customer. .

20.10 It is important to remember that these figures all **exclude** inflation, which is applied to NIE T&D's allowed revenue each year.

Table 20.1: Impact of NIE T&D request on network charges (excluding renewables and interconnection)

Customer Type \ Year	Annual Cost for Average Use (TUoS + DUoS) £/year						Total Additional Cost over 5 years
	Current	12/13	13/14	14/15	15/16	16/17	
Domestic ⁷⁴	£146	£161	£166	£170	£177	£186	£128
Small Business (Quarterly Billing)	£505	£559	£574	£589	£612	£645	£452
Half hourly Metered MV	£3,356	£3,724	£3,827	£3,928	£4,084	£4,298	£3,080
Half hourly Metered HV	£38,983	£41,724	£42,890	£44,036	£45,737	£48,296	£27,767
Half hourly Metered EHV	£138,850	£140,226	£144,241	£148,198	£153,647	£163,167	£55,229

⁷⁴ Based on 4041 kWh per year – current average consumption. Should be pro-rated to 3300 kWh per year for use in standard European comparisons.

Table 20.2: Impact of our proposals on network charges (excluding renewables and interconnection)

Year	Current Average Cost	Annual Cost for Average Use (TUoS + DUoS) £/year					Total Saving over 5 years
		12/13	13/14	14/15	15/16	16/17	
Customer Type							
Domestic	£146	£139	£135	£128	£122	£122	-£85
Small Business (Quarterly Billing)	£505	£481	£469	£443	£421	£421	-£293
Half hourly Metered MV	£3,356	£3,200	£3,121	£2,944	£2,796	£2,793	-£1,926
Half hourly Metered HV	£38,983	£36,340	£35,551	£33,783	£32,301	£32,409	-£24,532
Half hourly Metered EHV	£138,850	£124,909	£122,793	£118,055	£114,083	£115,259	-£99,151

Table 20.3: Potential impact of investment in renewable integration and interconnection

Year	Current Average Cost	Annual Cost for Average Use (TUoS + DUoS) £/year					Total Saving over 5 years
		12/13	13/14	14/15	15/16	16/17	
Customer Type							
Domestic	£146	£139	£137	£130	£125	£128	-£72
Small Business (Quarterly Billing)	£505	£482	£472	£449	£432	£441	-£250
Half hourly Metered MV	£3,356	£3,207	£3,140	£2,981	£2,860	£2,905	-£1,688
Half hourly Metered HV	£38,983	£36,583	£36,203	£34,945	£34,362	£35,831	-£16,993
Half hourly Metered EHV	£138,850	£126,653	£127,462	£126,237	£128,595	£139,010	-£46,292

Figure 20.1: Impact on domestic customers (excluding inflation, renewables and interconnection)

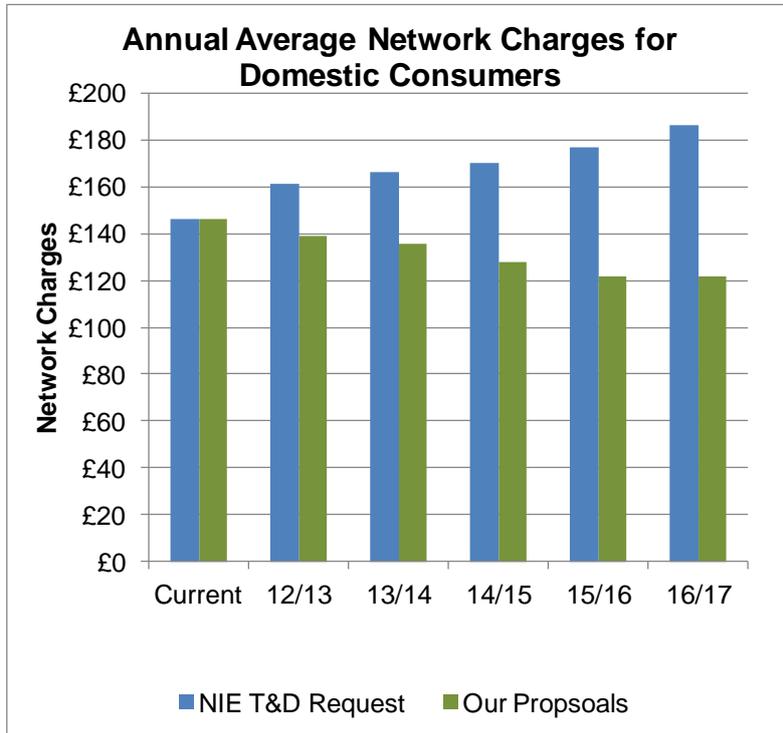
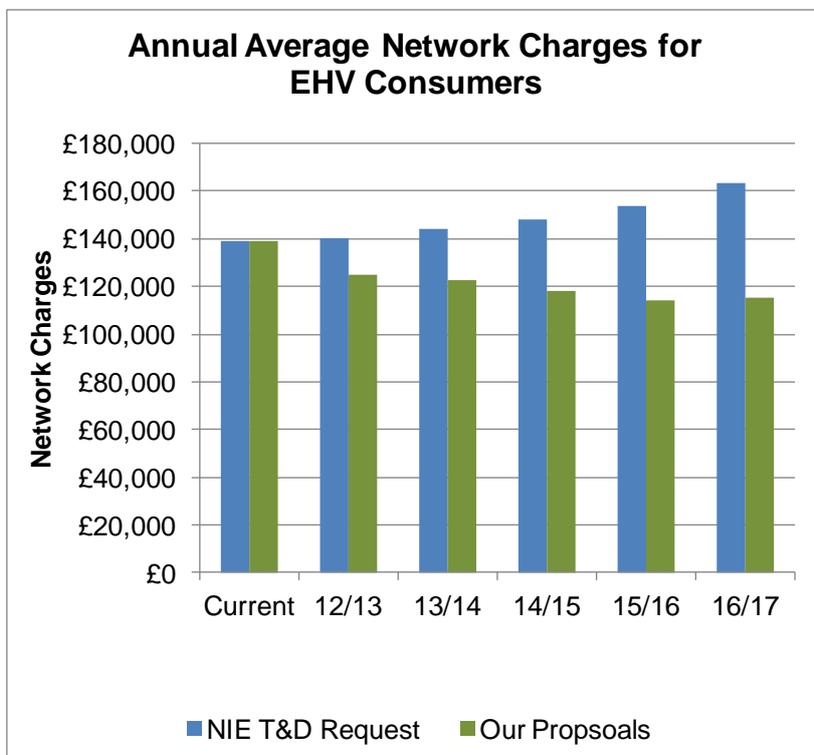


Figure 20.2: Impact on EHV customers (excluding inflation, renewables and interconnection)



21. ANNUAL REPORTING

Reporting requirements in RP4

21.1 NIE T&D submit a number of reports to us each year, to provide us with the information to effectively apply the price control.

21.2 NIE T&D's current licence specifies that a number of reports should be submitted to us each year. These cover a range of areas, including the following:

- Financial: annual tax report, regulatory accounts and statements, financial gearing, Directors' certificates, PSO charge restriction conditions - six week statement, NIE T&D charge restriction conditions - six week statement, NIE T&D regulated revenue entitlement, statement of charges for use of the distribution system, assessment of NIE'S public service obligation requirement, schedule of public service obligation charges, Land Bank annual report.
- Customer service: quarterly customer accounting statistics (complaints), NIE Guaranteed Standards of Performance, Vulnerable Customer Programme.
- Technical: annual capex report, system performance report, Sustainable Networks Programme report, SMART report.
- Regulatory: annual compliance report, annual report on protected information, auditor's report on availability of resources.

21.3 In addition, some of the technical reports that SONI produce contain information provided by NIE T&D for that purpose (for example the transmission ten year statement).

Proposed reporting for RP5

21.4 As highlighted earlier, we intend to introduce a Reporter for RP5. The aim is to standardise reporting in order to:

- allow NIE T&D to collate and process the required information in an efficient and pro-active manner;
- ensure that we have all of the information required to monitor progress during RP5;
- ensure that the information is provided in the right format and in a timely manner;
- facilitate the Reporter's verification process.

21.5 The reporting will cover a range of areas as discussed below.

Capex

21.6 NIE T&D currently submits an annual capex report. This is a high-level text summary of how the capex plan has been implemented in the previous year. For RP5, the initial capex plan will be defined in a capex database, which will also form the basis of the ongoing annual reporting. This will contain more detailed information than the previous summary report and will be presented in a structured format determined by us. The database has already been used to collate information about how the capex programme was implemented during RP4. A version for use during RP5 will be finalised once the final determination has been published.

21.7 The capex reporting will continue to be undertaken annually, with the database submitted 3 months after the end of the financial year. NIE T&D will need to specify which fund the costs have been allocated to.

21.8 The Reporter will verify the data and associated processes behind the information that NIE T&D submits.

Financial

21.9 The statutory and regulatory financial accounts, which have been verified by external auditors, will continue to form the cornerstone of the annual financial reporting. These will be supported by monthly, three monthly and six monthly statements.

21.10 These statements will reconcile with the published accounts for the appropriate periods. The statements will include a breakdown for the published line items.

21.11 The breakdowns for line items will be as follows:

1. Published turnover to including a breakdown that provides sufficient detail to allow monitoring of the price control (to be specified when the licence conditions for RP5 are finalised)
2. Published operational costs to including a breakdown that provides sufficient detail to allow monitoring of the price control (to be specified when the licence conditions for RP5 are finalised)
3. Published cash flows, property plant and equipment, and intangible assets to equal a breakdown that provides sufficient detail to allow

monitoring of the price control (to be specified when the licence conditions for RP5 are finalised):

21.12 Other financial reporting requests will be required for RP5. The exact nature of these will be considered during the consultation period and will be finalised along with the RP5 licence conditions.

21.13 The RP4 review also indicated that NIE T&D's annual tax report to us requires more detailed information. During RP5, the tax report (in a format agreed with us) should be accompanied by:

- an annex illustrating a full reconciliation with the amounts shown in the capex database (annual reports); and
- an annex showing a record of the tax return presented to HMRC. We expect all claimable capital allowances to be claimed by NIE T&D.

Pensions

21.14 NIE T&D is not currently required to provide any annual reports to us regarding its pension scheme. Any decisions made with pension scheme trustees regarding schedules of contributions or deficit recovery plans do not require prior consent from us. During RP5, we will request all actuarial updates in a timely manner (including full valuation reports when completed, or otherwise annual funding updates).

21.15 We should also be informed of any changes to the benefits in place for scheme members. We consider that it is necessary to have visibility of the total contributions that NIE T&D pays into the pension scheme each year, in comparison with the allowance provided via the price control.

Connections

21.16 NIE T&D will continue to submit the connection charging information to us. In addition, any additions to the RAB that result from the difference between connection estimates and actual costs will be entered into the capex database and verified by the Reporter.

21.17 Also, regular reports will be provided to us detailing the number of connection offers made, timing of these and the status of each connection in terms of delivery.

Customer interface

21.18 In addition to the current quarterly reporting on customer complaints, the format of the annual system performance report will be reviewed and a summary made public. This will include the publication of statistics relating to:

- customer interruptions: planned, unplanned and due to exceptional events;
- customer minutes lost (average duration of interruptions): planned, unplanned and due to exceptional events.

Environmental and health & safety

21.19 Reports to us will be developed using the reporting that NIE T&D already has in place. The format and content will be developed during the consultation period.

22. LICENCE MODIFICATIONS FOR RP5

22.1 We have set out our minded to positions in this paper and will be developing the necessary licence modifications in parallel with the consultation process. Our intention is to publish the licence modifications alongside the RP5 final determination.

22.2 Most of the changes will be made to Annex 2 of NIE T&D's licence. In addition to modifications to Annex 2, licence changes will also be required to reflect:

- the removal of references to NIE Powerteam Ltd;
- the addition of further annual reporting requirements; and
- enhancement of the regulatory account requirements.

23. APPENDICES

- A. Glossary
- B. Utility Regulator Statutory Duties
- C. 2006 Direction
- D. Capex Benchmarking
- E. Opex Benchmarking
- F. Pensions
- G. Connections
- H. NIE Innovation Proposals
- I. First Economics Report on WACC