

**Extending National Grid Electricity
Transmission Ltd's Transmission Owner
Price Control for 2006/07**

Initial proposals

September 2005 206/05

Summary

The present transmission owner price control for the National Grid Electricity Transmission Limited (NGET), formerly known as the National Grid Company (NGC), is due to run until 31 March 2006. In May 2004, Ofgem set out proposals to extend NGET's transmission owner price control by one year to 31 March 2007. This extension will align the review date of NGET's price control with those of other transmission asset owners in both electricity and gas, enabling all transmission issues to be considered together in a single review, which will take effect from 1 April 2007.

This document sets out Ofgem's initial proposals for the extension of NGET's Transmission Owner Price Control for 2006/07, taking account of comments received in earlier consultations, including an open letter published in July 2005. Ofgem has adopted a simplified approach in developing these initial proposals such that they are proportionate for the purposes of determining NGET's allowed revenues for a single year until the next price control is put in place.

Initial proposals

Our initial proposals have focused on three key areas:

- ◆ **increase in future investment** – NGET have requested an increase of around 145 per cent over their current expenditure allowance for 2005/06. These initial proposals allow for £470 million of investment in 2006/07, an increase of £219 million, or about 90 per cent, from NGET's current allowance for 2005/06. This increase in allowance recognises an increasing trend in asset replacement expenditure, and also the importance of load related expenditure including the need to ensure that connections to the distribution networks are adequate to meet the applicable planning standards.
- ◆ **historical overspend of capital expenditure** – Including an estimate for the current year, NGET's capital expenditure for the current price control period (2001/02 to 2005/06) is projected to exceed their allowance by some £440 million. These initial proposals allow for around £320 million of the projected overspend for the period 2001/02 to 2005/06 to be included in the RAV at this time. Again, the importance of load-related expenditure has been recognised.

- ◆ **Cost of capital and tax** – The current NGET transmission owner price control provides an allowed pre-tax rate of return of 6.25 per cent, compared with a real post tax return of 4.8 per cent (equivalent to a real pre-tax rate of 6.9 per cent) set at the recent electricity Distribution Price Control Review. In the main transmission price control review, Ofgem intends to use the approach to the cost of capital adopted in the recent electricity distribution review. However, market parameters will have changed and there may be differences in the risk profiles of NGET and the distribution companies so this does not necessarily mean that the allowed rate of return for NGET will be the same as for electricity distribution. Recent market evidence suggests that an appropriate assumption for NGET's real post-tax WACC would be around 4.4 per cent. Assuming a 30 per cent tax rate, this is equivalent to the current allowed pre-tax rate of return of 6.25 per cent. Ofgem therefore considers that the simple option of rolling forward the current allowed pre-tax rate of return of 6.25 per cent, adjusted to a post tax basis and with a separate allowance for tax, would be appropriate for extending the current price control.

Ofgem considers that it would not be proportionate for this one year extension to undertake a significant amount of analysis to establish a specific allowance for tax. Ofgem is minded to make ex post adjustments for variances in outturn tax payments compared to the allowance. Further consideration will need to be given to the implementation issues of any adjustment mechanism.

Taken together the proposed package of measures will protect the interests of consumers whilst providing sufficient revenue to allow NGET to continue to finance its activities and comply with its statutory and licence obligations.

Further capital expenditure and RAV adjustments

This extension review process has raised significant concerns about the robustness of the evidence provided by NGET in support of its historic and future capital expenditure plans. Ofgem intends to undertake further detailed analysis of NGET's historic and planned capital expenditure as part of the forthcoming transmission price control review. Where the evidence of this further work supports an outcome different from the interim RAV established under these proposals, Ofgem proposes to adjust 2007/08 revenues to reflect this outcome.

Implication for transmission charges

These proposals provide for an increase in underlying allowed revenue of 2 per cent in real terms in 2006/07. The actual movement in transmission revenues will depend upon the outturn position for 2005/06 and NGET's performance against its reliability incentive scheme. However, since transmission charges account for around 3 per cent of consumers' final bills, Ofgem anticipates the impact of these proposals upon final prices to consumers to be negligible.

Next steps

Responses to these initial proposals should be provided by no later than 25 October 2005. It would be helpful if responses could be sent electronically and in writing. Electronic responses should be sent to TPCRresponses@ofgem.gov.uk.

Ofgem expects to publish final proposals for the extension of NGET's transmission asset owner price control for 2006/07 at the end of November 2005. Initial drafting of the licence modifications necessary to implement the final proposals will also be published at that time.

If NGET accepts the final proposals in principle, Ofgem will publish a statutory consultation on the licence modification by early February 2006.

Table of contents

1. Introduction.....	1
Project update	1
Purpose and structure of this document	2
Related policy areas	2
Requirement for an impact assessment	4
Responding to this document	5
Timetable.....	6
2. Background.....	7
Introduction	7
General approach to setting price controls.....	8
Overview of NGET's performance	8
Capital expenditure	12
Operating expenditure	13
3. Initial proposals for the 2006/07 price control	14
Introduction	14
Capital expenditure	15
Valuing the asset base	18
The cost of capital	21
Operating expenditure	26
Incentives for efficiency.....	28
4. Price control calculations	30
Price control and its components.....	30

1. Introduction

- 1.1. The present transmission owner price control for the National Grid Electricity Transmission Limited (NGET), formerly National Grid Company (NGC), is due to run until 31 March 2006. In May 2004, Ofgem set out proposals to extend NGET's transmission owner price control by one year to 31 March 2007. This extension has the considerable benefit of aligning the review date of NGET's price control with those of other transmission asset owners in both electricity and gas, enabling all transmission issues to be considered together in a single review.
- 1.2. The approach that Ofgem has adopted for the review has been driven by its statutory objectives and duties. Ofgem's principal objective as set out in the Electricity Act 1989 (as amended by the Utilities Act 2000 and Energy Act 2004) is to protect the interests of consumers, both present and future, wherever appropriate by promoting effective competition. Ofgem also has other duties under UK and EU law, including having regard to social and environmental objectives.

Project update

- 1.3. Ofgem published an open letter in July 2005 setting out further thoughts on a number of key policy issues for the price control extension. Since then there have been a number of developments in the project including:
 - ◆ meetings with NGET to discuss the remaining policy issues set out in the open letter;
 - ◆ Ofgem and its technical consultants have undertaken further analysis of NGET's capital expenditure programme;
 - ◆ Ofgem and its financial consultants have undertaken further analysis of factors relevant to the calculation of NGET's cost of capital;
 - ◆ NGET has submitted its response to Ofgem's request for operating cost and tax information; and

- ◆ NGET have submitted further information in support of their capital expenditure projections for 2006/07.
- 1.4. Ofgem has also published an initial consultation document in relation to its combined review of the price controls for the four electricity and gas transmission licensees.¹

Purpose and structure of this document

- 1.5. This document sets out Ofgem's initial view of the efficient costs that NGET should incur and the initial proposals for its allowed revenue in 2006/07.
- 1.6. The final proposals, which are due to be published in November, will set out Ofgem's final decision on NGET's allowed revenue for the period 1 April 2006 to 31 March 2007. This will be followed by formal licence modifications to implement the proposals.
- 1.7. This document is structured as follows:
- ◆ **chapter two** describes the background against which these initial proposals for 2006/07 have been developed;
 - ◆ **chapter three** sets out Ofgem's initial proposals for NGET's extended price control for 2006/07; and
 - ◆ **chapter four** sets out the calculations of 2006/07 allowed revenue.

Related policy areas

- 1.8. Ofgem has adopted a simplified approach in developing these initial proposals. This is proportionate with undertaking a one-off price control review for NGET for the purposes of determining allowed revenues for a single year. In these circumstances, the application of the general principles and conclusion of this review to other price control reviews and extensions is likely to be less

¹ Transmission price control review: initial consultation document, July 2005 172/05

appropriate than is usually the case when setting price controls substantively, where each component may be considered in detail. Ofgem is nevertheless mindful of the relationship of this project with other related policy areas and decisions, including:

- ◆ **Transmission investment for renewable generation:** where Ofgem has set out proposals for a supplementary mechanism to allow funding for capital expenditure related to renewable generation. For the purposes of determining allowed revenues for 2006/07, capital expenditure relating to the funding mechanism has been kept separate;
- ◆ **BETTA and the extension of the Scottish TO price controls from 1 April 2005:** In November 2004, Ofgem set out proposals for the two-year extension of the Scottish TO price controls to 31 March 2007. This includes proposals on the treatment of the Anglo-Scottish interconnector;
- ◆ **The electricity distribution price control review:** the proposals set out Ofgem's thoughts on the cost of capital and the treatment of certain elements of expenditure, which may be applicable in determining the appropriate approach for the transmission businesses;
- ◆ **NGET's SO incentives for 2006/07:** The incentive scheme in place for NGET's system operator role is due to lapse on 31 March 2006. Ofgem will bring forward proposals later this year to put in place arrangements until 31 March 2007; and
- ◆ **Reliability incentives for transmission licensees:** On 1 January 2005 Ofgem introduced a new form of incentive for NGET linked to the reliability of its network. This was in response to loss of supply incidents in London in August 2003 and in Birmingham in September 2003, where Ofgem's subsequent analysis raised concerns about whether NGET faced appropriate incentives to minimise such disruptions. The incentive mechanism sets a target level of reliability for NGET, and rewards or penalises NGET for outperforming or underperforming against this level.

Requirement for an impact assessment

- 1.9. Section 5A of the Utilities Act 2000 requires the Authority to either publish an assessment of the likely impact of implementing significant policy proposals or to set out its reasons for thinking that it is unnecessary to carry out such an assessment:
- ◆ whenever it proposes to do anything for the purposes of, or in connection with, the carrying out of any function exercisable by it under or by virtue of Part 1 of either the Electricity Act or the Gas Act; and
 - ◆ where it appears to it that the proposal is 'important'.
- 1.10. Ofgem considers that policy decisions are important if they are likely to lead to significant costs and/or benefits for consumers; if they are likely to result in significant transfers between consumer 'groups'; if they have a significant impact on licensees; if they have a significant impact on the environment; and if they represent a significant change in Ofgem's approach to carrying out its functions.
- 1.11. The proposal to extend NGET's TO price control to 2006/07 was set out in June 2003, and confirmed in an open letter in November 2003. Both documents summarise the costs and benefits of aligning the price control review dates across both gas and electricity transmission companies. The proposals in this document sets out the approach adopted by Ofgem to implement this decision and initial conclusions regarding the revenue allowance for the transitional year.
- 1.12. Price controls are a long established and integral part of the regulatory framework that provides both protection of consumers' interests and appropriate incentives for companies to meet the requirements placed upon them in an efficient and co-ordinated manner. The wider costs and benefits of the price controls and other established aspects of the regulatory framework have been established as part of several government studies.² The Authority considers that

² see National Audit Office, Pipes and Wires, April 2002.

the implementation of the price control extension is consistent with established policy and therefore does not propose to produce a detailed impact assessment.

Responding to this document

- 1.13. Ofgem would like to hear the views of interested parties in relation to any of the issues set out in this document. In particular, we would like to hear from transmission businesses, electricity generators and suppliers, customers and their representatives. Responses should be received by no later than 25 October 2005 and should be sent to:

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Email: TPCRresponses@ofgem.gov.uk

Tel: 020 7901 7143

Fax: 020 7901 7478

- 1.14. Unless marked confidential all responses will be published by placing them in Ofgem's library or on the website. It would be helpful if responses could be submitted both electronically and in writing. Respondents are asked to put any confidential material in appendices to their responses. Any questions on this document should, in the first instance, be directed to Colin Green, who can be contacted on 020 79017143 or by email at colin.green@ofgem.gov.uk.

Timetable

1.15. The timetable for the remainder of the project is as follows:

Table 1.1: updated project timetable for the price control extension

Date	Output Milestone
September 2005	• Initial proposals published (this document)
October 2005	• Responses to the initial proposals received (25 October 2005)
November 2005	• Final proposals published
February 2006	• Licence modification statutory consultation
April 2006	• Price control extension takes effect

2. Background

Introduction

- 2.1. This chapter describes the background against which these initial proposals for 2006/07 have been developed.
- 2.2. As a transmission licence holder, NGET has two roles:
 - ◆ Transmission Asset Owner and Operator (TO); and
 - ◆ Great Britain System Operator (GBSO).
- 2.3. In its role as TO, NGET has responsibility to construct, maintain and operate the high-voltage transmission lines and associated equipment in England and Wales in an economic, efficient and co-ordinated manner. There are two further companies licensed to carry out TO activities in Scotland – SP Transmission Ltd and Scottish Hydro-Electric Transmission Ltd.
- 2.4. In Great Britain suppliers and generators contract with each other in a competitive wholesale electricity market. In its role as GBSO, NGET has responsibility to physically balance the electricity system between supply and demand in real time. This involves ensuring that the system remains within safe operating limits and that the pattern of generation and demand is consistent with any transmission-related constraints. NGET is also responsible for the residual purchasing and selling of electricity to keep the system in balance.
- 2.5. This document is concerned with establishing further price control proposals for NGET's TO responsibilities. NGET's TO functions are regulated by means of periodic review of its relevant activities and the setting of a price control. Under this approach, Ofgem sets the allowed revenue of the company, typically for a period of five years, which is sufficient to ensure that the company is able to finance the expenditures it is expected to make in that period (provided these are efficiently incurred) and to earn an appropriate return on its Regulatory Asset Value.

General approach to setting price controls

- 2.6. In setting a price control, Ofgem will assess the following elements of costs to identify the level of costs that an efficient company might be expected to incur over the period of the price control:
- ◆ **Operating expenditure** – the costs of the day to day operation of the network such as staff costs, repairs and maintenance expenditures, and overhead;
 - ◆ **Capital expenditure** – the expenditure on assets such as overhead lines, underground cables, transformers and switchgear. These assets last over a number of years; and
 - ◆ **Financing costs** – the costs of providing a reasonable return to the debt and equity investors who provide the capital that the company requires and the costs of meeting the tax liabilities of an efficient company.
- 2.7. The allowances determined for each of these cost elements are used to determine the core revenue requirement for the company over the duration of the price control, which is usually formulated as an RPI-X form of control. The core revenue requirement may also be supplemented by various adjustment mechanisms, including output based incentives, cost pass-through adjustments and error correction terms. Together, these determine the amount of revenue that the company may earn in each year.
- 2.8. This approach to regulation has proved to be an effective means of providing incentives for monopoly operators to carry out their licence obligations in an efficient way while allowing an appropriate share of the subsequent benefits to be passed on to consumers.

Overview of NGET's performance

- 2.9. An important consideration in developing these initial proposals has been NGET's performance against the various assumptions that were made in setting the existing TO price control.

2.10. Table 2.1 summarises the price control calculations that determined NGET's current TO price control³ at the last price control review. It shows Ofgem's final proposals for the efficient capital and operating expenditure, together with an appropriate cost of capital, for the period 1 April 2001 to 31 March 2006. These proposals were published in September 2000.

Table 2.1 NGET's TO price controlled revenues determined by Ofgem in September 2000 (2004/05 prices)

£ million	2001/02	2002/3	2003/4	2004/5	2005/6	Total
RAV analysis						
Opening values	5112	5118	5103	5058	4977	
Depreciation	-323	-331	-339	-346	-353	-1690
Capex	328	316	294	265	251	1454
Closing values	5118	5103	5058	4977	4876	
Revenue analysis						
Opex incl. non-controllable costs	328	312	297	287	294	1519
Depreciation allowance	323	331	339	346	353	1690
Return	320	319	318	314	308	1578
Total	970	962	953	947	955	4787
Path of allowed revenues						
Price control revenues	858	845	833	819	808	4163
Excluded service revenues	113	119	123	131	137	624
Total revenues	971	964	956	951	945	4787

2.11. Capital expenditure requirements are sensitive to the assumptions that are made regarding the expected level of demand and generation on the system. In determining the capital expenditure allowances Ofgem assumed that 5GW of new generation would connect to NGET's system over the period of the price control. In order to reduce the sensitivity of this assumption, Ofgem put in place a revenue driver in the price control designed to flex allowed expenditure for deviations in generation capacity from this central assumption.

2.12. Since implementation of the final proposals on 1 April 2001, there have been a number of developments. These include:

³ Based on the values set out in 'the transmission price control review of the National Grid Company from

- ◆ less generation capacity connecting to the transmission system than assumed in determining the capital expenditure allowances;
- ◆ greater demand-related capital expenditure than anticipated when setting the price control;
- ◆ the implementation of the “plugs” connection charging methodology in England and Wales, which altered the definition of connection assets. As a consequence, several transmission assets which previously formed part of transmission connections now form part of the general transmission system. While this has reduced annual transmission connection charges paid by generators, distributors and large customers, it has increased the value of assets to be funded by users of the transmission system through transmission use of system charges; and
- ◆ the introduction of British Electricity Trading and Transmission Arrangements (BETTA).

2.13. Table 2.2 provides summary financial information for the costs incurred by NGET over the five year period in comparison to allowances made at the time the price control was set. This information has been provided by NGET.

Table 2.2 NGET’s performance against the price control 2001/02 to 2005/06 (2004/05 prices)

£ million	September 2000 TPCR proposals (£m)	Actual performance (£m)	Difference (£m)
RAV analysis			
Opening value – 1 April 2001	5112	5045	-68
Depreciation	-1690	-1692	-2
Capex	1454 ¹	1895	441
Closing value – 31 March 2006	4876	5248	372
Revenue analysis			
Opex incl. non-controllable costs	1519	1538	19
Depreciation allowance	1690	1692	2
Return	1578	1556	-22
Total	4787	4787	0

2001: transmission asset owner – final proposals’ Ofgem, September 2000, adjusted for inflation.

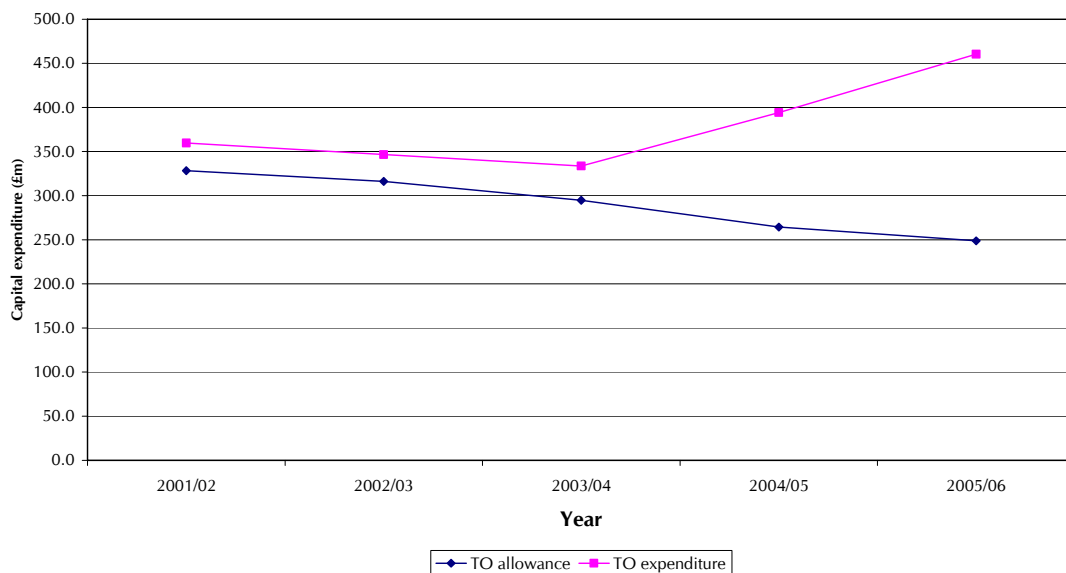
Extending the NGET’s Transmission Owner Price Control for 2006/07: Initial proposals

1) This is before any adjustment for the impact of the generation revenue driver. Applying the generation revenue driver reduces the capital expenditure allowance over the period since the actual amount of generation connecting to NGET's system is less than the 5GW assumed in the allowance.

Capital expenditure

2.14. Over the five-year period to March 2006, NGET has reported that it will have overspent against its allowances by around £440 million (£1895 million projected expenditure against an adjusted allowance of £1454 million) as shown in the chart below. The capital expenditure allowance has not been adjusted to reflect the impact of an existing revenue driver in the price control designed to flex allowed expenditure for deviations in generation capacity from central assumptions made at the last price control review.

NGC TO capital expenditure against TPCR allowances



Note:

1) 2005/06 is projected capital expenditure.

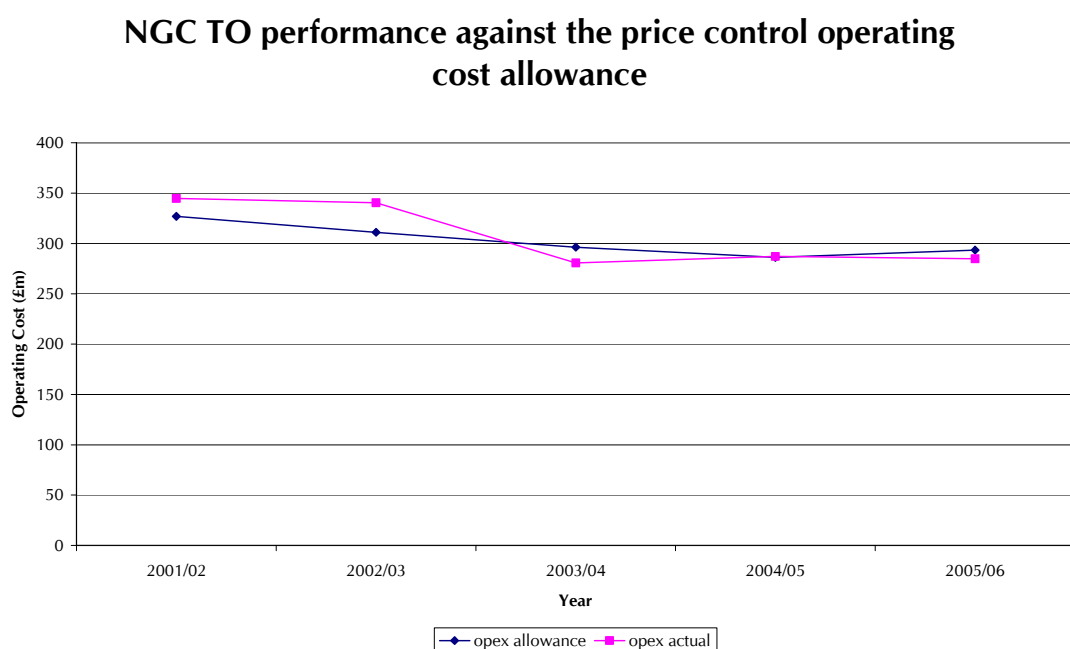
2.15. NGET has indicated that in relation to load-related expenditure:

- ◆ about £280 million of capital expenditure between 2000/01 and 2004/05 associated with major reinforcement schemes in Yorkshire and London was as expected; and
- ◆ the remaining differences between actual expenditure and the allowances is largely associated with differences in generation and demand backgrounds that have been assumed.

2.16. NGET's forecast for capital expenditure in 2005/06 is largely driven by their anticipated requirement for increasing asset replacement in its aging network.

Operating expenditure

2.17. Over the five-year period to March 2006, NGET estimates that it will have overspent in net terms against the operating cost allowance by around £19 million as shown in the chart below.



2.18. Ofgem has only undertaken a high level assessment of the information provided by NGET, which has identified issues of incompatibility between the basis upon which the allowances were established and accounting policies that underpin reported costs. Some adjustments may therefore be required to ensure accurate comparisons.

2.19. It is important to note that non-controllable elements of operating costs, specifically business rates and licence fees, have been £24 million lower than assumed in setting the existing price controls. Around £18 million of this reduction has been passed on to customers via the automatic revenue adjustment mechanism within the price control.

3. Initial proposals for the 2006/07 price control

Introduction

- 3.1. In determining the revenue allowance for NGET's TO price control for 2006/07, Ofgem must take a view on the level of costs that an efficient company may be expected to incur.
- 3.2. In a full price control review, Ofgem would examine in depth the costs incurred by a company over the period of the price control and make projections for the efficient level of costs that are expected to be incurred in each subsequent year. Ofgem recognises that a full detailed assessment of costs for the purposes of determining allowed revenues would not be a proportionate response to the task of setting a one-year price control extension.
- 3.3. For the purposes of extending NGET's price control, Ofgem has adopted a simplified approach in considering each component of costs, wherever possible. Where the evidence has suggested that the assumptions underpinning the present price controls remain valid, the outcomes of the last price control review have generally been carried forward. However, there are a number of specific areas where the assumptions underpinning the present price controls are no longer valid and more detailed work has been undertaken.
- 3.4. In July, Ofgem published an open letter⁴ which set out further thoughts on the extension of NGET's TO price control. The letter identified three key themes of the price control extension, specifically:
 - ◆ **NGET's capital expenditure allowance** – NGET have requested an allowance of £614 million. This represents an increase of around 145 per cent, or more than £360 million, from the allowance provided under the current price controls for 2005/06;

- ◆ **Valuing the regulatory asset base** – A key issue for the price control extension is the treatment of NGET’s large projected capital expenditure overspend, which is projected to exceed the allowed level by £440 million for the period 2001/02 – 2005/06⁵; and
- ◆ **the cost of capital** – The current NGET transmission owner price control provides an allowed pre-tax real rate of return of 6.25 per cent, compared to an allowed post-tax real rate of return of 4.8 per cent at the recent electricity distribution price review (equivalent to 6.9 per cent real pre-tax). While Ofgem recognises the need for regulatory consistency, market parameters will change between reviews and there may be differences in the risk profiles of NGET and the distribution companies. It therefore does not necessarily follow that the allowed rate of return for NGET should be the same as for the electricity distribution companies.

3.5. The open letter consulted upon a range of policy options for dealing with each of these areas and invited views from interested parties. This chapter sets out Ofgem’s initial proposals on each of these aspects, together with initial proposals on the appropriate operating cost allowance. These have been developed in light of the responses received to the July open letter and earlier consultations.

Capital expenditure

3.6. In April 2005, NGET set out its capital expenditure requirements for 2006/07 and its latest capital expenditure projections 2005/06. NGET estimate that they will incur £464 million of capital expenditure in 2005/06 and suggest that they will require a further £614 million for 2006/07. NGET have commented that the rising trend in capital expenditure has been driven by two factors:

- ◆ increasing load related expenditure driven by exit-related transmission schemes; and

⁴ Transmission price control review: initial consultation document, July 2005 172/05

⁵ Before taking account of the generation revenue driver.

- ◆ the need to replace aging transmission system assets, in particular switchgear and overhead lines.
- 3.7. Ofgem has engaged technical consultants to evaluate NGET's capital expenditure programme over the period of the current price control and the extension year 2006/07.

July open letter

- 3.8. In the July open letter, Ofgem noted that NGET had not provided sufficient justification for the projected levels of capital expenditure. Ofgem's consultants have raised a number of concerns regarding the quality of the information provided by NGET. These include:

- ◆ the robustness of NGET's demand and generation scenarios used to determine the required level of infrastructure investment; and
- ◆ that increased asset replacement expenditure may be driven by NGET's prioritisation and strategic considerations without clear justification rather than convincing requirements from asset condition and system need.

- 3.9. In light of our consultants' initial findings, Ofgem considered that it would not be appropriate to establish a capital expenditure allowance based upon NGET's current projections.

- 3.10. In the open letter, Ofgem identified several differences between NGET's forecast expenditure and our consultants' projections. These differences raised two important issues, specifically related to:

- ◆ concerns regarding the modelling of replacement capital expenditure; and
- ◆ insufficient evidence of poor asset condition or system requirements to justify the need for major replacement spend.

- 3.11. Based on the above concerns, Ofgem's open letter indicated that the favoured options were to establish an allowance based on either:

- ◆ the lower limit of PB Power's suggested range (£420 million) which is derived from an assessment of the extent to which NGET could vary the expenditure from its forecast, based on historic precedent; or
 - ◆ the average of historical expenditure incurred over the period to 2005/06 (£386 million).
- 3.12. Responses to our July open letter from the transmission system owners and NGET's equipment suppliers have commented that our preferred options appear unjustified and that the allowance should be set based upon NGET's projected level of spend. NGET has also expressed concerns with our consultant's modelling of non-load related capex, in particular with regard to overhead line expenditure.

Initial proposals

- 3.13. Ofgem has considered the responses to the July open letter, further analysis undertaken by its technical consultants and additional supporting information provided by NGET. This has been used to inform the initial proposals set out below.
- 3.14. Since publication of the July open letter, NGET has provided further information to Ofgem regarding its capital expenditure programmed, however Ofgem does not consider that this information provides any new evidence that is sufficient to justify all of NGET's projected level of expenditure either in terms of asset condition or system need. Further analysis of NGET's capital expenditure programme has nevertheless enabled Ofgem to refine its thinking in relation to load-related expenditure. Ofgem is particularly mindful that the capital expenditure allowance should provide for sufficient expenditure to ensure that connections to distribution networks are adequate to meet the applicable planning standards.
- 3.15. Ofgem initial proposals are for a capital expenditure allowance of £470 million based upon PB Power's central view of load related expenditure (£229 million), less expected capital contributions of £14 million, and PB Power's low case estimate of non-load related spend (£255 million). (This represents an increase of £50 million from our higher preferred option set out in July).

- 3.16. In developing these proposals, Ofgem has recognised that an increasing trend in asset replacement expenditure is likely to be required over the coming price control period. However, it does not accept the technical arguments provided by NGET to date to justify a more significant step change in asset replacement activity relative to historic levels. Ofgem considers that the evidence put forward by NGET does not demonstrate that this increase is justified by asset condition or system need.
- 3.17. These proposals also recognise the importance of load-related expenditure, especially expenditure to ensure that connections to distribution networks are adequate to meet the applicable planning standards. Ofgem therefore considers that the proposed allowance will provide for sufficient expenditure to strike an appropriate balance between protecting consumers' interests and enabling NGET to fulfill their statutory and licence obligations. This is consistent with Ofgem's statutory duties and functions.
- 3.18. For the forthcoming price control review for all gas and electricity transmission businesses, the onus will be on the transmission companies to provide sufficient information to fully justify their capital expenditure programmes for us to accept their forecast levels of spend.

Valuing the asset base

- 3.19. In establishing NGET's allowed revenues for 2006/07, it is necessary to take a view on the Regulatory Asset Value (RAV) upon which NGET will be allowed to recover depreciation and earn a regulated return. If this were a full price control review, this would require a detailed assessment of efficiently incurred capital expenditure during the price control period and updating the RAV accordingly.
- 3.20. Ofgem has only undertaken a limited review of capital expenditure for the period up to 2004/05 in line with the approach discussed earlier in this document. This analysis has been used, where appropriate, to inform the decision on an interim RAV for the purposes of the price control extension.
- 3.21. Ofgem intends to undertake a full review of historical capital expenditure as part of the main price control review. Where a full review suggests that a different outcome should have been adopted as part of the price control extension,

Ofgem will make adjustments to the price control for 2007/08 to reflect the revised conclusions.

July open letter

3.22. In July, Ofgem set out four options for the purposes of establishing an interim RAV for the price control extension. They were:

- ◆ Option 1 – to use NGET’s reported expenditure over the period 2000/1 to 2004/5, and Ofgem’s consultants estimate for expenditure in 2005/06.
- ◆ Option 2 – to adopt the closing RAV value determined in setting the current price control, i.e. do not recognise any of the reported overspend;
- ◆ Option 3 – to estimate the RAV based upon reported actual expenditure where these are available but, in the years where the values are still projections, use the allowances determined at the last price control review; or
- ◆ Option 4 – to establish the RAV based Ofgem’s consultants’ low case view of capital expenditure requirements.

3.23. In July, Ofgem indicated that it was minded to determine the RAV based upon the approaches set in either option 2 or option 4.

3.24. NGET have commented that the interim RAV should be based upon its projections of expenditure over the price control period, recognising that adjustments would be made if further investigation during the forthcoming price control review suggested a different outcome.

Initial proposals

3.25. This section sets out Ofgem’s initial proposals regarding the interim valuation of the regulatory asset base. The proposals have been informed by the responses to the July open letter, further analysis by Ofgem’s consultants and additional supporting information provided by NGET.

- 3.26. As with NGET's capital expenditure projections for 2006/07, Ofgem's consultants have expressed their concern regarding the quality of information provide by NGET, this time in support of the historic capital expenditure. Ofgem considers that NGET have not provided sufficient information to support their reported expenditure for the current price control. In light of this, we reject NGET's comments that the interim RAV should be based upon their reported and projected spend.
- 3.27. In considering the remaining options, NGET have commented that load related expenditure is driven by customer requirements and therefore they have limited scope to exercise discretion over the level and timing of any expenditure. While Ofgem accepts that discretion over the level and timing of expenditure is limited, it considers that there is still sufficient discretion to undertake additional work when providing customer assets to enhance system operation. Ofgem is therefore mindful of the uncertainty regarding whether all load-related expenditure can be justified by customer demands.
- 3.28. Nevertheless, Ofgem is mindful that the objective of this analysis is to establish an interim valuation for the asset base. Therefore, subject to Ofgem receiving further evidence from NGET and its customers to demonstrate that the historical load-related expenditure was necessary to meet the requirements of customers, Ofgem proposes that NGET's reported and projected load-related expenditure for the period 2001/02 to 2005/06 be included within the calculation of the RAV with a view to undertaking further analysis during the main price control review.
- 3.29. The arguments for accepting NGET's non-load related expenditure projections are less clear. As discussed earlier, Ofgem has a number of concerns regarding NGET's current approach to asset replacement modelling. Ofgem's consultants have also commented that NGET have not provided sufficient evidence to demonstrate that its policies and processes are being implemented effectively. Further detailed work would be required to resolve many of these unresolved issues to determine accurately the appropriate level of non-load related expenditure. In light of this, Ofgem proposes to use the allowances for non-load related expenditure determined at the last price control review for the purposes of calculating the interim RAV.

3.30. Taken together, Ofgem’s proposed approach set out above would establish an opening RAV balance of £5104 million (2004/05 prices) as set out in the table below.

Table 3.1 NGET RAV calculation (2004/05 prices)

	2001/02 (£m)	2002/03 (£m)	2003/04 (£m)	2004/05 (£m)	2005/06 (£m)
Opening balance	5044.6	5082.1	5116.1	5093.9	5102.3
Depreciation	-326.7	-335.8	-345.0	-353.1	-362.1
Load related capex	218.6	218.9	206.6	154.7	202.5
Non-load related capex	148.1	158.6	161.0	157.1	166.4
Customer contributions	-7.8	-7.9	-37.6	4.1	-11.8
Adjustments	5.5	0.7	-5.8	45.6	7.1
Net capex	364.2	369.8	322.8	361.5	364.2
Closing balance	5082.1	5116.1	5093.9	5102.3	5104.3

Notes:

- 1) Adjustments – include asset disposals, termination liability receipts and refunds, plugs refunds, and non-operational capex.
- 2) Net capex – includes TSS expenditure remunerated under the incentive schemes until 2005/06.
- 3) Opening balance adjusted to reflect the 2000/01 outturn capital expenditure values and adjustments which were only estimates when the proposals were published in Sept 2000.

The cost of capital

3.31. In setting NGET’s allowed revenues for 2006/07, it is necessary to take a view on the appropriate allowed rate of return. The present transmission asset price control allows a real pre-tax rate of return of 6.25 per cent. The initial consultation indicated that it would be appropriate to review the suitability of the assumptions underlying this figure with respect to the cost of debt and equity finance and the level of gearing.

Ofgem’s approach to cost of capital

3.32. In its ‘Developing Network Price Controls’ project in 2002/03⁶, Ofgem consulted on the appropriate approach to take in setting price control allowances for taxation and return on capital at future reviews. It concluded that there may be a number of advantages in moving away from its traditional approach, whereby the return on capital allowance was calculated using an

⁶ Developing monopoly price controls: Initial conclusions June 2003 54/03

estimate of weighted average cost of capital (WACC) before all corporate taxes (i.e. including a tax 'wedge' calculated at the prevailing rate of corporation tax), and instead making separate explicit allowances for the return on capital and expected actual tax payments. Under this method, the return on capital allowance is calculated using a 'vanilla' WACC (pre-tax cost of debt, post-tax cost of equity). The latter approach is commonly called a 'post-tax' approach.

- 3.33. The chief advantages of the 'post-tax' approach were expected to be
- ◆ Aligning incentives for tax efficiency with those for other costs, enabling the benefits to be transferred to consumers in due course;
 - ◆ Deterring excessive gearing by transferring the incremental tax shield benefit to consumers; and
 - ◆ Addressing the greater variability of effective tax rates between companies expected to result from changes in the tax treatment of (principally) replacement expenditure.

Outcome of the recent electricity distribution review

- 3.34. The 'post-tax' approach was used in deriving Ofgem's proposals for the electricity distribution price control review. The November 2004 final proposals were based on a real post-tax cost of equity of 7.5 per cent, a real pre-tax cost of debt of 4.1 per cent and gearing of 57.5 per cent (net debt:RAV), producing a real 'vanilla' WACC of 5.5 per cent (equivalent to a real post-tax WACC of 4.8 per cent).
- 3.35. This is equivalent to a real pre-tax real WACC of 6.9 per cent calculated on the traditional basis using a 30 per cent tax wedge. Including the actual allowances for tax, the effective pre-tax cost of capital for the DNOs varied between the individual companies but was, on average, about 8 per cent.
- 3.36. Ofgem has emphasised the importance of stability and consistency in the regulatory regime and we consider that the approach to setting the cost of capital used in the electricity distribution price control review remains applicable both for the purpose of extending the NGET price control and for the price control review for all gas and electricity transmission companies.

3.37. However, this does not mean that the cost of capital determined for the extension of NGET's TO price control should be the same as that concluded at the recent distribution price control review, as market parameters will change between reviews and as there may be differences between the risk profiles of NGET and the electricity distribution companies. Accordingly, Ofgem has examined current market data in formulating its initial proposals for the price control extension.

Market evidence

3.38. Market parameters will change between reviews and, although electricity distribution and transmission are broadly similar businesses, there are likely to be differences in their risk profiles. Our high-level observations on the application of this methodology at this stage are that:

- ◆ **Risk free rate** - the risk-free rate of 2.75 per cent used in the recent distribution price control review was above the prevailing level of real Government bond yields, reflecting an assessment that these were at historically low levels and could be expected to increase over the five year period of the price control. Over the last year, the average yield on all index linked gilts has fallen from around 2 per cent to 1.5 per cent. This suggests that the underlying risk-free rate may be lower than concluded for the distribution review.

- ◆ **Cost of equity** - the real cost of equity assumed for the distribution companies of 7.5 per cent was at the top of Ofgem's range of estimates derived from market data, reflecting the investment focus of the distribution price control review. This was intended to signal regulatory recognition of the importance of adequate equity formation in ensuring future capital investment can be readily financed.

In arriving at this estimate, Ofgem took into account the evidence of beta instability among some UK network utilities, shown by the analysis undertaken by Stephen Wright of Birkbeck College and Smithers & Co., and concluded that beta estimates derived from market data were not well determined. Accordingly, Ofgem adopted the market average beta (1.0) in respect of electricity distribution businesses.

However, Stephen Wright's report indicated it would be appropriate to use an estimate of around 0.6 for NGET, compared to the beta of 1.0 assumed in setting current TO price control. This analysis has been updated, reaching broadly the same conclusion. In light of this, there may therefore be a case for assuming a somewhat lower equity beta for NGET than was used for DNOs at the recent distribution review.

- ◆ **Debt premiums** – For the distribution price control review, Ofgem assumed the average DNO debt risk premium was 1.35 per cent. This reflected average bond spreads over the preceding five years and expectations that both gearing and bond spreads would rise over the period of the next price control. Examination of the same dataset for NGET bonds indicates an average spread of 0.82 per cent.

Stephen Wright has also looked at debt premia. His analysis indicates that since Ofgem published its final proposals for the distribution price control review, spreads have risen somewhat relative to market benchmarks. Nevertheless, NGET appears to be perceived as having somewhat lower business risk than DNOs. Accordingly, there would appear to be a case for adopting a somewhat lower assumption than was used at the recent distribution review.

Ofgem considers that a figure closer to the current spread at which NGET bonds trade relative to market benchmarks of, say, 1.00 would appear reasonable.

- ◆ **Gearing** - At the last transmission price control review for NGET, Ofgem adopted a gearing assumption of 60 per cent (debt:RAV). For present purposes, it would appear reasonable to make an unchanged assumption for NGET.

3.39. In the light of the recent market evidence, Ofgem has concluded that an appropriate assumption for NGET's real post-tax WACC would appear to be of the order of 4.4 per cent. This is based on a post-tax cost of equity of 7.0 per cent, a pre-tax cost of debt of 3.75 per cent and gearing assumption of 60 per cent. Assuming a 30 per cent tax wedge, this would be equivalent to a pre-tax WACC of 6.25 per cent, the rate on which the present control is based.

Tax treatment

3.40. Under the 'post-tax' approach to cost of capital, it is necessary to estimate the company's expected actual tax payments during the period of the control. For the one year extension, it is not appropriate to undertake a detailed review of NGET's tax liabilities, although this will need to be done at the forthcoming transmission price control review. Ofgem has identified two options for the treatment of tax for the extension. These are:

- ◆ adopt a simple tax wedge calculation based upon the normal rate of corporation tax of 30 per cent; or
- ◆ provide an explicit allowance for expected tax payments as provided by NGET on the basis of the expenditure assumptions underlying the proposed control for the period of the extension and on the basis that NGET were a stand-alone tax-payer.

3.41. In either case, subject to an assessment of implementation issues, Ofgem proposes to make an ex post adjustment (positive or negative) for any variance in outturn tax payments compared to the allowance, which would be taken into account in resetting the price control. Nevertheless, consideration will need to be given to the practical issues of implementing such adjustments and the incentive properties that such a mechanism might have. Ofgem is keen to ensure that NGET face appropriate incentive to manage its tax position effectively.

Initial proposals

3.42. This section sets out Ofgem's initial proposals regarding the cost of capital. The proposals have been informed by the responses to the July open letter and analysis by Ofgem's consultants.

3.43. In the July open letter, Ofgem set out the following options for setting an allowance for the return on capital for the period of the extension:

- ◆ to adopts the underlying outcome of the recent distribution price control review with a simple conversion for tax allowances for the interim

period. One possibility would be to assume the standard 30 per cent tax rate; or

- ◆ to derive a value for the cost of capital based on the common components of the DPCR conclusion, but taking a view of specific risks and tax liabilities pertaining to NGET.

3.44. Ofgem indicated that option 2 would reflect Ofgem latest view on the appropriate returns to debt and equity, but also recognise a specific view of risk profile and gearing specific to NGET. Nevertheless, it may not be proportionate to undertake a large amount of work to determine specific tax liabilities and a high level review of NGET's tax position may only be achievable. Alternatively, the standard rate of 30 per cent could be assumed.

3.45. In light of the above considerations and evidence, Ofgem has concluded that the simple option of continuing the current pre-tax real rate of return of 6.25 per cent (adjusted to the equivalent post-tax cost of capital of 4.4 per cent and providing the appropriate allowance for tax) would be appropriate and proportionate for the purposes of extending the price control for one year. Ofgem will continue to consider the appropriate tax treatment, along with the practical issues of adjusting revenues for actual tax payments.

3.46. Further work will be needed to determine the appropriate allowances and return on capital to be used in main transmission price control review. Interested parties should therefore exercise caution in assessing the implications of this proposal.

Operating expenditure

3.47. In establishing NGET's allowed revenues for 2006/07, it is necessary to take a view on the appropriate allowance for operating costs. The current price control for NGET assumed an annual efficiency improvement in controllable costs of 2.5 per cent and applied an X factor of 1.5 per cent to allowed revenues.

July open letter

3.48. As noted in chapter two, NGET's cumulative performance in managing operating expenditure is broadly in line with the assumptions made in setting the present
Extending the NGET's Transmission Owner Price Control for 2006/07: Initial proposals

transmission owner price control. In light of this, the July open letter indicated that Ofgem would apply a simple extrapolation of the 2005/06 allowance for the purposes of setting 2006/07 allowed revenues. The open letter also consulted upon whether, in extrapolating the operating cost allowance, adjustments should be made for efficiency savings.

- 3.49. One respondent commented that against the background of increasing capital expenditure it would not be appropriate to impose further reductions in operating costs when additional resources are required to deliver a more extensive capital expenditure programme.

Initial proposals

- 3.50. This section sets out Ofgem's initial proposals regarding the appropriate operating cost allowance.
- 3.51. NGET's controllable cost allowance for the present TO price control is £178.1million in 2005/06. Ofgem is mindful of the savings that might have been made due to the merger of National Grid and Lattice (the holding company for Transco) in 2003. National Grid Transco has quoted publicly that the merger would result in initial opex savings of £100 million across its businesses with expected further annual savings in gas and electricity transmission operating costs of £20 million per year.
- 3.52. Although there is some evidence that from NGET's public statements that these savings may be exceeded in the extension year, Ofgem has not examined operating costs in sufficient detail to justify an adjustment for substantial efficiency savings. Nevertheless, Ofgem expect that controllable operating cost savings will continue to follow a broadly similar trend to those underpinning the existing TO price control. In order to balance the benefits to NGET and our obligations to protect customers' interests, Ofgem proposes a controllable operating cost allowance of £173.7 million for 2006/07. This represents a further 2.5 per cent reduction in costs in real terms from 2005/06 levels.
- 3.53. In addition to the controllable element of operating costs, Ofgem must also propose an allowance for non-controllable items such as business rates and licence fees. Under the existing price control, this element of costs is treated as

a pass-through item although adjustments for differences between the allowance and actual costs incurred are made with a one year lag.

- 3.54. NGET have indicated that they expect to incur £103 million (in 2004/05 prices) of operating costs in 2006/07 relating to business rates and licence fees. Ofgem proposes to accept this estimate as a basis for establishing the allowance for non-controllable costs for 2006/07.

Pensions

- 3.55. At the last transmission price control review, pension costs were included within the controllable operating cost allowance determined by Ofgem.
- 3.56. In July, Ofgem indicated in the open letter that it would defer consideration of the pensions issue until the main price control review when the appropriate detailed analysis can be undertaken. In the main review Ofgem will, in assessing the appropriate level of allowance for pension costs, apply the principles set out in “Developing Monopoly Network Price Controls” and used in setting the allowances for the electricity distribution companies.
- 3.57. Consequently, in this review, Ofgem does not propose to provide an additional allowance for pension costs in 2006/07. Information provided by NGET suggests that the current allowance for controllable operating costs incorporates £6 million for ongoing pension funding. Under Ofgem’s proposed operating cost allowance this funding will continue.
- 3.58. Ofgem will await the outcome of its analysis during the main price control review. Where appropriate, Ofgem proposes to make relevant adjustments in establishing the allowed revenue for 2007/08 onwards to provide funding for any shortfall/surplus for 2006/07 indicated by our detailed analysis.

Incentives for efficiency

- 3.59. In the May 2004 consultation, Ofgem set out initial thoughts regarding the treatment of efficiency savings that are achieved during 2006/07. A conventional approach to setting a price control would effectively only offer any benefit to be retained for one year, as assumptions over operating and capital expenditure would be re-assessed as part of the next full review. However, Ofgem’s recent
- Extending the NGET’s Transmission Owner Price Control for 2006/07: Initial proposals

policy has been to allow fixed retention periods in order to generate more consistent efficiency incentives over time. In light of this, Ofgem consulted upon whether a five year retention period should apply in respect of any 2006/07 efficiency savings in order strengthen efficiency incentives.

3.60. In the recent distribution price control review, Ofgem set out proposals that a five year retention period should continue to apply to capital expenditure efficiency savings. However, Ofgem concluded that a five year retention period would not be appropriate in relation to operating cost efficiency savings achieved during the period.

3.61. For the extension of NGET's TO price control, Ofgem intends to adopt a consistent approach to efficiency incentives, wherever practicable. Nevertheless, Ofgem is mindful of the uncertainties regarding the level of capital expenditure during 2006/07 and intends to undertake further analysis as part of the full price control review. Ofgem considers that applying a five year retention period to efficiency savings (whether positive or negative) amplifies the potential consequences of any uncertainty in the level of the allowance. In these circumstances, Ofgem is not minded to adopt a five year retention period for efficiency savings achieved in relation to capital or operating expenditure during 2006/07. Ofgem would welcome views from interested parties on this matter.

4. Price control calculations

- 4.1. This chapter explains the way that the price control has been calculated, including the key assumptions that have been adopted in order to derive price control revenue.

Price control and its components

- 4.2. Price controls provide a company with a level of revenue that is sufficient to finance an efficient business. This is based upon an estimate of operating costs; capital expenditure; financing costs; and corporation tax.
- 4.3. Under the British Electricity Trading and Transmission Arrangements introduced on 1 April 2005, NGET have become responsible for setting all transmission use of system charges in Great Britain. Therefore, in addition to recovering revenues in respect of its TO business in England and Wales, it recovers revenues on behalf of the Scottish Transmission Operators. As a consequence, NGET's price control now has four main elements:
- ◆ NGET's baseline revenue requirement for England and Wales;
 - ◆ Scottish Power Transmission Limited's declared revenue requirement for the South of Scotland;
 - ◆ Scottish Hydro-Electric Transmission Limited's declared revenue requirement for the North of Scotland; and
 - ◆ various error correction mechanisms, adjustments and incentive schemes.

In 2005/06, NGET reported that its allowed revenue, after combining all of these elements, was £1132 million.

- 4.4. The table below sets out how the price control has been calculated based upon the approach outlined in chapter three. Since the extension focuses upon NGET's revenue requirement for its assets in England and Wales, the tables only set out the change in that component of the allowed revenue calculation.

RAV calculation

- 4.5. The calculation of the movement in the RAV is shown in lines 1 to 5. In each year total net capex (line 3) is added to the opening RAV (line 1) and the allowed level of regulatory depreciation (line 2) is deducted from it to give the closing RAV (line 4). The average of the opening and closing RAV's is calculated (line 5).

Calculating allowed revenue

- 4.6. The calculation of allowed costs is set out in lines 6 to 9. Ofgem's operating cost assumption discussed in chapter three is set out in line 6. To this is added the allowance for regulatory depreciation (line 7), the allowed post-tax return and the tax allowance (line 8) to determine the total costs that must be financed (line 9).
- 4.7. At the most basic level, NGET's revenue is calculated by setting it equal to costs. However, the costs of providing excluded services are included within the cost base set out in lines 6 to 9, while the revenue from providing such services falls outside the scope of the price control. Consequently, an estimate of excluded service revenue (line 11) must be deducted from total revenue (line 12) to determine underlying price control revenue (line 10).

Table 4.1 Ofgem's initial proposals for NGET allowed revenue for 2006/07 (2004/05 prices)

	2001/02 (£m)	2002/03 (£m)	2003/04 (£m)	2004/05 (£m)	2005/06 (£m)	2006/07 (£m)
RAV ANALYSIS						
Opening balance (line 1)	5045 ¹	5082	5116	5094	5102	5104
Depreciation (line 2)	-327	-336	-345	-353	-362	-371
Net capex (line 3)	364	370	323	362	364	470
Closing balance (line 4)	5082	5116	5094	5102	5104	5203
Average RAV (line 5)	5064	5099	5105	5098	5103	5154
REVENUE ANALYSIS						
Operating costs (line 6)						276
Depreciation (line 7)						371
Return inc. tax (line 8)						322
Total costs (line 9)						970
Baseline price control revenue (line 10)					890	910
Excluded services revenue (line 11)					54	60
Total revenue (line 12)					944	970

- 1) Opening balance has been adjusted to reflect the outturn capital expenditure information not known at the time of setting the price control in September 2000.

Implication for transmission charges

- 4.8. These proposals provide for an increase in underlying allowed revenue of 2 per cent in real terms in 2006/07. Nevertheless, the actual movement in transmission revenues will depend upon movements in the other elements of allowed revenues, including the outturn position for 2005/06 against the assumptions used in setting the price controls, NGET's performance against the reliability incentive scheme and the revenue requirement of the Scottish transmission asset owners.
- 4.9. Transmission charges account for around 3 per cent of consumers' final bills. Ofgem anticipates that the impact of these proposals upon final prices to consumers will be limited or negligible.