

## Gas Distribution Price Control Review Third Consultation Document

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### Overview:

This document contains the supplementary appendices for the Gas Distribution Price Control Review's third consultation document. The supplementary appendices provide more detailed information regarding the issues raised in the main document. It also contains a summary of responses to the previous consultation document, together with Ofgem's views.

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## Context

The price control that applies to the gas distribution networks expires on 31 March 2007 and will be reset for one year until 31 March 2008. We expect to publish our final proposals for the one year control on 4 December 2006.

This consultation document sets out our initial thoughts on the main policy issues which will apply to the price control for the period 2008-9 to 2012-13. We intend to hold a workshop to discuss some of the issues raised in this consultation on 23 January 2007. We will publish more details on the content of this seminar on our website in due course.

Our next consultation paper on the gas distribution price control (GDPCR) will be published in March 2007 and will give our initial views on the costs that an efficient GDN will incur for the period from 2008. We intend to bring together our thinking and responses to this and the March document in our initial proposals in May 2007.

## Associated Documents

- GDPCR One Year Control Initial Proposals, September 2006 (Ref 169/06):  
[http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/16829\\_169a.pdf?wtfrom=/ofgem/work/index.jsp&section=/areasofwork/gasdistpricon](http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/16829_169a.pdf?wtfrom=/ofgem/work/index.jsp&section=/areasofwork/gasdistpricon)
- GDPCR Second consultation, July 2006 (Ref. No. 123/06):  
[http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/15829\\_GDPCR\\_2CD\\_FI\\_NAL19July.pdf?wtfrom=/ofgem/work/index.jsp&section=/areasofwork/gasdistpricon](http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/15829_GDPCR_2CD_FI_NAL19July.pdf?wtfrom=/ofgem/work/index.jsp&section=/areasofwork/gasdistpricon)
- GDPCR Initial consultation, December 2005 (Ref. No. 259/05)  
[http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/13055\\_259\\_05.pdf?wtfrom=/ofgem/work/index.jsp&section=/areasofwork/gasdistpricon](http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/13055_259_05.pdf?wtfrom=/ofgem/work/index.jsp&section=/areasofwork/gasdistpricon)

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## Appendix 5 – Responses to second consultation document

1.1. This appendix summarises the responses received from GDNs and other interested parties to questions posed in the second consultation document published in July 2006, together with our views. The second consultation document raised issues relating to both the one year price control and the main price control review. This summary contains only comments received in relation to the main control.<sup>1</sup>

1.2. We received 20 responses from the following organisations:

- Centrica;
- Chemical Industries Association (CIA);
- Council for National Parks;
- EDF Energy;
- Energy Networks Association (ENA)<sup>2</sup>;
- Energywatch;
- EON UK;
- Fuel Poverty Advisory Group (FPAG);
- Gas Transportation Company (GTC);
- Health & Safety Executive (HSE);
- National Consumers Council (NCC);
- National Energy Action (NEA);
- National Grid Gas;
- Northern Gas Networks;
- RWE Npower;
- Scotia Gas Networks;
- Total Gas & Power;
- United Utilities;
- Wales & West Utilities; and,
- Xoserve Board.

1.3. Responses are available on Ofgem's website ([www.ofgem.gov.uk](http://www.ofgem.gov.uk)).

1.4. Please note that when summarising respondents' views, we have referred to each GDN company as a (single) GDN, even if the company owns more than one GDN.

### Responses to Chapter 2 - High level framework

1.5. For the purposes of the main control, chapter 2 of the second consultation document considered revenue drivers, scope of the control, price indices, and

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<sup>1</sup> Comments that relate to the one year control are set out in Appendix 5 of the GDPCR one year control initial proposals document, September 2006.

<sup>2</sup> ENA submitted a consultants' report regarding tax allowances.

mechanisms for dealing with uncertainty, new obligations and costs. We asked respondents the following questions:

- Should Ofgem introduce a new revenue driver other than the volume driver and, if so, what variable should it be linked to?
- What revenue and/or costs should be treated as excluded/de minimis/pass through? What principles should be used to classify revenues and/or costs as excluded/de minimis/pass through?
- Should Ofgem link some or all of allowed revenues to a price index other than RPI?
- Should Ofgem specify certain issues that could be the subject of a re-opener and, if so, which issues?

### **Views of GDNs**

1.6. Three of the four GDNs stated that the current 35 per cent volume driver is not aligned with GDN cost drivers. Two of these GDNs expressed support for retaining the volume driver but reducing the current 35 per cent variability to between 5 and 10 per cent. One GDN considered that revenue should be linked to the number of customers to reflect better actual GDN costs. Another GDN suggested using connections as a revenue driver and including a load growth driver. Finally a GDN suggested using a composite revenue driver that properly reflects variable cost drivers.

1.7. Two GDNs expressed the view that we should not change the treatment of domestic one-off connection costs. Two GDNs listed various activities that should be treated as excluded including metering work and services which GDNs and NTS provide to each other. One of them considered that pension costs from NG retained liabilities should be a pass through item.

1.8. One GDN supported the continuation of traditionally treated pass through costs as well as 'permitted purpose' costs treated as excluded services.

1.9. One GDN stated that we should assume zero income for metering work rather than treat it as excluded revenue and implement a revenue sharing mechanism on income earned by the funded emergency workforce.

1.10. One GDN noted that there was a lack of clarity around the term "excluded service", and that the correct definition of "excluded service" is a matter of law based on the true construction of the licence.

1.11. Three GDNs considered that RPI remains the appropriate price index to use. However, one GDN suggested that Ofgem build in real price effects including contractor rates and material costs, and another suggested that Ofgem use other indices for specific building blocks. Another GDN stated that Ofgem should link some revenues to changes in the construction price index (CPI) or increase capex allowances by CPI, and if this is not practical, then the increase in costs relative to RPI should be recognised when setting efficiency targets for GDNs.

1.12. All of the GDNs listed Traffic Management Act 2004 (TMA) as an issue that should be the subject of a re-opener. Other issues included:

- Environmental issues;
- Changes to working practices associated with HSE requirements (e.g. management of gas escapes);
- Carbon monoxide detection;
- Tax (i.e. implementation of IFRS);
- NTS exit and interruption reform;
- Cost of fulfilling requests for firm capacity investment, if full capex for making network sensitive loads firm is not allowed in the price control; and,
- Transport (Scotland) Act 2005.

### **Views of other respondents**

1.13. The following views were expressed with regard to revenue drivers:

- several respondents considered that we should review the 35 per cent volume revenue driver;
- one respondent suggested that drivers other than ones which are volume-related should be considered such as number of connections; and,
- one respondent commented that changes to revenue drivers require clear and objective justification, and that if possible Ofgem should conduct a mini consultation on revenue drivers prior to the publication of the initial proposals document.

1.14. With respect to the price control treatment of services, one respondent considered that where a cost cannot be separated, Ofgem should not allow companies to earn both regulated and unregulated revenue from the same asset. A respondent stated that when Ofgem considers treatment of services it must ensure that consumers are protected from carrying excessive cost burdens as a result. Another respondent expressed concern that if services such as SOMSA were treated as excluded or pass through, GDNs would be able to earn excessive revenue. Finally, a respondent stated there should be a third category of excluded services covering the costs of services provided at the request of a third party which are not part of the core distribution service.

1.15. Three other respondents supported the continuation of linking revenues to RPI. Two respondents suggested that certain areas of GDNs' cost could be indexed using another index such as the CPI. One respondent stated that a price index other than RPI may be a better proxy for the cost rise seen by GDNs.

1.16. Three other respondents supported TMA effects as being subject to a reopener. Two other respondents considered that the mechanisms currently in place are sufficient, and one (i.e. energywatch) stated that GDNs are best placed to manage risks, such as those arising from the implementation of the TMA, and not consumers.

**Ofgem's views**

1.17. Ofgem's views on revenue drivers, the scope of the control, price indices, and mechanisms for dealing with uncertainty, new obligations and costs are set out in chapter 2 of the document.

1.18. We note that some respondents expressed concern that consumers could bear additional costs associated with commercial activities that are classed as excluded services. In some cases it may be possible for GDNs to engage in innovative commercial activities that allow both the company and consumers to benefit. We therefore do not agree that it is always appropriate to prohibit GDNs from earning both regulated and unregulated revenue from the same asset.

1.19. Where it is not possible to separate the costs of providing the excluded service from the costs of providing regulated services, we estimate GDNs' overall costs, and then deduct expected revenues from the excluded service from allowed revenues. As a result, consumers should face lower costs associated with the regulated service<sup>3</sup>.

1.20. Ofgem's views on the treatment of SOMSA exit costs are set out in chapter 3.

**Responses to Chapter 3 - Cost assessment**

1.21. This chapter consulted on Ofgem's treatment of historical capital and replacement expenditure, and the approach we use for setting operating, capital, and replacement expenditure for 2008 to 2013. It also considered issues such as the replacement of system operation control systems, the potential costs of new GDNs establishing their own area control centres and the impact of TMA. We asked respondents the following questions:

- Is our proposed approach for setting capital and replacement expenditure allowances for 2008-09 to 2012-13 appropriate?
- Is our proposed approach for setting operating expenditure allowances for 2008-09 to 2012-13 appropriate?
- How should we deal with the uncertainty surrounding the level of costs associated with the TMA?
- What are your views on our approach to assessing Gas Transporter Management System (GTMS) replacement costs, System Operation Managed Service Agreements (SOMSA) exit and ongoing system operation costs?

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<sup>3</sup> Figure 7.1 (in the main document) illustrates this how this process would work in relation to user pays services provided by xoserve.

### **Views of GDNs**

1.22. The GDNs broadly agreed with Ofgem's approach to setting capex and repex allowances. One GDN stated that Ofgem should recognise the minimal scope for efficiencies due to challenging efficiency targets in an environment of increasing costs. Another GDN suggested that Ofgem should recognise and fund discretionary spend that realises future efficiencies. A GDN considered that Ofgem should supplement the GDNs' forecast assessment with an information quality incentive as in DPCR4.

1.23. The GDNs generally agreed with Ofgem's approach to setting opex allowances including benchmarking and comparative methods. Two GDNs raised concern over cost differentials between GDNs and suggested that Ofgem take them into account so that costs are comparable. A GDN stated that allowances should be based on median or upper quartile and not frontier, and that an additional allowance should be given to singleton companies due to the efficiency challenges they face as compared to companies in multiple ownership. Another GDN suggested that Ofgem benchmark support costs against other utilities and then by 2012 GDNs should be sufficiently established to benchmark across companies.

1.24. Three GDNs supported Ofgem's approach to dealing with the uncertainties relating to TMA costs. In addition to a re-opener, in the case that the impact of TMA is still unclear at the time of final proposals, a GDN stated that Ofgem include an allowance for penalties, overruns and administrative costs. Another GDN suggested an approach whereby an explicit allowance for internal costs associated with implementation is set and a re-opener is inserted for external costs.

1.25. Two GDNs stated that no allowance has already been given for GTMS replacement. One of these GDNs stated that GTMS requires replacement soon and that it is inappropriate to disallow any costs if Ofgem assesses that it is not obsolescent. This GDN also considered that capex and opex costs associated with SOMSA exit should be allowed as GDNs are required to achieve consumer benefits and have no choice about the timing of exit. Another GDN considered that disallowance of establishing separate area control centres should be capped to the marginal costs over and above setting up and running a single national control room. In terms of ongoing system operation costs, two GDNs do not believe that they should be constrained by costs incurred by NGG in the years preceding the sale. A GDN stated that if they are then the costs of additional functionality needs to be taken into account.

### **Views of other respondents**

1.26. Respondents generally agreed with Ofgem's proposed approach for setting capex and repex for 2008 to 2013. A respondent stated that Ofgem cannot rely solely on one year of data. Another considered that GDNs will have difficulty in providing accurate capex forecasts that reflect the trade-off between local investment, interruption and securing NTS offtake capacity until arrangements for securing NTS capacity and reforms to GDN interruption have been finalised. A

respondent stated that capex and repex forecasts should primarily rely on companies' own forecasts, and consultants should only be used to verify their validity.

1.27. Overall, respondents supported Ofgem's approach for setting opex allowances as they stated it is better to use a range of techniques rather than one. Two respondents urged Ofgem to capture the sale benefits as soon as possible for customers. A respondent considered that Ofgem needs to acknowledge the limitation of benchmarking and ensure costs are adequate for each company. Finally another respondent stated that companies should have access to see the detailed information underpinning the range of analysis undertaken.

1.28. With respect to the uncertainty associated with the costs of TMA, respondents agreed with Ofgem's proposed approach. One of them added that any re-opener should be tightly defined and robustly challenged.

1.29. Two respondents agreed with Ofgem's approach on GTMS replacement costs, SOMSA exit and ongoing system operation costs. One of these respondents noted that capping the opex allowance for ongoing system operation costs to NGG pre-sales levels would not deliver any incentives for improvement and a reducing allowance would be more appropriate. The HSE stated that it would have to accept any proposal for setting up individual GDN system control centres due to their implication to GDNs' safety cases, which should be taken into account when Ofgem considers lead times for planning these arrangements.

### **Ofgem's views**

1.30. The general approach that we are adopting to determine appropriate expenditure requirements for each of the GDNs is explained in chapter 3.

1.31. We do not intend to make additional allowance for singleton companies as compared to companies in multiple ownership. Two key principles set out in Ofgem Roles & Responsibilities decision document<sup>4</sup> were that:

- capex incurred by a GDN as a result of loss of economies of scale will not be included in Ofgem's assessment of the overall allowed revenue for that GDN; and,
- for ongoing operational costs, if economies of scale do exist, then Ofgem will use this information in setting future allowances. In particular, given that NGG owns four GDNs then it follows that it is likely to be relatively efficient for those activities which have the potential to benefit from economies of scales. In turn, these efficiently incurred costs will be taken into consideration when setting the allowed revenue for that activity for all GDNs.

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<sup>4</sup> Ofgem, National Grid Transco - potential sale of gas distribution network business, Allocation of roles and responsibilities between transmission and distribution networks, Decision document, May 2004, 119/04

## Responses to Chapter 4 - Outputs and incentives

1.32. This chapter considered the treatment of outputs and incentives, including quality of service. We asked respondents the following questions:

- Should the interruptions and NTS offtake incentives on the GDNs be part of the overall RPI-X price control or separate incentives with caps, collars and sharing factors? How should the price risk for each of these incentives be addressed?
- Is it appropriate to adopt rolling incentives and an information quality incentive mechanism for capital expenditure for gas distribution? If so, what should be the features of the incentives?
- Should the mains replacement incentive mechanism be carried forward in its current form, adjusted for particular factors such as service pipes, or abandoned in favour of a more generic incentive?
- Is it appropriate to adopt rolling incentives for operating expenditure for gas distribution?
- How can the quality of service arrangements be improved? In particular what are your views on the high level options proposed by Ofgem for the quality of service and outputs arrangements for 2008-2013?
- What are the advantages and disadvantages of the different approaches to setting capacity outputs and providing appropriate incentives for efficient behaviour by the GDNs in the next price control?
- Are there any other areas where outputs or output based incentives for GDNs should be developed including safety and the accuracy of gas pipeline records? If so, what should they be?
- Does any aspect of the operation of a GDN require more investment in technical innovation than occurs at present?
- Should Ofgem consider any other form of incentive mechanism in the context of GDPCR?

### Views of GDNs

#### *Capacity output incentives*

1.33. In relation to the interruptions and offtake capacity booking incentives, all GDNs supported an approach involving caps, collars and sharing factors. One of the GDNs suggested that the two incentives could be combined into a single capacity incentive. In general, GDNs did not support a generic incentive through the RPI-X mechanism as they considered that it would leave them exposed to uncontrollable price risks. One GDN noted that a generic incentive would expose each GDN to a different level of risk as the variability of exit capacity prices is not consistent around the country.

1.34. A GDN put forward an alternative incentive arrangement involving basket of quality of service measures, with an overall cap and collar on exposure (e.g. combining customer service standards, guaranteed standards and capacity and interruption targets, with appropriate weighting into a single incentive scheme). This

GDN suggested that such an incentive scheme could sit alongside the RPI-X framework in a similar manner as the IIP scheme in electricity distribution.

1.35. GDNs expressed a number of concerns regarding the existing transitional offtake incentive and the proposed interruption incentive.

1.36. With regard to Ofgem's discussion of the potential to set explicit capacity outputs:

- one GDN said that it does not support an approach where Ofgem specifies outputs to meet the one in twenty obligation, because it does not believe it is possible to set realistic output measures for the forthcoming control period at this stage;
- a GDN suggested that there is merit in a single incentive incorporating a number of measures of quality of supply, including offtake and interruption arrangements. This GDN said that a single supply resilience incentive could minimise regulatory intervention and oversight and also avoid the risk of distorted incentives associated with more complex schemes that seek to reflect detailed cost trade-offs; and,
- another GDN suggested that the enduring offtake arrangements will affect the incentive arrangements that should apply to capacity outputs. For instance, changes to payment flows for NTS exit capacity charges under the enduring offtake arrangements could mean that it is appropriate to create incentives for GDNs to book an amount of NTS exit capacity that matches shipper requirements. This GDN also suggests that a Unit Cost Allowance mechanism could be developed to reflect the cost of providing additional capacity at a specific point on the network.

*Rolling incentives and information quality incentive*

1.37. Three GDNs support capex rolling incentives in principle. A GDN said that a strong capex rolling incentive should be introduced in combination with revenue drivers for connections and load growth. The GDN also suggested that the period for which the GDNs are exposed to any overspend/underspend should be increased to seven years rather than five as this would result in consistent treatment across gas and electricity because electricity infrastructure has a shorter asset life than gas infrastructure. Another GDN suggested we consider settling the rolling incentive scheme on an annual basis rather than logging up or down any adjustments to revenue until the next price control.

1.38. A GDN expressed concern that capex rolling incentives will prove difficult in practice because GDNs' capex requirements are non-discretionary, difficult to forecast in advance and difficult to link to a revenue driver. This GDN supports a traditional 5 year ex-post approach to assessing capital expenditure.

1.39. GDNs generally support the use of an information quality incentive mechanism; however one GDN contends that such a mechanism would only partially offset the

perverse incentive for GDNs to over-forecast which arises as a result of rolling incentives.

1.40. In principle, GDNs supported the introduction of opex rolling incentives. One GDN considered that such an incentive should be supplemented by one or more uncertainty mechanisms.

#### *Mains replacement incentive mechanism*

1.41. Most GDNs support the retention of the mains replacement incentive mechanism, although all of them consider that certain aspects of it should be changed. Only one GDN considers that the continued existence of the mechanism itself should be reviewed. The GDNs suggested a variety of adjustments to the scheme, including:

- expanding the scope of the incentive mechanism to include service pipes and larger diameter mains;
- changing the sharing mechanism so that risk is shared symmetrically between customers and companies;
- removing the revenue cap;
- smoothing the current revenue adjustment (DNMRA) to reduce impact on annual transportation charges; and,
- including arrangements to deal with costs associated with risers.

1.42. One GDN suggested that it is necessary to consider appropriate ways of subdividing the large pipe category to reflect the large cost differences that can occur within this category.

#### *Quality of service*

1.43. Three of the GDNs supported a combined performance measure.

1.44. GDNs generally considered that the current suite of service standards cover those areas which customers value, however there was scope for the arrangements to be consolidated and simplified. In particular, one GDN proposed the removal of the overall standards and current guaranteed standard to provide alternative heating and cooking facilities to priority customers within 4 hours of an interruption. A GDN did not support Ofgem's proposal to introduce a new standard of service for reconnection following a mains replacement job.

1.45. Two GDNs expressed concern at Ofgem's proposal to remove the cap on compensation payments that GDNs are required to make under the third party water ingress (TPWI) arrangements.

*Funding for innovation*

1.46. Two GDNs supported the introduction of an innovation funding incentive in gas similar to the scheme that applies in electricity. The other GDNs considered that an explicit allowance for research and development should be made as part of the overall price control allowances.

*Scope for other new incentive schemes*

1.47. All of the GDNs except one do not support the introduction of an incentive relating to the accuracy of pipeline records.

**Views of other respondents***Capacity output incentives*

1.48. Several respondents highlighted the interactions between the various incentives and suggested that the arrangements should enable GDNs to make efficient trade offs between investment in local capacity, contracting for interruption on the GDN and procuring NTS offtake capacity. One respondent said that the various incentive mechanisms relating to capex investment should be packaged to allow them to interact and generate efficient trade-offs.

1.49. The HSE noted that the incentive schemes should not create incentives for GDNs to reduce costs at the expense of safety.

1.50. With regard to Ofgem's discussion of the potential to set explicit capacity outputs, a respondent said that it is essential to understand the realistic capability of the existing network before an incentive regime can be put in place. Another respondent cautioned against an approach that would involve Ofgem making decisions on behalf of GDNs regarding the level of capacity outputs. HSE noted that any arrangements that resulted in fundamental changes to the one in twenty criteria would need to be accepted by them before they could go ahead, and that they could not accept a reduction in safety standards.

*Rolling incentives and information quality incentive*

1.51. One respondent expressed support for the introduction of a capex rolling incentive. Of those respondents that expressed a view, none supported the introduction of an opex rolling incentive unless it could be demonstrated that the incentive would operate in customers' interests. Two respondents cautioned against rolling incentives arrangements that do not strike an appropriate balance between incentives on opex and capex.

1.52. Several respondents expressed reservations about the introduction of an information quality incentive mechanism. A respondent considered that the mechanism gives undue precedence to the views of Ofgem's consultations, while another suggested that the independent GDNs might not be sufficiently familiar with their businesses to make appropriate choices. Two respondents agreed that it was important that GDNs submit high quality information; however they questioned whether it was appropriate for GDNs to receive a financial incentive to do so.

#### *Mains replacement incentive mechanism*

1.53. Few respondents commented on this issue, however, one expressed support for the retention of the existing mechanism with minor adjustments on grounds of regulatory stability.

1.54. The HSE noted that the mains replacement programme is now entering a stage where an increasing proportion of the work is to replace large diameter mains. These mains are more expensive to replace than small diameter mains. The HSE also suggested that there may be opportunities for GDNs to improve the effectiveness of their mains replacement policy. The HSE also identified that in future, service replacement performance could change as a result of a shift in the methodology for prioritising mains replacement, and issues relating to the replacement of risers.

#### *Quality of service*

1.55. A respondent said that the current cap on TPWI compensation payments seemed inequitable, however they noted the impact that removal of the cap could have on insurance premiums. This respondent said that incentives to improve the accuracy of pipeline records could help to reduce water ingress incidents and hence compensation costs, and that the coverage of the TPWI scheme should be extended to include customers on IGT networks.

1.56. One respondent agreed that a simpler and more integrated quality of service regime could provide benefits for customers. This respondent's top priority in terms of service quality is that there are no disruptions to supply.

1.57. A respondent agreed that the cost saving incentives delivered via RPI-X need to be counter-balanced by a range of quality of service outputs and incentives. They considered that Option 3 (where we rationalise and update the existing arrangements, and introduce a combined performance measure for GDNs) has merit, but it could become complicated and would need shipper input to define performance measures.

1.58. One respondent was of the view that the IIP scheme has brought benefits in electricity, however in the case of gas it would be prudent to establish consistent reporting arrangements before introducing financial rewards and penalties.

*Funding for innovation*

1.59. With one exception, respondents were sceptical as to whether GDNs should receive an additional allowance to fund innovation.

*Scope for other new incentive schemes*

1.60. Three respondents support further action to improve the accuracy of pipeline records. One of these suggested that, given the results of previous safety exercises, it may also be appropriate to consider creating incentives to enhance the firm load shedding process. Finally, this respondent suggested that we consider an incentive to improve the accuracy of offtake meters.

**Ofgem's views***Capacity output incentives*

1.61. We note the support for caps, collars and sharing factors for the interruptions and offtake capacity booking incentives (and the lack of support for the RPI-X mechanism) as this is likely to protect GDNs from the uncertainties associated with uncontrollable price risk. This option is considered further in Chapter 5 alongside other options which would provide the GDNs with some protection from price risk.

1.62. One GDN has proposed a single incentive to cover a basket of quality of service and capacity outputs to avoid the risk of distorting incentives. A risk with this option is that the GDNs will trade off quality of service for capacity outputs with a consequent deterioration in the network. In Chapter 5 we consider whether the incentives should be more focused to ensure that appropriate trade offs occur.

1.63. We note respondents' views on the need for robust output measures to ensure that GDNs make appropriate trade offs and do not reduce network integrity but also raising concerns that Ofgem should not specify outputs to meet the 1 in 20 obligations. We consider that there is merit in further considering measures to minimise the risk that the GDNs will pursue efficiency incentives that may result in a deterioration of network security. This is discussed further in chapter 4.

*Rolling incentives and information quality incentive*

1.64. We note respondents' views on the strength of the incentives annual reviews of the rolling incentives, these issues are discussed in detail in chapter 5. One GDN proposed that the capex rolling incentive should be extended to seven years rather than five years to take account of longer asset lives in gas distribution than in electricity. However, this could be considered in terms of incentive strength rather than by extending the rolling period. One GDN considered that the capex rolling incentive will be difficult to set in practise as capex requirements are difficult to

forecast in advance. We consider that settlement of costs on an annual basis may minimise this risk.

1.65. We note respondents' views on the information quality incentive and the opex rolling incentives our views are discussed in detail in chapter 5.

#### *Mains replacement incentive*

1.66. We note the general support for the mains replacement incentive and our views on many of the proposed adjustments to the scheme are set out in chapter 5. One respondent considered that the mechanism should be reviewed. We have undertaken some analysis set out in chapter 5 which suggests that the mains replacement incentive has brought benefits to consumers and we would be grateful for comments on this analysis. Our initial view is that the revenue cap should not be removed as it provides a safety net for consumers. We will be reviewing the cap as part of the mains replacement review.

1.67. The issues associated with smoothing the mains replacement revenue adjustment are discussed in paragraphs 2.32 to 2.37 of the consultation document which considers charging variability.

#### *Quality of service*

1.68. We propose to implement a number of changes to the existing quality of service and outputs arrangements as outlined in chapter 4 within the main document. In line with GDN and other respondents' comments our priority is to simplify and rationalise the current arrangements to ensure that they are easier for consumers to understand and to enable more consistent and more reliable data reporting by GDNs.

1.69. Three GDNs and one other respondent supported the introduction of a combined performance measure but we believe that the priority at this time is the rationalisation of the existing framework as outlined above. We consider that a combined performance measure could be complicated and potentially misleading since performance under it would in part depend on the potentially arbitrary weightings given to the different standards. We believe that there is a need to improve the accuracy of reporting and that the introduction of a combined performance measure at this time could potentially mask the importance of changes in companies' actual performance against individual measures.

1.70. We believe that a simpler solution would be to introduce a balanced score card system, as outlined in chapter 4 within the main document. This would have the benefit of enabling simpler comparisons between GDNs on a range of key measures, but would avoid the greater complexities involved in a more formal approach such as a combined performance measure.

1.71. One GDN supported the removal of all of the overall standards and the specific guaranteed standard that requires GDNs to provide alternative heating and cooking facilities to priority customers (GSOP3). Other GDNs suggested that the scope of the quality of service and outputs framework should remain the same, but should be simplified. We are proposing, as outlined in chapter 4, to remove the overall standards of performance and GSOP3 but will replace them with guaranteed standards or licence conditions. This will ensure that the same level of protection is afforded to customers as under the current regime but will remove reporting requirements where these are not currently adding value.

1.72. Our proposals for TPWI are outlined in chapter 4 and are broadly in line with the comments raised by respondents to the second consultation document. Two GDNs raised concerns with our proposal to remove the annual liability cap as this would increase their exposure to liabilities, although one other respondent suggested that the cap was unfair. We propose to remove the cap and replace it with a cost pass through mechanism. This will have the benefit of ensuring that all consumers receive an equal level of protection but without increasing GDNs' liabilities and their corresponding insurance premiums.

1.73. We also propose in chapter 4 to extend the scope of the TPWI arrangements to include consumers on IGT networks. We propose to do this by including all interruptions measures within the guaranteed standards regime.

#### *Funding for innovation*

1.74. We note respondents' views on the funding for innovation incentive. Our views are set out in detail in chapter 5.

#### *Scope for other new incentive schemes*

1.75. Only one GDN supported the introduction of an incentive scheme for gas pipeline record accuracy but three other respondents supported action to improve these records. One respondent suggested that we should focus on minimising disruptions. We view the accuracy of records as an important issue both in terms of competition and in terms of safety and believe that an incentive scheme could be an appropriate means of addressing this complex area. We propose an incentive scheme in chapter 5 of the main document and suggest that we would work with the HSE to develop a scheme appropriate for both parties.

## **Responses to Chapter 5 - Financial issues**

1.76. This chapter sets out Ofgem's initial view on how to address financial issues such as the cost of capital, tax, depreciation and financeability. It also sets out Ofgem's initial view on pensions. We asked respondents the following questions:

- What, if any, financial indicators should be used to assess financeability?

- 
- Should Ofgem use its traditional approach to calculate the cost of capital or should other approaches be considered?
  - How should Ofgem approach the issue of the level of gearing to be used in the calculation of the tax allowance? Should Ofgem ensure that consumers share in any benefits arising from companies having higher actual gearing than the regulatory assumption?
  - Are there any arguments for changing the depreciation rates used in the price control?

1.77. In addition, we asked respondents several questions regarding pensions. We are addressing pensions as part of the one year control. Consequently, respondents' views on pensions are presented in Appendix 5 of the GDCPR One Year Control Initial Proposals document, even though these questions were identified as main control issues in the second consultation document.

### **Views of GDNs**

1.78. GDNs suggested a variety of indicators that Ofgem should take into account when assessing financeability. These indicators tended to reflect those used by credit rating agencies.

1.79. With regard to the approach used to calculate the cost of capital, GDNs advocated the use of the Capital Asset Pricing Model (CAPM) supported by cross-checks using other approaches, such as the Fama French and dividend growth models.

1.80. All GDNs supported the use of a notional level of gearing for regulatory purposes, with two expressing support for a notional level of gearing consistent with that used in DPCR4 (i.e. 57.5 per cent). Several GDNs said that the level of gearing assumed for the purpose of calculating GDN's tax allowances should be consistent with the level assumed when setting the cost of capital. In general, GDNs do not support policies designed to share the benefits of higher than assumed gearing level between customers and companies. They consider that gearing rates should be a matter for the company, not the regulator.

1.81. GDNs were generally supportive of retaining current depreciation rates. However, they suggested that there are a number of factors which could mean that it is necessary to reconsider depreciation, including:

- any changes to the percentage of repex that is capitalised;
- the stranding risk associated with the potential depletion of gas supplies going forward; and,
- financeability issues in the event that GDNs face a depreciation "cliff-face".

1.82. One GDN also suggested that any decision to introduce a post-tax cost of capital would require careful consideration as part of the main review.

**Views of other respondents**

1.83. One respondent suggested that Ofgem should use the same financial indicators to assess financeability as were used in DPCR4 unless there is evidence that they are inappropriate.

1.84. Two other respondents said that Ofgem should continue to use CAPM to calculate the cost of capital. Another respondent said that Ofgem should calculate the cost of capital using a combination of CAPM and the dividend growth model.

1.85. A respondent did not support ex-post tax adjustments where the actual gearing and interest expense exceed the levels assumed when setting the cost of capital. Rather, this respondent considered that Ofgem should assume a notional level of gearing that challenges the companies.

1.86. Two respondents commented on depreciation. Both considered that Ofgem should continue to use existing depreciation rates during the main control.

**Ofgem's views**

1.87. We note that suggested ratios for financeability tests are based either on those used in DPCR4 or those used by the credit rating agencies. Some ratios fall into both groups, but, for rating gas distribution businesses, all three of the accredited agencies also use adjusted interest cover ratios (adjusted FFO/cash interest payments), where the 50 per cent of repex that is expensed for regulatory purposes (see below for further details) is deducted from the FFO.

1.88. We note that there is broad support for the continuing Ofgem policy of using CAPM as the main framework for assessing the cost of capital, whilst having regard to other factors, including the results suggested by alternative approaches.

1.89. We agree with the assertion that gearing is a matter for the companies, but still consider it is appropriate to discourage excess gearing. While market signals will make it harder for the companies to over-gear, there is a risk with regulated utilities that an assumption that the regulator will bail out financially distressed companies could lead to over-gearing. The level of notional gearing we assume will be determined as part of our cost of capital analysis.

1.90. Our views on the specific points raised by GDNs on depreciation are as follows:

- Since the current depreciation rate is based on a weighted average of RAV asset lives, we agree that it would be appropriate to review it if the repex capitalisation policy changes;
- We do not consider that it would be possible to obtain significantly robust evidence on the long-term stranding issue to make an adjustment for this factor, if indeed one is required; and,

- 
- The depreciation methods currently in use will not generate a cliff-face, and so this issue does not require consideration.

## Responses to Chapter 6 - Other issues

1.91. This chapter sought views on some options for the funding of xoserve and facilitating network extensions. It also discussed and sought views on arrangements for independent systems. Respondents were asked the following questions:

- Are the three options for the funding of xoserve appropriate? Should we consider different options?
- Should Ofgem consider the outcome of an industry dialogue as part of its assessment of the funding required to replace UK-Link?
- Which, if any, of the 5 options for facilitating network extensions should Ofgem consider in more detail?
- Should Ofgem introduce a licence condition that requires NGG NTS to recover the excess costs associated with independent systems on behalf of GDNs?

### Views of GDNs

1.92. All of the GDNs favour Option 3 (i.e. core services plus user pays). One GDN did however state that they are disappointed that a more radical approach has not been considered. Another GDN noted that although Options 1 and 2 are practical, they carry the risk of parties raising self-serving modifications that they are not exposed to the cost of, which could lead to inefficiently incurred costs. Finally a GDN stated capex that benefits both transporters and shippers (e.g. UK Link) should be fully funded as part of the price control as there is no certainty of selling additional services to shippers.

1.93. All of the GDNs support Ofgem's consideration of the outcome of an industry dialogue as part of its assessment of the funding required to replace UK-Link. One of the GDNs stated that costs must be placed fairly on those parties that benefit from changes and increases in specifications.

1.94. In general, GDNs mostly supported Options 3, 4 and 5 for facilitating network extensions. One GDN stated that none of the options on their own address barriers such as the cost of new boilers, appliances and improved insulation. This GDN suggested an alternative option that builds on Options 4 and 5 and consists of amending the economic test, which (if met) increases the scope of funding made by the GDN to infill projects to fuel poor communities. Another GDN suggested implementing Options 3, 4 and 5 in combination with each other. Two GDNs expressed some support for Option 2 but acknowledged that it implies a significant cross subsidy and on its own would not make a significant impact.

1.95. One GDN considered that independent systems could either be funded by GDNs through the price control or by the NTS through its price control. Another GDN stated that it would be better to implement the DTI's policy requirements in relation to SIUs in the manner it suggested in a separate letter to Ofgem rather than retain

the current arrangements which are too complicated. A GDN suggested that Ofgem incorporate a new licence condition within the NTS licence which mirrors the current legal undertaking and permits NTS to recover the revenue related to these costs on an ongoing basis.

### **Views of other respondents**

1.96. Three other respondents considered the current model acceptable, but two of these acknowledged that there could be some benefit to a "core services and user pays" model. Three other respondents supported Option 3.

1.97. All but one other respondent agreed that the outcome of an industry dialogue should be considered as part of its assessment of the funding required to replace UK-Link. Although one of these agreed, it expressed disappointment that its proposals have not been considered. Xoserve stated that it must engage in the industry dialogue and it expects to take a leading role in discussions on the scope of the UK Link re-write. Finally, a respondent stated that it is unclear how an informed dialogue on the future replacement of UK Link can take place outside of the GDPCR therefore Ofgem should facilitate the dialogue requirements.

1.98. With regard to network extensions, two respondents considered that funding of complementary measures such as installation of gas central heating and insulation should be included as part of any infill scheme. Two respondents agreed that better targeting and coordinating of existing funding is required. One of these respondents stated that this does not however imply that there is no need for regulatory intervention. Two other respondents did not agree with Option 1 as the current situation is not satisfactory. Two respondents considered that Option 3 would not have a sizeable impact on generating additional activity in network extensions. One respondent considered that Option 3 should be further explored, and suggested that the answer may be more cooperation between IGT and GDN. Another respondent supported Option 3 but only if it rewards high standard of customer service. A respondent suggested that Option 2 be implemented together with other options and that Ofgem should consider microgeneration. One respondent expressed some concern over Options 4 and 5. Finally, one respondent strongly favoured Option 5.

1.99. A respondent stated that it may not be appropriate for licensed parties to recover all monies associated with independent systems; however it is not appropriate for GDNs to received double funding in respect of these undertakings.

### **Ofgem's views**

1.100. Ofgem's views on the funding of xoserve are set out in chapter 8. At our request, the industry has established a dialogue which is being managed by the Joint Office. Further work to develop the core services plus user pays model is required before we can form a view on the xoserve funding arrangements.

1.101. Ofgem's early view on facilitating GDNs to carry out network extensions is discussed in chapter 7 of the main document. We are considering whether a combination of different options may be the most effective way forward. Before we finalise our view, we will further develop the various options (including a new one proposed by a GDN) and quantify their costs and benefits.

1.102. If the Secretary of State decides to renew his requirements relating to independent systems, then it may be necessary to adjust the price control arrangements to reflect the new alternative arrangements. We would seek to avoid any double counting in the price control.

## **Responses to Chapter 7 - Timetable and process**

1.103. Chapter 7 set out the timetable for the rest of GDPCR and Ofgem's position on the use of Impact Assessments. We asked for respondents' views on what issues we should consider in an Impact Assessment.

### **Views of GDNs**

1.104. Two GDNs agreed with the issues we listed that may be considered in an impact assessment. One of them added the move to a post-tax cost of capital. A GDN stated that impact assessments should be conducted for areas that impose a cost on either the GDNs or customers in general. It listed the following issues that should be considered as part of any impact assessment: exit and interruptions reform, network extensions, cost reporting frameworks, changes to the Standards of Service regime and xoserve.

### **Views of other respondents**

1.105. Only two other respondents made comments on chapter 7. One of them stated that Ofgem should quantify and publish the benefits due to customers generated under the current control as a direct result of DN Sales. In addition to the issues listed by Ofgem, this respondent considered that an Impact Assessment may be appropriate on certain aspects of the UK Link replacement proposals. The other respondent listed pensions as another issue.

### **Ofgem's views**

1.106. We note that some of the suggested impact assessments will be undertaken as part of separate workstreams. For example the impact assessment for NTS offtake reform has been published as part of the TPCR consultation while the interruption reform impact assessment will be consulted on as part of the interruption reform consultation.

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## Appendix 6 – Initial impact assessment on facilitating network extensions

### Introduction

1.1. The initial impact assessment includes a qualitative assessment which, along with our proposed methodology for the final impact assessment, will be published as part of the initial proposals document in May 2007.

1.2. The options we are considering going forward (as described in chapter 7 of the main document) are:

- Option 1 – No regulatory intervention;
- Option 3 – Implement an incentive scheme;
- Option 5 - Treat income from network extensions that tackle fuel poverty as excluded revenue (as proposed by WWU); and,
- Option 6 - Amend the economic test for network extensions that tackle fuel poverty (as proposed by NGG).

### Qualitative assessment

1.3. The following table sets out a preliminary qualitative assessment of each of the options.

**Table A6. 1 – Qualitative assessment of Options 3, 5, and 6 relative to Option 1**

	Criteria			
	Effect on competition	Effectiveness in encouraging network extension activity	Effect on costs borne by existing consumers	Ease of implementation
Option 1 – No regulatory intervention	-	-	-	-
Option 3 – Incentive scheme	-	✓	×	×
Option 5 – Treat income as excluded	×	✓	-	×
Option 6 – Amend economic test	✓	✓	-	×

1.4. Please note that if Option 5 is adopted then it may be necessary to amend the IGT licences so that they have the opportunity to adopt this strategy as well. In this case, Option 5 would have a positive impact (i.e.✓) on competition.

1.5. Our initial view is that Option 3 could be implemented as a complement to either Option 5 or Option 6. However, before we can make a decision it is necessary to develop the options in more detail and to quantify the costs and benefits.

## Further analysis

1.6. In the final impact assessment, we propose to consider the costs and benefits of the various options in terms of three key criteria:

- effectiveness in encouraging network extension activity, and hence the social and environmental benefits likely to be delivered;
- effect on costs borne by existing consumers; and,
- ease of implementation.

1.7. This section outlines our proposed methodology to quantify the benefits of each option in terms of their effectiveness in facilitating network extensions. We will present the results of our modelling in the final impact assessment as an attachment to the GDPCR initial proposals document.

1.8. The benefits associated with gas network extensions include social and environmental benefits. The level of these benefits under each option is directly related to the effectiveness of the option in stimulating network extension activity.

1.9. We propose to estimate the benefits associated each option using the following methodology:

- estimate the connection charge per infill customer (CCPIC) under each of Options 1, 5, and 6 applied in combination with and without an incentive scheme;
- estimate the level of network extension activity that would be likely to arise under each of Options 1, 5 and 6 applied in combination with and without an incentive scheme; and,
- estimate the social and environmental benefits associated with the level of network extension activity that would arise under each option (applied in combination with and without an incentive scheme).

### *Calculate the connection charge per infill customer*

1.10. To calculate the CCPIC, we will use a set of generic non-gas communities which will be differentiated based on criteria currently used by the Design & Demonstration Unit (DDU). Variables include distance from the existing main, reinforcement costs (if any), size of community, geology, age of community, and proportion of social housing. This will give us three notional communities: easy to connect, intermediate

and hard to connect. This classification will determine the overall cost that the GDN would incur in order to connect each class of community.

1.11. The following table outlines the steps that will be taken to calculate CCPIC under Options 1, 5, and 6.

**Table A6.2 – Steps to calculate CCPIC under Options 1, 5, and 6**

Option 1 – No regulatory intervention	Option 5 – Treat income as excluded	Option 6 – Amend economic test
Determine total up front connection cost of infill project: Add cost of mains & services. Add cost of reinforcement if any. If any, cost only included if Economic Test is not met. Subtract GDN contribution if it levies a surcharge <sup>5</sup> .	CCPIC = 23 metre standard connection charge	Determine total up front connection cost of infill project: Add cost of mains & services. Subtract amended economic test contribution. Subtract GDN contribution if it levies a surcharge.
Calculate CCPIC = (total up front connection cost)/ (# of households * uptake rate)		Calculate CCPIC = (total up front connection cost/ # of households* uptake rate) - PI , where PI= per customer amended economic test contribution
In summary, CCPIC = f(uptake rate, reinforcement, surcharge)		In summary, CCPIC = f(uptake rate, reinforcement, surcharge, amended economic test contribution)

#### *Estimate the level of network extension activity*

1.12. Once we have estimated the CCPIC, we propose to estimate the level of network extension activity that is likely to occur under each option. To do this we will compare the CCPIC under each option with the amount that each notional community can actually afford to pay.

1.13. As discussed in the main document, Option 3 could be applied in combination with any of the other options. To estimate the effect of Option 3 we will vary the

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<sup>5</sup> In January 2004, GT licensees were modified in a way that allows them to levy a surcharge on transportation charges of up to 10 pence per therm over a period of 20 years. This modification is intended to reduce the up front connection charges faced by infill consumers. GTs are incentivised to finance a proportion of up front connection charges, which would (partially) reflect future revenue from transportation charges collected from the newly connected customers. However, in practice this arrangement has not worked as customers are unwilling to make a long-term commitment of higher ongoing charges.

uptake rate that is used to calculate the CCPIC. In the absence of Option 3, we will assume an uptake rate of one third. When an option is being applied in combination with Option 3, we will assume an uptake rate of two thirds.<sup>6</sup> We note that the combination of Option 1 and Option 3 is equivalent to applying Option 3 as a stand alone option.

*Estimate the social and environmental benefits*

1.14. We will estimate the likely environmental benefits under each option. This will be based on the expected per household reduction in emissions of greenhouse gases and other air pollutants by switching to gas as it is generally associated with lower levels of emissions than other domestic heating fuels. The level of network extension activity in each generic community that arises under Options 1, 5 and 6 (with and without Option 3) will then be used to estimate the change in emissions for the community as a whole.

1.15. To calculate the social benefit, we will estimate the potential savings that each generic community could make by connecting to the gas network under Options 1, 5 and 6 (applied with and without the incentive scheme in net present value terms). As gas is considered a cheaper source of energy for heating and cooking than its alternatives<sup>7</sup>, one way of reducing the incidence of fuel poverty is replacing the existing fuel source in non-gas communities with gas by extending the distribution network.

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<sup>6</sup> These assumptions are based on historic experience of uptake rates with and without the involvement of the DDU. The DDU's work to coordinate infill projects and obtain government funding has had the effect of increasing uptake rates from one third to two thirds.

<sup>7</sup> According to the Fuel Poverty Action Group (FPAG), the average heating costs for an existing flat per annum is £306 using gas, £346 using oil, £656 using electricity and £684 using LPG (SAP 2001 prices inflated to Q2 2006 using RPI data).

## Appendix 7 - Initial impact assessment on the funding of xoserve

### Background

1.1. An important aspect of the industry restructuring that occurred as part of GDN sales was the establishment of a transporter agency (known as 'xoserve') which provides a single, uniform interface between the IT systems of relevant gas transporters (GTs)<sup>8</sup> and shippers. Xoserve is responsible for a variety of functions such as invoicing shippers for use of the transportation system and managing the change of supplier process. As such, its services are crucial to both the operations of its owners (the GDNs and NGG NTS) and competition in the gas supply market.

1.2. Consistent with the arrangements in place prior to GDN sales, xoserve is funded jointly by GTs using price controlled revenue. However, the GDN sales documents recognised that there are alternative funding models, and that it would be appropriate to consider the funding of xoserve during the next price control review.

1.3. This initial impact assessment considers the costs and benefits associated with moving to a set of arrangements whereby xoserve receives part of its funding through a user pays mechanism. The two options are:

- Option 1 - do nothing; and,
- Option 2 - core services plus user pays.

1.4. Each option is described in paragraphs 8.5 to 8.25 of the main document.

### Cost benefit analysis

1.5. We consider that the key issues associated with the funding of xoserve are:

- *cost efficiency* - the funding arrangements should establish incentives for GTs, through xoserve, to incur only efficient costs. In addition, parties that influence the costs incurred by xoserve (such as shippers) should have incentives to limit the costs they impose;
- *responsiveness* - the funding arrangements should establish incentives for GTs, through xoserve, to provide services that customers want and are willing to pay for;
- *promoting competition* - the funding arrangements should support competition in the gas supply market;

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<sup>8</sup> The relevant GTs are the GDNs and NGG NTS. These GTs jointly own xoserve. In this impact assessment, references to "GTs" means the GDNs and NGG NTS and does not mean independent gas transporters (IGTs).

- *xoserve service standards* - the arrangements should ensure that that cost savings are not achieved at the expense of quality; and,
- *simplicity* - the funding arrangements should not be unduly complex or costly to administer.
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1.6. Table A7.1 summarises the costs and benefits of each option as discussed below.

**Table A7.1 Qualitative assessment of options\***

Criteria	Option 1 - Do nothing		Option 2 - Core services plus user pays	
	<b>Impact</b>	✓, ✗ or -	<b>Impact</b>	✓, ✗ or -
Cost efficiency	Provides incentives for GTs to constrain costs but not shippers	-	Provides incentives for GTs and shippers to constrain costs	✓
Responsiveness	GTs have an incentive to provide minimum level of service	✗	GTs have an incentive to respond to customer demands	✓
Promoting competition	Inefficient shippers do not bear the additional costs they impose on GTs	✗	Inefficient shippers bear the additional costs they impose on GTs	✓
Xoserve standards	Could be positive or negative, depending on the quality of service regime	-	Quality of service regime is still an important factor however there are improved incentives for service quality.	✓
Simplicity	Easy to understand, no IS changes required.	✓	More complicated, could require IS changes.	✗
Overall		✗		✓

\* As the GTs own xoserve, references to GTs should be taken to include xoserve.

### ***Cost efficiency***

1.7. In 2006-07 GTs will incur £40.5 million of xoserve costs under the Agency Services Agreement (ASA). Xoserve anticipate that costs will be higher over the next price control period due to upcoming major projects such as the UK Link replacement. Ofgem is reviewing xoserve's cost forecasts as part of its usual price control processes.

1.8. Options 1 and 2 create similar incentives for xoserve and GTs to incur only efficient costs via the price control mechanism. However, under Option 2, any costs associated with the provision of user pays services will need to be recouped from the party receiving the service.

1.9. Xoserve's costs are partially driven by factors within the control of shippers. For instance, xoserve's costs will increase if shippers increase their usage of the

customer enquiry service or if they submit poor quality data. Under Option 1, the shippers have only limited incentives to constrain such costs because they do not pay for xoserve's services other than through their gas transportation charges. Under Option 2, shippers (and other customers) would be charged for xoserve's user pays services in accordance with their usage.

1.10. Other things being equal, it is reasonable to expect xoserve's overall costs for a given level of output to reduce under Option 2 as a result of the more efficiently aligned incentives.

### ***Responsiveness***

1.11. Under Option 1, the revenue that GTs receive to cover xoserve's costs are fixed for the duration of the price control. Consequently, in between price control reviews, GTs have an incentive is to provide a minimum level of service. Option 2 creates an opportunity for GTs to earn additional revenue by providing additional user pays services. It therefore incentivises GTs, through xoserve, to provide services that customers want. This benefit potentially has two dimensions:

- *existing services* - GTs have an incentive to be more responsive in meeting shippers needs in relation to existing services that are classified as user pays; and,
- *new services* - GTs have an incentive to develop new services that customers want.

1.12. New services could be provided to shippers or to other parties, such as independent gas transporters (IGTs).

1.13. Ineffective governance arrangements may limit the extent to which new services are established under Option 2. It may be appropriate to review the UNC Class 3 Modifications process and/or consider alternative governance arrangements (such as the SPAA), however this is beyond the scope of GDPCR. We note that if shippers start to use the existing UNC Class 3 Modifications process to introduce new services, then Option 2 has an advantage over Option 1 because it would allow the price control arrangements to respond flexibly to changed circumstances.

### ***Promoting competition***

1.14. Option 2 promotes competition in the gas supply market by facilitating the provision of beneficial new services sought by shippers.

1.15. In addition, Option 2 promotes competition by establishing more cost reflective charging arrangements. Option 1 allows inefficient shippers to benefit from a "free ride" because they are not exposed to the additional costs that they impose on xoserve. Instead these costs are recovered from the generality of shippers through transportation charges. Under Option 2, individual shippers are charged directly for the costs that they cause xoserve to incur.

1.16. The extent to which this second effect is achieved in practice depends on how xoserve services are allocated between core services and user pays services.

### **Xoserve service standards**

1.17. The standards of services that xoserve is required to achieve are currently set out in contractual documents. The ASA, which is the contract between GTs and xoserve, obliges xoserve to meet certain standards. The ASA reflects the shipper service standards set out in the UNC, which sets out the contractual arrangements between GTs and shippers.

1.18. The service quality arrangements complement the funding arrangements. They could be weak or strong under either of Options 1 and 2. That said, we note that GTs have stronger incentives for service quality under Option 2, as they can earn additional revenue for selling additional services. It is also possible that xoserve's customers could agree to pay higher prices for a premium quality service.

1.19. Ofgem has sought views on all aspects of the quality of service regime applying to GDNs as part of GDPCR. In addition, quality of service is one of the issues to be explored as part of the industry dialogue on the funding of xoserve. Ultimately, however, it is up to UNC parties, not Ofgem, to propose changes to the service standards via the UNC modification process.

### ***Simplicity***

1.20. Option 1 has an advantage over Option 2 in that it is easy to understand and does not involve any changes to the existing arrangements. Option 2 has the potential to involve IS changes and a new governance regime, which would involve implementation and ongoing costs. Further, if the delineation between core services and user pays is poorly defined, then there is potential for the arrangements to become complex.

1.21. The ambiguity under Option 1 relating to the regulatory treatment of xoserve's additional services (see paragraph 8.6 of the main document) has the potential to create issues going forward.

1.22. The additional complexity associated with Option 2 needs to be weighed against its benefits in terms of correctly aligned incentives and promoting competition.

### **Conclusion**

1.23. On the basis of the considerations set out above, our initial preference is for Option 2. However, in order to conduct a full assessment, it is necessary to develop a more detailed view of how it would operate in practice. We explain how we propose to do this in paragraphs 8.23 to 8.25 of the main document.

## Appendix 8 - Initial impact assessment on quality of service

### Introduction

1.1. This initial impact assessment considers the costs and benefits of each of the options for the quality of service and outputs framework arrangements for 2008-2013. The initial impact assessment focuses on two options which are discussed in detail chapter 4 of the main document. It is envisaged that this analysis will form part of the impact assessment which we will publish as part of the GDPCR initial proposals in May 2007. This appendix also sets out the further work we will undertake as part of the impact assessment.

1.2. The options we are considering are:

- Option 1 - Do nothing and maintain the existing arrangements; and,
- Option 2 - Rationalise and simplify the quality of service and outputs framework and improve measurement.

### Cost benefit analysis

1.3. We consider that the key issues for the quality of service and outputs framework are to ensure that the arrangements:

- *protect the interests of consumers* - Price controls provide strong incentives for GDNs to reduce costs and the aim of the quality of service arrangements is to provide an important counterbalance to this to ensure that customers are protected and provided with an appropriate level of service;
- *improve the accuracy and reliability of data recorded and reported by GDNs* - In a number of areas the data submitted by GDNs is not robust. Although the accuracy of data has improved since the last price control review there are still a number of amendments that need to be made to ensure that we can measure quality of service appropriately and accurately; and,
- *encourage further comparative competition between GDNs* - One of the benefits of GDN Sales is that it is now easier to compare the relative performances of different GDNs. Comparing the performance of GDNs against the quality of service measures would incentivise GDNs to improve their performance.

1.4. An initial qualitative assessment of each of the options proposed in the main consultation document is set out in the table A8.1 below.

**Table A8.1 Quality of service qualitative assessment**

	Criteria		
	Protect the interests of consumers	Improve the accuracy and reliability of data	Encourage further comparative competition between GDNs
Option 1: Do nothing	✓	✗	✗
Option 2: Rationalise and simplify the quality of service and outputs framework	✓✓	✓✓	✓

1.5. Our initial preference is to implement Option 2 as this will better protect the interests of consumers and will encourage further comparative competition by improving the accuracy and reliability of the data recorded and reported by GDNs.

### Further analysis

1.6. We are consulting on these options both through responses to this document and via the industry dialogue.

1.7. We are undertaking a programme of consumer research that will seek domestic and non-domestic consumers' views on the quality of service and outputs framework and how they feel this could be improved. The consumer research conducted so far has involved eight focus groups with domestic consumers, eight interviews with priority domestic consumers and twenty four interviews with businesses. The next stage of the consumer research will be to complete a telephone survey with 1,200 domestic consumers and 600 businesses. The final consumer research report will be completed in December 2006.

1.8. We intend to publish an impact assessment as an attachment to our initial proposals document.

## Appendix 9 - Initial impact assessment of the capital and operating expenditure rolling incentives and the information quality incentive

### Introduction

1.1. This appendix sets out an initial cost benefit analysis for each of the options for the capital and operating expenditure rolling incentives and the information quality incentive. The issues and options are discussed in detail in paragraphs 5.3 to 5.29 of the consultation document. The appendix also sets out the further work we will undertake as part of the draft impact assessment which we will publish as part of the GDPCR initial proposals in May 2007.

### Qualitative analysis

#### Capital expenditure rolling incentive and information quality incentive

1.2. In the consultation document we considered the capital expenditure rolling incentive should be considered alongside the information quality incentive. Consequently, the capex rolling incentive would ensure that the GDNs retain any efficiency savings for a fixed five year period while the information quality incentive would set the strength of the incentive based on the accuracy of the GDN's forecast for capex spend. In the consultation document we considered that there were two options:

- Option 1: implement a capex rolling incentive and modify it with an information quality incentive; and,
- Option 2: do not implement a capex rolling incentive or information quality incentive.

1.3. We consider that the key issues for cost benefit analysis are:

- minimising the risk of inflating the capex allowance - by ensuring that GDNs have incentives to submit accurate capex spend forecasts;
- minimising the risk of deferring necessary investment- a weak incentive which passes relatively fewer cost savings to the GDNs than a strong incentive is likely to minimise the risk;
- minimising the risk of over investment in the network - by encouraging GDNs to make efficiency savings thereby reducing the likelihood of over spends and price control re-openers;
- minimising implementation costs - by minimising the complexities of the incentives; and,
- minimising the costs of regulation - by minimising the need for a detailed ex post review and the resources associated with the review.

**Table A9.1 Capex rolling incentive and information quality incentive qualitative assessment**

	Criteria				
	Minimise risk of inflating the capex allowance	Minimise risk of deferring necessary investment	Minimise risk of over investment in the network	Minimise implementation costs	Minimise the costs of regulation
Option 1: capital expenditure rolling incentives with information quality incentive	✓	xx	✓	x	✓
Option 2: No capital expenditure incentive or information quality incentive	x	x	x	✓	x

1.4. Our initial view is that Option 1 should be implemented.

### Opex rolling incentive

1.5. In the consultation document we noted that there were problems with implementing an opex roller in terms of encouraging companies to artificially increase opex savings by capitalising their opex costs, because of the relative strengths of the opex and capex incentives, and also to game the opex rolling incentive by making savings at the end of the price control period in order to maximise future opex allowances.

1.6. Prior to the initial proposals document we will review whether the opex rolling incentive can be adapted to minimise the gaming risk and whether improvements to reporting obligations and, possibly, the alignment of the capex and opex incentives could alleviate these concerns.

### Further analysis

1.7. In the draft impact assessment we will assess:

- the business plan questionnaires (BPQ) capex forecasts and our consultant's forecasts to design an appropriate incentive strengths for the information quality incentive;

- 
- the strength of the incentive under the information quality incentive and the likely impact of the misalignment of the capex and opex incentives;
  - the potential for capitalising opex costs after strengthening the reporting obligations. We will also review the scope for trade offs between capex and opex spend;
  - the impact that aligning the capex and opex incentives may have, particularly in light of the different capex incentive strengths that GDNs will have arising from the information quality incentive; and,
  - the cost risks associated with implementing the opex rolling incentive arising from capitalising opex costs after strengthening the reporting obligations and from gaming the incentive.

## Appendix 10 - Initial impact assessment on the capacity output incentives

### Introduction

1.1. This appendix sets out the costs and benefits of each of the options for the capacity output incentives. The issues and options are discussed in detail in paragraphs 5.62 to 5.87 of the consultation document. The appendix also sets out the further work we will undertake as part of the draft impact assessment which we will publish as part of the GDPCR initial proposals in May 2007.

### Qualitative analysis

1.2. In the main document we considered three options for the capacity outputs incentive:

- Option 1: Sliding scale incentives for NTS flat capacity, NTS flex capacity and interruptions and capex and opex allowances for the other capacity outputs delivered through investment on the GDN within the price control;
- Option 2: capex and opex incentives for each of the capacity outputs; and,
- Option 3: Flexibility capacity incentive for incremental NTS and LTS flex capacity based on the marginal cost of NTS flex capacity multiplied by the GDN's capex incentive.

1.3. We considered the options in terms of :

- incentives on GDNs to make efficiency savings;
- incentives to make efficient trade offs between the capacity outputs;
- incentives to manage uncertainties associated with NTS charges for flat capacity;
- incentives to manage uncertainties associated with demand for interruptible products; and,
- alignment of the incentives.

**Table A10.1 Capacity output incentive qualitative assessment**

	Criteria				
	Incentives for efficiency savings	Incentives for efficient trade offs	Managing NTS charging uncertainty	Managing interruption demand uncertainty	Better alignment of incentives
Option 1 - sliding scale incentive	✓	✓	✓	✓	✗
Option 2 - capex and opex incentives	✓✓	✓	✗	✗	✓
Option 3 - flexibility capacity incentive	✓✓	✓✓	✗	✗	✓✓

## Further analysis

1.4. In the draft impact assessment we will:

- assess GDN forecasts for flexibility capacity and flat capacity products;
- scope out the trade offs between the capacity outputs and in particular the scope for trading off flat capacity products with interruptions; and,
- undertake analysis of the marginal cost of incremental capacity and the marginal costs of other flexibility products.

## Appendix 11 - Initial impact assessment on the mains replacement incentive

### Introduction

1.1. This appendix sets out the costs and benefits of each of the options for the treatment of mains replacement costs. The issues and options are discussed in detail in paragraphs 5.30 to 5.61 of the main document. The appendix also sets out the further work that we will undertake as part of the draft impact assessment which we will publish as part of the GDPCR initial proposals in May 2007.

### Qualitative analysis

1.2. In the main document we considered three options for the mains replacement incentive:

- Option 1: retain the current mains replacement incentive and amend it to include associated services costs and more pipe diameter bands to take account of the unit costs for larger diameter pipes;
- Option 2: set a mains replacement allowance based on our best estimates of the volume of mains that is likely to be replaced over the price control period; and,
- Option 3: set a mains diameter revenue driver so that GDNs have incentives to make efficiency savings through the capex incentives.

1.3. We have considered the options in terms of:

- incentives to minimise mains replacement unit costs;
- the potential for GDNs to game the incentive;
- ease of implementation; and,
- ability to deal with changes to the work programme within the price control period.

1.4. Set out below is an initial qualitative assessment of each of the options proposed in the main consultation document.

**Table A11.1 mains replacement incentive qualitative assessment**

	Minimise mains replacement unit costs	Minimise incentives to game allowance	Ease of implementation	Deal with changes to work programme
Option 1: Retain the mains replacement incentive	✓✓	✓	✓	✓✓
Option 2: Set mains replacement allowance	✓	✓✓	✓	✗
Option 3: Set mains diameter revenue allowance	✓	✓✓	✓	✓✓

### Further analysis

1.5. We will undertake further analysis to assess the appropriate level of the mains replacement five year cap for each of the GDNs. We will also undertake analysis on the appropriate unit costs for mains replacement, including for larger diameter pipes and the additional associated costs of service related works.

1.6. We will review the sharing factors to determine whether it is appropriate to align the strength of the mains incentive with the capex incentive.

## Appendix 12 - GDN actual and forecast expenditure 2005-06 to 2012-13

## East England (owned by NGG)

Table A12.1 East England reported net capex, repex and opex 2005-06 to 2012-13, £m, 2005-06 prices

	05-06*	06-07	07-08	08-09	09-10	10-11	11-12	12-13	Total 08-09 to 12-13
<b>GDN Forecast Net Capex</b>									
LTS and Storage	12.0	2.9	7.3	7.6	8.6	9.1	19.0	10.5	54.8
Reinforcement & Governors	2.0	3.1	1.8	4.2	3.1	3.8	3.4	3.5	17.9
Connections	17.2	8.7	9.1	10.1	9.9	9.8	10.0	10.3	50.2
Non-operational	13.7	15.7	22.1	15.1	10.9	18.1	26.1	20.2	90.3
Operational	2.7	3.2	3.5	2.0	2.1	2.0	1.9	1.9	10.0
<b>Total Net Capex</b>	<b>47.7</b>	<b>33.6</b>	<b>43.7</b>	<b>39.0</b>	<b>34.6</b>	<b>42.7</b>	<b>60.4</b>	<b>46.5</b>	<b>223.2</b>
<b>GDN Forecast Net Repex</b>									
Mains	64.7	67.3	60.0	57.8	66.2	67.7	72.3	74.2	338.2
Services	39.1	42.2	36.2	35.0	38.8	39.1	38.4	39.5	190.9
LTS	0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.6	0.1	0.1	0.1	0.1	0.1	0.2	0.7
<b>Total Net Repex</b>	<b>104.0</b>	<b>110.0</b>	<b>96.4</b>	<b>92.9</b>	<b>105.1</b>	<b>107.0</b>	<b>110.9</b>	<b>113.9</b>	<b>529.8</b>
<b>GDN Forecast Opex</b>									
Direct activities	65.3	68.2	67.9	71.7	73.1	74.1	74.2	73.7	366.8
Indirect activities	36.1	38.3	39.5	37.6	38.0	36.9	37.0	37.1	186.6
Shrinkage	14.1	14.2	14.0	13.4	12.9	12.5	12.0	11.3	62.1
Pensions	6.1	9.4	25.3	17.4	17.8	17.8	17.2	18.2	88.4
<b>Controllable opex</b>	<b>121.6</b>	<b>130.1</b>	<b>146.7</b>	<b>140.1</b>	<b>141.8</b>	<b>141.3</b>	<b>140.4</b>	<b>140.3</b>	<b>703.9</b>
Rates	48.8	57.2	60.4	60.4	60.4	60.4	60.4	60.4	302.0
Licence fees	1.8	1.7	1.7	1.6	1.6	1.5	1.5	1.4	7.6
<b>Total opex</b>	<b>172.2</b>	<b>189.0</b>	<b>208.8</b>	<b>202.1</b>	<b>203.8</b>	<b>203.2</b>	<b>202.3</b>	<b>202.1</b>	<b>1013.5</b>

\* 2005/06 figures are actuals

## London (owned by NGG)

Table A12.2 London reported net capex and repex 2005-06 to 2012-13, £m, 2005-06 prices

	05-06*	06-07	07-08	08-09	09-10	10-11	11-12	12-13	Total 08-09 to 12-13
<b>GDN Forecast Net Capex</b>									
LTS and Storage	3.2	8.8	38.5	26.8	9.0	8.8	22.7	17.9	85.2
Reinforcement & Governors	1.3	2.2	3.3	3.7	3.5	3.6	5.3	3.9	19.9
Connections	6.6	5.1	5.1	5.3	5.3	5.6	5.6	5.7	27.6
Non-operational	5.5	8.4	13.4	11.4	6.6	9.6	14.2	11.6	53.5
Operational	2.3	1.2	1.5	1.5	1.4	1.5	1.4	1.5	7.2
<b>Total Net Capex</b>	<b>18.7</b>	<b>25.7</b>	<b>61.9</b>	<b>48.7</b>	<b>25.8</b>	<b>29.1</b>	<b>49.3</b>	<b>40.5</b>	<b>193.4</b>
<b>GDN Forecast Net Repex</b>									
Mains	27.2	29.3	52.7	71.3	63.0	66.8	68.4	65.5	335.0
Services	23.2	19.1	31.7	31.9	29.2	30.9	33.2	32.7	157.9
LTS	0.1	-0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2
Other	-0.3	-1.0	-0.4	-0.7	-0.6	-0.5	-0.5	-0.5	-2.9
<b>Total Net Repex</b>	<b>50.2</b>	<b>47.3</b>	<b>84.0</b>	<b>102.4</b>	<b>91.5</b>	<b>97.2</b>	<b>101.2</b>	<b>97.8</b>	<b>490.1</b>
<b>GDN Forecast Opex</b>									
Direct activities	41.4	48.0	47.1	51.2	51.3	53.8	55.3	54.7	266.3
Indirect activities	24.0	25.7	26.6	25.2	25.3	24.5	24.4	24.4	123.8
Shrinkage	8.1	8.1	7.6	7.2	6.9	6.7	6.4	6.0	33.2
Pensions	4.2	6.1	13.5	12.0	10.0	10.4	9.6	9.5	51.5
<b>Controllable opex</b>	<b>77.7</b>	<b>87.9</b>	<b>94.8</b>	<b>95.6</b>	<b>93.5</b>	<b>95.4</b>	<b>95.7</b>	<b>94.6</b>	<b>474.8</b>
Rates	23.5	27.5	29.1	29.1	29.1	29.1	29.1	29.1	145.5
Licence fees	1.1	1.0	1.0	0.9	0.9	0.9	0.9	0.8	4.4
<b>Total opex</b>	<b>102.3</b>	<b>116.4</b>	<b>124.9</b>	<b>125.6</b>	<b>123.5</b>	<b>125.4</b>	<b>125.7</b>	<b>124.5</b>	<b>624.7</b>

\*2005/06 figures are actuals

**North West (owned by NGG)****Table A12.3 North West reported net capex and repex 2005-06 to 2012-13, £m, 2005-06 prices**

	05-06*	06-07	07-08	08-09	09-10	10-11	11-12	12-13	Total 08-09 to 12-13
<b>GDN Forecast Net Capex</b>									
LTS and Storage	1.9	3.1	6.4	9.0	13.6	22.2	9.3	3.9	58.0
Reinforcement & Governors	0.9	2.0	4.1	3.6	5.5	6.4	5.1	7.9	28.4
Connections	8.3	3.6	3.6	3.8	4.2	4.3	4.7	4.7	21.7
Non-operational	10.5	10.1	15.1	9.8	8.2	13.7	17.8	14.2	63.7
Operational	3.3	1.6	2.2	1.5	1.6	1.5	1.6	1.6	7.8
<b>Total Net Capex</b>	<b>24.9</b>	<b>20.4</b>	<b>31.3</b>	<b>27.7</b>	<b>33.1</b>	<b>48.1</b>	<b>38.5</b>	<b>32.3</b>	<b>179.6</b>
<b>GDN Forecast Net Repex</b>									
Mains	47.1	58.0	75.7	71.0	71.3	70.2	71.9	68.5	352.9
Services	30.0	29.9	33.0	32.5	32.5	31.8	31.9	30.9	159.6
LTS	0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	-0.9	-0.3	-0.2	-0.3	-0.3	-0.3	-0.3	-0.2	-1.3
<b>Total Net Repex</b>	<b>76.3</b>	<b>87.4</b>	<b>108.5</b>	<b>103.1</b>	<b>103.5</b>	<b>101.8</b>	<b>103.6</b>	<b>99.2</b>	<b>511.1</b>
<b>GDN Forecast Opex</b>									
Direct activities	52.1	54.0	54.2	55.2	55.3	57.1	56.0	56.9	280.5
Indirect activities	27.5	29.1	29.9	28.5	28.7	28.0	28.1	28.1	141.4
Shrinkage	10.3	11.0	10.6	10.1	9.8	9.6	9.2	8.7	47.4
Pensions	4.8	7.0	15.5	14.0	10.4	11.0	11.3	12.5	59.2
<b>Controllable opex</b>	<b>94.7</b>	<b>101.1</b>	<b>110.2</b>	<b>107.8</b>	<b>104.2</b>	<b>105.7</b>	<b>104.6</b>	<b>106.2</b>	<b>528.5</b>
Rates	24.5	28.8	30.3	30.3	30.3	30.3	30.3	30.3	151.5
Licence fees	1.2	1.2	1.1	1.1	1.1	1.0	1.0	1.0	5.2
<b>Total opex</b>	<b>120.4</b>	<b>131.1</b>	<b>141.6</b>	<b>139.2</b>	<b>135.6</b>	<b>137.0</b>	<b>135.9</b>	<b>137.5</b>	<b>685.2</b>

\* 2005/06 figures are actuals

**West Midlands (owner by NGG)****Table A12.4 West Midlands reported net capex and repex 2005-06 to 2012-13, £m, 2005-06 prices**

	05-06*	06-07	07-08	08-09	09-10	10-11	11-12	12-13	Total 08-09 to 12-13
<b>GDN Forecast Net Capex</b>									
LTS and Storage	1.1	1.4	2.1	2.3	2.2	2.1	1.7	1.7	10.0
Reinforcement & Governors	0.7	2.9	2.7	3.0	2.3	2.7	3.3	3.3	14.6
Connections	6.5	3.4	3.1	3.3	3.4	3.5	3.6	3.6	17.5
Non-operational	5.3	7.1	10.2	8.2	5.4	8.9	11.7	8.9	43.1
Operational	1.4	1.5	1.8	1.2	1.5	1.4	1.5	1.5	7.1
<b>Total Net Capex</b>	<b>15.0</b>	<b>16.3</b>	<b>19.8</b>	<b>18.0</b>	<b>14.8</b>	<b>18.7</b>	<b>21.8</b>	<b>19.0</b>	<b>92.3</b>
<b>GDN Forecast Net Repex</b>									
Mains	28.7	36.6	58.0	49.0	47.4	46.2	47.1	45.4	235.2
Services	21.5	21.6	23.1	23.3	23.8	23.9	23.3	23.9	118.2
LTS	0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	-0.3	0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.7
<b>Total Net Repex</b>	<b>50.1</b>	<b>58.2</b>	<b>81.0</b>	<b>72.1</b>	<b>71.0</b>	<b>70.0</b>	<b>70.4</b>	<b>69.2</b>	<b>352.7</b>
<b>GDN Forecast Opex</b>									
Direct activities	33.9	35.3	34.7	36.7	48.4	38.9	38.8	38.7	201.5
Indirect activities	20.6	22.1	22.7	21.6	21.8	21.3	21.4	21.4	107.5
Shrinkage	8.7	8.6	8.3	7.9	7.6	7.4	7.1	6.7	36.7
Pensions	3.4	5.0	11.8	8.0	8.8	9.8	8.3	9.5	44.4
<b>Controllable opex</b>	<b>66.6</b>	<b>71.0</b>	<b>77.5</b>	<b>74.2</b>	<b>86.6</b>	<b>77.4</b>	<b>75.6</b>	<b>76.3</b>	<b>390.1</b>
Rates	19.2	22.5	23.8	23.8	23.8	23.8	23.8	23.8	119.0
Licence fees	0.9	0.9	0.8	0.8	0.8	0.8	0.7	0.7	3.8
<b>Total opex</b>	<b>86.7</b>	<b>94.4</b>	<b>102.1</b>	<b>98.8</b>	<b>111.2</b>	<b>102.0</b>	<b>100.1</b>	<b>100.8</b>	<b>512.9</b>

\* 2005/06 figures are actuals

## North England (owned by NGN)

Table A12.5 North England reported net capex and repex 2005-06 to 2012-13, £m, 2005-06 prices

	05-06*	06-07	07-08	08-09	09-10	10-11	11-12	12-13	Total 08-09 to 12-13
<b>GDN Forecast Net Capex</b>									
LTS and Storage	2.3	0.1	2.1	4.1	8.8	3.0	29.0	30.3	75.2
Reinforcement & Governors	3.8	5.1	5.8	6.3	6.6	6.9	6.9	6.9	33.6
Connections	8.2	10.1	9.2	9.3	9.1	9.6	9.5	9.7	47.2
Non-operational	12.9	15.7	17.9	24.5	17.3	8.8	12.9	9.1	72.5
Operational	0.1	1.6	3.4	7.6	5.3	4.8	4.8	4.3	26.9
<b>Total Net Capex</b>	<b>27.3</b>	<b>32.5</b>	<b>38.4</b>	<b>51.7</b>	<b>47.2</b>	<b>33.0</b>	<b>63.2</b>	<b>60.3</b>	<b>255.4</b>
<b>GDN Forecast Net Repex</b>									
Mains	43.7	45.0	46.3	46.5	48.9	51.1	52.6	54.3	253.3
Services	20.9	22.5	22.9	25.0	25.4	25.6	26.0	26.4	128.3
LTS	0.4	0.8	0.8	6.5	27.5	1.5	0.9	0.9	37.1
Other	-0.8	-0.2	-0.3	-0.2	0.1	0.2	0.1	0.1	0.1
<b>Total Net Repex</b>	<b>64.3</b>	<b>68.1</b>	<b>69.7</b>	<b>77.7</b>	<b>101.8</b>	<b>78.3</b>	<b>79.5</b>	<b>81.7</b>	<b>418.9</b>
<b>GDN Forecast Opex</b>									
Direct activities	54.9	53.6	54.3	56.7	56.3	55.7	56.2	55.2	280.1
Indirect activities	16.6	15.2	15.5	16.1	17.7	17.8	17.5	17.7	86.8
Shrinkage	10.8	11.5	10.8	10.9	11.2	11.6	11.9	12.1	57.7
Pensions	3.2	7.6	11.6	11.8	11.9	12.1	12.3	12.4	60.5
<b>Controllable opex</b>	<b>85.5</b>	<b>87.9</b>	<b>92.2</b>	<b>95.5</b>	<b>97.1</b>	<b>97.2</b>	<b>97.9</b>	<b>97.4</b>	<b>485.1</b>
Rates	24.3	28.6	31.9	32.2	32.6	32.9	33.2	33.6	164.5
Licence fees	1.0	1.2	1.2	1.2	1.2	1.3	1.3	1.3	6.3
<b>Total opex</b>	<b>110.8</b>	<b>117.7</b>	<b>125.3</b>	<b>128.9</b>	<b>130.9</b>	<b>131.4</b>	<b>132.4</b>	<b>132.3</b>	<b>655.9</b>

\* 2005/06 figures are actuals

## Scotland (owned by SGN)

Table A12.6 Scotland reported net capex and repex 2005-06 to 2012-13, £m, 2005-06 prices

	05-06*	06-07	07-08	08-09	09-10	10-11	11-12	12-13	Total 08-09 to 12-13
<b>GDN Forecast Net Capex</b>									
LTS and Storage	30.2	6.5	18.6	21.2	11.1	27.8	8.0	10.3	78.4
Reinforcement & Governors	3.7	8.1	10.2	13.0	12.4	11.6	11.0	12.8	60.9
Connections	15.3	11.5	11.4	11.2	11.1	11.0	10.9	10.7	55.0
Non-operational	0.7	1.0	19.2	10.8	7.0	2.3	2.9	9.1	32.0
Operational	1.6	5.3	12.5	6.0	5.1	8.6	3.6	3.2	26.5
<b>Total Net Capex</b>	<b>51.5</b>	<b>32.4</b>	<b>71.8</b>	<b>62.2</b>	<b>46.8</b>	<b>61.3</b>	<b>36.4</b>	<b>46.2</b>	<b>252.8</b>
<b>GDN Forecast Net Repex</b>									
Mains	28.3	35.5	38.4	40.4	41.0	43.0	44.7	46.2	215.2
Services	17.6	23.6	24.4	25.4	26.2	27.1	27.9	28.9	135.5
LTS	0.0	0.0	0.3	0.3	0.0	0.0	0.0	0.0	0.3
Other	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5
<b>Total Net Repex</b>	<b>46.0</b>	<b>59.2</b>	<b>63.1</b>	<b>66.2</b>	<b>67.3</b>	<b>70.1</b>	<b>72.7</b>	<b>75.2</b>	<b>351.5</b>
<b>GDN Forecast Opex</b>									
Direct activities	40.0	43.3	47.3	46.8	46.3	48.4	47.7	47.3	236.5
Indirect activities	16.2	16.7	16.3	16.1	15.9	15.7	15.7	15.7	79.1
Shrinkage	6.2	7.1	7.3	6.6	6.3	6.2	6.2	6.3	31.6
Pensions	4.2	4.7	11.5	11.6	11.8	11.9	12.1	12.2	59.6
<b>Controllable opex</b>	<b>66.6</b>	<b>71.8</b>	<b>82.4</b>	<b>81.1</b>	<b>80.3</b>	<b>82.2</b>	<b>81.7</b>	<b>81.5</b>	<b>406.8</b>
Rates	15.0	14.1	13.4	13.4	13.4	13.4	13.4	13.4	67.0
Licence fees	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	4.0
<b>Total opex</b>	<b>82.4</b>	<b>86.7</b>	<b>96.6</b>	<b>95.3</b>	<b>94.5</b>	<b>96.4</b>	<b>95.9</b>	<b>95.7</b>	<b>477.8</b>

\*2005/06 figures are actuals

## South England (owned by SGN)

Table A12.7 South England reported net capex and repex 2005-06 to 2012-13, £m, 2005-06 prices

	05-06*	06-07	07-08	08-09	09-10	10-11	11-12	12-13	Total 08-09 to 12-13
<b>GDN Forecast Net Capex</b>									
LTS and Storage	5.5	9.5	36.5	31.0	105.9	23.2	15.0	38.7	213.8
Reinforcement & Governors	4.9	15.3	24.6	25.6	29.0	28.3	28.2	29.5	140.6
Connections	13.7	11.6	11.5	11.5	11.4	11.3	11.2	11.1	56.4
Non-operational	0.8	2.0	29.8	16.8	11.4	3.6	4.4	16.6	52.9
Operational	3.0	6.1	18.7	6.7	4.7	9.6	3.0	3.6	27.6
<b>Total Net Capex</b>	<b>27.9</b>	<b>44.5</b>	<b>121.2</b>	<b>91.6</b>	<b>162.4</b>	<b>76.0</b>	<b>61.8</b>	<b>99.5</b>	<b>491.3</b>
<b>GDN Forecast Net Repex</b>									
Mains	64.2	74.2	75.3	83.8	96.4	106.7	114.7	119.8	521.5
Services	40.5	50.4	64.9	70.7	75.9	78.7	80.4	82.6	388.3
LTS	0.0	0.1	1.7	2.1	16.0	0.3	0.0	0.0	18.4
Other	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.3
<b>Total Net Repex</b>	<b>104.7</b>	<b>124.7</b>	<b>141.8</b>	<b>156.5</b>	<b>188.3</b>	<b>185.6</b>	<b>195.0</b>	<b>202.3</b>	<b>927.8</b>
<b>GDN Forecast Opex</b>									
Direct activities	77.6	82.3	87.0	88.3	83.8	87.0	87.4	85.8	432.3
Indirect activities	24.4	24.9	24.3	23.9	23.6	23.4	23.4	23.3	117.6
Shrinkage	17.3	18.5	18.6	17.1	16.4	16.2	16.4	16.7	82.8
Pensions	7.1	8.0	19.0	19.2	19.4	19.7	19.9	20.2	98.4
<b>Controllable opex</b>	<b>126.4</b>	<b>133.7</b>	<b>148.9</b>	<b>148.5</b>	<b>143.2</b>	<b>146.3</b>	<b>147.1</b>	<b>146.0</b>	<b>731.1</b>
Rates	41.4	46.7	49.4	49.4	49.4	49.4	49.4	49.4	247.0
Licence fees	1.5	2.2	2.2	2.2	2.2	2.2	2.2	2.2	11.0
<b>Total opex</b>	<b>169.3</b>	<b>182.6</b>	<b>200.5</b>	<b>200.1</b>	<b>194.8</b>	<b>197.9</b>	<b>198.7</b>	<b>197.6</b>	<b>989.1</b>

\* 2005/06 figures are actuals

## Wales and West (owned by WWU)

Table A12.8 Wales and West reported net capex and repex 2005-06 to 2012-13, £m, 2005-06 prices

	05-06*	06-07	07-08	08-09	09-10	10-11	11-12	12-13	Total 08-09 to 12-13
<b>GDN Forecast Net Capex</b>									
LTS and Storage	2.0	3.9	15.2	16.0	44.2	29.3	11.9	9.6	111.0
Reinforcement & Governors	5.9	4.7	8.2	9.5	14.2	8.8	9.1	8.9	50.5
Connections	17.0	8.0	8.5	8.7	9.1	9.4	9.7	9.9	46.8
Non-operational	33.0	25.3	18.8	24.5	13.1	13.0	20.9	20.5	92.1
Operational	0.0	0.1	2.2	1.9	2.2	1.2	1.0	1.0	7.4
<b>Total Net Capex</b>	<b>57.9</b>	<b>42.2</b>	<b>52.9</b>	<b>60.6</b>	<b>82.8</b>	<b>61.8</b>	<b>52.7</b>	<b>49.9</b>	<b>307.8</b>
<b>GDN Forecast Net Repex</b>									
Mains	31.3	32.8	34.5	40.0	45.7	50.0	53.7	57.7	247.2
Services	23.7	24.5	26.2	27.2	28.2	29.3	30.4	31.5	146.7
LTS	0.6	0.8	0.8	1.6	12.6	8.4	7.7	6.2	36.4
Other	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5
<b>Total Net Repex</b>	<b>55.8</b>	<b>58.2</b>	<b>61.7</b>	<b>69.0</b>	<b>86.7</b>	<b>87.8</b>	<b>91.9</b>	<b>95.5</b>	<b>430.8</b>
<b>GDN Forecast Opex</b>									
Direct activities	55.4	49.1	57.7	59.3	61.8	60.3	59.5	59.6	300.5
Indirect activities	22.8	25.0	23.4	23.6	24.1	24.5	24.8	25.0	122.0
Shrinkage	11.7	11.3	11.3	11.3	11.3	11.3	11.3	11.3	56.5
Pensions	8.2	9.0	11.0	11.2	11.4	11.6	11.8	12.1	58.1
<b>Controllable opex</b>	<b>98.1</b>	<b>94.4</b>	<b>103.4</b>	<b>105.4</b>	<b>108.6</b>	<b>107.7</b>	<b>107.4</b>	<b>108.0</b>	<b>537.1</b>
Rates	19.7	21.3	21.3	21.3	21.3	21.3	21.3	21.3	106.5
Licence fees	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	5.5
<b>Total opex</b>	<b>118.8</b>	<b>116.8</b>	<b>125.8</b>	<b>127.8</b>	<b>131.0</b>	<b>130.1</b>	<b>129.8</b>	<b>130.4</b>	<b>649.1</b>

\* 2005/06 figures are actuals