Gas Distribution Price Control Review
National Grid Gas Response to Updated Proposals
22 October 2007

1. This response is on behalf of National Grid's gas distribution business. This section provides a brief overview of the key points; summary responses to questions raised in the proposals are provided in section 2, with supporting evidence and detail contained in section 3.

Section 1: NGG's Overall View of the Proposals

2. Price reviews answer important questions about the relative values placed on competing public policy objectives. The Updated Proposals, although containing potentially valuable developments in areas such as climate change, reskillling the sector, tackling fuel poverty and investing in research and development, focus on delivering another round of cost cuts, pushing these public policy objectives towards the margins.

3. Further, the proposed cost allowances remain inadequate, not least because of a number of material errors, omissions and unrealistic assumptions. Assuming these shortcomings are corrected - and a reasonable settlement on cost of capital - the resulting allowances will still only be at levels commensurate with 'bare-minimum' networks that are unlikely to be able to dedicate resources to deliver optional policy developments.

4. We think that Ofgem and GEMA should consider carefully the balance of the Final Proposals and avoid implementing another round of short-term cost cuts that would not, we believe, be in customers' interests along any dimension - including, in the medium term, price.

Operating Costs

5. Ofgem's proposals are undermined by over a dozen bone-fide errors that together reduce NGG's annual allowances by over £20m. These simply must be corrected in the Final Proposals. We are concerned at the continuing presence of significant and relatively basic errors at this stage in the process.

6. There are a number of omissions which must also be addressed, the largest being no recognition of interactions between opex and capex despite NGG consistently raising this issue throughout GDPCR and the starkness of the need. Looking at overall allowances on a simple cash per customer basis reveals that the proposals offer NGG's networks the lowest rates on both opex and capex, the overall imbalance equivalent to c£100m pa.

£ / customer	National Grid networks	Other networks
Opex	28	31
Capex	11	19
Total expenditure	**39**	**50**

Table 1.1 - 5 year average annual allowances (2008/9 to 2012/13)

7. Over and above the errors and omissions, our main issue with the opex proposals remains the frontier shift assumption. We disagree with Ofgem's defence of their 2.5% figure and believe it does not stand up from an economic, regulatory or real-life perspective.

Investment

8. Moderation of Ofgem's downsizing assumption on repex has improved the situation but supplies to households would still fail in cold weather, albeit on a less widespread basis. Our analysis shows that, with a small amendment, this issue can be resolved.

9. We think there is very strong evidence from a range of sources pointing towards higher real increases in contractor prices than the proposals currently allow, particularly in London, and particularly when considered alongside Ofgem's productivity assumptions.

10. We remain concerned about a number of the assumptions that Ofgem has made in setting LTS capex allowances, including the inconsistent over-ruling of PB Power's findings (Ofgem's expert consultants).

Re-openers

11. We support the proposed re-openers that Ofgem has so far provided for Traffic Management Act (TMA) and repex tax treatment. We think that they appropriately balance the risk between GDNs and consumers. However there are a number of other areas where the level of uncertainty and potential materiality are such that additional re-openers would be appropriate:

- UK Link rebuild – where the current allowance does not include any additional functionality. The extension of Smart Metering is likely to impose considerable additional functionality on settlement systems, and consumers and government will expect networks to be funded so as to be able to respond. Ofgem should defer determining the allowance until the final specification is known;
- Waste – where potential reclassification of road spoil would result in a significant increase in the costs of disposal for GDNs;
- Gas escapes – an HSE Improvement Notice on fixing gas leaks within 12 hours could have a fundamental impact upon the way in which GDNs manage escapes.

- Interruption reform – where a capex re-opener for all reinforcement costs should be included. The current re-opener is inappropriately restricted to a small proportion of the costs and exposes GDNs to significant windfall losses.

Incentives and Sustainability

12. Continuing the good work from the Initial Proposals, many of Ofgem's policy developments are appropriate and well designed. We continue to support implementation of a leakage incentive, changes to the shrinkage mechanism and many of the changes to the standards of service regime.

13. However we do have concerns about a number of the developments. The introduction of an absolute licence condition for emergency response times is inappropriate and does not reflect the primary legislation upon which it is based.

14. Also, the Capacity Outputs incentive proposed by Ofgem will not, we believe, deliver the objectives of Exit and Interruption Reform. We have included an alternative mechanism within the main body of our response.

Cost of Capital & Financeability

15. We support the application of an approach which builds from the TPCR settlement in setting the cost of capital.

16. Our experience also supports the analysis that suggests that gas distribution is marginally riskier than transmission and we believe that this should be reflected in a higher cost of equity.

17. The cost of debt proposed by Ofgem is inappropriate and seems at odds with Ofgem's desire to retain regulatory consistency with TPCR, where 124bps headroom against spot rates was allowed. Ofgem now propose headroom of just 39bps for GDPCR, despite the unprecedented turmoil in the capital markets and associated increase in market volatility. We believe that this undermines any case for a reduction in the allowed cost of debt.

18. Ofgem is also making aggressive assumptions about the levels of debt that the GDNs can carry. We do not believe that the current state of financial markets supports such an aggressive approach on either count.

19. Finally, we agree that Ofgem should make NPV-neutral adjustments to avoid financeability issues as this is in the interests of both GDNs and consumers alike.

Section 2: Response to Questions Raised in the Updated Proposals

Chapter Three: Operating Expenditure Analysis

Question 1: Do you agree with our revised approach to setting opex allowances and the proposed allowances we have derived using that approach?

Question 2: Do you agree with our approach to the additional operating cost items included in these proposals covering the areas where our work was incomplete at initial proposals?

20. Ofgem has removed some of the less robust elements of its opex analysis since the Initial Proposals, including the high risk choice of a frontier methodology and some unsuitable benchmarks from the bottom up comparisons. It has also made some good progress on the areas that were incomplete in May. However, despite the large number of changes, bottom line opex allowances increased by relatively little and so remain at an unacceptable level.

21. NGG is concerned at the continuing frequency and materiality of errors in Ofgem's proposals, which suggests a lack of review of the output from detailed modelling. There are more than a dozen bone-fide errors in the opex proposals that together account for a shortfall in NGG's allowances of over £100m over the five year control period.

22. Further, Ofgem's approach contains material omissions, not least the ongoing lack of accounting for the interactions between long-term capital investment and operating cost levels which results in NGG's networks being further underfunded.

23. Assuming the fundamental errors and omissions will be corrected in the Final Proposals, our remaining material concern on opex is Ofgem's proposed frontier shift assumption which we do not think is supportable from economic, regulatory or practical viewpoints, particularly when considering it is being applied to base year costs from a 1 in 79 warm winter.

24. When viewed together, these issues mean that the proposed allowances are not balanced and are below levels that would enable secure and sustainable operation.

25. In recently publishing his report on Science and Innovation, Lord Sainsbury addressed the issue of the role of the regulator in setting prices, stating *'….regulators had done a good job in getting prices down…but long term that may not be helpful. The danger is that you keep short term prices down but long term you are not getting the price right'*.[1] Whilst his comments

[1] Quoted by *The Daily* "Telegraph Low utility bills blamed for cuts in energy research" 06/10/2007 – Richard Tyler

relate directly to R&D, his comments are equally pertinent to the whole price control review at this stage of the evolution of gas distribution networks.

26. The remainder of this section summarises our concerns under the following headings:

- Ofgem Errors – which understate NGG's allowances by over £20m pa.
- Omissions – which miss out a further over £20m pa.
- Frontier shift; and
- Other areas where we disagree with Ofgem's assessment.

27. More detail on all areas is provided in section 3, with cross referencing provided.

3.1 Ofgem Errors in the Updated Proposals

28. The majority of the errors are contained within Ofgem's bottom up assessment, although there are two contained in the top down regression used to create the safeguard uplift.

Errors in the Top Down Benchmarking / Uplift

Inconsistent Treatment of SGN Marginal Costs (estimated at £7m pa.)

29. In the Updated Proposals, Ofgem accepted that SGN's short-term purchasing of services from SSE at marginal cost meant that SGN's actual costs for those services did not represent a sustainable and reliable benchmark on which to set the industry's opex allowances for the next five years. It therefore excluded them from the bottom up benchmarking assessments but, crucially, did not make a corresponding adjustment in the top down analysis.

30. As SGN happen to form the upper quartile in the top down analysis, this inconsistency has the effect of undermining the principle of the uplift, as it is uplifting to a cost line that includes cost items that are not achievable by other companies. Ofgem should rectify this by applying the same correction that is used within the bottom up analysis.

Inconsistent Customer Data across GDNs (£1m pa.)

31. GDNs are mature networks and consequently customer numbers do not increase markedly from year to year. Increases of 7% and 4%, as shown in the Updated Proposals for NGN and SGN networks between 2005/06 and 2006/07, are almost certainly categorisation issues. The outlier nature of these increases is clear from figure 3.1 below.

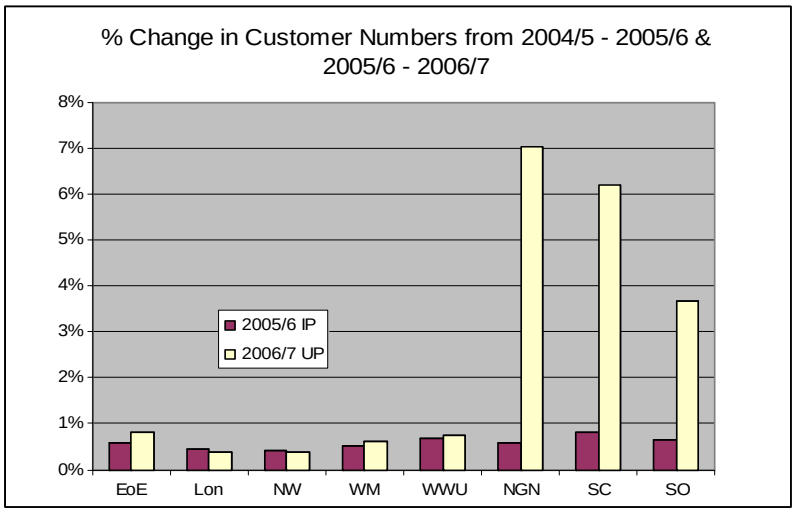

Figure 3.1 – % increase in customer numbers 2005/6 – 2006/7

32. These categorisation issues cause a 0.4% understatement of the uplift factor affecting allowances for all GDNs by over £2m pa. and therefore needs to be addressed in the Final Proposals.

Errors within the Bottom Up Analysis

No Allowances for Safety Maintenance (£7m pa.)

33. NGG supports the revised methodology used in the Updated Proposals, but there remain some data errors that cause a material understatement of NGG's allowances, setting them at a level which is actually insufficient to enable safe and reliable service. The most material are summarised below, with further detail provided in section 3, 3.2.2.

- No allowance for remediation of Cathodic Protection systems, a compulsory programme of work agreed with the HSE and already underway (£1.1m pa.);
- Incorrect classification of some non-routine activities as routine, resulting in nil allowances, including:
    - Special crossings (£1m pa.)
    - OLI defects (£1.6m pa.)
    - Gas holder repairs (£1.2m pa.)
- Incorrect assumptions regarding the nature of AGI Painting which has led to the setting of allowances at an impractically low level (£0.8m pa.)
- Incorrect assumption that all gas holder demolitions are associated with sales and are therefore self funding (£1.2m p.a.);
- Transfer out of HP revalidation **costs** from capex without a corresponding transfer in to opex (£0.3-£0.6m pa.)

Error in roll-forward of Information Services Frontier Shift (£3.6m pa.)

34. Ofgem's approach to setting IS allowances double counts benefits included within NGG's submission to the tune of £3.6m pa. LECG determined an efficient level of IS spend for GDNs based on the average of forecasts across the forthcoming period, from which NGG emerged as the efficient benchmark company. Ofgem then applied the profile of the GDNs' original BPQ IS request to this efficient starting point. Crucially, NGG had included ambitious productivity targets within its IS forecasts whereas other GDNs included flat or upward profiles, and this has resulted in NGG being effectively hit twice with its own savings. The inequity of this approach can be clearly seen from table 3.1, where NGG – the benchmark business – receives by far the largest forward reduction from LECGs efficient starting point.

£m, 2005/06 real	NGG	NGN	SGN	WWU
LECG Efficient Costs	27.1	6.2	13.6	5.9
Ofgem allowance (average annual)	21.2	6.3	12.3	5.9
% disallowance	28%	-1%	11%	0%

Table 3.1 – NGG allowance vs iDN allowance

Invalid Calculation of Human Resources Benchmark (£1.5m pa.)

35. In Updated Proposals, Ofgem has replaced LECG's approach with one of its own which unfortunately is more a measure of the level of outsourcing in a firm than any measure of inefficiency. It clearly is wrong that a GDN with two networks and around half the employees receives a bigger HR allowance than NGG, as can be seen from table 3.2 below. To correct this, HR costs as % of total FTEs should be used as a benchmark.

HR allowance	**NGG**	**SGN**
Number of networks	4	2
FTEs	6059	3191
Ofgem allowance (average annual)	£1.2m	£1.4m

Table 3.2 – NGG allowance vs SGN allowance

Misunderstanding of London Factors Case (£1.6m pa.)

36. Ofgem do not consider it appropriate to fund the additional costs associated with the larger excavations that are required in London (due to underground infrastructure congestion) as they state other large conurbations will experience this difficulty. This is a misunderstanding of NGG's analysis, which was based on the differences to the <u>average</u> size of excavation seen

across all other GDNs and so already accounted for the extent to which other GDNs are impacted by metropolitan conditions. The graphs below illustrate this – NGG's costings only referred to the difference between London and average conditions. Accordingly, the final proposals should include allowance for this valid and unavoidable factor (£3.5m pa.)

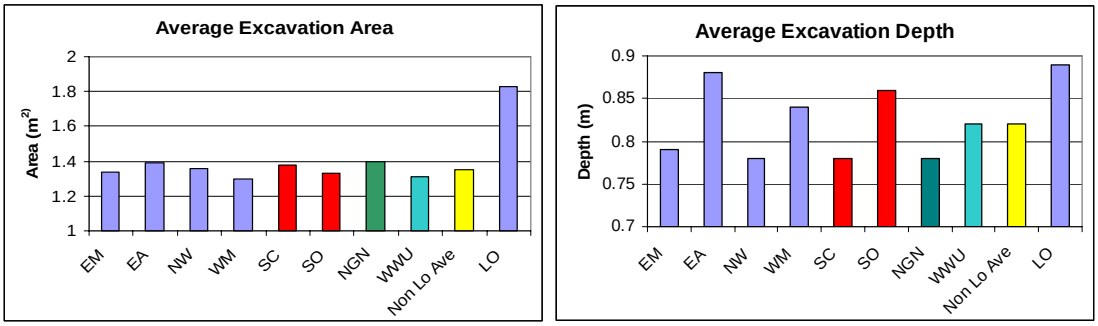

Figure 3.2 – Average area and depth of excavations in each network

Insurance Claims are not Cyclical (£1.3m pa.)

37. Self-paid claims make up 30% of NGG's total insurance costs and arise from physical incidents in the field, such as inadvertent damage to third party property by our operatives. Their number and value do not, therefore, follow cyclical variations in premiums in the insurance market. Ofgem has applied the insurance market cycle to NGG's whole insurance costs and therefore has not provided an adequate allowance for this necessary cost. It should be noted that we actually disagree with Ofgem's application of the insurance market cycle in general and this is discussed in section 3, 3.2.2.7.

RPEs missed from Indirect Categories (£1m pa.)

38. In a change in methodology from the Initial Proposals, Ofgem has not applied its real price effects to non wage items in the Updated Proposals. Two significant elements of non wage indirect costs are Information Services and Property, both of which are subject to real price pressures. Most of the remainder of NGG's indirect non wage costs are associated with outsourcing work, which is labour dominated and as such tends to be subject to the same real price pressure as own labour. Further evidence on all these items is contained in section 3, 3.2.2.8.

Other Errrors

39. We also consider that Ofgem has made errors in the Outermet area workloads, and bottom up normalisations, amongst other items (see section 3 - 3.2.2.5, 3.2.2.6 and 3.2.2.9).

3.2 Ofgem Omissions in the Updated Proposals

40. There are also a number of omissions in the Updated Proposals which need to be addressed. The largest of these is the ongoing absence of any accounting for interactions between GDN capital investment and operating costs.

Failure to Account for Interactions between Capex and Opex (£15m pa.)

41. Ofgem has assessed GDNs' capex requirements, primarily, on a network specific basis and this has led to a large spread of unitised capex allowances. Opex on the other hand has primarily been determined using a uniform methodology, which effectively sets everyone's opex allowances at the same underlying level[2.] Crucially, Ofgem continues to make no attempt to investigate, and if necessary compensate for, interactions between capex and opex. This 'silo' approach punishes NGG by setting opex allowances based on benchmarks from businesses that will have invested, on average, 56% more capex per customer each year over a period of 16 years, and that are therefore benefiting from consequential lower opex requirements.

42. NGG has highlighted this omission in its public responses to Ofgem's consultations since April 2007 and is surprised therefore at the ongoing lack of assessment in this area by Ofgem in general, and in the Updated Proposals in particular. We have therefore recently submitted detailed information to Ofgem which:

- Highlights how Ofgem's cost assessment at GDPCR has, in contrast to previous regulatory reviews, effectively approached opex and investment as totally separate, non-interacting cost silos;
- Describes the large number of GDN activities and mechanisms where trade-offs between capital investment and operating expenditure occur;
- Shows that iDNs have on average invested 51% more capex per customer over the last 10 years than the networks retained by NGG and that going forward this differential increases to 66% under Ofgem's proposals;
- Identifies that the majority of this capex differential is likely to be caused by different investment strategies. NGG is the only PAS55 certified GDN, strictly following a whole-life costing approach to asset management which is likely to be the most efficient for customers in the long term. It is important therefore that opex allowances are set having taken capex trade-offs into account;
- Provides robust analysis demonstrating that Ofgem's opex allowances - after normalisation for legitimate size and other regional differences - rather than provide

[2] With the exception of a limited number of regional specific factors accounting for geography and prices

additional opex to NGG's 'low' capex networks, actually provides £10m pa. **less,** as shown in fig 3.3.

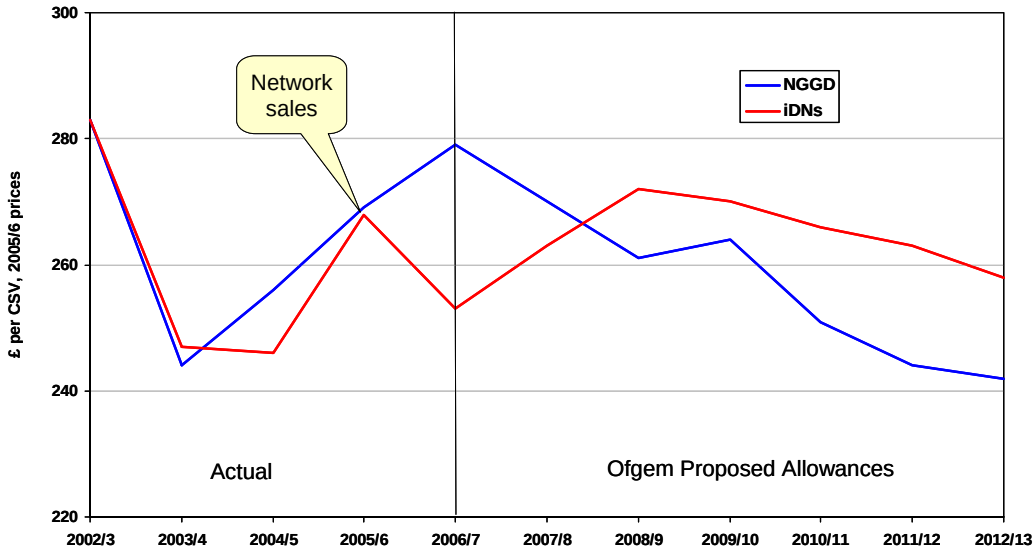

Figure 3.3 – Controllable Opex (excluding shrinkage)

- Concludes that NGG is being systematically disadvantaged by this approach and that adjustments to NGG's base and future opex should be made by Ofgem in the Final Proposals. Using a range of techniques we estimate that NGG's opex has been understated by this significant omission in Ofgem's cost assessment methodology by at least 4%.

43. It is important to note that the correct way to apply an adjustment for capex/opex trade-offs would be to increase NGG's opex, not reduce iDN opex or capex allowances. This is because a key safeguard in Ofgem's opex methodology is to uplift bottom-up allowances to the actual costs of a benchmark real network. The whole principle of this safeguard would obviously be undermined if the actual costs of that benchmark network were overwritten with some lower notional value.

44. Similarly, we do not believe it would be appropriate to make overarching cuts to iDN capex to bring them closer to NGG levels, as Ofgem and their consultants have, over the course of GDPCR, undertaken a thorough and detailed assessment of specific iDN capex needs against their chosen investment strategies.

Sparsity Factor for East of England Network (£1m pa.)

45. It is appropriate to account for the additional costs associated with working in the rural areas of East of England, in common with the other sparse networks shown in figure 3.4. Evidence in support of an additional allowance is provided in section 3, 3.3.2.

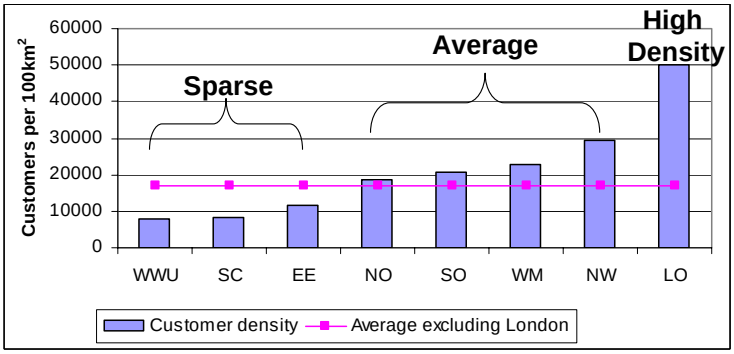

Figure 3.4 – Customer Density of each GDN

Mandatory Safety Training (£2.4m)

46. An allowance of £0.2m per GDN for training costs, as included in the Updated Proposals, would cover less than 20% of NGG's basic mandatory safety training requirements, such as CORGI re-accreditation which ensures our engineers remain competent to work on appliances within customers' homes. NGG has already submitted information regarding the levels of mandatory training but we acknowledge this was too late for Ofgem to consider it in time for inclusion in the Updated Proposals.

Graduates (£1.4m pa.)

47. Ofgem has not provided an allowance for graduate recruitment, which we consider to be absolutely necessary for industry skills sustainability, especially in the engineering discipline, and given the age profile of staff across GDNs (fig 3.5 shows NGG's profile). We think Ofgem should provide an additional specific allowance for graduates in the Final Proposals.

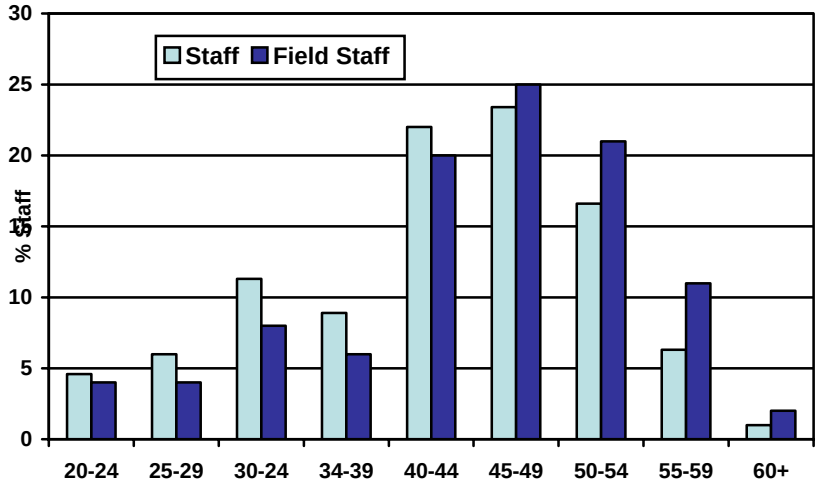

Figure 3.5 : Age Demographic Profile

3.3 Frontier shift

48. We believe Ofgem's productivity assumption of 2.5% pa. is excessive and essentially unsupported. We continue strongly to believe that the case put forward by GDNs, including the work done by First Economics, remains a far stronger basis for a balanced settlement.

49. Detailed comments are contained in section 3, 3.4 but in summary our concerns are that:

- The economic evidence on which Ofgem rely is unsound;
- This unsound evidence has been applied to GDNs' allowances incorrectly;
- There has been no sense checking for practical deliverability; and
- GDNs funding 100% frontier shift costs is inequitable and cuts across economic principles

Unsound Economic Evidence

50. Ofgem have commissioned Reckon consultants to support their findings. We do not think that Reckon's main criticisms of the GDNs' approach carry substantial weight , because:

- Concern about profit growth is a red herring as profit margins have **fallen** since 1998;
- Concern about growth in capital employed is adequately dealt with in GDNs' previous submissions, as appeared to be accepted by Ofgem in their Initial Proposals;
- There is actually no good reason why the trend in GDNs' costs cannot be benchmarked against firms that sell services to households.

51. Further, the approach Reckon has adopted to select its own comparators also calls into question the validity and applicability of the results, not least because:

- Despite being presented as an independent critique of First Economics, Ofgem participated in the comparator selection process;

- The comparators seem somewhat arbitrarily selected. The inclusion of the highly capital intensive chemical and man-made fibre manufacturing sector bears little relation to GDNs for example.

Incorrect Application

52. There are errors in how Ofgem has applied the frontier shift to GDNs' data. These are explained in more detail in section 3, 3.4.3 but in summary:
    - There is a double count with the efficiency improvements already included in bottom up assessments of leaks and IS, and;
    - Reckon's 1.4% labour productivity has erroneously been applied to the whole of the GDN cost base, instead of just the 70% which is the labour element

    The combined impact of these application errors, together with errors elsewhere in Ofgem's projections, means that Ofgem are actually proposing an annual frontier shift of 1.9% to NGG and not the 1.6% claimed in the proposals.

53. Even more critically, the additional 1.1% pa. "competition factor" that Ofgem apply on top of Reckon's value is a clear and significant double count with the "catch-up" that has already been applied to GDNs' opening allowances via the base year benchmarking.

Sense Checking Against Evidence since DPCR4

54. NGG acknowledges that it is difficult to determine a value for frontier shift with precision. For this reason, evidence other than just broad economic analyses should be sought as a cross-check. We believe that information from DNOs, which were set a less aggressive frontier shift target of 1.5% at DPCR4, can be used as a valuable directional check. As shown in table 3.3, DNOs to date have not achieved the 1.5% frontier shift target. Indeed, in the first year of their price control (in which the incentives to reduce costs are the strongest) only the lowest quartile companies actually reduced their costs at all.

Review benchmarking	Number of companies	% Change in costs
Upper Quartile and better	2	+6%
Medium to Upper Quartile	5	+8%
Lower Quartile to Medium	4	+3%
Worse than Lower Quartile	3	-17%

Table 3.3: DNO 2004/5 – 2005/6 cost increases by efficiency groupings

55. When set against this, and when considering that GDNs have a greater proportion of safety related fixed costs than the DNOs, the 1.6% frontier shift Ofgem is proposing for GDNs does not appear directionally correct. In fact when the fixed element of our cost base is taken into

account, along with the errors in application, Ofgem's frontier shift assumption is actually equivalent to a target of 4.7% pa.

56. Experience in water and sewerage is similar. In 2006/7 the industry overspent its allowances by 2% and costs are continuing to rise. In fact, taking into account the effect of increasing energy bills, their direct and support costs have increased by 4.3% in real terms over the period 2003/4 to 2006/7.

57. These practical results also would appear consistent with the Competition Commission's recent review of BAA, which assumed a frontier shift of zero.

58. Finally, Ofgem's proposals do not recognise the inherent relationships between high levels of productivity and above average real increases in earnings. To assume productivity improvements at the upper end of comparative ranges, yet expect this to be delivered with below average real pay awards of 1% is simply not realistic.

Costs to Achieve

59. The Updated Proposals provide no allowance for restructuring costs, which means that costs necessarily incurred by companies as they seek efficiencies would be unfunded and achievement of the cost of capital even for a frontier network is discounted.

60. We believe that a distinction should be drawn between efficiency improvements which are needed to reach the 'efficiency frontier' and improvements which are needed to shift the frontier itself. In a competitive market, one would expect the shareholders of a firm which is 'off the pace' to bear the costs of restructuring required to compete with frontier companies. However, frontier companies themselves would normally be able to pass on to customers the costs of staying 'on the pace'. This logic would suggest that customers should pay the costs of achieving the frontier shift assumed by Ofgem, including the costs of severance.

61. This is supported further at GDPCR because in all cases where Ofgem has been able to undertake reliable benchmarking against external companies, GDNs have without exception come out as having leading efficiency. This suggests that, while relatively small efficiency differences between GDNs may exist, the sector as a whole is efficient and so, with reference to the competitive market framework described above, GDNs should be able to pass on costs of achieving frontier shift to their customers.

62. NGG estimates that costs to achieve of nearly £100m will be required to deliver a frontier shift of 2.5% pa. From a customer perspective, this will enable total net benefits in excess of £270m (see table 3.11 in section 3, 3.4.5).

3.4 Other Issues with Ofgem's Opex Assessment

Real Pay assumptions

63. Ofgem's assessment for real pay increases is too low and contradicts the range of available independent evidence. Whilst we accept that some evidence for pay settlements may suggest a lower real increase than we have requested, such figures do not reflect complete earnings growth. The Office of National Statistics estimates that earnings growth is 1.25% higher than pay settlements (see section 3, 3.5.2).

Apprentices

64. It is encouraging that Ofgem agrees with the need for GDNs to recruit apprentices if they are to avoid a skills 'cliff-face' in the near future. However, there remains further work to be done on the allowances included in the Updated Proposals because they:

- Are based on two year schemes, failing to recognise that 50% of NGG's apprenticeships last 3 years;
- Do not reflect the additional costs of apprenticeships for contractors; and
- Include no costs for recruitment and assessment

65. NGG is working with the other GDNs and EU Skills to investigate the most efficient way of delivering an industry-wide solution and has submitted further information for Ofgem's consideration (see section 3, 3.5.3).

Other Areas

66. We also disagree with aspects of Ofgem's assessments regarding:

- xoserve property costs – where the comparability of benchmarks is not applicable;
- Insurance – where we, together with Ofgem's own TPCR consultants, disagree with Ofgem's interpretation of market cycles; and
- Procurement & Logistics – where Ofgem appear unrealistically to be targeting significantly better than world-class performance.

Further details on these points are contained in section 3, 3.5.6-3.5.8.

3.5 Opex Uncertainty Mechanisms

67. Given the inherent uncertainty surrounding the Traffic Management Act (TMA), tax treatment and formula rates it is only sensible that specific re-openers, as Ofgem are proposing, are introduced at GDPCR to protect both the consumer and the GDN against unanticipated cost movements.

68. It is now certain that the GDNs will become liable for considerable costs as a result of the TMA from April 2008. To date NGG has played a crucial role in minimising the level of cost for which the GDNs will be liable, through its active lobbying and participation. The additional costs will be material and must be provided for either via an ex ante allowance (for known costs such as administrative costs) or a re-opener (for unknown costs such as the permits etc).

69. Ofgem has recognised that the diminishing returns associated with seeking 100% compliance for certain aspects of TMA are likely to outweigh the benefits to both consumers and GDNs, and therefore a certain level of fines will need to efficiently incurred. It is important that clear and unambiguous guidance is given about the level Ofgem consider to be efficient.

70. GDNs expect to be required to demonstrate that all efforts to minimise costs associated with changes to the tax regime or formula rates have been undertaken prior to their being passed through. It is imperative that any uncertainty mechanism also allows the recovery of what are likely to be material costs of appeal, irrespective of the outcome. Failure to fund the costs of appeals merely places GDNs in a situation whereby a decision not to appeal may result in the classification of inefficient spend, but a decision to appeal leaves GDNs with unfunded costs.

71. Over the next five years changes to legislation or our obligations may also impact upon the GDNs' opex base in the following areas, and specific re-opener mechanisms should also be included in Final Proposals for:

- Waste disposal costs, specifically the reclassification of inert waste to non-hazardous
- Managing gas escapes;
- Obligations to test for carbon monoxide;

72. We have provided Ofgem with additional information with respect to each of these potential changes throughout the price control review, including additional submissions within this response. We will continue to keep Ofgem informed as and when we get more clarity about the changes.

3.6 Carbon Monoxide

73. NGG recognise the current level of concern in relation to carbon monoxide poisoning and acknowledge the importance of this issue. We continue to support the need for a detailed review, in order to establish the exact requirements and welcome Ofgem's open approach, including the recently held industry workshop to clarify and inform all parties of what is being considered. We remain concerned that this could represent a fundamental change to our licence obligations and we will ensure we are fully engaged in Ofgem's process.

Chapter Four - Capital and Replacement Expenditure Analysis

Question 1 - Do you agree with our revised approach to setting capex and repex allowances and the proposed allowances we have derived using that approach?

4.1 Introduction

74. Ofgem has made a number of changes to its approach since the Initial Proposals, including a bottom-up review of LTS capex, adjustments to productivity assumptions and revisions to the unit costs used to evaluate the workload driver for repex. These changes go some way towards addressing the concerns we raised in our response to the Initial Proposal but the Updated Proposals remain flawed in a number of areas. These are discussed below, with further detail provided in section 3 as appropriate.

4.2 Capex/Opex Trade-offs

75. Ofgem has noted the potential for trade-offs between capex and opex[3], and that, for example, its Updated Proposals allocate 80% of the total other operational capex to the iDNs. This is a fundamentally important issue for NGG, first raised in our response to the Fourth Consultation Document, and is covered in detail in paragraphs 41-44.

4.3 Real Price Effects (RPEs)

76. Throughout the GDPCR process we have consistently stated our case for real price effects for construction contractor costs, including an additional differential rate for London. We acknowledge that forecasting contractor costs with certainty is difficult but we believe that there is sufficient evidence to support our forecast of RPI+3.1% and a London differential of 1.65%.

77. Within the Initial Proposals, Ofgem adopted what it considered to be the “more robust” methodology put forward by NGG. However, Ofgem appears now to have changed position, relying instead on a review of longer term historical trends and also the findings of a Deloitte report written for the Office of Government Commerce (OGC).

78. We agree with Ofgem that over the long term real growth in contractor prices will move in line with RPI. However, the only period in which contractor rates have not exceeded RPI over the last 20 years was during the recession of 1989 – 1993. In order to support its assumption of RPI+2%, Ofgem has had to include this period in its calculations.

[3] Updated Proposals para 4.34

79. In the absence of any external forecasts of a recession in the period of the next price control, the only realistic assessment that can be made is that contractor prices will continue to outstrip RPI.

80. However, we do not understand why the long term behaviour of contractor prices is relevant to the price review. Ofgem has an obligation to ensure that GDNs are properly financed for the next five years and therefore seem obliged to base their assessment on forecasts for the next five years alone.

81. The OGC report appears to be a comprehensive piece of work, taking account of a wide range of issues, albeit at a macro-UK level, and did, at the time of its publication, support a national RPE assumption of RPI+2%. However, the report is largely reliant on information that is now 2-3 years old. Review of market evidence since publication, shows a consistent acceleration of prices, indicating a value somewhat above RPI+2% (see section 3, 4.1 paras 175 – 179).

82. To provide the most up to date information for GDPCR, we have also sought an expert independent view on forecast contractor costs from Gardiner & Theobald Fairway. Their conclusion is that gas distribution contractor prices will move by c6% per annum nationally to 2012, with a 1-2% per annum premium in London (see section 3, 4.1 para 180).

London Differential

83. Ofgem has maintained its view that market forces will remove the differential growth rate in contractor prices in London. Whilst the OGC report recognises that the market does ease supply shortages for non-skilled labour, it is unequivocal that the supply of skilled labour (i.e. that which GDNs require) is relatively inelastic. This is consistent with the differential growth rate that has been evident in practice for at least the last 10 years, as shown in table 4.1 below.

Period	National TPI	London TPI	Retail Price Index
1986-1989	+9.7%	+13.2%	+5.4%
1989-1993	-7.8%	-9.4%	+5.2%
1994-1997	+4.2%	+4.7%	+3.0%
1998-2002	+4.3%	+5.9%	+2.2%
2002-2007	+4.6%	+5.6%	+3.2%
2007-2012	+4.4%	+6.0%	+2.5%

Table 4.1 – Average annual price changes since 1986

84. Whilst the OGC report is completed at a macro (ie. UK average) level only, it does acknowledge that regional differences exist in the contractor market, being broadly supportive of a London differential. Deloitte quantify in their report the incremental impact of a number of possible scenarios on its base case inflation forecasts. The Olympics and Crossrail scenarios relate specifically to London but the costs used for both were significantly lower costs than latest forecasts[4]. Updating Deloitte's scenarios for the latest cost estimates for these developments would support a London differential of around 1.5% pa over the next 5 years.

85. Finally, we note that the Competition Commission's recent report on BAA assumed RPEs of RPI+0.75%. However, the Commission took account of inflation being included in BAA's 25% project risk contingency of we understand is applied to all their schemes. Additionally, the CC did not apply any further productivity to BAA's investment programme. In contrast to this, NGG's major schemes are estimated on a P50 basis, with a typical non-inflation risk contingency of only 10-15%; all other investment is evaluated at current rates. Ofgem also apply productivity of 1.5-2% to 70% of the GDNs' investment programme.

86. Ofgem must reconsider its assumptions for RPEs, in light of the substantial and growing body of evidence that undermines its current view, not least the need for a continuing differential in London, prior to the Final Proposals. Further detail can be found in section 3, 4.1.

4.4 Downsizing of mains laid

87. Whilst Ofgem has reduced its Initial Proposals downsizing adjustment by 50% this will still result in network failure without the provision of additional capacity, a situation further exacerbated by the impact of Ofgem's increase in the forecast abandon to lay ratios for NGG's networks.

88. Ofgem support their assumptions with reference to the "London strategy" which includes inserting medium pressure mains and increasing pressures. However, this programme has been developed specifically to address the unique characteristics of the London network and requires significant reinforcement of the LTS network. Additional investment has not been allowed by Ofgem to support this approach in other networks.

89. In our response to the Initial Proposals, we provided quantitative evidence that Ofgem's downsizing assumptions would result in supplies to customers being lost in cold conditions. Table 4.2 shows that, whilst there has been improvement in some networks, Ofgem's revised downsizing adjustment will still result in network failure. Taking Grimsby for example,

[4] Olympics evaluated at a cost of £2.5billion compared with the Government's March 2007 estimate of £9.35billion. Crossrail was evaluated at £6billion; the Government's October 2007 estimate is £16billion.

supplies would be lost to the equivalent of around 3,000 domestic customers. The variation in the degree of failure principally reflects the physical characteristics of the networks.

Network	Example Project	NGG BPQ	Ofgem Initial Proposals		Ofgem Updated Proposals	
		Average % in <=75mm	Average % in <=75mm	% of Nodes in Failure	Average % in <=75mm	% of Nodes in Failure
North West	Morecambe	24%	30%	16%	26.5%	13%
	Buxton			34%		32%
East of England	Grimsby	17%	25%	13%	20.3%	4%
	Grantham			3%		1%
West Midlands	Rugby	18%	30%	34%	22.3%	29%
	Hereford			7%		3%
London	Southend	10%	12.5%	5%	11.3%	4%
	Bracknell			1%		1%

Table 4.2 – Network analysis results

90. We believe that the predicted shortfall in capacity could be overcome by not applying a downsizing adjustment to workloads in the diameters above 180mm. Further detail can be found in section 3, 4.2.

4.5 LTS

91. Our key concerns in this area relate to NGG's four major schemes.

4.5.1 North West Storage (North West)

92. It is acknowledged by Ofgem's technical experts, PB Power, that there is a requirement for additional local storage in the North West network.

93. Following notification from NTS that it was not possible to continue with our preferred solution, the transfer of the UKT Nether Kellet to Blackrod pipeline, our revised solution is to increase storage support within the network is to build a salt cavity facility.

94. PB Power recommended that the salt cavity project be allowed in full, premised upon:

- the low unit cost of the storage,
- the resultant flexibility that the facility will give, which they consider particularly beneficial against the uncertain backdrop of interruption reform, and
- the knock-on benefits that the additional storage will provide to other GDNs, particularly East of England.

In fact, PB Power has recommended the deferral of a storage project in East Midlands due explicitly to the North West salt cavity potentially releasing additional NTS storage to East Midlands.

95. It is concerning that Ofgem has ignored the recommendation of its technical experts and is proposing to defer the commencement of the salt cavity project until at least 2013/14, because they "are of the opinion that the investment is not required in the current price control"[5]. No evidence has been provided by Ofgem to support this opinion.

96. By deferring the project, Ofgem is asserting that we can increase reliance on NTS support, well beyond the period for which indicative commitment has been given by the NTS. Under Ofgem's proposals the storage from the salt cavity would not be available until 2017/18 (4-5 years later than originally planned).

97. However, a number of the NTS offtakes in North West are already operating at or near capacity, and are not sized for any additional capacity requirements; in particular those relating to flex capacity, where the offtakes need to be sized for peak, not steady state, flow. Any decision to build new offtakes, or upgrade existing ones, to enable more flex capacity to be taken into the network, could subsequently become redundant if there is no long term flow flex supply availability. This, in turn, would require urgent investment in the GDN to maintain gas supplies. See section 3, 4.3.1 for more detail.

98. Ofgem's proposed delay to the salt cavity project exposes NGG to two significant risks, the future availability of the identified site, and the potential impact on cost, particularly in light of increasing demand for and interest in gas cavity storage - Gaz de France has recently signed an agreement to develop up to 28 NTS connected strategic salt cavities in the region, with a total capacity of up to 400mcm (100 times the size of NGG's proposed cavity).

99. Ofgem should reinstate the capex for the proposed salt cavity development, taking account the recommendation of its technical consultants.

4.5.2 Sutton on the Hill to Ashley Hay (East of England)

100. Ofgem's deferral of the Sutton on the Hill to Ashley Hay project by one year has been premised upon the recommendations of its technical consultants. However, as we have already noted, this was based upon the additional NTS capacity that would be released by the development of the North West salt cavity, that Ofgem has chosen to defer – a clear example of a lack of cross-project assessment. The project should be reinstated to its planned timeline in the Final Proposals.

[5] Updated Proposals para 4.19

101. At this stage we do not have any evidence to suggest that NTS support will be available, or at what cost. First indicative figures will be obtained through next year's capacity requirements process.

4.5.3 Peters Green to South Mimms (London)

102. The Peters Green to South Mimms project forms a vital part of our London supply strategy and supports an efficient mains replacement programme, delivering overall savings of around £200m versus a more traditional solution. Ofgem believes that the loss of storage within the network, as a result of increasing the operating pressure of the medium pressure system once it has been replaced, can be provided by the NTS at no additional cost.[6] However, NGG has recently experienced significant reductions in source pressures when trying to take diurnal storage from the Peters Green offtake which indicates that future requests for NTS flex will be declined.

103. As the commissioning date cannot be pushed back without adding risk and cost to the overall London supply strategy, the deferral of the project not only provides inadequate funding during the construction period but also compresses the construction window.

104. Our experience with the Harefield to Southall project has demonstrated that major pipeline construction projects in the capital are fraught with difficulties and having a contingency period in the project plan affords the opportunity to deal with these issues, thus ensuring that overall project costs are minimised and security of supply maintained.

105. Therefore in order to ensure the broader benefits of the London supply strategy are not compromised Ofgem should reinstate the Peters Green to South Mimms project to the original timeline.

4.5.4 Harefield to Southall (London)

106. Subject to the final tender outcome for the Harefield to Southall reinforcement project, we consider that it is appropriate that Ofgem has allowed the additional costs.

4.5.5 Outcome of the 2007 OCS Process

107. We note that Updated Proposals allowances for both *Peters Green to South Mimms* and *North West Storage* are subject to revision, based on the update to the Offtake Capacity Statements (OCSs).

[6] Updated Proposals para 4.16

108. As part of this year's process NGG has already increased its NTS storage support to cover nine holder sites in the North West which currently do not have serviceable anti-freeze systems. We will be taking steps to renew the antifreeze equipment that has caused concern, prior to winter 2008/09.

109. The outcome of the 2007 OCS process does not change our views on the requirement and timing of the above projects.

4.6 Other Investment Issues

110. Ofgem has addressed a number of areas where we have previously highlighted inconsistencies in the output of the regression analysis, most importantly with regard to the notional values used for repex. However, we do not believe that Ofgem has as yet addressed the issue of small work volumes in mains reinforcement or considered whether its proposed unit costs in this area are realistic.

Mains Reinforcement

111. Ofgem has reduced its productivity assumption on reinforcement from 2% to 1.5% per annum but, despite this, average GDN allowances have been cut by 38%, up from 14% in the Initial Proposals, with no GDN receiving a cut of less than 23%. This cannot be reflective of any genuine step change in performance between 2005/06 and 2006/07 and so almost certainly is a symptom of fragile analysis.

112. This fragility is potentially caused by small workloads which make the output susceptible to project-specific influences. Ofgem requested data for individual projects greater than £0.5million but we have seen no evidence of this information having yet been taken into account.

113. Ofgem's reinforcement unit costs, which are derived solely from regression analysis, are counter-intuitive, being materially lower than the equivalent repex matrix values. Mains replacement offers greater potential for the use of insertion, with significantly less geographic dispersion of jobs and, consequently, it would not be usual for reinforcement unit costs to be lower than the corresponding replacement job. This again strongly suggests that the analysis is less than robust.

114. Ofgem must review its approach in this area, particularly to take account of project specific information, prior to Final Proposals. Further detail can be found in section 3, 4.4.

4.7 Multi Occupancy Buildings

115. The Updated Proposals were set half-way between the GDNs' forecasts and the view of Ofgem's consultants. Ofgem has stated that significant uncertainty remains, both in terms of the riser workload and the appropriate level of unit costs, and that further work will be undertaken which may result in revised allowances. [7]

116. We acknowledge that our initial workload forecasts were not fully robust in this area. However, we have recently completed an extensive validation exercise, using satellite images combined with asset and meter point data, to develop a comprehensive database of properties above 20metres in height with riser systems within our GDNs. This has shown that the workload estimate that underpinned our July update was understated by around 15%.

117. We also acknowledge that costing of this activity can be difficult, with variations in unit costs to be expected given the nature of the work and the different ages, heights and configurations of the multi occupancy blocks. However, the actual results for 2006/7 and the six months to September 2007, as submitted to Ofgem, demonstrate that the unit costs included in our BPQ submission were robust.

118. Ofgem's proposed unit costs are significantly below current levels and would be insufficient to properly fund the proactive approach to riser replacement that we wish to adopt to avoid lengthy periods without a gas supply that often result from a reactive approach.

119. The quality of information has improved as time has moved on and Ofgem should now be able to increase with more confidence the proposed allowance for riser replacement for NGG's networks in its Final Proposals. Further detail can be found in section 3, 4.6.

4.8 xoserve

120. We note that Ofgem has removed £6m of xoserve capex across NGG's four GDNs as a normalisation adjustment but that this adjustment has not been included within the opex allowances, leaving a funding gap which Ofgem needs to address in the Final Proposals.

121. The current allowance for UK Link rebuild does not reflect any costs for additional functionality. Policy developments, such as the extension of Smart metering, are likely to impose considerable additional functionality requirements on settlement systems and consumers and the Government will expect networks to be funded to respond. Ofgem should defer determining the allowance until the final specification is known.

[7] Updated Proposals paragraphs 4.47 and 4.48

Chapter Five - Quality of Service Arrangements

Question 1: Do you agreed with our updated proposals for the quality of service arrangements?

122. We acknowledge that Ofgem has reflected a number of the points made by the GDNs within the working groups. However we are still of the opinion that a number of the changes that Ofgem is proposing are inappropriate and we ask that Ofgem reconsider their proposals.

123. Our main concern relates to the way in which Ofgem has transferred the current overall standards of service relating to answering emergency calls and responding to emergencies into Licence Conditions. Ofgem's proposed changes are not consistent with the aims of the primary legislation upon which they are based in that they set an absolute standard to which we must comply, irrespective of any extenuating circumstances. This introduces a double jeopardy situation whereby a GDN is subject to a licence condition to meet an absolute emergency response standard and, concurrently, a licence obligation to provide mutual assistance to another GDN. To remedy this, Ofgem should introduce a licence condition that requires the GDNs operate their businesses in a way which could be reasonably expected to meet the required standard.

124. Our concerns with and suggested changes to the Standards of Service proposals are set out in detail in section 3, 5.1 – 5.2.

Chapter Six – Incentives

Question 1: Do you agree with our view that an opex rolling incentive is not appropriate?

125. We agree with Ofgem's assessment that the power of comparative regulation precludes the need for an opex roller.

Question 2: Is our approach to capping the expenditure under the mains and services incentive appropriate?

126. We support, subject to some clarification, Ofgem's proposed approach to the capping the expenditure under the mains and service incentive. We believe that it offers an appropriate balance between allowing GDNs some flexibility in performing replacement work whilst also affording protecting consumers.

127. In keeping with the arrangement in the prior price control period, it is appropriate that Ofgem affords the GDNs the flexibility to undertake more replacement work, without financial penalty, if they are required to do so by the HSE. This flexibility should be provided for within the licence as part of the codification of the proposed repex cap, to ensure that Ofgem has the authority to provide such a derogation if required.

Question 3: Is our approach to allocating domestic purge and relight costs to services costs appropriate?

128. We agree that Ofgem's approach is appropriate. The alternative of capturing costs separately is unnecessary when considering that in almost all cases, a service replacement will involve at least one purge and re-light activity, and that this represents a small element of the overall cost.

Capacity Outputs incentive

Question 4(a): Do you agree with our approach to the capacity outputs incentive?

129. We are concerned that the development of this complex incentive mechanism is being rushed, with insufficient opportunity for consultation and with the likelihood of a sub-optimal solution, to the detriment of the customers and the GDNs. The capacity outputs incentive proposed by Ofgem will not deliver the objectives of enduring exit and interruption reform. As such, it requires significant change.

130. The incentive mechanism that Ofgem has proposed is flawed for a number of reasons. First, it attempts to encourage GDNs to optimise their use of NTS flat capacity by setting a volume target. GDNs must book flat capacity to cope with 1 in 20 demand and so have very limited control of the volume of NTS flat capacity that they use. Instead the GDNs should be set a financial target so that they are encouraged to make the use of the less constrained, and therefore cheaper, offtakes.

131. Second the interruption targets and allowances are incorrect. Interruption can be split between;

i. generic interruption (interruption that can be provided by a wide range of consumers); and,
ii. NSL interruption (interruption that can only be provided a very small number of specific consumers.)

132. Ofgem's incentive only provides an allowance for the NSL interruption, even though the costs associated with generic reinforcement may be over 30 times greater. This issue is then exacerbated by Ofgem's proposal to limit the capex re-opener to the costs associated with only NSL interruption. Please refer to question 6 for more details.

Question 4(b): What are the issues raised by incentivising or not NTS flex capacity?

133. Flex is a by-product of efficient NTS investment and so has zero marginal cost. However, it is also a valuable finite product that can be used to defer investment within the distribution networks. It is important, therefore, that it is used where it delivers the most value. If flex capacity is not incentivised it can be expected, that over time, flex may become scarce. The evidence to date suggests that a relatively modest financial incentive is adequate to prevent hoarding and to ensure that the GDNs make efficient use of NTS flex.

Question 5: Should the volume targets for the flat capacity incentive vary with changes in the calorific value (CV) of gas?

134. We do not consider that this is an issue because GDNs' targets should continue to be set based on the energy transported rather than the volume of gas. If this is the case, the variation in the CV does not influence the GDNs' performance.

Question 6: Is it appropriate to allow a price control re-opener (subject to certain criteria) for any capex spend that may be required following the interruption auctions

135. There is a great deal of uncertainty about both the level of participation in the interruption tenders and the price at which consumers may offer interruption. It is, therefore, wholly appropriate that the GDNs are provided with a capex re-opener to cope with the investment associated with the implementation of interruption reform. However, we are concerned at Ofgem's indication in the Updated Proposals that a re-opener would only to be provided for the reinforcement required to alleviate the constraints associated with NSLs (paragraph 6.35 and 6.36). Our analysis shows that the costs associated with alleviating the generic interruption constraints may be far greater than the costs associated with the NSLs. To offer true protection from uncontrollable events, the capex re-opener must, therefore, be extended to include all of the efficient capex costs associated with interruption reform. Failure to do so will expose the GDNs to a material potential windfall loss.

Innovation Funding Incentive

136. We are pleased to note Ofgem's continued support of the Innovation Funding Incentive (IFI) and acknowledge the helpful clarification and focus provided on the sustainable development themes in the Updated Proposals. Ofgem should draw on experience from the DNOs, where the IFI has been operating for two years. It is our understanding that the 15 per cent threshold for internal contributions has restricted the effectiveness of the incentive and has since been removed. Given the successes reported by Ofgem from the DNO's scheme we believe that it is important to adopt a similar approach and framework for the GDNs.

Question 7: Is it appropriate to have an adjustment mechanism for the treatment of emergency services costs arising from the loss of metering? If so do you agree with our approach and methodology for the parameters?

137. Ofgem's proposal is entirely appropriate, as growth in metering competition will result in unavoidable stranded costs. However Ofgem's interim methodology, as depicted by the tipping points and unit rates in Updated Proposals, needs three further refinements to ensure GDNs do not suffer windfall losses or enjoy windfall benefits.

138. First, NGG does not support the averaging of the tipping points within the Updated Proposals. There are valid reasons for wide variations in the tipping points across GDNs and we believe that the revenue driver should reflect the specific circumstances section 3, 6.3.

139. Second, the revenue driver should also make adjustments for the impact on work management and indirect costs, since these support functions are sized to support the emergency service and so cannot be scaled down if metering volumes fall. As such the revenue driver should have two elements:

a) a smaller unit cost up to the tipping point in order to factor in the stranding of overheads, and;
b) a unit cost after the tipping point that includes overheads and direct costs.

140. Finally, unit costs should be adjusted for wage real price effects, as the size of the stranding will increase with real earnings. It would also be counter intuitive to apply a productivity factor to a revenue driver that is designed to account for loss of productivity as a result of factors beyond the GDNs' control.

Additional question about sub-deduct networks

141. We are willing to conduct a survey of identified sub-deduct pipe systems within the area covered by our Distribution Networks subject to the provision of an appropriate allowance. We have set out our estimation of the costs and a summary of the issues in section 3, 6.8.

Chapter Seven - Sustainable Development

Question 1: Is it appropriate to roll forward the existing shrinkage incentive and if so do you consider the leakage volumes appropriate?

142. Detailed comments and supporting evidence is given in section 3, paras 318-338

143. We do not believe that the shrinkage mechanism proposed by Ofgem constitutes a roll forward of the existing arrangements. Rather, it represents a significant change in approach that will require changes to the UNC.

144. We understand that Ofgem is aware that the leakage volumes included within the Updated Proposals are incorrect. We will continue to work with Ofgem to ensure that the leakage levels are appropriate.

Question 2: Is the gas reference price formula appropriate?

145. We are unable to comment on the form of the of the gas reference price formula since it was not included within the consultation document. We believe that it would be appropriate to move from the 3 month ahead reference price to a day ahead price. However we do not agree with Ofgem's analysis that indicates it would 'eliminate the inherent price asymmetry due to forecasting errors'. Whilst buying on a flat profile would eliminate the forecasting error, the GDNs will still be faced with the need to trade on the day to settle the residual, and this may require an uplift.

Question 3: Should Ofgem establish a new incentive to target harmful environmental emissions?

146. We agree with Ofgem that it is appropriate to establish leakage incentives that reflect the social cost of emissions. We look forward to working closely with Ofgem to deliver an effective incentive mechanism that enables the GDNs to make further reductions in the volumes of harmful environmental emissions.

Question 4: Do you support the design of the environmental incentive and its parameters?

147. We believe that it is appropriate that gas transporters are exposed to a financial incentive mechanism that values emissions at a level that corresponds to the amount of environmental

harm caused. This will allow the GDNs to identify and evaluate additional projects to reduce emissions. We agree with Ofgem that it is appropriate to use the Defra shadow price of carbon rather than placing reliance upon a market derived commodity value of carbon because this will enable the GDNs to make rational investment decisions.

Question 5: Are the strength and baselines for the incentive appropriate?

148. We do not agree with the baseline levels of leakage that Ofgem is proposing.

149. We agree that the strength of the incentive is appropriate. It is important that the strength is held constant throughout the incentive period to ensure that GDNs have stability against which to evaluate emissions reduction schemes.

Question 6: Are the cap and collar arrangements appropriate?

150. We do not believe that the incentive mechanism requires caps and collars. Caps and collars are usually applied in the early period of an incentive when there is uncertainty about the level of performance. Whilst the leakage incentive is new, it is based on the same mechanism and models as the well established shrinkage incentive. As a result the opportunity for unexpected results is likely to be limited. In this light it seems likely that the only impact that the caps and collars will have is to limit the potential level of environmental performance.

151. If Ofgem do insist on implementing caps and collars we believe that they should be set at a company wide level rather than on a GDN specific basis. We believe that further use of pressure management equipment will be the best way to reduce the level of leakage and the level of pressure management equipment varies between GDNs. Two of our networks (London and East of England) have extensive pressure management profiling, thereby limiting the opportunity to deliver improved emissions performance. Setting a network cap on a national average may result in the potential emissions reductions in some networks being unnecessarily limited.

Question 7: Is it appropriate to introduce a mechanism to address periodicity of investment?

152. We believe that for this incentive to work most effectively a GDN should retain the benefits for an adequate period. In the absence of a mechanism to address periodicity, it is likely that the possible efficient benefits that can be delivered by the leakage incentive mechanism will be reduced.

Question 8: Are the leakage model and governance arrangements appropriate?

153. The existing leakage model has proved adequate over many years. We acknowledge that extending the scope of the revenues controlled by the model will require additional governance arrangements, the detail of which can be worked out between transporters and Ofgem in due course. Ofgem should establish arrangements whereby they can be assured that the model is being used appropriately and that the input data is robust.

Chapter Nine - Financial Issues

Question 1: Does our risk analysis support a range for the cost of equity of 7.0-7.5per cent?

154. We welcome Ofgem's consistent approach to the cost of equity which retains, as a base, the cost of equity allowance in TPCR. From this an allowance for gas distribution can be determined via a relative risk analysis. Long run averages of aggregate equity returns remain the most appropriate indicator of future required returns for the next price control.

Risk differentials

155. Oxera's analysis (submitted to Ofgem on behalf of the GDNs as a response to Initial Proposals) regarding the risk differential between gas distribution and transmission supports the view that gas distribution is at least as risky as transmission. Whilst we concede that the evidence for a risk differential between transmission and distribution is not conclusive, it does reinforce an enduring perception that distribution is more risky than transmission. Our view is that the relatively onerous health and safety obligations on the gas distribution business, compared with transmission, mean that distribution has much less opportunity to react to input cost or volume shocks.

156. It is therefore important that, in order to ensure that incentives to invest within National Grid are not distorted, the perceived risk differential is recognised with a small premium on the cost of equity for gas distribution. An additional premium of 0.5% would be appropriate.

The impact of gearing

157. Ofgem's current notional gearing assumption implies that, without an appropriate adjustment to cost of equity, the asset beta of gas distribution is lower than that of transmission. This is clearly inconsistent with the risk differential analysis. Ofgem should either retain the 60% notional gearing assumption used in TPCR, or make an appropriate adjustment to cost of equity to reflect the impact of the change in gearing assumption. An adjustment of approximately 0.3% on the cost of equity would be appropriate in this case.

158. In summary, National Grid propose that a cost of equity of 7.5% at 60% gearing or 7.8% at 62.5% gearing would provide an appropriate reflection of the business risk differential between gas distribution and transmission. If such a risk differential is not reflected appropriately in the cost of equity, then it is very likely there will be a distortion of incentives to invest within National Grid. Further detail to support this figure is provided in the Oxera report submitted by the GDNs in response to Updated Proposals (section 3.1.1).

Question 2: Is it appropriate to continue to maintain a consistent approach to cost of debt to that taken in TPCR?

159. Regulatory consistency is an important principle which should be retained to ensure that risks, and consequently costs, are minimised.

160. Indexation of allowances is no longer being considered for this review. Therefore Ofgem's statutory obligation to ensure that a licence holder is able to finance its activities requires Ofgem to apply the same, appropriate level of prudence and caution in setting a fixed, ex-ante allowance for cost of debt as was applied in TPCR. National Grid feels very strongly that the Updated Proposals fall short of that requirement. Relevant interest rates have risen to highs of 4.1% (pre-tax real) over the summer and remain around 65bps above those seen at the time of TPCR. Despite this, Ofgem propose to reduce the cost of debt allowance by 20bps. This in effect cuts the headroom allowed above spot rates at TPCR of 125bps to around 40bps in the face of increased volatility. This appears perverse. There are no reasonable grounds for setting a cost of debt allowance at less than the TPCR allowance of 3.75% (pre-tax real).

161. There is no "magic methodology" which can be applied at every price review to determine an appropriate allowance for future rates. Therefore at each price review, there is a need to look at the set of available historical data and determine which (if any) provides the best indicator of future rates. Currently, long-run averages provide the best indicator and for this reason we believe that Ofgem should continue to place most weight on this data, as they did in TPCR.

162. In our view, a cost of debt allowance of 3.75% (equal to the TPCR allowance) would provide sufficient headroom against current spot rates to allow National Grid to finance its activities over the course of the next price control. It should be noted that by keeping the allowance at the same level as TPCR, this in effect reduces the ex-ante headroom which should be seen to benefit customers. A cost of debt allowance for gas distribution lower than the TPCR figure would be illogical and would certainly lead to a distortion of incentives to invest within National Grid. Further detail is contained within section 3, para 352 – 361.

Question 3: In the light of both the results of our risk analysis and the levels of actual gearing observed in the sector, is there a compelling reason to change our notional gearing assumption from 62.5per cent?

163. In all other aspects of the cost of capital debate in GDPCR Ofgem has sought to build on the conclusions and allowances of TPCR. We do not believe there are any compelling reasons to change the notional gearing level from 60% as used in TPCR to 62.5%. Despite the higher levels of gearing achieved at investment grade ratings, the recent continued uncertainty in

credit markets means that now is not the time to be testing the capital structures of critical infrastructure companies.

164. A 60% gearing assumption represents a prudent and achievable target for National Grid. However it is totally impractical to expect National Grid to be able to fine-tune its gearing to within 2.5% and it is unclear exactly how Ofgem would measure National Grid Gas' gearing level for the purposes of the tax claw back clause agreed in TPCR if gas distribution is given a different notional gearing target than transmission.

165. Consistency between gas distribution and transmission would remove the issues around determining the impact on cost of debt and equity of a higher level of gearing highlighted in our response to question 1. If Ofgem does not address this point, this again calls into question the issue of skewed investment incentives and competition for capital within National Grid. A consistent notional gearing assumption would provide Ofgem with an opportunity to smooth out the investment risk versus reward discrepancies created within National Grid, ensuring that commensurate incentives to invest exist in our transmission and distribution businesses.

166. Fuller details can be found in section 3, paras 362 – 366.

Question 4: Is our approach to determining the GDNS' tax allowances appropriate?

167. We are pleased to see in the Updated Proposals that Ofgem have reverted to the pre 2007 Budget levels for capital allowances, since the proposed changes are still subject to consultation and have yet to be implemented in existing law. Detailed analysis of the differences can be found in section 3, paras 367-377.

Methodology

168. We broadly agree with the methodology for calculating capital allowances in the Ofgem financial model, but make the following comments:

- The allowance pools should exclude the capex overspend values. "Pot 1" capex should be excluded permanently and "pot 2" capex included in the pools at its tax written down value in the year that it is added to RAV, consistent with the treatment of other costs where there is a match to the value included in allowed revenues. At present, the tax calculation reduces the income for pot 2 included in RAV, with no corresponding adjustment to costs (ie. capital allowances).

- Ofgem is correctly making a tax deduction for capitalised pension costs. However the values used do not agree with those submitted in the B4 pensions table as part of the main review in October 2006.

- The interest charge included in the 2008/9 tax allowance is based on RAV including the "pot 2" overspend, multiplied by gearing multiplied by the nominal interest rate. The debt value (and consequential interest charges) is then rolled forward taking into account any cash surplus or deficit in the year. Instead, Ofgem should calculate interest excluding that portion of "pot 2" which has still to be included in RAV. National Grid receives a return on RAV excluding the "pot 2" spend for some of its life and so an interest charge calculated based on gearing of a RAV including the pot 2 spend for all of its life would be inconsistent with Ofgem's price control calculations.

Basis of tax modelling

169. In their response to the Initial Proposals, NGN believe that the tax modelling for repex should follow the regulatory, and not statutory, treatment to be consistent with the notional modelling for other price control aspects. We do not support this view as it runs contrary to the principle of the price control tax allowance being an allowance to cover the actual tax liability of the business.

Logging up of tax losses

170. We note Ofgem proposes to log up any tax losses as calculated on a regulatory basis and deduct them from expected tax allowances when the timing differences that led to the loss reverse. We support this, as long as any tax losses being carried into the next price review period are only those included in the Ofgem financial model at the end of 2012/13 (adjusted for actual tax rates) – ie. no carry forward of any actual tax losses.

Question 5: Should we make a financeability adjustment in cases where a GDN fails to meet our target ratios because of its own actions, such as penalties incurred under incentive schemes?

171. We continue to be of the view that, where necessary, it is appropriate to make NPV neutral financeability adjustments – regardless of the cause.

172. We are concerned that the current allowances do not allow National Grid Gas distribution to remain at comfortably investment grade. In particular, Standard & Poor's place most weight on (FFO+Interest) / Interest and FFO / Debt ratios which, given Ofgem's proposals, come out

on average at 2.3 and 8.0% respectively for National Grid. These ratios translate to BBB rating which is below comfortable investment grade. Ofgem must ensure that these ratios support at least BBB+ rating in their Final Proposals.

Pensions

173. We believe that is appropriate that Ofgem's pensions principles remain, broadly unchanged, from Initial Proposals.