

National Grid's Response on System Operator Internal Costs

October 2006

**Preliminary Views Consultation on National Grid
Electricity Transmission and National Grid Gas
System Operator Incentives from 1 April 2007**

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1. Executive Summary

- 1 We welcome the opportunity to respond to Ofgem's preliminary views on NGET and NGG System Operator **internal cost** incentives. The consultation document provides a useful, but brief, view of Ofgem's preliminary thoughts on System Operator internal costs.
- 2 In this response we go beyond directly commenting upon the consultation document by utilising additional information provided separately by Ofgem to inform our response. This approach is intended to accelerate, where possible, the resolution of outstanding issues in line with the timetable for the NGET and NGG Transmission Owner (TO) review.
- 3 We have a number of serious concerns relating to the proposed allowances for both the Gas and Electricity system operators. The targets reflected in the preliminary views are significantly more onerous than we believe is achievable, and would be inconsistent with maintaining compliance with our licence obligations.
- 4 In respect of **operating costs** we identify a gap of £28.1m between the proposed baseline allowances and our business plan submission. This is predominantly focussed within our Electricity business. The proposed allowances would demand substantial cost reductions over and above the ambitious challenge we set ourselves within our business plan. In summary we believe the case has not been made for this reduced level of funding and this is predominantly because of two critical issues which must be resolved in order to ensure we are remunerated consistently with our licence obligations:
 - (a) correction of two partially offsetting errors within the calculation of the NGET System Operator cost profile that would lead to a £20.5m increase in allowance;
 - (b) a revised view of efficiency adjustments reflecting our comments upon consultants recommendations amounting to an increase from proposed allowances of £3.1m in Electricity and £4.5m in Gas.
- 5 In respect of **capital investment** we have four significant areas of concern from the preliminary views which need to be addressed to bring these baseline investment targets up to the level required to sustain safe, economic and efficient system operation in both Gas and Electricity Transmission, namely:
 - (a) the application of incentive sharing factors in the RAV roll-forward methodology which does not align with our interpretation of the incentive framework, and, we believe, Ofgem's interpretation at the time these incentives were put in place;
 - (b) poorly justified reductions in Gas investment allowances relating to:
 - (i) the £11.7m reduction in respect of control system infrastructure refresh work that is proposed by TPA to be

deferred by one year, which would compromise the integrity of this critical infrastructure; and

- (ii) the £8.5m reduction in respect of the development of network modelling and control staff training tools which are based on a cursory examination of requirements and a naïve proposal of alternative investment ;

- (c) unjustified reduction of the expenditure allowances associated with NTS network installation telemetry, control and protection work and movement from NGG TO to NGG SO; and

- (d) a flawed reduction of £6m in Electricity investments which are largely based on incorrect broad assumptions derived from unrelated projects examined under earlier Transmission Price Review work by Ofgem's consultants, Compass.

6 In addition to these comments in respect of the baseline opex and capex allowances we also believe there are two other **essential elements** of internal cost recovery that need further work within the development of updated system operator proposals:

- (a) the ability to fund and deliver activity beyond that anticipated within our business plan submissions both in respect of:

- (i) incremental investments to facilitate as yet undefined or unscoped industry developments and

- (ii) for substantial new activities that we may undertake.

- (b) the application of sharing factors around marginal expenditure intended to deliver savings in external incentives;

7 Further thoughts on these issues are outlined in the body of our response.

8 Finally, there are a two financial issues which will require resolution most notably in respect of:

- (a) Appropriate tax allowances are required – the 'Preliminary Thoughts' document does not properly reflect the tax position of the NGG and NGET System Operators and this will need to be corrected.

- (b) The pension allowances need to be finalised to ensure they are consistent with the principles proposed in the TO control.

2. Introduction

- 9 Our response addresses the questions posed in the consultation on National Grid Electricity Transmission (NGET) and National Grid Gas (NGG) System Operator (SO) internal operating and capital costs (specifically questions 11, 12 and 13 in chapter three and questions 9, 10 and 11 in chapter four). It also responds to other areas raised for discussion as well as initiating proactive discussion on system operator internal cost recovery mechanisms.
- 10 This document deals with the outstanding issues in relation to SO internal cost recovery in three parts.
- 11 First, the allowances required to fund the **baseline** activity presented in our FBPQ applicable to operating costs, investment, tax and pensions are discussed in three sections:
- (a) A review of Ofgem's projections of operating costs;
 - (b) a review of Ofgem's proposals for system operator capital investments; and
 - (c) commentary on proposed tax and pensions allowances.
- 12 We then go on to set out our position on the cost recovery mechanisms required to deal with both baseline and new system operator activity in a further two sections;
- (a) we outline our understanding of the necessary building blocks for efficient and effective system operator cost recovery mechanisms going forward;
 - (b) we then expand on areas of new activity and propose a generic mechanism for dealing with these.
- 13 The final part of the document covers the the need for a Transmission Services (TS) Capex mechanism going forward under the GBSO framework.

3. Baseline Allowances

Operating Costs

Ofgem's Approach

- 14 We note Ofgem's approach to future operating costs using a base year analysis and projection of drivers and efficiencies for later years. We recognise its potential validity in setting allowances for future system operator expenditure. However, this must be backed up with a sense-check against our operating cost projections in our FBPQ submission.
- 15 This not only facilitates the debate and understanding of any areas which require further discussion and resolution, but will ultimately give some direction as to Ofgem's priorities for the forthcoming price control period and make future regulatory reporting more transparent through reconciliation to allowances.

NGET System Operator Operating Costs

- 16 Ofgem's preliminary allowance equates to £227.9m over the five year period 2007/08 to 2011/12. This is £23.6m less than the £251.5m in our FBPQ submission when adjusted for pension treatment.
- 17 Most notably we have identified two very material, partially compensating, discrepancies in deriving the proposed allowances, specifically:
- (a) We believe that Ofgem have erroneously included the 2004/05 BETTA Implementation costs in their derivation of a cost profile from 2007/08 onwards. Correction of this error amounts to a restatement of allowances upwards by £38.9m;
 - (b) Ofgem have mistakenly removed the downward movements in the Central Inputs cost profile. Correction of this error amounts to a restatement of allowances downwards by £18.4m.

£m (2004/05 prices)

	2007/08	2008/09	2009/10	2010/11	2011/12	Total 2007/08 to 2011/12
Ofgem Preliminary Allowance						
Base Cash Costs	40.8	40.8	40.8	40.8	40.8	204.0
Change in Cost Profile	7.0	6.9	7.1	7.7	8.1	36.8
Efficiency Adjustments	-1.3	-2.1	-3.3	-2.8	-3.4	-12.9
Total	46.5	45.6	44.6	45.7	45.5	227.9
Allowance Derivation Discrepancies						
BETTA Implementation (2004/05 Costs)	7.8	7.8	7.8	7.8	7.8	38.9
Central Inputs Adjustment	-3.7	-3.7	-3.7	-3.6	-3.6	-18.4
Subtotal	4.1	4.1	4.0	4.2	4.1	20.5
Restated Preliminary Allowance	50.6	49.7	48.6	49.9	49.6	248.4
National Grid Forecast *	51.1	49.6	49.9	50.4	50.5	251.5
Restated Gap	0.5	-0.1	1.2	0.5	0.9	3.1

* excludes pensions

Table 1: Ofgem's Proposals for NGET SO Operating Costs

- 18 The net impact of these two restated errors is an increased allowance of £20.5m.
- 19 If the preliminary allowance is recalculated on this basis, the gap between the allowance and our forecast of operating costs in £3.1m as shown in Table 1.
- 20 The total extent of Ofgem's proposed efficiency adjustments is in practice £22.6m. These go beyond our own programme of savings worth £19.5m in the 'Transmission Efficiency Challenge'. We do not believe the case has been made for the savings on this scale.
- 21 Given that this response is our first opportunity to comment on the recommendations given by Ofgem's consultants for the NGET SO, we recommend that Ofgem reconsiders its application of consultants' recommendations in light of our comments in the following sections on:
- (a) Operational Savings (PPA);
 - (b) Insurance; and
 - (c) Information Services.
- 22 We also look forward to reviewing Ofgem's consultants' conclusions on 'Optel' costs.
- 23 The following sections look at the necessary corrections to the NGET SO ongoing cost profile and then move on to discuss Ofgem's proposed efficiency adjustments.

Correction of Error in Calculation in Allowance

- 24 Ofgem's profile for future NGET SO Operating Costs is based on the response to question OP4027, which provided a more detailed presentation of our FBPQ submission by form of control. There are two areas where we believe the proposed profiled cash costs do not reflect Ofgem's intentions in formulating an NGET SO Operating Cost allowance:
- (a) **2004/05 Reference Point** - the data presented in OP4027 for 2004/05 includes BETTA implementation costs of £7.8m in the Operations and Trading total of £25m. These costs were remunerated separately and are correctly not included in the NGET SO base cash costs analysis. The ongoing cost profile, calculated for each year by taking the difference between forecast costs and a 2004/05 base cost (derived in this case from OP4027 and therefore including BETTA Implementation) is hence £7.8m per year less than required.
 - (b) **Central Inputs** - Ofgem's profiled cash costs exclude the downward movement in central inputs within the NGET SO. This is unnecessary. The movement in central inputs within the NGET SO is triggered purely by the agreed change in allocation methodology which gives a more representative and more transparent allocation of costs through business services allocations from 2005/06 onwards.

For the NGET SO, profiled costs should be reduced by £3.7m per year on average compared to the current evaluation. Central Inputs are explored further in our response to NGET TO updated proposals.

- 25 We have restated Ofgem's allowance in line with these corrections in Table 1 above. This is £20.5m higher than that used to generate Ofgem's initial view. We would welcome early confirmation of agreement over this revised analysis.

Ofgem's Proposed Efficiency Adjustments

- 26 Ofgem have informed us of £12.9m worth of explicit efficiency savings adjustments. In practice, the published preliminary allowances embody a downwards adjustment of £22.6m in total after application of the corrections described above.
- 27 This adjustment shifts NGET SO operating cost allowances below the minimum level we believe is required to meet our licence obligations in terms of safe, economic and efficient system operation.
- 28 We have identified three areas within Ofgem's efficiency proposals which are particularly material and significant to the level of NGET SO operating costs allowances. These are:
- (a) Operational Savings proposed by PPA;
 - (b) efficiency adjustment and re-profiling of Insurance Costs; and
 - (c) Information Services cost savings derived from Compass' findings.

£m (2004/05 prices)

	2007/08	2008/09	2009/10	2010/11	2011/12	Total 2007/08 to 2011/12
Operational Savings (PPA)	1.6	1.7	2.6	1.9	2.3	10.1
Insurance Adjustment	0.6	0.9	0.7	0.4	0.2	2.8
Information Services (Compass)	-0.6	-0.1	0.5	1.1	1.6	2.5
Total	1.6	2.5	3.8	3.4	4.1	15.4

Table 2: Ofgem's Proposed Operational, Insurance and Information Services Adjustments for NGET SO

- 29 We respond to Ofgem's proposals for Operational Savings in the next section along with an outline of our thoughts on Insurance and Information Services. In addition, our full response to the other efficiency adjustments that impact across NGET and NGG (SO and TO) is contained within our response to TO updated proposals.
- 30 We recommend that Ofgem reconsiders the extent of these proposed savings with a view to eliminating the gap of £3.1m we have identified between Ofgem's allowances and our forecasts.

Operational Savings

- 31 PPA have reviewed the activities conducted by Operations and Trading under the NGET SO form of control. We are disappointed that PPA have proposed

changes to the resource levels in our business plan. We would be grateful for a copy of PPA's report to enable us to comment on these proposals fully.

- 32 We understand that PPA may have identified 'inconsistencies' between Operations and Trading's assumptions for the rate of connection of renewable generation and those used in Transmission Owner discussions.
- 33 Operations and Trading's assumptions are based on the solid foundation of connection agreements both for NGET's England and Wales Transmission System **and for the transmission systems in Scotland**. There are two areas which impact on Operations and Trading but not on NGET's Transmission Owner activities
- (a) connections in Scotland;
 - (b) the element of work associated with observable demand variation triggered by embedded renewable generation.
- 34 We would be grateful for an opportunity to review additional information behind PPA's conclusions on the impact of generation from renewable sources to ensure that full account has been taken of Operations and Trading's responsibilities across the whole of GB.
- 35 In addition, we would point out that a minimum level of resource is required to set up and maintain the additional demand, generation and operating margin analysis work associated with generation output variability. This means that the bulk of the resource requirement identified by Operations and Trading in the relevant period is not directly proportional to the amount of generation connected.
- 36 We understand also that PPA have identified further possible savings associated with capital programme efficiencies. It is difficult to comment on these without further information. The Operations and Trading business plan already contains a significant element of organisational efficiencies leading us to conclude that any further reductions in resource could put the safe, economic and efficient operation of the GB transmission systems at risk.

Insurance

- 37 Ofgem have proposed an explicit efficiency adjustment of £0.3m for Insurance costs in the NGET SO. In addition to this adjustment, the movement in our forecast Insurance costs profile has been extracted from Ofgem's forward cost profile derivation which has the effect of removing a further £2.5m from allowances. These two actions sum up to a total adjustment of £2.8m, giving an allowance which is 25% less than our forecast of £11.2m.
- 38 We have examined Ofgem's proposed insurance cost profiles and have found three areas of analysis which we believe have been applied incorrectly:
- (a) The application of an insurance market cycle starting from 2005/06 which, due to the 'super efficient' level of our costs in that year at 7%

less than that predicted by Ofgem's consultants, is excessively punitive.

- (b) The cost allocation to the four transmission forms of control is not in line with the agreed allocation methodology.
- (c) The market cycle chosen by Ofgem represents an unbalanced view of insurance market conditions and imposes unachievably low cost assumptions.

39 As set out more fully in our TO response, we recommend that Ofgem revises its analysis in these three aspects.

Information Services

40 Our concerns over the proposed efficiency savings in Information Services relate to:

- (a) the extrapolation approach used by Compass to benchmark our forward looking business plan;
- (b) selective application of Compass' findings.

41 We disagree with this approach and its application to proposed system operator allowances, a downward adjustment of £2.5m, for the following reasons:

- (a) Compass acknowledge the highly competitive contract that National Grid has agreed with CSC following competitive tender, describing our outsourced arrangements as "leading practice" (Compass Report, Page 67). This supports the forecast we have presented in our FBPQ which already reflects "leading practice".
- (b) Compass comments in respect of System Integrator rates cannot be applied, as they appear to have been, to NGET SO operating costs. No NGET SO operating expenditure is planned on System Integrator services therefore a reduction in allowances compared to our business plan is inappropriate in respect of this comment.
- (c) Compass also questioned National Grid's use of contract staff as opposed to permanent staff who could possibly be employed at a lower rate. This comment did not take into account of:
 - (i) the flexibility and reduced costs in the long term that this arrangement has offered (compared to permanent appointments) as peaks of activity have been driven by market driven changes to system operator applications; and
 - (ii) market conditions for skills in operational information systems.

- (d) Our ability to reduce costs further in this area is restricted by the need to manage the levels of security around operational systems in line with their designation as Critical National Infrastructure. This constrains our sourcing options, limits access to lower cost resources and adds security clearance and monitoring costs.
- 42 We cannot therefore agree with a reduction in NGET SO operating cost allowances of £2.5m in respect of Information Services.

Way Forward

- 43 Prior to publishing further proposals on NGET SO operating costs, we recommend that Ofgem:
- (a) takes account of the two cost profiling issues relating to BETTA Implementation costs in 2004/05 and Central Inputs;
 - (b) reconsiders the efficiency statements associated with Operational Savings, Insurance and Information Services costs and the severity with which these have been applied in the light of our comments in this response.

NGG System Operator Operating Costs

- 44 Ofgem's Preliminary allowance equates to £122.1m over the five year period 2007/08 to 2011/12. This is £4.5m less than the £126.6m in our FB PQ submission when adjusted for pension treatment and for Xoserve costs. Table 3 shows the gap between Ofgem's preliminary view of allowances and our forecast of NGG SO Operating Costs.

£m (2004/05 prices)

	2007/08	2008/09	2009/10	2010/11	2011/12	Total 2007/08 to 2011/12
Ofgem Preliminary Allowance						
Base Cash Costs	27.6	27.6	27.6	27.6	27.6	138.0
Change in Cost Profile	2.7	1.1	3.1	2.6	2.9	12.4
Efficiency Adjustments	-0.5	-0.7	-0.7	-0.8	-0.8	-3.5
Remove Xoserve Charges	-5.5	-4.8	-4.6	-4.7	-5.4	-25.0
Total	24.3	23.3	25.4	24.7	24.4	122.1
National Grid Forecast *						
	25.7	24.0	26.2	25.7	25.0	126.6
Gap	1.4	0.7	0.8	1.0	0.6	4.5

* excludes pensions and Xoserve

Table 3: Ofgem's Proposals for NGG SO Operating Costs

- 45 The first logical step in a move towards a more cost reflective remuneration arrangement for Xoserve charges currently passed to the NGG SO is to capture the charges outside the internal cost incentive. We therefore welcome Ofgem's recognition of the need to work towards an alternative remuneration mechanism for Xoserve activities in the longer term and would welcome more clarity around the specific proposed mechanisms.
- 46 The total extent of Ofgem's proposed efficiency adjustments is in practice £16.3m. The gap between our forecast and proposed allowances is reduced

by £11.8m to £4.5m by our own programme of savings within the 'Transmission Efficiency Challenge'.

47 Again, we do not believe that case has been made for savings of the extent implied in Ofgem's proposed allowances.

48 We have commented on Ofgem's application of consultants' recommendations in the following sections:

- (a) Operational Savings (TPA);
- (b) Insurance; and
- (c) Information Services.

£m (2004/05 prices)

	2007/08	2008/09	2009/10	2010/11	2011/12	Total 2007/08 to 2011/12
Operational Savings (TPA)	0.2	0.2	0.2	0.3	0.4	1.3
Insurance Adjustment	0.6	0.8	0.7	0.5	0.4	3.1
Information Services (Compass)	-0.1	0.0	0.2	0.4	0.5	1.0
Total	0.7	1.0	1.1	1.2	1.3	5.4

Table 4: Ofgem's Proposed Operational, Insurance and Information Services Adjustments for NGG SO

49 Given that this response is our first opportunity to comment on the recommendations made by Ofgem's consultants for the NGG SO, we recommend that Ofgem reconsiders its application of consultants' findings with a view to eliminating the £4.5m gap between allowances and forecast costs.

Operational Savings

50 TPA have reviewed the activities conducted by Operations and Trading and UKT Commercial under the NGG SO form of control. We would be grateful for more information on TPA's report describing these proposed changes as they represent additional savings on top of those already factored into the Operations and Trading business plan.

Insurance

51 Ofgem have proposed an upward adjustment of £3.5m for Insurance costs in the NGG SO. This is more than counterbalanced by the extraction of our forecast Insurance costs profile Ofgem's forward cost profile derivation having the effect of removing £6.6m from allowances, a total adjustment of £3.1m. This yields an allowance which is **38% less** than our forecast of £8.1m.

52 Again, we recommend that Ofgem revises its analysis in the three aspects of:

- (a) use of 2005/06 'super efficient' costs as a base for projected costs;
- (b) allocation methodology; and
- (c) application of market cycle recommendations.

Information Services

- 53 We have already commented on our dissatisfaction with Compass' extrapolation approach and Ofgem's opportunist selection of potential savings in the NGET SO Operating Cost section. The points raised are equally valid for NGG SO Information Service activities, the majority of which are focussed on the provision of operational systems necessary for the continuous safe, economic and efficient operation of the NTS.

Way Forward

- 54 Prior to publishing further proposals on NGG SO operating costs, we recommend that Ofgem reconsiders the efficiency statements associated with Operational Savings, Insurance and Information Services costs and the severity with which these have been applied in the light of our comments in this response.

System Operator Capital Investments

- 55 The following section comments on Ofgem's high level conclusions on historic system operator investment. It raises questions we have relating to the use of sharing factors in Regulatory Asset Value calculations. We have endeavoured to set out our interpretation of the purpose of sharing factors in the internal SO incentives in the section 'System Operator Internal Cost Recovery'.
- 56 This is followed by a more detailed discussion of specific conclusions drawn for both electricity and gas system operator future capital investment plans. Ofgem's preliminary allowances are significantly lower than our planned expenditure and we would urge Ofgem to reconsider these in the light of our response.

Historic Expenditure

- 57 Discussions on the RAV roll forward for NGET SO investments suggest that historic investment will be fully remunerated at the (yet to be agreed) rate of return.
- 58 However, discussions on NGG SO RAV roll forward suggest that value of historic investment will be reduced by the application of a sharing factor treatment. Our understanding of the proposals and conclusions at the previous Transmission price control review is that the RAV roll forward should embody 100% of efficiently incurred historic expenditure.
- 59 Additional feedback from TPA's review of NGG SO activities has suggested that an element of 'inefficiency' has been identified in the Ulysses programme, and now also in the Gemini programme. This conclusion appears to have been based on the extent of overspend against initial forecasts, and against allowances which, when set, we stated were significantly less than the investment we believed was required.

- 60 We do not agree with the implicit assertion that an overspend against allowances signifies inefficiency in investment and believe that this approach confuses Ofgem's intentions for future price reviews with the expectations all parties had for this price review.
- 61 We suggest that Ofgem reconsiders its application of sharing factors to the value of historic expenditure. We would also welcome further discussion on how these factors will be applied in future system operator incentives with a view to reaching an agreed way forward.

Future Capital Investment Plans

- 62 The reviews of both gas and electricity system operators investment plans contain positive statements over the necessity of the developments we have identified and included in our plans.
- 63 We have a general concern however that proposed reductions in allowances (compared to our plans) are based on a high level review and comparison with alternative approaches. We believe that Ofgem should reconsider these proposed reductions and that further discussion is required in this area. The following sections outlines those areas which need to be examined again.

NGET System Operator Capital Investment Plans

- 64 PPA have reviewed our NGET SO investment plan and preliminary indications suggest that they agree that our planned projects represent necessary investment. They have recommended that this investment could be reduced by £6m based on:
- (a) efficiencies in system integration;
 - (b) use of permanent staff instead of contractors;
 - (c) reductions in Control Centre infrastructure work.
- 65 We would appreciate sight of PPA's complete report so that we can comment on their recommendations fully. In the absence of the complete report, we have responded on the basis of the summary slidepack we have received so far.
- 66 PPA's two conclusions seem to be derived from earlier work by Compass. We do not believe that costs below that presented in our FBPQ are achievable in this area as:
- (a) We have chosen not to outsource under the standard Offshore Development Centre (ODC) framework agreements, mainly based on the Indian sub-continent, to mitigate the **significant security risks** to the Critical National Infrastructure in this area. We do not believe that such cost saving measures are appropriate in this area due to the potential security implications.

- (b) Our use of UK contractors over permanent staff is driven by market forces, as we must retain access to the latest skills and specialist knowledge in the relevant systems despite these being in relatively short supply. Sourcing the work this way also allows us to rapidly flex our capability in response to energy market change
- 67 Furthermore, our use of system integration services in the development of NGET SO systems is minimal making a reduction in allowances due to perceived possible savings on System Integrator costs incorrect.
- 68 We would also like the opportunity to discuss further our requirements for Control Centre infrastructure work (categorised under Global Capital in the FBPQ) which embodies a number of essential works on:
- (a) Control Room Telephony equipment;
 - (b) environmental works on Diesel tanks and sewerage plant;
 - (c) enhanced physical security;
 - (d) operational video wall equipment; and
 - (e) Control Room facilities.
- 69 We note also the recommend phasing adjustment in respect to Generation Forecasting functionality in relation to wind conditions and new Transmission Network Analysis facilities.
- 70 Table 5 shows Ofgem's preliminary allowance alongside proposed adjustments. The net effect is a proposed reduction of £6m in the overall allowance. This is a 13% reduction compared to our forecasts which we believe is an excessive and unachievable target if the necessary investment is to be made in operationally critical NGET SO systems.

£m (2004/05 Prices)	2007/08	2008/09	2009/10	2010/11	2011/12	Total 2007/08 to 2011/12
Ofgem Preliminary Allowance	11.1	7.5	8.3	7.4	6.7	41.0
Ofgem Proposed Adjustments						
Global Capital Adjustment	-0.8	-0.6	-0.5	-0.5	-0.5	-2.9
Gen Forecasting for Wind	0.2	-0.2	0.0	0.0	0.0	0.0
Transmission Network Analysis	0.5	-0.5	0.0	0.0	0.0	0.0
Non-specific Project Efficiency	-0.7	-0.5	-0.4	-0.7	-0.6	-2.9
Total Adjustment	-0.8	-1.8	-1.0	-1.2	-1.1	-5.8
National Grid View						
National Grid Forecast	12.0	9.3	9.3	8.6	7.7	47.0
Gap vs Ofgem Allowance	0.9	1.8	1.0	1.2	1.0	6.0

Table 6: Ofgem's proposals for NGET SO Capital Investment

- 71 We therefore recommend that Ofgem takes account of our comments and reconsiders this reduction in our allowance.

NGG System Operator Capital Investment Plans

- 72 TPA have reviewed our future investment plans for NGG SO facilities and systems and have agreed that there is a good business case for the investment programmes presented in our FBPQ.
- 73 TPA have challenged the timing of expenditure relating to the refresh and upgrade of iGMS infrastructure and have suggested an alternative approach to two other programmes, one associated with the provision of training facilities, the other with real-time simulation of NTS network conditions.
- 74 TPA have also suggested that our estimates for future telemetry outstation work should be 20% lower based on alternative products.
- 75 Our concerns over these recommendations are discussed next, followed by our overall recommendations on NGG SO investment allowances.
- 76 Again, we have responded to a high level summary of consultants recommendations and would appreciate the opportunity to review and comment on TPA's report in full.

Proposed NGG SO Capital Investment Plan Adjustments**iGMS Infrastructure Refresh**

- 77 TPA have suggested that the iGMS Infrastructure Refresh programme can be delayed by one year and have recommended that £11.7m should be withdrawn from the investment plan during this price control period.
- 78 National Grid's approach to the management of Information Systems assets has been discussed previously and is summarised below. This approach reflects the design and construction of the current generation of large information systems by breaking them down to component level. It enables a programme of asset replacement to be formulated which replaces only those elements of the system which need to be replaced, rather than imposing a single asset life on the whole system.
- 79 The delivery of solutions based on standard hardware and software components and, in the case of IGMS, commercial application products requires the adoption of a lifetime management model typically referred to as "evergreen". The system is periodically refreshed or upgraded from both a hardware and software perspective.
- 80 The key benefit of the "evergreen" lifecycle approach is that the overall life of a solution can be extended by periodic upgrades to mitigate the risks of obsolete hardware and out of support software. This approach yields a lower total cost of ownership and a lower business risk profile than periodic complete system replacement.
- 81 The dominant driver for replacement of hardware is the need to retain ongoing availability of spares and technical support. The increased use of commodity hardware in operational systems means that the expected life is

determined by the manufacturers support policies. These vary across different components but are typically as shown in Table 4 below.

Server lifecycles		Large Disc Set Lifecycles	
Larger UNIX Server	7-9 years	Tier 1 : (Large chassis, fibre channel, resilience capabilities)	7-10 years for chassis, 5 years for discs
		Tier 2: (Fibre channel - but limited chassis expansion)	5-7 years
Commodity servers (WINTEL, Low end UNIX)	3-5 years	Tier 3: (SCSI & NAS)	3-5 years
		Tier 4: (tape)	7-9 years

Table 7: Indicative Information System Hardware Life

- 82 The iGMS infrastructure was first put into service in 2002 in preparation for development, integration, testing and commissioning prior to go-live. It has a number of components with an estimated life ranging from 7 to 9 years dictating that replacement work takes place from 2009 onwards.
- 83 TPA acknowledge that the work is necessary. Their suggestion that this work can be delayed would seem to be based erroneously on this range of 7 to 9 years and the system go-live date in 2005.
- 84 The precise timing of our programme is dictated by manufacturers' support arrangements for key components. **In particular, the iGMS Central Processing Units will be unsupported after 1st February 2010.** After this date, our current information is that manufacturers will no longer guarantee provision of replacement hardware or problem resolution on failure. New software infrastructure products will also not be supported. National Grid would therefore have to rely on after market or second hand spares for a critical operational system.
- 85 **It should also be noted that these components will have been in continuous operation for a total of 70,080 hours (8 years) by this time.**
- 86 The component asset life constraints we have identified therefore dictate that an infrastructure replacement programme is undertaken for iGMS in line with our FBPQ submission. Failure to invest could make a wholesale system replacement necessary during the following price control period with a higher overall cost. This requirement should be reflected in our allowances be the reinstatement of £11.7m of planned expenditure.

CONSIM Replacement and Gas Control Training Simulator

- 87 TPA have recommended that a single package could be used as the basis for both real-time network modelling and simulation and as a control training simulator. Whilst we are interested in any information on products which may address our business requirements, we believe that this recommendation is based on:

- (a) a misinterpretation of the requirements behind the two developments; and
- (b) a misperception over where the cost of the developments lie.

88 The differences between the two systems delivered by these programmes were highlighted in our response to TP4212. These are summarised in Table 8 below.

Requirement	CONSIM Replacement	Control Training Simulator
User Functionality	Continuous real time modelling of NTS network conditions in response to planned and unplanned system inputs, outputs, faults and re-configuration	Off-line Training for Control Engineers
Availability	24 hours, 365 days per year	Normal Office Hours
Security	Commensurate with Critical National Infrastructure definition for operational systems	Protection of business intellectual property
Interface	Sub set of operational systems and displays with clear delineation between modelled conditions and actual conditions	Representative mock up of control room environment allowing control engineers and external parties to interact with operational system models and each other
Location	Integrated in Control Room Environment	Discrete Training Facility

Table 8: Summary of Functional Requirements for CONSIM Replacement and a Training Simulator

- 89 Whilst we will endeavour to make use of commercially available products to provide components for our systems, we are not currently aware of any product which will be capable (in the absence of significant customisation) of modelling the conditions we expect to see on the NTS over the coming years as gas supply patterns change.
- 90 In any event, as can be seen from the differences in the system requirements summarised above, the bulk of system development relating to functionality, availability, security and interface requirements cannot be shared.
- 91 We therefore reject the suggestion that real-time network analysis and training simulator functionality can be met by single system for £9m less than the investment provided for in our FBPQ.
- 92 Failure to deliver these two separate systems will jeopardise our ability to operate the NTS safely, economically and efficiently as gas supply patterns change and will jeopardise our ability to train control engineers to do so.**

Telemetry

- 93 TPA have recommended that the forecast costs associated with future telemetry replacement should be 20% lower than our investment plans based on alternative telemetry products used by UK gas majors.
- 94 It is difficult to comment on this in the absence of supporting information. However, we would highlight the increased complexity of NTS sites compared to other installations within UK the gas industry. For example, our past experience in distribution and transmission installations suggests a cost per site approximately 50% higher in transmission compared to distribution due to the scale and complexity of the sites involved.
- 95 In addition, the scope of our Gas installation Protection, Monitoring and Control replacement plan is significantly wider than telemetry equipment replacement. We therefore reject the conclusion that this programme can be managed for 20% less than stated in our FBPQ submission.
- 96 We would also point out that this project does not fall under the licence defined system operator activity and therefore needs to be catered for under NGG TO allowances. Although we understand why Ofgem and TPA may have considered this as a NGG SO project (with respect to the historic treatment of Ulysses allowances) future treatment should see it considered as a TO project.

Way Forward

- 97 In order to draw conclusions, we need to restate our forecast NGG SO investment on the same basis as Ofgem's preliminary allowance.

£m (2004/05 Prices)						
	2007/08	2008/09	2009/10	2010/11	2011/12	Total 2007/08 to 2011/12
Ofgem Preliminary Allowance	12.8	8.3	5.5	5.3	9.6	41.5
Ofgem Proposed Adjustments						
IGMS Infrastructure Refresh	0.0	0.0	-1.0	-4.9	-5.8	-11.7
Training Simulator	-0.9	-2.3	-4.3	0.0	-0.9	-8.5
GTO Telemetry	-0.5	-0.5	-0.5	-0.5	-0.5	-2.5
Total Adjustment	-1.4	-2.8	-5.8	-5.4	-7.3	-22.7
National Grid View						
National Grid Forecast	12.9	9.7	18.2	11.1	14.9	66.8
Reconciliation to Ofgem Preliminary Allowance Equivalent						
Xoserve Capex	1.1	0.9	9.3	2.8	0.4	14.5
Telemetry, Control and Protection	2.5	2.5	2.5	2.5	2.5	12.7
Equivalent National Grid Forecast	14.4	11.3	11.5	10.9	17.0	65.0
Gap vs Ofgem Allowance	1.6	3.0	6.0	5.6	7.4	23.5

Table 9: Ofgem's proposals for NGG SO Investment

- 98 Ofgem's allowance contains two adjustments to our FBPQ submission. These relate to:

- (a) the extraction of Xoserve capital expenditure from the NGG SO Internal Incentive which we welcome as a first step towards a more cost reflective arrangement for the remuneration of Xoserve activity;
 - (b) the movement of the Telemetry, Control and Protection programme from NGG TO to NGG SO. This work does not fall within the NGG SO activity definition and should be returned to NGG TO capital allowances.
- 99 These movements are presented in Table 8 above to allow a comparison of National Grid forecast expenditure and Ofgem allowances on an equivalent basis.
- 100 The table shows that Ofgem's allowances are £23.5m less than our forecasts at £41.5m. This represents a reduction of 35% compared to our equivalent forecast of £65m.
- 101 We believe that an allowance at this level will limit our investment in operational systems excessively and that this is an unjustified constraint on investment designed to maintain safe, economic and efficient operation of the NTS in a secure environment. We therefore recommend that Ofgem reconsiders:
- (a) the overall reductions in capital allowances compared to our forecast requirements;
 - (b) its recommendations on iGMS infrastructure refresh, training simulator and network modelling tools and telemetry, protection and control.

Tax

- 102 We note the intention to establish a separate tax allowance.
- 103 Information we have received thus far indicates that a significant amount of further work needs to be done to correct NGET and NGG SO tax allowances. This includes amongst other things:
- (a) inclusion of non-incentivised revenue;
 - (b) correction of cashflow assumptions;
 - (c) inclusions of pension payments adjustments; and
 - (d) RAV modelling.

Pensions

- 104 We note the separate allowances for pensions which is intended to remunerate future pension costs. We looked forward to receipt of the detailed formulation behind these.

4. System Operator Internal Cost Recovery

- 105 Baseline system operator activity can be fully defined at any point in time in terms of known, fully scoped obligations and the resources required to satisfy these. Our FBPQ submission is based on the gas and electricity system operator activities at the point of submission and therefore represents our view of baseline system operator costs into the future.
- 106 We have little control over the level of costs associated with changes to baseline system operator activity triggered by industry development. The impact of this uncertainty on our business and financial planning process increases with the planning horizon. We therefore currently believe that to reflect a best view of future costs of new activity along with a genuine risk range in our baseline system operator costs forecasts would result in unreasonably high and unpalatable cost forecasts and allowances, particularly towards the end of a price control period.
- 107 We also believe that that such a risk margin would obscure the genuine costs of development and therefore hinder effective industry decision making.
- 108 Our FBPQ submission therefore **does not** include the impact of unknown or undefined developments either in terms of:
- (a) explicit estimates for known but undefined developments; or
 - (b) an overall risk margin.
- 109 We expect the targets within the SO internal cost arrangements to cover the costs presented in our FBPQ submission and as such to represent a target for the costs of SO baseline activity.

Sharing Factors

- 110 Sharing factors around regulatory allowances were introduced to ensure that the cost of incremental internal system operator expenditure within the price control period could be valued equitably against potential savings in external incentives. This balance between internal and external incentives needs to be maintained into the future if the aim is to ensure that perverse incentives are not created around marginal expenditure within the SO activities.
- 111 Ofgem's proposals for the internal system operator regulatory value roll-forward reflect a sharing factor treatment. We are concerned that this treatment does not align with discussions and proposals from the previous price controls even though it may appear to be consistent at first glance.
- 112 The treatment infers that variance from allowances for all SO expenditure should be borne or benefited from at rate dictated by the sharing factor. This imposes an unduly low rate of return on investment within the price control period which exceeds initial allowances, no matter how necessary, economic and efficient it is.

- 113 We believe this position does not reflect the shared understanding between Ofgem and the regulated parties at the inception of the two SO internal incentives and we suggest that Ofgem's proposals are revised to explicitly identify efficient expenditure and include 100% of this in the rolled forward regulatory value.

Additional New Costs

- 114 National Grid has taken a proactive approach to the facilitation and development of commercial frameworks and we consider work such as chairing and contributing to industry panels to be part of our baseline activity. We believe we have delivered beyond our obligations to date but see this as an important and valued contribution to industry development given the central role we undertake as system operator.
- 115 As noted above, our FBPQ submission does not include operating or capital costs related to unknown or undefined industry changes whether this is in the normal course of industry development or initiatives that would cause a step change in the system operator activity. **Any changes that result from either of these factors need to be fully funded to allow the system operator to adequately resource and ultimately deliver the changes required. Identification of this extra funding would also allow the industry to weigh the full costs of any developments against potential benefits.**
- 116 In the absence of this funding, we will not be able to adequately resource these activities and this could lead to either:
- (a) inefficient decisions being made on industry change due to lack of identification of appropriate costs; or
 - (b) delays in delivery of industry changes.
- 117 It is important to state clearly that internal incentive sharing factors are not designed to provide partial funding for changes in system operator baseline activity within the price controlled period.
- 118 The requirement for additional costs for unknown or undefined changes to the system operator activity will largely be drawn from two sources:
- (a) Large Industry Change Programmes which significantly alter the system operator Activity from that perceived at the start of the Price Control period.
 - (b) Unknown and un-scoped smaller but significant industry developments which require information system and appropriate business resource costs to implement changes to business processes in line with the agreed changes that were unknown or undefined at the start of the price control period.

Dealing with Large Programmes

- 119 Ofgem have a good track record in recognising the need to invest in major industry change programmes to ensure their success, the most recent being BETTA. Specific funding arrangements have been put in place for different change programmes.
- 120 We have two issues over this approach which we believe can be addressed:
- (a) For changes that do not include licence modifications within a programme timetable, a specific licence change purely to facilitate system operator funding is likely to have a significant overhead and to be prioritised below and behind output deliverables. In such instances, agreement over funding is likely to lag the programme itself and impose unnecessary uncertainty.
 - (b) In our experience of major programmes, a significant amount of preparatory work, and often a significant amount of the main programme of work, has been necessary before funding arrangements have been firmed up. Again, this generates unnecessary uncertainty.
- 121 We therefore believe that, looking forward, it should be possible to design a new systematic mechanism within the system operator internal cost recovery arrangements to cover this type of change to system operator activity which includes:
- (a) an agreed process for proposing then accepting or rejecting the need to fund and deliver material changes to system operator baseline activity (with a materiality trigger of greater than £1m);
 - (b) pre-defined licence terms and definitions which can be used to reflect the necessary changes to system operator revenue triggered by changes to system operator activity;
 - (c) an underlying definition of the agreed costs to be recovered through this term which can be reviewed and revised as triggered by agreed criteria;
 - (d) clear reporting requirements to provide assurance that costs are being necessarily, efficiently and appropriately incurred;
 - (e) agreed processes for the opening and closing of activity areas covered by this framework;
 - (f) agreed consultation arrangements; and
 - (g) agreed timescales.
- 122 The cost capture and reporting arrangements in this framework could be based on those used during the BETTA programme. We believe that these worked well in a successful programme.

- 123 Such a mechanism would ensure that the system operator is able to resource these programmes effectively and ensure valuable input is provided early in these projects, enhancing chances of successful delivery.
- 124 We would welcome further discussion on both the implications and the necessary component parts of this potential process with a view to its introduction at the earliest opportunity.
- 125 There are two new areas of activity which have either emerged or developed since our FBPQ submission which we believe would fall into this category in respect of the Offshore Network project and Gas Blending and Ballasting developments. The associated costs are therefore not included in our FBPQ and hence not in Ofgem's preliminary allowances. These are discussed further later in this section.
- 126 In both of these areas we believe that National Grid has a critical role to play in the successful delivery of necessary developments.

Handling Unknown or Undefined Significant Developments

- 127 As stated above, our FBPQ also does not include additional costs or risk margin associated with significant potential as yet unknown or un-scoped industry developments. This means that, without an effective mechanism to cover any costs arising from such developments, we would not be in a position to appropriately identify our implementation costs and successfully deliver the appropriate changes for more significant unknown and un-scoped deliverables.
- 128 Again the issue will be one of materiality but individual industry framework changes can trigger information system costs of greater than £1m which and require significant IS and business resource.
- 129 Hence it is essential that an appropriate funding mechanism is put in place should these events occur. Given the uncertain nature of them and the fact that they will be driven by the industry's requirement for change, we believe it was not efficient for the end consumer to include a risk margin in our FBPQ submission to reflect this. Hence **an explicit alternative funding mechanism is required.**
- 130 We believe this should take a similar form to the one proposed above for the large programmes. The form and process could be identical with the exception that as these initiatives are sponsored by the industry, the Industry Code Panels could have more of a role in the reporting and of monitoring of spend and value to inform Ofgem's decision on funding. For example a report could be given to the Panels of the current spend and forecast spend to allow the industry to prioritise developments and ensure that the cost benefits of particular solutions are fully understood. Given the more disaggregated nature of these events, we would suggest that the materiality trigger may be set slightly lower at £0.5m.
- 131 We see this second category as essential to the promotion of efficient and effective industry development by ensuring that the costs of development are

fully transparent and fully considered by development sponsors within their individual industry panels.

- 132 This is complementary to the proposed separation of Xoserve charges from the NGG SO targets.
- 133 We would welcome further discussion on both the implications and the necessary component parts of this potential process with a view to its introduction at the earliest opportunity.
- 134 There are a number of potential changes that the industry may sponsor which are currently undefined or unscoped and hence have not been included in our FBPQ. Examples are changes required as a result of any electricity transmission access reform (not fully scoped to date), developments to either gas or electricity charging methodologies, further information release requirements or significant change to balancing regimes.

Current Large Programmes

- 135 There are two areas of work already underway, in Offshore Electricity Transmission and Gas Blending and Ballasting, for which costs could be recovered by the early inception of an Additional New Cost recovery mechanism.

Offshore Electricity Transmission

- 136 As designate GB System Operator for offshore transmission, we expect to play a significant role in developing the necessary frameworks as well as take on enduring incremental responsibilities.
- 137 National Grid is committed to supporting the DTI and Ofgem in this project and believe that we can play an important part in ensuring overall successful delivery. We have already corresponded with Ofgem seeking a clarification of expectations surrounding our role and of subsequent funding arrangements.
- 138 We believe National Grid's role is likely to encompass:
- (a) development of appropriate standards for offshore networks: a significant amount of work has already been done here to support the industry discussions on the standards that should apply;
 - (b) development of industry codes;
 - (c) assessment and development of commercial and operational systems and processes; and
 - (d) development of transmission charging methodologies.
- 139 In undertaking these activities, we expect to play an active role in the Offshore Transmission Expert Group (OTEG), where we believe there is a key role in passing on our experience of the current onshore arrangements and their

applicability to the proposed offshore regime. This requirement has already been demonstrated in recent OTEG meetings.

- 140 The scope of the work described above covers much of our UK Transmission business, and we have established an overall project structure, including a GBSO Project Manager, to co-ordinate our activities to aid successful delivery in line with your expectations. It is becoming increasingly critical to us to gain comfort on cost recovery to allow us to contribute to the project to our full potential.
- 141 There is **no allowance** in any existing funding arrangements for the costs we are incurring associated with the development of the framework for offshore transmission networks. Similarly, going forward, **no allowance for this work has been included in any of our FBPQ submissions**.
- 142 It is therefore imperative that either a specific process is initiated for recovery of these costs through a licence modification or, as we would prefer, these costs are recovered through the mechanism described above.

Gas Blending and Ballasting

- 143 It is anticipated that not all future sources of imported gas will conform on all occasions to GB's gas quality specifications set out in the Gas Safety (Management) Regulations 1996 (GS(M)R). The risk of such a situation arising is likely increase if Europe (excluding GB) were to adopt the harmonised gas specification proposed by EEASEA-gas (which varies from GS(M)R limits in respect of a number of important parameters, notably Wobbe Index).
- 144 The Government is currently considering future gas compatibility issues via the DTI-led Three Phase Gas Quality Exercise. In light of the work carried out to date, the Government has ruled out making any changes to the GS(M)R gas quality specifications in the short to medium term, which implies that future gas supplies may need to be processed and/or blended so as to ensure compliance with the current limits.
- 145 In its response to the December 2005 phase 2 consultation document, Ofgem expressed the view that National Grid has the potential to play a significantly larger role in the provision of blending and ballasting services to the market than is currently the case. National Grid has stated that it is committed to working with the industry to help resolve the European gas quality interoperability issue and facilitate market development.
- 146 Ofgem has recently initiated two industry work streams with a view to identifying:
- (a) the potential impact of specific gas quality constraints on the supply of gas to the GB market (such information could then be used by market participants to consider whether investment in blending or ballasting would be economic and efficient); and

- (b) the most appropriate regulatory framework to apply to any blending, ballasting or other services that are developed to remedy gas quality issues.
- 147 In terms of National Grid's role, we will participate fully in the Ofgem work streams and, subject to the developments, may take the lead in subsequent discussions to develop further the commercial arrangements pertaining to any gas quality service that might be provided by National Grid. In addition, National Grid proposes to undertake a number of studies at Bacton to assess the technical feasibility and cost of installing plant and equipment and/or modifying its system to provide gas quality services. We would also propose to carry out equivalent studies at other terminals.
- 148 The feasibility studies would be carried out by third party contractors and are estimated to cost £2m. The studies would be undertaken on a phased basis with the work in relation to the Bacton terminal being completed by the end of Q1 2007 and the work in relation to all other terminals by the end of 2007. The studies at Bacton would build on the work undertaken by National Grid during Summer 2006 to assess the possibility of providing a blending service at Bacton for Winter 06/07.
- 149 As a culmination of the works described above (including the technical feasibility studies and development of commercial and regulatory arrangements), National Grid could run an "open season" process to test the level of industry demand for gas quality services at the respective entry points to its gas network. Subject to the outcome, it may be appropriate for National Grid to undertake further detailed technical studies (and ultimately carry out construction works) and develop detailed commercial arrangements to underpin the provision of such services. The timescale and cost of these further activities are not known at this stage.
- 150 Again, there is **no allowance** in any existing funding arrangements for the costs we are incurring associated with the development of the processes and frameworks for gas blending and ballasting. Similarly, going forward, **no allowance for this work has been included in our FBPQ submissions.**

5. TS Capex

- 151 The Internal NGET SO Incentive covering 2001/02 to 2005/06 contained an investment allowance for 'TS (Transmission Services) Capex'. This was designed to fund a comparatively small amount of investment in the Electricity Transmission network within England and Wales which could provide explicit reductions in potential Balancing Services costs.
- 152 We can see a need to extend this arrangement into the future and to introduced two new elements:
- (a) regular review of requirements and allowances reflecting the developing energy market drivers for TS Capex;
 - (b) extension of TS Capex to cover investment in Scottish electricity transmission networks.

Outline Mechanism

- 153 'TS Capex' investment was over and above that triggered by the 'minimum transmission capacity requirements' of the Security and Quality of Supply Standards. It included schemes with a stand alone cost benefit case as well as the advancement of projects with clear transmission constraint cost benefits.
- 154 We have identified further investment meeting this criteria within our TO investment plan and can therefore see a need to maintain a 'TS capex' mechanism to cover England and Wales for the forthcoming price control starting with an ex-ante allowance based on our FBPQ.
- 155 Under current frameworks, it would seem appropriate that BSUoS payees continue to fund this investment within the price control period as they will derive the benefit in reduced BSUoS payments through lower constraint costs.
- 156 As the case for investment under a TS Capex arrangement is partly dependant on energy market conditions and their impact on Balancing Services costs (and therefore subject to change within the five year price control), we recommend the development of a new annual review and approval process. This will more closely align potential network investment with the external incentive process.
- 157 We can also see a need and therefore think it is appropriate to develop a mechanism for GBSO-recommended reinforcement on the Scottish transmission networks. GBSO-recommended reinforcement would be designed to avoid otherwise more expensive constraint balancing costs incurred by the GBSO in the operation of the Scottish networks.
- 158 Within this process we see a clear division of roles:

- (a) The GBSO can identify and forecast potential Balancing Service costs that could be avoided by transmission reinforcement and confirm the effect on these costs of any reinforcement recommended by the TO.
 - (b) The relevant TO can identify what additional or accelerated investment can be made, assess the effect on the transmission system of these investments and confirm the funds and timescales required for investment.
 - (c) Ofgem's role remains that of regulator of the process and framework and within the process it remains Ofgem's role to regulate the efficiency of the investment expenditure.
- 159 It is important to be clear that National Grid as GBSO cannot regulate or determine on efficient investment by the Transmission Owners in Scotland. We do not have the powers, funding or competencies to do this.
- 160 It should be possible to derive an ex-ante TS Capex allowance for all three Transmission Owners from submitted plans. These should be supplemented by a new annual review and approval process, building on existing processes within the STCs (SO – TO Codes).