

RIO-T1: Initial Proposals for National Grid Electricity Transmission and National Grid Gas

Initial Proposals – Outputs, incentives and innovation Supporting Document

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Overview:

This Supporting Document sets out further detail on our Initial Proposals for the transmission price control for National Grid Electricity Transmission (NGET) and National Grid Gas (NGGT) from 1 April 2013 to 31 March 2021. This document does not change the output obligations for SP Transmission Ltd (SPTL) or Scottish Hydro-Electric Transmission Ltd (SHETL) set out in their April 2012 Final Proposals. However, it does update on progress on ongoing work referred to in that Final Proposals document.

The document includes further detail on the Initial Proposals in relation to the outputs that both NGET and NGGT will be required to deliver and the incentives that will apply around delivery in RIO-T1. It also includes our Initial Proposals on the arrangements to encourage innovation by NGET and NGGT.

Alongside the document, we are publishing two other Supporting Documents focusing on 'Cost assessment and uncertainty' and 'Finance'.

The document and the other supporting documents are aimed at those seeking a detailed understanding of the Initial Proposals. Stakeholders wanting a more high-level overview should refer to the Initial Proposals Overview Document.

Associated documents

Overview Document

[RIIO-T1: initial Proposals for NGET and NGGT - Overview Document](#)

Supporting Documents

[RIIO-T1: Initial Proposals for NGET and NGGT – Cost assessment and uncertainty](#)

[RIIO-T1: Initial Proposals for NGGT and NGET – Finance](#)

Associated Documents

[RIIO-T1/GD1: Initial Proposals – Real price effects and ongoing efficiency appendix](#)

[RIIO-T1: Initial Proposals for NGGT and NGET – Impact Assessment](#)

[RIIO-T1/GD1: Financial model](#)

[RIIO-T1 Stage 4 - National Grid System Operator Electricity and Gas Capex and Opex Initial Assessment – Summary Report](#)

[RIIO-T1 SUMMARY REPORT – GAS A report to the Office of Gas and Electricity Markets July 2012](#)

[RIIO-T1 Stage 4 NGET Final Assessment – A report for Ofgem](#)

Licence consultation documents

[RIIO-T1 and RIIO-GD1: Draft licence conditions – First informal licence drafting consultation](#)

[Supporting Document 1: Draft RIIO-T1 Electricity Transmission licence changes](#)

[Supporting Document 2: Draft RIIO-T1 Gas Transmission licence changes](#)

[Supporting Document 4: Response template for RIIO-T1 & GD1-First licence drafting consultation](#)

[RIIO ET1 Price Control Financial Handbook](#)

[RIIO GT1 Price Control Financial Handbook](#)

Other documents

[RIIO-T1: Initial Proposals for National Grid Electricity Transmission plc and National Grid Gas plc - Headlines](#)

[Glossary for all the RIIO-T1 and RIIO-GD1 documents](#)

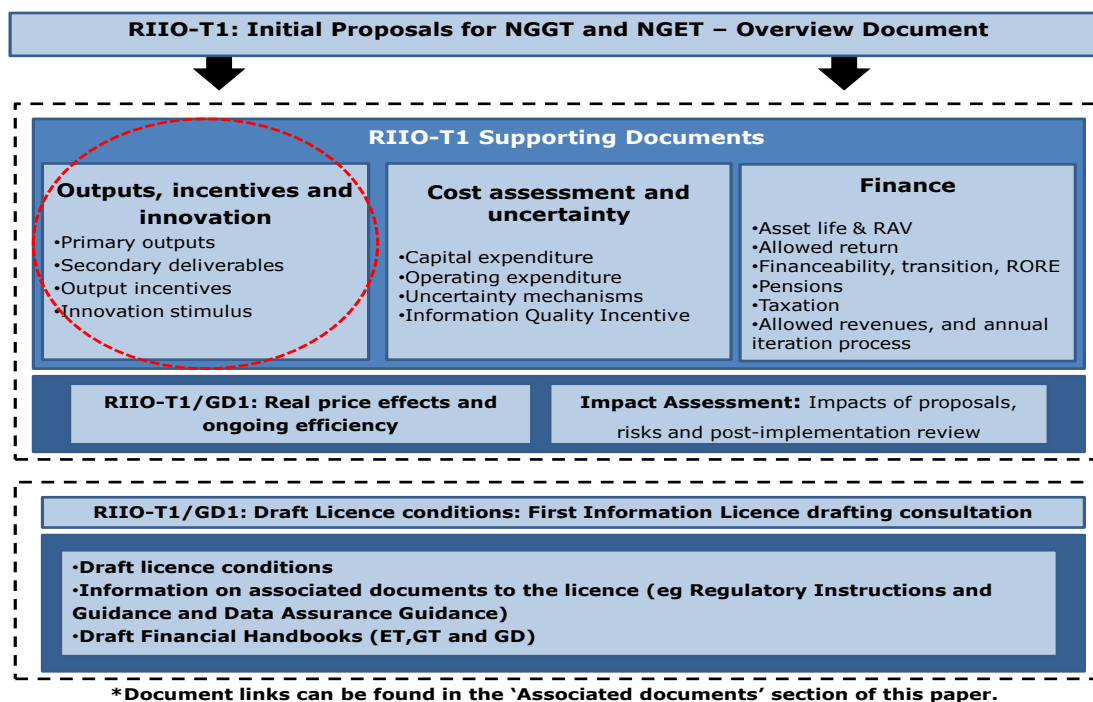
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1. Introduction

Chapter Summary

This chapter explains the structure and purpose of the document and sets out the context of the outputs and incentives described within these Initial Proposals.



Purpose of this document

1.1. This document sets out, for consultation, our Initial Proposals for the outputs to be delivered and the associated incentives that will apply around delivery for National Grid Electricity Transmission (NGET) and National Grid Gas (NGGT) for the next transmission price control, RIIO-T1. This price control will cover the eight-year period from 1 April 2013 to 31 March 2021. This document also outlines the proposed arrangements to support innovation by the companies.

1.2. The document provides further detail to support the Initial Proposals Overview Document ("Overview Document"). Alongside this document, we are publishing two other Supporting Documents on costs and uncertainty ("Cost assessment and uncertainty Supporting Document") and financial issues ("Finance Supporting Document"). These Supporting Documents are aimed primarily at network companies, investors and those who require a more in-depth understanding of the proposals.

1.3. The document does not set out Initial Proposals for the outputs to be delivered by SP Transmission Ltd (SPTL) or Scottish Hydro Electric Transmission Ltd (SHETL). This is because the price control packages put forward by SPTL and SHETL were subject to “fast-tracking”.¹ We published Initial Proposals for those companies in February 2012. We published Final Proposals² for those companies in April 2012. Two aspects of the outputs and incentives framework where we required further work from SPTL and SHETL, as well as from NGET and NGGT, were:

- the SO:TO alignment work involving development of a network access (formerly referred to as availability) policy
- the work to implement the customer/stakeholder satisfaction output.

1.4. We provide an update on the progress made to date by the companies in these areas in Appendix 1 of this document.

Requirement to deliver outputs

1.5. RIIO is an outputs-led framework. It is important that throughout the RIIO-T1 period, the transmission owners (TOs) understand what they are expected to deliver and are held to account for delivery.

1.6. Our March 2011 Strategy Document³ (“Strategy Document”) set out the outputs we expected the TOs to deliver in the RIIO-T1 period. We developed these through written consultation and stakeholder workshops.

1.7. The outputs set out in the Strategy Document provided the context for NGET’s and NGGT’s July 2011 and March 2012 updated business plans. We explicitly stated that TOs could propose departures from our Strategy Document on particular outputs. In such cases, the TO would be required to describe its proposed approach clearly. It also needed to justify why the alternative was likely to improve expected outcomes for consumers compared to the position set out in our Strategy Document.

Assessing performance against outputs

1.8. Under RIIO, we will generally consider a TO’s performance against its outputs on an annual basis. We will set out in our Regulatory Instructions and Guidance (RIGs) information requirements and monitoring arrangements. We intend to publish the RIGs by the end of 2012.

¹ Where business plans are of sufficient quality, fast-tracking provides a process whereby we can reach early settlement of a company’s price controls, ie their business plans may be “fast-tracked”.

² RIIO-T1: Final proposals for SP Transmission Ltd and Scottish Hydro Electric Transmission Ltd. This document is available on our website at <http://www.ofgem.gov.uk/NETWORKS/TRANS/PRICECONTROLS/RIIO-T1/CONRES/Documents1/SPTSHETLFP.pdf>.

³ Decision on strategy for the next transmission price control – RIIO-T1 <http://www.ofgem.gov.uk/Networks/Trans/PriceControls/RIIO-T1/ConRes/Documents1/T1decision.pdf>

1.9. In RIIO, non-delivery of these outputs is not just a matter for the applicable financial incentives. The TOs are also accountable for their delivery through the licence. We may take enforcement action where there is material delivery failure. This means that even where there is a limit to the financial penalty associated with poor delivery, for example in the case of reliability, the licence enforcement process remains as a backstop. This provides additional protection for consumers in the case of significant underperformance on output delivery. Where both enforcement and financial incentives were applicable, the enforcement decision would take account of the financial incentives applied.

Setting the level of incentives

1.10. Under RIIO it is not possible to set out the actual level and profile of annual allowed revenue that NGET and NGGT can collect. This is due, in part, to within period revenue flexing mechanisms that will adjust the opening base revenue allowances. Examples of mechanisms that can alter allowed revenue over the price control period include the uncertainty mechanisms, the Strategic Wider Works (SWW) mechanism and the application of the efficiency incentive rate.

1.11. In order to maintain strong output incentives we intend to make sure that where caps and collars apply to these, they do not just reflect the starting position on revenue called the 'opening base revenue allowance'. Instead, we propose that they adjust in response to ongoing, but uncertain, changes in revenue in order to better reflect the true change in network total expenditure (totex) and other in-period adjustments over the price control period.

1.12. To do this we propose that the maximum caps and collars will be linked to a combination of the opening base revenue allowance plus within-period adjustments captured through annual iteration of the financial model and for NGET the revenue from Transmission Investment in Renewable Generation (TIRG)⁴. This will include all additional totex that is triggered during the RIIO-T1 price control period.

Structure of this document

1.13. The remainder of this document is structured as follows:

- Chapter 2 sets out the proposed outputs and incentives package for NGET.
- Chapter 3 sets out the proposed outputs and incentives package for NGGT.
- Chapter 4 sets out the proposed arrangement that will apply to encourage NGET and NGGT to innovate and to meet the requirements of their innovation strategies.
- Appendix 1 updates on progress made by NGET, NGGT and by SPTL and SHETL on work to implement the customer/stakeholder satisfaction output and to develop network access policies.

⁴ TIRG is a mechanism designed to fund transmission projects specific to connecting renewable generation outside of the price control allowance to minimise delays. TIRG is comprised of four projects: Beaulieu Denny, Sloy, South West Scotland and the Anglo Scottish Interconnector.

1.14. Alongside this document, we have also published an initial consultation on licence drafting for all transmission companies. In final form, many of the draft conditions will implement the outputs and incentives discussed in this document. We are also publishing an impact assessment, which will include our understanding of the effect of these outputs and incentives along with the rest of the RIIO-T1 package.

1.15. All monetary values in this document are in 2009-10 prices unless otherwise stated.

2. NGET: Outputs and incentives

Chapter Summary

This chapter sets out the outputs that we propose NGET should deliver and associated incentives that would apply around delivery over the RIIO-T1 period. Each section starts with our Initial Proposals. We then describe our reasons for these including our assessment of NGET's business plans. We highlight where our Initial Proposals directly reflect the proposals in NGET's business plan and where they differ.

Question 1: Do you have any comments on our Initial Proposals on NGET's output and incentives?

Question 2: Do you have any views on our Initial Proposal on setting an expenditure cap for the start of RIIO-T1 in relation to addressing the visual amenity impacts of existing infrastructure in designated areas?

Introduction

2.1. This chapter sets out our Initial Proposals for the outputs to be delivered, and the associated incentives that would apply around delivery, in relation to NGET during RIIO-T1. The chapter takes each category of output in turn.

2.2. Appendix 1 to this document provides further details on two areas of proposed outputs where further development work continues. This work is seeking to implement the output and incentive principles set out here and, where appropriate, referring back to our Strategy Document. It relates to:

- customer and stakeholder satisfaction outputs
- availability outputs focused on the development of network access policies (NAPs).

Outputs we are requiring NGET to deliver over RIIO-T1

Safety

Our Initial Proposals

2.3. Our Initial Proposals on this output are that NGET needs to be compliant with its legal safety requirements. These are requirements monitored by the Health and Safety Executive (HSE) as the safety regulator.

2.4. In addition, our Initial Proposals also require NGET to maintain and report annually on a suite of measures on criticality, replacement priorities (or risk), system unavailability and on average circuit unreliability (ACU), faults and failures. These measures inform both the safety and reliability of NGET's network. The measures are important despite not involving direct financial incentives. Performance against them informs us about the continued and sustainable delivery of a safe and reliable network. This is both to the end of the RIIO-T1 period and into the subsequent price control period.

Our assessment

2.5. Our Initial Proposal is consistent with NGET's proposals in its business plan which, in turn, is consistent with our strategy decision in this area.

Reliability

Our Initial Proposals

2.6. We propose that NGET be held to account for delivering an output on the level of energy not supplied (ENS) each year. The target level is 316MWh per annum during the RIIO-T1 period. The incentive rate is £16,000 per MWh with the company gaining reward for delivering ENS less than that and suffering penalty for each MWh worse than the 316MWh target. We will maintain the level of the incentive rate in real terms for the period. The incentive has a natural cap as NGET cannot reduce ENS below zero. We will limit the downside risk from this incentive by applying a 3 per cent collar. This is consistent with our assessment of the risk of NGET's overall package.

2.7. The ENS incentive would be subject to a number of exclusions. We are proposing to completely exclude ENS related to customer-choice connections and events lasting less than or equal to three minutes. In other cases such as extreme weather events, it will be a matter for the Authority to understand the specific circumstances of the case before deciding whether to exclude any ENS from this incentive.

2.8. As in the section above on Safety outputs, our Initial Proposals also require NGET to maintain and report on a series of measures on criticality, replacement priorities (or risk), system unavailability and on average circuit unreliability (ACU), faults and failures.

Our assessment

2.9. NGET's business plan proposal accepted our strategy decision that we relate the output for reliability to a target level of ENS. It also incorporated the proposed 3 per cent collar. It proposes the same level of incentive rate as SHETL and SPTL, ie £16,000 per MWh, which is within our range in our strategy decision (£4,300 - £22,000 per MWh).

2.10. NGET proposed a target level of 316MWh per annum for the RIIO-T1 period. This is a slightly higher rate of ENS than our final proposals for either SHETL or SPTL. However, given NGET's network is more meshed and extensive this is not surprising. Having reviewed the modelling underpinning its proposal we are satisfied that NGET's proposed target is appropriate in that it is realistic but challenging.

2.11. We also welcome NGET's proposal, consistent with our strategy decision, to maintain and report on the series of measures to provide useful leading information on how NGET is managing its network. We accept the approach to measurement that NGET proposes.

Availability: Network Access and SO:TO interaction

Our Initial Proposals

2.12. Our Initial Proposals are for NGET to produce and maintain a Network Access Policy (NAP). This should contribute to better SO:TO interaction and cooperation in short and long-term network planning.

2.13. We propose that NGET continues to engage with SPTL and SHETL in the development and maintenance of their respective NAPs. This is in advance of the start of the RIIO-T1 control period. Ongoing engagement will also be necessary during the period if they need to update the NAP for changes in circumstances or lessons learned.

2.14. Our separate SO incentives from 2013 document is being published today discusses the external incentives for NGET as SO.⁵

Our assessment

2.15. Throughout both RIIO-T1 and the SO incentives from 2013 projects we have worked to make sure that we align the incentives facing TOs and the SO where choices can be made across the two functions that minimise overall costs to consumers or where the costs caused by one can affect the other. The above NAP development is the central area of interaction on the electricity side though we have also developed other proposals assessing the combined TO and SO impact eg our proposals in relation to transmission losses.

2.16. Appendix 1 provides the context of, and an update on, progress with NAP development (including the interaction with the SO incentives from 2013 work).

⁵ Ofgem: System Operator incentive schemes from 2013: initial proposals, 27 July 2012. This is available on our website at <http://www.ofgem.gov.uk/Markets/WhlMkts/EffSystemOps/SystOpIncent/Documents1/IP%SO%2013.pdf>

2.17. We value the contribution of all parties to the development of the NAPs. We recognise the different circumstance for NGET. This is because NGET, as the one company performing both SO and TO roles, faces incentives from the costs and benefits associated with both network constraints and TO costs and benefits. We continue to see value in NGET producing its own NAP. This should provide transparency about the existing interactions and potentially demonstrate best practice that might be adopted in the more complex situation where separate TOs do not face the combined effect of direct TO and SO incentives. NGET has already provided information and challenge to SHETL and SPTL in development of their NAPs and a progress update is included in Appendix 1 of this document.

Customer Satisfaction

Our Initial Proposals

2.18. Our Initial Proposals are that NGET should have a financial incentive informed directly by the results of a survey and other supporting information. The survey should clearly highlight the distinction between NGET's activities and other roles that may be carried out by it or other companies. This will have the limits of plus or minus 1 per cent of the particular year's allowed revenue. Work is progressing on details of how this incentive will be implemented (further detail on progress is included in Appendix 1). A further part of our Initial Proposals in this area is provision for a possible reward for using ongoing stakeholder engagement to generate an exceptional outcome. See Appendix 1 for more details of work on this to date and see the initial draft of the associated licence drafting for further details on the guidance we are developing to support this incentive.

Our assessment

2.19. NGET has some experience of carrying out customer surveys and has done a lot of work through its stakeholder engagement to understand how it can extend this to all stakeholders and make sure that its coverage is comprehensive (in activity) and that the survey seeks views from stakeholders impacted by all its activities. NGET proposes that it will carry out a survey across all stakeholders reflecting the activities that it carries out as TO and SO.

2.20. It accepts the strategy decision to apply a financial incentive with the parameters identified above. However, work to date on developing the survey and designing how the incentives will work in practice suggests that modifying the incentive in the light of supporting information on performance might be a part of the approach.

2.21. In addition, NGET accepts the discretionary reward for delivering exceptional results through effective stakeholder engagement. This could be as much as 0.5 per cent of annual allowed revenue. We have been working with NGET and other TOs to produce guidance to assist them in understanding the process and assessment criteria. We will consult on this in our second informal consultation on licence modifications in Autumn with an aim of publishing guidance with the December 2012

Final Proposals. However, we anticipate updating this for 1 April 2014 incorporating lessons learned in both transmission and gas distribution up to that time.

Connections

Our Initial Proposal

2.22. We propose that the connections output for NGET should be the timely meeting of its existing licence obligations in relation to delivering connections. Consistent with our Strategy Document, given the importance, in electricity transmission, of timely connections with respect to the delivery of a sustainable energy sector, we include scope for a possible financial penalty equivalent to up to 0.5% of allowed base revenue.

2.23. To put the importance of this output in context, we set out the Best View⁶ for new transmission connected generation capacity in England and Wales over RIIO-T1 in Table 2.1. Please see the Cost assessment and uncertainty Supporting Document for further details on our efficiency assessment and risk sharing arrangements

Table 2.1 New transmission connected generation capacity over RIIO-T1

New Generation Connections Capacity	Baseline funding	Uncertainty Mechanism funding	Best View total expenditure
	(£m)	(£m)	(£m)
33,000MW	794.3	220.5	1,014.8

Our assessment

2.24. NGET accepted this aspect of our strategy decision in its business plan. It has sought revenue to reflect that position. We are satisfied with NGET's proposals in this area and these will form the basis of the Initial Proposals for its connections output.

2.25. These obligations are already present in the licence. However, we have been working with TOs on drafting related to the financial penalty. We have not included a draft condition and intend to work further on this to inform our Autumn consultation on licence conditions.

Environmental outputs

Sulphur hexafluoride (SF₆) emissions

Our Initial Proposals

⁶ 'Best View' is the expenditure that we consider the licensees will need to deliver the outputs under the central scenario. It comprises 'baseline' and 'uncertainty mechanism' funding.

2.26. We propose to adopt NGET's business plan proposition that all new assets using SF₆ gas such as switchgear are commissioned with a target leakage rate of 0.5 per cent per annum. This leakage rate is consistent with the best practice set by the International Electrotechnology Commission standard 62271-203 for high voltage switchgear.⁷

2.27. Similar to NGET's business plan, we also propose that the TO's baseline target for SF₆ emissions is calculated annually. However, we propose that this is calculated by adding 0.5 per cent leakage from the inventory of new SF₆ assets installed over the year to the actual emissions for the previous year. The emissions from new SF₆ assets would be added proportionately based on the amount of time they were commissioned during the year.

2.28. As set out in our Strategy Document differences between actual SF₆ emissions and the calculated annual baseline will be subject to a symmetrical marginal incentive based on the non-traded carbon price.

Our assessment

2.29. NGET significantly improved its approach to SF₆ emissions in its March 2012 business plan compared to its July 2011 plan. In particular, NGET provided more context on the operational issues it faces around SF₆ equipment, how SF₆ emissions relate to its wider group carbon goals and how its proposals sit in relation to best practice.

2.30. The most significant revision NGET made in its re-submission is to halve the proposed leakage rate of new SF₆ assets installed on its system from 1 per cent to 0.5 per cent. Given NGET forecasts an increase in the population of both transformers and switchgear, procurement of equipment with a smaller leakage rate would represent a gain, relative to its July plan, in terms of NGET's environmental performance over the price control.

2.31. Although NGET forecast the leakage rate of SF₆ emissions from its network will be around 1.5 per cent at the end of RIIO-T1, down from 1.86 per cent at beginning of period, emissions in absolute terms will increase. As a result, SF₆ emissions will continue to be the largest contributor to NGET's business carbon footprint and will cause a 16 per cent increase overall in the business' carbon dioxide equivalent emissions at the end of RIIO-T1. Therefore we consider NGET's focus on improving its control technologies for SF₆ emissions in its innovation strategy is an appropriate response.

2.32. In our Initial Proposals we have adopted several of NGET's propositions in relation to SF₆. However, we do not believe that its proposal to adjust the annual baseline target for a marginal increase in leakage from its existing inventory would

⁷ The International Electrotechnical Commission prepares and publishes International Standards for all electrical, electronic and related technologies collectively known as "electrotechnology". See <http://www.iec.ch/>.

provide the right incentives. We note that since the start of the last price control, TPCR4, NGET has increased its inventory of SF₆ by more than 50 per cent. With a large proportion of relatively new assets in its existing inventory, we consider that the risk of deterioration is more likely in NGET's older assets and could amount to relatively significant leakage events unless action is taken. We believe that adjusting NGET's baseline for an average marginal increase in leakage from NGET's total existing inventory each year would weaken the incentives on NGET to improve its SF₆ leakage detection and capture technologies. Given the increasing trajectory of SF₆ inventories in transmission for the foreseeable future, it is important that NGET continues to improve this operational capability. We propose therefore to set the NGET's baseline target without any adjustment for deteriorating assets.

Business Carbon Footprint

Our Initial Proposals

2.33. In line with our strategy decision we propose that NGET reports annually to stakeholders on its scope 1 and scope 2 greenhouse gas (GHG) or carbon dioxide equivalent emissions at business level throughout the RIIO-T1 period.⁸ We note that NGET set out similar commitments in its March business plan.

2.34. NGET will face reputational incentives only on its business carbon footprint (BCF) reporting.

Our assessment

2.35. This is another aspect of NGET's business plan that has significantly improved compared to its July 2011 plan. For example, NGET clarified that it has made significant progress in its group's climate change target for a 45 per cent reduction in scope 1 and 2 emissions by 2020 compared to the 1990 baseline, having achieved a 34 per cent reduction as at 2010/11. It also provided evidence that it is taking a proactive stance in reviewing its scope 3 emissions through taking part in a pilot for the Greenhouse Gas Protocol, Corporate Value Chain (Scope 3) Accounting and Reporting Standard.

2.36. We recognise that NGET faces a challenge in playing a central role in facilitating more low carbon sources of energy over RIIO-T1 and in doing so might place upward pressure on its own BCF. Nonetheless we believe NGET has a valuable opportunity to make cost effective emission reductions. For example, given the size of its investment programme over RIIO-T1 NGET could bring a large influence to bear on manufacturers and the supply chain generally through its procurement policies to reduce the embedded carbon content and drive improvements in the environmental performance of equipment.

⁸ Scope 1 are direct GHG emissions that occur from sources that are owned and controlled by the company. Scope 2 are indirect GHG emissions from the generation of purchased energy consumed by the company. Scope 3 includes other indirect GHG emissions that result from the activities of the company, but are not owned or controlled by the company.

2.37. We reiterate our position that NGET is required to produce its BCF at the business level to enable accurate reporting on its carbon equivalent GHG emissions from the transmission business.

2.38. We also note that our assessment of NGET's BCF will also form part of the Environmental Discretionary Reward (EDR) scheme. The EDR scheme will enable Ofgem to compare the performance of each TO in producing and publishing business level footprints. We expect this will act as a strong reputational driver to performance in this area in addition to the potential to receive a reward under the EDR.

Transmission Losses

Our Initial Proposals

2.39. In line with our strategy decision we propose to set reputational incentives on NGET in relation to its overall approach to contributing to fewer transmission losses where it can do so and provide long term value to consumers.

2.40. We propose that NGET should publish its strategy for transmission losses and report to stakeholders annually on its progress in implementing its strategy. We propose that this includes an estimate of the impact this has had on transmission losses in its transmission area.

Our assessment

2.41. Similar to SF₆ and BCF, NGET's March 2012 business plan on transmission losses set out a lot more context and substance compared to its July 2011 plan. NGET included a useful illustration based on three different generation scenarios to show how the potential level of transmission losses over RIIO-T1 will depend largely on the growth and location of generation, as well as investment in new transmission capability.

2.42. As part of its business plan response to transmission losses, NGET provided a case study on its tender evaluation processes for new transformers. While this information was useful it fell short of providing an integrated account of how it has reviewed the opportunities to contribute to fewer transmission losses and the cost effective opportunities it proposed to take forward in its RIIO-T1 business plan.

Visual amenity

2.43. Our Initial Proposals in respect of addressing visual amenity issues arising from transmission assets are twofold. The first proposal is that NGET efficiently meet the planning requirements for new infrastructure. Our second proposal is that NGET mitigates the visual amenity impacts of existing infrastructure when it is located in National Parks and Areas of Outstanding Natural Beauty ('designated areas').

Our Initial Proposals – new transmission infrastructure

2.44. We propose NGET efficiently addresses the visual amenity impacts of new transmission infrastructure where necessary to obtain development consent from the Secretary of State. This is consistent with NGET's requirements as a proposer of potential new developments under the Planning Act 2008, and also NGET's obligation under its transmission licence to maintain and develop its transmission system in an economic and efficient manner.

2.45. We propose to adopt NGET's proposal for a baseline allowance equivalent to the efficient costs of deploying undergrounding technologies for 10 per cent of the new transmission assets proposed for delivery in RIIO-T1. We recognise that this baseline amount could be too large or too little and is simply an assumption for setting the price control. Therefore, in light of this uncertainty we also propose to include a volume driver to adjust NGET's revenues for the level of mitigation technologies actually needed over the course of the price control to obtain development consent. We propose this adjustment would be calculated from the length of mitigation required for planning consent and the unit costs of the various technologies taken from the Institution of Engineering and Technology's report 'Electricity Transmission Costing Study'.⁹ For more information on the operation of the planning requirements volume driver we refer the reader to the Costs assessment and uncertainty Supporting Document.

Our assessment

2.46. We consider NGET's proposal to include an allowance for mitigating the visual amenity impacts of new transmission assets is reasonable for business planning purposes. We also support NGET's proposal to set the baseline allowance on the efficient costs of undergrounding 10 per cent of new routes in its Best View alongside a volume driver to adjust revenues for the actual level of mitigation that turns out to be required. We believe this approach is consistent with our Strategy Document in which we said that addressing visual amenity issues is for the planning process rather than any fixed funding rule set through the price control. It also recognises that planning outcomes are a 'known-unknown' over RIIO-T1 and as such are likely to be more efficiently managed through an uncertainty mechanism triggered by case by case planning decisions than any pre-conceived assessment of the efficient level of mitigation.

2.47. We also note that our proposed approach is consistent with NGET's published policy on how it will, on a case by case basis, identify the location and technology for any new transmission route informed by stakeholder engagement. It is also in line

⁹ A copy of the report can be found here: <http://www.theiet.org/factfiles/transmission-report.cfm>

with National Policy Statements on planning decisions which require proposers to show how they balance visual impacts against other factors, eg availability and cost of alternative sites, routes and technologies.

2.48. We did consider whether it would be appropriate to introduce alternative incentives on NGET around efficient decisions on undergrounding. However, we have rejected this on the basis that:

- It would be difficult to set a mechanism without taking a view on what constitutes an efficient level of undergrounding.
- NGET may be penalised or rewarded for decisions it cannot fully control.
- As a statutory consultee under the Planning Act 2008 we have the opportunity to seek further justification from NGET that its proposed mitigation measures represent good value for existing and future consumers.
- We can review NGET's performance in relation to meeting its relevant licence obligations.
- We will also monitor developments under this mechanism and we propose to retain the option to review the mechanism if it becomes clear to us it is not delivering efficient outcomes.

Our Initial Proposals – existing infrastructure in designated areas

2.49. In our Strategy Document we proposed to set an expenditure cap for TOs, on a use-it-or-lose it basis, to mitigate the impacts of existing transmission assets on the visual amenity of designated areas. We said the cap should be informed by willingness to pay (WTP) analysis. In our Final Proposals for SPTL and SHETL, we confirmed that the expenditure cap would be available for all electricity transmission owners.

2.50. The consumer WTP analysis NGET submitted in June 2012 provides evidence of positive and significant consumer WTP for visual amenity improvement in designated areas. In our assessment, NGET's analysis provides strong support for a consumer funded programme as part of RIIO-T1 to improve the visual amenity of designated areas. However, we do not consider NGET's analysis provides sufficient information at this time (due to limitations discussed below) to inform the level at which the expenditure cap should be set for the whole of the price control. We are mindful of our principal objective to protect the interests of existing and future consumers and are cautious about committing substantial consumer funds in the absence of sufficient information about consumer WTP. Instead we propose to set an initial expenditure cap of £100 million to allow TOs to work on delivering visual amenity improvements from the start of the price control while they complete further WTP analysis to inform the level of the enduring expenditure cap for the remainder of RIIO-T1.

2.51. In relation to the governance of the expenditure cap, we propose that the TOs would need to develop a policy for delivering visual amenity outputs in designated areas. We propose that this policy is approved by the Authority before TOs can

access funding under the expenditure cap.¹⁰ The Authority's assessment would consider the extent to which the TO's policy meets various principles, such as involving stakeholder engagement and input, delivering long term value for money for existing and future consumers and, overall, contributing to sustainable development. We also envisage that each TO will set out in its policy what constitutes a visual amenity output in a designated area and the relevant criteria the output would need to meet. To provide extra safeguards we also propose the policy includes the TOs proposed assessment process to verify that the output has delivered the defined impact on visual amenity.

Our assessment

2.52. At the start of June 2012 NGET submitted its consumer WTP analysis to Ofgem. Using data from a choice experiment¹¹ completed by 1,002 survey respondents across Great Britain, NGET modelled consumer WTP for 48 mitigation options. These options comprise combinations of four mitigation technologies in three different locations and of varying length. The modelled results give point estimates of average consumer WTP for each of the mitigation options. These range from 52p to £15 per year for eight years and are highest for respondents stated preferred mitigation technologies, areas of greatest landscape sensitivity and for mitigation options that covered longer distances. On the basis of its study conclusions, NGET propose an expenditure cap is set using the lowest average WTP estimate of consumer WTP for the preferred mitigation options. This is £6.40 per year for the eight years of RIIO-T1 giving a cap of £1.1 billion.¹²

2.53. We have reviewed NGET's WTP analysis and assessed this against the key features of best practice set out by London Economics (LE).¹³ Drawing on academic literature and best practice guidance and recommendations published by other public bodies such as the Department for Environment, Food and Rural Affairs (DEFRA), the Competition Commission and HM Treasury, LE said that best practice for WTP studies is defined by:

- A clear statement of study objectives covering the non-market good being valued and the target population whose valuation is being estimated
- Justification for chosen study methodology to estimate WTP.
- Appropriate survey design to seek participants' valuation of non-market good including information about survey purpose, questions about participant's

¹⁰ The TOs could develop this policy either before the start of RIIO-T1 or during RIIO-T1 but in order to have an approved allowance for a particular project under the expenditure cap the TOs would first need to have a policy approved by the Authority.

¹¹ A choice experiment is a particular approach for eliciting participants' valuation of the non-market good in which respondents are presented with a series of choices between alternative scenarios and they are asked to choose the scenario they prefer given the price and non-price attributes specified for each scenario.

¹² A £1.1 billion expenditure cap would underground around 45 miles of overhead line (OHL) (out of 243 miles of OHL currently in areas of outstanding natural beauty (AONB) and 119 miles of OHL in National Parks) if it cost £25m/mile on average.

¹³ We commissioned London Economics to review NGET's July 2011 study of consumer attitudes to undergrounding. In this report they set out the key features of best practice for conducting WTP studies. A copy of London Economics report is available at: <http://www.ofgem.gov.uk/Networks/Trans/PriceControls/RIIO-T1/ConRes/Documents1/visualamenity.pdf>

attitude to non-market good, valuation questions and follow up questions regarding participant's responses and socio-economic characteristics.

- Valuation questions with an appropriate description of the non-market good attributes, who would deliver the non-market good, who would pay, the method of payment, and how frequently payments would be required, as well as the inclusion of a no-choice option.
- Pre-testing of survey instrument with pilot group and focus groups to determine prior knowledge in target group about topic and appropriate level of attributes.
- Appropriate sampling techniques to get representative sample of target population.
- Appropriate analysis of survey data including frequency analysis, descriptive statistics, correlation analysis/cross tabulations, and regression analysis to explain determinants of different aspects of observed or stated choices.
- Assessment of potential bias in results and implementation of appropriate mitigation options, where necessary.
- Discussion of conclusions with respect to consumers' average, median or typical WTP for the non-market good in question taking into account any potential biases, any mitigating options that have been used and the validity of the results.

2.54. From our review, we consider that NGET has largely addressed the points above. However, in terms of the research conclusions NGET has only provided single point estimates of consumers' average WTP for visual amenity improvement in designated areas. In our view the omission of estimates of the median consumer WTP is a significant limitation of the analysis and overlooks a key recommendation in the LE report. LE specifically refers to deriving median estimates of WTP, alongside average estimates, as a key metric for informing the level of the expenditure cap as the median represents the level at which more than 50 per cent of consumers would be willing to pay.

2.55. We understand that a combination of the survey sample size and the number of parameters estimated from the choice experiment data meant that it was only possible to model the single point estimates of average WTP. Typically there is a trade off in this type of modelling work around the number of parameters that can be estimated from a given sample and we understand that NGET was keen that its analysis covered a range of mitigation options as this was a key limitation of its previous study. However, this has had implications for the information that could be derived about the WTP estimates and consequently NGET was not able to furnish estimates of the median consumer WTP.¹⁴ In combination with the mean estimates, median estimates are important for understanding the variation of WTP across the sample and help inform better judgments about the appropriate level of the expenditure cap.

2.56. We believe that WTP could be very diverse across consumers and has a relatively skewed distribution.¹⁵ If this is the case, the median estimate of WTP would

¹⁴ There were not enough degrees of freedom to estimate median WTP from the sample data. In statistics, degrees of freedom are the number of values in a study that are free to vary.

¹⁵ Another limitation of the modelling approach is that it used an assumption that the estimated

be statistically significantly lower than the average WTP for visual amenity improvement in designated areas. Although not directly comparable, given differences in the specific research objective and the survey methodology and design employed, we note that NGET's July 2011 study found that median WTP was around half of the average WTP.

2.57. We also informed our proposal based on the other results of the survey. These showed that respondents' have very mixed attitudes regarding the affordability of such measures and whether these represent value for money at this time, as well as degree of priority and whether they should pay for such improvements.

2.58. In the absence of better information at this time, we are cautious about using the point estimates of the average WTP to set an overall expenditure cap for the duration of the price control. For these reasons and also having regard to our principal objective to protect existing and future consumers we are proposing to set an expenditure cap of £100 million for the start of the price control. The average WTP estimates show there is a positive and significant consumer WTP for visual amenity improvement in designated areas. The £100 million will allow the TOs to continue to work to deliver benefits for consumers from the start of the price control whilst NGET and/or the other TOs complete further WTP analysis to inform the level of the enduring expenditure cap for the remainder of RIIO-T1.

Broad Environmental Measure

Our Initial Proposals

2.59. We have published separately our decision to introduce an Environmental Discretionary Reward (EDR) as part of the price control to sharpen the environmental considerations of all the electricity TOs throughout the RIIO-T1 period.¹⁶ The key aim of this incentive is to drive the TOs, including NGET, to adopt a proactive corporate and operational culture to facilitate the transition to a low carbon economy and improve environmental performance. We expect that the EDR will complement many of the RIIO-T1 outputs and encourage much more transparency from the TOs about how environmental considerations have been embedded in their strategy and operational practices.

parameters have a normal bell-shaped distribution. This in effect would constrain any estimate of the median to not be significantly different from the mean value (in a statistical sense). This is unlikely to be a plausible result when inferring from the sample estimates about the true median and mean WTP in the population. We understand that assuming a normal distribution as a starting point for estimating sample parameters is standard practice. However, it would be desirable to revisit this assumption in future work to better approximate the true distribution and derive asymptotically consistent estimates of median WTP.

¹⁶ Decision on the concept for the implementation of the Environmental Discretionary Reward for the electricity transmission owners and system operator
<http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=210&refer=Networks/Trans/PriceControls/RIIO-T1/ConRes>

Our assessment

2.60. Relative to its July 2011 submission, NGET articulated a much more integrated approach in its March 2012 business plan to addressing its environmental impacts and sustainability in its business planning processes. We commend the initiatives NGET has put in place already to foster improvements in corporate and operational sustainability such as a climate change champion in different areas of the business, adopting a Whole Life Value policy, and piloting the reporting standard on scope 3 emissions. We encourage NGET to consider how it can demonstrate the impact of such initiatives as part of the assessment under the EDR and more importantly the extent to which such initiatives are embedded in the core business rather than an add on.

Wider system reinforcement works

Our Initial Proposals

2.61. To accommodate increases in generation flows and comply with the necessary security standards NGET has to develop and reinforce its transmission network. Under the RIIO output framework these reinforcement works on the main transmission network are Wider Works (WW) outputs.

2.62. Table 2.2 sets out the baseline WW outputs we propose NGET would deliver over the price control period. WW outputs are measured in terms of the transfer capacity across system boundaries. A system boundary splits the transmission network into two parts across which the capability to transfer electrical power can be assessed.¹⁷

2.63. Thermal, voltage and stability capabilities for each boundary are assessed in accordance with the National Electricity Transmission System Security and Quality of Supply Standards (NETS SQSS). NGET may phase work to increase either thermal, voltage, stability or a combination of these properties across system boundaries. In some cases investment to improve one element of boundary capability is not manifest in the transfer capability because another constraining capability exists temporarily (eg investment to improve thermal capability in the middle of the price control period will not show an increase in overall boundary transfer capability until a voltage constraint across the boundary is resolved by a later investment).

¹⁷ For the avoidance of doubt, system boundaries are not network ownership boundaries and each licensee's network could contain multiple system boundaries.

Table 2.2: Baseline Wider Works outputs

MW	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
B6	3300	4300²	6700¹	6700	6700	6700	6700	6700
B7	2000	3400²	5800¹	5800	5800	5800	5800	5800
B7a	4900	5300	7700¹	7700	7600	7600	7600	7600
B8	11300	11300	11300	11500	11500	10600	10600	10600
B9	12600	12600	12600	11500	11500	11500	11500	11500
B10	5800	5800	5700	5700	5700	5700	5700	5700
B11	9900	9900	10000	10000	10000	10000	10000	10500
B12	5800	5800	5100	5100	5100	5100	5100	5200
B13	1800	1800	1800	1800	1800	1800	1800	1800
B14	9600	9600	9600	9600	9600	9600	9600	9600
B14e	8700	8700	9400	10150	10150	10150	9950	9950
B15	6400	6400	6400	6400	6400	6400	6400	6500
B16	15200	15500	15500	15500	15500	15500	15500	15500
B17	5200	5200	5200	5200	5200	5200	5200	5200
NW1	1800	1800	1800	1800	4400	4400	4400	4400
NW2	1500	1500	1500	4600	4600	4600	4600	4600
NW3	2900	2900	2900	2900	4400²	4400	4400	4400
NW4	6000	6000	6000	6000	6000	6000	6500	6500
EC1	4100	4100	4100	4100	4100	7000	7000	7000
EC3	3200	3200	4300²	4300	4300	4300	4300	4300
EC5	2600	2600	3600³	3600	6800	6800	6800	6800
SC1	5600	5600	5600	5600	6100	6100	6600	6600

Notes:

1 Capacity increase of 2,400MW delivered by Western High Voltage Direct Current link between Scotland and Wales will affect boundaries B6, B7 and B7a.

2. Capacity increases from delivery of scheduled baseline WW outputs in Table 2.3.

3. Scheduled baseline output delivers 1,700MW but voltage constraint limits increase to only 1,000MW increase in boundary transfer capability.

2.64. In total, the baseline WW outputs in Table 2.2 would give a gross increase in transfer capability of 28,600MW across system boundaries in NGET's transmission area. Together with the prospective Strategic Wider Works (SWW) outputs (potentially a further 22,000MW) set out in the Cost assessment and uncertainty Supporting Document the proposed increase in transfer capability over RIIO-T1 is broadly consistent with the level of reinforcement needed to accommodate the UK's renewable energy targets.

2.65. The Baseline outputs in the above table include the Western High Voltage Direct Current (WHVDC) link. The WHVDC link is being jointly delivered by NGET and SPTL, and forms part of their respective baselines under RIIO-T1. In May 2012 we consulted on the details of our proposed funding arrangements for the WHVDC link for under Transmission Infrastructure Incentives (TII) and RIIO-T1, for both NGET and SPTL.¹⁸ Alongside this document we are publishing our final decision on the ex ante allowances and risk sharing arrangements between the transmission companies and consumers for this project under TII (to end 2012-13) and RIIO-T1 (from 2013-

¹⁸ See TII webpage, where all documents related to TII that are referred to in this letter can be found: <http://www.ofgem.gov.uk/Networks/Trans/ElecTransPolicy/CriticalInvestments/InvestmentIncentives/Pages/InvestmentIncentives.aspx>

14 onwards). As such, these matters are out of scope of this consultation on our Initial Proposals for NGET. We will insert details of the licence changes for both NGET and SPTL in line with this decision, with baseline WW outputs based on delivery of additional transfer capability between Scotland and Wales (affecting Boundaries B6, B7, B7a) consistent with a continuous rating of 2.25GW and a short-term (6 hour) rating of 2.4GW.

2.66. Several of the proposed baseline WW outputs in Table 2.2 have a strong needs case for delivery in the first half of the price control (the bolded figures in table 2.2). NGET has previously received part funding for some baseline WW outputs through the TII and several of these WW outputs are already in construction, or shortly due to start, including also the WHVDC. Therefore we propose to set a scheduled date by which NGET will have to deliver these by. The project specific WW outputs and scheduled delivery dates, other than those for the WHVDC link, are set out in Table 2.3.

Table 2.3 Scheduled Baseline Wider Works Outputs

Project	Wider Works Output (additional boundary capability)	Scheduled for delivery in Regulatory Year
Harker Hutton Re-conductoring	Boundary 7: 1400MW increase	2013/14*
Series and Shunt Compensation (Anglo-Scottish Incremental schemes)	Boundary 6: 1000MW increase	2014/15
Re-conductoring Norwich-Walpole; turning-in Norwich-Sizewell circuit at Bramford; and extending Bramford substation	Boundary EC3: 1100MW increase Boundary EC5: 1700MW increase	2014/15**
Re-conductoring of Trawsfynydd-Treuden Tee	Boundary NW3: 1500MW increase	2015/16***

Notes:

* This project is scheduled to complete in 2013/14 but the benefits of this scheme on the boundary transfer capability will not be fully realised until the Anglo-Scottish incremental schemes are completed in 2014/15.

**This project is scheduled to complete in 2014/15 to take advantage of delivery synergies with non load related work. However, the benefits of this scheme on the boundary transfer capability will not be realised until Deeside-Trawsfynydd sometime around 2017/18.

*** The additional transfer capability across EC5 boundary will not be realised until the Bramford-Twinstead OHL and the installation of a Mechanically Switched Capacitor at Barking is completed sometime around 2017/18.

2.67. We propose that NGET will need to confirm delivery when it has commissioned a scheduled WW output, and provide relevant supporting evidence. We propose to review NGET's performance in delivery of the outputs, including any deviations from agreed completion timescales to determine whether these constitute a contravention of NGET's licence conditions. In such circumstances, we propose to determine whether NGET has been complied with the timely delivery requirements specified in the licence. In considering whether there has been a potential breach of the licence, we would look at the relevant factors leading to the late delivery, the amount of consumer detriment caused and the extent to which NGET could be held responsible for events as well as whether or not they took reasonable steps to mitigate the impact of such events where they could do so efficiently.

2.68. If we are satisfied that the late delivery constitutes a breach, NGET could be subject to a financial penalty which would be determined under the Authority's Statement of Policy with respect to Financial Penalties.¹⁹

2.69. In the event that NGET under or over delivers in relation to the specific WW outputs in table 2.3 we propose to adjust allowed revenue to match the delivered output using a WW volume driver.

2.70. For the remainder of baseline WW outputs in table 2.2 (excluding the WHVDC) there is some uncertainty around the exact timing of when these will be needed. We note that the timing and magnitude of these WW outputs are based on the Gone Green scenario of the generation and demand background and therefore these could change if the actual background is different to the Gone Green scenario.

2.71. Given this uncertainty, we do not propose to specify a scheduled delivery date for these outputs. Instead we propose, consistent with NGET's business plan, that NGET develops a Network Development Policy (NDP) setting out how it will assess whether or not WW outputs are needed and the process it will use to update its investment programme.

2.72. Subject to the Authority's approval of NGET's NDP, NGET would have discretion to advance these works when the WW outputs meet the criteria set out in its NDP. Under this arrangement, WW outputs that met the NDP criteria, excluding those in Table 2.3, would be subject to further assessment and confirmation under NGET's annual NDP and stakeholder engagement process. For the avoidance of doubt, we propose that this would include WW outputs that are additional to the baseline.

2.73. For outputs delivered in accordance with its NDP we propose to adjust NGET's baseline revenue to match the efficient costs of the delivered WW outputs through a WW volume driver and boundary specific unit cost allowances for additional transfer

¹⁹ Ofgem Utilities Act Statement of policy with respect to financial penalties, October 2003. This is available on our website at <http://www.ofgem.gov.uk/About%20us/Documents1/Utilities%20Act%20-%20Statement%20of%20policy%20with%20respect%20to%20financial%20penalties.pdf>.

capacity (for more information on the volume driver and unit costs please see the Cost assessment and uncertainty Supporting Document).

2.74. The advantage of this proposal is that it provides efficient arrangements for NGET to progress relatively small to medium sized wider works with minimum regulatory input. It also makes NGET's network investment appraisal process more transparent and provides an opportunity for stakeholders to have input to this process.

2.75. In our view NGET should set out in its NDP how it will assess both the need and optimal timing of delivering WW outputs that ensure long term good value for consumers. To provide safeguards that consumers only pay for new infrastructure that is needed (ie to avoid stranded assets) we believe NGET's NDP should only apply when the proposed WW outputs have:

- a needs case with diverse potential users
- a high degree of user commitment, ie 70 per cent or more
- a relatively short lead time ie up to three years
- a positive needs case under a range of generation and demand scenarios.

2.76. We have reviewed the initial draft NDP included in NGET's March business plan. In our view NGET's draft NDP could be improved with the following additions and amendments:

- Explanation of internal processes, tools and methodology for modelling costs and benefits of network reinforcement and an assessment of modelling performance to date
- Application of judgement or probabilistic weighting to the generation/demand scenarios
- Explanation of NGET decision rules for advancing WW outputs into the investment plan and how these ensure long term good value for consumers
- Further explanation about how NGET would revise its investment programme if an annual review of investment plans suggested that the case for a WW output in construction had weakened
- Inclusion of a general review of outcomes under the NDP in the latter half of the price control
- Further consideration of the opportunities for stakeholder consultation and input.

2.77. We note that NGET will need to do further work on the NDP over the coming months in order to provide an updated draft NDP before the end of the year for the Authority's consideration.

2.78. Consistent with our Strategy Document, NGET proposed in its business plan that all large reinforcements above £500 million in its Best View, known as SWW, and WW outputs not meeting its NDP criteria, would be subject to a within period determination by Ofgem on the needs case and efficient costs of the specific project and output delivery. More information on the proposed arrangements for taking

forward these outputs is set out in the Cost assessment and uncertainty Supporting Document.

2.79. We also propose NGET would deliver pre-construction engineering works for the SWW and WW outputs. These pre-construction deliverables are: routing, siting and optioneering studies, project design, environmental assessments, technical specifications for cost tender, and planning consents. For more information on our Initial Proposals for baseline funding for pre-construction engineering works see the Cost assessment and uncertainty Supporting Document.

Our assessment

2.80. NGET developed its Best View of the WW outputs that might be required during RIIO-T1 to meet the industry derived Gone Green scenario. Under this scenario NGET would have to reinforce its network to accommodate the additional flows from more than 30 gigawatts of new generator connections and comply with the relevant security standards.

2.81. In our Strategy Document we said that each TO should develop its business plan on its 'Best View', or best estimate of the outputs it could be required to deliver to the end of RIIO-T1. This is important for business planning as it ensures the TO fully considers the deliverability and financeability of its plan, implications of the level of delivery for resourcing and organising the business, as well as the phasing of delivery, particularly where there might be synergies or conflicts in output delivery.

2.82. Whether the amount of WW outputs NGET actually delivers over RIIO-T1 is the same as its Best View is dependent upon the quantity and location of new customers, particularly new generation customers and changes in demand for existing customers. As a result there is considerable uncertainty around the amount and timing of WW outputs NGET will actually deliver over the price control period.

2.83. For these reasons, our assessment of NGET's business plan for WW outputs has focused more on NGET's proposals for managing the uncertainty around the volume of outputs rather than the particular volume of outputs NGET proposed to deliver. This also has important implications for the level of risk sharing with consumers.

2.84. For the most part, our Initial Proposals for NGET's WW outputs and uncertainty mechanisms reflect the proposals outlined in NGET's March business plan, which in turn largely reflect our Strategy Document. We have proposed some changes relative to NGET's March Business Plan in our Initial Proposals in relation to the balance of funding NGET would receive through the baseline and through the various uncertainty mechanisms such as the WW volume driver and the SWW within period determination. This would mean that a larger proportion of NGET's funding for

the Best View of WW outputs required during RIIO-T1 would come through uncertainty mechanisms than NGET had proposed.

2.85. Overall we believe our Initial Proposals for WW outputs represent a better balance of risk sharing between NGET and consumers than NGET proposed. Our proposals would ensure there is enough flexibility and certainty in the price control settlement to allow NGET to meet any changes in the generation and demand background. Our proposals will also protect consumers by ensuring they only pay for new infrastructure that is needed (ie reduced risk of stranded assets) and that NGET faces strong incentives to deliver WW outputs efficiently and innovatively.

Other outputs

System Operator and European activities

2.86. In our assessment of the efficient amount of revenue that NGET needs for 2013-2021 we considered its ability to provide SO activities (SO internal costs). We also considered funding within the company's operating expenditure in relation to meeting its ongoing commitments driven by developments in European policy and legal framework, particularly the Network Code developments.

2.87. The details of the cost assessment in these areas are set out in the Cost assessment and uncertainty Supporting Document.

2.88. The outputs driven by the SO internal costs are the long-term delivery of the SO function and this will be reflected in the SO outputs and incentives described in our SO incentives from 2013 document also being published today.

2.89. As part of the annual monitoring of NGET's performance against its other outputs we will want to understand that it has contributed to the ongoing European regulatory developments and played its full part in this area.

3. NGGT: Outputs and incentives

Chapter Summary

This chapter sets out the outputs that we propose NGGT should deliver and the associated incentives around delivery over the RIIO-T1 period. We set out Initial Proposals, and then describe our assessment of the proposed outputs in NGGT's business plans. We highlight where our Initial Proposals directly reflect the proposals in NGGT's business plan and where they differ.

Question 3: Do you have any comments on our Initial Proposals on NGGT's output and incentives?

Question 4: We welcome your views on the appropriate permits arrangements from 1 April 2014 if no other changes to the incremental capacity arrangements have been made?

Question 5: We welcome your views on the two options on constraint management tools retained in our Initial Proposals. Are you aware of any evidence that might help us in judging between these two options?

Introduction

3.1. This chapter sets out our Initial Proposals for the outputs we expect NGGT to deliver during the RIIO-T1 period. It also presents our Initial Proposals on the associated incentives that will apply around delivery.

3.2. The gas industry has well developed industry governance arrangements, which allow industry stakeholders to discuss and design code changes reflecting changes to the industry commercial arrangements. These stakeholders have played a major part in the RIIO-T1 price control through representation in our stakeholder engagement and in NGGT's engagement including its 'talking networks' workshop series. In some areas, RIIO-T1 reflects outputs that the industry has previously established. In other areas, it includes outputs reflecting issues and changes considered by the industry in parallel to the RIIO-T1 work. An example of the latter is the connections output where the industry work in this area is reflected in our Initial Proposals on what NGGT is required to deliver.

3.3. In most areas, these Initial Proposals set out a fully developed package of outputs and incentives to cover the full RIIO-T1 period. However, in relation to two areas we are not able to set out fully developed proposals. These are as follows:

- NGGT's incremental capacity proposals - we recognise that the arrangements we are setting out may need to change during RIIO-T1 to reflect further work that NGGT is currently taking forward with the industry to develop long term arrangements. We expect NGGT to facilitate the industry processes needed to

determine these long term arrangements and to target facilitating any changes, if appropriate, for 1 April 2014.

- Constraint management - NGGT only provided relevant details of its proposed output and incentive arrangements in its 31 May 2012 submission with its SO incentives plan. We are consulting on two potential options. These are set out in the relevant section below.

Outputs we are requiring NGGT to deliver over RIIO-T1

Safety

Our initial proposal

3.4. We propose that NGGT's primary output in this area should be compliance with its legal safety requirements. These requirements are monitored by the Health and Safety Executive (HSE) as the safety regulator.

3.5. In addition, we propose a suite of secondary measures that inform both the safety and reliability of its network relating to asset health, condition and criticality.

Our assessment

3.6. Our Initial Proposals are consistent with NGGT's business plan, which in turn was consistent with our Strategy Document. Our strategy decision outlined an output that reflects a continuing high level of safety and is subject to HSE scrutiny.

3.7. The asset health, condition and criticality measures that NGGT will need to provide and maintain are relevant to provision of both a safe and reliable gas network. These measures will assist in informing us about the state of the network now and will bring transparency on its future health and condition into the next price control period.

Reliability and availability

Our Initial Proposal

3.8. We propose that NGGT should be required to provide a level of network capacity sufficient to convey gas volumes at system entry and exit points in line with existing requirements under the Uniform Network Code (UNC), its Gas Transporter (GT) Licence and ultimately, the Gas Act.

3.9. This output would require NGGT to deliver, subject to Section 9 of the Gas Act, on its Standard Special Condition A9 obligation to plan and develop its pipeline system capable of meeting 1 in 20 peak aggregate daily demand. It would also

require NGGT, subject to the provision of other conditions within the licence, to meet its baseline entry and exit capacity obligations.

3.10. This output would also require delivery of existing lead times included in NGGT's licence relating to how NGGT responds to signals for incremental entry and exit capacity (42 and 38 months respectively). We propose for this part of the output to be accompanied by a permits²⁰ allowance for the first year of RIIO-T1 (from 1 April 2013 – 31 March 2014). Permits provide a means by which NGGT can move the obligate lead times for the release of incremental capacity. Their use enables NGGT to trade off the risk of more difficult projects with those of other projects.²¹

3.11. We propose that this 'first year' permits allowance value would be £19 million. For other years of RIIO-T1 ie from 1 April 2014 we seek consultees' views on the permits arrangements²² that should apply if no changes have yet been made to the incremental capacity arrangements. Should they for instance return to a level equivalent to those set out in the TPCR4 rollover period? Any change to the incremental capacity arrangements then implemented would need to consider the appropriate way to incentivise NGGT in this regard from that point onwards. As set out in the finance Supporting Document the approach used for revenue recovery is changing to a total expenditure (totex) approach²³. This has implications for the funding of incremental gas transmission capacity, particularly the timing of revenue release. From a practical perspective, this means that where revenue drivers are needed these will need to be calculated up front by NGGT. In doing so it will need to use up to date unit cost information.

3.12. We are aware of ongoing industry discussions around NGGT's proposals for changes to the incremental capacity arrangements. Our Initial Proposals are that if further changes to the incremental capacity arrangements become needed during the control period then we will consider these.

3.13. Finally, in relation to constraint management, given the timing of NGGT's proposals being submitted, we are consulting on two alternative options:

- A variant of NGGT's proposed single unified incentive covering entry/exit and operational/incremental actions but with no caps and collars on the incentive.
- The retention of the existing separate incentive schemes. This is an alternative, particularly if further analysis and discussion with stakeholders identifies major weaknesses in NGGT's proposal.

²¹ Permits have no value until the end of the period – NGG gets to keep the cash value of any unused permits from its allocation for the period, plus any additional permits it has earned during the period for early delivery (up to the cap).

²² Historically, revenues from permits have been treated as SO in NGGT's licence. We propose that the 'first year' permits allowance (and any other permits allowance going forward) would relate to the TO activities in the licence. This reflects the role that is the most relevant to the use of permits.

²³ See the Finance Supporting Document.

Our assessment

Existing obligations for baseline capacity

3.14. Our Initial Proposals are consistent with our strategy decision. They are largely consistent with much of NGGT's business plan although there are differences. Our reasons for these differences are set out below.

3.15. NGGT's business plan was consistent with delivering existing obligations. A significant proportion of its stakeholder engagement focused on whether in the light of changes to the wider gas system (particularly sources of supply and demand and certainty around short term gas flow changes) it needed a new output measure that it labelled 'network flexibility'. It considered, in response to the challenge by us and other stakeholders, whether there was a way of identifying clear output metrics that would measure what additional 'network flexibility' expenditure would provide to users of the network and consumers. To date NGGT has not identified any additional output measure over the existing obligations identified as part of the suite of outputs and incentives set out in this document. The Cost assessment and uncertainty Supporting Document considers this issue in more detail including possible changes during the RIIO-T1 period.

3.16. NGGT did not propose a review of baseline capacity at the entry and exit points. We propose to retain the existing baselines.

3.17. NGGT refers to the situation at Fleetwood. This is a location where a shipper requested a new entry point to be created. Capacity at this entry point was booked from October 2010. Early capacity holdings have lapsed and at the present time it is unclear whether the future capacity as signalled by this shipper will be needed. We will continue to monitor the situation and should circumstances arise which require Ofgem to take action to protect the interests of consumers, we will take the appropriate steps to ensure an economic and efficient outcome is achieved (which might affect the treatment of capacity at Fleetwood). This represents how we would expect to act in any similar situation, as we will generally consider taking steps in accordance with our principal objective to protect the interests of consumers.

Incremental capacity

3.18. In March 2012, NGGT proposed significant changes to what it is required to do in response to signals for extra capacity at either entry or exit points.

3.19. For the first time, in its March 2012 business plan NGGT set out a complete proposal for adapting current incremental capacity arrangements to deal with the

impact of the new planning arrangements in England and Wales under the Planning Act 2008. This included:

- removal of the existing lead times which cover both planning and construction risk implying a significantly longer overall lead time (but with a commitment to a shorter phase of 24 months for the construction period)
- provision for a bilateral agreement (including details on the delivery process) with the user who signals the need for extra capacity
- changes to the auction process
- a two stage revenue driver calculated as a project progresses
- changes to its revenue profile and capitalisation rate.

3.20. NGGT is right to consider the impact of the Planning Act 2008. To date there have been no infrastructure related cases which have proceeded completely through the Planning Act 2008 process with either the Infrastructure Planning Commission (IPC) or now through the Planning Inspectorate (PI). Consequently, we recognise that there is uncertainty about its full implications.

3.21. NGGT's proposal contained many elements with potentially significant benefits both in terms of providing certainty in the final delivery phase and around the degree of user commitment needed to commence significant network reinforcement works.

3.22. However, the proposals also imply significant changes not just to NGGT's licence but to its Code arrangements including aspects whose change is likely to need significant Code changes. Such changes should be discussed with industry, and will require industry development through the normal code modification processes. It is clear that there is no likelihood of these industry discussions being finalised or the necessary code modification processes having run their course in time for implementation from 1 April 2013.

3.23. This drives our initial view that we are not in a position to include NGGT's proposals in full in this area. Instead our Initial Proposals retain the lead times currently in NGGT's licence.

3.24. We worked with NGGT to understand the options available, in light of the likely absence of industry developed changes in time for 1 April 2013. A number of options were considered but essentially we faced a choice between retaining the existing lead times, or moving to something approximating the new arrangements in provisional form eg through changes to methodology statements such as the incremental capacity methodology statements.

3.25. We think it is important that we do not prejudge the industry process on the proposals. Therefore we propose to retain the existing lead times until any further changes are developed. We recognise that if NGGT's judgement of the timings and process associated with the new planning arrangements is correct (dependent on the signals for new capacity faced), NGGT could face challenges in meeting these obligations. Therefore we agree with NGGT's proposal that the permits allowance be used in tandem with the current lead times to help NGGT manage the impact of the new planning arrangements, and avoid the requirement for an excessive call on constraint management to cover the period between the obligated lead times and the actual delivery of capacity. NGGT proposed a permits allowance to the value of £39 million²⁴ to be applied across both the year 1 April 2013 – 31 March 2014 and the preceding year 1 April 2012 – 31 March 2013 (in recognition of possible signals at the March 2013 auction).

3.26. To manage additional risk driven by the planning process we propose to include a permits allowance for the year 1 April 2013 – 31 March 2014, to the value of £19 million. This proposed allowance has been informed by NGGT's analysis, However, we have not included the requested allowance for the roll-over year on the grounds that NGGT accepted the TPCR4 roll-over decision, having failed to demonstrate the need for an increased level of permits.

3.27. NGGT also proposed having the ability to 'overdraw' its permits by 50 per cent in volume terms. Its reward/penalty related to this would be limited to £30 million upside and £10 million downside for NGGT. Our Initial Proposals do not include this change to the existing arrangements. We think that retaining the existing principles is consistent with this short term arrangement being effectively a retention of current arrangements.

3.28. Going forward we will play a full role with other stakeholders and NGGT in relation to the development of long-term arrangements. We consider it is important that the enduring arrangements share risk fairly between the parties.

Constraint management

3.29. NGGT has tools available to manage network capacity. These tools offer a means of dealing with situations where NGGT cannot deliver capacity that has been commercially committed to a shipper/supplier. Constraints on the network drive such situations. These constraints can be caused by a number of factors, some partially within, others wholly outside NGGT's control. For instance, they can result from situations where the physical use of the network by a particular shipper exceeds the commercially committed capacity, known as overruns. Constraints can also be the result of a localised imbalance between demand and supply or result from actions being taken on the network eg planned compressor outages by NGGT.

²⁴ This value is derived applying the rate of £5,000 per permit. This is the value given in relation to entry in the TPCR4 rollover.

3.30. At present, NGGT is subject to a range of incentive schemes set out in Table 3.1. The operation of these schemes is dependent on whether the constraint management action taken is related to or unrelated to signals for new capacity, and on whether it relates to entry or exit points from the National Transmission System (NTS). Each of these tools has a target and some of them also include a limit on the upside and downside financial impact on NGGT (caps and collars). There is also an overall cap on NGGT liability across the different schemes currently set at around £55 million.

Table 3.1 Existing buyback schemes

Buyback Incentive	Target (£m)	Sharing Factor	Cap (£m)		Collar (£m)	
			month	year	month	year
Entry Capacity Operational Buyback	15.48	50 per cent	N/A	15.48	N/A	11.47
Entry Capacity Incremental Buyback	0	100 per cent	4.59	41.28	N/A	0
Exit Incremental Investment Buyback	0	100 per cent	4.59	41.28	N/A	0

An overarching cap across the schemes of £55.05 million.

3.31. NGGT propose to replace the existing schemes with a single unified incentive. This would span entry and exit and also relate to both operational buyback of capacity (unrelated to changes in the level of capacity provided) along with incremental buyback (directly related to the provision of extra capacity following signals at entry or exit points).

3.32. The full detail of this proposal was submitted with NGGT’s SO business plan on 31 May 2012. As a result, we have only had limited time to evaluate fully the proposal which is a matter for RIIO-T1 rather than the SO incentives. Based on the evidence from NGGT there appear to be some positive arguments for introducing the simple unified incentive. These fall into two main categories:

- it would encourage better decision making (removing any distortions created by the individual schemes and allowing NGGT to make the most efficient decision across the full range of possible constraint management actions)
- it would generate resource savings (removing the need for categorising across the different schemes for the sole purpose of facilitating the incentive calculation).

3.33. We understand that stakeholders as yet appear to be unconvinced by the proposals and want to understand more about the reasons for change. We are aware, for instance, of the need to examine whether unifying these incentives would have a detrimental impact on particular categories of network users eg at entry. There are also potential costs to be considered. Removal of individual incentives might result in the loss of valuable information as to the causes of constraint, and how these might better be managed going forward.

3.34. Therefore we are also consulting, as an alternative, on retention of the current incentive schemes, although we are keen to understand views on NGGT's unified proposal.

3.35. NGGT's proposal is that the unified incentive scheme has a cap and collar set at £20m each year. We have informed our wider assessment of the risk associated with NGGT's package as a whole (see the Finance Supporting Document) with NGGT's own analysis. We recognise the need to balance the risk facing NGGT with the risk passed on to users once the limitation on the downside incentive is reached. While the costs and revenues related to constraint management actions are variable and in some areas past data is either scarce or not good for predicting future levels, we consider the risk of removing caps and collars based on NGGT's analysis to be reasonable. We have factored this in to our general risk analysis of the overall package.

3.36. We understand when using NGGT's analysis that it carried out detailed modelling to forecast the volume of constraints, and associated revenues. It also included assumptions about costs incurred. It calculated the maximum upside and downside for each year of the RIIO-T1 period, but also assessed a RIIO-T1 period estimate based on modelling which took account of the mix of good and bad years likely (rather than one based exclusively on bad years). From this analysis we are comfortable that NGGT's exposure is broadly equivalent to its preferred approach of caps and collars of £20 million. Using the RIIO-T1 period totals with no caps and collars provides a likely maximum downside of £23 million (though with a reduced maximum upside of £11 million). We recognise that to get the expected value of £0 within such an incentive the target levels would need to be set consistent with NGGT's proposals. At this stage we assume this to be the case but reserve the right to carry out further work to challenge each of these underlying assumptions.

3.37. NGGT has also proposed to merge the two Transmission Support Services (TSS) incentive schemes, the Constrained LNG (CLNG) and the Long Run Contracting Incentive, in to a single scheme. We propose to bring these incentives together, consistent with NGGT's proposal but we reserve the right to consider changes to the targets. We recognise that we will need to review the incentive as a result of any pipeline solutions being delivered to replace NGGT's reliance on the services provided by the Avonmouth LNG storage facility owned and operated by NG LNG.

Customer Satisfaction

Our Initial Proposals

3.38. We propose that NGGT should include a gas transmission specific element to its wider survey of customers and stakeholders. Its gas transmission and related system operator stakeholder engagement will also be eligible for consideration for reward through the discretionary reward in this area.

3.39. There is ongoing work to design the survey and to link this to a financial incentive. We are also working developing guidance for the application of a discretionary reward for exceptional outcomes from stakeholder engagement.²⁵

3.40. Appendix 1 of this document provides a progress update on the ongoing work by all the TOs including NGGT on survey development and incentive design.

Our assessment

3.41. NGGT proposes to apply a financial incentive which, when fully implemented, would range from a penalty of 1 per cent of annual allowed revenue to a reward of 1 per cent of annual allowed revenue.

3.42. In addition, NGGT proposes to include a discretionary reward for delivering exceptional results through effective stakeholder engagement. It proposes this could be as much as 0.5 per cent of annual allowed revenue.

3.43. NGGT's proposals in this area are consistent with our Strategy Document.

3.44. For NGGT, we expect the survey and related information to identify clearly the company's role and focus on its activities. It will need to be informed by its gas customers and stakeholders.

Connections

Our Initial Proposal

3.45. We propose that NGGT should have a primary output to meet the new obligations set out in UNC modification 373 (UNC 373). A brief description of UNC 373 is included in our assessment below. Further detail is available from our decision letter in relation to that modification.²⁶ There is no financial incentive related to this but a clear reputational incentive is provided by the new process. We will also consider whether UNC 373 needs to be complemented by licence obligations on NGG in relation to connections.

3.46. We also propose to consider further refinement to the connections output in line with any enduring changes to the capacity arrangements.

²⁵ (see RIIO-T1/GD1: Draft licence conditions – First informal licence drafting consultation being published alongside this consultation)

²⁶ Ofgem: Modification proposal: Uniform Network Code (UNC) 0373: Governance of NTS connection processes. (<http://www.ofgem.gov.uk/Licensing/GasCodes/UNC/Mods/Documents1/UNC373D.pdf>)

Our assessment

3.47. Our Strategy Document noted the absence of a detailed process for the provision by NGGT of connections to the gas transmission network. We recognised that industry discussions were already underway to establish a process and indicated that we expected NGGT's business plan to consider these evolving arrangements as a likely basis for the RIIO-T1 output in this area.

3.48. On 4 July 2012 the Authority directed the approval of UNC 373. For the first time in gas transmission this established a formal process for connecting to the NTS. We propose that NGGT's RIIO-T1 output in this area should be to meet the obligations provided for under this modification. This modification is now being implemented by the industry.

3.49. During the industry process leading to UNC 373 being approved, National Grid's customers did not favour financial incentives being applied.

3.50. NGGT is now proposing to link up its work on connections with its work on incremental capacity. This has potential advantages but we are concerned that it should not reduce NGGT's obligations as established under UNC 373. Both our strategy decision in this area and NGGT's initial business plan in July 2011 recognised that UNC 373 might not cover all the requirements of a connections output for the whole RIIO-T1 period.

Environmental outputs

Business Carbon Footprint

Our Initial Proposals

3.51. In line with our strategy decision we propose that NGGT reports annually to stakeholders on its scope 1 and scope 2 greenhouse gas (GHG) or carbon dioxide equivalent emissions at business level throughout the RIIO-T1 period. We note that NGGT set out similar commitments in its March business plan.

3.52. NGGT will face reputational incentives only on its BCF reporting.

Our assessment

3.53. NGGT provided better information in its March 2012 business plan about its BCF compared to its July 2011 plan. In particular, NGGT provided more context on the issues it faces around operating compressors on its network, the key sources of emissions at the business level, and how its proposals sit in relation to relevant legislative requirements.

3.54. NGGT forecast its scope 1 and scope 2 emissions (as TO and SO) will fall from nearly 700,000 tonnes in 2013 to around 385,000 tonnes at the end of the price control. This will depend on the number of compressors it needs to replace at sites that are emitting high levels of NO_x emissions (to comply with legislative requirements) with more efficient technologies and electric powered compressors.²⁷ We note that the reduction in NGGT's BCF would also depend to a large extent on the rate at which the UK's electricity generation mix decarbonises as the electricity used to power the new compressors will create indirect (scope 2) carbon dioxide emissions at source. NGGT also will achieve some emission reductions through improved energy use in buildings.

3.55. We note that NGGT proposals are consistent with stakeholder feedback that it should invest in the minimum to ensure legislative compliance.

3.56. We reiterate our position that NGGT is required to report on its BCF at the business level to enable accurate reporting and monitoring on its BCF from the transmission business.

Other outputs

System Operator and European activities

3.57. In our assessment of the efficient amount of revenue that NGGT needs for 2013-2021 we considered the revenue NGGT required for its provision of SO activities (SO internal costs). We also considered funding within the company's operating expenditure for meeting its ongoing commitments arising from European regulatory changes, particularly helping to develop European Network Codes.

3.58. The details of the cost assessment in these areas are set out in the Cost assessment and uncertainty Supporting Document.

3.59. The outputs driven by the SO internal costs relate to the long-term delivery of the SO function and this will be reflected in the SO outputs and incentives described in our SO incentives from 2013 document also being published today.

3.60. We consider the funding package should allow for significant improvements in the way the SO function operates because of the significant SO internal revenue being allowed. We will monitor progress against the deliverables set out in the business plan.

3.61. As part of the annual monitoring of NGET's performance against its other outputs we will want to understand that it has contributed to the ongoing European regulatory developments and played its full part in this area.

²⁷ NO_x is a generic term for mono-nitrogen oxides NO and NO₂ (nitric oxide and nitrogen dioxide). They are produced from the reaction of nitrogen and oxygen gases in the air during combustion, especially at high temperatures. NO_x react to form smog and acid rain. NO_x are not a greenhouse gas.



RIO-T1: Initial Proposals for National Grid Electricity Transmission and National Grid Gas

4. Encouraging innovation

Chapter Summary

This chapter sets out the arrangements that we are proposing to apply to encourage NGET and NGGT to innovate to drive improved outcomes for consumers in RIIO-T1 and beyond.

Question 6: We welcome your views on the proposed level of funding for the licensees' Network Innovation Allowance (NIA), based on the quality and content of their innovation strategies.

Question 7: In relation to funding the Gas Network Innovation Competition (NIC) for 2013/14, do you support either option 1 (run the NIC and raise the required funds from the winning licensee's customers) or option 2 (no Gas NIC, but roll-over funds to 2014/15). If the NIC is delayed beyond 2014/15, what option would you support?

Introduction

4.1. The RIIO framework recognises the significant challenges faced by Britain's gas and electricity industries. Network companies need to facilitate the move to a low carbon economy while maintain safe, secure and reliable networks at least cost. In order to achieve these objectives, the companies will need to adopt new technologies and innovate to a greater extent.

4.2. Incentives for innovation are embedded in the RIIO model. Companies are incentivised to innovate to meet outputs in the most efficient way and the longer price control strengthens these incentives. In addition, we set out the three elements of an innovation stimulus package in our March 2011 strategy document:

- **Network Innovation Allowance (NIA)** - The NIA is a set allowance that each of the RIIO network licensees will receive to fund small-scale innovative projects as part of their price control settlement.
- **Network Innovation Competition (NIC)** - The NIC is an annual competition for funding larger more complex projects. The NIC will comprise of two competitions - one for gas and one for electricity.
- **Innovation Roll-out Mechanism (IRM)** - A Revenue Adjustment Mechanism that enables companies to apply for additional funding within the price control period for the rollout of new, proven solutions with demonstrable and cost effective low-carbon or environmental benefits. The mechanism will apply to projects which would not otherwise be commercially viable within the RIIO-T1 price control period.

4.3. In addition to describing the overall innovation stimulus framework, we also set out a requirement for companies to detail how they had considered the use of innovative approaches in their business plans.

4.4. The Strategy Document required each network operator to include an innovation strategy as part of its business plan, explaining the company's approach to innovation, its motivation and objectives.²⁸ We set out that the level of funding available through the NIA would be linked to the innovation strategy. We set out in the Strategy Document that the NIA would be capped at 0.5-1 per cent of allowed revenue. We set out that companies wishing to spend more than 0.5 per cent of allowed revenue should request that higher amount in their innovation strategy (up to a maximum of 1 per cent of allowed revenue). In making such a request the companies were required to provide justification for the additional funds. We set out that such requests would be judged by the quality and content of the innovation strategy as well as the company's justification.

4.5. In general, the innovation stimulus will be introduced as part of the RIIO-T1 and GD1 price controls on 1 April 2013. The exception may be the Gas NIC. In March 2012 we announced that we had identified a barrier to delivering our proposed funding approach for the NIC in the gas sector. We are working with the Department of Energy and Climate Change (DECC) to resolve this issue at the earliest opportunity. However, it currently appears unlikely that the first Gas NIC will be able to commence in April 2013. We are consulting on proposals to deal with this issue as part of this consultation (see paragraphs 4.21 – 4.30 below).

Innovation in NGET's plan

Our Initial Proposals

4.6. Our Initial Proposals are that NGET's network innovation allowance (NIA) should be set at 0.6 per cent allowed annual revenue. NGET should be able to utilise both the NIC and IRM mechanisms.

Assessment of NGET's proposals

Coverage of innovation in the plan

4.7. In our initial assessment of NGET's July 2011 business plan we observed that while there were some innovative aspects in the plan, it did not demonstrate innovation throughout the business. The March 2012 plan shows a marked improvement. NGET highlights innovative aspects in most of the activities discussed in the plan. The company has adopted a clear approach to labelling this using 'light bulbs'.

²⁸ The innovation strategy would not give regulatory approval for any specific project. Rather projects will need to meet the requirements of the NIC and NIA governance arrangements – which are being developed through the course of 2012.

4.8. There could be further detail on how, through its innovation, it would be able to do more and/or reduce costs to the consumer. Some of the definitions of innovation were also very wide (though it is right not to limit this to research and development expenditure).

Innovation strategy and NIA

4.9. NGET submitted an innovation strategy as part of its updated plan.

4.10. NGET's strategy set out: its high-level view on the requirement to innovate; the challenges that it will seek to innovate around; the process it uses to try to continually capture and prioritise innovation opportunities; and the process that it will follow to collaborate with 3rd parties.

4.11. NGET requested an innovation allowance of a maximum of 1 per cent of allowed revenue per annum. It recognised that this is higher than the default 0.5 per cent set out in our Strategy Document. NGET justified its proposed higher level by explaining that the innovation allowance will give them the scope to achieve the efficiency targets that they have included in their plan. NGET also justified this level of funding by citing guidance from various bodies' on the level of innovation spending that is appropriate for utilities.

Our Assessment

4.12. We note the significant improvements in NGET's innovation strategy between July 2011 and March 2012.

4.13. With regard to NGET's justification for additional funding, we note the importance of considering the overall support provided by the innovation stimulus package (NIC, NIA and IRM), together with the opportunities which companies have to fund innovation activities through other revenues. Such funding is also supported by the enhanced incentives which the RIIO framework provides. Taken together we consider this provides a strong package focused on delivering the transition to the low carbon economy while at the same time providing value to consumers. We consider that the base level of NIA funding provides a considerable stimulus for the companies alongside these other incentives. NGET needed to make a clear justification around the additional value that would be delivered by a request for further funding.

4.14. However, there remain some issues with NGET's innovation strategy. For instance: there is a lack of specificity in the stakeholder engagement it has used to support their innovation strategy and priorities; it has not delineated between innovations that they will take forward as part of business as usual versus those which will be funded through specific allowances; and it has not set out what additional value funding above the default would provide.

4.15. We do not consider that NGET has provided sufficient justification for its proposed additional allowance. We need to be satisfied that an additional allowance will provide clearly defined additional value to existing and future consumers. For example, NGET do not explain how a financial evaluation of projects will take place during project implementation. However, on balance, we do consider that the strategy warrants some funding of above the default level. As such, we are proposing a NIA value of 0.6 per cent.

Innovation in NGGT's plan

Our Initial Proposals

4.16. Our Initial Proposals are that NGGT's IA should be set at 0.6 per cent of allowed annual revenue. NGGT should be able to utilise both the NIC and IRM mechanisms.

Assessment of NGGT's proposals

Coverage of innovation in the plan

4.17. In our initial assessment of NGGT's July 2011 business plan we observed that there were some innovative aspects in the plan. However, the plan did not demonstrate innovation throughout the business. The March 2012 plan shows an improvement though not as marked as NGET. NGGT highlights innovative aspects across the plan. The company has adopted the same clear approach to labelling this using 'light bulbs'.

4.18. There could be further detail on how, through its innovation, it would be able to do more and/or reduce the costs to consumers. Some of the definitions of innovation were also very wide (though it is right not to limit this to research and development expenditure).

Innovation strategy and NIA

4.19. NGGT adopts the same approach as NGET to the coverage of innovation in its plan. Its coverage of innovation has also improved since its previous plan and it has the same strengths as NGET; NGGT has clearly set out the challenges that it will seek to innovate around and how it will collaborate with 3rd parties in developing innovations. However, it also has the same weaknesses, namely a lack of specificity in the stakeholder engagement it has used to support the development of its innovation strategy and priorities and a failure to delineate between innovations that it will take forward as part of business as usual versus that which will be funded through the specific NIA.

4.20. NGGT has also published an updated innovation strategy. NGGT requested an innovation allowance of 1 per cent of allowed revenue. We do not consider NGGT has provided sufficient justification to merit this level of allowance. However, it has met

the basic requirements set out in our Strategy Document and exceeded these in the same areas as NGET. On this basis, we also propose to provide NGGT an allowance of 0.6 per cent.

Other issues

Delay to the Gas NIC

4.21. In our Strategy Document, we decided to introduce the NIC to provide funding for projects that would contribute to a low carbon energy sector or provide environmental benefits. We decided to set the maximum available funding for gas distribution and transmission at £20 million per year.

4.22. We set out in our Strategy Document that, in implementing the NIC, we intended to replicate the Low Carbon Networks Fund (LCN fund) introduced for the most recent Distribution Price Control Review (DPCR5). This would involve the transfer of funds from all gas licensees to those licensees who win funding through the NIC. We set out in March 2011²⁹ that we had identified a barrier to delivering this proposed funding approach in the gas sector.

4.23. The Gas Act 1986 allows the Authority to insert provisions into the Gas Transporter licence that require a Gas Transporter to increase its charges to raise such amounts as may be determined and then pay those amounts to gas suppliers and gas shippers. It does not, however, allow the Authority to insert provisions into the licence for the raising and paying of amounts to other Gas Transporters. This differs from the framework in the Electricity Act 1989 which allows for the raising and paying of amounts to all electricity licence holders.³⁰

4.24. Our view is that, as drafted, the Gas Act does not allow us to implement the NIC in the gas sector using the mechanism used in the LCN Fund (ie establish the competition for Gas Transporters). We have raised this issue with DECC and we are seeking to find a solution at the earliest opportunity. DECC is actively considering the options for proposing an amendment to primary legislation. However, it currently appears unlikely that a legislative amendment could be provided in time for the start of the first Gas NIC, which is due to commence in April 2013.

4.25. We have therefore identified two options to address the absence of NIC in at least the first year of RIIO-GD1 and RIIO-T1:

²⁹ Decisions on the Network Innovation Competition and timing and next steps for implementing the Innovation Stimulus. (Ref 34/12).

³⁰ This issue in relation to GT-GT transfers has arisen because before 2004 there was only one gas transportation company (National Grid Gas) and therefore no need to consider the transfer of monies between several transportation companies. When the gas grid was split between different gas transportation companies, the Gas Act 1986 was amended, but ambiguity remains.

- *Option 1:* Run the NIC and raise the required funds from the winning licensees' customers (i.e. this could be from either NGGT's or a GDN's customers).³¹
- *Option 2:* No NIC in 2013, and no replacement funding in that year. The lost funds would be rolled-over into subsequent years such that the overall level of funding for the Gas NIC (in RIIO-GD1 and RIIO-T1) is unchanged.

4.26. The disadvantage of option 1 is that the costs of a winning project would be borne by GDNs' own customers, i.e. there is no socialisation of costs, whereas the benefits will accrue to all customers. The project costs are potentially a material element of GDNs' total allowed revenues. For example, if a typical GDN (with allowed revenues of around £250 million) were to secure funding for a project of say £15 million (towards the upper-end of funding under LCNF), this could result in an increase in charges of around 6 per cent. Given the impact of winning a project on their customer's charges, together with the socialisation of learning, could discourage participation in the competition by companies.

4.27. The Option 1 approach would also prevent any independents from entering the competition – since their customers could not be expected to fund such projects in the absence of socialisation.

4.28. For these reasons we prefer Option 2. Under this option, we would effectively provide the same level of funding as envisaged in our Strategy Document but over a shorter 7 year period, ie from 2014/15 onwards.

4.29. However, if the NIC is delayed for more than one year, our preference is likely to be for option 1. In such circumstances, we consider it is more important to run NIC and raise funds from the winning licensees customers (and accept no socialisation of costs) than to delay NIC further (and potentially indefinitely).

4.30. At Final Proposals, we should have greater certainty over the prospects of an amendment to primary legislation, and thus whether the delay to NIC is likely to be one year (in which case, we support option 2) or longer (in which case we support option 1). We would welcome respondents' views on our preferred options.

SO Access to Innovation Funding

4.31. Both NGGT and NGET considered that funding should be available to the SO, as well as the TO, through the new mechanisms introduced by RIIO-T1. It therefore considers that the SO should be able to participate in the NIA and NIC.

³¹ Given charges would be raised locally, under this option it would be essential for the winning licensee to demonstrate the benefits of their project for their customers (eg distribution customers), as opposed to gas network customers more widely.

4.32. It is our Initial Proposal that NGET or NGGT should be able to access the TO innovation funding, under the same mechanism, in relation to innovations across both SO and TO activities.

Appendix 1: Progress on network access policy development and customer satisfaction outputs - Update

Appendix Summary

This Appendix provides an update on the joint work that NGET, SPTL and SHETL have been undertaking to develop the arrangements to facilitate SO:TO co-operation in relation to network availability. It also updates on the development of customer satisfaction surveys as part of the implementation of the customer satisfaction outputs for NGET, NGGT, SPTL and SHETL.

Introduction

1.1. There are two outputs where NGET, in its capacity as both a TO and as the electricity SO (along with NGGT in the second case), continues to work with SPTL and SHETL to develop the detail of the arrangements for RIIO-T1. These are the work to develop and implement:

- a network access (formerly referred to as network availability) policy (NAP)
- a customer/stakeholder satisfaction survey as set out in our Strategy Document.

1.2. Both were highlighted in our Initial and Final Proposals for SPTL and SHETL as areas for ongoing work. As we reported then, good progress had been made. This Appendix updates on progress made and maps out next steps.

Network Access Policy (NAP)

1.3. A TO's actions impact on the level of its network available for use, as do a number of other things. Some of the costs associated with the network not being available impact directly on the TOs eg through the reliability outputs discussed in Chapter 2 of this document and the equivalent provisions for SPTL and SHETL. However, the costs of network constraints affect the SO in the first instance. The SO faces separate external incentives on its costs in this area. However, particularly where the SO and TO are separate companies, as is the case in Scotland, the ability of the SO to manage these constraint costs is more limited.

1.4. As with other features of the SO:TO relationship, the SO:TO Code (STC)³² sets out arrangements to help aid communication and co-operation. However, in setting the new RIIO outputs-based approach to both TOs and to the SO (through the SO from 2013 incentives work) we have tried to encourage the companies to consider how they could go further than these minimum arrangements particularly against the backdrop of significant TO investment over the RIIO-T1 period.

1.5. Before reaching our strategy decision in this area, we consulted on two models for holding the TOs and SO accountable for constraint costs. One was to place a direct financial incentive on the TOs. However, the absence of information available to TOs on constraints costs made an effective incentive impossible to implement. Our strategy decision was therefore to take forward a second option. This had three elements:

- SO faces sharper incentives on constraints management
- TOs have clear baseline level of performance on network availability that would be described in a policy document referred to in their licence
- SO has ability to incentivise TO to change plans in a way that lessens constraint costs (the incentive payment providing recompense from the impact on TO costs).

1.6. In theory, the above option had the advantage that limited change was needed in the information that the SO made available about constraint costs. However, two things became clear as a result of the business plans submitted by the TOs and subsequent discussions. Firstly, the significant investment plans and new outputs regime meant that some of the costs facing the TOs for changing their planned outages are likely to increase significantly for RIIO-T1 compared to the previous control period. Secondly, the causes of constraints on the networks and resulting costs are sufficiently complex to make it impossible for a single baseline level of performance to be identified. In addition, our initial proposals for SO incentives from 2013 include the removal of short-term financial incentives based on detailed models in favour of a broader incentive approach that is designed to encourage more innovative behaviour.

1.7. SPTL, SHETL and NGET representatives have subsequently met on a number of occasions to develop the NAPs beyond what was in the business plans.

1.8. These meetings have focused on:

- Information that might be shared.
- TO priorities.

³² (see <http://www.nationalgrid.com/uk/Electricity/Codes/sotocode/Library/>)

- Long-term planning and options for co-ordination.
- Short-term planning and options for co-ordination.

1.9. The companies are meeting in August and will continue to work beyond this. We would expect to be able to consult on draft NAPs with our Autumn 2012 consultation.

Customer satisfaction and stakeholder engagement

1.10. As set out in Chapter 2 and 3 of this document and as set out in the final proposals document for SHETL and SPTL, the customer satisfaction output has two incentive elements. One of these is a +/- 1 per cent of that year's allowed revenue informed by the results of a survey (though likely to involve other supporting information to validate and measure related aspects of performance). The other is a discretionary reward for exceptional outcomes being generated through stakeholder engagement (0.5 per cent of the same measure – upside only).

1.11. National Grid has recent direct experience of surveying its customers and all the companies have carried out a good deal of stakeholder engagement as part of RIIO-T1. However, in all cases the development of a survey and supporting information that we and the companies can be confident provides a realistic appraisal of their performance is a challenge. The companies have worked together on this.

1.12. This part of the Appendix provides an update to stakeholders on progress made and the next steps.

1.13. We intend this output and incentive to reflect the whole range of the companies' performance including particularly aspects that are not easy to define in the other outputs and incentives. This means that we want to understand the views of all customers and stakeholders across the whole range of activities that the company takes part in. However, these two dimensions necessarily differ between National Grid's TOs and the Scottish TOs because of their different roles.

1.14. NGET and NGGT will employ a survey of the views of customers and stakeholders. This will include customers such as developers seeking connection and stakeholders such as interested parties about the development of transmission infrastructure. SPTL's and SHETL's survey will be a stakeholder survey. This recognises that in many activities National Grid as SO has the direct customer interface. Some of SPTL's and SHETL's stakeholder respondents will coincide with NGET customers.

1.15. NGET and NGGT's previous survey experience provides greater certainty about the likely range of responses to normal levels of performance. This is likely to allow the full incentive to be applied with a robust baseline from 1 April 2013. To make this possible we will consult on the proposed model and baseline with our Autumn licence modifications consultation.

1.16. The stakeholder element of NGET/NGGT's survey and SPTL's and SHETL's surveys which are almost wholly reliant on stakeholder responses, means potentially greater variability of response and uncertainty about the survey results (at least initially). The companies are carrying out preparatory work in this area with stakeholders. This will help understand what matters to them and provide more information about the survey results.

In this area supporting information separate to the quantitative survey results will be important and this is another area being progressed. At present our expectation is that we will be able to consult on proposals covering each TO to start in 1 April 2013 although at this stage it seems likely that the incentive will need to be dampened at least initially. It also seems likely that the provisions may need to be updated