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Electricity Distribution Price Control Review Initial Proposals - Incentives and Obligations

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Target audience: Consumers and their representatives, distribution network operators (DNOs), independent distribution network operators (IDNOs), owners and operators of distributed energy schemes, generators, transmission owners, electricity suppliers and other interested parties.

Overview:

Ofgem regulates the 14 DNOs, who are all regional monopolies to protect the interests of current and future consumers. We design a price control every five years. This sets the total revenues that each DNO can collect from customers at a level that allows an efficient business to finance their activities. We also place incentives on DNOs to innovate and find more efficient ways to provide an appropriate level of network capacity, security, reliability and quality of service.

The current price control expires on 31 March 2010 and Ofgem is now undertaking a Distribution Price Control Review (DPCR5) to set the controls for 2010-2015. This document should be read in conjunction with our Distribution Price Control Review Initial Proposals core document. This supplementary document sets out in greater detail the associated incentives and obligations of DPCR5.

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Context

This document is one of three more detailed, technical documents that accompany the DPCR5 Initial Proposals consultation. These documents explain the methodologies and rationale we have applied in arriving at our Initial Proposals and set out further detail. They are targeted at the DNOs and those stakeholders who require an in depth understanding of our proposals in some or all areas. We are consulting separately on the treatment of the costs associated with defined benefit pension schemes.

Initial Proposals outlines our current view of the maximum allowed revenues each DNO should be allowed to collect from customers between 2010 and 2015. We set out the behaviours and outputs customers want and expect from the DNOs over this period and the incentives and obligations we propose to use to achieve them. We will publish Final Proposals in late November 2009. If the DNOs accept them, the new arrangements will come into effect on 1 April 2010. If they do not we will refer the matter to the Competition Commission.

In December 2008, we published our Policy Paper. The document focussed on three themes, environment, customers and networks and set out our views on the overall approach to setting the control, the methodologies we propose to use, the structure of incentives and the new regulatory arrangements we think are appropriate.

In May 2009, we published our Methodology and Initial Results document. This sets out details of our cost assessment methodology and the initial results for a number of core cost areas. We explained that we would continue to develop our work in this area as we worked towards Initial Proposals.

As we develop Final Proposals for late November 2009 we will continue to work closely with the RPI-X@20 team, who are considering our current approach to regulating GB's energy networks and developing recommendations for future policy. The RPI-X@20 team will publish its Emerging Thinking in November 2009.

Associated Documents

- Electricity distribution price control review. Initial Proposals. (92/09)
- Update letter of the DPCR5 process (151/08)
- Electricity distribution price control review. Initial consultation document (32/08)
- Electricity distribution price control review. Policy Paper (159/08)
- Electricity distribution price control review. Methodology and Initial Results Paper (47/09)
- Regulating energy networks for the future: RPI-X@20 Principles, Process and Issues (13/09)

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Summary

Introduction

1.1. The price control review provides us with an opportunity to review the entire regulatory framework to ensure that it encourages the type of behaviour that will be required from the DNOs over the next five year period. We have consulted extensively on the objectives for the DPCR5 period and have received wide ranging support for a regulatory framework that addresses three themes, as follows:

- Environment: encouraging DNOs to play a fuller role in helping to tackle climate change, both directly through managing their own carbon footprint and indirectly by facilitating new uses of the networks that are likely to arise as we move to a low carbon economy,
- Customers: encouraging all DNOs to pay more attention to all aspects of customer service. These include the quality of service provided by their call centres, the speed and cost of new connections as well as the number and length of any interruptions to customers' supply,
- Networks: encouraging DNOs to invest efficiently, so that they provide secure and reliable supply at an efficient cost while ensuring that any new assets they install meet customers' needs into the future and, where possible, take into account how those needs might change.

1.2. In order to ensure that the regulatory framework promotes these behaviours from the DNOs we are proposing a range of new and revised incentives and obligations. This document provides the detail of the range of incentives and obligations that we are proposing through DPCR5 to encourage these behaviours. The table below provides an overview of the range of incentives and obligations.

Document Structure

1.3. The document is structured with each chapter setting out a new or revised obligation or incentive proposed as part of DPCR5. The chapter covers the purpose of the incentive, the key issues that we have considered in its development and then the detail of the proposal itself.

1.4. The appendices to this document set out further detail, and where appropriate impact assessments on these mechanisms and incentives. The appendices also include a high level summary of our approach to legal drafting for DPCR5, and a summary of responses from the December Policy Paper and May Methodology and Initial Results paper.

Behaviours	Mechanisms
Environment	
Undertake the innovation DNOs need to transition to a low carbon economy	New low carbon networks fund
Assist the connection of DG by providing DG with the information they need to connect and use the network	Incentives Standards of service Mandatory information provision
Manage and reduce transmission exit charges	Hybrid mechanism: pass-through with incentive
Reduce network losses	Revised incentive based on an output mechanism coupled with ex-ante funding
Reduce DNOs' business carbon footprint	Comparative performance league tables
Improve visual amenity where customers are willing to pay	Allowance for undergrounding in Areas of Outstanding Natural Beauty
Customers	
Seek to improve customer satisfaction across all services and for all customer categories	Broad measure: customer satisfaction, complaint handling and stakeholder engagement Guaranteed standards
Facilitate competition in connections	Allow margin for competitive connections
Improve service to customers seeking a demand or generator connection	Revised Standards of Performance Overarching licence condition
Be proactive and innovative in assisting with all stakeholders, and particularly worst served and vulnerable customers	Customer service reward scheme Worst served customer mechanism
Provide appropriate and efficient security of supply to all customers, in line with their willingness to pay	Interruptions incentives Customer service reward scheme
Networks	
Make business decisions based on what is right for the network	Equalisation of incentives for operating and capital costs
Undertake technical innovation and trial new asset management techniques	Continuation of IFI mechanism
Clarify what customers receive for their bill. Understand impact on network health and utilisation from any over/underspend	Output measures addressing asset condition ('Health Indices') and substation utilisation ('Load Indices')

1. Low carbon networks fund

Chapter Summary

This chapter sets out our policy proposals for a low carbon networks fund to encourage the DNOs to innovate to deliver the networks we will need for a low carbon economy. These proposals comprise a mechanism with both risk protection and significant reward to encourage the DNOs to participate. We also set out our proposals to mitigate the consumer risk and manage the administrative overhead.

Question 1: Do you agree with our proposals for a new mechanism to encourage DNOs to develop their role in the low carbon economy?
Question 2: In particular, do you agree with:
- ➔ the proposed size of the funding?
- ➔ the proposals for discretionary rewards?
- ➔ the two tier structure?
- ➔ the proposals to recover tier 2 costs over a five year period?
- ➔ the measures to mitigate DNO risk?

Question 3: Do you think we have adequately balanced the DNOs and customer risk?
Question 4: Do you agree that DNOs should be allowed to use any benefits accrued from the project to cover their contribution (minimum 10 per cent) to the project funding, or should the direct benefits be subtracted from the project cost before the DNO contribution is calculated, so that the DNO always contributes at least 10 per cent of the project cost?
Question 5: Do you agree that the funding should be provided on a use it or lose it basis, and should the tier 2 funding be ramped over the period?
Question 6: Do you consider that this mechanism will achieve our stated objectives?

Purpose of fund

1.1. Our objective in DPCR5 is to encourage the DNOs to use the DPCR5 period to prepare for the role they will have to play as GB moves to a low carbon economy. We propose to establish a low carbon networks fund (LCN fund) to enable DNOs to run trials so that they can identify the new technology, commercial and network operating arrangements they should put in place to a) respond to the new network requirements that arise from a low carbon economy and b) encourage low carbon solutions such as demand side management.

Key issues in development

1.2. At DPCR4 we recognised that the RPI-X form of regulation did not appear to provide appropriate incentives on DNOs to fund sufficient research and development (R&D) activities. At that time we were concerned that scaling back in R&D expenditure may limit the scale and scope of longer term improvements in efficiency and customer service within the networks. Our response was to create the Innovation Funding Incentive (IFI) – a limited allocation of funds to each DNO (around £90m over the five years across all DNOs) to part fund the cost of research

and development, provided on a use it or lose it basis. DNOs have generally been successful in spending their IFI allocation and it has helped to fund, amongst other things, improvements to asset management techniques and network operations[1].

1.3. The scale of the challenge at DPCR5 is much greater than at DPCR4. If companies do not look to take on new ideas this may not just impact on network efficiency or the quality of service but could slow down the speed with which low carbon technologies (such as distributed generation, heat pumps or electric vehicles) can connect to the network, and stand in the way of us achieving our climate change targets. Feedback from the companies suggests that the networks in their current state can, without profound change, accommodate the developments that are expected up to 2015. The challenge is to make maximum use of the next few years to learn what technologies, combination of engineering and communication technologies, network operating arrangements and commercial arrangements the companies should put in place to ensure they play the maximum role possible in helping to reduce carbon emissions to tackle climate change.

1.4. In the December Policy Paper[2] we identified three ways in which we could encourage DNOs to acquire the learning they need if they are not to stand in the way of our climate change targets. We looked at giving the companies an up-front allowance to fund trials, funding approved projects during DPCR5 and providing an ex post allowance or penalty at the end of DPCR5 depending on how well each company has done in undertaking the learning required. The consultation responses supported the need for a mechanism to be introduced – with most respondents considering that a mechanism that enabled and encouraged the DNOs to develop and react to the changing environment during DPCR5 was most appropriate.

1.5. We propose to make available £500m over the five year period to fund activities that will assist the DNOs to identify the changes they need to make in response to and in support of moves to the low carbon economy. We have looked at the cost of the type and scale of project we hope to encourage (such as the Smart City project in Boulder, Colorado[3]) and we consider that this amount of funding will enable a number of flagship projects to be trialled on GB distribution networks which all network owners will be able to learn from. Due to the materiality of our proposals we have included a detailed Impact Assessment in Appendix 6.

1.6. We have discussed and developed our proposals with the assistance of the Environment Working Group and Ofgem's Consumer Challenge Group. We have also maintained close contact with the Department of Energy and Climate Change (DECC), given the government's proposals for encouraging the low carbon economy

[1] Summaries of IFI projects can be found on our website at http://www.ofgem.gov.uk/Networks/Techn/NetwrkSupp/Innovat/ifi/Pages/ifi.aspx
[2] Electricity Distribution Price Control Review Policy Paper (159/08)
[3] More details can be found at http://smartgridcity.xcelenergy.com/index.asp

(which are detailed in The UK Low Carbon Transition Plan; The Low Carbon Industrial Strategy and The Renewable Energy Strategy[4] published on 15 July 2009).

1.7. The future of energy networks is uncertain – we do not know the impact that the various government policies and initiatives will have – so we have tried to design the mechanism to cover a wide range of potential innovation types and outcomes that could be explored during DPCR5. This has meant that we are unable to define outputs or direct relationships between funding, projects and rewards, since the creation of these types of structures would restrict the flexibility of the mechanism. These are issues that are being considered (amongst others) by the Ofgem RPI-X@20 team, who are exploring longer term options to encourage network operators to challenge conventional thinking.

Detail of our proposal

1.8. Our proposal is that the LCN fund will comprise a total of £500m over DPCR5 to fund the trialling of innovative technological or commercial arrangements intended to solve problems on networks relating to sustainable development. The participating DNO will need to demonstrate that:

- the project seeks to address a network issue that may arise from the move to a low carbon economy, or an opportunity the DNO may have to speed up the adoption of low carbon or energy saving technologies,
- technology employed in the project has not been trialled on GB networks and that there is insufficient information from trials elsewhere to merit the project,
- there is insufficient information to show the project is likely to bring benefits that outweigh the costs,
- there are arrangements in place to ensure the learning from the project will be captured and disseminated widely.

1.9. In order to ensure DNO commitment and efficiency of delivery, the LCN fund will only fund a maximum of 90 per cent of the project cost, with the DNO funding the remaining 10 per cent. Where the DNO identifies direct project benefits that will arise from the trial, that the DNO funding will form a greater percentage of the project cost.

1.10. We propose that £100m from this fund will be available over the five years to provide a discretionary reward to those projects which bring particular value to the

[4] Available for download at http://www.decc.gov.uk/en/content/cms/publications/lc_trans_plan/lc_trans_plan.aspx

challenge of preparing the networks for the low carbon economy. This provides an opportunity for shareholder out-performance from innovation, which will contribute to the cost and return on the DNO funded element of the project. It should also encourage senior managers within the DNOs to dedicate the time and attention required to develop well designed projects. In making this reward, amongst others factors we will look at the extent to which the project has involved the DNO reaching beyond the energy industry to form new relationships and to learn from experience from other sectors.

1.11. We consider that it is important that the reward is not restricted to 'successful' projects, since valuable learning could be obtained and disseminated from projects that do not deliver their intended benefits - where for example technologies are shown not to be reliable and/or not to deliver the expected benefits.

1.12. We recognise that innovation and trialling involves an element of risk in that the costs, benefits and impacts of the project are not fully understood. This is one of the key reasons why DNOs may not undertake these projects under the normal regulatory framework. We therefore have included mechanisms to mitigate this risk, in addition to the discretionary reward described above. These mechanisms are described in more detail later in this section.

1.13. We consider it vital that the DNOs work with partners on these projects. It is likely that as we move to a low carbon economy the use of the distribution network will become more integrated with other parts of the electricity market and therefore value from potential projects is likely to flow to multiple parties in the supply chain. It is also possible that DNOs can benefit from lessons learned and experiences outside the energy sector (i.e. telecoms) and in which case partnerships could also be with non energy focussed entities.

1.14. We will strongly encourage the DNOs to seek additional funding from other sources such as specialist funds or commercial entities, in order to fully leverage the funding we are providing.

1.15. One of the key purposes of the fund is to ensure that the DNOs learn and develop their thinking, processes and investment strategies to ensure their network is capable of operating effectively as we move to a low carbon economy. The LCN fund provides a significant opportunity in DPCR5 for the DNOs and we expect all DNOs to participate, either through proposing projects and/or implementing the lessons learned. We therefore propose that any DNOs that do not submit proposals to the LCN fund during DPCR5, or do not adopt the learning from projects undertaken by other DNOs will be constrained in their ability to obtain funding for catch up (i.e. work that could have been avoided by utilising the LCN fund or lessons learned from funded projects) in DPCR6.

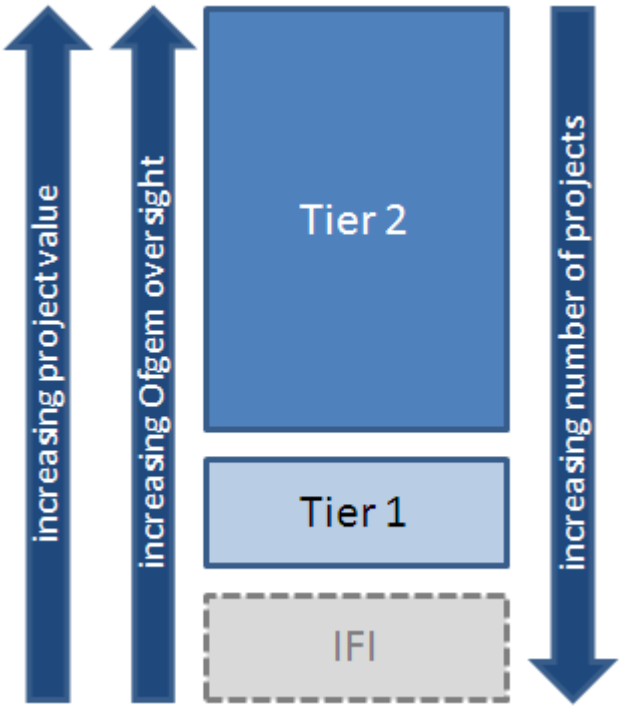
1.16. We recognise that the operation and management of this mechanism could be time consuming and resource intensive, and we have designed the mechanism to balance oversight and customer risk. We are therefore proposing a two tier mechanism (totalling £400m over the five years) to fund low carbon trials on the

DNO networks. The first tier is a relatively small fixed annual allowance per DNO enabling them to undertake smaller, local initiatives, and to react quickly to circumstances arising. Since the amount is limited, it requires relatively little Ofgem oversight. The second tier comprises a significant central fund, funding a small number of 'flagship' projects, with much more oversight by Ofgem.

1.17. This will be in addition to the existing IFI which will be retained to focus on technical R&D aimed at improving the network business performance (the IFI is described in detail in Chapter 18).

1.18. The LCN fund structure is illustrated in figure 1.1.

Figure 1.1 – Illustration of LCN fund structure



Tier 1

1.19. Tier 1 funding of £16m per year will be allocated between all DNOs (according to their customer numbers) on an annual basis from the beginning of DPCR5. This company allocation will allow each DNO, with minimum bureaucracy, to undertake several small scale projects that address issues specific to their own network.

1.20. This value should be large enough to fund a reasonable number of smaller projects, but small enough to allow minimal Ofgem review, therefore enabling a higher number of projects to be undertaken with relatively quick initiation time.

1.21. Projects will have to conform to detailed guidelines focussed on developing sustainability and the low carbon future, but also designed to prevent the DNO from using the funds for normal business activities. Ofgem will not approve the projects against these guidelines, rather the DNOs will self audit their projects. However, if we subsequently discover (either during the project implementation or afterwards) that the project did not conform to the guidelines, we will reserve the right to disallow the costs.

1.22. We propose that the DNOs will register the proposals with Ofgem (this can take place at any time during the year) so that we can confirm that there is no unnecessary duplication of trials across DNOs. Once we have confirmed non-duplication the DNO will be able to commence the project.

1.23. We propose that customers will fund a maximum of 90 per cent of the cost tier 1 projects, and less where projects are likely to provide some commercial benefit to the DNO (for example improved efficiency or performance under the interruptions incentive). This funding will be allocated annually on a use it or lose it basis.

1.24. The DNO will book the actual costs of the project (after they have been incurred), capped at the annual allowance across all their projects. These costs will be treated as a revenue driver, and will be combined as a portfolio of projects and depreciated over five years, attracting the same cost of capital as the remainder of the business.

Tier 2

1.25. We propose the tier 2 funding to be a significant amount comprising £64m p.a. to encourage a small number of significant 'flagship' projects (we anticipate less than 20 over DPCR5).

1.26. Tier 2 will not be allocated to individual companies but will be funded centrally, with DNOs competing for funding. This means that all DNOs will contribute a share of each project's cost. We have chosen this central mechanism to enable the leverage of funds across DNOs (thereby affording larger projects) and to create competition between DNOs for the funds (to encourage DNOs to participate and submit high quality proposals). We recognise that this tier will require more Ofgem involvement to assess proposals, decide which projects receive funding and to review projects during and after implementation.

1.27. As for tier 1 we propose projects would be a maximum of 90 per cent customer funded, and expect that for some projects there will be anticipated benefits which will mean that the DNO will fund a greater percentage.

1.28. The tier 2 process will comprise an annual call for proposals, followed by detailed scrutiny of submissions by Ofgem and an expert panel. Once the project (or projects) has been selected for a particular year, the shortfall of costs that consumers need to fund will again be depreciated over five years, attracting the same cost of capital as the remainder of the business. The revenue required to fund

these costs will then be shared across all DNOs rather than the individual DNO increasing their allowed revenue to fund this cost. All DNOs' allowed revenue terms within their licence will be amended through a direction to fund their share of the current year project funding. These additional funds will then be transferred directly to the implementing DNO. Relative DNO funding will be attributed according to customer numbers.

1.29. In recognition of the substantial amounts that could be required for tier 2 projects, once a proposal has been approved, Ofgem will require the DNOs to transfer the required funds (for the first year of the project) to the implementing DNO as work begins. The tier 2 annual call for proposals will be scheduled to coordinate with the DNOs' biannual charging updates.

1.30. We do not expect the annual limit of the tier 2 fund to be reached until the latter part of DPCR5 because it will take some time to develop suitable projects. Although we intend the annual funding to be on a use it or lose it basis, we are considering ramping the annual project limit (in a straight line) through the period, from 75 per cent in the first year to 125 per cent in the final year. We have also encouraged the DNOs to initiate the process prior to DPCR5 by including a facility within the Forecast Business Plan Questionnaire (FBPQ) for them to submit potential projects for review and potential ex ante funding. Several potential projects have been identified (albeit they are still at the early stages of development) and we are working with the DNOs to develop the business cases for these projects as part of DPCR5.

1.31. The Government and Ofgem have set up a cross industry group under the Electricity Network Strategy Group (ENSG[5]), to take forward a study on smart grids in a UK context. We intend that this initiative will generate questions and identify areas of interest that the fund could be used to investigate.

Project criteria

1.32. There will be no unwarranted duplication of projects, and no overlap of funds with other parts of settlement (the LCN fund project costs will be ring-fenced). We will also ensure that there is no overlap between the LCN fund and IFI - and will write the guidance to ensure this.

1.33. Eligible projects will have identified potential benefits that are greater than the costs, with a clear and detailed justification as part of the project proposal.

[5] http://www.ensg.gov.uk/

1.34. Funding will be dependent on the DNO having clear arrangements in place for capturing the lessons of the project and disseminating these to other DNOs and other interested parties effectively.

1.35. Tier 2 proposals will be limited to two per DNO group per year.

Risk

1.36. We have two mechanisms to mitigate trialling risk in addition to the discretionary reward described above. There will be some protection (we are considering 50 per cent) against non-fulfilment of the direct benefits identified in the proposal (on which the DNO funding element was based). In addition, for tier 2 if the project costs are greater than anticipated, the DNO will submit actual costs to Ofgem, with a detailed justification of the additional funding they require. It is clearly in the DNO's best interest to notify us as early as possible that this is happening, to ensure that the additional funding is likely before proceeding with the project. There may be situations where it is better for the project to be cancelled than to provide additional funding.

1.37. The risk elements and their treatment are summarised in table 1.1 below:

Table 1.1 - Summary of the treatment of different trialling risk elements within the LCN fund

Cost elements	Risk	Our approach	DNO impact	Consumer impact
Project cost	Project costs more than proposed	If satisfactory justification, excess funded through LCN fund	None	Pay additional project cost
	Project costs less than proposed	DNO refunds excess		
Direct benefits	Benefits less than identified	Funding shortfall shared between DNO and LCN fund	Pay 50 per cent of shortfall	Pay 50 per cent of shortfall
	Benefits more than identified	No action	Receive additional benefit value	None

1.38. We are proposing that a DNO must contribute at minimum 10 per cent of the project costs, but that any benefits that the DNO achieves from the project ('direct benefits') can offset this contribution. If direct benefits of more than 10 per cent of the project cost are identified up front by the DNO the LCN fund will fund less than 90 per cent of the project cost. As shown in table 1.1 we are also proposing to

partially protect the DNO from benefits being lower than expected by sharing the cost of any shortfall between the fund and the DNO.

1.39. We recognise that these proposals provide significant risk protection to the DNOs, which we think is appropriate to incentivise them to undertake what are higher risk activities than their normal 'business as usual'. We invite comments on whether this risk protection is appropriate or whether the direct benefits should be subtracted from the project cost before the DNO contribution is calculated, so that the DNO always contributes 10 per cent of the project cost.

Oversight and review

1.40. As described, tier 1 will have very light touch oversight whilst tier 2, with much more significant funding, will be monitored closely by Ofgem. All project submissions will be published, and will therefore be subject to external scrutiny. This will encourage the DNOs to produce high quality proposals.

1.41. Ofgem will conduct regular reviews of ongoing tier 2 projects, with the option for either party to stop the project if it is not succeeding. If a project is halted, any unspent funds will be returned to customers.

1.42. On completion of the project, the DNO will produce a detailed project report for publication and will implement the identified measures to share the project learning with the other DNOs.

Collaboration and third party funding

1.43. As stated above, we expect DNOs to work collaboratively on projects funded through the LCN fund. However we propose that third parties will not be able to apply directly to Ofgem for funding through the mechanism, since the purpose of any project is trialling on the DNO network. We therefore expect a third party to partner with a DNO (on whose network the project would be trialled), with the DNO then proposing and leading the project.

1.44. We anticipate that there could be a broad range of potential partners, from equipment suppliers, IDNOs to retailers partnering to develop new retail/ESCO type services.

1.45. We recognise that successful projects may create valuable intellectual property (IP) rights. These IP rights could have value and, for example, be used to generate export earnings if sold internationally. But GB customers will have funded the majority of the costs of these trials. So we think that the IP owner should provide free licences to all GB network licensees. And any IP earnings should be shared with GB customers. Our initial view is that the split of any revenues should match the funding split with companies keeping 10 per cent and 90 per cent flowing to customers. We would need to create a mechanism for these to be given back to all GB customers.

Registered Power Zone (RPZ)

1.46. As stated in the December Policy Paper we intend to discontinue the Registered Power Zone (RPZ) mechanism, since the innovative DG connection projects that it was created to fund can be funded in DPCR5 under the LCN fund. We propose to maintain the current deadlines at March 2010 for RPZ registration and March 2012 for commissioning.

2. Provision of Information to Distributed Generation

Chapter Summary

This chapter sets out our policy proposals for the provision of information to DG customers. We propose to introduce specific licence obligations to improve certain aspects of the customer's experience in terms of the user-friendliness of connection information as well as the level of service received. We also propose to introduce a licence condition that requires DNOs to submit to the Authority for approval a broader information strategy which aims to cover the information gaps left unaddressed by specific licence obligations.

Question 1: Have we correctly captured the customer's information needs?
Question 2: Do you agree with the scope of proposed licence obligations?
Question 3: Do you agree with our proposal to request DNOs to commit to a strategy for information provision?

Purpose of obligation

2.1. The feedback we received suggests that customers wanting to connect DG can find it difficult to gather and understand the information they need, and that DNOs are perceived to be unhelpful. This issue is all the more relevant to DPCR5 in light of the substantial levels of forecast distributed generation (DG) connections and the different levels of knowledge and experience (from merchant generators to residents installing home generation) of potential interested customers. Our proposal aims to improve the availability of useful and reliable information (or awareness of it) for all interested parties, which is a key factor to promote DG growth.

2.2. The purpose of our proposal is to enable distributed generators of any size to:

- obtain easy access to information (targeted to user type) explaining the connection process, issues and likely costs,
- obtain easy access (e.g. via the internet) to network data so as to gain a better understanding of connection opportunities,
- receive a budget estimate in an agreed timescale, and
- receive an offer of connection in an agreed timescale, with costs broken down and explained.

2.3. This proposal links closely to our proposals on connections more generally and the broader customer service measure discussed later in Chapters 10 and 11.

Key issues in development

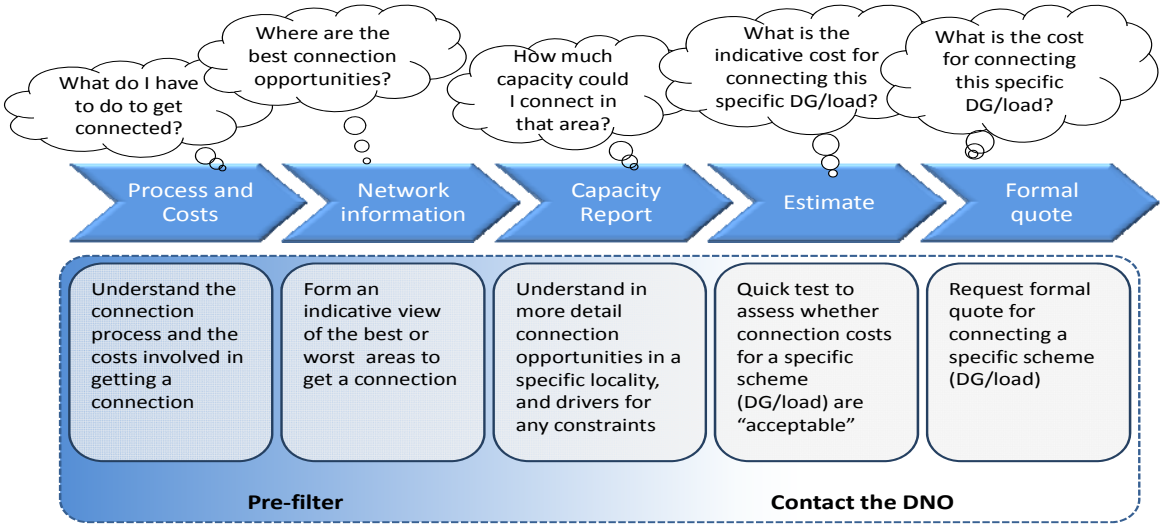
2.4. The work conducted by Ofgem and BERR showed that an important barrier to DG connection is the lack of information, advice and guidance on connection options. We understand that many inexperienced parties find it difficult to understand the connection process, where the best connection opportunities are (i.e. locations where

DG would help relieving distribution constraints or where there is spare network capacity), how to access available information, and what determines connection costs. It is important that interested parties can rely on easily accessible and tailored information at each stage of their decision process.

2.5. To make this information available is an increasingly crucial challenge for DPCR5, when around 10GW of DG is forecasted to connect, and the government's strategy for Feed-In Tariff may result in many diverse requests by a large number of customers. When they consider processes and network information to be made available, DNOs need to take account of the information requirements of these customers, many of which could well be unfamiliar with the energy industry (such as domestic micro-generators and communities that invested in low-carbon technology).

2.6. Figure 2.1 shows our understanding of information requirements at different stages of the DG connection decision process, and the data currently available to customers. We consider that in the initial stages of project development customers look for information about the connection process and high level data or information about the existing network. The customer should not need to make direct contact with the DNO to obtain this information. At a subsequent stage, we consider that customers will contact the DNO for information services, currently in the form of a capacity report, budget estimates or formal quotes.

Figure 2.1 - Information requirements at different stages of the DG connection decision process



2.7. Going forward, it is important that the provision of information at the initial stage is effective ("pre-filter", in the figure), so as to relieve the burden on DNOs for explorative informal queries and the likelihood of abortive connection requests.

2.8. The December Policy Paper[6] invited views on the information required by existing and potential users of the network, in particular parties seeking to connect. We also consulted on the appropriateness of the set of actions Ofgem proposed to mandate on DNOs in relation to provision of more data and information to customers, and the development of a series of tools and documents to achieve this.

2.9. Feedback from the previous consultation stages highlighted that there is a general lack of awareness among customers about the information that is already available, so that improved accessibility and visibility are desirable. Feedback also showed that the Long-Term Development Statement (LTDS) and capacity reports are highly technical and targeted towards larger scale, technically literate users - and are therefore not suitable for customers with less technical knowledge and requirements.

2.10. Uncertainties around future electricity scenarios make it difficult to identify the types of customers who may be looking to connect to the network and to anticipate their informational needs. To better inform our proposals, we engaged with users' representatives (such as the Combined Heat and Power Association and the Renewable Energy Association) and we have taken their feedback into account in developing our proposals.

2.11. In forming these proposals we have carefully considered the value that customers can derive from additional information and have sought to ensure that the requirements we place on DNOs are proportionate. Feedback from the DNOs indicated that the publication of more information and the development of new interactive tools, especially for lower voltage levels, can be very expensive. For example, they argue this is the case for interactive costing tools or maps of available capacity at HV.

2.12. In light of these uncertainties, we have set out specific obligations only where there is a clear case for regulatory intervention. We consider it appropriate to give DNOs discretion over how they determine their overall approach to information provision. This will allow them to look for the most efficient way of providing the information required at each voltage level.

Detail of proposals

2.13. We propose that:

[6] Electricity Distribution Price Control Review Policy Paper (159/08)

- we will set out specific obligations and standards of service for information provision, and
- we will introduce a licence obligation requiring DNOs to submit to the Authority for approval an information strategy that will detail how they plan to ensure that all customers receive an adequate level of information and a satisfactory standard of service.

2.14. In the following subsections we discuss these proposals in more detail.

DG Connection Guide

2.15. We propose to introduce a licence obligation that requires the DNOs to collectively provide in a form approved by the Authority (and updated annually) a set of documents (each one targeted to a different customer group), to be called the "DG Connections Guide", which provides guidance on the connection process for DG.

2.16. In terms of accessibility, we expect as a minimum that this document will be freely available to the public on the DNOs' websites.

2.17. We note that DNOs developed a guidance document[7] in the past, but this is now outdated and is not targeted to different types and sizes of generators. We understand that the DNOs plan to start working together via the ENA on this guide in the summer and we encourage rapid progress to be made. We will continue to work with the DNOs to agree the final scope of the document. We expect DNOs to do all they can to get input from other relevant stakeholders into this process.

Long-Term Development Statement

2.18. We propose that the LTDS remains a technical document, limited in scope to the EHV network. We are not convinced that it would be appropriate to mandate the extension of LTDS to the 11kV network, but as we will discuss below we invite DNOs to provide network information for customers connecting at lower voltage levels in simpler, alternative forms.

[7] "Technical guide to the connexion of generation to the distribution network", available at: http://www.energynetworks.org/engineering/pdfs/DG/FES_00318_v040211.pdf

2.19. We will consider issuing directions for the implementation of minor revisions to the current form of statement[8] and consider that a joint users/DNO workshop is the best way forward to capture users' requirements.

Standards of performance

2.20. We propose to introduce formal standards of performance for the provision of cost information on an informal basis (budget estimates) as well as for the provision of connection offers. There is ongoing discussion within the Electricity Connections Steering Group (ECSG). For further details see Chapter 10 on connections incentives.

Strategy for information provision

2.21. We recognise that there may be gaps that are not covered by specific obligations, for example availability of high-level network information for lower voltage levels, and we consider that users will benefit from DNOs adopting an holistic approach to information provision.

2.22. We expect the DNOs to carefully think about their broader strategy for information provision. The strategy shall set out the actions and tools DNOs are committed to implement in order to support their customers during the connection decision process. In particular, this wider information strategy shall fill the gaps not covered by specific obligations. We will continue to work with DNOs over the summer to ensure that they will be in a position to have an information strategy in place by April 2010.

2.23. This strategy aims to incentivise DNOs to think carefully about who their customers are likely to be and which information requirements they may have. It also provides DNOs the flexibility required to focus their resources to meet the needs of their specific mix of customers. Continued stakeholders engagement will constitute a critical element for the success of this strategy.

2.24. We consider this strategy to be very important to focus DNOs resources on areas they consider to be of most value to customers. There was agreement at the EWG that this is a proportionate and reasonable proposal, and we expect DNOs to start working on the development of their strategy without delays.

2.25. To support this, we propose to introduce a licence obligation which requires the DNOs to deliver and have approved by us this overall strategy for information provision.

[8] The current form of statement is available at: http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=5&refer=Networks/Techn/NetwrkSupp/LongTermDS

2.26. We intend to assess the success of DNOs' strategy through the broad measure of customer satisfaction that is being developed[9]. Results from the broad measure of satisfaction should pick up where a DNO has an inappropriate strategy or fails to keep it under review.

[9] For further details, please see chapter 11

3. Distributed generation incentive framework

Chapter Summary

This chapter sets out our proposals for retaining the existing distributed generation incentive.

Question 1: Do you agree with our proposal to retain the DG incentive framework largely unchanged from DPCR4, and do you have any comments on the detail of our proposals?

Purpose of the incentive

3.1. The DNOs have forecast that more than 10GW of generation will connect to their network over the next five year period (compared with 2GW that will be connected during DPCR4). The purpose of the distributed generation (DG) incentive framework (introduced at the beginning of DPCR4) is to encourage DNOs to undertake the investment required to facilitate these distributed generation connections (and generally be proactive and positive in responding to connection requests) and encourage DNOs to invest efficiently and economically.

3.2. We propose to retain the current framework for DPCR5 with a revised DG incentive value to reflect current circumstances. We recognise that there is significant uncertainty around the volume of DG that will connect in DPCR5, its generation type, location and voltage, all of which make it very difficult to anticipate the cost of connecting the DG to the networks. We want the DPCR5 DG incentive to ensure that there is still a strong incentive on DNOs to connect DG, and protect them from the risk of increased connection costs DG while making sure that customers do not pay more than is required. Our proposed DG incentive value for DPCR5 is set so that if much more DG connects than is anticipated or it costs more than forecast, the DNO allowed revenues will flex and there should be no regulatory barrier to the DG connecting.

Key issues in development

3.3. In DPCR4 we created the DG incentive in recognition of the targets set by government for the levels of renewable generation and combined heat and power (CHP) to be installed by 2010.

3.4. In the DPCR5 Initial Consultation[10] we recognised that there was a perception that the DG incentive had not worked as well as expected since the volume of DG connecting in DPCR4 was significantly less than forecast. However the consensus amongst respondents was that thae low volume of DG connections was predominantly a result of external factors affecting the commercial attractiveness of DG investment and did not reflect any problems with the DG incentive mechanism.

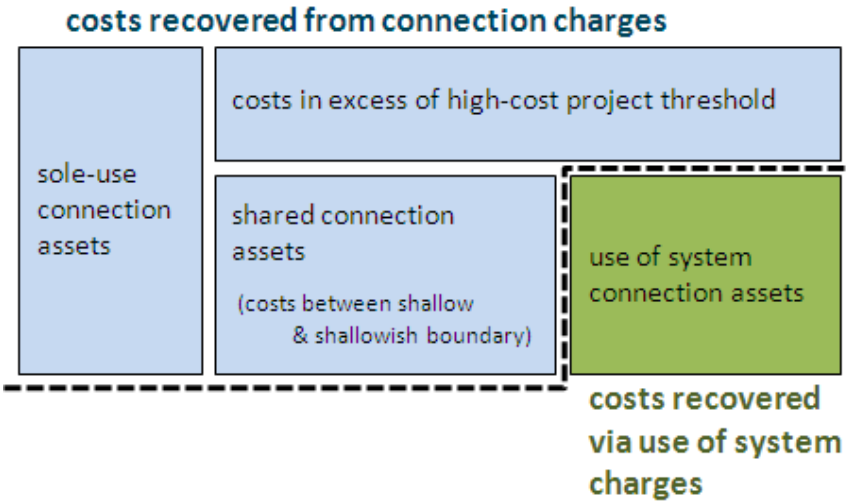
3.5. We therefore signalled our intent in the December Policy Paper[11] to retain the current incentive framework.

3.6. The framework was initially developed in DPCR4 assuming a shallow connection boundary for DG (where the DG operator pays directly for sole-use connection assets in the connection charges and the DNO recovers the costs of all other connection assets via use of system charges). The boundary was then changed to a 'shallowish' connection boundary (where part of the cost of non-sole-use connection assets is apportioned to the DG operator and paid in the connection charges) prior to DPCR4 Initial Proposals. At the same time a 'high cost' project threshold was introduced with the costs above the threshold also being recovered via connection charges (the different cost elements are illustrated in figure 3.1).

3.7. The value of the DPCR4 DG incentive rate was assessed using information provided by DNOs assuming the shallow connection boundary. We discussed in the DPCR4 Initial Proposals[12] options to address the impact of the boundary change. Rather than adjust the DG incentive rate to cover the use of system assets only (which would have required a resubmission of DG forecast data by the DNOs followed by a recalculation of the incentive rates) we decided (following consultation) to retain the original DG incentive amount to cover the total shared costs but treat the connection charges paying for the shared connection assets as capital contribution towards the allowed revenue. This meant that high cost, shared and use of system connection asset costs were given an 80 per cent pass-through and the original incentive rate, while the connection charges to recover high cost and shared connection asset costs were treated as capital contributions. This is explained in more detail in the DPCR4 Initial Proposals.

[10] Electricity Distribution Price Control Review Initial consultation document (32/08)
[11] Electricity Distribution Price Control Review Policy Paper (159/08)
[12] Electricity Distribution Price Control Review; Appendix - Further details on the incentive schemes for distributed generation, innovation funding and registered power zones. June 2004 (145b/04)

Figure 3.1 – Illustration of the cost elements of DG connection assets



3.8. In the February and June 2009 Forecast Business Plan Questionnaires (FBPQs) we requested that DNOs submit forecasts of use of system connection assets required to connect DG over DPCR5. This means that the work-around described above is no longer required and the DG incentive value and pass through can both be based on the cost of use of system connection assets.

3.9. In the May Methodology and Initial Results Paper[13] we highlighted that the DG forecast capacity and cost was significantly less than that used to create the DPCR4 incentive, but that there is significant uncertainty around the forecasts for both the volume of DG capacity connecting and the cost of this connection. The forecasts for DG in the June 2009 FBPQ submissions were not significantly different to those contained in the February FBPQ, with a change of less than 4 per cent in the average unit cost of connection.

Detail of incentive

3.10. As is shown in table 3.1 below, the majority of elements within the DG incentive framework will remain unchanged for DPCR5.

[13] Electricity Distribution Price Control Review Methodology and Initial Results Paper (47/09)

Table 3.1 - Comparison of DG incentive framework for DPCR4 and DPCR5

Framework element	DPCR4	DPCR5
Pass-through	80 per cent (annuitized over 15 years)	80 per cent (annuitized over 15 years)
DG incentive value	£1.50/kW/yr for 15 years (£2.00/kW/yr for SSE Hydro)	£1.00[14]/kW/yr for 15 years
Cap and floor	Cap: two times allowed cost of capital Floor: allowed cost of debt	Cap: two times allowed cost of capital[15] Floor: allowed cost of debt[16]
O&M allowance	£1.00/kW/yr	£1.00/kW/yr
'High cost' projects	direct reinforcement costs in excess of £200/kW	direct reinforcement costs in excess of £200/kW
Network access	£0.002/kW/hour	£0.002/kW/hour

3.11. The broad characteristics of the DG incentive framework are that:

- the costs incurred by the DNOs to provide network access to distributed generation are given a partial pass-through treatment, and
- the DNOs are then given a further supplementary £/kW revenue driver (or incentive rate) to incentivise efficient connection of distributed generation to the network.

Pass-through and incentive

3.12. The hybrid incentive framework combines incentives for efficiency (the incentive) with protection against cost uncertainty via a pass-through mechanism. We consider that the existing 80 per cent pass-through rate (annuitized over 15 years) is appropriate and therefore we propose to retain it for DPCR5.

3.13. As explained in sections 3.6 to 3.8 above, we propose to modify the pass-through formula to only consider use of system connection assets.

3.14. Similarly, we propose to calculate the DG incentive rate based on use of system connection assets only. The calculation still gives the DNOs an additional rate

[14] Final value will be dependent on our decision on the average allowed cost of capital for DPCR5.
[15] This is our current proposal, but will be reviewed as we develop our holistic approach to return on regulatory equity (RORE).
[16] This is our current proposal, but will be reviewed as we develop our holistic approach to RORE.

of return of 1 per cent above the current allowed cost of capital (as was used in DPCR4).

3.15. Due to the uncertainty surrounding the DG forecasts, we propose not to reduce the DG incentive rate. Using use of system connection assets only, the equivalent cost to that used in DPCR4 is £34/kW resulting in an incentive rate of £1/kW/year.It is important to note that the final value will dependent on our decision on the average allowed cost of capital for DPCR5.

3.16. Table 3.2 shows the broad range of average use of system connection costs, depending on whether costs are analysed by voltage level, generation type or average across the DNO. It is this range and the forecast uncertainty which drives our proposal to set the incentive at a level higher than the straight average across the DNOs.

Table 3.2 - Comparison of DG use of system connection costs

	average use of system capex connection cost (£/kW)	average voltage level use of system capex connection cost (£/kW)		average generation type use of system capex connection cost (£/kW)	
		maximum	minimum	maximu	minimum
CE NEDL	34.92	45.83	0.00	44.34	0.00
CE YEDL	23.50	9.78	0.00	64.89	0.00
CN East	14.63	12.09	0.00	16.27	0.00
CN West	13.38	8.00	0.00	15.93	0.00
EDFE EPN	0.00	0.00	0.00	0.00	0.00
EDFE LPN	0.00	0.00	0.00	0.00	0.00
EDFE SPN	0.00	0.00	0.00	0.00	0.00
ENW	4.23	0.91	0.01	99.21	0.00
SP Distribution	10.04	1.38	0.00	11.67	0.00
SP Manweb	18.36	13.13	0.04	121.25	0.00
SSE Hydro	12.33	0.83	0.00	38.46	0.00
SSE Southern	3.85	2.57	0.00	10.72	0.00
WPD SWales	2.40	1.41	0.00	10.00	0.00
WPD SWest	6.63	6.11	0.00	10.00	0.00

3.17. Since SSE Hydro's forecasts of DG use of system charges are not an outlier for DPCR5 we do not think SSE Hydro should receive a higher DG incentive rate. We therefore propose to use the same DG incentive rate for all DNOs in DPCR5.

3.18. The incentive rate will remain in place for assumed life of the DG connection asset, that is 15 years after the date of connection (this is unchanged from DPCR4).

Floor and cap on DNO returns

3.19. We propose to retain the current floor and cap on DNO returns to protect both the DNO and consumers against cost uncertainty. This means that the floor on the rate of return on use of system connection assets incurred to connect distributed generation in DPCR5 will be maintained at the allowed cost of debt and the cap will be maintained at two times the pre-tax equivalent of the allowed cost of capital. However, this is our initial proposal, which will be reviewed as we develop our holistic approach to return on regulatory equity (RORE) for Final Proposals. It should be noted that while the potential amounts earned under the DG incentive framework are significant for DG, they are likely to be a relatively small component of total RORE.

3.20. If, on a DNO's network, no use of system connection assets are required to connect DG over DPCR5, the DNO's DG incentive income over the period will be capped at £0. The DG incentive and pass through apply to use of system connection assets only (with costs being recovered via use of system charges). Therefore if no use of system assets have been incurred, no incentive should be provided. As for DPCR4, we will calculate the annual incentive based on the MW connected and then apply the cap at the end of the period.

O&M costs

3.21. In DPCR4 we established an allowance of £1/kW/year to cover the on-going operation and maintenance (O&M) costs of the DG connection assets (including sole-use). We stated that this would be reviewed at the next price control.

3.22. We have not seen any evidence to cause us to change this value, so we propose to retain the O&M allowance at £1/kW/year.

'High cost' projects

3.23. In DPCR4 we identified that there may be certain projects which, because they are of such unusually high cost or have requirements significantly in excess of the DNOs' design standards, are not adequately addressed within the parameters of the main DG incentive scheme. We therefore set a 'high cost' project threshold consisting of any projects with direct reinforcement costs in excess of £200/kW where the generator seeking connection (and giving rise to the costs) would fund the required additional investment through connection charges.

3.24. We consider this threshold to be still be appropriate for DPCR5, especially given the uncertainty around the DG forecasts, and therefore propose to maintain the 'high cost' project threshold at £200/kW.

DPCR4 and definition of relevant DG

3.25. We have applied the DPCR4 cap and floor (including a cap of £0 where no use of system connection assets have been required to connect DG over DPCR4) to the

15 year revenue streams for DG connected during DPCR4 and these streams will be set as DPCR5 allowances[17].

3.26. Therefore in DPCR5 the DG incentive and O&M allowance will only be calculated based on the MW of DG connecting after 1 April 2010. This means that the definition of relevant DG (the DG that is included within the incentive framework), which currently refers to DG connected after 1 April 2005 will be changed to refer to connection after 1 April 2010.

3.27. In the December Policy Paper we consulted on whether embedded transmission[18] should be treated as relevant DG. Respondents agreed that it should, and since the current definition of relevant DG does not preclude embedded transmission, no modification of the definition is required.

Recovery of allowed revenue

3.28. In DPCR4 the total revenue that a DNO can recover under the DG incentive scheme (the pass-through, DG incentive and O&M allowance) has been recovered from those generators connected to the distribution system after 1 April 2005.

3.29. Chapter 4 describes our proposals for the eligibility of generation connected pre-2005 to use of system charges in DPCR5.

3.30. For DPCR5 we intend to remove this restriction so that the total revenue that a DNO can recover under the DG incentive scheme can be combined with the allowed demand revenue to create a single charging pot. This combined allowed revenue will be allocated amongst the different categories of customers using the charging methodologies currently under development by the DNOs[19]. We note the structure of charges project will be delivered for implementation from 1 April 2010 for customers connected to the lower voltages of the network and from 1 April 2011 for customers connected at the highest voltage levels. Given these staggered project timelines we are currently working with the DNOs to understand the detailed mechanics over whether a single pot approach can be delivered across all voltage levels from 2010. Our preference is for a simple one pot approach where possible for the duration of

[17] We have calculated the allowances using the data supplied in the June 2009 FBPQ, including the forecast DG capacity connecting for 2009-10. We consider that DNOs will have sufficient visibility at this time to provide a robust forecast on which we can reasonably set the allowances.
[18] Embedded transmission is an offshore transmission network that is connected to the 132kV distribution networks onshore.
[19] For more detail on the charging methodologies see the Structure of Charges project documentation on the Distribution Charges area of our website at http://www.ofgem.gov.uk/Networks/ElecDist/Policy/DistChrgs/Pages/DistChrgs.aspx

the price control; final details on this will be confirmed in our final proposals document.

Incentives for ongoing network access

3.31. In DPCR4 we established a rebate of £0.002/kW/hour to be paid to generators connected at HV or above in the instances where the DNO has failed to provide access to the network. This was in order to ensure the DNOs have incentives to provide ongoing network access (availability) to generators once they have been connected.

3.32. We intend to maintain this incentive at the same amount for DPCR5.

3.33. We note that as in DPCR4, this is not intended to provide compensation for economic loss. It is also only expected to apply in circumstances where the generator has agreed on a standard connection.

4. Use of system charging to pre-2005 connected Distributed Generation

Chapter Summary

This chapter sets out our policy proposals for use of system charging to Distributed Generation (DG) connected before 1 April 2005. We propose that the blanket exemption from use of system charges should end on 31 March 2010. We envisage that pre-2005 connected DG will be brought into the current charging framework, in line with rights included in their existing contractual arrangements.

Question 1: Do you agree with our proposal to terminate the blanket exemption from use of system charges for pre-2005 connected DG, with effect from 1 April 2010?

Purpose

4.1. DNOs need to understand the contractual terms by which each distribution generation (DG) plant has connected to the network if they are to operate and develop their distribution system in an efficient, economic and non-discriminatory manner. This will become more important as we move to a low carbon future; DNOs will need to have more flexible networks, which will need to be more actively managed and responsive to changing power flows. For this to work properly DNOs will need to understand the contractual arrangements and rights of users connected to and using their network.

4.2. Our proposal aims to ensure that the charging framework developed by DNOs does not have the effect of unduly discriminating against (or in favour of) pre-2005 connected DG[20], and to prompt DNOs to rectify any arrangement that raises such concerns.

[20] Unless specified otherwise pre-2005 connected DG includes DG that connected or received a connection offer before 1 April 2005. Pre-2005 connected DG was charged under a deep connection policy, where the upfront connection charge included all the network costs for the lifetime of the connection (including the full cost of reinforcement and capitalised O&M). On 1 April 2005 a shallowish connection policy was implemented, so that the connecting DG pays the full cost of sole-use connection assets and a proportion (based on requirements) of shared-use reinforcements. The remaining proportion of reinforcement costs and O&M is recovered through use of system charges, currently levied on DG connected post-April 2005.

Key issues in development

4.3. In DPCR4 we stated that DNOs should recover allowed DG revenue from those generators connecting to the distribution system after 1 April 2005. We also made clear that the exemption for pre-2005 connected DG from on-going use of system charges (GDUoS) until April 2010 would be subject to review. During the last three years we have discussed the options for resolving this issue with DNOs and DG representatives[21].

4.4. In the December 2008 DPCR5 policy paper[22] we signalled our intent to remove the exemption from GDUoS for pre-2005 DG. In the same document, we proposed to mandate DNOs to develop revised arrangement for charging all DG on the same basis by 2012, irrespective of the connection date. Several respondents (including both DNOs and DG representatives) expressed concerns about the administrative costs involved and the difficulties in reconstructing the charging framework for older (in particular, pre-Vesting) DG connections.

4.5. We have carefully considered these representations and decided to amend our proposed approach to treatment of pre 2005 connected DG. Rather than mandate a set way forward at this time, we consider that it is important to focus on two key principles: 1) that DNOs can demonstrate that their current arrangements do not unduly discriminate between pre and post 2005 connected DG and 2) that DNOs are able to develop their networks in an economic and efficient manner by understanding the rights of parties to use their networks.

4.6. We have had several discussions with the DNOs on this matter through the Environmental Working Group. To gain a better understanding of the contractual framework for DG, in June 2009 we issued an information request to all DNOs under standard condition 6 of the electricity distribution licence. This required DNOs to complete a questionnaire on the contractual arrangements relating to each pre-2005 DG connection that is still energised as of 1 April 2009, with a generator capacity of 5MW (or MVA) or above, to which the DNO is a party (qualifying DG connection).

4.7. DNOs have brought to our attention that for older DG connections some information may not be available. We have asked the DNOs to detail under what contractual terms they consider this DG is operating on the system, and what rights they understand to be in place.

4.8. We have also asked DNOs to submit a summary of their findings, setting out the prevailing terms of connection and use of system and highlighting differences in pre-

[21] In particular, extensive discussion with DNOs and DG representatives took place as part of the Ofgem led Implementation Steering Group (ISG) for the delivery of the Structure of Charges project.
[22] Electricity Distribution Price Control Review Policy Paper (159/08)

2005 and post-2005 arrangements. The DNOs will need to confirm that there has been no undue discrimination in the connection terms given to different classes of DG. Where the DNO identifies potential undue discrimination, we have asked them to set out how they intend to rectify this matter.

4.9. We will publish an open letter in the autumn to update all stakeholders on the results of the information request. The outcome of this review will inform our policy proposals on this issue.

Details of the proposals

4.10. We consider that a cost-reflective use of system charging framework should apply on a common basis to all DG. Where existing contractual arrangements of pre-2005 DG require otherwise DNOs must seek to alter these arrangements to bring them into line or satisfy themselves that maintaining the alternative arrangements will not give rise to any undue discrimination. Where rights are clearly defined, it may be appropriate to pay compensation to reflect any change in rights when moving existing DG connections to the new arrangements.

4.11. We therefore propose that the blanket exemption for pre-2005 connected DG from GDUoS charges should end on 31 March 2010. We envisage that pre-2005 connected DG will be brought into the current charging framework, in line with rights included in their contractual arrangements. We expect that DG without defined rights will be subject to GDUoS charges from 1 April 2010. Any compensation to DG that may prove appropriate in moving them from their existing rights to the new arrangements will be considered at the time of Final Proposals.

4.12. For any compensation to be considered, there must be clear evidence that the generator actually holds the rights and that they are entitled to these rights in the future: our initial analysis suggests that these rights are time-limited, since we have found no evidence of evergreen rights in the sample of connection agreements we analysed.

4.13. We expect that DNOs will introduce written terms of contract where none currently exist, so that all DG schemes have clear, enforceable contracts in place. This will enable the DNOs to operate and develop their networks efficiently. For example, contractual certainty with existing customers is essential when a DNO is considering the most efficient options for connection requests by new customers or when considering options for active network management.

4.14. We expect that some pre-2005 connected embedded generators will volunteer to transfer to the new charging arrangements because the benefits they provide to

the system would be recognised under the cost-reflective charging framework being developed as part of the Structure of Charges project[23].

4.15. We also think there is scope for the Distribution and Connection Use of System Agreement (DCUSA) to be the vehicle for the development of new standardised contracts, based on national terms of connection and UoS and with clearly defined access rights. This would significantly increase transparency in the terms and conditions for all distributed generation across GB.

[23] For more details on the decision for delivering the Structure of Charges project, in particular the common method and governance at lower voltage levels (HV/LV) from April 2010, see document no. 24/09 "Next steps in delivering the electricity distribution structure of charges project", available at:
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=480&refer=Networks/ElecDist/Policy/DistChrgs
See also document no. 135/08 "Delivering the electricity distribution structure of charges project: decision document" for further details on the EHV charging models that DNOs can choose to implement from April 2011, available at:
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=447&refer=Networks/ElecDist/Policy/DistChrgs

5. Transmission exit charges incentive

Chapter Summary

This chapter details the hybrid framework proposed for the regulatory treatment of transmission exit charges. It sets out the proposed pass-through elements of exit charges and the scope of the incentive mechanism.

Question 1: Do you agree with the proposed hybrid approach for the regulatory treatment of transmission exit charges?
Question 2: Do you agree that in setting the scope of the incentive we targeted the appropriate cost items?
Question 3: Do you agree with the level of exposure under the proposed sharing factor?

Purpose of the incentive

5.1. DNOs currently pay National Grid (in its role as GB System Operator, GBSO) for the financing and operating costs of the assets that connect the distribution network to the transmission network (the transmission exit point)[24]. DNOs recover these costs fully from customers via pass-through arrangements in the current distribution price control. While we review these costs within the transmission price control review to ensure their efficiency, it is not clear that the DNOs have adequate incentives to explore all options on their own networks to ensure efficient development of transmission exit points.

5.2. With the expected increase in generation connecting to the distribution network and the increasing potential for demand side management there will be more opportunities for DNOs to explore innovative commercial contracts to help manage these costs. The purpose of our DPCR5 proposals is to ensure that DNOs engage effectively with Transmission Owners (TOs) so that the most efficient engineering solutions across the transmission and distribution network are built and developed as the systems evolve.

5.3. The hybrid framework we propose for transmission exit charges is intended to incentivise the DNOs to manage to an efficient level those transmission exit costs that they are in a position to influence. We think it is appropriate to continue with pass-through arrangements for those costs over which DNOs have limited control or

[24] In the rest of this document we refer to these charges as transmission exit charges, in order to maintain consistency with previous discussion and other DPCR5 documents. We note that these costs have been referred to as Transmission connection point charges in the current special licence condition A1.

influence, combined with an incentive for those costs where DNOs can influence the capacity requirements at the interface with transmission.

Key issues in development

5.4. Transmission exit charges are annuitized connection charges levied by the GBSO to recover the cost of the assets required to connect the transmission network to the DNO's distribution network, plus a reasonable rate of return for the TO. Broadly speaking, exit charges for a specific asset include: a capital element based on the straight-line depreciation; an element of return on the net asset value (which decreases over the depreciation period); a non-capital site-specific adjustment for operations and maintenance and an element for transmission running costs[25].

5.5. Using DNOs' forecast of exit charges, we estimate that around £900m of investment at the transmission interface will occur during DPCR5. A substantial proportion (more than 50 per cent) of these investments will be for new connection points (called Grid Supply Points, GSPs) or reinforcement to existing GSPs. It is important to make sure that these substantial investments represent the most efficient long-term solution for customers.

5.6. DNOs and TOs hold regular liaison meetings to discuss network requirements at the GSP interface[26]. With respect to condition-based works, the TO is the primary decision maker for the medium/long term replacement plan. With respect to load-related investments, DNO load forecasts represent a key factor determining the timing and asset specifications for reinforcement or new GSPs. In some circumstances it is possible for the DNO to avoid the requirement for a new GSP or additional capacity by reconfiguring their own network. Some DNOs have claimed that the engineering culture established in both the distribution and transmission companies ensures that the solution that provides the best value for customers is implemented.

5.7. However, we consider that the incentive on DNOs to influence investment decisions may be biased towards transmission solutions, because of the current regulatory regime: DNOs can pass-through the exit charges paid to the GBSO, but are incentivised to avoid capital and operating expenditure on their own network. This may weaken the incentive on DNOs to put forward available distribution solutions, as an alternative to transmission solutions identified by the TO. Consumers would benefit from a framework where there is an incentive on all parties to implement the lowest cost solution available (at all voltage levels).

[25] See National Grid's Statement of the Connection Charging Methodology, available at: http://www.nationalgrid.com/NR/rdonlyres/4811E6E0-3AA5-468F-9ADC-740FE9424180/24473/GBCCMI4R0FINAL.pdf

[26] The GBSO also participates to these meetings, from an outage planning perspective.

5.8. In the December policy paper[27] we invited views on proposed options for an incentive on transmission exit charges. The majority of DNOs supported the continuation of the cost pass-through regime, on the grounds that costs related to exit charges are already subject to incentive regulation under the transmission licence framework. Whilst we agree that the transmission price control provides an incentive for the TO to choose the most economic solution at the transmission level, we are not convinced that under a pass-through regime the DNOs are adequately incentivised to bring forward a potentially cheaper alternative solution at the distribution level.

5.9. Since December we have had further discussions with DNOs and have developed our ideas further.

5.10. Our proposal is to set a hybrid arrangement with partial incentivisation: we will set an ex ante allowance for some elements of exit charges, and there will be a fixed sharing factor applied to DNO's actual charges relative to this allowance (see below for further details). This mechanism allows us to target specific cost drivers of exit charges and can hence be implemented alongside a pass-through for those cost drivers that DNOs cannot control or influence. We note that, whilst reiterating their view that an incentive scheme was not needed, some DNOs expressed a preference for this option, which was perceived to entail a lower degree of risk and to be simpler in operation, compared to alternative options.

5.11. We recognise that this is a new incentive scheme and we are keen to limit the risk on DNOs and ultimately the generality of customers. DNO financial exposure under this incentive will be limited but we believe it will be sufficient to drive DNOs towards greater engagement with TOs.

5.12. The introduction of this incentive scheme will result in better forecasting of works at the interface between transmission and distribution networks, and will hence enable us to develop a refined (and stronger) incentive scheme for DPCR6.

Detail of the incentive

5.13. We are proposing to retain the current pass-through regime for those elements of exit charges that are outside a DNO’s control. We are also proposing to set an ex ante allowance for those other elements that a DNO can influence (incentivised exit charges in the following) and to apply a 20 per cent sharing factor to DNO's actual

[27] Electricity Distribution Price Control Review Policy Paper (159/08)

charges - relative to the allowance[28]. The different cost items are detailed in table5.1.

Table 5.1 – Regulatory treatment of exit charges during DPCR5

Transmission exit costs that will be subject to full pass-through:	**Transmission exit costs that will be subject to sharing factor (incentivised exit charges):**
Costs arising from: • All assets installed before DPCR5 • GSP refurbishment during DPCR5 • Any other work not incurred as a result of DNO requirements	Costs arising from: • GSP reinforcement during DPCR5, incurred as a result of DNO requirement • New GSP during DPCR5, incurred as a result of DNO requirement

5.14. For the avoidance of doubt, we expect DNOs to comply with the duty to maintain and develop an efficient, economic and coordinated distribution system. We will look for further evidence that over DPCR5 they have proactively engaged with TOs and the GBSO also in respect of items of cost that are treated as cost pass-through.

5.15. We asked DNOs to submit forecasts of the total amount of exit charges they will be liable for during DPCR5 in the June 2009 FBPQ. We asked them to indicate separately the amount of total exit charges that are related to assets installed during DPCR5, and to disaggregate these according to the main driver of works (replacement, reinforcement, new GSP). The main driver of work is generally identified at the time of discussion among engineers of the two companies, and can be included in the Construction Agreement[29] or agreement to vary. We also asked DNOs to justify the need for the proposed schemes and the expected capital costs of reinforcement works or new GSPs to be installed during DPCR5.

5.16. We have been unable to analyse in detail the data submitted by the DNOs. Our provisional modelling assumption is that the efficiently allowable revenue is equal to the DNOs' forecasts in the June FBPQ[30]. We will collect further data[31] and we will provide an update in September.

[28] In other words, the annual allowed revenue on incentivised exit charges would be equal to: *Actual charges + 20 per cent * (Allowance - Actual charges)*
[29] As defined in the Connection and Use of System Code (CUSC).
[30] Table 5.1 in Chapter 5 of our Allowed revenue - Cost assessment document details the forecast for total exit charges paid annually by each DNO. Table 5.2 in Chapter 5 of our Cost assessment document details the annual forecast for "incentivised exit charges" for each DNO. Both tables are based on this provisional modelling assumption.
[31] To this end, we will discuss the best way forward with DNOs over the next month.

5.17. Under our hybrid proposal, each year the DNOs will be allowed to recover an amount of revenue equal to the actual annual expenditure for incentivised exit charges, corrected by a 20 per cent sharing factor on the difference between the allowance for that year and the actual expenditure. The sharing factor would hence act as a reward or a penalty according to whether a DNO under- or overspends against the allowance.

5.18. We will work with DNOs over the next months to develop an output measure for transmission exit points, similar to the General Reinforcements Load Index. This will enable us to carry out an ex post check that would highlight whether forecasts have been deliberately misleading, and to take this into account at the next price control review.

6. Losses incentive

Chapter Summary

This chapter sets out our proposals for incentivising the DNOs to manage an efficient level of losses on their networks. We propose to retain an output based incentive on losses, but to fund explicit investments to reduce losses where justified. We also set out our proposals to address issues associated with the volatility of settlement data.

Question 1: Do you agree with our proposal to provide explicit funding for justified low loss investments to provide direct recognition of the investment?
Question 2: Do you agree with our proposals (common reporting, reporting lag) to address the issues associated with using settlement data to measure losses?
Question 3: What are your views on our proposals for a common reporting method and where we have identified options, which do you prefer?
Question 4: Do you agree with our revised losses incentive value and our proposal to retain the rolling retention mechanism?
Question 5: Do you agree with our proposals for a common treatment for substation energy usage, where the substation usage is registered with a supplier so that they pay for the electricity consumed?
Question 6: Do you agree with our proposals to recognise and reward improvements to the losses measurement?

Purpose of the incentive

6.1. Electricity losses on the distribution networks are a significant source of greenhouse gas (GHG) emissions, with distribution losses representing approximately 1.5 per cent of total GB GHG emissions. We consider we need to have a losses incentive to drive the DNOs to achieve an efficient level of losses on their distribution networks by making appropriate investments; optimising networks operation; influencing users and influencing and working with third parties to improve data accuracy and reduce theft.

Key issues in development

6.2. In the Initial Consultation document32 we consulted on our intention to retain an incentive on DNOs to reduce distribution losses to an efficient level. We considered that there were three main options:

- An input based approach (funding for specific loss reduction investment),
- A technical losses model solution (similar to gas distribution),
- An output based approach (payment for losses reduction delivered).

[32] Electricity distribution price control review. Initial Consultation document (32/08)

6.3. There was little support for a technical model with respondents arguing that the gas network is more homogenous and the electricity network may well require so many exceptions to the generic model that a very detailed model would be required to accurately represent different DNO networks.

6.4. The existing output based incentive within DPCR4 has been controversial. It uses settlement data and rewards/penalises DNOs on their outturn level of losses as assessed against a fixed target. Some DNOs are earning significant rewards through the incentive. However since March 2008 the majority of the DNOs (six of the seven groups) have argued strongly for an input (hybrid) based approach to remove the risk caused by the volatility of the settlement system. This would entail DNOs being rewarded a predetermined amount per unit of low loss equipment installed. This would be combined with a lower powered output incentive regime than has been in operation in DPCR4.

6.5. DNOs argue that these arrangements would enable them to justify investment in low loss equipment. Unpredictability of reported losses, and of earnings under the mechanism, means that it is currently difficult for DNOs to get low loss investment approved. DNOs also argue that other drivers of losses are not within their control and hence that the output based mechanism should either be removed or the incentive rate weakened.

6.6. Whilst it is true that DNOs do not have direct control over all elements of losses, they are very well placed to influence parties who use their network and hence have a degree of opportunity to affect the level of network losses. No other organisation is in such a position of influence. With respect to technical losses, the DNOs have control over the specification of network investments, and how the network is operated – and can influence users of the network through charging to manage losses. For non technical losses the DNOs can influence the improvement in data quality, such as identifying unmetered supplies and vacant properties and have an important role to play in the identification of theft.

6.7. We do not propose to introduce an input based incentive along the lines proposed by the DNOs. It would require Ofgem to audit the actions that the DNOs have taken (and the potential impacts of these actions on losses), and would be a much more intrusive and burdensome form of regulation. It would not encourage DNOs to manage losses through network operations or network users and would not incentivise them to identify ways to tackle the issue of theft.

6.8. We consider that, with the variety of ways in which DNOs can influence the level of losses on their network, it is important for us to maintain an output incentive to ensure that DNOs play their role as the use of their networks begins to change as we move to a low carbon economy. We agree that there are issues with the quality and volatility of the data on which the current output incentive is based and we propose a number of steps to improve the impact of this. But it is also important that DNOs play a significant role in addressing these data quality issues.

6.9. We do recognise the lack of visibility for the DNOs of the results of their loss reduction actions. We have therefore developed a hybrid approach that we are proposing for DPCR5. This option is based on the output mechanism, with the incentive based on measured performance against a fixed target. We consulted on this option in the December Policy Paper[33] and requested that DNOs identify investments in both the February and June FBPQs. We are providing explicit funding for those investments we consider to be justified (our approach is explained in more detail in the Cost Assessment document. This will provide the DNOs with direct recognition of the benefits of the investment. In order to ensure that the DNOs do not benefit twice from the investments we will net off the predicted loss reductions from their performance against the target.

6.10. We also recognise the issues with target setting that were raised following the Initial Consultation and Policy Paper. Incentive payments are calculated on performance against a target rather than absolute performance. Therefore a DNO can still gain incentive benefits, even with an increase in losses over the period, as long as it is still below the target. Whilst this is inherent in a target based mechanism we believe that the targets can be set to better reflect recent performance. We therefore proposed that the DPCR5 losses target be set to reflect historic performance over a shorter period (less than 5 years, versus the 10 years used for DPCR4) but also to incorporate the agreed loss reductions generated from low loss equipment allowed in the DPCR5 capex forecasts. We received at least one response that the targets should be even tighter than proposed to minimise the risk of windfall gains.

Detail of incentive

6.11. The key details of our proposals for the losses incentive for DPCR5 are listed in table 6.1 below, and compared against those currently in place for DPCR4.

Table 6.1 - Comparison of elements of losses incentive for DPCR4 and DPCR5

	DPCR4	**DPCR5**
Reporting losses	DNO's own method, as in use at 1 April 2002 Report losses in year incurred	Common method, with no provision accounts or adjustments Report losses with 2 year lag
Incentive value	£48/MWh	£60/MWh
Target setting	Fixed loss percentage Average of previous 10 years' performance	Fixed loss percentage Average of previous 5 years' performance (using common reporting method)

[33] Electricity Distribution Price Control Review Policy Paper (159/08)

	DPCR4	DPCR5
Roller	5 year roller	5 year roller
Cap and floor	None	Cap and floor
Low loss equipment	No explicit allowance	Ex ante allowance where justified

6.12. We propose to maintain an output based losses incentive for DPCR5, with modifications to address the specific weaknesses we have identified. We propose to provide DNOs with direct recognition of low loss investment whilst ensuring customers pay for actual loss reductions achieved. Other proposed changes include: improved target setting and a common methodology for reporting losses; lagging the reporting until settlement data is finalised and applying a cap and floor to the incentive outturn in order to mitigate the quality and volatility of the settlement data on which the current output incentive is based.

6.13. Finally, we intend to encourage the DNOs to develop improved measurement processes for losses to form the basis of a revised incentive either later in the period or at least for DPCR6.

Common reporting methodology and lag

6.14. Our proposal for DPCR5 is that all DNOs report losses using the same basic method. The method will be based on the principle of reporting losses calculated using unadjusted settlement data for the regulatory year. This data will be reported with a lag of two years so that the 'final' settlement data (Run Final, RF) can be included and allocated to the year in which it was incurred.

6.15. This means that in reporting losses, DNOs will not use provision accounts or adjust settlement data in any way other than the specific calculations we have detailed.

6.16. There are multiple data sources available from the settlement system, providing different views, aggregations and combinations of data. Many DNOs already have systems that use a particular data source. We will therefore allow a degree of flexibility at the detailed level around what data sources are used, as long as the DNOs demonstrate that the data they are using contains the same basic data elements. In addition some data, such as the volume of electricity flowing between the DNO and an attached Independent Distribution Network Operator (IDNO) will not be reported in settlements and therefore will need to be recorded separately by the DNO.

6.17. We will require the DNOs to submit a detailed description to Ofgem describing what data inputs they will use and what manipulation and calculations they will undertake. As in DPCR4 the DNOs will have to obtain approval from Ofgem before changing any part of their losses reporting.

6.18. In principle we propose that the DNOs calculate losses from the total units entering and exiting their network. These will comprise the elements detailed in table 6.2, which the DNO will be required to itemise.

Table 6.2 – Categories of electricity entering and exiting a DNO's network

Units entering via:	Units exiting via:
▪ grid supply point, ▪ DNO:DNO interconnection, ▪ IDNO:DNO boundary, ▪ licensed embedded distributed generator, ▪ unlicensed embedded distributed generator.	▪ grid supply point, ▪ DNO:DNO interconnection, ▪ IDNO:DNO boundary, ▪ embedded distributed generator (electricity usage), ▪ demand customer.

6.19. Further detail on the common reporting method can be found in Appendix 4.

Targets

6.20. We propose that the DPCR5 losses target be set to reflect each DNO's losses performance over DPCR4. Targets will be based on the average performance for each DNO, but also incorporate the agreed loss reductions generated from low loss equipment allowed in the DPCR5 settlement (see the Cost Assessment document). Targets will also be adjusted for the historical energy used in substations (see paragraphs 6.33 to 6.35 below).

6.21. The data we will use to set the targets before the end of DPCR4 will include three years of RF settlement data. The data included for the last two years of DPCR4 will not be finalised, although 2008-09 data will have been through three settlement correction iterations. We therefore have two options for target setting, to set targets based on the data available (which we consider to be adequate) and either use those targets for DPCR5 or update them during DPCR5 once the RF data for all years has been received. Since the DNOs will be reporting using a two year lag, the target update would not impact the losses incentive calculations.

6.22. As described above we propose that DNOs report losses according to a common methodology for DPCR5, and we will therefore base the targets on historic losses calculated according to the same methodology.

Incentive value and rolling retention mechanism

6.23. As discussed in previous consultations, we propose to factor the shadow price of carbon[34] (SPC) into the losses incentive value. We have therefore calculated the losses incentive as the wholesale price of electricity less the EU Emissions Trading Scheme (ETS) cost of carbon (which is factored into the wholesale price) plus the SPC. In July 2009 the government published 'Carbon Appraisal in UK Policy Appraisal: A revised Approach'[35] with revised carbon prices. We have used the 'Central', 'Traded' carbon price in our analysis.

6.24. There has been significant volatility in the cost of wholesale electricity, so we propose to broadly base the incentive on a historical average of the wholesale price and EU ETS cost of carbon for 2009.

6.25. The proposed loss incentive value is £60/MWh.

6.26. We propose that the DPCR5 arrangements have a five year rolling retention mechanism, similar to that which is in effect in DPCR4.

6.27. The losses rolling retention mechanism was introduced in DPCR4 to ensure DNOs obtain an appropriate share of the benefits from loss reduction. Loss reduction initiatives can produce loss reductions over many years, and hence it was considered appropriate that the DNO received the benefits of loss reduction for more that one year. In addition, the mechanism ensures that a loss reduction achieved in the first year of the price control receives the same total benefit as a loss reduction achieved in the final year. This encourages DNOs to maintain the focus on losses throughout the price control period.

6.28. The DPCR4 rolling retention mechanism has caused some concern amongst the DNOs, centring on the impacts of settlement volatility and a lack of common understanding about how the mechanism would be implemented post DPCR4. This is described further, along with our proposed treatment of the DPCR4 losses rolling retention mechanism, in Chapter 7.

6.29. We consider that a rolling retention mechanism is still an appropriate way of ensuring that loss reduction initiatives have equal weight irrespective of when they are undertaken within the period. We have described the improvements we are proposing for the losses incentive and we consider that these improvements will also address the DNO concerns surrounding the impact of the rolling retention mechanism.

[34] as set by the Department for Environment, Food and Rural Affairs (Defra).
[35] http://www.decc.gov.uk/Media/viewfile.ashx?FilePath=What we do\A low carbon UK\Carbon Valuation\1_20090715105804_e_@@_CarbonValuationinUKPolicyAppraisal.pdf&filetype=4

Cap and floor

6.30. In order to reduce any outstanding risk to both the DNOs and consumers we propose to apply a cap and floor to the loss incentive amount. This is consistent with our overall approach for DPCR5.

6.31. We propose to apply a revenue cap and floor to the cumulative losses incentive revenues earned through the losses roller mechanism on the total DPCR5 loss performance. Our initial proposal is that the cap and floor will be calculated by DNO as plus or minus 0.5 per cent of the DNO's DPCR4 average annual units distributed (MWh), multiplied by the loss incentive value (£/MWh), multiplied by five (the five year roller). However the cap and floor values will be reviewed as we develop our holistic approach to return on regulatory equity (RORE) for Final Proposals.

6.32. The cap and floor will not limit annual loss incentive revenues. We consider that the reporting lag will reduce the annual variability of loss performance and we have decided not to implement annual limits since we are concerned that they may encourage DNOs to manage the timing of loss initiatives in order to maximise potential gains.

Substation energy usage

6.33. At present there is inconsistency amoungst DNOs in their methods for dealing with the electricity consumed within their substations for heating, lighting and ancillary supplies. Electricity used at substations is unmetered in the majority of cases. Some DNOs pay a supplier for this unmetered consumption whilst others include it in losses.

6.34. We consider that a common treatment should be adopted, and that DNOs should register the substation usage with a supplier so that they pay for the electricity consumed. Where the substation is unmetered, the DNO should treat it in the same way as any other unmetered supply. To this end we requested DNOs to include the costs of paying for substation electricity within their June Forecast Business Plan Questionnaire (FBPQ) cost forecasts.

6.35. Therefore those DNOs that in DPCR4 treated substation energy usage as losses will see their losses reduce marginally in DPCR5. We will reduce the level of the value of those DNOs' targets by this same factor.

Further proposals for improvement

6.36. We want to encourage DNOs to find ways to better measure losses. As stated in the Core Document if any DNO is successful in finding a better way of measuring losses on their network (for example by installing more metering equipment on their network), we will consider removing the caps on any rewards.

6.37. We also expect DNOs to be proactive in targeting electricity theft, and to work with other industry members to identify ways to reduce and manage theft, such as introducing modifications to the relevant industry codes and agreements.

7. Treatment of DPCR4 losses rolling retention mechanism

Chapter Summary

This chapter sets out our methodology for implementing the losses incentive rolling retention mechanism as set out in the DPCR4 Final Proposals

Question 1: Do you agree with our proposal to leave the DPCR4 losses incentive open for the first three years of DPCR5 until the settlement corrections are complete? What are your views on our proposal that the absolute losses performance will be exposed to the DPCR4 rolling retention mechanism?
Question 2: Do you consider that the proposals for closing out the DPCR4 rolling retention mechanism have merit, and if so, how should we manage the uncertainty?

Purpose of the mechanism

7.1. The losses incentive in DPCR4 included a rolling retention mechanism to encourage loss reduction initiatives to be undertaken at any time in the price control period by guaranteeing rewards (or penalties) for a subsequent five year period. It was described broadly in the DPCR4 Final Proposals[36] and a worked example was included in the appendix. The current licence conditions provide the formula for calculating the incentive payment for each year in DPCR4 but do not include the rolling mechanism beyond 2009-10.

7.2. As part of DPCR5 we need to give effect to the DPCR4 intent to provide a five year rolling retention mechanism on the DPCR4 losses incentive, while recognising the uncertainty faced by the DNOs as a result of the volatility of the DPCR4 settlement data on which losses measurements are based.

Key issues in development

7.3. The question of how the rolling retention mechanism would be implemented for DPCR4 losses post March 2010 was raised in an Environment Working Group meeting early in 2009. We recognised that the existing licence conditions would not implement the five year retention mechanism as described in the DPCR4 Final Proposals beyond the end of DPCR4 and therefore discussed methods by which the mechanism could be implemented. The rolling retention mechanism has additional significance due to the losses performances during DPCR4 and the size of the potential financial gains and losses under the mechanism.

[36] Electricity distribution price control review. Final Proposals (265/04)

7.4. Some DNOs voiced strong concerns regarding the volatility of the settlement data and the effect this would have on the losses performance reported in the last year of DPCR4. They considered that the retention mechanism would be unduly influenced by this final year.

7.5. We also have concerns regarding how to ensure that all DNOs are subject to the retention mechanism on an equivalent basis given that different DNOs are currently using different methods to report their losses performance, including the use of provision accounts for losses that may have the potential to affect the ultimate roller result.

7.6. One DNO has advocated that DNOs should be able to opt out of the DPCR4 mechanism (i.e. have no further incentive payments or penalties after the end of DPCR4) or retain the mechanism with additional scrutiny (since they believe the only DNOs who would want to do this would be those that thought they would make additional money). We have concerns that this proposal would allow the DNOs to 'bank' their current gains – which may be very favourable to them if they anticipate that their loss performance will not be as good in the last years of DPCR4.

7.7. One DNO argued that the mechanism should be allowed to operate as described in the DPCR4 Final Proposals, to ensure that the DNO's method of reporting does not distort the ultimate outcome under the losses incentive.

Detail of incentive

Finalising DPCR4 data

7.8. We will not have visibility of the actual DPCR4 losses until mid DPCR5. This is for two reasons:

- The final year (2009-10) losses will not be reported until July 2010, and
- The settlement data from which losses are calculated can continue to be revised for a further 28 months.

7.9. We therefore propose to leave the DPCR4 losses incentive open for the first three years of DPCR5 until the settlement corrections are complete. We will require the DNOs to report these corrections so that all the settlement data associated with DPCR4 has been accounted for and the DPCR4 annual reported losses have been corrected accordingly. This proposal will ensure that all DNOs receive the losses incentive based on their absolute losses performance over DPCR4 and ultimately, that rewards/penalties under the DPCR4 scheme are not influenced by the different reporting basis that companies used.

7.10. Our proposal in this regard is not influenced by any decision we may make on the DPCR4 losses rolling retention mechanism.

Losses rolling retention mechanism

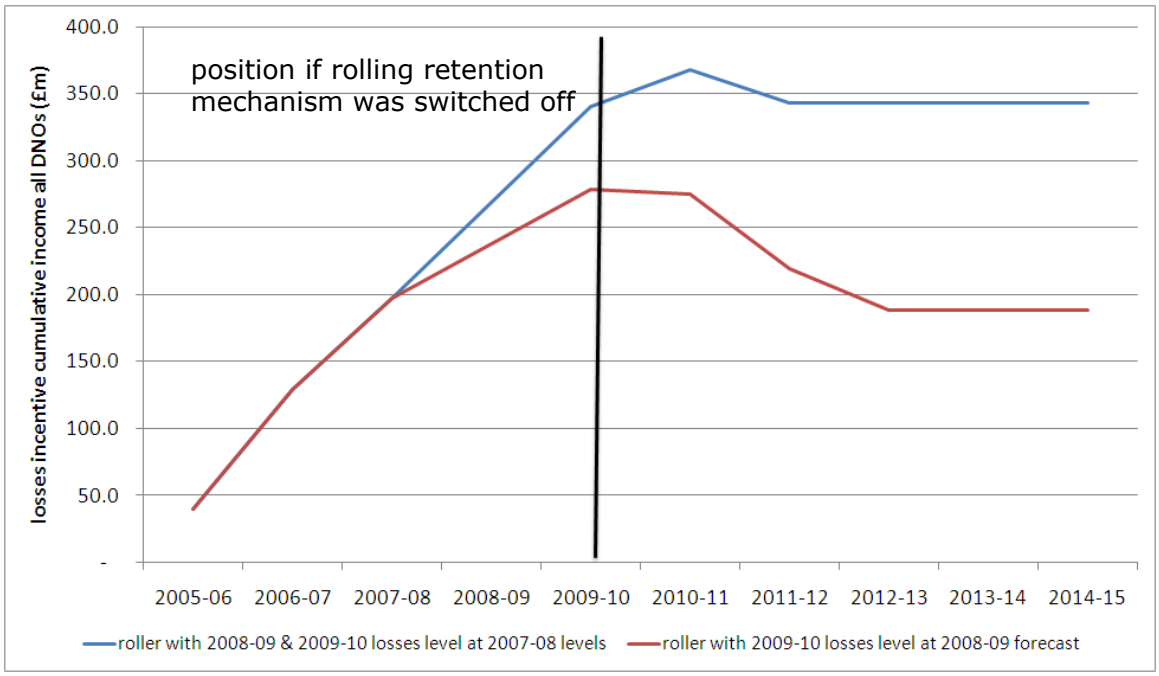
7.11. Our current view is that the absolute losses performance (i.e. losses that have been adjusted to reflect the final settlement data as described above) will be exposed to the rolling retention mechanism as considered in the DPCR4 Final Proposals.

7.12. However, we recognise the concerns of some DNOs in relation to the uncertainty they face from the total accrual or liability arising out of the mechanism not being known until midway through DPCR5. We have therefore considered two alternative options to mitigate this uncertainty:

- switch off the DPCR4 mechanism, or
- permit DNOs to buy themselves in or out of the DPCR4 mechanism.

7.13. We do not consider switching off the DPCR4 mechanism to be an appropriate response. The rolling retention mechanism was clearly identified in the DPCR4 Final Proposals, and DNOs will have invested in low loss equipment and loss reduction initiatives based on the expectation that loss incentive rewards would accrue over a five year period. By switching off the mechanism we would in effect penalise the DNOs who reduce their losses in the latter years of DPCR4, since they would receive less total reward. The effect of switching off the mechanism is illustrated in figure 7.1 which shows cumulative loss incentive values across all DNOs, using two different scenarios for the unreported years (2008-09 and 2009-10). It is clear that 'switching off' the mechanism would have an impact on the cumulative incentive value.

Figure 7.1 - Graph of cumulative losses incentive income across all DNOs under two example scenarios[37]



7.14. The other option is where DNOs can bid to buy' themselves out of (or receive a payment for) the remainder of the DPCR4 losses retention mechanism. The DNO would bid an amount to cover their expected remaining legacy (in DPCR5) arising from the absolute DPCR4 losses. We can see that this option has merits for the DNOs in that it would remove the uncertainty around their future exposure to the losses incentive arising from DPCR4. However it would be very difficult for either the DNO or Ofgem to forecast accurately what the legacy amount will be, given that will not know the absolute losses position for DPCR4 until mid DPCR5. In addition some DNOs are currently using provision accounts to anticipate what they consider their final losses exposure to be – meaning that they have some control over what losses figures are reported year on year (although subsequent settlement corrections will flow through as discussed above). We would therefore need to add a risk premium to any proposed amount to ensure that the consumer is not bearing all the risk arising from the uncertainty of the future exposure. Ofgem and the DNO may not be able to reach agreement on an appropriate amount.

[37] These two scenarios are examples only. They use DNO reported losses for 2005-06 to 2007-08. One scenario then illustrates the impact if losses subsequently remained at 2007-08 levels, whilst the other uses the 2008-09 DNO forecast losses to illustrate the significance of the last two years on the overall incentive received. Clearly the losses for the final two years could be different from what is illustrated.

7.15. Figure 7.1 shows a graphic example of two potential future scenarios and table 7.1 provides the detailed figures for the same scenarios. Table 7.1 highlights the potential differences between DNOs, and the significance of the accuracy of the losses reported in the final years.

Table 7.1 - Potential losses incentive income by DNO under our two example scenarios[38]

	Total incentive earned to date 2005-06 to 2007-08	Total amount which would be earned under rolling retention mechanism if losses remained at 2007-08 levels	Total amount which would be earned under rolling retention mechanism if losses remained at 2008-09 forecast levels
	(£m)	(£m)	(£m)
CN West	-8.1	-16.4	-28.6
CN East	27.6	63.3	62.0
ENW	31.8	31.6	22.3
CE NEDL	8.7	-3.7	-5.7
CE YEDL	27.0	-0.2	19.2
WPD S Wales	-3.6	-12.4	-40.6
WPD S West	18.8	8.1	-14.1
EDFE LPN	35.3	62.5	66.1
EDFE SPN	8.5	41.9	39.2
EDFE EPN	80.6	265.9	136.4
SP Distribution	-25.6	-69.3	-41.1
SP Manweb	-13.2	-44.2	-41.2
SSE Hydro	-0.3	-0.6	2.2
SSE Southern	9.9	16.8	12.1
	60.0	210.5	188.3

7.16. We need to ensure that if we pursue this option it is fair to customers. Under this option we may consider an additional payment for those DNOs that have more influence over the value of losses reported in the year if actual losses are discovered to be significantly different to what was anticipated. We invite comment on the options described above and if the latter is favoured, request that respondents explain how the option might work.

[38] As stated above, these two scenarios are examples only. They use DNO reported losses for 2005-06 to 200-05. One scenario then illustrates the impact if losses subsequently remained at 2007-08 levels, whilst the other uses the 2008-09 DNO forecast losses to illustrate the significance of the last two years on the overall incentive received. Clearly the losses for the final two years could be different from what is illustrated

8. Business carbon footprint reporting

Chapter Summary

This chapter sets out our policy proposals for the reporting of DNOs' operational greenhouse gas emissions. We propose to require the DNOs to submit an annual reporting of their business carbon footprint (BCF), based on the GHG Protocol reporting methodology. We also propose to publish an annual league table of emissions reductions over DPCR5.

Question 1: Do you agree with our proposal for BCF reporting requirements?
Question 2: Do you agree with the proposed guidance for the BCF reporting methodology?
Question 3: Do you agree with our proposal to rely on a reputational incentive only (through publication of a league table)?

Purpose of obligation

8.1. We propose that DNOs report annually to Ofgem on the total CO_2 equivalent ($kgC0_2e$) emissions of their company (BCF). Ofgem will publish an annual league table of emissions reductions over DPCR5.

8.2. Our proposals will encourage the DNOs to consider the direct carbon impact of their operations and be proactive in managing these emissions.

Key issues in development

8.3. All DNOs have, to different extents, been considering this issue. Some DNOs already have a voluntary reporting framework in place, while some others are still developing their approach and have so far focused their attention on specific emissions. We believe that there are merits in promoting consistency and commonality in the reporting framework.

8.4. As part of DPCR5, we consulted on BCF reporting in the initial consultation document and in the policy paper. There was support in principle for our proposals, but several DNOs highlighted concerns that the administrative effort could be disproportionate to the materiality of emissions and the potential benefits from emission reductions.

8.5. We have engaged with DNOs via the Environment Working Group to develop a reporting methodology based on the principles of the Greenhouse Gas (GHG)

Protocol[39] and in line with the guidance in the recent Defra consultation[40] (where possible[41]). In doing this, we were mindful of the need for reporting requirements to be proportionate. We also considered DNOs' preference for a reasonable degree of flexibility in developing a methodology that fits with their data collection systems and is consistent with existing reporting obligations.

8.6. We circulated an initial draft reporting template and associated guidance to DNOs for comment in April 2009, and, having considered their feedback, issued a final draft version in June 2009. The DNOs are currently completing the template using 2008-09 data, in order to test the framework and process, and we are currently reviewing these submissions. We will organise a workshop with DNOs later in the summer, to discuss the lessons learned from the 2008-09 completion exercise, and hence improve the reporting framework for DPCR5.

8.7. We considered several options on how to incentivise the DNOs to reduce their emissions, including using a financial incentive. We consider that it is not currently possible to obtain accurate figures on which to base this incentive – although we will use DPCR5 to develop a common and robust reporting methodology.

8.8. We also considered options on how the league table should operate. We concluded that it was not possible to compare absolute emissions between DNOs without undertaking a complex normalisation exercise. We therefore concluded that percentage reduction of emissions over time would be a proportionate and effective measure.

8.9. This is an important development which should further encourage DNOs to manage their own carbon footprint. We note that a similar mechanism would be appropriate to apply to all network businesses and although not part of DPCR5 we will consider whether there is merit in introducing a similar scheme to electricity and gas transmission and gas distribution.

[39] The GHG Protocol (www.ghgprotocol.org) is a widely used international accounting tool for organizations to understand, quantify, and manage GHG emissions. THE GHG Protocol's "Corporate Accounting and Reporting Standard provides standards" and guidance for companies and other organizations preparing a GHG emissions inventory. It is available at: http://www.ghgprotocol.org/files/ghg-protocol-revised.pdf

[40] Defra's "Consultation on draft guidance on how to measure and report your greenhouse gas emissions". The consultation document is available at: http://www.defra.gov.uk/corporate/consult/greenhouse-gas/index.htm

[41] In particular, we consider that the minimum requirements in Defra's guidance (as currently consulted upon) would have not been appropriate to capture the peculiarities of the various business models adopted in the electricity distribution sector.

Detail of proposal

BCF reporting

8.10. DNOs will report the carbon emissions related to their business operation in a standard template, according to the following categories: buildings energy usage, operational and business transport, fugitive emissions[42], fuel combustion and distribution network losses. We are allowing flexibility with respect to the start of the reporting period, in order to enable DNOs to align the BCF annual reporting with any existing internal reporting they undertake; this will avoid unnecessary duplications of administrative costs, especially at this initial stage of reporting[43].

8.11. DNOs shall report on all Scope 1 and Scope 2 emissions[44] on an "operational control" basis, i.e. report all emissions from operations on which the DNO has full authority to introduce and implement its operating policy.

8.12. DNOs shall also report on a subset of Scope 3 emissions (i.e. business travel and external contractors), to ensure that the reporting captures all the emissions arising from the development and operation of the licensee's distribution system, regardless of the legal entity carrying out each activity. According to this, we consider it valuable to focus on contractors emissions related to the operational transport fleet and mobile power plant.

8.13. DNOs will also provide a separate commentary describing the data sources and the processes used for recording, estimating, converting to $kgCO_2e$. We are allowing the DNOs to assess appropriate materiality thresholds – recognising that these will vary between companies (for example some DNOs use subcontractors extensively whereas others don't) and also expecting that this process will be developed and refined over DPCR5.

8.14. We have included the template for BCF Reporting and the associated guidance in Appendix 5.

[42] Fugitive emissions refer to pollutants released into air from leaks in equipment.
[43] We consider that different annual reporting periods between DNOs do not impair the value of the BCF reporting, which focuses on a DNO's ability to manage and reduce its own emissions over time.
[44] Scope 1 are direct GHG emissions that occur from sources that are owned or controlled by the company. Scope 2 accounts for indirect GHG emissions from the generation of purchased electricity consumed by the company. Scope 3 include other indirect GHG emissions that result from the activities of the company, but are not owned or controlled by the company. See the GHG Protocol guidance for further details.

League Table

8.15. We also propose to publish a league table compiled from DNOs' annual BCF reports, which will provide a further reputational incentive on DNOs. The league table will not include the emissions from losses as they will be reported separately.

8.16. We propose to measure DNOs' performance in reducing their emissions over time compared to a baseline year of 2010-11.

8.17. To ensure that recent actions to reduce GHG emissions do not disadvantage a DNO by causing it to be measured against a lower baseline, we will consider making adjustments to a DNO's starting position provided the DNO can submit an objective demonstration that their actions resulted in a material reduction of emissions.

9. Undergrounding in Areas of Outstanding Natural Beauty ('AONBs') and National Parks mechanism

Chapter Summary

This chapter sets out our proposals to amend the current undergrounding in AONBs and National Parks mechanism. We set out how we have calculated DNO allowances and taken account of consultation responses on these issues.

Question 1: Do you agree with our proposed amendments to how the undergrounding allowance is formulated?
Question 2: Do you agree with our proposed approach to undergrounding projects not completed by the end of DPCR4?

Purpose of mechanism

9.1. Last year's customer willingness to pay research[45], along with responses to the December consultation document suggest that visual amenity is still of relatively high importance to customers. We have therefore decided to retain the allowance for network undergrounding in National Parks and Areas of Outstanding Natural beauty (AONB) for the duration of DPCR5.

Key issues in development

9.2. Under the current scheme introduced in DPCR4, DNOs have been allowed to log up their actual capital expenditure on undergrounding overhead lines in National Parks and AONBs, to an overall national cap of £64m, with the following voltage caps'

- EHV and 132kV lines; £350k per km,
- HV lines; £85k per km,
- LV lines; £65k per km.

9.3. The DNOs are then allowed to recover this money from customers at the end of the five-year price control through these costs being added to the RAV. The individual logging up of these costs is subject to each DNO being able to demonstrate that it has taken account of advice from local environmental groups and/ or planning bodies in determining how any expenditure on network undergrounding is prioritised. Since this mechanism has been largely successful we see no reason to make any

45 'Expectations of DNOs & Willingness to Pay for Improvements in Service: Final Report' July 2008, (106/08)

major changes to the scheme. However, we have considered, and subsequently reached a view on, a number of potential amendments which were outlined in the December paper.

Voltage caps

9.4. Following responses to the paper in December, we are proposing that the caps on the allowance by voltage bands should be removed, whilst retaining an overall cap to ensure the logging up of costs does not exceed customer willingness to pay. However, in the case of any individual projects that account for a large percentage of a DNO's allowance, DNOs will need to demonstrate that the allocation has received wide support from relevant stakeholders. We consider that this will widen the project options open to DNOs whilst further emphasising stakeholder engagement as the driver for project selection.

Voluntary nature of scheme

9.5. As outlined in the December paper, we do not believe that it would be in the interest of customers to make the scheme mandatory for each DNO as the emphasis should remain on stakeholder engagement and ensuring that the selection process for projects under the scheme is driven by stakeholders rather than Ofgem.

9.6. It is also important to remember that the allowance is not intended to constitute a DNO's entire undergrounding program. There are undoubted benefits for DNOs in investing in undergrounding and Ofgem welcomes any co-operation with stakeholders to seek out alternative sources of funding.

Project Officer

9.7. Similarly, we see no reason to allocate a specific allowance to DNOs for a specified Project Officer. The creation of such a role is not vital to the success of the scheme and therefore should not be funded by the allowance. Having the staff and expertise to interact with stakeholders should be a core requirement of DNOs in all areas of work. There are clear DNO benefits and rewards to such appointments available through the broader measure of Customer satisfaction. For this reason, the emphasis will remain on the individual DNOs and their stakeholders to determine whether they feel a Project Officer would increase the efficiency of how their allocated allowance is spent. In any situation in which a DNO feels a Project Officer or equivalent position is desirable, this will need to be funded by efficiency improvements elsewhere or by shareholders.

Interaction with normal asset replacement work

9.8. On the wider issue of how the allowance should interact with normal asset replacement work, we maintain our position set out in December. Undergrounding work covered by the allowance should be driven by visual amenity rather than quality of supply considerations. However, the replacement of existing overhead

assets in AONBs/ National Parks with underground cables as part of the DNO's normal asset replacement programme should not automatically be excluded. Where the replacement of the particular lines is driven principally by visual amenity benefits, the undergrounding allowance can be used to fund the cost difference between a normal replacement work solution and a new underground solution.

New lines and boundary issues

9.9. We propose that newly built lines in National Parks and AONBs will continue to fall outside of the scheme. The scheme and mechanism set up in DPCR4 was designed to allow for the undergrounding of existing lines in these areas and we see no reason to change the setup at this time. There is a great deal of environmental and planning regulation and stakeholder engagement already entrenched in laws regarding construction in National Parks and AONBs. We think that these are more than sufficient to address stakeholder concerns over new lines being built in these areas.

9.10. Within the consultation responses received in December, there was a fair amount of support for the extension of the scheme to include lines around the boundaries of designated National Parks and AONB areas. However, in order to maintain the transparent and easily understandable nature of the scheme and prevent unnecessary complications and confusion to stakeholders, we have decided that we will not allow the inclusion of overhead lines which lie anywhere outside of National Parks and AONBs.

Interaction with DPCR4 Scheme

9.11. One of the key areas that stakeholders have sought clarification on throughout DPCR4 is how work which is initiated in DPCR4 but not completed until DPCR5 will be treated by the scheme. We propose that the undergrounding allowance should not be carried over between price control periods. Only undergrounding work completed before 1st April 2010 will be funded by the DPCR4 allowance. Any undergrounding completed after this date will be funded by the DPCR5 allowance.

9.12. In terms of the carryover of allowances, we have chosen to change the definition of the point of completion of undergrounding work to the point at which the underground replacement cable is energised. This constitutes a significant change from the proposals laid out in the December consultation document as under this amendment, a DNO's DPCR4 allowance can be used within the DPCR5 period to log up the costs of removing overhead lines, where the underground replacement cable has been energised before April 1 2010. It is important to add that this circumstance will only be eligible for inclusion where the existing asset is completely removed before April 1st 2011. We are confident that this change in the mechanism will prevent any access issues around the disturbance of nesting birds or crop damage unduly impacting on what otherwise would be successful undergrounding projects.

Detail of proposed mechanism

9.13. The customer willingness to pay research indicated that on average, customers are willing to pay £2.29 for the undergrounding of 1.5 per cent of overhead lines in National Parks and AONBs over the course of a 5-year price control (i.e.: 46 pence per year). For this reason, the allowances set for each DNO will continue to be based on the undergrounding of 1.5 per cent of its total length of overhead lines which are on land that qualifies as either a National Park or AONB. As is currently the case, DNOs will log up their expenditure up to their allowance, and recover it from customers at the end of the price control. A full demonstration of how a DNO's allowance will be calculated is shown below.

Allowance

9.14. The allowance will be based on a combination of values;

First, the national average customer willingness to pay for the undergrounding of 1.5 per cent overhead lines in national Parks and AONBs over the course of 5 years (£2.29) is multiplied by the number of customers served by each DNO. This calculation splits the overall national willingness to pay for the scheme (£60.6 million) by the relative number of customers in each area.

EXAMPLE- DNO A: 3 million customers; 3,000,000 x £2.29 = £6.87m

Second, this overall value of customer willingness to pay (£60.6 million) is divided by the overall national length in kilometres of 1.5 per cent of overhead lines in National Parks and AONBs. This value is then multiplied by the value in kilometres of 1.5 per cent of each DNO's overhead lines in National Parks and AONBs to split the overall allowance on a pound-per-kilometre basis.

EXAMPLE - DNO A: 2000 km in National Parks and AONBs
Total GB length of circuits in National Parks and AONBs=42,354
£60.6m x (2000 / 42,354) = £2.86m

Taking the average of each of these values will give the undergrounding allowance for each DNO.

EXAMPLE- DNO A: Undergrounding Allowance = £4.87m

9.15. The FBPQ figures provided by DNOs in June indicate some changes to the length of overhead lines within their area that lie in AONBs/ National Parks. The amended figures lead to the following allowances apportioned to each DNO.

Table 9.1 - Proposed allowances per DNO for undergrounding in AONBs and National Parks during DPCR5[46] - Allowance £m

DNO	Number of customers	Total km of overhead lines in national parks and AONB	Allowance (£m)
CN West	2,435,566	2,339	£ 4.7
CN East	2,591,542	699	£ 3.5
ENW	2,356,612	3,232	£ 5.4
CE NEDL	1,568,612	3,235	£ 4.5
CE YEDL	2,247,727	1,047	£ 3.4
WPD S Wales	1,088,889	2,350	£ 3.2
WPD S West	1,520,440	6,547	£ 7.2
EDFE SPN	2,229,279	4,922	£ 6.6
EDFE EPN	3,496,181	1,900	£ 5.6
SP Distribution	1,991,331	553	£ 2.7
SP Manweb	1,482,550	3,626	£ 4.7
SSE Hydro	729,290	3,109	£ 3.4
SSE Southern	2,905,434	2,753	£ 5.6
Total	**26,643,453**	**36,312**	**£ 60.6**

N.B. Since EDF Energy (LPN) is an almost entirely underground network it is not eligible for the scheme.

[46] Due to our concerns over the information provided by SP Distribution, the lengths from DPCR4 have been used.

10. Connections incentives and obligations

Chapter Summary

This chapter set outs our policy proposals for connections. Because of consistent concerns from customers about service standards and the limited progress towards establishing effective competition, we will introduce guaranteed standards of performance to improve the level of service for customers who source connections from DNOs. We aim to stimulate more competition by allowing DNOs to earn margins on competitive connections activities and establish competition tests to determine the extent of competition in each DNOs' distribution service area.

Question 1: Do you agree with the scope, timeframes and the level of penalties proposed for the guaranteed standards regime?
Question 2: Should we develop a mechanism to ramp up the level of the proposed penalty payments?
Question 3: Should we cap the penalties that apply to each of the proposed standards?
Question 4: Should we apply in aggregate a 90 per cent performance target to apply to the standards and measure this on a quarterly basis?
Question 5: Do you agree with our market segmentation strategy for metered and unmetered connections? Are there any segments other than those identified that should be exempt from earning a margin?
Question 6: What are your views on the proposed level of regulated margin and is there any further evidence we should take into account in setting the level of regulated margin?
Question 7: Do you have any comments on the scope of the proposed competition tests?
Question 8: We invite views on the relative weighting of market share compared to the price and service tests? What level of lost market share would be appropriate to deem the market competitive?

Purpose of the proposals

10.1. Many activities of electricity network companies are natural monopolies, but, the building of network assets required to extend the network or connect to the existing network is potentially a competitive activity. Ofgem has sought to promote competition in the provision of electricity connections for a number of years. As set out in the 2007-08 Connections Industry Review[47] competition is still limited in most DNO regions and many customers do not have effective choice.

47 Gas and Electricity Connections Industry Review 2007-08, Ref:143/08, 16 October 2008

10.2. We continue to receive complaints from customers regarding poor service as well as formal complaints from third party providers concerning anti-competitive behaviour. We are concerned that competition in general is yet to develop effectively in all parts of the electricity connections market and we believe that action is required to ensure that customers receive a good level of service during the transition to effective competition as well as ensuring that competition is able to effectively develop.

10.3. In our December Policy Paper we set out our intentions to review the regulatory framework that supports connections by establishing standards on DNOs around the provision of connections services as well as progressing measures to stimulate a more competitive connections market.

Key issues in development

10.4. Since the publication of our December Policy Paper we have developed further the connections policy that will apply in DPCR5 by establishing two industry groups reporting to Ofgem's Electricity Connections Steering Group (ECSG). Both groups consisted of DNOs/IDNOs, customer representatives and third party connection providers.

10.5. These groups have focussed on two key policy areas. Firstly, extending regulation to ensure that customers who choose their DNOs to provide a connection receive a good level of service, and second; developing proposals designed to stimulate more competition through allowing margins on certain connections activities and schemes undertaken by DNOs. The ECSG groups that took forward this work were tasked with helping us to develop our thinking for Initial Proposals. In this chapter we discuss the proposals we have developed in relation to the following:

- Extending connections regulation through the establishment of a connections standards of performance regime, consisting of new guaranteed standards and an overarching licence condition;
- Segmenting the electricity connections market to identify those segments where competition is more likely to develop which in turn would attract a connections margin;
- Allowing regulated margins to all DNOs in market segments that are potentially competitive in order to provide more headroom for the development of competition, and;
- Allowing unregulated margins in competitive segments where DNOs can demonstrate that competition is effective by meeting defined competition tests.

10.6. We have developed our competition and standards proposals as an integrated package. They should not be viewed in isolation but rather as an entire proposal with consequences for failure and good performance under each element. There are

links between the standards regime and the ability to earn unregulated margins, for example failure to comply with the standards could disqualify a DNO from being able to earn an unregulated margin.

10.7. In developing these proposals we have reacted to concerns raised by customers and competitors about the effectiveness of competition in connections and current standards of service. We are attempting to secure service delivery in a market that is still dominated by incumbents by making use of formal regulatory instruments such as standards of performance and formalised obligations via licence conditions. We are also providing an incentive for DNOs to be proactive in facilitating competition where we have previously made use of punitive measures to achieve compliance and cooperation with the spirit of competition.

10.8. Customer representatives have raised concerns regarding price increases for rural customers as a consequence of allowing margins. By excluding segments where competition is not viable now or in the foreseeable future we have mitigated this concern. Furthermore, in response to concerns raised about allowing regulated margins before the competition tests have been met, we are proposing a claw back mechanism to recoup margins where the tests are not met by December 2013.

10.9. We recognise that there are legal constraints to requiring DNOs to make guaranteed standards payments to customers other than the end user (i.e. customers of suppliers). We do not consider that this issue is insurmountable as GDNs currently make payments to all classes of customers in accordance with a voluntary agreement. We expect DNOs to follow this example and make payments to all classes of customers. We propose that this agreement will form a condition of the price and service competition tests.

10.10. Improving DNO record keeping and data quality on connections is fundamental to the implementation of our proposals. There will be formal reporting requirements associated with the standards regime. DNOs will require appropriate information management systems and processes in place to produce a convincing evidence case for unregulated margins.

Further work required to finalise our proposals

10.11. We have not yet developed the significant detail that is required to underpin our proposals. We will commence this work in September 2009 through the ECSG groups. We are working towards completing this work stream for Final Proposals which is due in late November 2009.

Connections Guaranteed Standards

10.12. Following the close out of the Initial Proposals consultation we propose to develop, through the ECSG group:

- refinements that may be required to the standards,

- the detailed rules to support the standards package, for example, starting/stopping the clock in specific circumstances and the exemptions that will apply under the guaranteed standards,
- a detailed guidance document along with a comprehensive reporting pack, and
- the mechanics of a price accuracy review scheme.

Market segmentation, margins and competition tests

10.13. Following the close out of the Initial Proposals consultation we propose to develop, through the ECSG group:

- a detailed guidance document with a comprehensive reporting pack, and
- a licence condition to support the allowance of margins and the mechanics of the competition tests.

Details of the incentive

Connections guaranteed standards of performance

10.14. We propose to extend regulation and protection for customers who choose to source connections from their DNO. The ECSG group helped to develop a standards regime to apply to metered and unmetered customers who request connections from all licensed distributors. The scope of the standards reflects the connections activities that DNOs provide and the key interfaces that take place between customers and DNOs.

10.15. There is widespread support for the introduction of standards from the customers who attended the ECSG group. However, customers have raised concerns that the proposed compensation payments are too low and that Ofgem should consider developing a mechanism to ramp up the proposed penalties. DNOs, whilst accepting that some standards are required, expressed concerns over the range, the uncapped nature of the standards and the complexity associated with administering the standards.

10.16. These proposals represent a step change in our regulation of electricity connections and are similar to the regulatory regime that we have imposed on Gas Distribution Networks (GDNs). We believe that the package will focus DNOs on improving their connections service and should lead to fewer complaints about poor service.

Key features of the standards package

10.17. The package we propose to introduce will consist of the following:

- New Electricity Connections Guaranteed Standards of Performance (GSOPs) to guarantee to metered and unmetered customers a level of service that is

reasonable for DNOs to deliver in all cases. If the DNO fails to meet the level of service prescribed, it would be required to make a payment to the customer subject to certain exemptions. Payments under the guaranteed standards compensate customers for inconvenience caused. They are not designed to compensate customers for subsequent financial loss.

- The metered and unmetered standards will be supported by an overarching licence condition that will include an overall performance target set at 90 per cent that will apply in aggregate across the standards. A failure to meet the 90 per cent performance target could trigger enforcement action.
- The metered standards we propose cover the range of services that DNOs provide and are designed to ensure a good level of service throughout the lifecycle of a connection. For example, we propose to introduce a budget estimate service, impose tighter timeframes around the provision of quotations as well as ensuring that customers obtain certainty over the completion of physical works and the energisation phases of their connections.
- The unmetered connections services that have been previously delivered through a voluntary service level agreement will be formalised through GSOPs that will apply to the range of unmetered services that DNOs provided.

10.18. The connections guaranteed standards will be supported by a licence condition which will set out the range of services that the standards will apply to. We propose that the licence will include an overall performance target that will apply in aggregate across the standards. We consider that this should be set at 90 per cent and be measured on a quarterly basis. Where a DNO falls below this level of performance, Ofgem could commence enforcement action under the licence. The exact details of the licence condition will be developed as part of the detailed work that is required to finalise the standards regime.

10.19. The proposed GSOP standards do not contain caps against each service and no overall liability limit has been proposed. We consider that caps are not appropriate as service delivery would be entirely within the control of the DNO and because the relevant incentives must be maintained until the service is actually delivered. For a detailed overview of the standards package including a description of each standard and the proposed compensation payments, please refer to Appendix 3.

Overview of metered guaranteed standards

10.20. The metered standards cover the key interactions between customers and DNOs that take place during the lifecycle of a connection. These will apply to new connections and modifications to existing connections.

Provision of budget estimates

10.21. We propose to introduce a standard to cover the provision of budget estimates to apply across all voltage ranges (except small domestic LV jobs) and to all demand customers and generators. Customers often request a budget estimate

if they are unsure about their requirements or have not obtained planning permission for their development. Through this facility customers will be able to obtain a high level estimate of the value of their proposed connection, including whether reinforcement may be required.

Domestic Customers

10.22. The current version of the Electricity Standards of Performance Regulations includes two standards pertaining to the provision of estimates for small service domestic customers below five properties. These are known as the EGS3 standards. We propose to amend these standards by replacing the estimate with the provision of a quotation. We also propose to put in place certainty around the completion of work for small service customers with obligations on DNOs to contact customers to arrange a schedule of dates for commencement and completion of LV service works with the actual physical works being completed in timescales agreed with the customer.

Provision of quotations

10.23. We propose to introduce new standards around the provision of quotations to non-domestic LV, HV, EHV demand and generation connections. These schemes are currently subject to the obligations set out under standard licence condition 12 which obliges DNOs to provide quotations as soon as is reasonably practicable and not longer than three months. We propose tighter timeframes around the provision of quotations to apply across the voltage ranges to demand and generation customers.

Post quotation acceptance

10.24. A number of customers have complained to Ofgem about post quotation acceptance delays. A particular concern is that customers are often asked to pay upfront for their connections with little certainty over timeframes for completion of physical works and energisation. Our proposals address this concern by introducing an obligation on DNOs, that following acceptance of a quotation, they will within a specific timeframe, contact customers to arrange a schedule of dates for commencing and completing works. The DNO shall then commence the physical works within the timescales that have been agreed with the customer.

Energisation

10.25. Feedback from customers suggests that the most crucial phase in the lifecycle of a connection is the energisation. Delays in this respect can lead to parties facing consequential losses with little or no redress from the DNO who may have failed to deliver the power on time. We propose that DNOs complete the energisation phase of a connection in timescales agreed with customers. Where a DNO fails to achieve this it will have to make compensation payments that increase through the voltage levels.

Price Accuracy Review Scheme

10.26. The ECSG group did not conclude its discussions in this respect. On the one hand customers who attended the ECSG group supported the implementation of a mechanism within the DNO that allows customers to challenge the accuracy of a DNO's connection quotation, similar to that which operates in the GDNs. On the other hand, DNOs questioned the benefits of developing an accuracy review scheme. This is a matter that we intend to discuss further from September 2009. However, we believe that an important supporting feature of an accuracy review scheme is visibility and transparency over the main components of DNOs' connections quotation costs. We believe that this will provide customers with some reference over the make-up of their costs which will aid their decision on whether to make an accuracy challenge.

Overview of unmetered standards

10.27. The unmetered standards that we propose are derived from the existing Unmetered Service Level Agreement (UMSLA) Key Performance Indicators (KPIs). These relate to fault repairs, provision of quotes for new works and completing new works orders and are the core unmetered services that DNOs provide.

10.28. We propose to simplify the standards that currently exist and remove the various performance targets as they have created uncertainty in relation to reporting and agreeing performance with local authorities.

10.29. The standards will apply to all unmetered customers who request services from DNOs, for example, local authorities and other service providers who install unmetered street furniture. The standards will be the baseline arrangements that will apply unless the customer has negotiated alternative terms, for example through bilateral arrangements.

Fault Repairs

10.30. Fault repairs continue to be of concern to unmetered customers. We propose for emergency faults that DNOs attend site in two hours. High priority fault repairs have been split to differentiate between traffic light controlled and non traffic light controlled unmetered connections.

10.31. We propose that the timeframes pertaining to repairing multiple unit and single unit faults remain in line with the existing KPIs.

New Works – Provision of Quotes

10.32. The provision of quotations in a timely manner is a critical service for unmetered customers who require certainty over likely charges. The standards pertaining to the provision of quotes have been split to reflect that customers (specifically Local Authorities) will request new works orders for new street furniture

in newly adopted roads such as new housing estates and for unmetered apparatus in existing highways.

Commencement and completion of new works

10.33. A constant source of complaints from Local Authorities is the poor service they receive in relation to the commencement and completion of new unmetered works. Their concerns echo those of metered customers who often pay for these services upfront but have little certainty over the post quotation phases. The standards we propose would provide incentives on DNOs to commence and complete works in timescales agreed with the customer.

Segmenting the market

10.34. In developing our competition in connections proposals it is important to have visibility of the market segments that are most attractive to third party competitors and those segments where competition is unlikely to ever be attractive due to factors outside of the DNOs' control. This will enable us to determine where it would be appropriate to allow margins. We have developed a market segmentation strategy which allows us to identify where pockets of competition are concentrated. Currently at lower voltages, effective competition may be masked by lack of competitive activity for one-off connections where competition is not viable because the work tends to be low in volume and value. We propose the market segmentation for metered and unmetered connections in Tables 10.1 and 10.2. The segments shaded in grey would be exempt from earning any margins as we consider that competition is not viable now or in the foreseeable future at this level. We consider that by excluding these segments we are addressing the concerns of some respondents to the December Policy Paper regarding potential price increases for rural customers that would be unlikely to benefit from competition. This approach has the support of third party competitors on the ECSG sub-group who did not consider that these were segments they would be actively competing in. We seek views from respondents as to whether any other segments should be exempt from earning a margin. We are particularly keen to hear from local authorities in respect of the unmetered connections market.

Table 10.1 - Market segmentation for metered demand and generation connections

Demand connections	
Voltage	Market segmentation
LV	Small scale LV domestic connections- 1-4 premises
	One-off industrial & commercial single or three phase connection up to 60kVA
	Other LV with only LV work
HV	LV or HV end connections that involve HV work
HV & EHV	HV connections involving EHV work

EHV and above	EHV and 132kV customer connections
Distributed Generation	
LV metered generators	Generation with works limited to LV
HV and EHV generators	Generation with works above LV

NOTE: segmentation is based on the voltage at the point of connection, not at the point at which it is metered.

Table 10.2 - Market Segmentation for unmetered connections

Unmetered connections
New local authority connections: 1-10 jobs 11-50 jobs
New connections work for Private Finance Initiatives (PFIs)
Other unmetered connections work (non-local authority or PFI)

10.35. A detailed evaluation of the competitive potential of these market segments is contained in the Connections Impact Assessment in Appendix 9 (including the value of each segment).

Allowing regulated margins

10.36. In the December Policy Paper we set out a new approach to facilitating competition in connections by allowing DNOs to earn a regulated margin on contestable charges as this headroom will help attract new market entrants. Connections customers would ultimately benefit through pressure that new market entry will bring to raise efficiency, lower prices and/or improve service. There were mixed views from respondents to the December Policy Paper on this approach. Although some supported the principle, others expressed concerns with the premise of allowing DNOs margins in advance of passing any competition tests and some were concerned about price increases for rural customers in particular. There were limited responses regarding the level at which a regulated margin should be set with one DNO suggestion that 10 per cent would be an appropriate level.

10.37. Having worked through these issues with the ECSG sub-group, we propose that a reasonable regulated margin should be allowed for appropriate market segments until December 2013. DNOs that do not meet our competition tests by December 2013 will have a claw back mechanism applied to recoup the regulated margins and we would expect to refer them to the Competition Commission. Where practical and economic to do so, the regulated margins should be refunded to the customer that incurred them.

10.38. We propose that the margin should be set at a reasonable level that will create headroom but will also encourage DNOs to come forward early to show they meet our competition tests. At DPCR4, DNOs were permitted a margin of 1.5 per cent on metering activity, which was an appropriate return reflecting the level of risk involved. Connections are also a low risk activity for DNOs as they are fully funded by customers upfront. However, as our objective is to provide headroom for new entrants we recognise the value in setting the regulated margin at a level that

reflects market rates. One DNO has submitted an independent report to Ofgem that analyses electrical contractors' margins. The report, which was current in January 2009, suggests an average margin across a sample of contractors of 3.3 per cent with an average standard deviation of 4.9 per cent[48]. Taking this into account we propose a regulated margin of 4 per cent but welcome views or other relevant evidence that should be considered in setting the margin. Respondents should note that for simplicity no margin will be allowed on the indirect costs associated with connection charges and so the margin has been proposed at a level that takes account of the associated indirect costs. The Connections Impact Assessment (see Appendix 9) demonstrates the likely impacts of regulated margins on charges.

10.39. In the interests of price transparency for customers and simplified compliance monitoring, DNOs should not have the discretion to vary the regulated margin across segments and jobs. Equally, it would not be appropriate for Ofgem to require DNOs to charge a margin if they chose not to. As such, we are proposing a switch on/off provision in the licence which enables DNOs to charge a fixed level of regulated margin on all relevant segments, or no margin at all if they choose.

Applying competition tests and unregulated margins

10.40. The next level of our competition in connections proposal is to allow unregulated margins to DNOs in market segments where competition is demonstrated to be effective. The process of demonstrating effective competition will be through a number of challenging competition tests to be set and assessed by Ofgem. Failure to meet these tests by December 2013 is likely to result in a referral to the Competition Commission. This approach should encourage a change of mindset by DNOs with regard to competition.

10.41. We have worked closely with the ECSG sub-group to develop a set of competition tests for metered and unmetered connections that should:

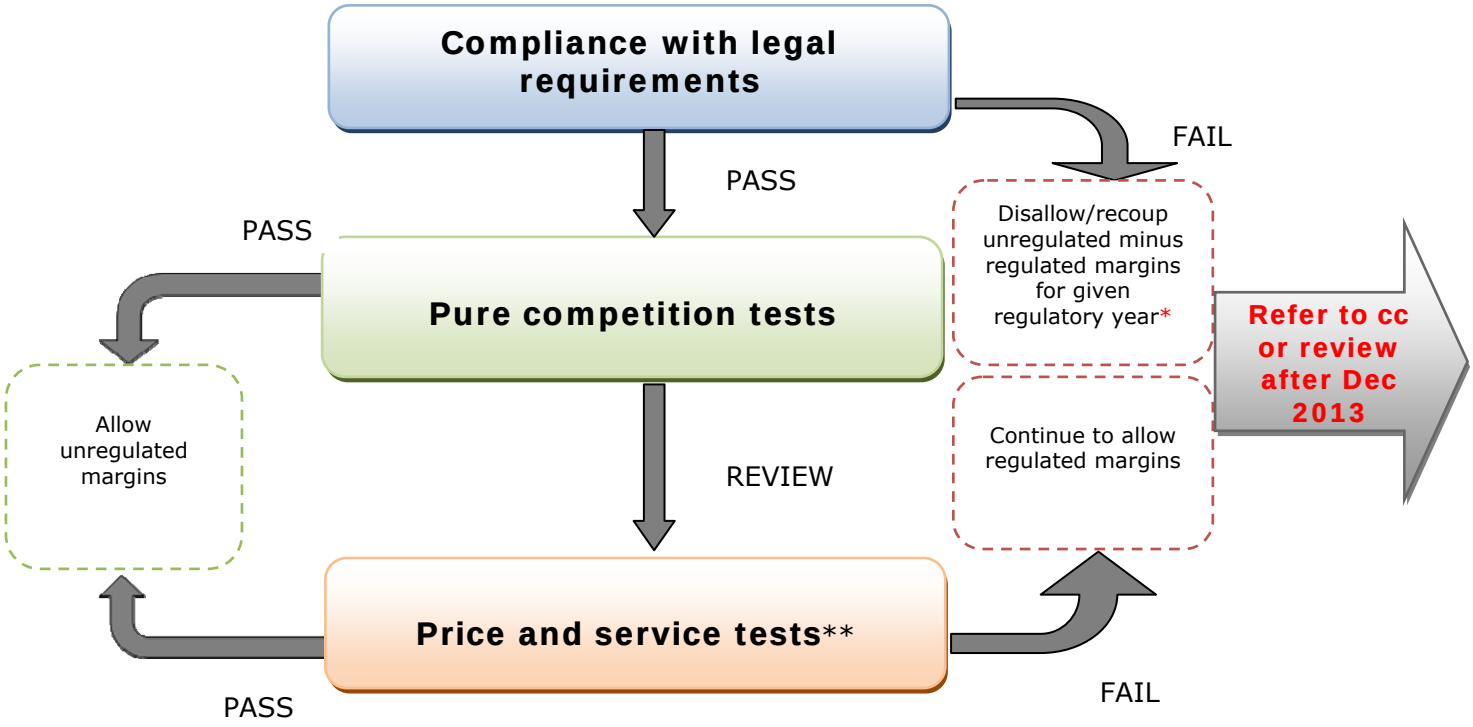
- ensure compliance with the spirit of competition,
- recognise effective competition,
- be within the DNOs' sphere of influence,
- seek to address barriers to competition and concerns raised by customers and industry participants where possible, and;
- recognise that DNOs could retain (or increase) market share by delivering competitive prices and service levels.

10.42. The proposed scope of the competition tests is set out in Appendix 3 to this chapter for respondents to consider and comment on. The tests can be broadly

[48] The methodology for calculating the margin was (Net Operating Income plus Fixed Asset Depreciation and Amortisation) divided by Net Sales

categorised in three ways; compliance with legal requirements, competition tests (such as market share) and price and service tests. Figure 10.1 below shows the proposed process for assessment against the competition tests.

Figure 10.1 - Process for assessment against the competition tests



NOTE* - As part of its investigation findings, Ofgem will determine the treatment of the regulated margin where a DNO is found to be in breach of the legal requirements.

**DNOs cannot be assessed against the price and service tests until April 2011 whereby one year's compliance with the guaranteed standards can be demonstrated.

10.43. Broadly, we expect the DNOs' evidence case to provide data and qualitative evidence to demonstrate compliance with the specified competition tests. Evidence cases will be assessed by Ofgem and we will publically consult on our minded to position before an unregulated margin is allowed. DNOs can present their evidence case at any point before December 2013, after which they may be referred to the Competition Commission. We may limit the number of times that a DNO can come forward with an evidence case in a given regulatory year to encourage DNOs to consolidate their evidence.

Supporting regulatory framework

10.44. To support the new arrangements there will need to be a step change in the quality of data that DNOs record and report to Ofgem on their connections activities. The provision of connections performance data by DNOs will be necessary to support their evidence case against the competition tests and demonstrate compliance with

the new regulations. Ofgem will continue to monitor the market through the annual Connections Industry Review and the Regulatory Reporting Packs but may require certain information, such as market share data and performance against the guaranteed standards on a more frequent basis. Whilst for the initial part of DPCR5 it may be necessary for DNOs to report on a quarterly basis as systems and processes bed down, over time we expect to ease the regulatory burden by moving towards annual reporting. DNOs should plan to adapt their data management systems to reflect our proposed market segmentation for connections activity for DPCR5. In the coming months we will develop detailed information request templates for all areas of data collection for DPCR5, including connections, to apply from April 2010 onwards. DNOs should work towards this date to implement the required changes to their data management systems. To ensure ongoing compliance once a DNO has passed the price and service tests, DNOs may be required to submit an independent audit report to Ofgem annually to demonstrate how they continue to meet the requirements.

10.45. The policy proposals discussed in this chapter will need to be embedded into the regulatory framework so that they become formal undertakings for DNOs as part of the price control package. The new standards of performance will be formalised via an amendment to the existing Electricity (Standards of Performance) Regulations 2005 (SI 1019) and an accompanying new overarching licence condition. The provision of margins and the associated pre-requisite competition tests will need to be captured in a separate licence condition together with the triggers and mechanisms for disallowing or clawing back margins.

Price control treatment of sole use connections

10.46. Demand connections expenditure can be split into two categories:

- Expenditure on sole use connection assets which are directly funded by the connecting customer, and
- Expenditure on connection assets which are subject to the apportionment rule and are only partly funded directly by the connecting customer

10.47. The treatment of demand connections expenditure which is subject to the apportionment rule and is partly funded directly by the connecting customer is set out in chapter 2 of the Cost Assessment document. These connections will not attract a margin under our policy proposals outlined in this chapter.

10.48. Expenditure on sole use connections assets that are directly funded by the connecting customer will be an excluded service during DPCR5 and the contestable elements associated with direct costs could be subject to allowed margins as described in paragraphs 10.36 to 10.39. This is a different approach to the current price control treatment of customer contributions from sole use connections. Currently, all connections costs are treated in the same manner and added to the regulatory asset value (RAV) net of any customer contributions. We are proposing to break the current linkage with the price control so that revenue from sole use

connections is excluded and has no impact on the RAV. We consider that this approach should mitigate current concerns that DNOs and customers could be exposed to a disproportionate share of the costs through over or under recovery.

11. Broad measure of customer satisfaction

Chapter Summary

This chapter details the proposed scope of the new incentive on customer satisfaction. It is a composite measure consisting of a customer satisfaction survey, a complaints metric and some stakeholder engagement. It is designed to capture the views of all types of DNO customers across a range of contact experiences.

Question 1: Do you agree with the proposed scope of the broader measure?
Question 2: Do you agree with the revenue exposure and the incentive weightings proposed for each element?

Purpose of the incentive

11.1. The purpose of this new incentive is to capture and measure customers' experiences of contact with their DNO across the range of service and activities the DNOs provide to drive improvements in the quality of the overall customer experience. The broad measure builds on the existing DPCR4 telephony incentive scheme which is essentially a narrower measure of customer satisfaction focusing on the quality of DNOs' telephone call handling. Our concern is that the existing measure encourages narrow performance and we would like DNOs to adopt a more holistic approach to customer service. We intend the new measure to be broad in the sense that it captures many aspects of the customer experience and the views of all types of customers across the proposed components of the scheme. We are proposing a composite measure of customer experience consisting of three key elements:

- Customer satisfaction survey
- Complaints metric
- DNO stakeholder engagement

Key issues in development

11.2. There was general support from respondents to the December Policy Paper to move towards a broader measure of customer satisfaction. The main issues with our proposed approach raised by respondents were:

- Although many supported an advocacy approach[49] to deriving satisfaction scores, some were concerned how this could be applied in the context of a monopoly business (i.e. recommending a monopoly business where there is no competitive alternative is not realistic for customers),

- Where objective indicators are available to assess the customer experience they should be used instead of perception indicators (i.e. complaints data), and

- Output from the survey should provide DNOs with 'actionable insights' for improving their service and the survey should be focused in areas where most customer interaction occurs.

11.3. We consider that an advocacy scoring approach would be useful for deriving comparable scores across different customer groups and also giving respondents some discretion over the relative importance they attach to the different aspects of the service. However, we are mindful that asking respondents whether they would "recommend" the DNO may not be appropriate in some contexts and so we will take advice from market research professionals on how best to phrase such a question. Possible alternative approaches are to focus on how the respondent feels about the DNO following the contact experience or whether they would speak highly or critically of the DNO following the experience.

11.4. We agree that it is appropriate to include objective indicators within the overall measure if relevant and available. DNOs have been subject to the requirements of new complaint handling standards since October 2008[50]. It is therefore appropriate to incorporate their performance at resolving complaints into the broad measure using objective data that DNOs must record to demonstrate compliance with the complaint handling standards.

11.5. We agree that actionable insights for DNOs would be a useful output from the customer satisfaction survey and so we will work to ensure that there is a process in the management of the survey for feedback to be passed quickly back to DNOs. We are mindful that giving DNOs the autonomy to run the survey collectively (using a suitable market research agency) should expedite that process. In terms of focusing the survey in areas where most customer interaction occurs, we will look at the feasibility of setting quotas to cover certain contact or customer types in the satisfaction survey, but ultimately the weighting of the various components should take into account other factors such as the possible extent of customer detriment and the wider industry impact if the DNO performs poorly in certain areas.

[49] Under this approach, customer satisfaction is based on the respondent's overall perception of the company and their propensity to recommend or speak positively about them.
[50] SI No. 1898, The Gas and Electricity (Consumer Complaints Handling Standards)

Details of the incentive

11.6. We expect to use the first two years of DPCR5 to pilot the broad measure and by April 2012 we would like to be in a position to place an incentive on it. As the scheme will be new we think it is appropriate to have a moderate amount of revenue exposed during DPCR5, perhaps something in the region of +/-1 per cent of revenue which equates to 20 basis points of RORE. This exposure will need to be considered alongside the entire price control package before being finalised in Final Proposals. For the first two years of DPCR5 we will continue to run and incentivise the telephony survey with a view to it eventually being superseded by the broad measure (see chapter 12 on the Telephony incentive scheme).

Customer satisfaction survey

11.7. The customer satisfaction survey is intended to capture the views of all types of customers that have had a contact experience with the DNO including how the contact was handled and how the DNO performed in resolving the customer's issue. Our repeated consumer research forums which took place in June 2008 indicated that DNOs' customer service should primarily be focused on the resolution of the customer's issue. We intend the survey to capture the customer journey from initial contact with the DNO to resolution of their issue. In some cases, such as for DG and connections customers, we would like to capture their experience of the pre-contact stage, for example in terms of user-friendliness of DNOs' website as well as the quality and availability of information on it. For DPCR5 there is a particular emphasis on information provision for DG customers and other potential connectees so the broad measure should be a useful mechanism for gauging how successful DNOs' information provision strategies are. It will also allow for comparisons between DNOs by using an overall advocacy indicator to generate a score.

11.8. We will work with the Consumer Issues Working Group (CIWG) to develop a questionnaire to be piloted in the early part of DPCR5. For each DNO the survey will seek to establish consumers' views on:

- the company's handling of their contact/service issue,
- the outcome of the contact/service issue,
- the level of satisfaction with the overall experience using advocacy scoring, and
- the reasons for satisfaction/dissatisfaction.

11.9. We intend that the survey will cover the different forms of communication and stages that the customer goes through as their issue is addressed by the DNO. We expect that separate quotas for specific areas of the DNOs' operations will be a necessary element of the sample design. There will also be a number of key service attributes to include in the questionnaire that will reveal the drivers of customer satisfaction/dissatisfaction. The proposed coverage of the survey is outlined in Table 11.1.

Table 11.1 - Proposed coverage of the customer satisfaction survey

Contacts	Forms of communication	Service attributes
▪ Supply interruptions (planned and unplanned) or emergency reports ▪ Connections (demand and generation) ▪ General enquiries	▪ Telephone contact ▪ Messaged contacts ▪ Written – letters and emails ▪ Face-to-face - site visits ▪ Website information provision	▪ Ease of contact ▪ Speed of service ▪ Quality and availability of information ▪ Delivery of promises/ commitments ▪ Knowledge and professionalism of staff ▪ Helpfulness/politeness of staff ▪ Quality of workmanship ▪ Resolution of issue ▪ Overall satisfaction (advocacy score)

11.10. We consider that the pilot and ongoing survey should be undertaken by a market research professional subject to input from Ofgem and the CIWG. We propose that the costs of the ongoing survey work should be shared across the industry as DNOs have a clear common interest in the results of the survey. Subject to a satisfactory pilot and commissioning of an ongoing survey it is our intention to discontinue the current telephony survey or amalgamate it into the broader measure by April 2012.

11.11. In collating the sample for this survey we think that it will be necessary for DNOs to provide data covering all resolved contacts. Further work is required to develop an appropriate definition of resolved contacts in the given categories but broadly speaking it will be when issues/jobs have been completed and removed from work/job systems.

Complaints metric

11.12. Customer complaints provide a useful indicator of the areas of concern for customers. Although complaints volumes are much lower for network companies than suppliers, the consumer detriment of network disputes can in some cases be greater. Connections activities, for example, can entail customers making large financial commitments upfront before the DNO commits to deliverables. Also, supply interruptions may have a significant financial impact on business customers and

could be a source of frustration to them. As such, we consider that DNOs have an important role in managing and resolving complaints.

11.13. New complaint handling standards were introduced for network companies in October 2008[51] and associated reporting arrangements for DNOs need to be developed. We recognise that where relevant data already exists we should seek to incorporate it into the broader measure in order to reduce regulatory burden. The information that DNOs now record in accordance with the new standards should provide some useful insight into the overall quality of customer experience that they are providing and the effectiveness of their complaint handling procedures. We propose that this information forms the basis of the development of a quantitative complaints metric forming part of the broader measure.

11.14. Ofgem will work with the CIWG in the coming months to develop an appropriate reporting template for complaints. The reporting template will form the basis of the complaints metric and we propose that it will include the following elements:

- Percentage of complaints unresolved by the end of the first working day after which the complaint was first received (day+1),
- Percentage of complaints resolved between date complaint received +1 and 31 calendar days,
- Percentage of repeated complaints, and
- Percentage of complaints referred to Ofgem as formal determinations.

11.15. These elements should be captured by DNOs and can be used to provide an informative insight into the consumer experience. The complaint handling standards provide useful criteria and definitions for recording complaints although further work at an industry level will be required to ensure that DNOs are robust and consistent in their interpretation. We expect DNOs to record complaints from all categories of customers and see no reason for the scope to be limited to that of the complaint handling standards definitions (i.e. domestic consumers and micro business consumers). Ofgem will work with industry to develop reporting rules and an audit regime to support the complaints metric.

Stakeholder engagement

11.16. To inform the DPCR5 process, DNOs undertook stakeholder engagement in their local area and have detailed how they have taken on board the views of local

[51] SI No. 1898, The Gas and Electricity (Consumer Complaints Handling Standards) Regulations 2008 www.opsi.gov.uk

stakeholders in developing their forecast business plans. DNOs have reported that they found this exercise to be generally useful and we consider that there is a role for DNOs to engage with their stakeholders on an ongoing basis. Details of the DNOs' individual approaches to stakeholder engagement are described in Appendix 12 of the December Policy Paper Supplementary Appendices document.

11.17. Stakeholder engagement is a necessary component of the broad measure. It can be used to capture the views of those customer and interest groups (such as suppliers and local development agencies) that are impacted by DNOs activities but are not necessarily the end customer of the DNO. In particular, it can help DNOs face the challenge of identifying and understanding what types of customers will demand their connection and distribution services in the near future, and to assess what information future customers might need and the service they expect. It will also play an important role in enabling DNOs to target any expenditure under the new worst served customer mechanism (see chapter 13 below) and in meeting the new requirements to provide DG developers with the information they need (see chapter 2 above).

11.18. Accepting that there could be an element of subjectivity to measuring stakeholder engagement, we propose that the incentive weighting will be less than for the customer satisfaction and complaints metrics. We are also proposing that the stakeholder engagement element should not have a downside on revenue exposure (i.e. good performance in stakeholder engagement will enable DNOs to earn extra revenues but will not attract penalties) and that the downside risk should be shared equally across the other two components.

11.19. We propose that DNOs should consult with stakeholders in their local area on an ongoing basis to understand the impact of their activities on customers and the community to be able to act on their feedback. DNOs should seek feedback on how satisfied stakeholders are with the quality of their engagement, perhaps focusing on whether they consider that the DNO has provided them with:

- the correct level of ongoing contact to maintain an effective working relationship,
- sufficient information about the DNO and its future plans to understand its likely impact on the stakeholde, and
- Sufficient opportunity, and the information they require, to influence the DNOs' plans and practices.

11.20. We will work with the Consumer Challenge Group and industry in the coming months to develop some criteria for measuring stakeholder engagement and a framework for DNO assessment.

11.21. The proposed exposure of one per cent of base revenue equates to approximately 11 basis points in terms of RORE and as with all of the proposed incentives for DPCR5 will need to be considered alongside the entire price control package before being finalised in Final Proposals.

Table 11.2 - Proposed scope of the broader measure

Component	Focus	Target customers	Potential RORE/ revenue exposure
Customer satisfaction survey	Interruptions, connections and general enquiries	Domestic, non-domestic, IDNOs, ICPs, DG customers, developers and customers dealt with by messaging.	+5/-6 RORE or +0.4/-0.5 %
Complaints metric	Unresolved and repeated complaints, complaints referred to Ofgem as determinations	All customer complaints (including domestic, non-domestic, DG, IDNOs, ICPs, developers)	+5/-6 RORE or +0.4/-0.5%
Stakeholder engagement	Stakeholder views of the DNOs' approach to engagement	All relevant stakeholders including suppliers, IDNOs, ICPs, Local Authorities, developers, DG customers, environmental and planning organisations	+2 RORE or +0.2%

12. Telephony incentive scheme

Chapter Summary

This chapter details the proposed improvements to the existing telephony incentive scheme in the early part of DPCR5 before it is replaced with the broad measure.

Question 1: Do you agree with the proposed improvements to the telephony scheme?
Question 2: Do you agree with our proposals and methodology for recasting the reward and penalty thresholds?

Purpose

12.1. This incentive is the existing customer satisfaction measure for DNOs from the current price control. It is narrow in scope as it only covers the quality of the DNOs' call handling. We remain committed to continuing a refined version of the DPCR4 telephony incentive scheme for the first two years of DPCR5, whilst developing the broad measure in parallel to go live in April 2012.

Key issues in development

12.2. In the December Policy Paper we highlighted our intention to make a number of improvements to the existing telephony scheme for DPCR5. These improvements are discussed below.

Streamlining the attributes

12.3. In December we said we intended to streamline the existing survey attributes from five to three focusing on politeness of staff, accuracy of information and satisfaction with the speed of response. Respondents were broadly in agreement with this approach. Subsequent discussions in the Consumer Issues Working Group indicated that usefulness of information would be a more appropriate attribute than accuracy of information as it could be perceived as having a broader meaning in the context of information provision. With this in mind we propose that the survey be streamlined to focus on politeness of staff, usefulness of information and satisfaction with the speed of response.

Weighting unsuccessful calls within the incentive

12.4. Respondents to the December Policy Paper broadly supported the inclusion of unsuccessful calls within the incentive scheme to supplement the telephony survey results. So that DNOs are incentivised to keep all unsuccessful calls to a minimum we propose a 75 per cent weighting on them. That is to say that survey scores will be scaled back by a factor based on the population of unsuccessful calls using the

formula: Score = (politeness + usefulness + speed)/3) * (1-% unsuccessful calls*0.75)

12.5. The impact on DPCR4 scores of streamlining the attributes and weighting unsuccessful calls is shown in Table 12.2. For comparison Table 12.1 shows actual DPCR4 scores.

Table 12.1 - DPCR4 telephony performance (without adjustments)

	DPCR4 performance				4 yr average
	2005/06	2006/07	2007/08	2008/09	
CN West	4.29	4.33	4.37	4.41	**4.35**
CN East	4.36	4.37	4.40	4.43	**4.39**
ENW	4.29	4.13	4.39	4.47	**4.32**
CE NEDL	4.44	4.44	4.43	4.46	**4.44**
CE YEDL	4.33	4.38	4.34	4.41	**4.36**
WPD S Wales	4.49	4.50	4.56	4.57	**4.53**
WPD S West	4.43	4.41	4.47	4.51	**4.46**
EDFE LPN	4.20	4.17	4.03	3.98	**4.09**
EDFE SPN	4.29	4.18	4.03	4.00	**4.13**
EDFE EPN	4.34	4.27	4.16	4.19	**4.24**
SP Distribution	4.11	4.00	4.14	4.26	**4.13**
SP Manweb	4.24	4.18	4.30	4.38	**4.28**
SSE Hydro	4.57	4.54	4.57	4.62	**4.57**
SSE Southern	4.37	4.35	4.39	4.42	**4.38**
DNO Average	**4.34**	**4.30**	**4.33**	**4.36**	**4.33**

Table 12.2 - Average assessed scores based on streamlining attributes from five to three and incorporating a proportion of unsuccessful calls

	DPCR4 scores adjusted (3 attributes & unsuccessful calls)				4yr average with unsuccessful calls	% unsuccessful calls				4yr average
	2005/06	2006/07	2007/08	2008/09		2005/06	2006/07	2007/08	2008/09	
CN West	4.18	4.10	4.18	4.29	**4.19**	3%	7%	5%	3%	**5%**
CN East	4.26	4.11	4.23	4.35	**4.24**	3%	7%	5%	2%	**4%**
ENW	4.06	3.93	4.33	4.44	**4.19**	6%	5%	1%	0%	**3%**
CE NEDL	3.99	4.20	3.97	4.20	**4.09**	13%	7%	14%	8%	**10%**
CE YEDL	4.01	4.07	3.84	4.21	**4.03**	9%	9%	16%	6%	**10%**
WPD S Wales	4.47	4.49	4.52	4.54	**4.50**	1%	1%	1%	1%	**1%**
WPD S West	4.41	4.37	4.44	4.48	**4.43**	1%	1%	1%	1%	**1%**
EDFE LPN	3.38	3.39	3.51	3.66	**3.49**	25%	23%	17%	10%	**19%**
EDFE SPN	3.80	3.66	3.59	3.68	**3.68**	15%	16%	14%	10%	**14%**
EDFE EPN	3.75	3.67	3.78	3.87	**3.77**	17%	18%	12%	10%	**14%**
SP Distribution	3.93	3.85	4.00	4.08	**3.96**	6%	5%	5%	5%	**5%**
SP Manweb	4.01	3.91	4.13	4.18	**4.06**	6%	8%	5%	5%	**6%**
SSE Hydro	4.15	4.10	4.42	3.94	**4.15**	13%	13%	4%	19%	**12%**
SSE Southern	4.18	4.12	4.17	4.03	**4.12**	6%	7%	6%	11%	**8%**
DNO Average	**4.04**	**4.00**	**4.08**	**4.14**	**4.06**	**9%**	**9%**	**8%**	**7%**	**8%**

Revising the reward / penalty thresholds

12.6. Figure 12.2demonstrates the impact of our proposed refinements to the telephony scheme on DPCR4 scores. Currently DNOs are rewarded for obtaining an average annual score of 4.5 or above and penalised for an average annual score of below 4.1. There is a dead band in between where DNOs are not rewarded or penalised. As expected based on DPCR4 scores and unsuccessful calls, streamlining the attributes and including unsuccessful scores within the scheme would push a number of DNOs into penalty territory and a number of frontier performers into the dead band. As we are essentially proposing to alter the design of the incentive by incorporating unsuccessful calls and streamlining the attributes, it would seem appropriate to recast the reward/penalty thresholds to reflect DPCR4 performance.

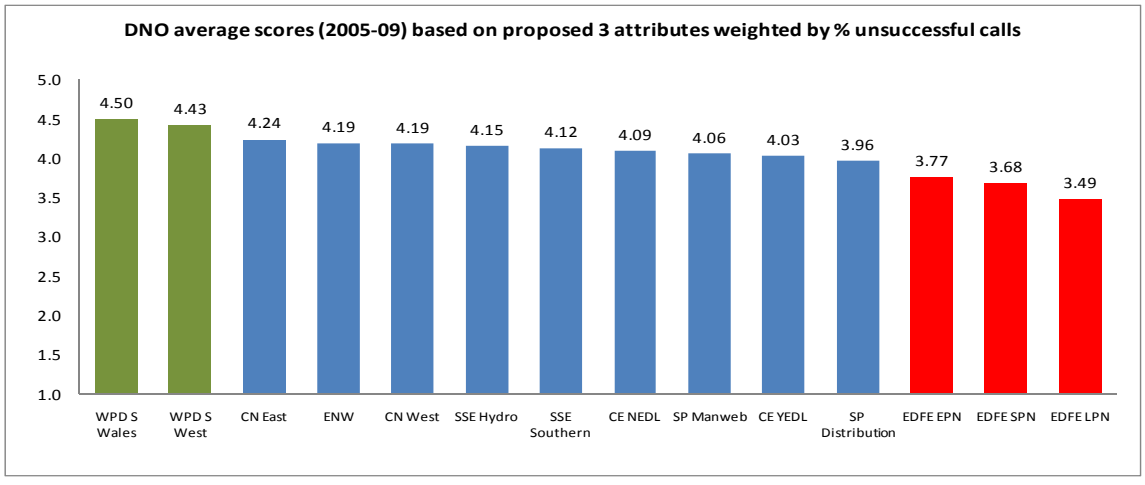
12.7. To recast the thresholds we propose scaling back the existing thresholds by applying an industry upper quartile of unsuccessful calls (four per cent as shown in Table12.2) from the first four years of DPCR4. This methodology derives the following new upper and lower bounds:

Lower bound = 3.9
4.1 *(1 - 0.04 * 0.75)

Upper bound = 4.4
4.5 *(1 - 0.04 * 0.75)

12.8. We consider that this approach maintains an appropriately sized dead band, thus retaining the incentive on DNOs to outperform, and an appropriate level of exposure and risk on poor performance. Figure 12.1 demonstrates that applying this methodology to DPCR4 performance results in three DNOs predominantly in penalty territory, nine in the dead band and two in reward territory (based on average performance across four years).

Figure 12.1 - DNO average scores (2005-09) based on proposed three attributes with a 75 per cent weighting applied to unsuccessful calls



Other issues

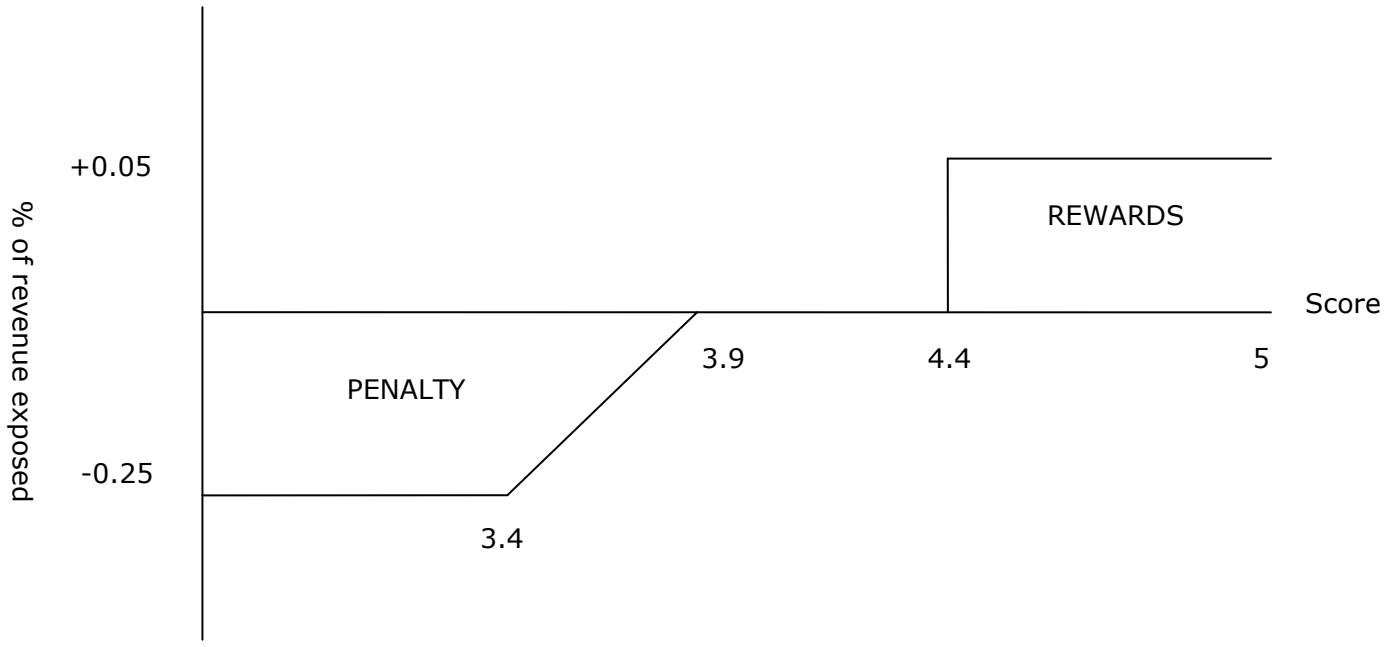
12.9. In the December Policy Paper we proposed incorporating calls dealt with by messaging into the survey. We are committed to obtaining the views of customers that were dealt with by a message and consider that there are no data protection restrictions in doing so. However, we recognise the need for the approach to be piloted before it is incentivised. As such, we propose capturing the views of customers dealt with by a message in the Broad Measure so that it can be fully piloted before implementation. We propose maintaining the focus of the telephony scheme on calls dealt with by an agent for the remaining two years of the scheme.

12.10. Given that we have identified the finite ending of the telephony scheme, we propose that Ofgem continues the running of the survey for the remaining years of the scheme. We will work with DNOs with a view to them taking over running the broader measure survey on a collective basis subject to a successful pilot.

Details of the incentive

12.11. We propose that the design of the incentive will be the same as the DPCR4 scheme with the likely range of revenue exposed remaining at -0.25 per cent to +0.05 per cent, this equates to approximately minus three and plus one basis points in terms of annual RORE and as with all of the proposed incentives for DPCR5 will need to be considered alongside the entire price control package before being finalised in Final Proposals. The proposed calibration of the DPCR5 scheme is shown in Figure 12.2.

Figure 12.2 - Proposed calibration of DPCR5 telephony scheme



13. Worst served customers

Chapter Summary

This chapter sets out the background to, and our proposals for, the mechanism to encourage DNOs to improve the service experienced by worst served customers.

Question 1: Do you agree with the proposed mechanism (in full) for worst served customers?
Question 2: Do you agree with the level of the proposed cap per benefiting customer? If not, what level do you believe is appropriate?

Purpose of the mechanism

13.1. We propose to introduce a new mechanism to improve performance for those customers experiencing large numbers of interruptions over a number of years. The main Interruptions Incentive Scheme (IIS) does not incentivise DNOs to target these customers, but instead focuses them on making interventions that improve the interruptions performance received by the largest number of customers for a given level of expenditure.

Key issues in development

13.2. We have developed a definition for a worst served customer. In doing so we have examined the number and duration of interruptions. The general consensus is that the number of interruptions a customer experiences is the most appropriate measure and this fits well with the information that is currently collected by DNOs and reported to Ofgem.

13.3. We have explored the various ways in which the service to worst served customers could be addressed; through an incentive, guaranteed standards or an allowance. We have decided that the best approach is through a "use it or lose it" allowance per DNO along the lines of the current undergrounding scheme (see chapter 9).

13.4. Given that currently reported information is not customer specific over more than one reporting year and recognising that this scheme will not improve the service experienced by all worst served customers within the 2010 to 2015 period, a number of respondents felt that it was not appropriate to set up an incentive mechanism to address worst served customers. Experience gained through DPCR5 may facilitate the future development of an incentive and this will be evaluated again in the future. Using guaranteed standards to specifically target worst served customers was not favoured by respondents and was seen as having the potential for circulating significant sums of money in guaranteed standard payments amongst customers without necessarily leading to any improvements in performance. There were also concerns that guaranteed standards would not necessarily target their intended audience, with short spikes in interruptions performance potentially leading

to payments going to customers whose long-run average performance was generally good. Given the apparent success of the DPCR4 undergrounding scheme for overhead lines in National Parks and Areas of Outstanding Natural Beauty and the limitations of the incentive and guaranteed standards approaches we are proposing to provide each DNO with a "use it or lose it" allowance for schemes to address worst served customers.

13.5. We have consulted on the size of the allowance and how it is allocated between the DNOs. We have proposed an allowance of £42million based on approximately their contribution to general quality of service improvements during DPCR4 and DPCR5 that they are unlikely to have benefited from. We had previously proposed to give an equal allowance to eligible DNOs but following responses to earlier consultations we proposed in May to base the allocation of the allowance pot on the number of worst served customers in each DNO. This change was broadly welcomed.

13.6. We have consulted on a use-it-or-lose-it allowance along the lines of the undergrounding scheme and whilst many DNOs have expressed a desire for ex-ante funding and some form of claw-back, other respondents have favoured an ex-post funding arrangement. The question over what requirements/criteria should be in place for DNOs to access their allowances has received a great deal of attention, particularly over the proposed performance improvement needed and whether to have a cap per customer on recoverable expenditure. We remain open to what is an appropriate level to set this at.

13.7. Given that the cap proposed below represents approximately 15 years worth of what an average customer will have paid to their distributor, we are particularly keen to hear respondents' views as to whether they see this as an appropriate use of customers' money.

Details of the mechanism

Table 13.1 - Details of the worst served customers proposals

Issue	Proposal
Definition of worst served customer	Customer experiencing greater than or equal to five higher voltage interruptions on average over a three year period i.e. 15 or more over three years. Additional caveat of a minimum of three higher voltage interruptions in each year.
Required performance improvement	25 per cent reduction in the average number of higher voltage interruptions for worst served customers - measured over full three reporting years post expenditure
Total allowance pot	£42 million over DPCR5 use-it-or-lose-it allowance

Issue	Proposal
Distribution of allowance pot	Based on the number of worst served customers in each eligible DNO see Table 13.2
Cap per worst served customer	£1000 per worst served customer
Funding arrangements	Ex-post allowed into DPCR6 RAV on an NPV neutral basis provided that performance and eligibility criteria are met
Customer service reward scheme	Will look at communication with worst served customers, innovative schemes and best practice.

13.8. We propose to include communication with worst served customers in the customer service reward scheme and would expect to see greater DNO engagement with such customers.

Table 13.2 - DNO DPCR5 worst served customer allowances

DNO	Allowance £m
CN West	8.3
CN East	4.6
ENW	2.4
CE NEDL	1.4
CE YEDL	1.9
WPD S Wales	3.4
WPD S West	2.8
EDFE LPN	0.0
EDFE SPN	4.2
EDFE EPN	2.1
SP Distribution	2.8
SP Manweb	1.6
SSE Hydro	3.2
SSE Southern	3.3

14. Interruptions Incentive Scheme (IIS)

Chapter Summary

This chapter sets out the background to and the proposals for, the various elements of the interruptions incentive scheme (IIS) for DPCR5, including unplanned interruptions and duration targets as well as allowances for pre-arranged interruptions and refinements to the exceptional events mechanism.

Question 1: Do you agree with the proposal that any required improvement from current performance levels should be funded by shareholders?
Question 2: Do you agree with the approach to setting pre-arranged allowances?
Question 3: Do you agree with the proposed levels of revenue exposure and incentive rates?
Question 4: Do you agree with the proposed refinements to the exceptional events mechanism?

Purpose of the incentive

14.1. The current interruptions incentive scheme incentivises DNOs to deliver a good level of performance in respect of customer interruptions (CIs) and customer minutes lost (CMLs). This incentivises the DNOs to invest in and operate their system to manage and reduce both the frequency and duration of power cuts experienced by customers. We have been considering the targets per DNO and the strength of the incentive for DPCR5.

Key issues in development

14.2. The interruptions incentive scheme is comprised of a number of elements that have been the subject of consultation in previous documents. The areas we are considering as part of this review are:

- The approach to setting unplanned CI and CML targets,
- Determining revenue exposure and incentive rates,
- Whether to provide funding allowances for IIS improvements,
- The treatment of exceptional events,
- Whether to include short interruptions in the incentive scheme,
- The approach to determining pre-arranged CI and CML allowances.

14.3. In developing unplanned targets for DPCR5 we have incorporated a number of suggested changes to the benchmarking methodology, such as customer density on feeders and the DNOs' ability to influence fault rates on different types of network. We have moved away from locking in the DPCR4 2009-10 targets for DPCR5 and are now taking into consideration DNOs' own forecasts of underlying performance as well as the magnitude of any gap between current performance and the benchmark when setting unplanned targets. We have also consulted on the period over which targets should apply and whether the methodology could be set such that targets for beyond

DPCR5 are determined by DPCR5 out-turns. The majority of respondents do not favour this at the present time although some are in favour and we remain keen to explore this during DPCR5 with a view to considering it again at the next review.

14.4. We are proposing to move towards uniform incentive rates across the DNOs, and have moved 50 per cent between existing rates and the uniform willingness to pay rates for DPCR5. While initially this proposal received limited support, most respondents now appear to accept the underlying principal and the focus now is on the magnitude of the incentive rates for CIs and CMLs. We have taken into consideration both domestic and non-domestic willingness to pay from our 2008 customer research for improvements in the frequency and duration of interruptions, and in the case of duration have also looked to factor in the implied duration willingness to pay from possible changes to the 18 hour guaranteed standard. We have taken into account the shift in customer sentiment evident in our latest customer research. We have also attempted to reflect the make-up of DNOs' customer bases' by utilising profile data provided to us by one of the companies.

14.5. We propose that the incentive rate should drive decision making on whether to invest to improve quality of supply. Consistent with this we are not allowing any ex ante quality of supply revenue allowances unlike in DPCR4. A number of the DNOs have voiced concern that where performance improvement is implied by the target that we set for DPCR5 this effectively requires shareholders to fund this. We think this is appropriate as customers should not be required to provide up front funding for closing the gap between the poorer and better performing companies.

14.6. Respondents' views are driven by their experience of the scheme and events during the DPCR4 period. The majority of responses prefer maintaining the current methodology for severe weather events. This sets the threshold at eight times their historic daily average higher voltage fault rate. For "one-off" exceptional events respondents want to see a broadening of the types of event eligible for scrutiny under this mechanism.

14.7. Respondents questioned whether short interruptions should be incentivised in DPCR5. Ofgem's customer research for DPCR5 indicated a high willingness to pay for reductions in the number of short interruptions. DNOs are also increasingly using automated switching sequences to restore supplies. We therefore think DNOs need to improve reporting in this area and to monitor ongoing customer attitudes to short versus long interruptions.

14.8. We have consulted on the appropriate method of including pre-arranged interruptions in the mechanism and to date most respondents have favoured continuing with the DPCR4 methodology of including pre-arranged interruptions in DNOs' targets, with the reduced 50 per cent weighting. The possibility of developing some form of flexible mechanism relating to the volume of work undertaken has been discussed, but at this stage is not sufficiently developed and will be looked at again during DPCR5. The development of outputs for DPCR5 could provide scope for claw-back of pre-arranged allowances if the associated outputs are not delivered.

Details of the incentive

Overview

Table 14.1 - Indicative revenue exposure to IIS

Element of IIS	Revenue exposure	RORE (annual average)[52]
Customer interruptions (CI)	0.8 per cent of base revenue	9 basis points
Customer minutes lost (CML)	2.2 per cent of base revenue	26 basis points

Table 14.2 - Interruptions included in IIS and their respective weightings

Source of CI/CML	Weighting
Unplanned CI and CML arising on the distribution network	100 per cent for CI and CML
Pre-arranged CI and CML arising on the distribution network	50 per cent for CI and CML
CI and CML arising from distributed generators	100 per cent for CI and CML
CI and CML arising from transmission and other connected networks	0 per cent for CI and 10 per cent for CML[53]

Revenue exposure to IIS

14.9. At present we propose to cap and collar the proportion of revenue exposed under the scheme at 0.8 per cent for CI and 2.2 per cent for CML, although these values may be revised prior to Final Proposals when we consider the holistic RORE settlement. These caps will apply to the entire DPCR5 revenue i.e. performance in individual years may exceed the caps and this will be rolled over into an evaluation of performance over the entire period once all of the DPCR5 data is available, with a final "true-up" undertaken in DPCR6.

[52] This is the average of the annual maximum reward/penalty in terms of RORE across the 14 DNOs.
[53] Where CMLs are incurred due to upstream incidents in relation to either transmission or generation activities (such as low frequency) as a result of the DNO complying with Statutory and/or Licence requirements, then none of these CMLs will be included in the IIS.

Unplanned CI and CML targets

14.10. The IIS will have symmetric annual rewards and penalties depending on each DNO's performance against their unplanned targets for the number of customers interrupted per 100 customers (CI) and the number of customer minutes lost per customer (CML). CI and CML performance against targets will be evaluated independently i.e. a DNO may receive a penalty for CI but a reward for CML.

Table 14.3 - Targets for unplanned Customer Interruptions (CIs)

DNO	2010-11	2011-12	2012-13	2013-14	2014-15
CN West	102.6	101.9	101.3	100.6	100.0
CN East	72.7	72.3	71.8	71.4	70.9
ENW	49.7	49.7	49.7	49.7	49.7
CE NEDL	63.0	63.0	63.0	63.0	62.9
CE YEDL	70.5	70.1	69.6	69.2	68.7
WPD S Wales	71.7	71.3	71.0	70.6	70.3
WPD S West	69.2	69.2	69.2	69.2	69.2
EDFE LPN	31.8	31.8	31.8	31.8	31.8
EDFE SPN	81.7	81.2	80.6	80.1	79.6
EDFE EPN	72.3	72.4	72.2	72.0	71.7
SP Distribution	58.1	58.0	58.0	58.0	57.9
SP Manweb	42.4	42.2	42.0	41.8	41.7
SSE Hydro	69.7	69.7	69.7	69.7	69.7
SSE Southern	68.8	68.8	68.7	68.7	68.7

Table 14.4 - Targets for unplanned Customer Minutes Lost (CMLs)

DNO	2010-11	2011-12	2012-13	2013-14	2014-15
CN West	82.8	81.2	79.6	78.0	76.5
CN East	61.1	60.0	58.8	57.7	56.5
ENW	47.7	47.7	47.7	47.7	47.6
CE NEDL	58.8	58.0	57.3	56.6	55.9
CE YEDL	67.3	66.1	64.9	63.7	62.6
WPD S Wales	38.0	38.0	38.0	38.0	38.0
WPD S West	41.9	41.9	41.9	41.9	41.9
EDFE LPN	39.1	39.1	39.1	39.1	39.1
EDFE SPN	81.0	76.0	71.0	66.0	61.0
EDFE EPN	61.0	59.8	58.7	57.5	56.4
SP Distribution	50.1	49.9	49.7	49.5	49.2
SP Manweb	50.9	50.4	49.9	49.4	48.9

DNO	2010-11	2011-12	2012-13	2013-14	2014-15
SSE Hydro	59.7	59.7	59.7	59.7	59.7
SSE Southern	62.3	61.0	59.8	58.6	57.3

Pre-arranged CI and CML allowances for DPCR5

14.11. The pre-arranged element of the DPCR5 targets has been derived using the methodology employed for the ESQCR re-opener applications in the DPCR4 period. The pre-arranged CIs and CMLs determined by this approach will form a pre-arranged "pot" for DPCR5. This pot can be called upon at any time, with penalties being due if the pot is exceeded on a cumulative basis and reward only applicable once all years' data is available i.e. the DNO has been able to undertake its forecast work for fewer CIs and CMLs than determined by our methodology.

Table 14.5 - Pre-arranged CI and CML allowances[54] for entire DPCR5 period (with 100 per cent weighting)

DNO	Pre-arranged CIs	Pre-arranged CMLs
CN West	45.0	122.2
CN East	30.8	68.1
ENW	12.7	45.9
CE NEDL	42.6	112.6
CE YEDL	25.0	73.8
WPD S Wales	30.3	56.8
WPD S West	30.9	66.3
EDFE LPN	6.5	11.5
EDFE SPN	28.0	57.8
EDFE EPN	25.7	56.7
SP Distribution	20.1	55.0
SP Manweb	32.2	88.2
SSE Hydro	59.2	141.7
SSE Southern	25.6	55.4

CI and CML incentive rates for DPCR5

14.12. Incentive rates are based on closing 50 per cent of the gap between the existing DPCR4 incentive rates and those implied from our customer research, taking

[54] The proposed pre-arranged CI and CML allowances use the DNOs' expenditure forecasts for load, non-load, tree cutting and inspections and maintenance, as provided in the June FBPQs. We will update the pre-arranged allowances for Final Proposals to reflect our final baselines for expenditure across the respective categories.

into account the views of all customer types and also the most recent indications from our updated customer research conducted in May and June 2009. The incentive rates will be uniform, in real terms, across the DPCR5 period. As we have had to make a number of assumptions to derive these incentive rates we may need to refine these prior to Final Proposals. For Final Proposals we will incorporate the IQI rates in setting the final CI and CML incentive rates for DPCR5.

Table 14.6 - CI and CML incentive rates for DPCR5

DNO	CI incentive rate £m	CML incentive rate £m
CN West	£ 0.19	£ 0.60
CN East	£ 0.22	£ 0.66
ENW	£ 0.23	£ 0.65
CE NEDL	£ 0.14	£ 0.41
CE YEDL	£ 0.20	£ 0.58
WPD S Wales	£ 0.10	£ 0.30
WPD S West	£ 0.14	£ 0.42
EDFE LPN	£ 0.43	£ 0.67
EDFE SPN	£ 0.17	£ 0.55
EDFE EPN	£ 0.28	£ 0.88
SP Distribution	£ 0.24	£ 0.60
SP Manweb	£ 0.19	£ 0.44
SSE Hydro	£ 0.09	£ 0.22
SSE Southern	£ 0.26	£ 0.76

Audits

14.13. We will conduct annual audits for all 14 DNOs throughout DPCR5 using the current streamlined approach in four out of five years. For each DNO we will also undertake an expanded audit in one of the years of DPCR5. The required accuracy thresholds for the audit will be as set out in Table 14.7.

Table 14.7 - Audit accuracy thresholds for DPCR5

Voltage	Overall accuracy	Initial stage accuracy (smaller sample)
EHV and 132kV	97 per cent	99 per cent
HV	95 per cent	97 per cent
LV	90 per cent	93 per cent

Severe weather exceptional events

14.14. We will evaluate severe weather exceptional events against thresholds based on eight times DNOs' daily average higher voltage fault rate for the last ten years (1999-2000 to 2008-09). These thresholds will apply for the entire period and will not be updated on an annual basis.

Table 14.8 - Severe weather exceptional event thresholds for DPCR5

DNO	Threshold	
	Category 1	Category 2
CN West	65	105
CN East	68	110
ENW	49	80
CE NEDL	37	59
CE YEDL	37	60
WPD S Wales	45	73
WPD S West	59	97
EDFE LPN	19	31
EDFE SPN	48	78
EDFE EPN	85	139
SP Distribution	76	124
SP Manweb	68	110
SSE Hydro	56	91
SSE Southern	66	107

One-off exceptional events

14.15. We will expand the types of incidents eligible for evaluation under the one-off exceptional event mechanism so that asset failures could be considered. As in the current period there would be no automatic pass of claims meeting the thresholds of 25,000 customers interrupted and/or 2,000,000 customer minutes lost and it would only be the amount above the threshold that would be eligible for exclusion. We would anticipate a limited number of claims under the mechanism and particularly for asset failures one of the requirements of an evaluation of such claims would be the extent to which there had been similar events in the past. We will also look to how these events sit within the wider outputs framework being proposed in DPCR5.

Table 14.9 - Thresholds for one-off events in DPCR5

DNO	CI threshold	CML threshold
CN West	1.0	0.8
CN East	1.0	0.8
ENW	1.1	0.8
CE NEDL	1.6	1.3
CE YEDL	1.1	0.9
WPD S Wales	2.3	1.8
WPD S West	1.6	1.3
EDFE LPN	1.1	0.9
EDFE SPN	1.1	0.9
EDFE EPN	0.7	0.6
SP Distribution	1.3	1.0
SP Manweb	1.7	1.3
SSE Hydro	3.4	2.7
SSE Southern	0.9	0.7

Short interruptions

14.16. There will be a programme of work during DPCR5 to better record and report short interruptions and also to understand customers' experiences and attitudes to short versus long interruptions. For DPCR5 short interruptions will remain un-incentivised.

Non-domestic customers

14.17. Information provision to all customers including non-domestic customers will be picked up by the broad measure of customer satisfaction. There will be an associated work-stream during DPCR5 to develop, where feasible, more specific interruptions reporting by different classes of customer.

15. Guaranteed standards of performance

Chapter summary

This chapter sets out our proposals for the (non-connections related) guaranteed standards of performance and associated payment levels for DPCR5.

Question 1: Do you agree with the proposal to increase guaranteed standard payment levels to reflect inflation?
Question 2: Do you agree with the proposal to introduce some form of payment cap for large one-off events?
Question 3: If you agree to the introduction of some form of payment cap, what is your preferred method?
Question 4: Do you agree that rota disconnection interruptions should be treated independently of the multiple interruption standard?

Purpose of the mechanism

15.1. To provide payments to end customers in the event of individual standards not being met.

Key issues that have arisen in the development of the mechanism

15.2. As part of the customer research for DPCR5 we asked respondents views on the current range of guaranteed standards and the associated payments for failing to meet them. In general customers felt that the range of standards covered the right areas therefore, with the exception of connections which are covered in chapter 10, we are not proposing to introduce new guaranteed standards. Customers have expressed concerns over the timeframe associated with the normal weather standard, currently 18 hours, and the associated guaranteed standard payment, currently £50 for domestic customers. DNOs have pointed to no significant technological changes that would warrant changing the current standard and have cited possible perverse consequences that could arise if it were tightened.

15.3. We have consulted on adjusting the existing guaranteed standard payments to take account of the impact of inflation[55] over the course of the current price control.

15.4. DNOs have expressed concerns over their current uncapped exposure to large one-off events that do not qualify as exceptional events under the IIS. Examples of

[55] The guaranteed standard payment levels in Table 15.1 will be updated in Final Proposals to reflect the impact of inflation over DPCR4.

such events during DPCR4 are the sequential loss of three grid transformers in SSE Southern's area in October 2005 which affected almost 80,000 customers and the circuit breaker mal-operation event in November 2008 in SP Manweb's area which affected almost 125,000 customers. We have consulted on possible changes to the current one-off exceptional events mechanism and also whether there should be similar caps per customer in terms of guaranteed standards, as exist for severe weather events, or whether there should be a cap per event for 132kV and EHV incidents.

15.5. We are proposing to broaden the potential types of event that are eligible for review under the IIS one-off exceptional events mechanism and see merit in linking payments under the guaranteed standards for one-off events with the outcome of an independent review of the one-off IIS claim. We also see merit in applying a cap per customer for one-off events as is already the case for severe weather events and seek views on whether there should also be an event specific or cumulative cap on guaranteed standards exposure.

Details of the mechanism

15.6. The proposed payment levels for DPCR5 are set out in Table 15.1 below and the current levels are set out in brackets.

Table 15.1 - Guaranteed Standards of Performance

Reporting code	Service	Performance Level	Guaranteed standards Payments
GS1	Respond to failure of distributors fuse (Regulation 10)	All DNOs to respond within 3 hours on a working day (at least) 7 am to 7 pm, and within 4 hours on other days between (at least) 9 am to 5 pm , otherwise a payment must be made	£22 (£20) for domestic and non-domestic customers
GS2*	Supply restoration: normal conditions (Regulation 5)	Supply must be restored within 18 hours, otherwise a payment must be made	£54 (£50) for domestic customers and £108 (£100) for non-domestic customers, plus £27 (£25) for each further 12 hours
GS2A*	Supply restoration: multiple interruptions (Regulation 9)	If four or more interruptions each lasting 3 or more hours occur in any single year (1 April – 31 March) , a payment must be made	£54 (£50) for domestic and non-domestic customers
GS4*	Notice of planned interruption to	Customers must be given at least 2 days notice,	£22 (£20) for domestic and non-

	supply (Regulation 12)	otherwise a payment must be made	domestic customers
GS5	Investigation of voltage complaints (Regulation 13)	Visit customer's premises within 7 working days or dispatch an explanation of the probable reason for the complaint within 5 working days, otherwise a payment must be made	£22 (£20) for domestic and non-domestic customers
GS8	Making and keeping appointments (Regulation 17)	Companies must offer and keep a timed appointment, or offer and keep a timed appointment where requested by the customer, otherwise a payment must be made	£22 (£20) for domestic and non-domestic customers
GS9	Payments owed under the standards (Regulation 19)	Payment to be made within 10 working days, otherwise a payment must be made	£22 (£20) for domestic and non-domestic customers
GS11*	Supply restoration: severe weather conditions (Regulation 6)	Depending on category of event supply must be restored within 24, 48 or a multiple of 48 hours (see table 2.2 below), otherwise a payment must be made	£27 (£25) for domestic and non domestic customers, plus £27 (£25) for each further 12 hours up to a cap of £216 (£200) per customer
GS12*	Supply restoration: Highlands and Islands (Regulation 7)	Supply must be restored within 18 hours, otherwise a payment must be made	£54 (£50) for domestic customers and £108 (£100) for non-domestic customers, plus £27 (£25) for each further 12 hours

15.7. The thresholds for normal and severe weather conditions are set out in Table 15.2 below.

Table 15.2 - Thresholds for normal and severe weather conditions

	Category 1 - Medium severe weather events	Category 2 - Large severe weather events	Category 3 - Very large severe weather events
DNO	**8* mean HV and above**	**13* mean HV and above**	**35% of exposed customers**
CN West	65	105	347,000
CN East	68	110	445,000
ENW	49	80	256,000
CE NEDL	37	59	218,000
CE YEDL	37	60	362,000
WPD S Wales	45	73	214,000
WPD S West	59	97	278,000
EDFE LPN	19	31	305,000
EDFE SPN	48	78	307,000
EDFE EPN	85	139	561,000
SP Distribution	76	124	228,000
SP Manweb	68	110	172,000
SSE Hydro	56	91	129,000
SSE Southern	66	107	412,000

Possible revisions to GS2 and GS2A

15.8. We invite views on whether any of the following changes should be made to GS2, supply restoration in normal weather conditions:

- Introduce a cap per customer for large one-off events equivalent to that applying for severe weather events,
- Introduce a limit on DNO exposure to individual one-off events,
- Introduce a limit on DNO exposure on a cumulative annual basis.

15.9. Over the course of DPCR4 there have been a number of occasions where DNOs have made use of rota disconnection to share reduced available capacity amongst customers, rather than having customers permanently off until full capacity was restored. Often this approach benefits customers, but could lead to debate as to whether payments are due under GS2A, the multiple interruption standard. We invite views on whether incidents associated with rota disconnection should be treated independently of the multiple interruption standard.

16. Customer Service Reward Scheme

Chapter summary

This chapter details our plans for the future of the customer service reward scheme including how DPCR4 best practice should be embedded during DPCR5 and what the focus of the DPCR5 scheme should be.

Question 1: Do you agree with our proposals for embedding DPCR4 best practice?
Question 2: Do you agree that the scheme should be rationalised once the Broad Measure goes live in April 2012? If so, in which areas?

Purpose of the incentive

16.1. This incentive was introduced at DPCR4 to reward DNOs that demonstrate best practice for consumers in service areas that cannot be easily measured or incentivised through more mechanistic regimes. Each year a total annual reward of £1 million is available across the chosen categories.

Key issues in development

16.2. In the December Policy Paper we consulted on the options for embedding best practice from the DPCR4 scheme and set out our proposal to retain the current broad categories[56] but refocus them in the following areas:

- Communication with worst-served customers and innovative schemes,
- Approach to ongoing stakeholder consultation, and
- Assistance for other categories of customers such as vulnerable customers who only have electricity and are not connected to the gas network.

16.3. DNO respondents were generally opposed to embedding best practice via a licence condition which makes the adoption of best practice mandatory. DNOs objected to this approach on the basis that they would like to retain some flexibility to determine how best to serve their customers. A customer representative respondent supported a licence condition on the basis that it would ensure greater participation in the scheme. One DNO respondent suggested that the scheme could be mandated to ensure greater participation.

[56] Priority customer care, wider communication and corporate social responsibility

16.4. Few respondents commented on refocusing within the categories but there was some support for retaining the existing broad categories. Respondents have raised few issues with the level of reward attached to the scheme.

Details of the incentive

Scope of DPCR5 scheme

16.5. As we develop the DPCR5 incentives and obligations, it is evident that there will be a number of drivers for DNOs to improve performance in areas that previously would have been captured by the customer service reward scheme. For example, the DNOs' ongoing approach to stakeholder consultation will be covered by the broad measure. Similarly, DPCR5 will provide various incentives and obligations on DNOs to improve their environmental performance which has sometimes been an area of focus of the DPCR4 scheme.

16.6. We consider that there will be a continued role for the scheme in its current format during the early part of DPCR5 retaining the current reward fund of £1 million. Up to the point that the Broad Measure goes live in April 2012 we expect to continue with the current categories and seek to make progress with the focus areas listed in paragraph 16.2. After this point, it may be appropriate to streamline the scheme (and the reward fund) so that it focuses on how DNOs exceed their social obligations with regard to supporting vulnerable customers and serving hard to reach or disadvantaged groups in the community. This is an area that cannot easily be incentivised in a mechanistic way via other DPCR5 incentives and obligations but is a fundamental responsibility of DNOs.

Embedding DPCR4 best practice

16.7. An important objective of the DPCR5 scheme is to embed the best practice that was recognised during DPCR4. In the December Policy Paper we consulted on two options for achieving this; writing best practice into the licence or incorporating best practice into the minimum requirements of the DPCR5 scheme.

16.8. Having considered consultation responses and feedback from the panel, we propose that best practice should be incorporated into the minimum requirements of the DPCR5 scheme. Examples of best practice from the scheme until 2007-08 are contained in Appendix 7 of the December Policy Paper Supplementary Appendices and an updated version will be included in Final Proposals. We recognise that there will be general incentives on DNOs to improve customer service as part of the broad measure and via the new connections guaranteed standards. As such, introducing an additional licence condition in these areas or mandating the scheme may seem excessive. To give DNOs some flexibility in translating best practice into their businesses, we will stipulate that a given proportion of best practice should be met in order to qualify for a reward under the scheme. Where we have proposed to incorporate aspects of the customer service reward scheme into the Broad Measure or other price control incentives we expect examples of best practice to become embedded via those mechanisms.

17. Network Output Measures

Chapter summary

This chapter provides our initial proposals for network output measures. We provide a summary of the agreed common methodology for reporting outputs related to asset replacement and general reinforcement expenditure. We discuss how outputs will be further refined for Final Proposals, how they will be reported during DPCR5, and potential options for how they will be used at the DPCR6 review.

Question 1: Is our proposed common methodology for network output measures related to general reinforcement and asset replacement expenditure appropriate?
Question 2: Is our proposed process for determining whether a DNO has performed satisfactorily against its agreed DPCR5 outputs appropriate?
Question 3: What approach should be taken if we determine that a DNO has failed to deliver against its agreed DPCR5 outputs? Have we considered all reasonable options to impose financial consequences for under-performance?
Question 4: Should we apply different treatment to DNOs that fail to deliver the agreed DPCR5 outputs, depending on their level of DPCR5 investment relative to the forecast?

Purpose

17.1. In this price control review we are placing a strong emphasis on the need for DNOs to develop and commit to delivering suitable network output measures as part of the DPCR5 settlement. Observing performance against the agreed network output measures will allow us to distinguish between those companies that have innovated and found ways to deliver what customers need and expect more efficiently, and those that have deferred investment at the expense of network health and/or performance. These output measures will ensure that the DPCR5 settlement provides value for money to customers, and complements existing output measures on interruptions, network losses and customer satisfaction. Finally, but no less importantly, the network output measures will encourage DNOs to improve the way they plan and operate their networks, by promoting:

- a focus on long term asset stewardship, and
- continued improvement and innovation in asset management and network planning techniques.

17.2. We hope that the network output measures developed as part of the DPCR5 settlement will be suitable not only for us to ensure that DNOs deliver the network improvements that customers are paying for, but also as a useful internal planning and management tool for the DNOs.

Key issues in development

17.3. In the May Methodology and Initial Results paper (May document) we determined that for DPCR5 the DNOs would be required to commit to the development of 'tier two' network output measures for asset replacement and general reinforcement expenditure.[57] We considered that suitable tier two output measures should be:

- measurable, controllable, auditable and replicable over time,
- aligned with the underlying business process that are used to plan and operate the network,
- sensitive to the level of investment, and
- able to capture outputs or outcomes such as performance, asset health, network capacity or headroom or network risk.

17.4. Based on the material provided by DNOs in their February FBPQ submission, we presented the framework for a common methodology for all DNOs, which included most notably the 'Load Index' (LI) for general reinforcement expenditure and the 'Health Index' (HI) for asset replacement expenditure. We considered that DNOs should be encouraged to develop 'tier one' measures going forward during DPCR5, by building on or aggregating site or asset specific tier two measures.

17.5. Since the May document all DNOs have made very significant progress towards providing adequate network output measures in accordance with the high level objectives set out above. Through the active and productive participation from the DNOs in a series of 'Network Outputs Working Group' meetings, we have been able to develop a common methodology for asset replacement and general reinforcement network output measures. We think that the network outputs proposed by each of the DNOs under the common methodology are fit for purpose, and with further development and refinements will form an integral part of the final DPCR5 settlement.

17.6. There has also been substantial progress on the framework for annual reporting of performance against the network output measures, and the approach that should be taken at DPCR6 to determine whether or not a DNO has satisfactorily delivered against the agreed outputs. While we are still developing the detail on the potential consequences for under-performance against the agreed outputs, we anticipate that a reasonable and pragmatic approach can be developed in time for Final Proposals.

[57] Tier two network output measures are site or asset specific metrics which capture factors that impact on performance and/or the relative level of risk for the asset or site in question. By contrast, tier one network output measures are high-level or system-wide risk metrics.

17.7. Given the broad agreement with the development of output measures for asset replacement and general reinforcement as part of DPCR5, we do not consider it necessary to include an Impact Assessment for this area. As stated above, as part of this chapter we are consulting on a number of potential options for penalising a DNO for under-performance. If this is an area where respondents consider that an IA would be useful we will include this as part of the Final Proposals document.

Details of proposed mechanism

Common methodology for network output measures

17.8. This section contains an overview of the common methodology developed and agreed with DNOs for the tier two network output measures related to asset replacement and general reinforcement expenditure.

17.9. While a common methodology for network output measures is desirable, we accept that a 'one size fits all' approach across the board may not be appropriate, particularly given that:

- the methodology for the network output measures is relatively new, and
- such an approach would not take account of the likely differences between individual DNOs (e.g. definitional, data quality, level of initial network risk).

17.10. Therefore for the purposes of the DPCR5 settlement we accept that, within the common methodology, where applicable DNOs may adopt thresholds and weightings suited to their own network.

General reinforcement Load Index (LI)

17.11. The Load Index (LI) is a framework for collating information on the level of capacity utilisation at specific sites across the distribution network, and for tracking changes in capacity utilisation over time. The LI will be used to inform an assessment of the efficiency of the DNOs' general reinforcement investment decisions over the DPCR5 period.

17.12. Under the LI framework, each applicable site (e.g. substations, interconnected substation groups) is assigned a ranking of 'LI1' to 'LI5' by the DNO in accordance with the agreed common definitions set out in table 11.1.

Table 17.1 - Load Index (LI) definitions

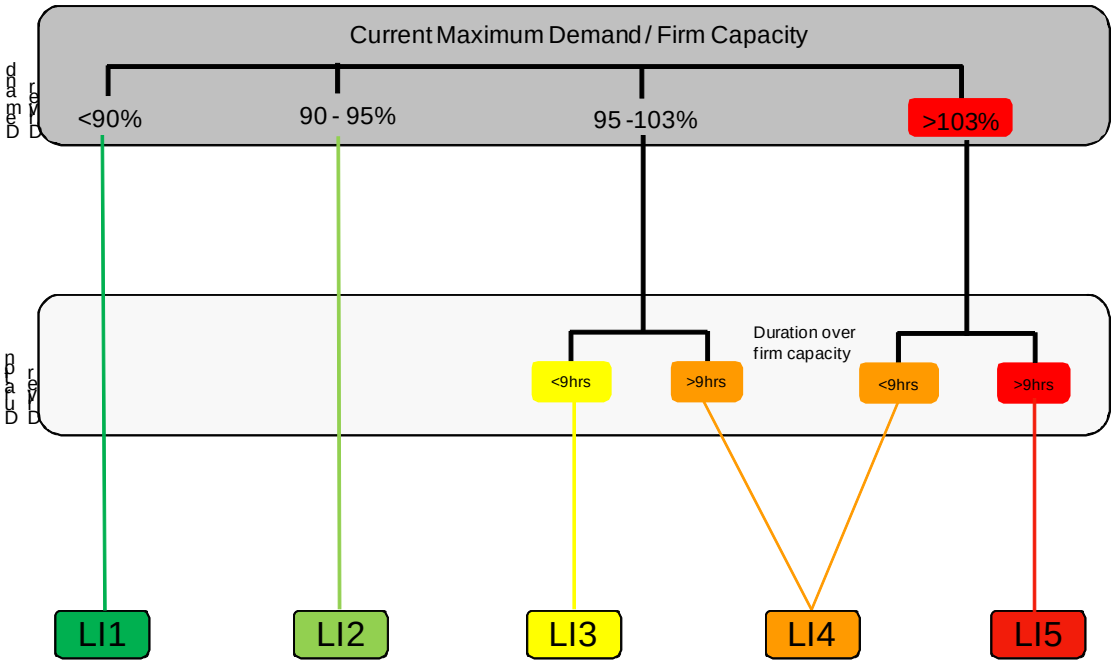
LI band	Description
LI1	Significant spare capacity
LI2	Adequate spare capacity
LI3	Highly utilised
LI4	Fully utilised, mitigation requires consideration
LI5	Fully utilised, mitigation required

17.13. The allocation of sites to LI bands is based upon the level of and interaction between the following drivers for a site-specific demand-related intervention:

- Demand driver: measure of site maximum demand relative to site firm (n-1) capacity, and
- Duration driver: measure of the hours / energy at risk brought about by the capacity utilisation at the site.

17.14. In consultation with us, each individual DNO has developed a set of 'decision criteria' which combines both the demand and duration drivers to set thresholds for assigning sites an LI band 1 to 5. An example of a DNO's decision criteria is provided in figure 17.1.

Figure 17.1 - Example of DNO decision criteria for the LI



17.15. We have developed a template for DNOs to report the LI against the common methodology. DNOs are required to report the total number of sites in each of the five LI bands, for all substations (with a HV secondary or higher voltage) and all transmission exit points.[58] In addition, the template allows for DNOs to report an LI profile for interconnected substation groups, where these groups are considered to be of greater relevance to the DNO's general reinforcement decisions.

Asset replacement Health Index (HI)

17.16. The Health Index (HI) is a framework for collating information on the health (or condition) of distribution network assets and tracking changes in network health over time. The HI will be used to inform an assessment of the efficiency of the DNOs' asset replacement investment decisions over the DPCR5 period.

17.17. Under the HI framework, each relevant asset is assigned a ranking of between HI1 and HI5 by the DNO based on an internal assessment, in accordance with the agreed common definitions set out in table 17.2.

[58] While Ofgem intends to explore using the LI profile for transmission exit points to help inform an understanding of forecast transmission exit charges. Although DNOs will be required to report an LI profile for transmission exit points, they will not form part of the formal output measures.

Table 17.2 - Health Index (HI) definitions

HI band	Description
HI1	New or as new
HI2	Good or serviceable condition
HI3	Deterioration requires assessment and monitoring
HI4	Material deterioration, intervention requires consideration
HI5	End of serviceable life, intervention required

17.18. The allocation of assets into the five HI bands is based upon the individual DNO's internal asset management processes. We recognise that condition based asset management processes continue to evolve over time, and we are keen to ensure that further improvements and innovation are encouraged over the DPCR5 period.

17.19. The DNOs have highlighted a distinction between three types of measures that are currently used in practice:

- Health Indices – usually combine both the observed condition and the operability (e.g. design issues, service history, availability of spares) of the asset in question, giving an overall indication of the present 'health' of the asset,
- Condition Indices – measure based purely on the observed condition of the asset in question,
- Age based – asset health is inferred based on the age of the asset in question relative to some estimate of its 'mean life'.

17.20. We acknowledge that DNOs are currently at different stages of condition / health data collection and different levels of sophistication with respect to forecasting asset degradation. To ensure transparency in (and to encourage changes to) data quality and collection systems over DPCR5, we will require all DNOs to provide an upfront auditable summary of the quality of their HI input data. An example of the information that will be sought from DNOs as part of the final DPCR5 settlement is provided in table 17.3 below.

Table 17.3 - Summary of HI data quality (example)

Measure	Form of measure used	Proportion actual observations	Average age of data used
	%	%	Years
Health Index	71%	99%	1.5
Condition Index	24%	88%	2.0
Age based	5%	0%	10.0
Other	0%	N/A	N/A
Total / average	100%	91%	3

17.21. The information provided in table 17.2 can be updated and provided with the outturn output data on an annual basis, so that changes over time can be tracked and audited where necessary.

17.22. We have developed a template for DNOs to report the HI under the common methodology. DNOs will be required to report a separate HI profile for approximately 20 agreed asset categories, chosen to reflect the areas of significant asset replacement expenditure forecast over the DPCR5 period.

Fault rate output measures

17.23. For DPCR5, fault rates will be used as a secondary network output measure for asset replacement expenditure, for specific asset classes where:

- the DNO does not presently have HI capability, and/or
- it is not economic to collect a full set of HI data.

17.24. DNOs will continue to report fault rates in accordance with existing obligations under the Medium Term Performance (MTP) reporting regime. As part of the DPCR5 settlement, DNOs will be required to forecast an annual fault rate for each of the agreed asset categories, taking into account planned investment over the period.[59] Annual outturn fault rates reported under the MTP during DPCR5 then will be

[59] Specifically, the DNOs will be required to commit to a five year average damage fault rate, including exceptional events. For comparative purposes, DNOs will also continue reporting total faults (damage and non-damage), as well as the impact of exceptional events.

compared to that forecast at the start of DPCR5 to get an indication of the impact of DPCR5 investment.

17.25. Some DNOs have raised concerns with the use of fault rates as a formal output measure, given the significant year-on-year volatility observed in historical data. We accept that fault rates can exhibit natural volatility on an annual basis which can make it difficult to distinguish between short-term statistical fluctuations and genuine shifts in asset reliability. However it is expected that the use of a five year rolling average reasonably takes account of the annual variation in fault rates and thus allows a reasonably meaningful assessment to be undertaken.

Output measures for other areas of investment

17.26. For the purposes of the DPCR5 settlement, DNOs will not be required to commit to tier two output measures against the other areas of investment, for the following reasons:

- At this point we consider that it is more important to focus on the more material areas of network investment (i.e. general reinforcement and asset replacement) in developing network output measures, and
- Existing compliance obligations (e.g. safety) will continue to provide some incentive for DNOs to maintain asset health in these areas.[60]

17.27. During DPCR5 we will work with DNOs to explore whether suitable tier two output measures can be developed for these other areas of investment.

Development of DNO proposed outputs

17.28. Applying the common LI and HI framework set out above, each of the DNOs has now provided us with the total number of sites / groups (for the LI) and the total number of assets (for the HI) in each of the five bands:

- at the start of DPCR5 (i.e. Year 0) – for the LI this effectively reflects the current capacity utilisation of the network, and for the HI this reflects the DNO's view on the current health of the relevant assets,
- forecast at the end of DPCR5 (i.e. Year 5) with no intervention – for the LI this will reflect the impact of forecast load growth at each site, and for the HI this will reflect the DNO's view on the rate of asset degradation over the period, and
- forecast at the end of DPCR5 (i.e. Year 5) with investment – effectively this will reflect the DNO's view on how the current LI and HI profiles will be impacted by

[60] These other areas of investment account for approximately 22 per cent of total core network investment, and includes expenditure on diversions, fault levels, and legal and safety.

the proposed level of DPCR5 investment, or any other forecast intervention (e.g. manual transfers, increased maintenance).

17.29. For the fault rate output measures, each of the DNOs has provided forecast damage fault rates (including exceptional events) for the DPCR5 period. These forecast fault rates take into account the impact of the DNOs' proposed level of DPCR5 investment.

17.30. The DNOs have submitted a full set of outputs data for publication with initial proposals, which reflects the DNOs' views on the outputs to be delivered from their proposed level of network investment. The DNOs' proposed outputs are provided as a set of Excel spreadsheets on the Ofgem website with Initial Proposals.

17.31. There will be an ongoing process between Initial and Final Proposals to ensure that the volumes underpinning the DPCR5 allowance for network investment on general reinforcement and asset replacement fully reconcile with the agreed network outputs.

Role of outputs throughout DPCR5

17.32. In consultation with the DNOs, we will develop a guidance document on network output measures to accompany the Final Proposals. While the structure of the guidance document is yet to be finalised, we anticipate it will contain the following:

- An upfront statement on the key objectives of the network output measures, as well as a description of how they will be used by Ofgem at the DPCR6 review,
- Guidance for completing the annual reporting templates for the LI, HI and fault rate output measures in accordance with the agreed common methodology,
- A description of the commentary to be provided by each of the DNOs to explain any divergence of outturn outputs from that forecast at the DPCR5 settlement.

17.33. A number of DNOs have raised concerns that the agreed DPCR5 outputs may unduly restrict their ability / willingness both to prudently adapt to changing circumstances and to improve their asset management and planning systems. We acknowledge these concerns, and stress that the output measures are not considered hard targets for DNOs to meet with a mechanistic revenue impact for under/over performance. Rather, as the output measures are in the early stage of development, we recognise that the impact on output performance of new information received during DPCR5 will need to be taken into account in forming an opinion on whether a DNO has performed satisfactorily and delivered what it has been paid to do over the course of DPCR5.

17.34. We have agreed with the DNOs that the commentary provided to accompany the annual outputs data should specifically include a full and detailed explanation of the following:

- Changes to input data,
- Changes to the calculation method,
- Changes to DNO priorities in response to new information, which may be either a change in attitude to risk overall, or a shift in priorities from one risk to another,
- Changes in overall output performance, taking into account all the above factors and any other factor considered relevant.

17.35. The information provided on changes due to input data should be auditable, and include details on and reasons for all significant step changes in the DNO's data collection methodology, assumptions, or in the underlying quality of the data set. The changes identified by the DNO should materially impact outturn performance for one or more of the output measures, and may be due to:

- an exogenous change in data (e.g. due to a type fault identified), or
- a conscious business decision regarding the data collection methodology.

17.36. The information provided on changes to the system or calculation method should be auditable, and include details on and reasons for all those changes that produce a different set of outputs for a given set of inputs. These changes may include:

- development of innovative condition assessment techniques,
- changes to asset degradation assumptions, and
- changes to data interpretation.

17.37. The information provided on changes to DNO priorities in response to new information should include details on and reasons for any deliberate DNO decision to alter the relative or aggregate level of network risk faced. The need to reprioritise activities could arise for a number of reasons, including:

- Load growth was materially different to that forecast as part of the DPCR5 settlement,
- The deterioration rate of an asset was greater than originally forecast, and
- A new type-specific defect has been identified.

17.38. The information provided on overall output performance should take into account any of the specific changes identified above, and provide a high-level assessment of performance and progress against the agreed DPCR5 outputs.

17.39. During DPCR5, the information and commentary provided annually by the DNOs on output performance will be noted for DPCR6 price control discussions. In addition, at some point in mid-DPCR5 we will engage with each of the DNOs to discuss overall progress on outputs.

Role of outputs at DPCR6

17.40. One consistent view from the DNOs in response to the May document is that the network output measures should not be treated as hard targets against which a mechanistic revenue impact is calculated ex-post. DNOs are concerned that such a mechanistic approach has the potential to:

- inappropriately penalise a DNO which at DPCR5 settlement made a best effort to generate forecasts on load growth and asset degradation,
- stifle further development of innovative asset management capabilities, and
- unduly restrict a DNO's ability to prudently adapt to changing circumstances throughout DPCR5.

17.41. We acknowledge these concerns, and we do not intend at DPCR6 to mechanistically tie a revenue adjustment to outturn output performance. Where a DNO's performance falls short (or looks like it will fall short) of that agreed at the start of DPCR5, there will be a detailed discussion with us on the level of network investment undertaken over the period. Taking into account the changes identified by the DNO (see above), the discussion will focus on the DNO's justification for diverging from the agreed outputs, and in turn whether the divergence is reasonable in the circumstances. This represents a significant step forward from this price control review following DPCR4, in which it has proven difficult to determine whether or not observed capex underspends by DNOs represent genuine efficiencies.

17.42. DNOs will face financial consequences if, after taking into account all the relevant changes that have occurred over the DPCR5 period, we consider that a DNO's output performance is unsatisfactory. This after all is the key role of the network output measures – to ensure that customers receive what they have effectively paid for through the revenues they provide to the DNOs.

17.43. We still have to develop in more detail the nature and quantum of financial consequences for under-performance against the agreed DPCR5 outputs. We will need to consider whether and to what extent a DNO that has materially failed to meet its outputs should be treated differently depending on its level of actual investment over the DPCR5 period. Two scenarios for under-delivery are possible:

- a DNO under-delivers on outputs while simultaneously underspending its DPCR5 network investment allowance, or
- a DNO under-delivers on outputs and overspends its DPCR network investment allowance.

17.44. We would be most concerned at the first scenario, as the DNO and its shareholders receive a clear benefit at customers' expense. However the second scenario would also be of concern, given that the DNO would still have received the full DPCR5 revenue allowance while under-delivering on the associated outputs and

any overspend may be due to inefficiency such as a poor purchasing or delivery strategy relative to other companies.

17.45. We think, that based on suggestions made in submissions to the May document, the options to penalise a DNO for under-performance may include:

- Remove the right for the DNO to automatically retain the out-performance rewards specified in the IQI mechanism (for an underspend against the expenditure allowance),
- Apply a one-off downward adjustment to the DNO's ex-ante revenue allowance for DPCR6 to recover the out-performance rewards received over DPCR5 (for an underspend),
- Apply a one-off downward adjustment to the DNO's ex-ante revenue allowance for DPCR6 to reflect a direct penalty for under-performance on outputs over DPCR5 (for an overspend), and / or
- In addition to any ex-post penalty applied, we could require the DNO to deliver the DPCR5 output levels over the early part of the DPCR6 period, at shareholders' expense (at the relevant sharing factor).

17.46. In addition to these potential financial consequences, a DNO who has under-performed against its agreed outputs will be the subject of much greater scrutiny over its forecast network investment at the DPCR6 review.

17.47. We seek views from interested parties on the most appropriate way to place incentives on DNOs to deliver against their agreed DPCR5 outputs. To provide for investor certainty, for Final Proposals we will ensure there is clarity on these issues, including details regarding the quantum and timing of potential revenue reductions at the DPCR6 review.

Future development of network output measures

17.48. We seek to encourage further improvement and innovation in asset management and network planning techniques.

17.49. We recognise that while the tier two output measures developed for asset replacement and general reinforcement expenditure provide a good indication of investment priorities, they do not capture all the critical elements of a DNO's investment decision. This is because they are not holistic measures of 'network risk' (i.e. tier one measures) – they are measures of the probability of failure / overload, which do not yet incorporate the consequences of failure and other strategic considerations. In the absence of holistic tier one output measures, the efficient trade-off of tier two output measures will need to be demonstrated by DNOs (and assessed by us) qualitatively.

17.50. While a qualitative assessment is reasonable for DPCR5, we consider that the development of tier one output measures over time represents a logical evolution of this process. Importantly, in discussions with us the DNOs have indicated their support for such developments, as tier one outputs may better allow them to justify their investment proposals across a range of drivers (e.g. condition, loading, criticality, safety).

17.51. Given the support from DNOs, we do not consider it necessary to introduce formal licence obligations which capture the commitment to develop tier one output measures. We will work with the DNOs to develop tier one output measures over the DPCR5 period, by building on or aggregating the site and asset specific tier two output measures which have been developed for the DPCR5 settlement.

18. Innovation Funding Incentive (IFI)

Chapter Summary

This chapter sets out our proposals to retain the innovation funding mechanism.

Question 1: Do you agree with our proposal to retain IFI?
Question 2: Do you agree with our proposal to focus IFI on technical R&D, whilst creating the new low carbon network fund for the trialling of low carbon initiatives on the networks?

Purpose of the incentive

18.1. We propose to retain the Innovation Funding Incentive (IFI) in DPCR5 to part fund technical research and development (R&D) on the distribution networks.

Key issues in development

18.2. In DPCR4 we created the IFI – a limited allocation of funds to each DNO to part fund the cost of R&D, provided on a use it or lose it basis. DNOs have generally made good use of this allocation and it has helped to fund improvements to asset management techniques and network operations. Examples include the implementation of Condition Based Risk Management techniques and the development and trialling of a novel fault current limiting device.

18.3. In 2007 we committed to retain the IFI through DPCR5[61].

Detail of our proposal

18.4. We propose that the pass-through rate will be flat throughout DPCR5, set at the average DPCR4 level of 80 per cent.

18.5. We will retain the existing cap on costs eligible for IFI at its current level of 0.5 per cent of DNO regulated revenue. Funding will remain on a use it or lose it basis, but as for DPCR4, a company will be allowed to carry forward up to 50 per cent of the maximum allowable IFI funding for a given year. However, cumulative carry

[61] Open Letter Consultation on the Innovation Funding Incentive and Registered Power Zone Schemes for Distribution Network Operators. The future of the IFI (February 2007) http://www.ofgem.gov.uk/Networks/Techn/NetwrkSupp/Innovat/Documents1/16977-2507.pdf

forward will not be allowable and the pass-through rate will be determined by the year in which the expenditure occurs.

18.6. IFI funding can currently be used to fund internal company expenditure (as opposed to commissioning third parties to undertake work) but this is capped at 15 per cent of the total IFI funding in each year, unless otherwise agreed with Ofgem (this was instigated to encourage third party involvement). As for the last three years of DPCR4, in DPCR5 we will allow companies individually seeking our consent under the terms of the existing licence to change the 15 per cent figure to 100 per cent.

18.7. It is our intention that the IFI will operate alongside the new low carbon networks fund (LCN fund). The IFI will fund technical R&D whilst the LCN fund will fund trials on the distribution network focussed on low carbon initiatives. We will review the existing IFI Guidance to ensure that the delineation between the two mechanisms is clear.

19. Equalising incentives and the information quality incentive

Chapter Summary

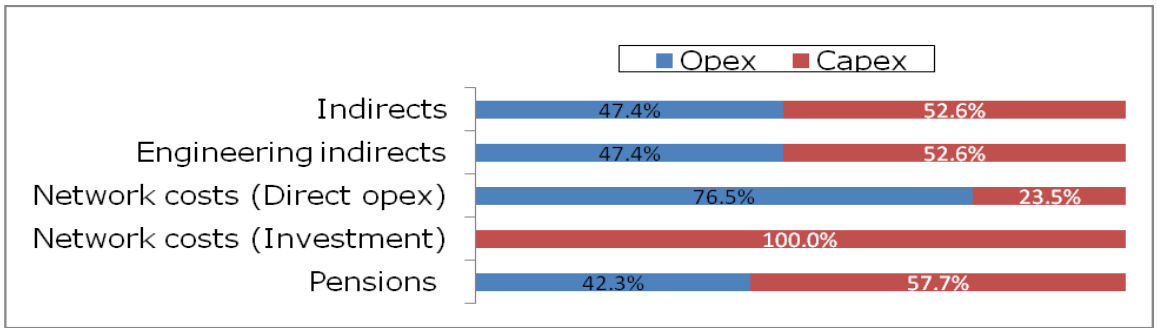
This chapter sets out our proposals to equalise incentives through an enlarged information quality incentive (IQI).

Question 1: Does the 85 per cent capitalisation of all costs within the equalised incentive provide an appropriate speed of money?
Question 2: Does the IQI matrix presented provide an appropriate profile for the incentive strength? Should we be considering an alternative profile with a steeper incentive rate?
Question 3: What approach should we adopt when setting the start to earn points of the IQI matrix?

Purpose of the incentives

19.1. The incentives to manage different types of costs under the DPCR4 price control are not equal. These imbalances may distort the decisions that DNOs need to make between capex and opex solutions and create boundary issues. DNOs currently bear the full cost of each additional £1 classified as opex but only 29p to 40p for each additional £1 that is capitalised. The diagram below sets out the proportion of costs that are capitalised to RAV for each of the groups of activities under the current cost reporting rules.

Figure 19.1 - Capitalisation of costs for different activities at DPCR4



19.2. These rules create two undesirable effects:

- Incentives are distorted towards adopting capex rather than opex solutions. This means that DNOs are not incentivised to minimise total lifetime costs as they are sometimes better off by adopting a capex solution rather than a cheaper opex solution due to the way that the different expenditures are treated.

- Boundary issues are created. There is an incentive to record expenditure in the areas with the highest rates of capitalisation even if the expenditure was not technically in that area. This requires significant policing of the cost reporting of DNOs.

19.3. The balance of incentives is particularly important in the context of large increases in forecast costs. We are looking to ensure that DNOs have given appropriate consideration to more innovative solutions including potentially deferring greater volumes of work and doing more to actively manage and monitor levels of risk. Given the climate change agenda, it is also important that the price control does not reduce the incentive on DNOs to adopt solutions that do not involve investment in network assets such as demand-side management or contracting with distributed generation to manage constraints.

19.4. Under our proposals all network-related expenditure would face the same incentives – the distortion of incentives between different network solutions would be removed and the boundary issues in this area would be eliminated.

19.5. Our approach to equalising the incentives for these network related costs is to apply the IQI to all of these network-related costs so that they are all subject to the resulting IQI incentive strength. The purpose of the IQI is to incentivise the provision of good quality information by the DNOs as part of their business plan submissions.

Key issues in development

19.6. The March 2008 initial consultation, the December 2008 policy paper and the May 2009 methodology paper each considered our approach in this area and they received many responses from stakeholders. This section briefly summarises the key issues that have arisen in developing these policies.

Development of equalising incentives

19.7. In the December policy paper we set out three options for moving towards more equal incentives. The approach we are proposing to implement is very similar to the second option set out in that paper.

19.8. Our proposed methodology treats all network investment, network operating costs and closely associated indirect costs in the same way by capitalising a fixed percentage of costs across all these activities into the Regulatory Asset Value. This would mean that any network-related expenditure would face the same incentives – the distortion of incentives between different network solutions would be removed and the boundary issues in this area would be eliminated. These costs will be included within an enlarged Information Quality Incentive (IQI).

19.9. Business support costs will be expensed separately and will face stronger incentives than the network costs. We wish to retain strong incentives on these

costs as they benefit customers least. It also helps to ensure that DNOs within wider groups do not allocate more costs to the DNOs that would be funded by distribution customers.

19.10. In making this adjustment we propose to capitalise around the same proportion of total costs as would have been occurred if the DPCR4 rules remained in place for DPCR5 - this is designed to help ensure that the RAV is not distorted by the change.

Development of the information quality Incentive

19.11. In developing the DPCR5 IQI there have been two main issues where we have considered making significant changes:

- Perceived risk aversion by the DNOs which might lead to them consciously submitting forecasts in excess of their expected level of expenditure so that they receive a weaker incentive rate (insurance) at the expense of a lower expected return.

- The appropriate strength of the incentive rates. The DPCR4 incentive strengths only applied to regulatory capex whereas our DPCR5 proposals for equalising incentives mean that the incentive strengths will apply to network-related costs that include network investment, network operating costs, and closely associated indirects. At DPCR4 the network operating costs and closely associated indirects were only partially capitalised meaning that they were not all subject to the IQI incentive strength. The regulatory opex portion of these costs faced a much stronger incentive rate (100 per cent).

19.12. In response to the concerns over risk aversion a number of stakeholders submitted bespoke IQI matrices which they argued would help address the issue. These matrices are not based on formulae and must define the rewards/penalties for every possible outcome manually. They also have variable marginal incentive rates which depend on the degree of any over- or under-spend. In the May consultation we set out our reasons for not pursuing such matrices for DPCR5. We remain of the view that bespoke matrices of this kind are more complex and not as straightforward to implement, and also provide undesirable uncertainty over the incentive rates that apply to any expenditure.

19.13. In the May consultation our preference was to implement the GDPCR IQI matrix with its incentive rates ranging from 20 per cent to 40 per cent. These incentive rates would equalise incentives at the DPCR4 network investment incentive strength and weaken the incentives on network operating costs and the closely associated indirects. We have reconsidered this position and reviewed the responses to the May paper, and have decided to increase the incentive strengths in the IQI matrix. Our current preference is for the incentive strength to range from 30 per cent to 50 per cent which moves the incentive strength much closer to the DPCR4 weighted average incentive strength on network-related costs. We believe this is appropriate so that there is not such a weakening of incentives on opex and so that

capex efficiency is more strongly incentivised during a period of increased investment.

Detail of the incentives

Equalising incentives - key changes since the May consultation

Cost to be covered by the equalised incentive

19.14. We have made a couple of changes to the costs that will face the equalised incentive from what we published in the May document:

- Discretionary investment will not face the equalised incentive. Our proposals for this element of expenditure , which we have excluded from our baselines so far, are discussed in the Cost Assessment document.
- TMA costs will not face the equalised incentive. We are keen to ensure that DNOs face a 100 per cent incentive rate for all penalty charges so that customers are not exposed to penalties beyond what we assess to be an efficient level, and so that the penalty deterrent intended by local authorities is not undermined by an incentive rate which shares these costs between the DNOs and their customers.

19.15. We have also added the following cost categories to the table: technical losses and other environmental expenditure, workforce renewal, rising mains and laterals, critical national infrastructure expenditure, non-operational capex, worst served customers expenditure, and undergrounding expenditure.

19.16. Table 19.1 below sets out a revised version of the table from the May document with the costs to face the equalised incentive and the IQI.

Table 19.1 - Costs to face the equalised incentive and the IQI

	Costs facing equalised incentives	Costs not facing equalised incentives
Costs within the IQI	Load related investment (including shared-asset connections expenditure) Asset replacement investment Technical losses and other environmental expenditure Flooding expenditure Quality of service expenditure (excluding worst served customers) Network operating costs Indirects driven by both network investment and network operating costs Network investment driven indirects Workforce renewal Non-relevant DG expenditure Sub-station electricity Island generation Wayleaves Underwater cables	None
Costs outside the IQI	HILP investment BT 21st Century expenditure Risings mains and laterals Critical national infrastructure expenditure	Relevant DG expenditure Business support costs Non-operational capex Discretionary investment TMA costs Sole-use connections expenditure Pensions Worst served customers expenditure Undergrounding expenditure

19.17. The definitions of the cost items in the table have not changed since the May document:

- Business support costs include the following elements: CEO costs, finance and regulation, HR, network policy, property, information systems (IS), and insurance.

- Indirects driven by network investment and network operating costs include the following activities: engineering management and clerical support (EMCS), mapping, control centre, call centre, stores, health and safety.

- Investment driven indirects include project management and network design.

The "speed" of money

19.18. We also propose to adjust the "speed" of money suggested in the May consultation. In May our analysis examined the proportion of DPCR4 network-related costs needed to have been capitalised to maintain the same speed of money under our new proposals. This analysis suggested that around 80 per cent of network-related costs would be funded as "slow" money over 20 years through the RAV.

19.19. For Initial Proposals we have revised this figure to 85 per cent as we think this would better maintain the DPCR4 rules for the forecasted DPCR5 expenditure. We think this figure would lead to less distortion of the RAV during a period of increased network investment above DPCR4 levels. Our work in this area is ongoing and we would welcome views on our proposals before coming to a final decision as part of Final Proposals.

19.20. The remaining 15 per cent of network-related expenditure is funded as "fast" money which is expensed and funded in the year of expenditure. All business support costs will be expensed in this manner.

The information quality incentive - key changes since the May consultation

The IQI matrix to be employed at DPCR5

19.21. As we have already mentioned, we propose to strengthen the incentive rates applying to IQI expenditure from those presented in the May document. The figure below provides our current thinking for the profile of incentive rates to apply in DPCR5.

Figure 19.2 - IQI matrix with strengthened incentives

DNO:Ofgem ratio	100	105	110	115	120	125	130	135	140
Incentive rate	50.0%	47.5%	45.0%	42.5%	40.0%	37.5%	35.0%	32.5%	30.0%
Allowed expenditure	100.00	101.25	102.50	103.75	105.00	106.25	107.50	108.75	110.00
Additional income	2.50	1.84	1.13	0.34	-0.50	-1.41	-2.38	-3.41	-4.50
90	7.50	7.19	6.75	6.19	5.50	4.69	3.75	2.69	1.50
95	5.00	4.81	4.50	4.06	3.50	2.81	2.00	1.06	0.00
100	2.50	2.44	2.25	1.94	1.50	0.94	0.25	-0.56	-1.50
105	0.00	0.06	0.00	-0.19	-0.50	-0.94	-1.50	-2.19	-3.00
110	-2.50	-2.31	-2.25	-2.31	-2.50	-2.81	-3.25	-3.81	-4.50
115	-5.00	-4.69	-4.50	-4.44	-4.50	-4.69	-5.00	-5.44	-6.00
120	-7.50	-7.06	-6.75	-6.56	-6.50	-6.56	-6.75	-7.06	-7.50
125	-10.00	-9.44	-9.00	-8.69	-8.50	-8.44	-8.50	-8.69	-9.00
130	-12.50	-11.81	-11.25	-10.81	-10.50	-10.31	-10.25	-10.31	-10.50
135	-15.00	-14.19	-13.50	-12.94	-12.50	-12.19	-12.00	-11.94	-12.00
140	-17.50	-16.56	-15.75	-15.06	-14.50	-14.06	-13.75	-13.56	-13.50
145	-20.00	-18.94	-18.00	-17.19	-16.50	-15.94	-15.50	-15.19	-15.00

19.22. The matrix lifts each of the incentive strengths in the GDPCR matrix by 10 percentage points across the whole of the matrix. We are also considering an alternative of increasing the incentive strengths more towards the left of the matrix (i.e. a steeper incentive rate) which increases the cost of any risk-aversion in forecasting by the DNOs. An example of such a matrix is given in Figure 19.3 below.

Figure 19.3 - Alternative IQI matrix with a steeper incentive rate

DNO:Ofgem ratio	100	105	110	115	120	125	130	135	140
Incentive rate	55.0%	51.2%	47.5%	43.7%	40.0%	36.2%	32.5%	28.7%	25.0%
Allowed expenditure	100.00	101.25	102.50	103.75	105.00	106.25	107.50	108.75	110.00
Additional income	2.50	1.77	0.94	0.02	-1.00	-2.11	-3.31	-4.61	-6.00
90	8.00	7.53	6.88	6.03	5.00	3.78	2.38	0.78	-1.00
95	5.25	4.97	4.50	3.84	3.00	1.97	0.75	-0.66	-2.25
100	2.50	2.41	2.13	1.66	1.00	0.16	-0.87	-2.09	-3.50
105	-0.25	-0.16	-0.25	-0.53	-1.00	-1.66	-2.50	-3.53	-4.75
110	-3.00	-2.72	-2.62	-2.72	-3.00	-3.47	-4.12	-4.97	-6.00
115	-5.75	-5.28	-5.00	-4.91	-5.00	-5.28	-5.75	-6.41	-7.25
120	-8.50	-7.84	-7.37	-7.09	-7.00	-7.09	-7.37	-7.84	-8.50
125	-11.25	-10.41	-9.75	-9.28	-9.00	-8.91	-9.00	-9.28	-9.75
130	-14.00	-12.97	-12.12	-11.47	-11.00	-10.72	-10.62	-10.72	-11.00
135	-16.75	-15.53	-14.50	-13.66	-13.00	-12.53	-12.25	-12.16	-12.25
140	-19.50	-18.09	-16.87	-15.84	-15.00	-14.34	-13.87	-13.59	-13.50
145	-22.25	-20.66	-19.25	-18.03	-17.00	-16.16	-15.50	-15.03	-14.75

19.23. We welcome the views of respondents on the appropriate profile of incentive strengths.

19.24. Our final decision on the incentive strengths of the IQI matrix will be made at final proposals when we will evaluate the package as a whole including the cost of capital and the appropriate level of risk to be placing upon DNOs for DPCR5.

"Start-to-earn" points

19.25. The matrices above both provide a DNO that agrees with our baseline and ends up spending that amount a return in excess of the WACC before any

outperformance has been achieved. In both of the examples above, a DNO with a baseline, forecast, and actual expenditure of £100 million would receive a return in excess of the WACC of £2.5m. If this were repeated across the industry as a whole, the excess return would be around 20 basis points on WACC and 50 basis points on RORE.

19.26. We will evaluate the appropriate level of returns in this scenario under the IQI and will adjust the matrix if we decide that the start to earn point should be made tougher or more generous to DNOs given the specification of the rest of the price control package and our decisions on the appropriate cost of capital and range of RORE available for under/outperformance under the package as a whole. Any adjustments would be made by adding or subtracting a constant to the additional income line of the matrix.

19.27. We welcome the views of respondents on how we should approach this assessment.

How our proposals on equalised incentives and the IQI fit together

19.28. In this section we set out how our proposals in this area fit together. The steps below match up with the numbered boxes in Figure 19.4 which provides a worked example. The worked example makes a number of simplifications which are detailed below. The figures within the example have been generated for the purposes of the example only and do not represent a particular DNO or an average view of the DNOs.

1. For each of the cost elements subject to the IQI incentive given in Table 19.1 above, Ofgem will produce a baseline and the DNOs will have submitted a forecast. These assessments will be in 2007-08 prices and will include any expected efficiency improvements but will not include assumptions for real price effects (RPEs). The Ofgem baselines and the DNO forecasts will be aggregated across the DPCR5 period and a ratio of these two elements will be taken to provide the DNO:Ofgem ratio.

2. The DNO:Ofgem ratio is then used as the input into the IQI matrix which provides: an IQI incentive strength, an expenditure allowance, and an additional income term.

3. For the given RAV additions percentage the IQI outputs from step 2 are then split between the fast and slow pots. The fast post receives a 100 per cent incentive rate, 15 per cent of the expenditure allowance, and all of the additional income. The slow pot receives an incentive strength such that the weighted average between the fast and slow pots is equal to the IQI incentive strength from step 2, and the remaining 85 per cent of the expenditure allowance.

4. The fast and slow expenditure allowances along with the additional income are then allocated between the DPCR5 years. This is done using the weights implied by the forecasts provided in the DNOs' business plans so that it matches their planned profile of expenditure. The worked example divides the allocations

equally across all years as a simplification. It is at this stage that we add our RPE assumptions to the allowances - these will reflect the additional expenditure required by applying the RPE assumptions to the Ofgem baseline. For simplification, the worked example does not include an adjustment for RPEs.

5. We then consider the expenditure outturn. In each year, the relevant IQI expenditure is aggregated and then split between the fast and slow pots using the RAV additions percentage. This allocates 15 per cent of the DNO's actual expenditure to the fast pot and the remaining 85 per cent to the slow pot. This allocation makes no distinction between opex and capex.

6. When we consider expenditure outturn in the fast pot, the DNOs are fully exposed to any under- or over-spends relative to the fast pot allowance. The DNOs receive the additional income through this fast pot.

7. In the slow pot, any deviations between actual expenditure and the allowance are subject to the slow pot incentive strength through the RAV rolling incentive. This is designed to function along the lines of the DPCR4 capex rolling incentive.

8. The final consideration is the costs that lie outside the IQI but fall within the equalised incentive framework. These costs, such as BT21C costs, are set out in the bottom left of Table 19.1 above. For these costs we set an allowance which is then split between a fast and slow pot using the RAV additions percentage. This allowance will include our assumptions for any efficiency improvements and RPEs. Actual expenditure is then split between the pots in the same way. Any deviations between the allowances and actual expenditure are treated in the same way as those in steps 6 and 7 - full exposure in the fast pot and the slow pot incentive strength in the slow pot through the RAV rolling incentive.

Figure 19.4 - Worked example of our proposals for IQI and equalising incentives

Green cells are inputs
Yellow cells are calculations

All figures have been rounded to 1 decimal place

(1) IQI matrix inputs (for entire DPCR5 period)	Ofgem baselines:	DNO forecasts:
Network investment	65.0	70.0
Network operating costs	20.0	22.0
Closely associated indirects	15.0	18.0
Total	100.0	110.0
DNO:Ofgem ratio	110.0	

(2) IQI outputs using matrix with stronger incenitve rates	
IQI incentive strength	45.0%
Expenditure allowance	102.5
Additional income	1.1

(3) Split between "fast" and "slow" pots	
RAV additions percentage	85.0%
FAST POT:	
Incentive strength	100.0%
Expenditure allowance	15.4
Additional income	1.1
SLOW POT:	
Incentive strength	35.3%
Expenditure allowance	87.1

(4) Annual allowances	2010-11	2011-12	2012-13	2013-14	2014-15
Fast pot expenditure allowance	3.1	3.1	3.1	3.1	3.1
Fast pot additional income	0.2	0.2	0.2	0.2	0.2
Slow pot expenditure allowance	17.4	17.4	17.4	17.4	17.4

(Equal allocations assumed across all years in this example)

(5) Expenditure outturn	2010-11	2011-12	2012-13	2013-14	2014-15
Network investment	13.1	13.6	13.5	13.3	13.7
Network operating costs	4.2	3.9	4.0	4.2	4.1
Closely associated indirects	3.0	2.9	3.2	3.1	3.3
Total	20.3	20.4	20.7	20.6	21.1
Fast pot expenditure	3.0	3.1	3.1	3.1	3.2
Slow pot expenditure	17.3	17.3	17.6	17.5	17.9

(6) Fast pot outturn	2010-11	2011-12	2012-13	2013-14	2014-15
Additional income	0.2	0.2	0.2	0.2	0.2
Expenditure allowance	3.1	3.1	3.1	3.1	3.1
Actual expenditure	3.0	3.1	3.1	3.1	3.2

Additional income is added to allowed revenues in each year
The DNO is exposed to 100% of any difference between the allowance and expenditure

(7) Slow pot outturn	2010-11	2011-12	2012-13	2013-14	2014-15
Expenditure allowance	17.4	17.4	17.4	17.4	17.4
Actual expenditure	17.3	17.3	17.6	17.5	17.9

Differences between the allowance and expenditure will face the incentive strength below
Slow pot incentive strength: 35.3%
This will be applied through the RAV rolling incentive

(8) The equalised incentive strength from the IQI is also applied to some other costs that are outside the IQI, e.g. BT21C costs	2010-11	2011-12	2012-13	2013-14	2014-15
Ofgem allowance (total)	10.0	10.0	10.0	10.0	10.0
Fast pot allowance	1.5	1.5	1.5	1.5	1.5
Slow pot allowance	8.5	8.5	8.5	8.5	8.5
Actual expenditure	9.6	9.7	10.3	10.0	9.7
Fast pot expenditure	1.4	1.5	1.5	1.5	1.5
Slow pot expenditure	8.2	8.2	8.8	8.5	8.2

DNOs have 100% exposure to any over- or under-spends in the fast pot
Differences between the slow allowance and expenditure will face the incentive below
Slow pot incentive strength: 35.3%
This will be applied through the RAV rolling incentive

Appendices

Index

Appendix 1 - Consultation Response and Questions

1.1. Ofgem would like to hear the views of interested parties in relation to any of the issues set out in this document.

1.2. We would especially welcome responses to the specific questions which we have set out at the beginning of each chapter heading and which are replicated below.

1.3. Responses should be received by 14 September 2009 and should be sent to:

DPCR5 Response
Electricity Distribution

Ofgem
2nd floor
9 Millbank
London
SW1P 3GE

020 7901 7026
DPCR5.reply@ofgem.gov.uk

1.4. Unless marked confidential, all responses will be published by placing them in Ofgem's library and on its website www.ofgem.gov.uk. Respondents may request that their response is kept confidential. Ofgem shall respect this request, subject to any obligations to disclose information, for example, under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004.

1.5. Respondents who wish to have their responses remain confidential should clearly mark the document/s to that effect and include the reasons for confidentiality. It would be helpful if responses could be submitted both electronically and in writing. Respondents are asked to put any confidential material in the appendices to their responses.

1.6. Any questions on this document should, in the first instance, be directed to:

Nicola Cocks
Programme Management, Electricity Distribution

9 Millbank, Ofgem, London, SW1P 3GE
020 7901 7036

nicola.cocks@ofgem.gov.uk

CHAPTER: One

Question 1: Do you agree with our proposals for a new mechanism to encourage DNOs to develop their role in the low carbon economy?
Question 2: In particular, do you agree with:
- ➔ the proposed size of the funding?
- ➔ the proposals for discretionary rewards?
- ➔ the two tier structure?
- ➔ the proposals to recover tier 2 costs over a five year period?
- ➔ the measures to mitigate DNO risk?

Question 3: Do you think we have adequately balanced the DNOs and customer risk?
Question 4: Do you agree that DNOs should be allowed to use any benefits accrued from the project to cover their contribution (minimum 10 per cent) to the project funding, or should the direct benefits be subtracted from the project cost before the DNO contribution is calculated, so that the DNO always contributes at least 10 per cent of the project cost?
Question 5: Do you agree that the funding should be provided on a use it or lose it basis, and should the tier 2 funding be ramped over the period?
Question 6: Do you consider that this mechanism will achieve our stated objectives?

CHAPTER: Two

Question 1: Have we correctly captured the customer's information needs?
Question 2: Do you agree with the scope of proposed licence obligations?
Question 3: Do you agree with our proposal to request DNOs to commit to a strategy for information provision?

CHAPTER: Three

Question 1: Do you agree with our proposal to retain the DG incentive framework largely unchanged from DPCR4, and do you have any comments on the detail of our proposals?

CHAPTER: Four

Question 1: Do you agree with our proposal to terminate the blanket exemption from use of system charges for pre-2005 connected DG, with effect from 1 April 2010?

CHAPTER: Five

Question 1: Do you agree with the proposed hybrid approach for the regulatory treatment of transmission exit charges?

Question 2: Do you agree that in setting the scope of the incentive we targeted the appropriate cost items?
Question 3: Do you agree with the level of exposure under the proposed sharing factor?

CHAPTER: Six

Question 1: Do you agree with our proposal to provide explicit funding for justified low loss investments to provide direct recognition of the investment?
Question 2: Do you agree with our proposals (common reporting, reporting lag) to address the issues associated with using settlement data to measure losses?
Question 3: What are your views on our proposals for a common reporting method and where we have identified options, which do you prefer?
Question 4: Do you agree with our revised losses incentive value and our proposal to retain the rolling retention mechanism?
Question 5: Do you agree with our proposals for a common treatment for substation energy usage, where the substation usage is registered with a supplier so that they pay for the electricity consumed?
Question 6: Do you agree with our proposals to recognise and reward improvements to the losses measurement?

CHAPTER: Seven

Question 1: Do you agree with our proposal to leave the DPCR4 losses incentive open for the first three years of DPCR5 until the settlement corrections are complete? What are your views on our proposal that the absolute losses performance will be exposed to the DPCR4 rolling retention mechanism?
Question 2: Do you consider that the proposals for closing out the DPCR4 rolling retention mechanism have merit, and if so, how should we manage the uncertainty?

CHAPTER: Eight

Question 1: Do you agree with our proposal for BCF reporting requirements?
Question 2: Do you agree with the proposed guidance for the BCF reporting methodology?
Question 3: Do you agree with our proposal to rely on a reputational incentive only (through publication of a league table)?

CHAPTER: Nine

Question 1: Do you agree with our proposed amendments to how the undergrounding allowance is formulated?
Question 2: Do you agree with our proposed approach to undergrounding projects not completed by the end of DPCR4?

CHAPTER: Ten

Question 1: Do you agree with the scope, timeframes and the level of penalties proposed for the guaranteed standards regime?
Question 2: Should we develop a mechanism to ramp up the level of the proposed penalty payments?
Question 3: Should we cap the penalties that apply to each of the proposed standards?
Question 4: Should we apply in aggregate a 90 per cent performance target to apply to the standards and measure this on a quarterly basis?
Question 5: Do you agree with our market segmentation strategy for metered and unmetered connections? Are there any segments other than those identified that should be exempt from earning a margin?
Question 6: What are your views on the proposed level of regulated margin and is there any further evidence we should take into account in setting the level of regulated margin?
Question 7: Do you have any comments on the scope of the proposed competition tests?
Question 8: We invite views on the relative weighting of market share compared to the price and service tests? What level of lost market share would be appropriate to deem the market competitive?

CHAPTER: Eleven

Question 1: Do you agree with the proposed scope of the broader measure?
Question 2: Do you agree with the revenue exposure and the incentive weightings proposed for each element?

CHAPTER: Twelve

Question 1: Do you agree with the proposed improvements to the telephony scheme?
Question 2: Do you agree with our proposals and methodology for recasting the reward and penalty thresholds?

CHAPTER: Thirteen

Question 1: Do you agree with the proposed mechanism (in full) for worst served customers?
Question 2: Do you agree with the level of the proposed cap per benefiting customer? If not, what level do you believe is appropriate?

CHAPTER: Fourteen

Question 1: Do you agree with the proposal that any required improvement from current performance levels should be funded by shareholders?
Question 2: Do you agree with the approach to setting pre-arranged allowances?
Question 3: Do you agree with the proposed levels of revenue exposure and incentive rates?
Question 4: Do you agree with the proposed refinements to the exceptional events mechanism?

CHAPTER: Fifteen

Question 1: Do you agree with the proposal to increase failure payment levels to reflect inflation?
Question 2: Do you agree with the proposal to introduce some form of payment cap for large one-off events?

CHAPTER: Sixteen

Question 1: Do you agree with our proposals for embedding DPCR4 best practice?
Question 2: Do you agree that the scheme should be rationalised once the Broad Measure goes live in April 2012? If so, in which areas?

CHAPTER: Seventeen

Question 1: Is our proposed common methodology for network output measures related to general reinforcement and asset replacement expenditure appropriate?
Question 2: Is our proposed process for determining whether a DNO has performed satisfactorily against its agreed DPCR5 outputs appropriate?
Question 3: What approach should be taken if we determine that a DNO has failed to deliver against its agreed DPCR5 outputs? Have we considered all reasonable options to impose financial consequences for under-performance?
Question 4: Should we apply different treatment to DNOs that fail to deliver the agreed DPCR5 outputs, depending on their level of DPCR5 investment relative to the forecast?

CHAPTER: Eighteen

Question 1: Do you agree with our proposal to retain IFI?
Question 2: Do you agree with our proposal to focus IFI on technical R&D, whilst creating the new low carbon network fund for the trialling of low carbon initiatives on the networks?

CHAPTER: Nineteen

Question 1: Does the 85 per cent capitalisation of all costs within the equalised incentive provide an appropriate speed of money?

Question 2: Does the IQI matrix presented provide an appropriate profile for the incentive strength? Should we be considering an alternative profile with a steeper incentive rate?
Question 3: What approach should we adopt when setting the start to earn points of the IQI matrix?

Appendix 2 – Legal Drafting for DPCR5

1.1. This appendix sets out the process for modifying the licence conditions and other legal instruments that set out the DNOs' price control obligations. This is because these obligations will have to be modified or new ones introduced in order to implement the price control for the DNOs from 1 April 2010. Our proposal for the drafting associated with the policy proposals developed as part of DPCR5 will be put out for consultation in mid October 2009 and interested parties will be invited to comment on the drafting at that time.

Modifying the licence conditions

Background

1.2. The current DNO licence obligations are set out in:

- special conditions - these conditions are specific to each DNO licensee,
- standard conditions - which apply to all DNOs,
- Statutory Instruments (SIs) that implement or amend regulations, and
- Regulatory Instructions and Guidance (RIGs).

1.3. The special conditions of a particular licence can be modified under section 11 of the Electricity Act 1989 (the "Act") with the agreement of the licensee. If the licensee does not give consent then Ofgem can only make the proposed modifications following a successful reference to the Competition Commission.

1.4. The standard conditions can be modified through collective modifications to licences. For standard conditions this "statutory" collective licence modification (CLM) is made under section 11A of the Act.

1.5. Under the CLM procedures if 20 per cent of the relevant licence holders (either based on the number of licences held or weighted by market share) register a formal objection to the CLM Ofgem would need to make a reference to the Commission Competition if it wanted to continue to make the modification.

1.6. The Act provides for certain regulations to be made. These regulations may be amended through the introduction of a new, amending SI. For example, as part of DPCR5 Ofgem intends to make certain changes to the existing Electricity (Standards of Performance) Regulations 2005 pursuant to section 39 of the Act.

1.7. Any changes to the RIGs will comply with the change process set out in paragraphs 2 to 8 of SLC 49.

DPCR5 legal drafting working group

1.8. We are currently working on our initial thoughts on potential licence modifications or introductions. These are likely to cover four areas: customers; environment; networks; and financial policy.

1.9. As an important part of this process we have formed a legal drafting working group that is chaired by Ofgem and which comprises representatives from Ofgem and the DNOs. Policy heads from within Ofgem will be involved where appropriate and so too will other interested parties (e.g. IDNOs, customer representatives and DECC/BIS).

1.10. The purpose of the legal drafting working group is to provide a peer review function to Ofgem. In particular, the group will be responsible for reviewing Ofgem's development of all proposed changes to licence conditions, as well as the SIs and the RIGs. Together, these changes are intended to implement the policy proposals developed as part of DPCR5. The group will also provide advice and guidance to Ofgem in relation to its development of changes to licence conditions, SIs and RIGs.

1.11. More specifically the duties of the group are to:

- Consider and provide feedback to Ofgem on where and how DPCR5 policy proposals should be incorporated into the overall legal framework,
- Review Ofgem's development of changes to legal texts intended to introduce DPCR5 policy,
- Advise Ofgem of issues in relation to the detailed and overall drafting of changes to legal texts. In particular, the group should advise Ofgem of issues in relation to:
    - Achieving consistency in the system and format across all proposed changes and with the DLR,
    - Whether the development of the legal texts accurately reflect the intention of policy proposals,
    - Whether the proposed changes to legal texts create significant risks, over and above the intent of the proposed policy, which may jeopardise the acceptance of the overall price control settlement,
    - Proffer solutions,
    - Provide drafting support where necessary.

1.12. It is not intended that Ofgem will seek the group's formal agreement in relation to the drafting of legal text, nor will it be for the group to assess or (re-)develop DPCR5 policy.

1.13. It is intended that the group shall meet as necessary until all necessary changes to legal texts are made to introduce the DPCR5 settlement. The first meeting took place on 9 July 2009 and the next one is due to be held on 19 August 2009. Thereafter the meetings are likely to be at 2 to 3 week intervals.

Process for modifying the licence conditions

1.14. Before initiating a statutory licence consultation we plan to consult licensees and other interested parties on our proposed licence modifications initially in mid October 2009 and again in early December 2009, following the publication of Final Proposals. The initial consultations enable us to seek further comments from the DNOs, as well as from other interested parties (not involved in the legal drafting working group) on the modification proposals and early drafts of the licence text.

1.15. Before making modifications to licensees' licences, we must carry out a statutory consultation on the proposals under the relevant provisions of the Act. We plan to issue the statutory consultation on the licence modifications in mid February 2010.

1.16. As part of this process we will publish a modification notice on our website. The modification notice will set out the modifications we propose to make and the effect of the proposed modification, the reasons for the modification and the period within which representations or objections can be made. This period cannot be less than 28 days. We are required to serve copies of the modification notice to the relevant licence holders, the Secretary of State and Consumer Focus. We also serve copies on other parties with an interest. During the consultation period the Secretary of State has the power to veto the licence modifications.

1.17. Once the consultation period has closed we will review any representations and objections and determine whether to proceed with the licence modifications. If appropriate, we will make the licence modifications; specifying when they will take effect and our reasons for making them.

Process for modifying the Electricity (Standards of Performance) Regulations

1.18. The procedure for introducing an SI that amends existing regulations is different to the licence modification process. An SI can only be made with the consent of the Secretary of State. Before making the modification we are required to undertake appropriate research to discover the views of a sample of persons likely to be affected and publish a notice of our proposals under section 40B of the Act and consider any representations made in respect of the proposals. We must also consult with Consumer Focus, DNOs, electricity suppliers and persons likely to be affected by the changes. The notice must state that the Authority proposes to prescribe or determine standards of performance and set out the standards of performance proposed; state the reasons why it proposes to prescribe or determine those standards of performance and specify the period of time within which representations can be made. The period of consultation cannot be less than 28 days.

Process for modifying the RIGs

1.19. In general Ofgem may issue a direction to the DNOs and all other distribution service providers, modifying the RIGs. Before then Ofgem must notify these parties that it proposes to make a modification and the date from which such modification will take effect. The notice must also set out the text of the modification, its purpose and effect and the reasoning behind it, as well as the time by which representations or objections must be received. This period must not be less than 28 days.

19.29. Through DPCR5 we intend to undertake a comprehensive review of the RIGs. This is with a view to harmonising the RIGs, for example removing any unintended and unnecessary duplication of reporting requirements. By reviewing the information currently required from DNOs, this will assist us in determining any further information needed as part of an annual reporting requirement on DNOs.

Appendix 3 – Connections framework

Table 1 - Competition tests for metered connections

	Test	Purpose	Suggested assessment criteria
Legal requirements	Investigation findings	Provides a strong signal of the DNOs' adherence to competition law and non-discrimination obligations	▪ No enforced breaches of SLC19, the Competition Act or SLC15. Disallowance of future unregulated margins for all market segments and a minimum claw back of the difference between the unregulated and regulated margin for the given regulatory year(s). Treatment of regulated margins are to be determined as part of the investigation findings. The DNO must demonstrate that the breach has been corrected before any future unregulated margins can be allowed.
	Compliance with SLC15 (Standards for the provision of Non-Contestable Connections Services)	Provides an output measure of the quality of the DNOs' non-contestable services	
Pure competition indicators	Market share	Provides an output measure to assess levels of competition in DNO area;	<u>LV,HV and DG segments (high volumes)</u> ▪ DNO retains up to [X%] market share compared to non-affiliates and IDNOs (based on number or value of connections). In area affiliate ICP activity will count towards DNO market share; <u>EHV (low volumes)</u> ▪ Given low volumes, pure competition indicators will not be appropriate. EHV segments should therefore be tested against legal requirements and price and service indicators only.
	Market concentration	Provides an output measure of number of active competitive service providers in DNO area	<u>LV, HV and DG segments (high volumes)</u> ▪ Maximum HHI score of 1000 at a regional market level (i.e. the sum of the squares of all the market shares in the market). Can be based on value or volume of connections.

Price and service indicators	Price transparency	Provides an indication of a DNOs' transparency with regard to price	Checklist of evidence that DNOs have measures in place to ensure price transparency: ▪ Connection charging methodologies easily accessible on the website ▪ The non-contestable/contestable elements of quote are given if total value of job exceeds £20,000 ▪ POC technical information is provided by default if total value of job exceeds £20,000 ▪ A breakdown of non-contestable costs by category (e.g. reinforcement, connection to network) and contestable costs (e.g. substation, cable, services) is provided with a description of work involved when overall quotes exceed £20,000 ▪ DNOs have a transparent cost allocation methodology for the contestable/non-contestable split and for the apportionment of indirect costs ▪ Non-contestable charges are cost-reflective
	Customer awareness of competitive alternatives	Provides an indication of DNOs' efforts to promote awareness of competitive alternatives amongst connections customers	Checklist of evidence that DNOs are publicising the competitive route: ▪ Accessibility of website information on competition in connections (within x number of clicks) ▪ Provision of an up to date link to NERS accreditation page ▪ Links/referrals to DNO affiliated companies are clearly marked as such ▪ Contestable/non-contestable activities are explained on the website and in information packs / FAQs ▪ DNOs' statutory responsibilities are explained on the website and in information packs / FAQs ▪ DNOs mention the availability of competitive alternatives on quotations ▪ Option to also provide an independently verified customer survey to show levels of awareness of competitive alternatives amongst customers
	Facilitation of competition	Provides an assessment of the DNOs' processes and procedures for enabling competition in connections	Checklist of evidence that DNOs are cooperating with third party competitors in the provision of non-contestable services: ▪ DNOs to make third parties competitors aware of changes to technical specifications in a timely manner ▪ There is consistent treatment for applications handled as section 16/statutory duty to connect and those handled as 'competitive' ▪ Forms for completion by competitive enquirers/applicants are easy to access and complete ▪ DNOs have processes and procedures in place to enable accredited third parties

			to undertake LV live jointing
		Other evidence that DNOs are proactively working towards opening non-contestable connections activities to competition	Checklist of evidence that DNOs are actively engaging with third party competitors to work towards bringing more connections activities into the contestable arena. Applications should include a statement of progress and intent against Ofgem/ECSG priorities. The list of Ofgem/ECSG priorities currently includes: ▪ Reviewing the accreditation process ▪ Allowing access to DNO records for ICPs so that determining POC becomes a contestable activity ▪ Developing standardised adoption agreements ▪ Allowing joint access to DNO/IDNO substations ▪ Allowing ICPs to undertake partially funded diversions and reinforcement schemes ▪ Allowing ICPs to undertake closing joints The priorities list will be monitored and maintained by Ofgem with input from ECSG. It is expected to evolve throughout DPCR5.
	Complaints & determinations	Provide an assessment of the effectiveness of DNOs' complaint handling procedures for connections	Checklist of evidence that DNOs have effective complaint handling procedures for connections: ▪ Clear and effective procedures are in place for resolving disputes and handling complaints ▪ Complaints procedures are well publicised and signposted ▪ Complaints procedures are flexible enough to settle matters on an ex-grata basis ▪ The complaint escalation process is clear ▪ Complaints procedures leave an audit trail ▪ The redress scheme is signposted
	Performance against new connections standards regime (GS and/ licence condition)	Provides an output measure of the quality/timeliness of all connections services	▪ Thresholds for pass/fail will be consistent with the overall performance target to be specified in the new connections standards licence ▪ DNOs voluntarily apply the standards and penalties to all customers including ICPs and developers.

Table 2 - Competition tests for unmetered connections

	Test	Purpose	Proposed assessment criteria
Legal Requirements	Investigation findings	Provides a strong signal of the DNOs' adherence to competition law and non-discrimination obligations	▪ No enforced breaches of SLC19 or the Competition Act. Disallowance of future unregulated margins for all market segments and a minimum claw back of the difference between the unregulated and regulated margin for the given regulatory year(s). Treatment of regulated margins are to be determined as part of the investigation findings. The DNO must demonstrate that the breach has been corrected before any future unregulated margins can be allowed.
Pure competition indicators	Market share	Provides an output measure to assess levels of competition in the provision of new unmetered connections.	<u>Local Authority and other unmetered connections (high volumes)</u> ▪ DNO retains up to a maximum of [X%] market share compared to non-affiliates (based on number or value of connections completed under the triangular arrangements); or <u>PFIs (high volumes)</u> ▪ Unique market test required or refer straight to service and price tests

Service and Price indicators (all tests to be met)	New guaranteed standards regime	Provides an assessment of the quality of the DNOs' service in the provision of new unmetered connections.	▪ Local Authority and other unmetered connections (high volumes) ▪ Full compliance with the unmetered standards of performance: ▪ Provision of quotation ▪ Commencement and completion of works (1-100 units) ▪ Any enhanced/different service levels negotiated will be out with this requirement.
	Engagement with Public Lighting Authorities (PLAs)	Provides an assessment of the DNOs approach to managing its relationship with PLAs	▪ DNOs to provide stakeholder support or other evidence of: ▪ Effective communication with Public Lighting Authorities ('PLAs') to manage workloads ▪ Engagement with PLAs to promote the availability of competitive options and provide all PLAs with information on how rent-a-jointer schemes operate and the triangular arrangements they offer
	Price	Provides an indication of a DNOs' competitiveness with regard to price	▪ DNOs have a transparent cost allocation methodology for the contestable/non-contestable split ▪ Non-contestable charges are cost-reflective
	Facilitation of competition	Provides an assessment of the DNOs' processes and procedures for enabling competition in unmetered connections	▪ DNOs provide a list of NERS accredited contractors to PLAs so that they have more choice over the service provider they can use ▪ DNOs make their triangular arrangements and rent-a-jointer terms and schedule of rates available on their respective websites ▪ DNOs have processes and procedures in place to enable accredited third parties to undertake LV live jointing ▪ The scope of contestability offered by DNOs is based on contractor accreditation rather than the 'one metre rule'
		Other evidence that DNOs are proactively working towards opening non-contestable unmetered connections activities to competition	Checklist of evidence that DNOs are actively engaging with ICPs and PLAs to work towards bringing more connections activities into the contestable arena. Applications should include a statement of progress and intent against Ofgem/ECSG priorities. The list of Ofgem/ECSG issues currently includes allowing emergency pot ends to become a contestable activity The priorities list will be monitored and maintained by Ofgem with input from ECSG. It is expected to evolve throughout DPCR5.

Table 3 - Services and standards for metered connections – based on DNO/customer interfaces

Provision of budget estimates	Standard	Definition	Payment
Provision of a budget estimate (to apply across all voltages including generation schemes) and including detail on whether reinforcement is required – the production of a budget is likely to be a desktop exercise – not involving a site visit or system studies. This will be a chargeable service.	up to 20 working days 1MVA and above up to 10 working days below 1MVA	Where a customer requests, the DNO shall provide a budget estimate in twenty working days for 1MVA and above and ten working days for jobs below 1MVA. Where a DNO fails to achieve this in the specified timeframe a one off payment shall be made.	£50 one off payment £50 one off payment

Low Voltage jobs (< 5 plots)

1.Provision of quotation	Standard	Definition	Payment
Provision of a quotation for a single LV service job	up to 5 working days	Where a customer requests, the DNO shall provide a quotation for a small LV job in five working days. Where a DNO fails to achieve this, a fixed payment shall be made in respect of each day during which the failure continues	£10 for each day during which the failure continues
Provision of a quotation for 2 to 4 services or for 1-4 premises extension to the existing LV network	up to 15 working days	Where a customer requests, the DNO shall provide a quotation for 2 to 4 services jobs or for 1-4 premises in fifteen working days. Where a DNO fails to achieve this a fixed payment shall be made in respect of each day during which the failure continues	£10 for each day during which the failure continues

Post quotation acceptance

2. Following acceptance of a quotation the DNO to contact customer to arrange a schedule of dates for commencement and completion of LV service works (1-4 connections). The connection works shall be completed in a timescale agreed with the customer	Standard	Definition	Payment
Contact customer to arrange a schedule of dates	up to 7 working days	Within seven working days of acceptance of a quote the DNO shall contact the customer to arrange a schedule of dates for commencement and completion of LV service works. Where a DNO fails to achieve this a fixed payment will be made in respect of each day during which the failure continues	£10 for each day during which the failure continues
Complete small service connection works in timescales agreed with the customer (does not include meter installation work)	in timescales agreed with the customer	The DNO shall complete LV connection works in timescales agreed with the customer. Where a DNO fails to achieve this a fixed payment will be made in respect of each day during which the failure continues	£25 for each day during which the failure continues

3.Plot call offs - where a customer contacts a DNO and requests plot call offs (5 plots and above) the DNO shall arrange a schedule of works and complete works in timescales agreed with the customer	Standard	Definition	Penalty
Complete plot call offs in a timescale agreed with the customer	in a timescale agreed with the	The DNO shall complete plot call off works (5 plots and above) in a timescale	£10 per plot for each day during which the

	customer	agreed with the customer. Where a DNO fails to complete works in timescale agreed with the customer, a fixed payment will be made for each day during which the failure continues	failure continues

New and modified LV, HV & EHV demand and generation connections

1.Provision of quotations for new and modified LV,HV & EHV demand and generation connections	Standard	Definition	Payment
Provision of quotation for an LV scheme where the highest voltage of the assets and any associated works is not more than one kilovolt – no HV works involved (> 4 plots)	up to 25 working days	Where a customer requests the DNO shall provide a LV quotation for a new or modifying an existing connection for an LV scheme in up to twenty five working days. Where a DNO fails to achieve this a fixed payment shall be made in respect of each day during which the failure continues	£50 for each day during which the failure continues
Provision of LV generation quotation where the highest voltage of the assets and any associated works is not more than one kilovolt	up to 45 working days	Where a customer requests the DNO shall provide a LV generation quotation for a new or modifying an existing connection for an LV generation site in up to forty five working days. Where a DNO fails to achieve this a fixed payment shall be made in respect of each day during which the failure continues	£50 for each day during which the failure continues
Provision of HV demand quotation (includes LV with HV works)– where the highest voltage of the assets and any associated works is more than one kilovolt but not more	up to 35 working days	Where a customer requests the DNO shall provide a HV demand quotation for a new or modifying an existing connection for a HV demand site in up to	£100 for each day during which the failure continues

than 22 kilovolts		thirty five working days. Where a DNO fails to achieve this a fixed payment shall be made in respect of each day during which the failure continues	
Provision of HV generation quotation (includes LV with HV works) where the highest voltage of the assets and any associated works is more than one kilovolt but not more than 22 kilovolts	up to 65 working days	Where a customer requests the DNO shall provide a HV generation quotation for a new or modifying an existing HV connection generation site in up to sixty five working days. Where a DNO fails to achieve this a fixed payment shall be made in respect of each day during which the failure continues.	£100 for each day during which the failure continues
Provision of EHV demand quotation where the highest voltage of the assets and any associated works is more than 22 kilovolt but not more than 132 kilovolts	up to 65 working days	Where a customer requests the DNO shall provide an EHV demand quotation for a new or modifying an existing EHV connection demand site in up to sixty five working days. Where a DNO fails to achieve this a fixed payment shall be made in respect of each day during which the failure continues.	£150 for each day during which the failure continues
Provision of EHV generation quotation where the highest voltage of the assets and any associated works is more than 22 kilovolt but not more than 132 kilovolts	up to 65 working days	Where a customer requests the DNO shall provide an EHV generation quotation for a new or modifying an existing EHV generation site in up to sixty five working days. Where a DNO fails to achieve this a fixed payment shall be made in respect of each day during which the failure continues.	£150 for each day during which the failure continues

2.Following acceptance of a quotation a DNO shall contact the customer to arrange a schedule of dates for commencement, completion and energisation of works for LV, HV demand and generation connections (make contact only for EHV schemes)	Standard	Definition	Payment
LV demand connections where the highest voltage of the assets and any associated works is not more than one kilovolt (no HV works involved)	up to 7 working days of acceptance of quote	Within seven working days of acceptance of a quote the DNO shall contact the customer to arrange a schedule of works. Where a DNO fails to achieve this a fixed payment will be made in respect of each day during which the failure continues	£50 for each day during which the failure continues
LV generation connections where the highest voltage of the assets and any associated works is not more than one kilovolt (no HV works involved)	up to 7 working days of acceptance of quote	Within seven working days of acceptance of a quote the DNO shall contact the customer to arrange a schedule of works. Where a DNO fails to achieve this a fixed payment will be made in respect of each day during which the failure continues	£50 or each day during which the failure continues
HV demand connections where the highest voltage of the assets and any associated works is more than one kilovolt but not more than 22 kilovolts (LV including HV works)	up to 10 working days of acceptance of quote	Within ten working days of acceptance of a quote the DNO shall contact the customer to offer and agree schedule of dates for works. Where a DNO fails to achieve this a fixed payment will be made in respect of each day during which the failure continues	£100 for each day during which the failure continues
HV generation connections where the highest voltage of the assets and any associated works is more than one kilovolt but not more than 22 kilovolts (LV including HV works)	up to 10 working days of acceptance of quote	Within ten working days of acceptance of a quote the DNO shall contact the customer to offer and agree schedule of dates for works. Where a DNO fails to achieve this a fixed payment will be made in respect of each day during which the failure continues	£100 for each day during which the failure continues

EHV demand connections where the highest voltage of the assets and any associated works is more than 22 kilovolts but not more than 132 kilovolts	up to 15 working days of acceptance of quote	Within fifteen working days of acceptance of a quote the DNO shall contact the customer to discuss requirements. Where a DNO fails to achieve this a fixed payment will be made in respect of each day during which the failure continues	£150 for each day during which the failure continues
EHV generation connections where the highest voltage of the assets and any associated works is more than 22 kilovolts but not more than 132 kilovolts	up to 15 working days of acceptance of quote	Within fifteen working days of acceptance of a quote the DNO shall contact the customer to discuss requirements. Where a DNO fails to achieve this a fixed payment will be made in respect of each day during which the failure continues	£150 for each day during which the failure continues
3.Works associated with LV, HV, EHV demand and generation connections	Standard	Definition	Payment
Commence works on customer's site in timescales agreed with the customer	in timescales agreed with customer	Where a DNO fails to commence works in a timescales agreed with the customer a fixed payment shall be made in respect of each day during which the failure continues	£20 for each day during which the failure continues
Complete LV works in timescales agreed with the customer including the making live up to the cut-out	in timescale agreed with the customer	Where a DNO fails to complete works in a timescale agreed with the customer a fixed payment shall be made in respect of each day during which the failure continues	£100 for each day during which the failure continues
Complete HV works in timescales agreed with the customer including the making live up to the cut-out	in timescale agreed with the customer	Where a DNO fails to complete works in a timescale agreed with the customer a fixed payment shall be made in respect of each day during which the failure	£150 for each day during which the failure continues

		continues	
Complete EHV works in timescales agreed with the customer including the making live up to the cut-out	in timescale agreed with the customer	Where a DNO fails to complete works in a timescale agreed with the customer a fixed payment shall be made in respect of each day during which the failure continues	£200 for each day during which the failure continues
Complete LV energisation works in a timescales agreed with the customer where energisation of the metering point is to be carried out by the DNO.	in timescale agreed with the customer	Where a DNO fails to complete LV energisation works in a timescale agreed with the customer a fixed payment shall be made for each day during which the failure continues	£100 for each day during which the failure continues
Complete HV energisation works in a timescales agreed with the customer where energisation of the metering point is to be carried out by the DNO.	in timescale agreed with the customer	Where a DNO fails to complete HV energisation works in a timescale agreed with the customer a fixed payment shall be made for each day during which the failure continues	£150 for each day during which the failure continues
Complete EHV energisation works in a timescales agreed with the customer where energisation of the metering point is to be carried out by the DNO.	in timescale agreed with the customer	Where a DNO fails to complete EHV energisation works in a timescale agreed with the customer a fixed payment shall be made for each day during which the failure continues	£200 for each day during which the failure continues

Accuracy Review Scheme	Description
The Licensee shall submit from time to time for the Authority's approval an accuracy review scheme through which customers can require the licensee to review the accuracy of quotations for obtaining a new electricity connection or modifying an existing connection. The review scheme will detail the process a customer will follow to challenge the quotation, the steps the DNO will take to process an accuracy challenge and benchmark costs which will enable the customer to determine whether their quotation is accurate.	Where a customer challenges a quotation under the DNOs published accuracy scheme and the quotation is found to be inaccurate the DNO shall refund any overcharge that has been made restrict to LV for HV and above based on a % tolerance of the quotation value / failure to quote accurately will attract a penalty.

Table 4 - Unmetered Guaranteed Standards - service and standards for unmetered connections

These standards will apply to any party that requests an unmetered service from a DNO
These standards apply to unmetered street lighting and street furniture
The standards will not apply to unmetered services that are subject to separate commercial agreements
New works >100 jobs/units are excluded from these standards

1. Fault repairs	Standard	Definition	Penalty
Emergency response	attend site in 2 hours	The DNO shall attend site in 2 hours and then carry out works to remove immediate danger to the public or property arising from the electricity distribution network. Where a DNO fails to achieve this, a one off payment will be made	£ 50 one off payment
High Priority Fault Repair – Traffic Light Controlled	in two calendar days	The DNO shall complete the works required to rectify a high priority fault repair that is traffic light controlled in	£10 for each day during which the failure continues

		two calendar days. Where a DNO fails to achieve this, a fixed payment will be made for each day during which the failure continues	
High Priority Fault Repair – non Traffic Light controlled	10 working days	The DNO shall complete the works required to rectify a high priority fault repair that is not traffic light controlled in ten working days. Where a DNO fails to achieve this, a fixed payment will be made for each day during which the failure continues	£10 for each day during which the failure continues
Multiple Unit Fault Repair	20 working days	The DNO shall complete the works required to rectify a multiple unit fault repair in twenty working days. Where a DNO fails to achieve this, a fixed payment will be for each day during which the failure continues	£10 for each day during which the failure continues
Single Unit Fault Repair	25 working days	The DNO shall complete the works required to rectify a single unit fault repair in twenty five working days. Where a DNO fails to achieve this, a fixed payment will be made for each day during which the failure continues	£10 for each day during which the failure continues

2. New Works – Provision of a Quotation	Standard	Definition	Penalty
New Works Order (1 – 100 units)* For requests over a 100 units the DNO shall discuss requirements with the customer	25 working days	The DNO shall provide a quotation for 1 -100 jobs in twenty five working days. Where a DNO fails to achieve this, a fixed payment will be made in respect of each day during which the failure continues	£10 for each day during which the failure continues

3. Commencement and completion of new works	Standard	Definition	Penalty
New Work Order (1 – 100 units) new site (section 38 scheme)	in timescales agreed with the customer	The DNO shall complete the works required in a timescale agreed with the customer. Where a DNO fails to achieve this, a fixed payment will be made in respect of each day during which the failure continues	£10 for each day during which the failure continues
New Works (1-100 units) Existing adopted highway	35 working days	The DNO shall commence and complete works within thirty five working days of appropriate notification from the customer	£10 for each day during which the failure continues

Appendix 4 – Common losses reporting methodology

1.1. This appendix provides a detailed description of our proposed methodology that all DNOs should use to report losses in DPCR5.

Overview of proposed method

1.2. Our proposal for a common losses reporting methodology requires that all DNOs calculate distribution losses as the difference between the actual energy[62] entering and exiting the distribution network over the course of a regulatory year.

1.3. Our proposed approach is different to the current regime in operation under DPCR4. DNOs are currently required to calculate and report values of energy entering and exiting their networks using the methods they were using in April 2002[63]. Consequently, there are currently three different approaches used by the DNOs to calculate energy entering and exiting their networks.

1.4. For DPCR5 we want a consistent measure of losses across all DNOs. This is to improve the comparability and transparency of licensees' performance against the incentive. Hence we are proposing to require all DNOs to report annual losses in the same way, based on the following principles:

- Common reporting across all DNOs – to ensure that the reporting of losses is consistent and comparable,
- Where possible, using settlement data – which is compiled, validated and audited in accordance with agreed industry processes,
- Minimal (and pre authorised) DNO manipulation of data,
- The use of actual energy entering and exiting the networks at network boundary points – so that the calculation of losses and the evaluation of performance is not masked by unnecessary adjustments that are made for Settlement purposes.,
- Where possible use the same Settlement data flows already used by the DNOs (to avoid costly changes to their systems), and
- Use of a reporting lag – to ensure that the energy used by licensees has been reported at the end of the Settlement reconciliation process (i.e. Run Final, RF), and increase the accuracy of the losses calculation.

1.5. The following section of this appendix explains our proposals for the calculation of energy volumes entering and exiting DNOs' networks.

[62] Volumes of electrical energy that are not adjusted by Group Correction Factors or, in some cases, Loss Adjustment Factors, i.e. the total energy flowing on and off the licensee's network.
[63] in accordance with Special Licence Condition C2

Methodology in detail

1.6. The calculation of energy entering and exiting a DNO's network should take account of all sources and uses of energy entering and leaving the network at different types of network boundary point. All boundary points (except for DNO:IDNO boundaries) are registered in Settlement, meaning that the energy flows at these boundary points are recorded, validated and used in accordance with the Balancing and Settlement Code (BSC). Depending on the technical details of boundary points the energy flowing through them is either recorded in Central Volume Allocation (CVA) or Supplier Volume Allocation (SVA)[64].

1.7. Table 1 identifies all boundary points and how the data is collected.

Table 1 – Eligible boundary points for energy flows on and off a distribution network

Units Entering	Units Exiting
CVA	
Grid Supply Point (GSP) DNO:DNO Interconnection (DSCP[65]) Licensed embedded distributed generation	Grid Supply Point (GSP) DNO:DNO Interconnection (DSCP) Embedded distributed generator (electricity usage)
SVA	
Unlicensed embedded distributed generation	Demand
Non-Settlement based	
IDNO:DNO boundary	IDNO:DNO boundary

1.8. Details of energy flows at boundary points registered in Settlement are communicated to BSC Parties, Central Agents and Party Agents using data flows that are provided by the BSC. These data flows are described in the Interface Definition and Design document (which relates to CVA data) and Data Transfer Catalogue (which relates to SVA data). It is clear from these documents that there are a variety of data flows that could be used to calculate the units entering and exiting the network. Historically different DNOs have used different data flows. We accept that there may be alternative means of calculating the same values of energy (using different data flows) and consider that licensees should not need to change systems and processes as long as they can demonstrate to Ofgem that the data flows they use produce a consistent and predictable result.

[64] Boundary points registered in CVA are defined by BSC Section K2.1.1; all other boundary points are registered in SVA, in accordance with BSC Section K2.4.1.
[65] Distribution System Connection Point

1.9. We therefore propose to choose one of two means of collating CVA data (a 'bottom up' and 'hybrid' approach) and offer DNOs flexibility in the use of certain SVA data flows.

CVA Data

1.10. The energy entering and exiting the licensee's network at the CVA boundary points should be calculated in one of two ways – either using a 'bottom up' or 'hybrid' approach. The 'bottom up' approach simply collates raw, gross, metered settlement data and sums the volumes of energy contained for the various CVA boundary points. The 'hybrid' approach takes, as its base, aggregated, net settlement data and then adjusts certain amounts of energy (ie that relate to embedded generation) using loss adjustment data to ensure the volume of energy reflects what has entered the network at the boundary point and not as though it had entered the network via a GSP. The specific data flows for each type of boundary point and the method calculations are described below.

GSP and DNO: DNO interconnection

1.11. Energy entering and exiting the licensee's network at a GSP or DSCP will be calculated in one of two ways:

- 'bottom up' - totalling the volumes contained in daily actual metered data (reported in CDCA IO12 'Report Raw Meter Data' data flows) and, where an IO12 is not available[66], estimated metered data (reported in CDCA IO14 'Estimated Data Report' data flows) for the DNO, across the regulatory year, or
- 'hybrid' - totalling the volumes that relate to energy either entering or exiting at GSPs or DSCPs reported in the CDCA IO30 'Meter Period Data for Distribution Area' data flows. The IO30 differentiates between net volumes entering or exiting the network using an import and export indicator. However, when calculating the energy entering or exiting at a DSCP, the licensee should use appropriate validation rules to ensure that energy is correctly calculated as entering or exiting the DNO's network[67].

Licensed embedded distributed generation

1.12. The energy generated or consumed by licensed embedded distributed generators is also registered in CVA. The volumes of energy at these sites are associated to Balancing Mechanism Units (BMUs).

[66] In accordance with BSC Section K paragraph 5 and BSC Procedure 03, CVA metered data, which is reported using the IO12, may fail prescribed validation rules, and therefore may not be available. In such an instance, an estimated value of energy may be calculated and used instead. Estimated data is reported using the IO14 flow

[67] The validation rules are published in accordance with BSC Procedure 75

1.13. Energy flowing through these boundary points will be calculated in one of two ways:

- 'bottom up' - totalling the volumes contained in daily actual metered data (reported in CDCA IO12 'Report Raw Meter Data' data flows) and, where an IO12 is not available[68], estimated metered data (reported in CDCA IO14 'Estimated Data Report' data flows) for the DNO, across the regulatory year, or
- 'hybrid' - by collating aggregated BMU data (reported in CDCA IO42 'BM Unit Aggregation Report' data flows) and summing the volumes of energy that relate to energy either entering or exiting. However, to ensure that the values of energy entering the licensee's network accurately reflect what has crossed the boundary point, export energy flows reported in IO42s should be re-adjusted using CVA Loss Adjustment Factors (reported in CDCA IO22 'Distribution Line Loss Factors' data flows)[69].

SVA Data

1.14. Energy entering and exiting the licensee's network also crosses boundary points registered in SVA. These boundary points relate to either Half Hourly (HH) or Non Half Hourly (NHH) sites and the energy entering or exiting the DNO's network at these boundary points will be calculated by collating D0030 'Non Half Hourly (NHH) DUoS Report' and either the D0036 'Validated Half Hourly (HH) Advances for Inclusion in Aggregated Supplier Matrix' or the D0275 'Validated HH Advances' data flows that relate to each settlement date of the regulatory year being reported.

1.15. SVA data is reported as either data recorded at boundary points, or as data that has been adjusted by applying the rules of the Settlement process to account for losses and group correction on the system. Our proposed method uses the unadjusted energy reported in data flows to calculate the actual values of energy entering and exiting the DNO's network.

Non-Settlement based data

1.16. The only boundary point that is not registered in Settlement is the boundary between a DNO and IDNO. To calculate the volumes of energy entering or exiting the licensee's network at these boundary points, the DNO should use the same volumes as they use to bill the IDNO for use of the DNO's network.

[68] In accordance with BSC Section K paragraph 5 and BSC Procedure 03, CVA metered data, which is reported using the IO12, may fail prescribed validation rules, and therefore may not be available. In such an instance, an estimated value of energy may be calculated and used instead. Estimated data is reported using the IO14 flow.

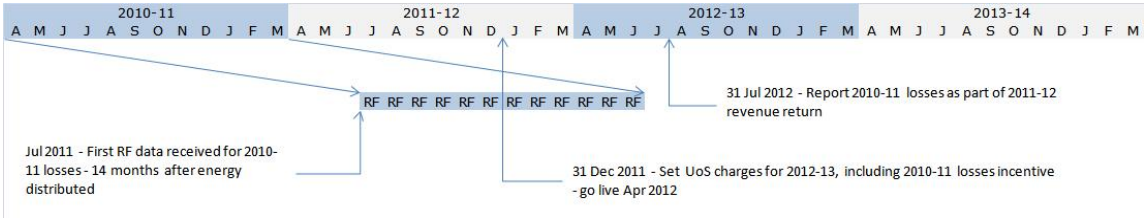
[69] This is because the energy entering the DNO's network that is reported in the IO42 reflects energy that has been adjusted using Loss Adjustment Factors so that it appears as though the energy had originally entered the network via a GSP, as opposed to the boundary point at which the embedded generator is actually connected to the network.

Additional instructions

Reporting lag

1.17. As part of the current price control (DPCR4), losses for a particular regulatory year are reported by the DNO at the end of that regulatory year[70]. Our proposed method for DPCR5 requires that DNOs use the finalised data that is determined at the end of the default Settlement reconciliation calendar (RF) in the calculation of losses. Therefore they will have to wait for more than a year after the end of a regulatory year before they report the losses and start to recover/pay loss incentive revenues/payments for performance in that regulatory year. Figure 1 provides an indicative timetable for reporting losses performance and recovering/paying subsequent revenues.

Figure1 – Indicative timetable for reporting and recovering losses performance and revenues



1.18. In practice this will mean that:

- the reporting of actual losses will take place as soon as possible after the RF data for the regulatory year is received , i.e. as part of the next revenue return, and
- the losses incentive revenue charged in regulatory year t will be based on the losses actually experienced in regulatory year t-2. This means that licensees will not begin to recover DPCR5 losses incentive revenues until regulatory year 2012-13.

Sources excluded from the calculation of losses

1.19. Any data source that is not accounted for in Settlement before RF or does not arise from a connected IDNO network should not be included in the calculation of losses. This includes, but is not limited to:

- data relating to theft not entered into Settlement,
- embedded distributed generation not registered in Settlement,
- own site use (e.g. substation usage) not registered in Settlement, and
- any known or perceived anomalies that are not captured in Settlement.

[70] In accordance with Standard Licence Condition 50; by 31 July.

Convenience customers and inset networks

1.20. Energy entering or exiting a DNO's network because of a convenience customer or inset network should be attributed to the licensee that customer or inset network is connected to, not the licensee whose region they may be located within by virtue of geography.

Statement of compliance with methodology

1.21. Following Initial Proposals we will decide which option ('bottom up' or 'hybrid') to use in the common method, and work with the DNOs to further develop and refine the detail for Final Proposals.

1.22. Once the detailed method is determined, we propose an obligation on DNOs that requires them to submit a statement to Ofgem, within three months of DPCR5 taking effect, which sets out how they will comply with the requirement to report losses in accordance with the common method.

Appendix 5 – Business carbon footprint reporting framework

1.1. This appendix contains the template for BCF reporting (Section 1) and the associated Guidance (Section 2).

Business carbon footprint reporting template

1.2. Each DNO has to provide an inventory of their operational carbon emissions. Ofgem set out a standard template for DNOs to fill in, in order to provide a summary of their greenhouse gas (GHG) emissions. Figure 1 below shows the template.

Figure 1 - Business carbon footprint reporting framework

DNO's Business Carbon Footprint from dd/mm/yyyy to dd/mm/yyyy	
Emission	**kgCO2e**
Buildings energy usage	**0**
Buildings - Electricity	0
Buildings - Other fuels	0
Substations usage	0
Operational Transport	**0**
Road	0
Rail	0
Sea	0
Air	0
Buisiness Transport	**0**
Road	0
Rail	0
Sea	0
Air	0
Fugitive Emissions	**0**
SF6	0
(other gases, as applicable)	0
Fuel Combustion	**0**
Diesel	0
Natural Gas	0
(other fuels, as applicable)	0
Losses	**0**
TOTAL BCF	**0**

1.3. In addition to this summary table, the DNOs must submit a separate commentary & methodology which includes detailed emission tables, and further information on the methodology adopted. This shall include a description of data sources and processes for recording, estimating, converting to $kgCO_2e$ and audit.

Guidance on business carbon footprint reporting

General

Reporting framework

1.4. The Business Carbon Footprint (BCF) reporting consists of two main elements:

- A **summary table** (one per DSA required). You are requested to compile the "Summary BCF" worksheet (light blue cells only).
- A separate **commentary & methodology** which includes detailed emission tables as detailed by the following sections, and further information on the methodology adopted. This shall include a description of data sources and processes for recording, estimating, converting to $kgCO_2e$ and audit. This methodology provides flexibility for licensees to set their own standards for:

    - Reporting year. We expect this generally to align with the statutory or regulatory accounts;
    - The use of estimates rather than direct measurement[71], and any exclusion from the reporting based on (lack of) materiality considerations[72].

1.5. The BCF reporting shall be submitted to Ofgem within three months after the closing of the licensee's chosen reporting period.

General principles of the reporting methodology

1.6. The reporting methodology shall be compliant with the principles of the Greenhouse Gas Protocol[73] (GHG Protocol). In summary[74], the BCF reporting shall be:

- Relevant: the inventory shall reflect the substance and economic reality of the company's business relationships, not merely its legal form.
- Complete: all relevant emission sources shall be included (although in practice lack of data or cost of gathering could be a limiting factor).

[71] In accordance with the principles of the GHG protocol and ISO14001, we expect a process of continual improvement, so that estimates are progressively replaced by direct measurement.
[72] In cases where emissions have not been estimated, it is important that this is transparently documented and justified in the methodology.
[73] http://www.ghgprotocol.org/
[74] For further details, please refer to "GHG Protocol – A corporate Accounting and Reporting Standard", available at: http://www.ghgprotocol.org/files/ghg-protocol-revised.pdf

- Consistent: accounting approaches, inventory boundary and calculation methodology shall be applied consistently over time.
- Transparent: information on the processes, procedures, assumptions and limitations of the BCF reporting shall be disclosed in a clear, factual, neutral and understandable manner, enabling internal and external verifiers to attest to its credibility.
- Accurate: GHG measurements, estimates, or calculations should be systemically neither over nor under the actual emissions value, as far as can be judged, and that uncertainties be reduced as far as practicable.

1.7. DNOs shall report on all Scope 1 and Scope 2 emissions (and a subset of Scope 3 emissions, as detailed below) on an "operational control" basis, i.e. report all emissions from operations on which the DNO has full authority to introduce and implement its operating policy.

1.8. DNOs shall also report on a subset of Scope 3 emissions (business travel and external contractors), to ensure that the reporting captures all the emissions arising from the development and operation of the licensee's distribution system, regardless of the legal entity carrying out each activity. According to this, we consider it valuable to focus on contractors emissions related to the operational transport fleet and mobile power plant.

1.9. The methodology required under section 1.4 shall clarify how these principles have been translated into the reporting, e.g. details of which emissions have been excluded and which assumptions have been made in the reporting.

Specific emissions

Buildings energy usage

1.10. Emission for electricity usage in buildings shall be converted according to the factor for the Grid Rolling Average[75].

1.11. Natural Gas, Diesel and other fuels are all categorised as fuel combustion and shall be converted to $kgCO_2e$ on either a Gross Calorific Value (Gross CV) or Net Calorific Value (Net CV) basis. We expect that this element of the chosen approach is clearly stated in the commentary and that this is consistently applied over time.

1.12. Electricity usage in substations shall be captured under "Buildings energy usage". All substation consumption shall be treated as energy supplied rather than

[75] This electricity conversion factor represents the five year rolling average carbon dioxide emission from the UK national grid per kWh of electricity used at the point of final consumption. The annual conversion factor for each year reflects the changing generation fuel mix used in the period.

losses. It is recognised that not all substations will be metered; rather, it is expected that DNOs will in time register all substation as unmetered supplies and develop a common method for estimating consumption. Each DNO shall include in its methodology the basis on which energy supplied has been assessed.

Transport

1.13. Defra guidelines provide for a range of emission conversion factors for transport means, with the aim to provide the best possible estimate of emissions from the vehicle portfolio owned and/or operated by the company. The reporting shall, as far as reasonably practicable, use the full range of emission factors available (as applicable to the range of means of transport actually used by the company).

1.14. DEFRA allows for transport to be entered in terms of both mileage and fuel consumption. Reporting shall be based upon mileage, using conversion factors at the greatest level of disaggregation that is reasonably practicable. Reporting can be based on fuel consumption only where detailed and reliable data is available, e.g. through fuel cards.

1.15. In cases where emission factors for specific transport means are not available (we are aware of this issue for helicopters, but there may be some other instances) the $kgC0_2e$ value should be estimated and summed to the closest means of transport (e.g. "air" for helicopters). The methodology and assumptions used for estimating/measuring these emissions should be included in the commentary.

Fugitive emissions

1.16. This category caters for GHG emissions from a range of gases that may be relevant to the DNO business[76]. SF_6 emissions shall be reported in accordance with ENA-ER S38, using DEFRA conversion factors.

Fuel combustion (non-building)

1.17. This is to cover for non-building fuel usage, such as mobile plants and the stand-by diesel mobile generators that are deployed from time to time in response to planned outages or faults. DEFRA emissions factors shall be used. All mobile plant and generation used by the DNO, related and affiliate undertakings, contractors and sub-contractors shall be included in so far as it is reasonably practicable. The methodology shall describe the degree of estimation, and decisions to exclude any sources of emissions, applied.

[76] We anticipate that this will mainly include SF_6 emissions, but other gases may be included (e.g. HFC from air conditioning). The methodology shall clarify which emissions have not been calculated or estimated.

Network losses

1.18. This is to consider DNO's responsibility towards losses as a Scope 2 emission, using the same DEFRA conversion factor Grid Rolling Average that was used for buildings emissions.

Appendix 6 – Impact assessment: low carbon networks fund

Summary

1.1. In December 2008 we set out our initial impact assessment on our proposed innovation and future networks incentive mechanism. Since this time our thinking has developed and as set out in Chapter 1 of this document we are proposing a low carbon networks fund (LCN fund) for DPCR5. This impact assessment (IA) sets out the potential impacts, costs and benefits of our policy proposal to encourage the DNOs to use the DPCR5 period to play an active role as GB moves to a low carbon economy. This IA builds on our assessment set out in December.

1.2. The primary objectives of the LCN fund are to make it easier for those parties looking to invest in low carbon technologies to connect and use the network and to prepare for the profound changes to network use (such as more 'active' network operations and energy efficiency) that are anticipated beyond 2015.

1.3. Given the nature of this proposal and the uncertain future and impacts as we move to a low carbon economy, the assessment of benefits within this IA is mainly qualitative. In this IA we conclude that the potential value to be derived through this LCN fund is likely to considerably exceed the cost. In addition, if the DNOs do not start work in the next five years to test new technologies and commercial arrangements, and begin to make the transition, the cost to adapt to the low carbon economy could be significantly greater in the future. We consider that there is a strong case for introducing the LCN fund in DPCR5.

Key issues and objectives

1.4. The future use of electricity distribution networks is highly unpredictable, with a variety of environmental initiatives (such as vastly increased distributed generation, smart meters, demand side management and response, zero carbon homes, heat pumps, electric vehicles and electric storage) which could significantly impact the design and operation of the networks and the commercial role the DNOs play. For example, they may need to introduce more intelligence and automation onto the networks to make sure they can adapt quickly to the changing pattern of network use and connect new users quickly without having to wait for new transformers or lines to be installed. The DNO may need to enter into contracts with DG and large electricity users to vary their use of the network.

1.5. Under the current regulatory framework there appears little incentive for DNOs to move away from their 'business as usual' patterns of investment and commercial arrangements. DNOs tend to be relatively low risk companies focused upon the achievement of short term gains and cost efficiencies and there is little inherent in the regulatory arrangements which rewards companies for taking a long term view or for building flexibility into their plans. They do not face the same competitive pressures to gain market advantage through innovation, and there is an assumption

that, if they don't adapt to accommodate evolving demands on the network, the regulatory framework will allow them to recover from customers the cost of any catch up to meet changing needs.

1.6. We see DPCR5 as a critical period for the DNOs. Whilst the companies suggest that the networks in their current state can, without profound change, accommodate the developments that are expected up to 2015, the challenge is to make maximum use of the next few years to learn, through trialling and similar initiatives, what combination of engineering and communication technologies, network operating arrangements and commercial arrangements the companies should put in place to ensure they play the maximum role possible in tackling climate change. It may also be the case that developments happen quicker than expected and it is critical that the DNOs are able to respond.

1.7. If companies do not look to take on new ideas this could slow down the speed with which low carbon technologies can connect to the network, forming a barrier to the achievement of the national climate change targets.

1.8. We also need the DNOs to consider and understand better what role they can play in helping users of their network to tackle climate change. This may include a role in facilitating home energy efficiency measures, providing education to end users or introducing new charging arrangements to help finance the introduction of heat pumps to homes that are off the gas grid. Some of these arrangements may have a particular focus on projects that help fuel poor or vulnerable customers to manage their energy use. The mechanism would not fund energy saving or low carbon investments, but would enable DNOs to explore and trial what projects, tools or role it might adopt to make it easier for customers looking to make these investments.

1.9. We therefore need to encourage DNOs to:

- identify trends and developments (for example in government policy) which could influence what customers will want from the network,
- identify the changes that might need to be made to their own network and business to serve the customer of the future, including to improve speed with which the networks can respond to changing needs,
- identify a range of solutions (commercial and technical) that might be applied to meet the future needs of customers,
- conduct trials to understand the costs and benefits of these projects, and the technical, commercial, regulatory and legal issues that they create, and
- share this learning within the industry as a whole.

1.10. Trialling new technologies and commercial arrangements, and testing new roles are all higher risk than the existing low risk DNO operations. The LCN fund has been designed to encourage the DNOs to participate by providing:

- a significant reward to recognise exemplary projects, and
- managed protection against project risks.

1.11. At the same time, the mechanism has been designed to minimise the cost and risk to the consumer, and preventing a DNO from 'opting out' or getting a 'free ride' from the mechanism. We consider that learning developed through the mechanism will be disseminated throughout the industry, and that third parties will be strongly encouraged to participate with funding, ideas and know-how.

Options

1.12. We have considered the option of introducing the LCN fund against a base case that continues the existing DPCR4 framework. We have also considered sub-options in the design of the LCN fund which are discussed below.

Base case

1.13. Base case option assumes we maintain the existing DPCR4 framework, with the current Innovation Funding Incentive (IFI) and Registered Power Zone (RPZ) mechanisms addressing specific research and innovation, but with no additional incentive. As was explained in the December Policy Document, whilst the IFI has been successful in encouraging technical research and development (R&D), there has been very limited trialling of new technical innovations and commercial arrangements on the networks. Following consultations we consider that this is because the IFI does not provide sufficient funding to trial projects on the network and does not adequately address the risks involved. The RPZ is designed only to encourage innovation in the short term connection of distributed generation (DG). Therefore under the base case we could expect technical R&D to continue, with some limited innovation in DG connections, depending on the volume and type of DG.

1.14. We doubt that this would sufficiently incentivise the DNOs to undertake what they perceive to be higher risk and more wide-ranging projects which do not have guaranteed benefits. It may mean trialling new commercial arrangements and which could have unintended consequences. The base case approach would most likely mean that DNOs' response to electric vehicles and other developments such as rapid expansion of DG would be to build additional capacity. This may delay the speed with which these technologies can connect to the network and may not, once other benefits are taken into account, be the most economic solution for the country as a whole. Under the base case we anticipate that the distribution networks would continue as passive networks with predominantly one way flows of electricity, except for those parts of the network where the take up of DG made it appropriate to create an RPZ. At non-peak times there could be significant surplus capacity on the system. It could be costly for large amounts of distributed generators to connect, or their connection could be delayed, especially if they have to wait for the network to be reinforced before they can connect. With the base case, DNOs would continue to play a limited role in facilitating the introduction of home energy saving measures, unless there was a change in their statutory or licence obligations. The DNOs may become barriers to the achievement of the low carbon economy.

Option - LCN fund

1.15. As explained above, we have designed the LCN fund to overcome the low risk, 'business as usual' ethos of the DNOs and encourage them to consider what may be required of the networks in the medium term, especially with respect to facilitating the achievement of the government's carbon reduction targets. We intend that the DNOs will evolve their thinking over the DPCR5 period and monitor the public response to the various government policy initiatives.

1.16. In some circumstances, the 'business as usual' approach may be the most cost effective way of providing the flexibility and functionality that we want from future networks but without exploring alternatives we have no way of confirming this. In addition, innovations which are trialled with one objective (such as connecting more DG) may result in additional benefits which have not been anticipated or quantified in advance.

1.17. In the December Policy Document we considered three (non exclusive) options: ex ante funding; project by project funding during DPCR5 and ex post assessment of outcomes. We recognised that the balance of risk was different between the three options, and that this risk would influence the likelihood of DNO participation. These options are summarised in Table 1.

Table 1 - Options considered in the December Policy Document

Option	Project assessment	Funding provided	DNO reward/penalty	Risk borne by:
Ex ante	Project proposals included in the FBPQ	100%	None	Consumer
During DPCR5	Project proposals submitted during DPCR5	<100%	Reward based on project outcome	Shared
Ex post	Project outcomes by the end of DPCR5	0%	Reward or penalty	DNO

1.18. After further analysis and review of the consultation responses we concluded that neither the ex ante nor ex post options would ensure innovation by themselves, since the former would require the DNOs to anticipate all future scenarios and potential solutions now (which would be extremely difficult) and the latter would risk low participation. However, we concluded that there were aspects of all three options that were appropriate to encourage a change in DNO thinking. An ex ante facility would provide the DNOs with an opportunity to identify alternatives to their forecast expenditures for DPCR5 in order to provide more flexibility to accommodate future options. The project by project mechanism would be retained through DPCR5, to enable the DNOs to develop their thinking as the requirements on the networks become clearer, and an ex post assessment would be used to provide a reward for valued initiatives, and a mechanism to ensure that DNOs participated either in submitting proposals or rolling-out proven innovations.

Funding

1.19. We have proposed a mechanism that is a combination of the above options and has two tiers. Tier 1 funding is a (limited) DNO allowance to provide the DNOs with the flexibility to react quickly to local circumstances. It is self audited by the DNOs against specific guidance, similar to the IFI, to reduce administrative overhead, with Ofgem having the right to disallow any monies spent that do not confirm to the guidance. Tier 2 is a much greater amount, with a single fund that DNOs can compete for and designed to cater for a limited number of significant scale projects with potential for national rollout. While tier 2 would require careful management, and therefore an administrative overhead, we are restricting the total number of projects that can be submitted and having an annual submission in order to reduce the administrative burden and cost. The tier 2 mechanism would allow costs of the projects to be socialised across all customers in the expectation that benefits will accrue nationwide.

1.20. Funding will be allowed on a use it or lose it basis.

Funding value and reward

1.21. The existing IFI incentive is set at 0.5 per cent of DNO turnover which currently equates to just under £20m per annum across all DNOs. Following our initial consultations we received broad consensus from respondents that this amount is insufficient to fund trials on the networks.

1.22. Therefore a trialling mechanism would need to have a value considerably greater than the IFI. We considered a range of values for the overall mechanism with the primary objective of providing sufficient funding to enable at least one significant network trial. We identified example types and costs of projects that we might want to encourage (such as Western Power Distribution's proposal to trial smart meters at low voltage substations, and the Smart City project in Boulder, Colorado[77]) and concluded that the type of significant trials we would want to encourage could cost about £50m each. Tier 2 provides annual funding of £64m before reward.

1.23. The discretionary reward is a fundamental element of the mechanism. We consider that the potential reward has to be sufficient to:

- cover DNO cost contribution,
- provide additional reward (to make project more attractive than 'business as usual'),
- attract DNO participation,

[77] More details can be found at http://smartgridcity.xcelenergy.com/index.asp

- get shareholder and top management attention, thereby ensure their commitment to projects and ensuring that the projects are designed and implemented as effectively as possible, and
- attract wider public attention to provide a reputational incentive on the DNOs.

1.24. We designed a discretionary reward in order to provide the flexibility to reward a wide variety of project types and outcomes. We are very aware that even when a project is not 'successful' in the conventional sense in that it does not provide the identified benefits, it may still provide valuable learning for the DNOs and there could be a case for a reward. We attempted to define a mechanistic reward, in order to reduce the administrative overhead for Ofgem and also to provide more visibility and certainty for the DNOs and consumers. However we concluded that this was not possible without significantly restricting the range of innovative projects and outputs that could be funded.

1.25. In order to ensure DNO commitment to well thought through proposals and the efficient delivery of projects, we are proposing that the DNO fund at least 10 per cent of the project costs. This means that, since they will receive the normal cost of capital on the remaining 90 per cent, there is scope for them to achieve a lower return on a project under this mechanism than for their normal business operations. It is therefore important that the reward is sufficient to cover the potential DNO's contribution and provide an additional return as an incentive. We have therefore set the reward as 20 per cent of the fund value.

Impacts on consumers

Cost to consumers

1.26. The total amount of the LCN fund is proposed to be £500m over the period, on a use it or lose it basis. The fund will not be provided on a cash basis but rather the investments will be depreciated over a five year period which will reduce the within year impact. We believe the cost to the consumer of this new mechanism will be, on average, approximately £2 per customer per annum. However this is likely to vary over the DPCR5 period from approximately £1 per customer to £4.

1.27. This is a significant additional short term cost that consumers will need to bear as compared to the base case. However, the base case could result in much larger additional costs in the medium to long term. It is extremely difficult for us to quantify these potential costs, but we have looked at orders of magnitude of potential base case costs below.

1.28. The government has committed to deliver 15 per cent of final energy consumption by renewables by 2020. The lead scenario for meeting this commitment

entails more than 30 per cent of electricity generation (including 2 per cent small-scale); 12 per cent of heat generation, and 10 per cent of transport energy all from renewable sources. The government estimates this could require investment of the order of £100bn[78].

1.29. The base case therefore has the risk that the distribution networks will not be able to accommodate these requirements, leading to a non achievement (or delayed achievement) of the targets. Such a delay could risk billions of pounds in carbon savings.

1.30. Alternatively, the risk is that significant money is spent (in DPCR6) to accommodate these requirements and that since no trialling or innovation has been undertaken beforehand, this money is not invested efficiently; there is widespread investment in technologies that fail, or it is too late to utilise certain technologies or solutions.

1.31. There is also a risk that some of the investment DNOs make in DPCR5 (under the base case) becomes redundant before the end of its useful life, because it cannot accommodate the new network requirements, and has to be replaced by additional, new investment. To put this risk into context our initial proposals allow for over £6bn of new network investment in DPCR5 (the DNOs requested over £8bn). If five per cent of this investment were to become redundant through the DNOs not anticipating future needs, £300m would have been spent unnecessarily. This figure could be even greater since if the DNOs do not start to prepare for the low carbon future in DPCR5 they will prepare their investment requirements for DPCR6 based on the same business as usual thinking.

1.32. Another example of the scale of potential costs is the cost of the renewable generation connecting to the networks. The DNOs are forecasting more than £0.75 billion (in total) to connect DG in DPCR5. Innovation that reduced connection costs would reduce the cost borne by the consumer, and may increase the viability of the generation (and therefore assist the achievement of the decarbonisation targets).

1.33. It should be noted that this mechanism will not be funded solely by consumers. DNOs will have to contribute to the project funding subject to the level of direct benefits and, in addition, we are encouraging the DNOs to source external funds, for example through external funding mechanisms or from commercial or academic organisations. We anticipate that due to the high profile nature of this fund and the existing commercial interest in initiatives such as smart grids, that there should be

[78] The UK Renewable Energy Strategy available for download from http://www.decc.gov.uk/Media/viewfile.ashx?FilePath=What we do\UK energy supply\Energy mix\Renewable energy\Renewable Energy Strategy\1_20090717120647_e_@@_TheUKRenewableEnergyStrategy2009.pdf&filetype=4

significant third party funding available. DNOs will request project funding from the mechanism net of any external financial contributions.

Consumer risk

1.34. This mechanism aims to balance the short term and long term financial risk faced by consumers.

1.35. There is a short term risk that the total portfolio of projects funded through the LCN fund may not be successful, or may fail to produce benefits (future or current) greater than the funds provided, meaning that consumers' money has not be usefully employed.

1.36. The long term risk is as described for the base case option, where due to the lack of innovation or investment for future flexibility, the future networks may not be able to accommodate the environmental and energy policy objectives without incurring significant restructuring costs that could have been avoided if anticipated earlier, or unnecessary investments may be made in the short term which result in future stranded assets.

1.37. It is our view that the short term cost risk to the consumer is much less than the long term risk.

1.38. If a project is successfully trialled on the network, we can assume that whilst the direct benefits of the trial will accrue to the DNO, the benefits of the innovation being rolled out both within the DNO network and across the other 13 DNOs will accrue to the consumer. The consumer therefore can receive considerable 'return' on their investment.

1.39. The risks and benefits to the consumer from a variety of different types of innovation project are detailed in table 2 below:

Table 2 - Potential types of innovation project and potential risk and benefit for consumers

Innovation benefit type	Funding required	Consumer risk (if unsuccessful)	Consumer benefit (if successful)
Avoids 'conventional' expenditure already included in settlement	None - only protection against unanticipated additional costs	Cost of project (less than conventional solution)	Cost difference between cost of innovation and cost of conventional solution, multiplied by the number of times this can be replicated in the DNO, and across the other 13 DNOs
Avoids potential future expenditure	Yes	Cost of project	Avoided future expenditure - both within

			DNO network and across other DNOs. May improve financial viability of low carbon projects, therefore enabling achievement of carbon reduction targets
Reduces costs that will not be borne by DNO (i.e. entity connecting to network)	Yes	Cost of project	Reduces cost of using network, thereby improving viability of low carbon or energy saving initiatives
Innovative services	Self funding	Cost of trial for establishing service	Service beneficiaries

1.40. For the tier 2 funding, for projects of significant value, we will also mitigate the cost risk to the consumer of project 'failure' by having regular project progress reviews, and being able to halt the project before it is completed if it will clearly not succeed. We will also only allow project costs to exceed budgets where justified and approved by Ofgem. It should be noted however that a project that does not produce the anticipated benefits can still provide valuable learning, either through indicating to others that this equipment or technique is not viable (and thereby avoiding wasted costs), or by enabling others to modify future projects based on this outcome.

Impacts on competition

1.41. Both tiers of the mechanism will provide DNOs to have equal opportunity to undertake projects. The tier 1 mechanism enables all DNOs to utilise the funds, whilst tier 2 provides a competitive situation where all DNOs have to opportunity to compete for the central funding on a transparent and consistent basis.

1.42. Tier 2 projects will be selected on the basis that they are potentially beneficial for other distribution services areas (DSAs). As part of the project proposal a DNO will have to identify how they propose to disseminate the project learning and ensure maximum roll out. We consider it vital that the mechanism provides all DNOs with equal opportunity to gain the benefits of the innovation developed.

1.43. To avoid the possibility of a DNO deciding not to participate in the mechanism, and therefore gaining an advantage through 'sitting back' and concentrating on 'business as usual' and later getting a 'free ride' to catch up on the required network development, we are proposing that any DNOs that do not submit proposals to the LCN fund during DPCR5, or do not adopt the learning from projects undertaken by other DNOs will be constrained in their ability to obtain funding for catch up (i.e. work that could have been avoided by utilising the LCN fund or lessoned learned from LCN funded projects) in DPCR6.

1.44. The size, purpose and significance of this proposed mechanism means that it has already received significant publicity. Once in operation, there will clearly be a high reputational value to participating. This will increase the incentive for DNOs to

submit proposals, thereby increasing the competition to gain funding and therefore increasing the quality of projects trialled. It should also encourage DNOs to seek collaboration with non-DNO parties. We are strongly encouraging third parties to seek collaboration and inclusion on projects. It is very likely that non-DNOs will have informed and innovative ideas to bring to the table in this area which will drive innovation and it is likely that the DNOs will seek this partnerships.

1.45. Lastly we consider that the proposal will have limited impact on retail supply competition. Although tier 1 funding will be DNO specific and some DNOs may utilise this funding to a greater degree than others and hence increase regional differences in distribution tariffs, the much larger tier 2 funding will be socialised across all DNO areas and hence will not create tariff disturbance to the regional supply market.

1.46. In fact, the fund may provide an opportunity for retailers to partner with DNOs to develop new retail/ESCO type services, which could provide more opportunities for retail competition.

Impacts on sustainable development

1.47. The objective of this mechanism is to enable the DNOs to make the transition to the low carbon future, in particular ensuring that the distribution networks can:

- accommodate significant levels of renewable generation, of a wide variety of types, at a wide variety of voltage levels, and in a wide variety of locations,
- utilise smart meters and maximise the benefits of the information and opportunities that they will provide,
- accommodate zero carbon homes and the use of heat pumps which could significantly change the operation of the networks,
- enable the charging and operation of electric vehicles, and
- utilise the potential of electricity storage to enable intermittent renewable generation to connect, and to reduce required network investment.

1.48. As part of this we expect the DNOs to develop new techniques such as active network management (ANM) and demand side management (DSM) which will facilitate the connection of distributed generation – both renewable energy and local generation (which can reduce losses) and reduce demand (either overall or at peak) thereby reducing potentially non-environmentally friendly generation requirements.

1.49. The primary objective of this mechanism is to increase the sustainable development of the networks and the energy industry. As explained before, we consider it highly unlikely that this development will take place under the base case option.

Impacts on DNOs

1.50. This mechanism is designed to overcome the low risk nature of the DNOs. Therefore it has to provide sufficient incentive and protection to convince the DNOs that they will not suffer as a result of the risk they are taking in trialling equipment or operations that they do not have previous experience with.

1.51. The risks and mitigation are detailed in table 3 below:

Table 3 - Potential project risks and mitigation measures

Cost elements	Risk	Our approach	DNO impact
Project cost	Project costs more than proposed	If satisfactory justification, excess funded through LCN fund	Minimal
	Project costs less than proposed	DNO refunds excess	
Direct benefits	Benefits less than identified	Funding shortfall shared between DNO and LCN fund	Pay 50 per cent of shortfall
	Benefits more than identified	No action	Receive additional benefit value

Risks and unintended consequences

1.52. There is a risk that this mechanism does not sufficiently incentivise the DNOs, and therefore they do not propose or implement any (or limited) projects and initiatives. This would in effect provide an outcome similar to the base case with potential consequences being that DNOs become a barrier to the change in use being made of their networks and/or the connection of more renewable generation sources as we move to a low carbon economy. This will ultimately increase costs to consumers due to these delays and potential for stranding of investments. However we consider that our provision of DNO risk mitigation, the encouragement for working with third parties and the discretionary reward element and reputational reward should overcome this risk.

1.53. Another risk is that only a small proportion of the approved projects are successful in that they produce material benefits. This risk is mitigated by the tier two project approval process, the requirement of the DNO to bear some of the funding of the project and the ability of the DNO to realise direct benefits - which encourage DNO commitment to realise project outcomes. However, we accept that the nature of this mechanism, in funding innovation, is that a percentage of the

projects will not be successful - however we have evaluated this risk against the cost risks of the base case, and consider the cost risk of project failure to be acceptable.

1.54. We consider that there is very limited risk of this mechanism providing DNOs with unanticipated extraordinary returns. It is primarily a funding mechanism, based on costs incurred. Additional returns will only be achieved by a DNO where a) Ofgem has awarded it a discretionary reward in recognition of the benefits of the project, or b) the DNO has managed to produce greater direct benefits from the project than forecast, in which case this will provide valuable learning and the potential for project roll-out.

1.55. We also recognise that intellectual property (IP) rights could cause issues if they prevent project learning from being disseminated to other DNOs. Our view is therefore that the IP owner should provide free licences to all GB network licensees. In addition, IP rights could have value and, for example, be used to generate export earnings if sold internationally. But GB customers will have funded the majority of the costs of these trials so should share any IP earnings. Our initial view is that the split of any revenues should match the funding split with companies keeping 10 per cent and 90 per cent flowing to customers. We will create a mechanism for these to be given back to all GB customers.

Post-implementation review

1.56. We will conduct a formal review of this mechanism after two years of operation (after April 2012) in order to assess its effectiveness and whether any improvements can be made to increase the efficiency and appropriateness of the governance and administration. This will also mitigate any unforeseen consequences from its introduction.

1.57. If, as part of the review, we judge that the DNOS are not actively participating in the fund, we will consider the possibility of introducing a licence condition that requires DNOs to allow trials (run by third parties) on their networks.

Conclusion

1.58. We conclude that the benefits that will be derived through this mechanism will considerably exceed the costs. We recognise that there are associated risks, but consider that the risks associated with not innovating are significant and could result in the consumer bearing significant cost and or the distribution networks becoming barriers to the achievement of the low carbon targets.

Appendix 7 – Impact assessment: equalising incentives and the information quality incentive

1.1. This appendix provides an impact assessment for our proposals on equalising incentives and the information quality incentive (IQI) which are discussed in Chapter 19.

Key issues and objectives

1.2. During the DPCR4 period different types of costs have faced different incentives. These rules encouraged capex solutions over more opex focussed solutions. For DPCR5, we propose to equalise the incentives between the network-related costs that are most likely to compete with each other to achieve network solutions. In equalising these incentives our objectives are to:

- ensure that economic trade-offs are not distorted between capex and opex solutions,
- ensure that DNOs are not discouraged from applying non-network solutions which are compatible with tackling climate change, such as contracting with DG and DSM,
- avoid incentives for reclassifying costs (boundary issues), and
- simplify the current RAV rules.

Options

1.3. The December policy consultation set out three options for moving towards more equalised incentives. We have subsequently adopted one of these options for our initial proposals. This impact assessment has been carried out with reference to a "do nothing" option which would have been a continuation of the DPCR4 rules.

Impact on customers

1.4. The impacts upon consumers can only be identified in qualitative terms. We do not have information on how this proposal will lead to specific quantifiable changes in behaviour. The changes in behaviour by the DNOs can only be discussed in general terms on the basis of the change in incentives resulting from the policy.

1.5. We expect that the removal of the distortion of incentives towards implementing capex solutions will lead the DNOs to implement solutions that minimise total lifetime costs which will lead to bills being lower than they otherwise would have been for present and future consumers.

1.6. The proposal increases the incentive strength applied to network investment over the DPCR4 rules. This is expected to lead to more efficient delivery of capex during the DPCR5 period. We regard this as being particularly important during a period characterised by large increases in the volume of network investment. There is a risk that the increased incentive strength on this investment might lead to deferment of necessary investment but we have other measures in place (output measures and quality of service incentives) to identify such behaviour and protect consumers' interests.

1.7. Our proposals also weaken the incentives on network operating costs and the closely associated indirect costs. We expect any weakening of the incentives for efficiency in this area will be more than offset by the equalisation of incentives which should encourage more minimisation of total costs which aligns the DNO profit motive with the interests of consumers more closely.

1.8. We are also increasing the incentive strength on business support costs so that the DNOs for fully exposed to any under or over spends. We see this as being necessary to avoid the incentive for DNOs that are part of a larger group to allocate more costs to the distribution business so that they are paid by distribution customers. These costs are also those furthest removed from the network which benefit customers least so we are keen to provide strong incentives for efficiency in this area.

1.9. The overall incentive strength is similar to DPCR4 levels but we expect the rebalancing to provide consumers with net benefits for the reasons outlined above.

Impact on competition

1.10. No impact on competition has been identified.

Impact on sustainable development

1.11. We expect that the equalisation of incentives will lead to the DNOs considering more non network solutions. These solutions could involve contracting with distributed generation (DG) or engaging in demand side management (DSM) both of which support the UK's sustainable development strategy. We have not identified any costs to sustainable development that might offset these benefits.

1.12. We illustrate this impact through the following example. Consider an area of a distribution network where peak demand is approaching capacity. There is a programme to upgrade this area of the network so that it can handle future demand growth but this programme will not be completed for another two years by which time there is expected to be insufficient network capacity. In order to ensure peak demand is met in the period until the network upgrade is completed the DNO has two options:

- provide a short-term network investment solution so that there is sufficient capacity; or
- engage in DSM with large energy users so that the existing capacity is sufficient until the upgrade is complete.

1.13. If the two options were the same cost under the DPCR4 rules, then the DNO would have been incentivised to undertake the network solution as they would have been exposed to 29 to 40 per cent of the investment. By contrast, they would have been exposed to between 83 and 86 per cent of the cost of the DSM option (assuming treatment as direct opex). These different treatments of the expenditures mean that the DSM option is more than twice as costly to the DNO even though the total costs of the solutions are the same. This different treatment could lead to the network investment option being favoured by the DNO even when it is the more expensive option. Our proposals for equalised incentives are designed to remove the bias towards network investment solutions by incentivising the DNOs to adopt the solutions with the lowest total cost. This rebalancing of incentives should lead to greater consideration of solutions which help meet sustainable development objectives.

Impact on health and safety

1.14. No direct impact on health and safety has been identified.

Risks and unintended consequences

1.15. In order to achieve full equalisation of incentives Ofgem will need to ensure that its benchmarking at DPCR6 treats costs within the equalised incentive in the same way. If the benchmarking treats £1 of expenditure in one category differently from another then the equalisation of incentives could be partially undone by the benchmarking approach which would have unintended consequences of leading the DNOs to prefer certain types of expenditure over others. One of the key considerations in developing our benchmarking approach at DPCR6 will be the impact on cost incentives.

Other impacts

1.16. The removal of boundary issues between the network related costs could lead to a reduction in the regulatory burden as the reporting across these removed boundaries will require less policing by Ofgem.

1.17. We also see our proposals as simplifying the current RAV rules. Instead of different categories of network expenditure receiving different capitalisation percentages, they will now be treated in exactly the same way.

Post implementation review

1.18. Ofgem will review the success of this policy at future price control reviews. The annual reporting by DNOs might also provide an opportunity to examine some of the impacts of the policy.

Appendix 8 – Impact assessment: Connections incentives and obligations

Summary

1.1. This impact assessment sets out the potential impacts, costs and benefits of our policy proposals outlined in the connections incentives and obligations chapter. Our proposal are a combination of:

- Extending connections regulation through the establishment of a connections standards of performance regime, consisting of new guaranteed standards and an overarching licence condition (Option 3 in this Impact assessment)
- Allowing regulated margins to all DNOs in market segments that are potentially competitive in order to provide headroom for the development of competition. Subsequently we would allow unregulated margins where competition is deemed to be effective subject to DNOs meeting our competition tests (Option 2 in this Impact assessment)

1.2. We have also included an assessment of a further option for improving standards of service put forward by the Energy Networks Association (ENA). This entails a standards regime regulated by a licence condition with no associated penalties for failure against individual jobs. We have considered the merits of this approach (Option 4 in this Impact assessment) and described our reasons for rejecting it as a proposal. Option 1 is our base case scenario of no regulatory intervention and should be viewed as a baseline for comparative purposes.

1.3. This Impact assessment specifically focuses on the impacts of our proposals on customers, competition, sustainable development and health and safety. We have sought to quantify costs and benefits to the extent that we reasonably can. This exercise has been restricted by the limited data that DNOs currently record on connections activities. Although DNOs have provided some useful forecast data on volumes of connections for DPCR5 as part of their Forecast Business Plan Questionnaires (FBPQs), there is little available data on how DNOs are currently performing with regard to service deliverables. The FBPQ data enables us to demonstrate the financial impact of allowing regulated margins in particular market segments. However, forecasting the likely impact of the new standards regime in terms of DNO liability for making compensation payments is more difficult. In the absence of reliable performance data from DNOs we have presented some hypothetical examples of frontier, middling and poor performance against the service standards and the implied guaranteed standards payments.

Key issues and objectives

1.4. Promoting competition in the connections market and (where appropriate) regulation of the connections market is important to protect the interests of

customers. DNOs continue to be the dominant provider of connections and we continue to receive a number of complaints from customers regarding poor service as well as formal complaints from third party providers concerning anti-competitive behaviour. We are concerned that competition in general is yet to develop effectively in all parts of the electricity connections market and we believe that action is required to ensure that customers receive a good level of service as well as to ensure that competition is able to develop effectively.

1.5. In the development of our proposals we have reacted to concerns raised by customers and competitors in relation to competition in connections and standards of service. We are attempting to secure service delivery in a market that is still dominated by incumbents by making use of formal regulatory instruments such as standards of performance and formalised obligations via licence conditions. We are also providing a formal incentive for DNOs to be proactive in facilitating competition where we have previously made use of punitive measures to achieve compliance and cooperation with the spirit of competition. We consider that our proposals will contribute to the delivery of our statutory objective to protect the interests of existing and future consumers by promoting effective competition where appropriate and regulating monopolies.

Options

1.6. The non-mutually exclusive options are as follows:

Option 1 - Base case

1.7. Base case option assumes we maintain the existing DPCR4 framework. That is, limited regulation of connections standards and a continuation of the existing RAV treatment of connections whereby margins are stripped out by the capex roller.

Option 2 - Allow DNO's to earn a margin on contestable connections work

1.8. This option would, for a period of up to three years, as explained in Chapter 10, allow DNOs to earn a regulated margin for connection work. This margin would apply only to contestable works involved in the sole use element of connection assets and would be set at a specified per cent (currently proposed as four) above the cost of carrying out these works, where this level of four per cent is currently subject to consultation. At the beginning of this period, or at specified times during the period, the DNOs would be assessed against the criteria of a competition test. Successful passing of this test would then enable the DNO to earn an unregulated margin constrained by competition.

Option 3 - Introduction of connections guaranteed standards backed up by a new licence condition

1.9. This option prescribes set time periods in which particular elements of connection work should be provided to a customer, with direct guaranteed standards

payments to be made to customers where DNOs fail to meet these standards. These standards would be supported by an overarching licence condition that would include an overall performance target set at 90 per cent that will apply in aggregate across the standards, with enforcement action a possibility for any DNO that fails this target.

Option 4 - Standards regime set against a licence condition with an achievement threshold

1.10. An alternative to the financial payouts of Option 3 would be an option championed by the ENA where the desired standards are formulated with an achievement threshold against a new licence condition. This licence condition would generally operate in a similar manner to the current unmetered Service Level Agreements, which have an implied acceptance that there will be instances where performance will be outside of the standard set.

Impacts on consumers

Option 1 - Base case

1.11. We doubt that Option 1 would result in any improvements to the connections customer experience. There would likely be a continuation of the perceived poor performance by DNOs with connections continuing to dominate customer complaints and Ofgem determinations and investigations. As outlined in the December policy paper, a survey by the National Federation of Builders highlighted worsening levels of service for electricity connections over the last two years. Delays and communication problems were highlighted as being the main issues and by doing nothing we see no reason why this situation would show significant improvement. In terms of the wider customer base, Option 1 would not constitute a greater burden either financially or in the level of service experienced.

Option 2 - Allow DNO's to earn a margin on contestable connections work

1.12. Option 2 is intended to open up the connections market to competition by providing some headroom (with a regulated margin proposed at four per cent) for third party competitors to compete with DNOs on price. We consider that connections customers would ultimately benefit from this through the pressure that new market entry will bring to raise efficiency, ultimately lower prices and/or improve service.

1.13. Since the margin would essentially amount to increased revenue from customers, it is likely that there will be a short-term increase in charges. However, any increase will be accompanied by an improvement in service standards both as a result of the new guaranteed standards regime and the focus that DNO should be giving to meeting the competition tests. Longer term (when DNOs meet the competition tests and can charge an unregulated margin), the level of margin that a DNO can apply should be heavily constrained by market forces.

1.14. In order to try and quantify this impact on consumers, Ofgem amended the Forecast Business Plan Questionnaire (FBPQ), circulated in June, to allow DNOs to forecast their volume and value of connection work for the five year period of DPCR5. We specifically requested that this information be broken down by the voltage bands developed through stakeholder engagement via the Electricity Connections Steering Group (ECSG) sub-group and separated into "sole use only" connections and the "sole use element" of connections which would have an element subject to the apportionment rule. The FBPQ required DNOs to provide details of the total number of connections made at each voltage band by each individual year of DPCR5. For each year's disaggregated connection volumes, the sole use expenditure and percentage which is forecast as contestable was also provided. This enabled us to form a breakdown of the market by connection volumes, value and contestability of work as follows.

Table 1 - Total market for DPCR5 for all DNOs disaggregated by market segment volume and value of contestable and non-contestable work as forecast from July FBPQs

Voltage	Market segmentation	Market segmentation (10,000s)	Cost of connections work £m		
			Contestable	Non-contestable	Total
LV	Small scale LV domestic connections 1-4 premises & One-off industrial & commercial, including 3 phase, upper limit of [60]kVA	51.97	249	131	380
	All other LV (with only LV work)	32.41	304	69	373
HV	LV end connections involving HV	28.44	481	50	531
	HV end connections involving only HV	0.18	147	25	172
EHV	HV end connections involving EHV work	0.18	78	13	91
	EHV end connections	0.00	109	44	153
132kV	HV Or EHV w/ 132kV work	0.00	0	1	1
	132kV end connection	0.00	6	1	7
Unmetered	Local Authority	39.13	102	38	140
	PFI	18.18	10	2	12
	Other	4.16	11	4	14
	TOTALS:	175	£ 1,497	£ 377	£ 1,874

1.15. From this information we have been able to formulate the following Table 2 which forecasts the impact on the DNO-held connections market value of varying levels of regulated margin over a three year period, the maximum proposed period of the regulated margin.

1.16. Whilst there will obviously be an impact on connection charges, it is important to note that the impact of the margin, as demonstrated in Table 2, will be concentrated in those segments where competition is most likely to develop (high volumes of relatively high value work likely to be attractive to ICPs).

1.17. It is also important to note that the above figures in Tables 1 and 2 have been calculated from only the direct DNO expenditure on connections and not the indirect. In this case, indirect expenditure relates to any expenditure on connections which

does not account for the actual direct service performed, i.e. services such as related human resources and clerical support. By apportioning DNO indirect costs by their individual market segment values on a pro rata basis we were able to estimate the indirect expenditure that applied to the segments where the regulated margin would apply. We then used an industry average contestable/non-contestable percentage split to quantify the impact of the different margin levels would have if applied to indirect as well as direct DNO expenditure Table 3.

Table 2 - Forecast impact of proposed regulated margin over three year period of DPCR5 (2010-2013) on total market size

	Market Segment	NON- CONTESTABLE (£m)	CONTESTABLE (£m)	TOTAL MARKET SIZE (£m)	IMPACT OF MARGIN ON CONTESTABLE ELEMENT (£m)			TOTAL MARKET SIZE WITH RELEVANT MARGIN WHERE APPLICABLE (£m)		
		without margin	without margin	without margin	1.5% Margin	4% Margin	5% Margin	1.5% Margin	4% Margin	5% Margin
METERED	Small scale LV domestic connections 1-4 premises & One-off industrial & commercial, including 3 phase, upper limit of [60]kVA	£ 75.48	£ 142.64	£ 218.12	£ -	£ -	£ -	£ 218.12	£ 218.12	£ 218.12
	All other LV (with only LV work)	£ 38.37	£ 170.91	£ 209.28	£ 2.56	£ 6.84	£ 8.55	£ 211.85	£ 216.12	£ 217.83
	LV end connections involving HV work	£ 28.03	£ 275.52	£ 303.55	£ 4.13	£ 11.02	£ 13.78	£ 307.69	£ 314.57	£ 317.33
	HV end connections involving only HV work	£ 14.10	£ 84.12	£ 98.22	£ 1.26	£ 3.36	£ 4.21	£ 99.48	£ 101.58	£ 102.43
	HV end connections involving EHV work	£ 8.14	£ 48.59	£ 56.73	£ 0.73	£ 1.94	£ 2.43	£ 57.46	£ 58.68	£ 59.16
	EHV end connections involving only EHV work	£ 26.41	£ 64.03	£ 90.44	£ 0.96	£ 2.56	£ 3.20	£ 91.40	£ 93.00	£ 93.64
	HV or EHV connections involving 132kV work	£ 0.31	£ 0.29	£ 0.60	£ 0.00	£ 0.01	£ 0.01	£ 0.60	£ 0.61	£ 0.61
	132kV end connections involving only 132kV work	£ 0.66	£ 3.73	£ 4.39	£ 0.06	£ 0.15	£ 0.19	£ 4.45	£ 4.54	£ 4.58
UNMETERED	1-10 L.A. jobs	£ 24.22	£ 49.13	£ 73.35	£ 0.74	£ 1.97	£ 2.46	£ 73.35	£ 73.35	£ 73.35
	11+ L.A. jobs	£ 12.39	£ 31.91	£ 44.30	£ 0.48	£ 1.28	£ 1.60	£ 44.78	£ 57.41	£ 57.73
	PFI	£ 6.29	£ 9.92	£ 16.21	£ 0.15	£ 0.40	£ 0.50	£ 16.36	£ 16.61	£ 16.71
	Other unmetered	£ 1.32	£ 8.54	£ 9.86	£ 0.13	£ 0.34	£ 0.43	£ 9.99	£ 10.20	£ 10.29
	TOTALS:	**£ 235.72**	**£ 889.34**	**£ 1,125.06**	**£ 11.20**	**£ 29.87**	**£ 37.33**	**£1,135.52**	**£1,164.80**	**£1,171.77**
			Impact of margin on total market size:		1.0%	2.7%	3.3%			

Note- In table X.2 the market segments in grey are those which the regulated margin will not apply, whilst the segments in blue are those where we feel that competition is most likely to develop.

Table 3 - Indirects per connection by voltage band (on pro rata basis by individual market segment value)

	CONNECTION VOLTAGE BAND	OVERALL (14 DNO) indirects p/ connection (£)	MIN (14 DNO) indirects p/ connection (£)	MAX (14 DNO) indirects p/ connection (£)
Sole Use only (All indirects)	Small scale LV	£ 271	£ 111	£ 1,132
	All other LV (with only LV work)	£ 489	£ 173	£ 1,641
	LV end connections involving HV	£ 684	£ 91	£ 2,042
	HV end connections involving only HV	£ 33,173	£ 1,731	£ 2,267,255
	HV end connections involving EHV work	£ 80,293	£ 6,019	£ 4,839,912
	EHV end connections	£ 1,719,062	£ 129,224	£ 3,153,535
	HV Or EHV w/ 132kV work	-	£ -	£ -
	132kV end connection	-	£ -	£ -
Sole use with some apportionment (all indirects)	Small scale LV	£ 338	£ 46	£ 1,667
	All other LV (with only LV work)	£ 110	£ 21	£ 2,231
	LV end connections involving HV	£ 396	£ 46	£ 6,763
	HV end connections involving only HV	£ 45,745	£ 1,971	£ 311,289
	HV end connections involving EHV work	£ 8,201	£ 199	£ 253,521
	EHV end connections	£ 1,838,676	£ 4,734	£ 18,000,000
	HV Or EHV w/ 132kV work	£ 40,660	£ 50,338	£ 50,338
	132kV end connection	£ 29,008	£ 29,008	£ 29,008
Sole Use only (indirects relating to contestable services)	Small scale LV	£ 194	£ 79	£ 810
	All other LV (with only LV work)	£ 397	£ 141	£ 1,331
	LV end connections involving HV	£ 597	£ 79	£ 1,781
	HV end connections involving only HV	£ 28,011	£ 1,462	£ 1,914,419
	HV end connections involving EHV work	£ 67,993	£ 5,097	£ 4,098,492
	EHV end connections	£ 1,421,910	£ 106,886	£ 2,608,424
	HV Or EHV w/ 132kV work	-	£ -	£ -
	132kV end connection	-	£ -	£ -
Sole use with some apportionment (indirects relating to contestable services)	Small scale LV	£ 275	£ -	£ 1,353
	All other LV (with only LV work)	£ 90	£ 17	£ 1,810
	LV end connections involving HV	£ 322	£ -	£ 5,488
	HV end connections involving only HV	£ 37,118	£ -	£ 252,589
	HV end connections involving EHV work	£ 6,655	£ 161	£ 205,714
	EHV end connections	£ 1,491,954	£ 3,841	£ 14,605,714
	HV Or EHV w/ 132kV work	£ 32,993	£ -	£ 40,845
	132kV end connection	£ 23,538	£ 23,538	£ 23,538

Note: In the above table, where voltage bands have a maximum and overall value of indirects per connection but seem to have no minimum value, this minimum value is too low to display. Those cells where the min, max and overall are equal indicate that only one DNO has forecast connections

1.18. As can be seen in the table above, there was a substantial range between the different DNOs. This is likely to be as a result of the different accounting methodologies and allocation procedures employed by different DNOs. A further difficulty is that we cannot isolate the indirect expenditure relating to unmetered connections. For this reason, we propose that the margin will only be applicable to the direct expenditure related to contestable connection work in competitive segments.

Option 3 - Introduction of connection guaranteed standards backed up by a new licence condition

1.19. The impact of Option 3 on consumers would likely be positive and relatively large due to the uncapped nature of the guaranteed standards payments. Although these payments are not intended or structured to represent a compensation payment

proportionate to the inconvenience of the customer, they do represent a direct redress to individual customers and have been designed to incentivise DNOs to meet the standards wherever possible.

1.20. Since the majority of the guaranteed standards proposed are new, current reporting systems are not currently equipped to fully capture current performance against the standards. However, we have made an estimate of the penalties that might be paid out by a hypothetical DNO to connection customers. We have modelled the guaranteed standards payments that would be made against an interpretation of an absolute worst case level of performance, which would likely lead to enforcement action by Ofgem. From this starting point we were able to move the variables (failure rate against the standards and margin of failure) to set the likely payments made for what might be considered reasonable and good performance.

Table 4 - Modelled DNO exposure to proposed Guaranteed Standards[79]

	PENALTY AGAINST SERVICE LEVEL:		
	GOOD	MIDDLE	WORST
Service level:	**averaging 3.33% over standard**	**averaging 33.33% over standard**	**averaging 50% over standard**
Metered quotation standards	£4,235	£605,020	£1,815,928
Other Metered Standards	£10,744	£2,161,601	£6,258,984
Unmetered Standards	£489	£68,497	£197,158
Total	**£15,468**	**£2,835,118**	**£8,272,070**

1.21. Our analysis was supplemented by one DNO providing an approximation of their actual 2008-09 performance level against the proposed unmetered and quotation guaranteed standards with an estimate of performance against the other standards. The figures for the DNO in question would be expected to fall between the reasonable and good level of performance based on how they fit into our model:

Table 5 - DNO provided estimation of individual exposure to standards based on current performance[80]

Standard	GS Payments
Metered quotation standards	£64,860
Other Metered Standards	£390,350
Unmetered Standards	£470,670
TOTAL:	£925,880

[79] Table 4 only includes exposure to payments made to end customers.
[80] The DNO that provided this information estimated an exposure of £42,800 in respect of failures against SLC15 if the guaranteed standards are to be voluntarily to all customers.

1.22. The level of potential payout by this DNO to customers shows that the beneficiaries of the proposed guaranteed standards would be end customers and local authorities, as they will be more immediately eligible for financial compensation than the current framework allows. The standards are essentially designed to provide redress to customers for poor service, irrespective of the overall performance of the DNO. Essentially, a customer undertaking connection works to the same specifications in more than one Distribution Service Areas (DSA) can expect an equal level of compensation for each project if they were to over run to the same degree.

1.23. A key element of the standards is that they target each of the key stages in the process of obtaining a new connection. Essentially, there will be a greater level of certainty in terms of the service customers can expect to receive and the compensation they can expect if this level of service is not provided by their DNO. This formalising of DNO requirements in providing timely quotations and works schedule would be particularly beneficial to smaller business customers, such as construction or contractor businesses which might have limited budgets and resources. The fact that these businesses will have greater certainty over the timeframes in which they can expect the particular elements of their projects to be delivered should help them to plan their projects, reduce the amount of time they spend in chasing up the DNO and avoid delays in the energisation of the project.

1.24. In addition, the fact that many of the guaranteed standards payments are proportionate to the degree of the failure against the standard means that there will be no incentive on DNOs to discriminate between equivalent customers as each individual continual failure against a particular standard will be subject to an equal level of guaranteed standard payment.

Option 4 - Standards regime set against a licence condition with an achievement threshold

1.25. Option 4 is likely to see an improvement in service received by connections customers. In particular, the recording and publishing of DNO performance against the licence condition in the annual Connections industry review and any licence condition breaches should encourage DNOs to improve the service they provide to customers and highlight to customers regions where they might be more inclined to seek out a competitive alternative to the host DNO.

1.26. Despite the potential benefits of this option in comparison with the DPCR4 regulatory framework, the main flaw with this option is that it does not involve any formalised payments by DNOs made directly to customers. Instead the onus will remain on Ofgem to enforce in cases of licence breaches. The legalities involved in licence investigations mean that they can take a very long time and require a great deal of resources on both sides, even where there is an admission of a breach by a DNO. This means that we may have to exercise judgement with our administrative priority in enforcing breaches and therefore breaches which impact small numbers of customers may not be formally investigated. This could ultimately mean no consequence of breach for the company irrespective of the level of detriment experienced by the customers involved. For this reason we see this option as being limited in appeal.

Impacts on competition

Option 1 - base case

1.27. Option 1 is unlikely to have any impact on competition. Essentially, doing nothing would be unlikely to eliminate any of the barriers to competition outlined in the December consultation document. We predict that competition levels would remain broadly similar to those set out in the 2007-08 Connections Industry Review[81] document.

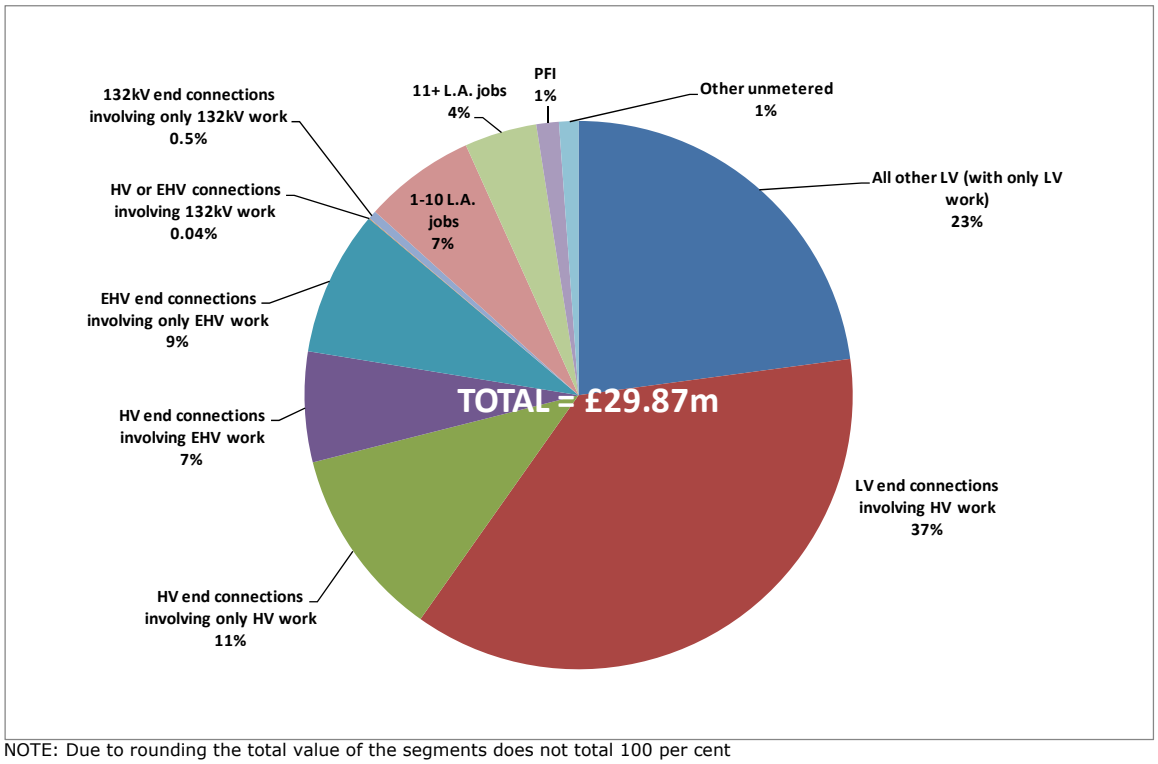
Option 2 - Allow DNO's to earn a margin on contestable connections work

1.28. Option 2 is explicitly designed to stimulate competition. The addition of a margin on top of DNO connection charges should open up headroom for existing independent connection providers (ICPs) and Independent Distribution Network Operators (IDNOs) as well as new market entrants to compete with DNOs on price.

1.29. The segmenting of the market is an important element in ensuring the development of competition. In collaboration with stakeholders through the ECSG we have developed a market segmentation which has helped us to isolate those parts of the market which we do not see as being competitive within the foreseeable future and exclude these services from the earning of margin. Conversely, we have been better positioned to identify the segments where we feel competition is most likely to flourish.

[81] Gas and Electricity Connections Industry Review 2007-08, Ref:143/08 16 October 2008

Chart 1 - Breakdown of regulated margin by contributing market segment (metered and unmetered connections activity)



NOTE: Due to rounding the total value of the segments does not total 100 per cent

1.30. Chart 1 shows the proportion of overall regulated margins contributed by each market segment over a three year period based on forecast connections expenditure from DNOs' FBPQs. The £29.87 million is derived by applying a 4 per cent margin (i.e. the proposed regulated margin) to the DNOs' forecast contestable connections expenditure. The majority (60 per cent) of the £29.87 million is made up of the following market segments, which are seen as the market segments where competition is most likely to develop.

- Other LV (23 per cent of overall regulated margin) - Aside from the uncompetitive small-scale LV segment, this segment constitutes the greatest volume of connections in the market and the second largest market value. Additionally, this market segment, since it only applies to LV work, is likely to have the greatest number of National Electricity Registration Scheme (NERS) accredited jointers able to offer a competitive alternative within the headroom created by the regulated margin.
- LV end connections involving HV work (37 per cent of overall regulated margin) - This segment is, by some distance, the market segment of greatest value and is again a segment with a high volume of work. This combination of higher value work that is also available in high volume makes this segment the area where we think competition is most likely to develop.

1.31. The fact that the impact of the proposed margin in terms of headroom for existing ICPs and new entrants is concentrated in those segments where competition

is most likely to develop ensures that the benefits of the regulated margin should be maximised in terms of the resulting impact on competition

1.32. Option 2 outlines a timescale within DPCR5 where DNOs will be able to earn a regulated margin within the market segments which have been deemed to have the potential to be competitive. This will prevent an increase in DNO returns on areas of work where there is no competition. In addition, the segmentation, granulation and improvement in the data reporting that will be required of DNOs should improve the level of transparency around connections charges and understanding of the particular market sizes of the different market segments.

1.33. From the National Electricity Registration Scheme (NERS) provided by Lloyd's Register we were able to compile the number of accredited jointers able to operate in the different areas of Britain by the highest voltage level they are able to joint at.

Table 6 - Number of accredited jointers on NERS register by region and highest voltage accredited to joint at[82]

accredited Jointers by highest voltage accredited to joint at	Scotland	North East	North West	East Anglia	Wales	Midlands	South West	South East	National
LV	6	6	6	6	6	6	6	6	6
11kV	13	12	14	13	13	14	13	14	10
33kV	20	18	21	19	17	18	16	19	16
66kV	1	1	1	1	1	1	1	1	1
132kV	11	11	11	11	11	11	11	11	11
TOTAL	51	48	53	50	48	50	47	51	44

1.34. The rationale behind investigating the number of accredited jointers in the different areas of the country was to interpret whether there are a suitable number of accredited ICPs to operate competitively within the market once the headroom is provided by the regulated margin.

1.35. From the table above it is evident that there are active jointers operating in all areas and at all voltages, with 73 per cent accredited to work in all areas of the country. This information suggests that there are undoubtedly a number of operators already in a position to use the headroom of a regulated margin to gain market share and improve the overall levels of competition in the connections market.

[82] Correct as of 14th July 2009

Option 3 - Introduction of connection guaranteed standards backed up by a new licence condition

1.36. Option 3 constitutes a range of standards tailored to all of the individual market segments that they are to be applied to. Since the option involves standards in all market segments and a particular tightening of standards for those segments where competition is not seen as likely to develop, it should help to prevent any potentially anti-competitive discrimination between market segments by DNOs. That is, the standards should provide an incentive for DNOs not to prioritise their resources in favour of maintaining market dominance in the market areas where competition is more developed at the expense of those areas where there is little prospect of competition since they will be hit by uncapped financial penalties for any failure to meet their obligations at any voltage level.

1.37. Additionally, the fact that there will be guaranteed standards payments levied against DNOs that fail to provide non-contestable services within specified timescales, should help competition to develop. Providing visibility of DNOs' performance under the standards could have additional benefits for customers and third party providers. Customers could be empowered to make more informed choices and third party providers may be better placed to attract business away from incumbent DNOs that may be providing an inferior service.

Option 4 - Standards regime set against a licence condition with an achievement threshold

1.38. This option has the same potential benefits as option 3 for competition in terms of visibility of DNOs' performance. However, the lack of guaranteed standards payments for failure with this option potentially dilutes the incentives described above. We have not identified any other benefits for competition with this option not already covered by Option 3.

Impacts on sustainable development

1.39. In general terms, improving the levels of competition within the connections market will have a negligible impact on sustainable development as none of the options outlined above would result in a natural increase in the demand for connections.

1.40. However, in the long term, a competitive market, which is the ultimate aim of Option 2, is seen as a more effective breeding ground of innovation than the current monopoly dominated market. It could be argued that this option has some potential for greater innovation in reducing the environmental impact of new connection works in the long-term. Furthermore, the introduction of standards of performance that will cover DG connections should facilitate the work of DG developers in installing enhanced connections such as ground source heat pumps.

1.41. Additionally, the greater efficiency that should develop through the formalised standards should lead to a subsequent improvement in maximising resources.

Impacts on health and safety

1.42. DNOs have historically raised concerns on health and safety grounds with ICPs undertaking particular connections activities on a contestable basis. We consider that such concerns are not insurmountable given the safety accreditation scheme and the DNO inspection and testing regimes. Nonetheless, our proposals do not involve introducing any new contestable connections activities and therefore we do not consider that it will cause any health and safety implications.

1.43. A potential health and safety benefit could come through the proposed amendments to the DNO emergency response requirements and guaranteed standards payments outlined in Option 3. Imposing guaranteed standards payments on DNOs that fail to reach their emergency response requirements should help minimise safety risks to the public.

Risks and unintended consequences

Option 1 - do nothing option

1.44. The clear risk of doing nothing is that the problems that currently exist around the levels of competition and standards of service in providing new electricity connections would at best persist or at worse deteriorate further.

Option 2 - Allow DNOs to earn a margin on contestable connections work

1.45. The main uncertainty with Option 2 is forecasting the impact on competition levels of setting the regulated margin at a particular level. Our objective in setting the regulated margin is to deliver sufficient headroom to allow competition to develop at a cost that provides benefits to connections customers in the long term. We are aware that setting the margin too high might lead to a disproportionate rise in connection charges whilst setting it too low may not provide a significant incentive for new market entrants. We consider that the proposed four per cent will strike the balance of providing some headroom whilst limiting price increases for customers. We have demonstrated the impacts on connection charges in Table 2.

1.46. The potential to earn an unregulated margin on contestable connections work will incentivise DNOs to improve service levels and become more customer focused in order to pass the competition tests. As such we are confident that the increase in charges will deliver tangible benefits to customers during the period of regulated margins. Once the period of regulated margin has expired, we are confident that a competitive market will be of greatest benefit to customers. Any DNO which does not demonstrate effective competition and service may have its margin earned clawed back and refunded to customers.

1.47. One potential unintended consequence of our margins proposal is that a situation could occur where DNOs could apply different levels of margin in their distribution service area to different market segments at the same time. This is because DNOs may pass the tests for segments (i.e. LV all other) where competition is effective (and therefore can earn an unregulated margin) but continue to earn regulated margins in other market segments (i.e. at HV) for a period. Although the implication is differential treatment of market segments, we do not consider that this approach raises concerns about undue discrimination as it is a justifiable way of achieving our legitimate aim to facilitate competition in connections. We have not identified any legal constraints to this approach. We consider that our approach to segmenting the market is objectively justified on the grounds that it is necessary to enable us to better identify competition where it may have previously been masked by activities that are unattractive to third parties.

Option 3 - Introduction of connection guaranteed standards backed up by a new licence condition

1.48. The main uncertainty with Option 3 is the current lack of information on where DNO performance currently sits and where it is likely to be through DPCR5. This is because many of the standards are new and DNOs are currently not measured against them. This uncertainty may mean that the level of guaranteed standards payments at the outset of DPCR5 are overly high and one potential risk is a short-term diversion of resources by DNOs away from other activities such as restoring customers after faults and capex programmes. Nevertheless, DNOs are ultimately responsible for ensuring that their activities are properly resourced and that their obligations to run efficient and coordinated networks are met and so this risk should be mitigated in the long term.

1.49. Some DNOs have argued that a guaranteed standards regime with associated guaranteed standards payments will create a target focused culture amongst DNOs at the expense of the quality of the consumer experience. We do not accept that a standards regime will be detrimental to the customer experience as we have built some flexibility into the standards to allow the customer and DNO to agree dates for the commencement of works. Also, current levels of customer satisfaction in this area are often low which suggests that there are certain issues that need to be addressed. This has been one of the key drivers behind the need to assess new options for the regulatory treatment of connections. Furthermore, our proposed incentive on the broader measure of customer satisfaction should encourage DNOs to keep focused on the quality of the customer experience.

Option 4 - Standards regime set against a licence condition with an achievement threshold

1.50. The main risk associated with the implementation of service standards and licence condition which allows for an accepted level of failure is that there is no real long-term improvement in the level of service provided. The option is comparable to the current set up of the Service Level Agreement which operates in the unmetered market. These agreements have so far not led to a significant improvement in standards of performance.

1.51. Additionally, since there in an ingrained accepted level of failure, there is a danger that DNOs focus too much on compliance with the success rates as opposed to actually improving the performance for individual customers. Once a particular job has failed against a particular standard, there would be a lack of incentive on the DNO to minimise the length of the failure and they would be more likely to disproportionately prioritise resources towards preventing other failures against the standards.

Post-implementation review

Option 1 - Base case

1.52. The default position for our base case would be to continue monitoring competition levels and connections standards via the annual Connections industry review.

Option 2 - Allow DNO's to earn a margin on contestable connections work

1.53. There will need to be a significant step up in DNO recording and reporting of connections information in order for us to allow a margin on particular market segments and if DNOs are to provide evidence to pass the competition test. We will continue to monitor the market through the annual Connections industry review and the Regulatory Reporting Packs, there may also be a requirement for DNOs to provide certain information, such as market share data, on a more frequent basis. We will also look to consolidate some of these reporting requirements.

1.54. Connection-based audits may be set in place to ensure that service levels are sufficient where DNOs apply for the competition test without losing the required market share.

1.55. The provision of margins and the associated pre-requisite competition tests would need to be captured in a separate licence condition together with the triggers and mechanisms for clawing back margins if the DNO fails to pass the competition tests by December 2013.

Option 3 - Introduction of Connection Guaranteed Standards backed up by a new Licence condition

1.56. The new standards of performance will have to be formalised via an amendment to the existing Electricity (Standards of Performance) Regulations 2005 (SI 1019) and an accompanying new overarching licence condition. We will publish individual DNO performance under these standards on an annual basis.

Option 4 - Standards regime set against a Licence condition with an achievement threshold

1.57. Option 4 would require a change in DNO reporting templates in order to capture their failure rates against standards and the drafting of a new licence condition by Ofgem.

Conclusion

1.58. In conclusion, we feel that Ofgem's statutory duty to "protect the interests of existing and future consumers, wherever appropriate by promoting effective competition between persons engaged in the distribution of electricity" is best served, with regards to the connections market, by the introduction of a "carrot and stick" mechanism for DNOs. We propose to incorporate Options 2 and 3, as outlined above into a package that will offer the DNOs the carrot of earning an unregulated margin if they are able to pass the competition test.

1.59. At the same time, the stick of stricter standards and rolling payments will ensure that poor performance is punished. We believe that the guaranteed standard payments are more effective than standards based around a licence condition, as outlined in Option 4, in the protection of customers since there will be a compensation payment made direct to customers which have experienced poor performance. We find this preferable to a regime of standards which imply that a level of failure is to be expected and that encourages an uneven prioritising of connection work given to the DNO.

Appendix 9 - Impact assessment - Worst served customers

Summary

1.1. In Chapter 13 of the Incentives and Obligations paper we have proposed a mechanism to improve performance for worst served customers. In arriving at our proposal we have previously suggested four possible mechanisms to tackle the issue of worst served customers, namely an incentive mechanism, two variations of guaranteed standards or a set allowance. All of the options were investigated, however it was decided that the first three were unlikely to result in the desired performance improvements. The defined allowance is the proposed mechanism for DPCR5 and this impact assessment sets out all four of these options in detail.

1.2. We consider that a defined allowance is the most practical way to encourage investment to improve performance for worst served customers. As discussed in Chapter 13 of the Incentives and Obligations paper, the total allowance would cover the five years of DPCR5 and would be spread across all of the eligible DNOs according to the number of worst served customers they have. The major impact will be a more secure and reliable electricity supply for some worst served customers.

1.3. The proposed allowance would have no impact on competition and a minimal impact on the environment/sustainability. There may be environmental benefits if DNOs opt for non-network solutions. Depending on the type of solution implemented, some of the proposed worst served customers schemes could help reduce losses and carbon emissions.

1.4. DNOs would be required to report on the worst served customer schemes undertaken on an annual basis. A section of these reports would cover the progress of previously completed schemes, which will help Ofgem to monitor the effectiveness and value for money of the mechanism. There will be an overall review of the mechanism in the build-up to DPCR6.

1.5. Table 1 below gives an indication of the overall costs and benefits associated with each of the proposed options. A more detailed overview of the options and respective costs/benefits is given in later sections.

Table 1 - Costs and benefits summary

Worst served customer mechanism	Secondary description	Costs (£m)	Performance improvements	Cost per all DNO customers
Option 1 Do Nothing	N/A	0	X	√√√
Option 2a	1 interruption of 6 hours	177.4	X	X

Worst served customer mechanism	Secondary description	Costs (£m)	Performance improvements	Cost per all DNO customers
(GS)				
	1 interruption of 12 hours	41.1	X	√√
	1 interruption of 18 hours	8.4	X	√√√
Option 2b(i) (GS)	3 interruptions of 3 hours	10.9	X	√√√
	3 interruptions of 2 hours	13.0	X	√√√
	2 interruptions of 2 hours	27.4	X	√√√
Option 2b(ii) (GS)	GS2 = 6 hours	30.4	X	√√√
	GS2 = 12 hours	92.8	X	X
Option 3a&b (Incentive)	Maximum increased improvement	16.3	√√	√√
	No improvement	0	X	√√√
	Maximum decreased improvement	-16.3	X	√√
Option 4a (Defined allowance)	Based on UG costs	74.0	√√	√
Option 4b (Defined allowance)	Based on projected worst served customer costs	69.0	√√	√
Option 4c (Defined allowance)	Based on previous QoS costs	42.0	√√	√√

1.6. Table 1 is a high level summary of the associated costs and the likelihood that the mechanism will deliver the desired performance improvements. The costs are in terms of total costs and the cost per customer. The delivery of performance improvements is based on the delivery of reduced interruptions.

Key issues and objectives

1.7. Existing performance related incentives have been successful at improving the average reliability across all customers. These incentives have not been successful at improving the performance of the worst served customers. Providing compensation for customers with poor reliability or encouraging performance improvement should help to reduce the gap between the average and the worst served.

1.8. If the 'do nothing' option is taken, the worst served customers will continue to pay for improvement that they do not receive. Although the performance improves for only the average customers, all customers need to pay for the reward to the DNO. Furthermore, the gap between the average performance and the performance of the worst served customers will continue to widen.

1.9. The objective of this impact assessment is to consider the costs and benefits of compensating customers with poor reliability or encouraging investment to improve the performance they receive.

1.10. The majority of worst served customers are situated on low density/ rural feeders. Under section 3A-(3)(d) of the Electricity Act 1989, Ofgem has an obligation to have regard to rural customers.

1.11. Ofgem also has an obligation to respect those living in rural areas under the Social and Environmental Guidance to the Gas and Electricity Markets Authority, 23 February 2004. According to the Guidance, the consumers' interests include quality of service provided and the size of energy bills.

1.12. The objective contributes to the following Ofgem duties:

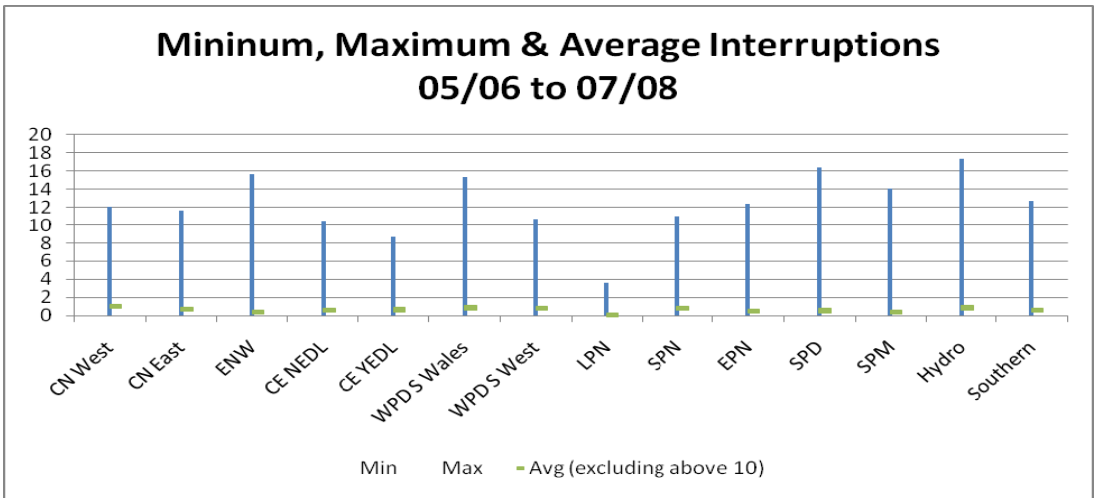
- Protecting the interests of consumers, present and future, and
- Protecting the interests of individuals who are disabled or chronically sick, of pensionable age, with low incomes, or residing in rural areas.

Options

Option 1 - No regulatory intervention

1.13. Figure 1 illustrates the performance received by worst served customers compared to the average customer. With no regulatory intervention, the performance levels experienced by the worst served customers would continue to be much worse than that experienced by the average customer.

Figure 1 - Average number of higher voltage interruptions so far during DPCR4



Option 2 - Guaranteed Standards of Performance (GSOP)

1.14. The two GSOP options considered were:

- Option 2a - Tightening the Guaranteed Standard of Performance GS2 supply restoration time under normal conditions (6 or 12 hours),
- Option 2b(i) - Tightening Guaranteed Standard of Performance GS2A multiple interruptions (3 x 3 hours, 3 x 2 hours, 2 x 2 hours), and
- Option 2b(ii) - Introducing a compensation payment if a customer experiences aggregated duration of interruptions greater than a predetermined level for the year (6 or 12 hours).

1.15. Option 2 is aimed at increasing compensation for the worst served customers. The intention is to encourage DNOs to improve the network for worst served customers and/or compensate where performance is below the GSOP.

Option 3 - Incentive

1.16. Create an incentive for DNOs that is targeted at improving the overall reliability of supply to worst served customers. The incentive would be based on performance targets with a reward/penalty for over/under performance.

- Option 3a - Incentive based on total worst served customer population, and
- Option 3b - Incentive based on actual targeted worst served customers.

1.17. This option involves a target based incentive on top of a defined allowance. Option 3a and 3b differ only in the way in which the targets are set. There is a capped reward/penalty for over/under performance.

1.18. Some preliminary work on Option 3 is in the other impacts, costs and benefits section. This option will not be implemented during DPCR5 but the practicality of incorporating and/or moving toward an incentive based mechanism will be tested with a view to possible implementation in DPCR6.

Option 4 - Defined allowance

1.19. This option entails providing a defined allowance for DNOs that is available for projects that improve the overall reliability of supply for worst served customers.

1.20. One key issue with this option is setting an appropriate amount for the allowance. Some of the options considered for determining the appropriate amount were:

- Option 4a - an allowance based on the average costs for undergrounding for Areas of Outstanding Natural Beauty,

- Option 4b - an allowance based on the average cost per benefiting customer as set out in the DNO worst served customer proposals, and
- Option 4c - an allowance based on an upper limit for costs per benefiting customer, limited to a cost similar to that already paid for quality of service.

1.21. Option 4a used the costs submitted for undergrounding schemes undertaken in DPCR4. Project costs for various proposed undergrounding projects were used to determine an average cost per customer (total customer base for all DNOs excluding EDFE LPN). This average cost was then used to calculate the total allowance for various worst served customer bases. The customer bases were defined in terms of percentage of total customer base (0.5 per cent or 1 per cent), number of interruptions experienced (greater than or equal to 7, 8, 9 & 10) and fixed customer number (1,000, 2,000, 3,000, 4,000 & 5,000).

1.22. Option 4b involved taking the average cost per benefiting customer from a variety of projects and costs put forward by DNOs to address worst served customers. One DNO used real circuits that had been classified as worst served through a variety of definitions. Other DNOs provided a suite of improvement projects and their approximate costs.

1.23. The final option involved setting an upper limit on the cost per benefiting customer. For this option we considered a cost per benefiting customer roughly double that paid by worst served customers for quality of service.

1.24. For DNOs to be eligible for the allowance under Option 4, they will need to deliver against a set of eligibility criteria:

- The customers benefiting from the proposed projects should have experienced 15 or more interruptions over the past three years (with a minimum of three interruptions per year),
- Schemes should achieve a minimum performance improvement of 25 per cent for the targeted customers,
- The average cost per benefiting customer should not exceed £1,000 over all projects in DPCR5.

1.25. Given that there is high variability in the costs associated with various schemes, Ofgem has allowed the expenditure to be an average cost per benefiting customer. This should allow the DNOs the ability to balance more expensive solutions with less expensive ones. Ofgem proposes that the £1,000 per customer is an average over all projects over the entire period. This would entail recovery of expenditure to occur once all projects have been completed and an assessment made over the performance improvements delivered, and as such would likely be made during DPCR6.

1.26. The other key issue with Option 4 is how to distribute the allowance amongst the DNOs. Some of the options considered for distributing the allowance were:

- Method A - fixed total allowance for all DNOs,
- Method B - based on fixed allowance per customer,
- Method C - based on fixed allowance per worst served customer,
- Method D - based on fixed allowance per worst served customer as percentage of total customer base.

1.27. Ofgem proposes that any amount relating to worst served customers in DPCR5 be split based on the total number of worst served customers in each DNO, as per Method C. This option would enable those DNOs with relatively high numbers of worst served customers to address a similar proportion of their worst served customers as those DNOs with relatively few worst served customers.

Impacts on consumers

1.28. Under option 1, the current performance levels for the worst served customers would continue to deteriorate and the gap between the worst served and the average customer would continue to widen.

1.29. The cost per customer required to improve the performance for worst served customers will be relatively high. This is due to the relatively small proportion of worst served customers and the fact that they are typically located in rural/low-density circuits. With the relatively high cost in mind, Ofgem believes that option 2 would result in circulating guaranteed standard payments rather than an actual improvement in performance. This would result in higher energy costs without tackling poor quality of service, which is contrary to the consumer interests described in the Social and Environmental Guidance.

1.30. We consider that Option 3 would not deliver the desired performance improvements for customers, for the following reasons:

- Difficulty with setting defined outputs for one price control period,
- No historical information on which to base reliable outputs, and
- Measuring improvements would require several years worth of data

1.31. With our current level of reporting and the lack of reliable target setting capabilities, Ofgem believes that an allowance mechanism will provide the greatest impact for customers. Option 4c seems to be the most reasonable approach for setting the available allowance. It should enable the delivery of performance improvements for some worst served customers during DPCR5 and ought to provide clear evidence of costs and benefits for future developments in this area.

1.32. Historically, frequency and duration information has not been reported in terms of individual customers. In DPCR5, DNOs will be required to have individual customer interruption and duration information for all customers classified as worst served. This level of information should allow a greater understanding of the individual customer performance and also allow DNOs to develop schemes to target the customers that need the performance improvement. As the information is gathered

throughout DPCR5, targets may be able to be set reliably which may drive further performance improvements for the worst served customers.

Impacts on competition

1.33. The majority of likely network solutions are not contestable. Therefore, any of the proposed options are not likely to have a significant detrimental effect on competition.

1.34. If the DNO employs non-network solutions there could be some impact on distributed generation. Given the size of the defined allowance, the risk of detrimental impact on this market is considered to be very low and may actually provide some minor benefit to distributed generation developers to offer solutions to DNOs looking to improve performance for worst served customers.

Small businesses

1.35. All of the proposed options involve costs that would be spread across all customers equally. Regardless of the chosen approach, small business customers will not be disproportionately affected.

1.36. The mechanism is targeted at improving the performance for all worst served customers. Small businesses can be categorised as worst served customers as readily as any other customers. Therefore, some small businesses could benefit from the worst served customer mechanism.

Impacts on sustainable development

1.37. Non-network solutions may help the Authority to adhere to the guidance set out in the Social and Environmental Guidance to the Gas and Electricity Markets Authority, 23 February 2004. The guidance dictates the Government's expectations of the Authority with respect to its statutory duties, to seek to facilitate the achievement of the social and environmental objectives, targets and aims set out in the white paper.

Managing the transition to a low carbon economy

1.38. Non-network solutions may have a secondary benefit of reducing losses and carbon emissions, depending on the type of solution employed. This would aid the transition to a low carbon economy.

Eradicating fuel poverty and protecting vulnerable consumers

1.39. This may benefit vulnerable customers to the extent that they are on targeted circuits.

Promoting energy saving

1.40. There would be no impact in this area.

Ensuring a secure and reliable gas and electricity supply

1.41. This policy is directly focused on improving the performance of worst served customers. Options 2 to 5 would help to ensure a secure and reliable electricity supply for the worst served customers.

Supporting improvement in all aspects of the environment

1.42. There would only be minimal impacts in this area.

Impacts on health and safety

1.43. Depending on the type of faults being experienced by the worst served customers, there could be a reduction in potentially hazardous faults. This would directly reduce the exposure of customers and field resources to potential safety hazards.

1.44. Unplanned and frequent interruptions can cause customer appliances/devices to operate unexpectedly and/or cause permanent damage. A reduction in interruptions could indirectly reduce these potential safety hazards.

1.45. Options 3 and 4 aim to encourage expenditure on particular circuits in order to improve performance for the worst served customers. These options should result in a reduction of the frequency of interruptions on these circuits which will in turn reduce the associated potential safety hazards.

Risk and unintended consequences

1.46. The major risk associated with the 'do nothing' option is that the worst served customers will continue to pay for improvements in performance that they do not receive. Their current poor performance will continue to deteriorate whist the performance for the average customer improves.

1.47. Option 4 is aimed at encouraging DNOs to create projects that improve the overall reliability of supply to worst served customers. Due to the cost per worst served customer limitations, DNOs may not be able to find projects that are eligible for the allowance. This could lead to little or no improvement for the worst served customers.

1.48. Option 4 involves DNOs forecasting performance improvements as part of their worst served customer proposals. Due to the lack of information available,

performance improvements are difficult to project reliably. There is a risk that DNOs will not undertake projects due to the risk of not being able to recover their costs if they fail to deliver against the criteria. This could lead to the allowances not being utilised during DPCR5. However, a number of DNOs have indicated that there are viable schemes that can be undertaken in DPCR5 and we believe that the proposed mechanism strikes an appropriate balance between allowing expenditure on worst served customers and delivering tangible outputs whilst maintaining a cap on costs.

Distributional effects

1.49. This policy is aimed specifically at improving the performance of the worst served customers. Due to this fact, this policy will give an unequal distribution of benefits in favour of worst served customers over average and best served customers. However, this policy is aimed at correcting the observed unequal distribution of benefits by existing policies.

1.50. Option 4 would involve distributing a defined allowance amongst the DNOs with worst served customers. Since such customers have been defined as those customers experiencing five or more interruptions in a year, EDFE LPN is not eligible to receive the allowance as they have no customers that qualify.

1.51. There are potential distributional effects associated with the distribution of the allowance to be provided under Option 4. It is proposed that the allowance is distributed based on the number of worst served customers in each DNO and this will result in customers in general contributing varying amounts depending on their host DNO.

Other impacts, costs and benefits

Option 2 - Guaranteed standards of performance

1.52. Table 2 is indicative of the amount of money that might be spent if GS2 were tightened to six or twelve hours as per Option 2a. These values are based on DPCR4 duration information and assume only the initial £50 payment is paid.

Table 2 - Option 2a - Approximate costs over DPCR5 (GS2)

Hours	Approximate costs (£m)
6	177.4
12	41.1
18	8.4

1.53. Table 3 gives an idea of the number of customers that could potentially benefit from this option.

Table 3 - Option 2a - Average number of customers benefiting per year (GS2)

Hours	Average customers per year (thousands)
6	710
12	165
18	35

1.54. Table 4 below is indicative of the amount of money that might be spent if GS2 were tightened to 3 x 3 hours, 3 x 2hours or 2 x 2hours as per Option 2b(i)

Table 4 - Option 2b(i) - Approximate costs (GS2A - tightening multiple interruptions)

Multiple interruption thresholds (frequency x duration)	£m for various percentages of customers within each band, assumed to be experiencing required multiple interruptions of appropriate length to exceed the various multiple interruption thresholds						
	100%	75%	50%	25%	10%	5%	1%
3x3 hours	10.9	8.2	5.5	2.7	1.1	0.6	0.1
3x2 hours	13.0	9.7	6.5	3.2	1.3	0.7	0.1
2x2 hours	27.4	20.6	13.7	6.9	2.8	1.3	0.3

1.55. The information in table 4 is based on the disaggregation by duration information. The available duration information does not specify the number of times that an individual customer has been counted within the duration band. For example, if there are 100 customers within the 3 to 4 hour duration band, theoretically there could be 100 customers each experiencing 1 interruption between 3 to 4 hours in length or 1 customer that had 100 interruptions between 3 to 4 hours in length. Therefore some assumptions were made about the number of individual customers in each interruption band. These assumptions are shown in the table as a range from 100 per cent to 1 per cent.

1.56. For the 3 to 4 hour duration band, you could assume that each customer had an average interruption of 3.5 hours. In order for customers within this band to cross the 3 x 3 hour tightened threshold they must have had at least 3 interruptions each. Therefore, if 100 per cent of customers within that band were to exceed the tightened 3 x 3 hour interruption duration standard, the duration band would have to consist of ((100/3) x 100 per cent) customers who each experienced 3 interruptions between 3 to 4 hours in length.

1.57. Alternatively, if only 1 per cent of customers within that band were to exceed the tightened 3 x 3 hour aggregated interruption duration standard, the duration band would have to consist of ((100/3) x 1 per cent) customers who each experienced 3 interruptions between 3 to 4 hours in length. Using the disaggregation by interruption data, these customer numbers, for the 100 per cent to 1 per cent scenarios, were then multiplied by the probability of experiencing 3 interruptions. These customer numbers were then multiplied by £50 to arrive at the numbers in the table above.

1.58. Table 5 is indicative of the amount of money that might be spent if GS2 were tightened as per Option 2b(ii).

Table 5 - Option 2b(ii) - Approximate costs (GS2A - total duration)

GS2 tightened threshold (Hours)	£m for various percentages of customers within each band, assumed to be experiencing the required respective number of interruptions to exceed the aggregated duration threshold of 12 hours						
	100%	75%	50%	25%	10%	5%	1%
6	30.4	22.8	15.2	7.6	3.0	1.5	0.3
12	92.8	69.6	46.4	23.2	9.3	4.6	0.9

1.59. The values in the table 5 above are based on the following:

- Information from duration bands with assumptions made about the frequency that a single customer experiences the required multiple interruptions to exceed the aggregated duration threshold,
- £50 payment, and
- Consideration of the possible tightening of GS2 to 6 or twelve hours, ensuring that customers receiving payments under either tightened GS2 do not receive additional payments from GS2A.

1.60. As with table 4, the percentages in table 5 represent the number of individual customers within each duration band. The only difference is that the GS2A total duration standard of 12 hours could be made up of a variety of interruptions of varying length. For example, 12 hours could be exceeded via 12 x 1 hour interruptions, 6 x 2 hour interruptions or 4 x 3 hour interruptions etc.

Option 3 - Incentive

1.61. In Option 3a the targets are set using the performance of the total worst served customer population. This option would be based on the following:

- Interruptions weighting - each additional interruption carries an additional 30 per cent weighting,
- Target (X+Y=1):

  - X per cent industry 3 year average (including weighted interruptions)
  - Y per cent individual 3 year average of DNO performance of all worst served customers (including weighted interruptions)
- Cap on maximum reward/penalty +/- £250,000, and
- Fixed Incentive Rate of £50,000.

1.62. Tables 6 and Table 7 summarise the weighted interruptions and the range of costs for the high level incentive. The weighted interruptions are based on a weighting for each additional interruption above five. The second table shows the expected costs for scenarios where the maximum, the minimum and no performance improvements are achieved.

Table 6 - Weighted Interruptions

Actual Interruptions	Weighted Interruptions
5	5
6	8
7	11
8	15
9	20
10	28
>10	37

Table 7 - Range of expected costs for High Level Incentive

	Performance Improvement Scenarios		
Cost Description	**Maximum Increase**	**None**	**Maximum Decrease**
Reward/penalty (£m)	16.3	0.0	16.3
Total (£m)	48.8	0.0	0.0
Cost per benefiting customer (£)	48.08	0.00	48.08
Cost per customer (£)	0.63	0.00	0.63

1.63. This kind of high level approach could potentially see the benefit of individual schemes being masked by the total worst served customer population. For example, DNO-1 has around 100,000 customers experiencing greater than or equal to 5 interruptions per year. Compare this with DNO-2 which only has around 10,000 customers. Suppose both DNOs were to propose similar projects that benefited the same amount of customers, by the same amount, for the same price. It is clear that DNO two would appear to have a better improvement in measured performance despite the fact that the actual reduction in customer interruptions is identical. With this pitfall in mind, Option 3b is exactly the same as Option 3a only the performance

data used to set the targets are based on the actual targeted worst served customers as opposed to the total worst served customer populations. This option will be investigated throughout DPCR5 as more reliable performance information is collected.

Option 4 - Defined allowance

1.64. Option 4a used costs taken from undergrounding schemes undertaken in DPCR4. These costs were used to calculate an average cost per benefiting customer and this value was then applied to the various worst served customer bases depending on the method chosen for defining worst served customers. The total costs and the calculated cost per benefiting customer were found to be disproportionately high compared to the amount that all customers currently pay towards quality of service. Table 8 below gives an example of the order for associated costs for the latter two methods of defining worst served customers.

Table 8 - Minimum costs for option 4a

	Total number of customers benefiting (average over three years)	**Total funding allowance (using FBPQ) (£m)**
Method 2 (9 interruptions)	19,000	£ 45.0
Method 3 (1,000 Customers)	14,000	£ 35.0

1.65. This option was considered to be too expensive both in terms of cost per total customer and per benefiting customer.

1.66. Option 4b used costs taken from the submitted worst served customer projects included in the August FBPQs. As with Option 4a the cost per benefiting customer was disproportionately high compared to the amount that all customers currently pay towards quality of service.

1.67. Table 9 below give an example of the order of associated costs for Option 4c. The table below shows the costs over the 20 year life of the asset.

Table 9 - Option 4c costs over life of asset (20 years)

£ 07-08	**Cost description**	**Customer interruptions**				
		7	6	5	4	3
£m	Total	23.3	28.9	42.3	68.9	131.9
£m	Per DNO	1.8	2.2	3.3	4.9	9.4

Thousand	Total worst served customers	74.1	152.3	337.9	746.9	1,695.6
%	(Total worst served customers) / (Total Customer Base)	0.26%	0.53%	1.18%	2.62%	5.94%
£	Per Customer	0.1	0.2	0.4	2.4	4.6
£	Per WSC	71.9	71.9	71.9	66.4	66.4

1.68. The values in table 9 are based on the following:

- capex allowance for DPCR4 of £111.6m and DNO FBPQ projected forecasts for DPCR5 of £193.4m,
- opex allowance for DPCR4 £113.5m,
- exceptional events allowance for DPCR4 £24.5m,
- projected savings in opex £18m due to reduced interruptions of 18 per DNO and an assumed cost of £5,000 per fault. It is assumed that the 18 saved interruptions would decrease to 0 over the 20 year life of the asset, and
- EDFE LPN is excluded from all calculations for 6 and 5 interruptions as they do not have any customers in these categories.

1.69. Table 10 and table 11 are indicative of how any chosen amount would be distributed amongst the DNOs under the various options.

Table 10 - Percentage of total allowance distributed according to methods A-D

	Customers with >=5 interruptions per year (3 year average)	Total customers	£m option A	£m option B	£m option C	£m option D
CN West	67,051	2,415,484	8%	9%	20%	15%
CN East	36,890	2,549,112	8%	10%	11%	8%
ENW	19,383	2,325,155	8%	9%	6%	4%
CE NEDL	11,326	1,549,259	8%	6%	3%	4%
CE YEDL	15,010	2,225,253	8%	8%	4%	4%
WPD S Wales	27,518	1,080,697	8%	4%	8%	14%
WPD S West	22,528	1,498,199	8%	6%	7%	8%
EDFE LPN	0	2,213,479	0%	0%	0%	0%
EDFE SPN	33,477		8%	8%	10%	8%

	Customers with >=5 interruptions per year (3 year average)	Total customers 2,218,054	£m option A	£m option B	£m option C	£m option D
EDFE EPN	17,147	3,457,682	8%	13%	5%	3%
SP Distribution	22,638	1,987,679	8%	8%	7%	6%
SP Manweb	12,761	1,479,569	8%	6%	4%	3%
SSE Hydro	25,368	710,383	8%	3%	8%	19%
SSE Southern	26,803	2,848,956	8%	11%	8%	5%
Total	337,900	28,558,962	100%	100%	100%	100%

Table 11 - Total allowance - £42 million distributed according to options A-D

	Customers with >=5 interruptions per year (3 year average)	Total customers	£m option A	£m option B	£m option C	£m option D
CN West	67,051	2,415,484	3.2	3.9	8.3	6.2
CN East	36,890	2,549,112	3.2	4.1	4.6	3.2
ENW	19,383	2,325,155	3.2	3.7	2.4	1.9
CE NEDL	11,326	1,549,259	3.2	2.5	1.4	1.6
CE YEDL	15,010	2,225,253	3.2	3.5	1.9	1.5
WPD S Wales	27,518	1,080,697	3.2	1.7	3.4	5.7
WPD S West	22,528	1,498,199	3.2	2.4	2.8	3.4
EDFE LPN	0	2,213,479	0.0	0.0	0.0	0.0
EDFE SPN	33,477	2,218,054	3.2	3.5	4.2	3.4
EDFE EPN	17,147	3,457,682	3.2	5.5	2.1	1.1
SP	22,638		3.2	3.2	2.8	2.5

Distribution		1,987,679				
SP Manweb	12,761	1,479,569	3.2	2.4	1.6	1.4
SSE Hydro	25,368	710,383	3.2	1.1	3.2	8.0
SSE Southern	26,803	2,848,956	3.2	4.5	3.3	2.1
Total	337,900	28,558,962	42.0	42.0	42.0	42.0

Post-implementation review

1.70. Part of the Option 4 proposal includes monitoring the performance of circuits/customers that have been targeted by expenditure under the worst served customer. Monitoring of the completed projects has been included to monitor the success of the proposed mechanism and to gain a better appreciation of the actual costs for remedial projects and the associated performance improvements. Where DNOs do not deliver the benefits that they forecast they will not be able to recover all of their costs.

1.71. The additional performance monitoring information will also allow the testing of other mechanisms. Throughout DPCR5 Ofgem will be using the additional information to test the appropriateness of incorporating or moving toward a performance based incentive scheme for DPCR6.

1.72. Ofgem also plans to review the overall performance of the scheme after four years with the intention of inputting to DPCR6.

1.73. This ring-fenced expenditure will sit outside of the sharing factor and will not be subject to the IQI. Expenditure under the worst served customer mechanism will be ring-fenced and be treated separately to other capital expenditure. As such it will be required to be reported separately. This expenditure is outside of the IQI and is not subject to the IQI sharing factor which is set out in Chapter 19.

Conclusion

1.74. Based on this impact assessment, Ofgem's initial proposal is to adopt a defined allowance as described in Option 4c with the defined allowance to be distributed amongst the 13 eligible DNOs (excluding EDFE LPN) equally as described in Option C.

Appendix 10 – Summary of responses to Policy Paper and Methodology and Initial Results consultation documents

Summary of responses to the Policy Paper consultation document - Introduction and overview

Do you agree with our assessment of how the Distribution Price Control Review (DPCR4) settlement has performed in practice?

1.1. There was a qualified consensus of agreement that the DPCR4 controls have worked reasonably well with Distribution Network Operator (DNO) and non DNO respondents raising a number of specific issues.

Do you agree with the main lessons we have drawn from this assessment?

1.2. One DNO, says DPCR5 needs to fundamentally address asset replacement and the DNOs role in European and UK Renewable policy delivery; the remaining DNO issues relate to incentive mechanisms and finance.

Have we identified appropriate measures to address our concerns and deliver a settlement that provides better rewards/penalties for highly performing/poorly performing companies?

1.3. Overall respondents support Ofgem's intention to define and measure output measures which are closely coupled to the actual long-term performance of DNOs, and with the output measures linking the objectives of Ofgem, the Authority and the DNOs. The test will come when DNOs and Ofgem try to implement these measures in practice.

Do you think our proposal to base DNOs' incentives for under/outperformance around their effective return on equity is appropriate?

1.4. The overall view is that this is a sensible enhancement (though a basket of financial ratios should be applied in parallel) provided the right balance between cost saving and customer service is maintained.

1.5. Respondents also commented that the overall returns received by networks need to be much more transparent and customers need to know how their money is spent and that are receiving value for money. There is concern that incentive mechanisms give DNOs an opportunity to earn significant additional returns without evidence of value of money for customers or that DNOs have delivered more than they would otherwise.

What range of return on equity do you think would represent a fair balance between customers' and shareholders' interests to reward increased efficiency, better service and innovation, whilst maintaining strong incentives for shareholders of any poorly performing DNOs to improve performance?

1.6. It was not felt possible to answer Ofgem's question without firm proposals on what the DNOs will be asked to achieve, how much that would cost, and what the risks of underperformance will be including an assessment of risks that are outside the control of the DNOs.

Do you think that evolutionary or revolutionary changes are required to the role of the DNOs to ensure that distribution networks remain fit for purpose? If the latter, in what specific areas does this apply?

1.7. Respondents views of DNOs are summarised in the following bullet points:

- unresponsive to customer requests,
- commercially inflexible, opaquely structured, inadequately resourced,
- slow to provide commercial terms of connection,
- quick to make short term repairs without addressing long term problem, and
- focus on domestic customer service not balanced by service to industrial customers paying the most DUoS,

1.8. To be successful DPCR5 must enable DNOs to:

- provide a safe, reliable and efficient network,
- make a step-change in engaging with customers and stakeholders and supporting connection of distributed generation,
- take an innovative and longer term perspective as to the construction and operation of networks, without being restricted by differential incentives for opex and capex,
- build a sustainable business model with a workforce which is skilled and resourced to meet these challenges in association with replacing assets reaching the end of their life, and
- be appropriately rewarded to finance this substantial 15-20 year investment phase and attract sufficient equity funding.

Environment

Do you agree with our view of future uncertainties and the need for DNOs to change their way of working and thinking to encompass innovation and flexibility?

1.9. Most DNOs agree with Ofgem's assessment of future challenges, but highlight that they are already involved in exploring many of the techniques and technologies described. One stated that the consultation paper understates the impact that

changes to energy use will have on electricity networks whilst assuming far more radical solutions will be required than are actually necessary. One highlighted a need to recognise the tension between efficient network provision, competition in connections and future proofing.

1.10. Many non-DNO respondents also agreed with the assessment, several stating that DNOs need to take a more proactive role. One respondent agreed with the assessment of uncertainty, and suggested many of the national consultations have not considered the impact on distribution networks and potential stranded assets as part of the move to a low carbon future. It noted individual DNOs will need to undertake scenario planning for the particular challenges that they anticipate their networks will face, since there will not be a one size fits all solution.

1.11. Three DNOs and one non DNO respondent raised the broader issue of roles and responsibilities across the sector. Many felt a holistic discussion was critical, and one suggested that the paper does not recognise Ofgem's central role as facilitator. It was highlighted that there needs to be clearer guidance as to what commercial and non-network solutions are appropriate for the DNOs, especially if this involves greater interactions with demand customers, which has historically been a supply company role.

What are your views on our proposals for DNOs to provide more information to help low carbon initiatives and have we adequately identified and defined the information requirements?

1.12. The vast majority of respondents supported Ofgem's proposals. There was general consensus that the provision of easily accessible, reliable and targeted information can help DG developers and that the standardisation of format and data provided would help developers that operate across the country.

1.13. Some respondents expressed specific concerns about the proportionality of certain actions proposed, especially due to the complexities of modelling HV networks. Some DNOs clarified that they would expect the costs of development of web-based tools to be funded, and one DNO noted that costs incurred for similar purposes to date have not. Another DNO added that it would expect any incremental costs from the proposals to be funded. One respondent questioned whether access to information tools should be charged upfront rather than recovered by successful projects only.

Do you agree with our proposal that all distributed generation should pay use of system charges, and if not, can you provide evidence to substantiate your specific concerns?

1.14. There were mixed views among respondents on the proposal to mandate implementation of revised charging arrangements for all DG. In particular, some DNOs firmly opposed the proposal on the grounds that it will raise legal issues, undermine profitability of existing DG as well as confidence in the regulatory

framework by perspective DG. One DNO claimed that the current framework is not a barrier per se to DG connections.

1.15. Other DNOs supported the proposal in principle, but expressed concerns about the potentially disproportionate administrative burden. Another respondent supported the proposal and considered that current arrangements do not facilitate competition in generation.

Do you agree that the distributed generation (DG) incentive should be retained? Should embedded transmission be deemed relevant DG?

1.16. Most DNOs and four non DNO respondents agreed the incentive should be retained, although some more due to the lack of evidence to the contrary rather than it providing a positive incentive. Several DNOs suggested that the cheapest and easiest schemes will have been done first and that future DG is likely to be more costly to connect; meaning that the incentive value should not be reduced. However one stated that the current incentive is ineffective because the majority of costs required to connect generators are sole-use and recovered through connection charges, and this will not change in DPCR5. One suggested there should be an additional revenue driver based on MW connected.

1.17. All DNOs and two other respondents agreed that embedded transmission should be deemed relevant to DG; one DNO suggested it warrants a differential incentive rate.

What are your views on our proposals on innovation and flexibility? How would you rate their feasibility and which option is most likely to drive the more innovative and flexible behaviour that we are seeking?

1.18. Five DNOs agreed incentives for opex and capex should be equalised whilst one disagreed, since it considered that there will be unintended consequences such as weakening the capex incentive, and that it will not drive the desired opex-based initiatives. It felt that non network solutions should be encouraged via the innovation mechanism.

1.19. Four DNOs and one other respondent explicitly supported the retention of the IFI - two DNOs thought it should be expanded to cover innovation. Two agreed with the replacement of the RPZ.

1.20. Of the three options presented (option 1 - ex ante, option 2 - during DPCR5 and option 3 - ex post), six DNOs supported option 2. Three felt options 1 and 3 would not act as incentives. However, two DNOs considered the options could be combined, one with options 1 and 2, and one with options 1, 2 and 3. Two noted that it is too late to include option 1 in the FBPQ and therefore suggested that option 1 proposals could be submitted later in the year. One supported a discretionary reward at the end of DPCR5 as a further incentive.

What are your views on our proposal to set an incentive on transmission grid exit charges?

1.21. The DNO community called for the continuation of the current pass-through regime. Two non-DNOs respondents welcomed proposal to introduce an incentive on exit charges.

1.22. The majority of DNOs argued an incentive scheme is inappropriate since DNOs have very limited control on drivers of exit charges, especially price risk and Transmission Owners' (TOs) replacement programmes. Another respondent considered that the current framework places all risks on consumers.

What are your views on our losses proposals, and do you have any additional comments on the option to install smart meters on low voltage substations?

1.23. One DNO supported Ofgem's proposal for an output based loss incentive, stating that the retention of the five year roller will ensure that improvements made during DPCR4 are retained, and returns due to unsustainable improvements in losses will be eroded. Two non-DNOs also supported it as providing the best way to achieve value for money and accountability, with one agreeing that where economically justified there should be a capital allowance for low loss equipment. The DNO also supported the proposed approach to allow an input element within the existing framework.

1.24. The other DNOs and three non-DNO respondents supported the DNO proposed hybrid/input mechanism to focus on projects to reduce identifiable losses (one also proposed a variant). Most expressed concerns regarding the volatility of settlement data; one estimating that low loss initiatives could reduce their losses by around 13-14GWh p.a. over DPCR5 against a settlement volatility which could cause swings of over 500GWh p.a. between initial settlement and final reconciliation. It stated that this volatility is not reducing.

1.25. Two DNOs supported the inclusion of the cost of carbon into the incentive value. One proposed that the incentive value should be fixed for 10 years, and that an increased incentive should be accompanied by caps and collars. One non DNO respondent felt a fixed incentive value was reasonable, but should not be too generous – if necessary it should indexed even if volatility increased.

1.26. One DNO agreed with the Ofgem proposal that all DNOs should report losses using the same mechanism. It supported targets based on five years or less, stating that they need to reflect recent history to avoid over rewarding DNOs for the same reductions. One non-DNO respondent proposed targets be based on a two year average to give a zero average expected return across all DNOs, since targets based on a five year average could still result in substantial windfall gains. It also raised a benchmarking approach.

1.27. There was a mixed response from the DNOs to the substation metering proposal; most believed the loss reduction benefits would not justify the costs (especially since the metering itself would not reduce losses). One noted that benefits would have to include wider benefits associated with increased network monitoring and real time data provision to enable more active network management whilst another proposed intelligent network devices be installed instead, to both improve losses information, and provide a platform for developing active distribution networks. One thought the proposal would have uses in limited local trials to investigate or confirm loss-reduction project benefits or to investigate the impact of settlements data.

What are your views on the various aspects of the business carbon footprint proposals?

1.28. Most DNOs supported the idea of reporting on the business carbon footprint but there were mixed responses on the scope of reported emissions and the requirements for a published League table. Other respondents supported the requirement for carbon footprint reporting. Three DNOs supported the idea of using well established conversion factors, such as those available through DEFRA.

1.29. Most of the DNOs highlighted that consistency of reporting was essential but difficult to achieve. Two DNOs suggested that any absolute BCF would need to take into account economic variations and the different scales and mixes of activities across DNOs. One DNO argued that it would take a number of years of reporting to establish any level of consistency between DNOs. Another believed that the phased introduction of data submissions was sensible and would give the industry time to develop and standardise measurement methodologies. One DNO thought that given the inconsistency between current DNO methodologies, the only practical approach for a league table would be to publish the annual reduction against individual DNO baselines. Another thought that DNOs should publish their relative improvement along with their annual BCF and the principles of their reporting methodology, although one DNO suggested that the publication of DNOs' existing footprint reporting methodology would suffice.

1.30. The majority of DNOs were mindful that the costs of the BCF methodology should not outweigh the benefits. Many suggested that the inclusion of contractor emissions would not satisfy these proportionality concerns.

1.31. Two DNOs agreed that it would be important to recognise any voluntary emission reduction measures taken by DNOs before the start of DPCR5. Another DNO thought that the recognition of previous voluntary emission reductions along with consistency across all DNOs would need to be agreed upon before publication of the league table.

What are your views on our proposals for refining the undergrounding scheme? In particular, should we apply caps per km of cable by voltage level or should we remove all voltage caps and just have a single overall cap?

1.32. The majority respondents supported the continuation of the undergrounding scheme, however, there were mixed responses to the majority of proposed refinements. These proposed refinements included the extension of the scheme to other areas, the provision of funds for a project officer, the proposed use of matched funding and the mandating of scheme participation.

1.33. The majority of Non-DNO respondents thought that the scheme should fund undergrounding of overhead lines close to the boundary of AONBs and National Parks. One DNO suggested that funding should be provided for some lines outside of designated areas provided they were a reasonable proportion of the overall proposal.

Do you agree with our proposed approach for the treatment of fluid filled cables?

1.34. None of the respondents opposed the EA/ENA Operating Code and the adoption of a risk-based approach to strategic replacement. The majority of respondents also supported the development of a common reporting format to Ofgem and the EA. Several DNOs commented that they have already in place risk-based operational guidance and have been reporting on the basis of the Operating Code.

1.35. Several DNOs agreed that they should invest in developing new technologies for reducing risk of oil pollution from FFCs, and one of them argued for IFI funding to be available. Other DNOs submitted that they have used IFI funding (or intend to use it during DPCR5) for projects on leak detection or other risk-mitigation techniques.

Customers

Do you think that the range of existing and proposed arrangements will deliver the levels of service customers expect?

1.36. Respondents broadly agree that the existing and proposed arrangements will deliver expected levels of service. Two DNOs are of the view that there are some areas where the current arrangements could be improved and suggested that adjustments should be made to improve the proposed arrangements. One DNO would like to be confident that the information that is used to benchmark DNOs is defined on a basis that will ensure fair comparisons between DNOs and cover all areas of service that are important to customers. Another DNO welcomes Ofgem's proposals to fine-tune DPCR4 incentive mechanisms and to remove other mechanisms that have proved to be difficult.

What percentage of revenue/return on equity should be exposed to customer service and how should it be split between the various areas?

1.37. The DNO respondents were generally consistent in their desire to keep the revenue/ return on equity exposed to customer service at a similar level to where it has been for DPCR4, but varied significantly on how they felt the exposed quantity should be split.

Do you agree with our intention to develop a broad measure of customer satisfaction and the proposed advocacy approach?

1.38. Most DNOs supported the general principle of Ofgem's proposals to develop a broad measure of customer satisfaction. One DNO is a strong supporter of the NPS model and believes it will drive real improvements in customer service levels. One non-DNO respondent welcomed opportunities to provide feedback/comments on the DNOs' service and for national comparisons to be made between companies. Another DNO supported the introduction of an incentive scheme to improve customer performance but state that this should contain a suitable balance between reward and penalty. One DNO supported retaining the current measure of call centre satisfaction.

Do you agree with our proposed approach to connections, which of the options do you support and why?

1.39. With the exception of one, all of the DNOs were in agreement that the development of a regulated margin on the contestable elements of connections would create headroom for competition to develop and address the current flaws in the system.

1.40. Only one DNO gave a quantifiable value on the proposed regulated margin with a suggestion of a net margin in the region of 10 percent.

Do you agree with the proposed amendments to the IIS (in full) and what are your views on how incentive rates should be structured?

1.41. One DNO stated that they support the majority of the proposed improvements to the IIS.

1.42. One DNO strongly advocated a change in approach to target setting based on current performance with incentive rates acting as the sole driver of improvement or preferably a system where DNOs are able to submit their own proposed targets for Ofgem approval.

1.43. One DNO was insistent that the proposed amendments were not necessary. In their opinion Ofgem must accept that improvements in CML do not automatically lead to subsequent CI improvement and cite the insufficient level of WTP as a barrier to improved CI performance.

1.44. One DNO supports the idea of using CI benchmarks to set CML targets for outperforming DNOs.

1.45. A customer interest group was supportive of the overall direction of Ofgem's amendments, particularly the emphasis on vulnerable customers but would like to see the ideas being fleshed out with more information.

Do you agree with our proposed long-term objective of DNOs being able to automatically know which of their customers are off supply and the exact times, and if so what is the appropriate timescale to achieve this?

1.46. The majority of DNOs were supportive of the Long-term objective proposed by Ofgem. Most of the DNOs thought that the introduction of Smart meters would provide significant improvements in customer service, smart grids, localised demand management and optimisation of losses however an in depth cost-benefit analysis was needed. Many of the other respondents also agreed with the long-term objective. A couple of respondents thought that focus should be on swift restoration as most customers would prefer this over increased information on outages.

Do you agree with the proposed focus on worst served customers and which of the options do you prefer?

1.47. DNOs generally welcomed the idea of incentivising improvements for worst served customers. An allowance mechanism was thought to be the most sensible approach initially and a few thought that a move toward an incentive mechanism in future was ideal. Other respondents were also positive about the introduction of an allowance for the worst served.

1.48. The majority of DNOs agreed with defining the worst served customers in terms of the number of interruptions experienced. Most of the DNOs agreed that the average value of on average 5 interruptions per year over 3 years (or 15 interruptions over 3 years) was an appropriate level. One DNO suggested that this should be further qualified to 15 interruptions over 3 years with at least 3 or 4 interruptions in each year. Other respondents suggested that the duration of interruptions was a significant factor for worst served customers.

Networks

Have we identified the right behaviours for DNOs? Are there others which should be included?

1.49. The DNOs indicated in their responses that the behaviours for DNOs identified in the Policy Paper were broadly right and showed a high degree of alignment with their own priorities and strategies. Many respondents agreed that a longer term approach to network investment is appropriate, including whole life cost assessment and long term asset stewardship.

What action should we take where a DNO has deferred investment and created a backlog in DPCR4?

1.50. The respondents generally thought that deferred investment due to efficiency gains is desirable and is incentivised in price controls, but that inefficiently deferred investment should not be allowed. Respondents suggested alternative ways to deal with this including a clawback mechanism or making no allowance for investment in DPCR5 that has already been funded in DPCR4.

What approach should we manage to deal with volume uncertainty?

1.51. The respondents generally agreed that the current revenue driver mechanism based on units distributed is not appropriate from an environmental perspective and is not the most suitable driver for network capacity requirements. They generally supported the development of network investment drivers, with separate drivers developed for new connections and general reinforcement and triggers for large, uncertain schemes. Most DNOs considered a need for a "baseline" investment allowance around which actual allowances would flex dependent on outturn of suitable drivers.

What approach should we take to price uncertainty?

1.52. There appears to be general support from many DNOs for the use of triggers that would apply in response to large changes in input prices. Most DNOs expressed support for the use of triggers in some form. One DNO by contrast believes that there are significant practical difficulties to overcome in setting trigger and index levels, and suggest that input price risk is best managed through a modified IQI mechanism.

Should we be looking to equalise incentives for opex and capex? If so, what approach should we adopt?

1.53. With the exception of one DNO group, there was general support in principle to the proposal of equalising incentives for opex and capex. There were, however, mixed views among these respondents over how such a proposal should be implemented.

Do you consider that we should make refinements to the IQI? If so, what changes should we make?

1.54. None of the respondents suggest that Ofgem should abandon the use of an IQI and they each put forward their own ideas on how it should be refined.

1.55. Opinion was split on whether rebidding by DNOs should be allowed as part of the IQI process. One respondent sees the inability of DNOs to change forecasts without agreement as a useful step forward. Another agrees that changes in forecasts after initial proposals should be restricted to material and explainable

reasons. Some DNOs do not share this view: they suggest that the incentives of the scheme may be destroyed as their initial bids were made without knowledge of how the IQI would be formulated.

What action should we take where DNOs provide insufficient output information as part of their February FBPQ?

1.56. Most respondents expressed strong support for the introduction of additional output measures. Respondents suggested a range of actions which could be taken where DNOs do not provide sufficient output information. These include disallowing some investment or allowing it at a weaker IQI incentive rate, more intrusive ex ante and/or ex post review of investment.

Do you agree with our proposed approach to assessing network operating costs and indirect costs?

1.57. There is broad agreement with Ofgem's approach as outlined in the consultation document. However, there is a real concern that a highly disaggregated approach to regression analysis will lead to "cherry picking" of efficient costs across the various activities. One DNO suggested that if results of different top-down models prove inconsistent it would be sensible to set allowances based on 3rd decile or even average costs or via "best of" or "average of" several modelling approaches. Another would like to see the analysis of DPCR4 repeated as a reference point from which to evaluate new methods and to demonstrate a degree of regulatory consistency.

Do you agree with our proposed approach for assessing network investment?

1.58. Respondents were generally supportive of Ofgem's proposed approach for assessing network investment.

1.59. Age based replacement modelling was considered to be an appropriate and useful starting point for discussions around levels of condition based network investment, dependent on DNOs being given opportunity to justify any material deviations in their planned volumes. One DNO cautioned against placing too much emphasis on a short period of historical data.

How should appropriate levels of HILP expenditure be assessed? How should costs relating to HILP event mitigation be funded?

1.60. The respondents that considered funding of HILP event mitigation were strongly in favour of costs being funded by the entire customer base through DUoS charges.

Financial issues

Have your views on the appropriate methodology for setting the cost of capital or on indexing the cost of debt changed as a result of the current turmoil in the capital markets?

1.61. Most of the DNOs had not changed their view on the appropriate methodology for setting the cost of capital. All DNOs highlighted that the financial markets are currently in turmoil, however the majority felt that this should not change the underlying methodology used in the calculation of the cost of capital. One respondent argued that embedded debt should be treated separately from new debt.

What is the appropriate timing of actuarial valuations for setting ex ante pension allowances?

1.62. At a high level, respondents welcomed our comment that our focus for this review was on the application of the current pension principles rather than seeking to change them.

1.63. In the December 2008 Policy Paper, Ofgem considered that there were three options for the timing of actuarial valuations (the latest triennial valuation, DNO forecasts where actuarially supported and a re-opener at each subsequent triennial valuation). The majority of DNOs favoured the second option as it was mostly likely to match funding with cash outgoings. One DNO thought that from a practical perspective the use of scheme actuaries may not be appropriate due to a potential conflict of interests. One DNO favoured the third option stating that it was the best long-term solution as it allows for charges to customers to reflect most closely the amounts being paid.

Process

We invite views on which format stakeholders would find most useful for the Ofgem workshops to be held in January 2009.

1.64. Most respondents noted that the workshops had already been held and so did not comment on their format. Respondents that attended felt that the workshops were successful.

We invite views on our proposed process.

1.65. Four DNOs were broadly supportive of the process for DPCR5.

1.66. Most DNOs feel that the update documents in May and September should be considered especially if the changes from Initial proposals are significant. One DNO felt that the September update should be produced even if there wasn't a major

change. Respondents overall did feel that whatever route is taken an update letter from Ofgem will be needed to clarify the process.

Summary of responses to the Methodology and Initial Results consultation document - Overview of FBPQ forecasts

What are your views on the DNO cost forecasts presented in this chapter?

1.67. DNOs generally felt their forecasts submitted are robust and challenging.

1.68. One respondent was supportive of Ofgem's analysis of the cost forecasts put forward by the DNOs but believed that the process has a serious flaw by omitting to regulate how DNOs translate the allowed revenue into individual DUoS tariffs. They suggest additional regulatory restrictions on DNOs to prevent individual DUoS tariffs from varying from one year to the next.

1.69. One respondent was concerned by the different views of maximum demand growth and impact of the current recession between DNOs. DNOs felt there is a significant degree of uncertainty surrounding both the severity and duration of the economic downturn, and the effect this will have on electricity demand across the UK. One DNO suggested the average of the 14 DNO forecasts indicates that maximum demand is likely to reduce by only a small amount from its current level before showing sustained growth through the DPCR5 period. One respondent felt the value of forecasts is questionable as suppliers will form their own view taking into account regional variances. They suggested that perhaps a more consolidated overview is required in terms of demand growth and general economic drivers.

1.70. One respondent was encouraged to see increased spend on workforce renewal although how this is going to be invested requires more transparency. One DNO felt the proposed assessment of workforce renewal costs has not been carried out by DNOs on a consistent basis so it is difficult to draw any meaningful conclusions at this time.

1.71. One DNO felt an increase in allowed revenues is necessary to meet the outputs required by stakeholders.

1.72. One DNO felt some uncertain costs should be excluded from the cost assessment exercise and dealt with by a reopener condition.

1.73. One DNO felt that their plans reflect stakeholder input and establish a clear link to well-defined outputs.

1.74. All DNOs have forecast increases in capital expenditure in DPCR5, which reflects the ongoing and increasing need to replace equipment. One DNO felt that this is consistent with the results of the analysis undertaken during DPCR4. They considered that it also aligns with the requirement to increase the capacity of the

network to maintain the reliability of supplies to customers, and to comply with planning standards that are an obligatory requirement of Distribution Licences.

1.75. One DNO felt the comparison of operational expenditure in DPCR4 and DPCR5 is misleading as forecasts of the effects of future price increases are included. The like-for-like comparison across the industry would project an increase from DPCR4 to DPCR5 whilst they are forecasting reductions in operational expenditure.

1.76. One DNO felt the variation in the forecast change in losses as a result of non-discretionary expenditure by DNOs is extremely large and suggests that different assumptions have been adopted by different DNOs.

1.77. One DNO felt that the other DNOs generally have not forecast an increase in the support costs associated with capex work despite predicting substantial increases in capex volumes. They thought that this does not appear credible and would seem to be evidence of different accounting and contracting strategies.

Network investment – Environment

1.78. Do you agree with our approach to assessing the forecasts of distributed generation (DG), discretionary expenditure and losses and are there any other factors you think we need to take into consideration?

1.79. One respondent considered that despite the environmental focus for DPCR5 the coverage on environmental matters in the DNOs' bids and the associated discussion seemed very light.

DG

1.80. There was broad agreement on the uncertainty surrounding forecasting the volume, type and cost of DG connecting over the DPCR5 period. Respondents accepted that less DG had connected in DPCR4 than forecast, and what had connected had been able to connect relatively cheaply. Several respondents noted that the forecasts are informed by the government targets for renewable generation, which may produce aspirational forecasts with high levels of uncertainty.

1.81. One DNO broadly agreed with Ofgem's approach to forecasts for DG and stated that at minimum a DNO's average connection cost must be fully funded. Two DNOS felt that it was not appropriate to set an average DG incentive rate across all DNOs (given the wide range of forecasts). However this was countered by other DNOs, who felt that it is difficult to draw conclusions from historical data to disaggregate by either fuel type, capacity or connection voltage and that the lack of forecast certainty make it impossible to derive individual incentive rates for individual technologies or DNOs.

1.82. Two DNOs recommended that the incentive broadly remain the same, although one stated that there is no sound rationale for basing the incentive rate on the cost of connection.

1.83. One non DNO stated that the approach looks inadequate and under powered. They thought the hugely over-generous allowance under DPCR4 suggests too mechanistic an approach based on abstract assumptions, which should not be pursued for DPCR5.

Discretionary expenditure

1.84. One DNO stated that they submitted no proposals because they were unable to identify any such schemes that gave customers value for money.

1.85. Another supported the initiative but stated that they had only identified items with a clear need or high probability for investment planned. They noted that they plan to progress other initiatives through innovation mechanism.

1.86. One DNO noted Ofgem's disappointment with the submissions and considered that there was a need for further clarity of what was expected and of how the costs might be treated. Another thought Ofgem's approach was not particularly clear.

1.87. One non DNO regarded the proposals as particularly disappointing, since over half the proposed expenditure was accounted for by one DNO group, with another group submitting no bid at all, and that this indicated inadequate thought by the companies.

1.88. One DNO stated that it is appropriate for Ofgem to consider assessing individual schemes, given small number and wide range of proposals. They thought benchmarking was unlikely to be of any value until common industry view or baseline is established.

Losses

1.89. A non-DNO expressed disappointment that three DNO groups failed to provide details of proposed low loss investments, and also noted the considerable diversity in approaches.

1.90. One DNO stated that they were unable to identify any loss reduction schemes that would deliver value for money.

1.91. Several DNOs highlighted the interaction with the incremental loss reduction and the base case investments. Several DNOs pointed out that they are already investing in low loss transformers, and therefore cannot invest further to further reduce losses. Another DNO stated that they have some of the lowest unit cost base

case transformers, meaning that the incremental cost of low loss equipment appears high in comparison.

1.92. One DNO stated that there is extreme uncertainty around any losses reduction forecast and that the potential benefits of any of the losses proposals are insignificant when compared to the magnitude of the energy distributed.

1.93. One DNO considered it appropriate for Ofgem to consider assessing individual schemes, given small number and wide range of proposals. However another DNO thought Ofgem's approach to assessing schemes was not particularly clear.

Ongoing efficiencies and input prices

Have we identified the most relevant unit cost and productivity measures from other sectors to help inform our ongoing efficiency assumption for DPCR5?

1.94. There was general support from respondents for examining both value added and gross output measures of productivity and unit costs. A number of DNOs re-raised points made by First Economics at GDPCR which commented on aspects of the methodology. We commissioned advice at GDPCR that satisfied us that the analysis was appropriate and we have not seen any new arguments that have altered our position.

1.95. None of the respondents put forward alternative measures that should form part of our analysis.

When calculating these measures, which comparator sectors and time periods should we focus on?

1.96. A number of DNOs commented that we should focus on more recent time periods (1990 onwards) over which to calculate unit cost and productivity trends as they see data from this period as being more relevant. Another DNO disagreed and suggested that long term averages were more appropriate.

1.97. Some of the DNOs made similar points about the sectors highlighted in the May document.

- They suggest that the manufacturing sectors are not natural comparators. We had selected these sectors due to the importance of asset management in these sectors which is similar in nature to the activities of the DNOs. These sectors also rely on workers with a similar level of skills to that of the DNOs.
- It was also suggested that the financial intermediation sector should be replaced by the larger finance, insurance, real estate and business services sector. We had made this decision because the EU KLEMS methodology paper advises caution when interpreting productivity measures from sectors including real

estate as the output data of this sector is not of the same quality as other sectors 83.

What weight should we give to this analysis relative to other information?

1.98. The general view from the DNOs is that Ofgem should consider information submitted by themselves in their business plans and the analysis by their consultants alongside our own analysis.

What method should we use for setting our input price assumptions for DPCR5?

1.99. Three of the DNOs disagreed with CEPA's forecasts for wage growth, in particular the wages of contractors, which they believed would be able to achieve above average wage settlements. There was general acknowledgement of the uncertainty in this area and one of the DNOs suggested updating the analysis in the autumn.

Customers

Do you agree with the proposed mechanism (in full) for worst served customers?

1.100. One DNO welcomed Ofgem's decision to base the worst-served customers allowance on the number of worst-served customers in each DNO.

1.101. Two DNOs felt the mechanism proposed is unlikely to improve the service provided to worst-served customers. One DNO recommended that no cap on expenditure per benefiting worst-served customer should be set during the DPCR5 period. One respondent however felt that a cap should be set on the cost per benefitting customers within the worst served customer's mechanism.

1.102. Generally DNOs agreed with Ofgem's proposals but consider that they do not go far enough. One suggestion was an ex-ante allowance with claw back or for Ofgem to reflect the risk related to the requirement for performance improvements to be visible through an enhanced rate-of-return on this investment. Alternatively they believe Ofgem should remove the requirement for performance improvements to be visible from the recovery of investment in DPCR6. One DNO suggested neither the capex allowance nor the cap per customer are sufficient to warrant the DNOs taking the risk involved in not delivering against the required 25 per cent

[83] See page 48 of the EU KLEMS methodology paper available from: http://www.euklems.net/data/EUKLEMS_Growth_and_Productivity_Accounts_Part_I_Methodology.pdf

improvement in customer interruptions. They believe a more appropriate cap per customer is c.£2,000.

1.103. One DNO was concerned that the proposed mechanism will drive DNOs to only make improvements in localities where it is relatively easy to meet the ex-post funding assessment. They suggest that ex-ante allowances should be provided and DNOs be expected to demonstrate that investments have been targeted at worst served customers, with an aspiration to achieve 25 per cent improvement, but without the absolute need to achieve this so as to not restrict the scope.

1.104. One respondent felt that the worst served definition focusing purely on interruptions could be limiting by discouraging network expenditure associated with interruption duration.

1.105. One respondent felt the worst served customer initiative to be used as stimulus for greater attention being directed towards understanding and modelling how network structure affects DNOs' ability to control variability in all aspects of the quality of service delivered to customers.

Do you think that we should set a cap on the cost per benefitting customers within the worst served customer's mechanism and, if so, what level should this be set at?

1.106. Most DNOs felt the application of a cap would potentially limit the scope of works that could be undertaken. A reasonable compromise would be to have a cap of £5,000 per customer that would lead to exclusion of extremely costly solutions but provide adequate scope for extensive works where this would provide an enduring improvement. One DNO suggested that these improvements can then be reported back how the allowance has been used to their worst served customers benefit.

1.107. One DNO suggested there is merit in setting indicative caps, below which the DNO can carry out projects as it sees fit. For any projects that are expected to exceed this cap, we believe there should be sufficient flexibility in the mechanism to allow these schemes to go ahead where there is evidence of stakeholder agreement and a robust business case.

Do you agree with the proposed approach (in full) for setting unplanned targets for customer interruptions and customer minutes lost?

1.108. Three DNO feels that the process has delivered challenging but fair targets that drive DNOs towards benchmark performance.

1.109. One DNO was concerned that the absence of investment allowances and the general weakening of incentives could publically suggest that the industry and regulator do not see great value in further performance improvements.

1.110. One DNO feels that it is key that Ofgem presses on with its development of a customer satisfaction measure to ensure a comprehensive suite of measures to improve customer handling and experience.

1.111. One DNO felt that Ofgem's proposed changes to the CI and CML incentives have diluted the strength of the incentives and as such no longer believe it is appropriate to include the customer satisfaction measure within the current IIS cap and collar of 3% of revenue.

1.112. One DNO has concerns with Ofgem's stated intention not to provide any upfront cost allowances for improvements in performance which far exceed benchmark performance.

1.113. One DNO did not agree with the proposed approach. They are keen to see a conclusion in order to allow them to begin to develop a better understanding of the challenge ahead.

Network output measures

1.114. Each of the seven DNOs indicated full support for the development of output measures and committed to working constructively with Ofgem to progress outputs for the DPCR5 settlement.

1.115. Other respondents commented that:

- Robust output measures will make networks more accountable for the costs they incur, meaning customers can be more certain that they are getting value for money.
- It is imperative that the output measures have a use within the relevant businesses, as an approach which places an obligation on the DNOs to produce outputs for the sake of it will be an inefficient use of operational expenditure and not in the interest of the consumer.
- The sense gained from the May document is that the DNO proposals with regard to output measures are disparate and not yet fit for purpose.

Is Ofgem's proposed methodology for general reinforcement and asset replacement outputs appropriate?

1.116. Overall the DNOs agree with the approach outlined by Ofgem in the May paper to develop outputs for investment in general reinforcement and asset replacement, which together accounts for the majority of core network investment. Some of the specific high-level issues raised in the DNO submissions include:

- a concern that DNOs should not be penalised at DPCR6 for making best efforts to generate forecasts on load growth and asset degradation at DPCR5, particularly where methodologies are new,

- a suggestion that an upfront summary of data quality for the HI could be provided, so that changes in data quality over DPCR5 could be tracked and acknowledged,
- a view that the framework to be developed should take into account how new or improved information (e.g. about the deterioration rate of a particular asset) or unforeseen external events (e.g. major changes in government energy policy) will be taken into account when assessing output performance, and
- a concern with a potential 'one size fits all' approach on outputs, and that the output measures may be inappropriately used for benchmarking purposes in the future.

Is Ofgem's proposed approach for other areas of investment appropriate?

1.117. One respondent submitted that the output measures developed for DPCR5 should incorporate safety and environmental considerations.

1.118. In general the DNOs consider that there is currently not enough value to be gained in widely deploying output measures further across all the investment programmes (other than asset replacement and reinforcement), and customers may be adequately satisfied in knowing that a number of sites have been improved (e.g. protected from flooding). The DNOs support further work in this area during DPCR5.

What approach should be taken if a DNO fails to deliver the agreed outputs i.e. how could the incentives be adjusted?

1.119. One consistent view from the DNOs in submissions is that the output measures should be treated as a set of indicators rather than as mechanistic revenue drivers at DPCR6. DNOs consider that the agreed outputs should act as a trigger for Ofgem to challenge any DNO's spend where the outputs have clearly not been met. In making this challenge, DNOs must be given the opportunity to explain why they have been unable to deliver on their set outputs.

1.120. Some of the other issues raised in submissions include:

- a suggestion that the DPCR5 outputs could be reviewed in year 3 of DPCR5 where two years of data will enable a more informed view of the practicality and success of the outputs approach,
- a suggestion that any out-performance rewards under the IQI could become contingent upon a DNO having broadly met the outputs,
- a concern that the detailed regulatory framework will need to provide some flexibility for DNOs to reprioritise their target output measures, and
- a concern that the potential consequences at DPCR6 for under-performance against outputs are clarified as a matter of priority, as currently there remains uncertainty.

Do you consider that the output measures proposed provide sufficient protection in their own right, or is it appropriate to have some form of

additional safety net in the DPCR5 settlement, for example through monitoring investment volumes?

1.121. While DNOs expressed some concerns about the impact and interpretation of incorrect assumptions underpinning their DPCR5 outputs (e.g. load forecasts), they generally did not consider it appropriate to monitor investment volumes as an additional safety net, for the following reasons:

- Ofgem already has full visibility of asset movements (input measures) through the annually reported RRP data,
- The proposal to monitor investment volumes is inconsistent with the intent to move towards an output-based approach, and
- The monitoring of input measures may unduly restrict DNOs ability to pursue potentially innovative opex solutions within the price control period.

Should there be an obligation on DNOs to further develop output measures during DPCR5?

1.122. While all DNOs supported the continued development of output measures over DPCR5, particularly tier one outputs (i.e. high level system wide risk metrics), they did not see a need for specific licence conditions to capture this commitment. Rather, DNOs considered that a voluntary approach to further development is appropriate and achievable.

We seek views from stakeholders on the role that outputs should play in DPCR5 and particularly how they can best be implemented and used.

1.123. Submissions from DNOs raised the following:

- Outputs should demonstrate that DNOs are adequately and sustainably managing the asset bases to maintain a safe and reliable system.
- Outputs are at an early stage of development and it is important the Ofgem and the DNOs work together constructively to understand how they can be improved.
- Outputs should form the basis against which the success of a DNO's investment programme can be measured.
- Ofgem could seek views from the appropriate stakeholders on the adequacy of tier three output measures for compliance-driven network investment.

Cost incentives

Do you agree with our proposed approach to equalising incentives?

1.124. There was general support from respondents on our proposals to equalise incentives between network costs. One of the DNOs disagreed with our proposals as they suggest they will disincentivise investment and will reduce the incentive to

achieve operating efficiencies. Another DNO also raised concerns that the proposals weaken the incentives on operating costs.

Have we identified the most appropriate costs to be within the equalised incentive and the IQI?

1.125. The DNOs generally agreed with our proposed allocations. One DNO recommended some changes to costs included within the IQI and the equalised incentive which they believe would help address future boundary issues. Another DNO was unclear as to how the proposed enlargement of the IQI fits with the cost comparisons and ongoing efficiency analysis being undertaken by Ofgem.

How should we set the "RAV additions percentage" that will determine the split between split between "slow" and "fast" money?

1.126. The general view of the DNOs is that we should not change the speed of money from DPCR4. In setting the percentage they suggest that we should look at forecasts of DPCR5 capital expenditure rather than backward looking expenditure from DPCR4 to ensure that there is consistency between the reviews.

Managing uncertainty

What balance should we adopt between mechanisms to manage specific risks (such as input price uncertainty) and a more general type of reopener to manage a wider basket of risks?

1.127. Respondents agreed the number of specific risk mitigation mechanisms should be limited and targeted. There was no consensus on a general reopener: some respondents prefer specific mechanisms for specific risks, while others would like a general reopener to manage unknown risks.

What risks should be covered by specific mitigation mechanism, by a general type of reopener, and which should be left to the DNOs to manage?

1.128. There was general agreement that the DNOs should be left to manage the risks within their control. The DNOs generally supported specific mechanisms to manage volume uncertainty while there was a split of opinion over whether there was a need for a mechanism for input price uncertainty.

Are there any additional risk mitigation mechanisms that we should be considering that are not identified in this chapter?

1.129. One of the DNOs identified the repowering of Shetland as an area where additional risk mitigation might be required.

Tax methodology

Is the approach to modelling DNOs capital allowances on a common basis representative of the industry position and does it ensure that no individual DNO is materially advantaged or disadvantaged by this methodology?

1.130. Overall the DNOs did not agree with the common approach and felt that a specific approach would be more reflective of individual circumstances. One DNO felt there should be a separate category for asset replacement (which accounts for 29 per cent of total DNO spend over DPCR5). Another DNO pointed out that it is the individual DNO capital expenditure profiles which drive their tax allocations with limited scope for a DNO to manage its tax position.

1.131. Some DNOs were in favour of the common approach. One DNO suggested that the common view should be a true aggregation of all DNO positions and not moderated by Ofgem views. Another DNO felt that regulatory and statutory tax capital allowance balances should be aligned. Other DNOs highlighted that the approach should be transparent and correctly calculated to make it fair.

Views are invited on whether the most appropriate option for the tax treatment of re-openers is the case-by-case approach.

1.132. All DNOs agreed that the tax treatment of re-openers should be dealt with on a case by case basis.

Should the DNOs retain the risk and rewards for all amounts below / above the trigger threshold; or for the entire amount rather than the excess over the materiality trigger; and what should be the appropriate timing of adjusting DUoS revenues following both single and multiple trigger events?

1.133. DNOs feel that given the current economic environment it would not be sensible for DNOs to be subject to such large risks that are beyond the control of DNOs. Most DNOs then went on to quote a materiality threshold of 0.5%. There was a split between those who thought the entire amount should be adjusted if the materiality level is reached and those who thought only the excess should be adjusted.

We invite views on the practicality of communicating the likelihood of a trigger being activated and the methodology for it.

1.134. Most DNOs agreed that the activation of any triggers should be reported in the year of the trigger event with adjustment being made in the following regulatory year. It was suggested that the likelihood of a trigger being activated is dependent on the type of trigger event.

1.135. Other suggestions were to report the trigger occurring to Ofgem within 30 days or within 60 days of the regulatory year ending.

1.136. One DNO suggested that Ofgem should collate the responses and communicate this to stakeholders.

Appendix 11 – The Authority's Powers and Duties

1.1. Ofgem is the Office of Gas and Electricity Markets which supports the Gas and Electricity Markets Authority ("the Authority"), the regulator of the gas and electricity industries in Great Britain. This Appendix summarises the primary powers and duties of the Authority. It is not comprehensive and is not a substitute to reference to the relevant legal instruments (including, but not limited to, those referred to below).

1.2. The Authority's powers and duties are largely provided for in statute, principally the Gas Act 1986, the Electricity Act 1989, the Utilities Act 2000, the Competition Act 1998, the Enterprise Act 2002 and the Energy Act 2004, as well as arising from directly effective European Community legislation. References to the Gas Act and the Electricity Act in this Appendix are to Part 1 of each of those Acts.[84]

1.3. Duties and functions relating to gas are set out in the Gas Act and those relating to electricity are set out in the Electricity Act. This Appendix must be read accordingly[85].

1.4. The Authority's principal objective when carrying out certain of its functions under each of the Gas Act and the Electricity Act is to protect the interests of existing and future consumers, wherever appropriate by promoting effective competition between persons engaged in, or in commercial activities connected with, the shipping, transportation or supply of gas conveyed through pipes, and the generation, transmission, distribution or supply of electricity or the provision or use of electricity interconnectors.

1.5. The Authority must when carrying out those functions have regard to:

- the need to secure that, so far as it is economical to meet them, all reasonable demands in Great Britain for gas conveyed through pipes are met;
- the need to secure that all reasonable demands for electricity are met;
- the need to secure that licence holders are able to finance the activities which are the subject of obligations on them[86];
- the need to contribute to the achievement of sustainable development; and
- the interests of individuals who are disabled or chronically sick, of pensionable age, with low incomes, or residing in rural areas.[87]

[84] entitled "Gas Supply" and "Electricity Supply" respectively.
[85] However, in exercising a function under the Electricity Act the Authority may have regard to the interests of consumers in relation to gas conveyed through pipes and vice versa in the case of it exercising a function under the Gas Act.
[86] under the Gas Act and the Utilities Act, in the case of Gas Act functions, or the Electricity Act, the Utilities Act and certain parts of the Energy Act in the case of Electricity Act functions.

1.6. Subject to the above, the Authority is required to carry out the functions referred to in the manner which it considers is best calculated to:

- promote efficiency and economy on the part of those licensed[88] under the relevant Act and the efficient use of gas conveyed through pipes and electricity conveyed by distribution systems or transmission systems;
- protect the public from dangers arising from the conveyance of gas through pipes or the use of gas conveyed through pipes and from the generation, transmission, distribution or supply of electricity; and
- secure a diverse and viable long-term energy supply.

1.7. In carrying out the functions referred to, the Authority must also have regard, to:

- the effect on the environment of activities connected with the conveyance of gas through pipes or with the generation, transmission, distribution or supply of electricity;
- the principles under which regulatory activities should be transparent, accountable, proportionate, consistent and targeted only at cases in which action is needed and any other principles that appear to it to represent the best regulatory practice; and
- certain statutory guidance on social and environmental matters issued by the Secretary of State.

1.8. The Authority has powers under the Competition Act to investigate suspected anti-competitive activity and take action for breaches of the prohibitions in the legislation in respect of the gas and electricity sectors in Great Britain and is a designated National Competition Authority under the EC Modernisation Regulation[89] and therefore part of the European Competition Network. The Authority also has concurrent powers with the Office of Fair Trading in respect of market investigation references to the Competition Commission.

[87] The Authority may have regard to other descriptions of consumers.
[88] or persons authorised by exemptions to carry on any activity.
[89] Council Regulation (EC) 1/2003

Appendix 12 - Glossary

123

132 kV

Only covers assets at the 132 kV voltage level.

A

Asset replacement expenditure

Investment made to replace assets on the network where the asset has reached a condition that it is no longer fit for purpose and replacement is the most economic solution. Also includes replacement of major plant items that have failed.

B

Benchmarking methodology for CI and CML

In order to take into account inherent and inherited factors when comparing quality of supply, Ofgem jointly with the Quality of Service Working Group, has developed a method for calculating benchmarks for CIs and CMLs. In essence this method involves grouping physically similar parts of networks together and then comparing performance at this more disaggregated level. Overall benchmarks are then calculated for each DNO based on the number of circuits it has in each group.

Business Support Costs (BSCs)

Consists of the following activities: IT & Telecoms, Property Management, HR & Non-Operational Training, Finance and regulation and CEO etc. The definitions of these activities can be found within the DPCR5 August Forecast Business Plan Questionnaire Rules.

BT 21st century networks (BT21CN)

Proposed changes to BT's commutation network which may impact on circuits leased by the DNOs for protection signalling and substation commutation.

C

Capital Expenditure (Capex)

Expenditure on investment in long-lived distribution assets, such as underground cables, overhead electricity lines and substations.

Customer interruptions (CIs)

The number of customers whose supplies have been interrupted per 100 customers per year over all incidents, where an interruption of supply lasts for three minutes or longer, excluding re-interruptions to the supply of customers previously interrupted during the same incident. It is calculated as:

$$\frac{\text{The sum of the number of customers interrupted for all incidents} * 100}{\text{The total number of customers}}$$

Customer minutes lost (CMLs)

The duration of interruptions to supply per year – average customer minutes lost per customer per year, where an interruption of supply to customer(s) lasts for three minutes or longer, calculated as:

$$\frac{\text{The sum of the customer minutes lost for all restoration stages for all incidents}}{\text{The total number of customers}}$$

D

Distributed Generation (DG)

Any generation which is connected directly into the local distribution network, as opposed to the transmissions network, as well as combined heat and power schemes of any scale. The electricity generated by such schemes is typically used in the local system rather than being transported for use across the UK.

Distributed Generation Incentive (DGI)

The DG incentive is a 'hybrid' incentive scheme that provides for partial pass-through treatment of reinforcement costs incurred in providing network access to DG and a £/kW revenue driver to incentivise connection of DG. The 'hybrid' incentive sought to combine incentives for efficiency (via the incentive rate) with protection against cost uncertainty (via the cost pass through). An additional element to the incentive was created to provide ongoing network access (availability). The allowances were set based on the DNOs' expectations of likely DG connections and the costs associated with those connections.

Distribution Network Operators (DNOs)

A DNO is a company which operates the electricity distribution network which includes all parts of the network from 132kV down to 230V in England and Wales. In Scotland 132kV is considered to be a part of transmission rather than distribution so their operation is not included in the DNOs' activities.

There are 14 DNOs in the UK which are owned by seven different groups.

Distribution Price Control Review 4 (DPCR4)

Distribution price control review 4. This price control runs from 1 April 2005 until 31 March 2010.

Distribution Price Control Review 5 (DPCR5)

Distribution price control review 5. This price control is expected to run from 1 April 2010 until 31 March 2015.

Demand side management (DSM)

Demand Side Management (aka Load Management) is any mechanism that allows a customer's demand to be intelligently controlled in response to events on the power system. Such events would include lack of network capacity or insufficient generation.

E

Extra High Voltage (EHV)

Includes all voltage levels above 20kV up to but excluding 132kV.

Electricity Networks Strategy Group (ENSG)

Electricity, Safety, Quality and Continuity Regulations 2002 (ESQCR)

The ESQCR specify safety standards, which are aimed at protecting the general public and consumers from danger. In addition, the regulations specify power quality and supply continuity requirements to ensure an efficient and economic electricity supply service to consumers.

F

Fast money

Fast money is the revenue that is matched to the year of expenditure.

Forecast business plan questionnaire (FBPQ)

A major information request by Ofgem in the form of excel spreadsheets and associated narrative guidance. This captures key historical information and forecast information for the remainder of DPCR4 and DPCR5. We also obtained detailed explanatory narratives from each DNO.

G

General reinforcement expenditure

Investment to reinforce the network due to changes in general demand or generation background that is not directly attributable to a specific demand or generation connection.

Gigawatt (GW)

A measure of energy equal to one thousand megawatts.

H

Health Index (HI)

High impact low probability (HILP)

Electricity distribution networks are designed and built to ensure supply continuity for most customers during planned outages and faults that are considered to be credible events. There is a small risk that a more extreme event occurs that has a very high impact on the ability of the distribution system to provide supply continuity. Such an event could result in extended periods of supply interruption for a significant number of customers and is referred to as HILP.

Her Majesty's Revenue and Customs (HMRC)

High Voltage (HV)

Includes all voltage levels above 1kV up to and including 20kV.

I

Independent distribution network operators (IDNOs)

Any electricity distributor whose licences were granted after 1 October 2001. IDNOs do not have distribution services areas.

Innovation Funding Incentive (IFI)

The IFI is intended to encourage DNOs to invest in appropriate research and development activities that are designed to enhance the technical development of distribution networks (up to and including 132 kV) and to deliver value (i.e. financial, supply quality, environmental, safety) to end consumers.

Interruptions Incentive Scheme (IIS)

On 1 April 2005 Ofgem introduced a revised interruptions incentive scheme which provides financial incentives to DNOs with respect to the average quality of service they provide in terms of:

- the number of interruptions to supply, and
- the duration of interruptions to supply.

DNOs may be rewarded or penalised by up to 3 per cent of revenue, depending on performance relative to their interruptions targets in each year of the scheme.

Information Quality Incentive (IQI)

The IQI is a mechanism for setting price control allowances that provides ex ante incentives for DNOs to submit accurate forecasts of their expected expenditure and provides incentives for efficiency improvements once the price control has been set.

K

Kilowatt (KW)

A measure of energy equal to one thousand watts.

L

Low carbon networks fund (LCN fund)

Funding to encourage the DNOs to innovate to deliver the networks we will need for a low carbon economy.

Load Index (LI)

Proposed output metric for substation loading similar to the health index (HI) but instead of capturing asset health the LI captures the loading risk on a substation taking account of load (MVA) over firm, duration over firm and forecast load growth.

Low Voltage (LV)

All voltage levels up to and including 1kV.

M

Megawatt (MW)

A measure of energy equal to one thousand Kilowatts.

N

Network Operating Costs (NOCs)

Consists of the activities of Faults, Inspections and Maintenance and Tree Cutting. The definitions of these activities can be found within the DPCR5 August Forecast Business Plan Questionnaire Rules.

Non-operational IT

Activities as defined in the RRP guidelines i.e. excludes IT equipment used exclusively in the real time management of network assets such as RTU units and communication equipment receivers at the control centre. Non-operational property - As defined in the RRP guidelines includes offices and depots. Substations and other operational premises are not included.

O

Ongoing efficiency improvements

Efficiency improvements in an industry can be separated into two components: a catch-up element which captures the effect of firms implementing practices already adopted by the more efficient firms, and ongoing efficiency improvements that will be made by the industry as a whole. These ongoing efficiency improvements reflect the improvements that would be expected of the most efficient firms in the industry. Ongoing efficiency improvements are sometimes known as frontier shift.

Operational IT and telecoms (excluding BT 21st century networks)

Investment in Operational IT and telecoms, such as, substation RTUs, marshalling kiosks, communications for switching & monitoring, and control centre hardware & software.

R

Regulatory asset value (RAV)

The value ascribed by Ofgem to the capital employed in the licensee's regulated distribution or (as the case may be) transmission business (the 'regulated asset base'). The RAV is calculated by summing an estimate of the initial market value of each licensee's regulated asset base at privatisation and all subsequent allowed additions to it at historical cost, and deducting annual depreciation amounts calculated in accordance with established regulatory methods. These vary between classes of licensee. A deduction is also made in certain cases to reflect the value realised from the disposal of assets comprised in the regulatory asset base. The RAV is indexed to RPI in order to allow for the effects of inflation on the licensee's capital stock. The revenues licensees are allowed to earn under their price controls include allowances for the regulatory depreciation and also for the return investors are estimated to require to provide the capital.

Return on regulatory equity (RORE)

Return on Regulatory Equity is a regulatory metric that we have developed to understand the returns available to shareholders in regulated networks from our price control packages. We include the effects of all material incentives, drivers and true-ups ,even where adjustments take place in a subsequent price control period. We maintain our notional gearing assumption, though, which may lead our results to differ from what companies achieve in practice.

RPI-X

The form of price control currently applied to network monopolies. Each company is given a revenue allowance in the first year of each control period. The price control then specifies that in each subsequent year the allowance will move by 'X' per cent in real terms.

Regulatory reporting process (RRP)

The price control review information submitted annually to Ofgem under standard Licence condition 52 in accordance with (and in the form and content prescribed by) the price control review reporting rules.

S

Slow money

Slow money is where cost costs are added to the RAV and revenues allow recovery of the costs over time (currently 20 years) together with the cost of financing this expenditure in the interim.

T

Traffic Management Act (TMA)

"The Traffic Management Act was introduced in 2004 to tackle congestion and disruption on the road network. The Act places a duty on local traffic authorities to ensure appropriate movement of traffic on their road networks. It gives authorities additional tools to manage the coordination of street works."[90]

The Pension Regulator (TPR)

This regulator was established under the Pensions Act 2004.

U

Use of System charges (UoS)

Charges paid by generators and demand customers, usually via suppliers, for the use of the distribution network.

Use of system network reinforcement cost

Expenditure on the network that is required to connect DG but where the reinforcement will also be utilised by other users of the network and therefore the cost is included in the generation use of system charges rather than being borne solely by the connecting DG.

W

Weighted Average Cost of Capital (WACC)

This is the weighted average of the expected cost of equity and the expected cost of debt.

Worst served customer (WSC)

[90] Department for Transport: http://www.dft.gov.uk/pgr/roads/tpm/tmaportal

Customer experiencing greater than or equal to five higher voltage interruptions on average over a three year period i.e. 15 or more over three years. Additional caveat of a minimum of three higher voltage interruptions in each year.

Appendix 13 - Feedback Questionnaire

1.1. Ofgem considers that consultation is at the heart of good policy development. We are keen to consider any comments or complaints about the manner in which this consultation has been conducted. In any case we would be keen to get your answers to the following questions:

1. Do you have any comments about the overall process, which was adopted for this consultation?
2. Do you have any comments about the overall tone and content of the report?
3. Was the report easy to read and understand, could it have been better written?
4. To what extent did the report's conclusions provide a balanced view?
5. To what extent did the report make reasoned recommendations for improvement?
6. Please add any further comments?

1.2. Please send your comments to:

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