SP Distribution and SP Manweb (SP Energy Networks)

Response to Electricity Distribution Price Control Review (Initial Consultation May 2008)

23rd June 2008

Introduction and Overview

We welcome the opportunity to respond to Ofgem's Electricity Price Control Review, Initial consultation document.

Distribution Network Operators (DNO) have a central role to play in the delivery of energy policy objectives in both a European and UK context. Delivery of these objectives will require different behaviours from network companies together with a balanced, supportive and forward looking regulatory framework.

We are therefore enthusiastic about the open nature of the initial consultation document, with its strong emphasis on environment and customers. If we are to achieve the objectives set out in the paper, we will need to consider a more coordinated approach to developing a regulatory framework across our industry and the framework that we develop must be flexible enough to facilitate and stimulate companies' abilities to meet these objectives.

For SP Energy Networks, the key challenges that this Review must address can be summarised as follows:

- Implementing a workable and balanced set of incentives aligned with energy policy objectives;
- Developing an effective and equitable framework that is in the interests of the end customer
- Investing to preserve the safety and continuity of energy supplies and ensure that networks are sufficiently resilient to severe weather events;
- Ensuring that electricity network companies are able to continue to attract investment against a background where successive price reviews have significantly increased the risk borne by DNOs;

We are committed to working in partnership with Ofgem, government, the industry and all other stakeholders to meet these challenges.

The initial consultation would seem to suggest the promise that this price control review can represent a major step forward on the part of Ofgem and the companies towards building an UK electricity infrastructure that is robust enough to cope with the challenges ahead and that will act as a catalyst towards reform in other regulatory and legal processes, for example planning. This forthcoming price control review is therefore of fundamental importance to our energy future.

We now consider the key objectives and themes raised in Ofgem's overview in chapter 1 before turning to detailed responses to the questions outlined by Ofgem in subsequent chapters.

1 Environmental issues - implementing a workable and balanced set of incentives aligned with energy policy objectives

1.1 Losses

DNOs have a significant role to play in reducing green house gas (GHG) emissions, however the DPCR4 losses incentive mechanism does not facilitate this role and requires to be replaced with a 'quasi outputs' based approach.

Ofgem have correctly identified network technical losses as the single most important area in terms of carbon footprint for DNOs, particularly as our industry moves into a period of continued and intense asset replacement.

While we believe that there is a material opportunity to achieve a reduction in GHG, the current mechanism does not provide the appropriate framework to achieve this because it does not provide adequate signals to DNOs to invest in either low loss technology or loss reducing initiatives, it does not extend to deal with other market participants such as IDNOs and it cannot be accurately observed and measured as an output because of underlying volatility in the Settlements system.

Evidence suggests that the existing mechanism has produced little by way of real underlying reductions in technical losses and would seem to provide poor value for consumers in its current form.

One further perverse consequence of the current regulatory mechanisms in relation to IDNOs is that this class of licensed distribution operator is incentivised to utilise higher loss equipment than an equivalent DNO would utilise.

We therefore propose a radical overhaul of the current mechanism and a move toward an agreed programme of initiatives and investment with targets based around an auditable, engineering based model of individual companies networks. We describe this mechanism further on as a "quasi outputs" measure. Applying this approach can provide much greater certainty of environmental benefits for customers in relation to technical loss reduction initiatives.

As a consequence of the volatility in EU carbon prices and the exchange rate of the Euro, the Industry and Ofgem will need to agree an appropriate economic value of avoided losses.

While we accept that this will require the Regulator to have a more active role in monitoring this type of mechanism and companies will require to invest significant effort reciprocally, we think the importance of the objective merits this approach and similar processes have already been established relatively successfully in the area of quality of service.

1.2 Carbon footprint

Beyond Losses we believe that DNOs should be monitoring the impact that their operations have on the environment as a matter of good corporate practice. However, the DNOs already interact with a host of regulatory bodies in these areas, including environmental agencies, and given the added complexities and a host of other factors that would need to be considered we believe any additional incentives in this area should be limited.

Having already singled out network technical losses, which dominate the DNOs' carbon footprint, developments in the remaining areas should be limited and proportionate.

It is clearly desirable that all companies think progressively about the direct and indirect impact that they have on the environment. SP Energy Networks has a long track record in monitoring such factors as the impact of our use of transport and hazardous materials, to name a couple of examples, within our Corporate Social Responsibility activities. Experience has shown that setting environmental measures and incentives is complicated by company structures, the level of outsourcing deployed, different company policies and objectives, the franchise areas and environment served by businesses, network design and distribution asset characteristics and a host of other factors.

It would therefore seem to be a challenging objective for Ofgem to establish a baseline for all companies on an individual basis together with the development of a practicable incentive mechanism that is equitable to all. It also seems that perhaps Ofgem is stepping into the territory of other Regulatory bodies and we wonder if it is necessary.

An SF6 mechanism similar to TPCR4 could be developed fairly readily, however the scope for reduction and management of SF6 portfolio is much more limited on distribution networks.

As highlighted in paragraph 1.1 it would seem far more important, given the weight Ofgem attribute to the importance of Losses, that the Regulator concentrates efforts on developing a new Losses mechanism.

If there does remain a desire on the part of companies and the Regulator that carbon footprint is dealt with more generally, this measure should exclude Losses entirely (to be dealt with separately), and could be based on the existing Discretionary Reward mechanism for customer service where a relatively small reward is available to be shared among companies that demonstrate initiative.

1.3 Distributed Generation Incentive Mechanism (DGIM)[1]

We believe the existing principles of the DGIM are perfectly compatible with the objectives of connecting distributed generation and propose that the existing mechanism should continue with only minor modification to deal with areas where there is only sparse existing infrastructure.

SP Energy Networks operates in two of the most resource rich areas for Renewable Generation in the whole of Great Britain. It is our view that the low levels of megawatts connected is directly attributable to the complexities of obtaining planning consents and land rights, and to the structure of incentives faced by the GB Transmission System Operator (TSO) under the current regime, and does not relate to the DGIM or the DG connections issues identified.

We are concerned that in Scotland we may not be permitted to connect schemes that cause no local transmission constraint costs, and whose impact on deeper transmission constraint costs appears to be theoretical rather than clearly demonstrated in practice.

To illustrate, we have a situation where a Distributed Generation scheme which could connect by 2010, may be forced to wait until 2016, at the earliest, even though the scheme requires no local transmission works and whose generation output would net off the local GSP demand at all times. In this case there is no incentive on the TSO to progress a solution to this problem as quickly or pragmatically as the customer or we would like. Indeed the TSO will compound this situation significantly if its proposed CUSC CAP[2] 167 is implemented as this will allow the TSO to block all generator connections of 1MW and above on the basis of deep network constraints.

In situations such as these we think there is a room for a different approach to be taken. For example a way forward might involve some form of independent arbitration where an independent hearing and decision can be taken that considers all relevant factors, and focuses on practical rather than theoretical impacts.

It is also important to appreciate that any increases in constraints due to connecting DG in southern Scotland are likely to be short term given the progress and focus on upgrading the main interconnected transmission system (e.g. upgrade of the Anglo-Scottish Interconnector).

Regarding the DGIM itself, experience has shown that the existing DGIM does not work in certain areas where there is little or no existing infrastructure to accommodate connection of Renewable Generation, particularly in Wales where the Welsh Assembly has laid out its TAN 8 proposals. That said the mechanism itself needs only minor adjustment to accommodate these situations and the mechanism's existing principles are perfectly compatible with the objectives of connecting Distributed Generation. We therefore propose that the existing mechanism should continue with minor modification.

[1] SP Manweb have 1521 MW of generation connected at 132kV and below; SP Distribution have 657 MW of generation connected at 33kV and below;
[2] CUSC – Connection and Use of System Code; CAP – CUSC Amendment Proposal;

1.4 Growth

We agree that the current DPCR4 growth term should not feature in DPCR5 as it is incompatible with energy policy and the existing mechanism is fundamentally flawed.

1.5 Under-grounding:

The current mechanism for under-grounding overhead lines in Areas of Outstanding Natural Beauty (AONB) has been a resounding success in areas of key environmental sensitivity. We would like to see this mechanism confirmed and strengthened going forward.

The AONB funding mechanism during DPCR4 is enabling us to successfully address a number of stakeholder visual amenity concerns within Snowdonia National Park, with one completed project in the Catel Curig area considered a particular success by all stakeholders. Experience during DPCR4 has indicated that the financial strength of the mechanism needs to be increased.

1.6 Alternatives to network reinforcement:

Significant effort should be made by both Ofgem and the industry to develop regulatory mechanisms to facilitate and incentivise DNOs to interact with customers and generators to deliver alternatives to network reinforcement where economically and environmentally appropriate.

We believe that Ofgem's RPI-X review should address some of the more radical issues related to the future role of DNOs in relation to economic signals, mechanisms and incentives to enable DNOs to deliver non-infrastructure solutions. However, DPCR5 provides an opportunity to begin to develop and apply solutions of this nature, for example through development of the RPZ mechanisms or similar to deal with a wider range of generation projects and demand management projects.

2 Customers - developing an effective and equitable framework that is in the interests of the end customer

2.1 Quality of Service

We believe the existing IIP customer service mechanisms are broadly correct and should be developed to resolve identified weaknesses rather than radically changed. Two key areas that need to be addressed include the wide variation on incentive rates which does not value customers equally and can be unfair for companies at or near the frontier as measured by Customer Interruptions.

There is a wide variation in the incentive rates, in terms of £m/CI and £m/CML, applicable to each DNO under the quality of service incentive regime (see table 1 below). This variation results in a significant inequality between the values attributable to customers in different parts of the country for a given interruption. This arises because the amount of revenue exposed to the incentive regime for each DNO is calculated simply as a percentage of allowed revenue, rather than being related to the relevent revenue component or the nature of the customer base.

We can illustrate this point by analysing the impact of an incident interrupting 500 customers for 60 minutes (see table 1 below). The highest value per connected customer across all DNOs is more than ten times the lowest and there are significant variations between companies.

Table 1: Analysis of Impact of Incident Interrupting 500 Customers for 60 Minutes

DNO	CI Rate (£m/CI)	CML Rate (£m/CML)	Incident Value (£k)	Impact per connected customer (pence)
SHEPD	0.08	0.11	10	1.45
WPD South West	0.1	0.17	9	0.88
SPM	0.18	0.22	11	0.73
SPD	0.23	0.3	10	0.53
LPN	0.3	0.34	11	0.50
NEDL	0.1	0.14	6	0.38
WPD South Wales	0.07	0.12	5	0.32
UU	0.18	0.23	7	0.29
YEDL	0.14	0.18	6	0.25
SEPD	0.18	0.26	6	0.21
CN West	0.15	0.2	5	0.21
SPN	0.09	0.14	4	0.17
CN East	0.11	0.15	4	0.17
EPN	0.16	0.25	4	0.13
Average	**0.15**	**0.20**	**7.1**	**0.35**

We note that some companies have expressed concern that the standardisation of penalty/reward rates might increase their relative exposure to risk under the CI/CML mechanism however we believe that this can be agreed by maintaining an appropriate

cap on the total level of exposure in terms of revenue, or reviewing the bandwidth applied to targets.

We believe that the incentive value per customer should be equalized across GB; An alternative midway solution might be to link the incentives to components of each DNO's allowance rather than total revenues. For CML this could be opex and correlate to the fact that Ofgem view improvement in this area as an opex solution.

2.2 Treatment of companies out-performing CI benchmark

We believe that SP Manweb, the frontier performing company in terms of customer interruptions (CI) at DPCR4; was disadvantaged relative to other companies in terms of scope for out-performance of its CI target and an extremely onerous customer minutes lost (CML) target. This had the effect of skewing the incentive towards a penalty regime for SP Manweb compared to a reward regime for DNOs with worse historic CI performance.

SP Manweb's unique interconnected network has historically delivered frontier CI performance to its customers. This ageing network requires higher levels of expenditure relative to more conventional networks to maintain performance at current levels. This is an issue that was not considered by DPCR4 and should be addressed at DPCR5.

In terms of CML, the targets for SP Manweb and four other DNO's that were out-performing the CI benchmark at DPCR4 were based on their own CI performance together with upper quartile interruption duration. However, those companies that were under-performing relative to the benchmark had CML targets based on the benchmark together with upper quartile duration. As a result, the regime is more onerous for the DNOs that perform best in terms of CI. We believe that this anomaly should be addressed at DPCR5 and that the CML targets for all DNOs should be based on benchmark CI performance.

At this stage we do not see any requirement or justification for increasing the DNO exposure to quality of service incentives.

2.3 Treatment of exceptional events

Given changing weather patterns and evidence of increased risk to network businesses from climate change effects we believe the thresholds for exceptional events needs to be examined carefully and revised. Further, the existing mechanism needs to be refined to exclude certain events out-with the control of DNOs.

We believe that the requirement for an exclusion mechanism for exceptional events from the Quality of Service incentive has increased as a consequence of the frequency and severity of extreme weather events experienced during DPCR4 and the increased

severity of extreme weather events forecast going forward by the Meteorological Office[3].

Further, the current Quality of Supply incentive mechanism makes no exclusion for a range of events that DNOs are obliged to comply with through the Grid Code and are wholly out with their control. We propose that a number of revisions are introduced to enable Ofgem to exclude such events from the incentive mechanism.

2.4 Compensation & Guaranteed Standards

The proposal to consider a reduction in the GS trigger for supply restoration from 18 to 12 hours will be problematic for DNOs to deliver as networks have not been designed to deliver this level of service, and without technological developments in fault finding and fault repair together with significant resource increases cannot be delivered.

If Ofgem require the GS trigger to drop to 12 hours then customers will need to pay the cost of technology developments and resource increases.

We also believe there is no justification for moving toward providing compensation to business customers for consequential losses, as this is a risk that DNOs cannot manage and would require to be funded by customers.

Any increased GS incentive payment for business customers would require to be funded through increased UOS charges for business customers and we do not believe this would necessarily be a development customers would welcome.

2.5 Worst served customers:

Worst served customers were not addressed at DPCR4 and continue to be a concern, therefore we are happy to see that Ofgem propose to deal with this in DPCR5.

The requirements to address worst served customers are unlikely to be uniform across all companies and we will require to examine the relative service faced by these customer groups compared to the cost to resolve any issues.

SP Energy Networks is currently taking a lead in developing a measure of worst served customers through the Quality of Supply working group and are developing a mechanism that could be adopted by the industry.

2.6 Connections

As a Group we are committed to competition in connections provided it is on a level playing field and that the end consumer genuinely benefits in terms of quality and value of service. We do not believe that competition in connections has yielded material benefits or savings for end consumers under the existing framework and think this is an area of activity that needs a fundamental review and overhaul.

[3] Meteorological Office draft report 2008 – Impact of Climate Change on the UK Energy Industry

SP Energy Networks has actively engaged in facilitating competition in connections within our franchise areas. We are able to point to a level of competition in both our franchise areas (SP Manweb and SP Distribution) that is consistent with the level of competition in independent gas connections.

Ofgems Annual Connections Review of 2006/7 showed an IDNO market share in SP Distribution area of c.10% based on physical connections made. In the same period Independent Distribution Network Operators (IDNOs) won in excess of 50% of the market based on connections contracted, and dominated projects with higher volume end customer connections (i.e. relatively lower cost / higher margin connections).

In the highly competitive environment in our areas our connections business is under pressure to provide a service increasingly under demand but which is also a customer service interface that was over looked by the Regulator at DPCR4. For example, the significant growth in IDNO quotes and connections, delivered during DCPR4, has required an increased number of expert technical and commercial resources to develop interface arrangements and deal with increasing frequency of IDNO queries in this regard.

We are also concerned by the inequities that exist in the current regulatory framework where provision of licensed connections must be carried out at cost, failing to recompense shareholders for the significant opportunity cost entailed in the physical resources and working capital deployed.

2.6.1 Recent investigations

Our two licensees have been the subject of a number of regulatory investigations aimed at directly reviewing how we interact with customers. One of the investigations paved the way for the adoption of standards for reporting timescales for provision of Point of Connection Quotations (POC) across the Industry.

In the most recent investigation we provided evidence relating to some 1750 point of connection quotations over a 9-month period. The investigation ultimately concluded that there was no evidence of any discriminatory behaviour by SPD and in their closure statement Ofgem drew a further significant conclusion that: *the level of connections activity in the SPD area was sufficient not to merit a general competition review*.

This conclusion raises a number of questions, relating to:

- Ofgem's veto regarding any DNOs ability to obtain a return on the activity of provision of connections in a demonstrably competitive environment
- need to consider how best to facilitate fair competition with IDNOs
- further consideration of proposals to extend competitive activities
- regulatory treatment of related parties who operate in a competitive market

2.6.2 Charging arrangements

We recognise that existing charging arrangements were developed on the basis of the characteristics of the DNO's own end-customers. IDNOs typically connect to the DNO network at HV, but their demand characteristics do not generally match those of an HV end-customer. Rather the characteristics of IDNO networks reflect those of their own typically LV end-customers. It is appropriate to develop additional yardsticks for IDNOs, as in general these will be different from directly connected business customers of a similar size. In particular, the load shapes of IDNO sites will be different. Also, the costs incurred in distributing units to the IDNO boundary may be different from those to a similar single DNO end-customer. Furthermore, the IDNO's own charges to its LV customers, particularly domestic, are unlikely to include a capacity charge component, which leads to a potential mis-match in the structure of the host DNO's and the IDNO's charges.

We have sought to address these concerns through our interim proposals, with a view to implementation from 1 October 2008, subject to a non-veto decision by the Authority, following the consultation by Ofgem, which is in progress.

However the structure of charging arrangements for IDNOs is only one aspect of a bigger question in relation to charging. The existing regulatory framework for DNOs seems to be directly in conflict with the principles of competition where IDNOs operate out-with the price control and incentive framework applied to DNOs and are able to offer asset values while DNOs are prevented from offering tariff support.

In recent dealings with a number of Development Agencies in our franchise areas, we have been told that the removal of tariff support has been at the expense of stimulating the economy of the areas in question. The Agencies have also highlighted that there is a desire for DNOs and the Regulator to look more "strategically" at reinforcing the network to accommodate key economic developments and that this may raise questions over connection charging policies. These policies may also be relevant in the context of renewable Developers.

2.6.3 Reporting

Currently we believe the annual Competition in Connections report produced by Ofgem significantly understates the actual level of competition across each franchise area. Ofgem could more accurately reflect the level of competition by reporting connections contracts won (including volumes and types of end customers) as well as connections physically delivered. This would overcome the inherent lag (typically 6-24 months) between contracts won, which are the real measure of competition, and delivered physical connections on the ground. The annual report has in our view significantly understated the level of competition experienced in our two networks areas.

3 Networks - investing to preserve the safety and continuity of energy supplies and ensure that networks are sufficiently resilient to severe weather events

3.1 Building block approach

The building block approach proposed is a generally positive development from DPCR4 and we hope will allow a more coherent settlement across capex and opex allowances.

We have some specific concerns, regarding comparability between companies in-sourcing and outsourcing the same activities, that will need to be dealt with in this work, but we believe what is proposed is a pragmatic step forward.

Specifically, we welcome Ofgem's recognition of the consequences of significant input cost pressures through the creation of a building block designed to address this concern. We believe this is an increasingly significant factor affecting the whole of our industry, and because of global market conditions, leaves DNOs significantly exposed in terms of cost and asset risk.

3.2 Information Quality Incentive

We will work constructively with Ofgem to develop the IQI mechanism.

At least two DNO groups, whose FBPQ submissions were assessed as being most robust, as measured by the ratio of their DNO forecast to FBPQ at DPCR4, are among those companies who are significantly under spent to-date. These companies are currently earning a high additional return for the quality of their forecasting and, in addition, reaping a higher incentive rate for the significant and unanticipated out-performance of their capex.

It is therefore critical that the objective assessment of companies forecasts is made more robust going forward and that there is sufficient time allowed within the process to adequately review investment plans. If the IQI/menu based incentive mechanism is not sufficiently specified and communicated in advance of DNO FPBQ submissions then DNOs will require the opportunity to resubmit plans.

We are also concerned that in the form of the sliding scale, the IQI does not allow companies to invest beyond the allowances. It has been argued by Ofgem in the past, that the sliding scale allowance does provide companies with the incentive to spend more than the allowance. However, consider an asset replacement which is a straight forward cash cost required entirely to maintain or renew an existing asset with no additional financial benefit. Under the current scheme if that investment takes the DNO above its allowance for capex then it could only recover 69% of the investment, under the sliding scale mechanism. It is difficult to persuade investors or financial analysts of the merits of such an investment.

It is important that each DNO is adequately funded to deliver a safe, secure and sustainable network and that the cost drivers facing DNOs are recognised by the cost

analysis. For example, cost drivers overlooked at DPCR4 included tree density around DNOs overhead line networks and fault rates.

Going forward we propose to work constructively with Ofgem to find an efficient means of allowing companies the opportunity to invest more flexibly while also providing adequate assurance to customers that investment is both merited and cost-effective.

3.3 DPCR4 and DPCR5 capital allowances:

We welcome the fact that Ofgem expect the step change in capital allowances required by industry in DPCR4 to continue into DPCR5 as a consequence of the age and condition of the networks and as a consequence of rises in input costs.

We note Ofgems concerns regarding DNOs delivery against DPCR4 capital allowances. This underspend has occurred despite the introduction of Ofgem's IQI mechanism, which was designed to address the threat of companies overbidding capital allowances.

SP Distribution and SP Manweb are spending in line with DPCR4 capital allowances.

At DPCR4 the issues around capacity to deliver were considered thoroughly by our company and reflected into our profiles for investment plus our recruitment and resource planning. SP Energy Networks has been amongst the most active in our industry in the recruitment of graduate electrical engineers and craft apprentices[4].

Nonetheless the market factors we mentioned above have affected the programmed volumes of activity that we have been able to undertake, in particular increases in raw material prices, for example the cost of a 33 kV transformer has increased by c. 80% in the last 3 years. As a result of this global market phenomenon our asset risk indices have increased and due to the financial constraints imposed by the current structure of the sliding scale mechanism, now referred to as IQI, this is an issue that will need to be dealt with at this price control review.

3.4 Operating cost allowances:

We believe that all DNOs are struggling to achieve operating costs in line with allowances, as a result of the DPCR4 cost analysis failing to capture all of the relevant cost drivers faced by DNOs.

The RRP reporting for 06/07 demonstrated that all DNOs are struggling to achieve operating costs in line with opex allowances, we believe as a result of the DPCR4 cost analysis failing to capture all of the relevant cost drivers faced by DNOs, and of the imposition by the Regulator of an efficiency stretch which is unsustainable.

Going forward we expect that through careful consideration of the "building blocks" approach proposed by Ofgem, this can be addressed.

[4] In the last 3 years ScottishPower Energy Networks have recruited 35 trainee engineers, 125 craft apprentices, and c. 45 adult craft trainees.

3.5 Recruitment and Resource Planning:

DNOs are currently facing a number of important long-term challenges including delivery of significant investment programmes, the need to fund R&D, skills development and recruitment of new resources into the industry.

These challenges are growing in significance given the requirements for increased capital programmes and the potential for significant changes to DNO's role in relation to delivering Energy Policy.

We have been working with the Power Sector Skills Strategy Group that was established in July 2007, to capture both the challenges and range of solutions that the Industry shall need to implement, and will continue to work in this forum, and proactively with Ofgem, to ensure that the challenges presented are considered through the DPCR5 process.

3.6 Stakeholder engagement:

We believe that the DPCR5 process will benefit from the explicit emphasis upon greater stakeholder engagement to inform stakeholder plans.

We believe that DNOs should engage with key stakeholders through formal stakeholder events, and with a broader sphere of stakeholders through an internet based consultation. This approach should enable DNOs to present plans that are locally supported and informed where appropriate.

SP Energy Networks first phase of stakeholder events are planned for 31st July in Glasgow and 6th August near Liverpool. The details of the events and how stakeholders can register to attend will be published shortly on the SP Energy Networks website.

4 Financial Issues - ensuring that electricity network companies are able to continue to attract investment against a background where successive price reviews have significantly increased the risk borne by DNO

4.1 Cost of Capital

At a time when a significant proportion of the UK asset base is reaching the end of its operational life it is crucial now, more than ever, to set a cost of capital that enables DNOs to attract and retain the funding required to meet a step change in capital expenditure levels.

Attracting the appropriate level of funding whilst maintaining the financeability of the companies is key to delivering Ofgem's key priorities of tackling climate change and providing secure and more sustainable networks for customers.

We agree that an appropriate cost of capital depends on the overall balance of risks and rewards contained within the overall price control settlement. For SP in particular, the impacts of various incentive mechanisms and revenue drivers have combined to ensure that any perceived headroom with in the DPCR4 allowed cost of capital has been materially eroded. It is vital that Ofgem fully recognise these and other non-systematic risks faced by SP and other DNOs when formulating the allowed cost of capital.

Ofgem have highlighted that there have been several sales of regulated utilities at significant premia to RAV. We would urge caution over making any inference that this arises from an overly generous allowed cost of capital. Recent acquisitions and premiums reflect only a snap-shot of recent market conditions characterised currently by high demand for index-linked income streams and are the result of a wide range of other factors. In particular we believe that high MARs can result from potential unrealistic assumptions around RAV growth, outperformance of regulatory allowances and incentive revenues. In some cases there is also an element of assumed synergy and efficiency achievable from larger Groups and their non-regulated businesses.

We would also point to the lessons learnt by OFWAT following the 1999 Price Review in water, where a combination of factors including high premiums on regulated assets, perceived out-performance of returns, political pressure on prices, all of which took place during a time of significant policy debate led to a sharp reduction in allowed rate of return. As a result share prices fell very sharply, and for the rest of the period going forward over a period of 5-years, the market value of the companies lay below the regulatory asset values. This significantly undermined company and investor confidence and as result companies turned to more highly geared structures and simultaneously their appetite to undertake large CAPEX programmes significantly diminished.

Additionally, current problems being experienced in financial markets should serve as a reminder that over a five-year period DNOs can be faced by challenging conditions,

particularly in this instance, surrounding the terms upon which companies are able to raise new debt.

We strongly believe that the trend in the allowed cost of capital observed in the decisions affecting the electricity and gas sectors must now reverse and that for DPCR5 an allowed cost of capital around the level seen at DPCR4 should be seriously considered.

4.2 Financeability

Consistent with previous price control reviews, Ofgem should continue to test proposals for consistency with credit ratings comfortably within investment grade.

The current licence obliges companies to take all appropriate steps to ensure that they maintain an investment grade issuer credit rating at all times.

With companies being faced with raising new debt to fund higher capex programmes it is important that Ofgem reassess its view of 'comfortably within investment grade'. We believe that companies need to be within the 'A' range of credit ratings and that the floor should therefore be 'A-'. We believe that the current ratios themselves are fit for purpose as metrics, although we are of the view that consideration of equity-based ratios such as dividend cover may also be appropriate.

We believe strongly that these should also be tested for the duration of the price control period to ensure that they do not exhibit a deteriorating trend since such a pattern could in itself trigger a credit rating downgrade and thus make raising finance more costly. In addition we believe that these should be stress-tested for adverse shocks and that appropriate headroom should be maintained.

4.3 Accelerated depreciation:

We believe that accelerated depreciation remains an essential means of applying a financeability adjustment in electricity distribution where it is well understood, is predictable and transparent, and is NPV neutral thus ensuring companies have adequate cash-flows for investment and customers are protected financially.

SP Distribution and Scottish Hydro Electric Power Distribution are the last remaining DNOs to face the post vesting "cliff face". It is crucial that the resultant, very material, shortfalls in revenues are mitigated using the same approach and specific treatment as was previously applied to all other DNOs; i.e. the accelerated depreciation of post vesting assets using an assumed 20-year life with a 15-year catch up and that financeability tests are carried out from this baseline.

We understand Ofgem's concerns regarding depreciation rates and their long-term impacts. We believe however that in the interests of regulatory consistency the current precedent applied at DPCR4 and more recently for the Scottish companies at the TPCR should be extended for the duration of DPCR5.

We recommend that a number of possible solutions are fully considered as part of Ofgem's RPI at 20 project when each DNOs RAVs and capex profiles can be modelled in detail in order to find an optimal strategy going forward. We believe that any attempt to reset depreciation rates as part of DPCR5 would introduce unnecessary complexity and uncertainty, at a time when the priority is to fund the increased investment programmes of the DNOs.

5.0 Process and timetable

We are broadly supportive of the wide-ranging consultation approaches intended to be utilised throughout DPCR5 and welcome the introduction of more formal DNO stakeholder engagement and development of business plans based on individual DNO need.

We recognise the value of impact assessments in appropriate circumstances. For example, we would highlight the large financial impact of any proposal by Ofgem to alter assumed asset lives for the purposes of determining depreciation allowances.

Recent experience during the last Distribution review and more recently in Transmission has shown that too little time has been allowed for the process of licence drafting and amendment, leading to last minute debate on the implementation of key policy issues and mechanisms. We urge Ofgem therefore to attach sufficient importance to, and carefully plan, the process of licence drafting.

Overall it will be vital that Ofgem ensure that key economic mechanisms designed to deliver policy objectives, for example the IQI process and parameters, are provided to DNOs sufficiently in advance of the detailed business plan submissions in January to enable DNOs to properly react to the incentive. As a result this will involve early drafting and completion of 3 key components: IQI parameters, DPCR4 legacy or roll over issues, and provision of the financial model.

RESPONSE TO THE DETAILED QUESTIONS POSED IN THE CONSULTATION

Consultation Chapter 2 **Environmental issues**

Consultation Chapter 3 **Customers**

Consultation Chapter 4 **Networks**

Consultation Chapter 5 **Financial Issues**

Consultation Chapter 6 **Process and timetable**

Appendix 1 **Summary of Distributed Generation Issues (Consultation Table 2.1)**

Appendix 2 **Summary of current incentives and areas for development (Consultation Table 3.2)**

Appendix 3 **Voltage Quality (Consultation Appendix 7)**

Chapter 2 Environmental Issues

Chapter 2 Question 1: 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?

The GB distribution and transmission networks have followed an evolutionary path since they were established in the early 1900s. The extent (geographic diversity, vast customer base [with increasing expectations]) and inertia (volume of assets, supply chain, business processes, resources) would indicate that any implementation of any revolutionary technical programme or radical process would always have to be evolutionary in deployment - it isn't economic or practical to switch the network off and over to another system overnight (re. digital switchover for communications networks).

There are however several concepts that would be fundamentally revolutionary to the core of a DNOs business model and regulatory operating environment that, although challenging to implement, may better suit the migration of the UK power system towards a low carbon economy:

- Break the use of MWs of power flowing through the network with a DNOs revenue (via DUoS). Demand side (customer driven) energy efficiency / reduction of losses / connection of renewable generation to the distributed network will all reduce MW transported (and revenue) at a time when additional expenditure may be required to ensure the network can cope with any changes.
- If the DNO had the freedom and incentives within the regulatory framework to contract for and physically schedule DG at particular times to suit network conditions, this may improve the energy yield from renewable generation connections and facilitate increased volumes of DG connections.
- In the longer term there may be a requirement for DNOs to act more like a local System Operator (SO), whilst the introduction of constraint payments for generation connected to the network would further change DNO behaviour. However, the requirement for such revolutionary changes is not clear at this time and we believe should not impact DPCR 5.
- Improved co-ordinated activity between suppliers, network operators, generators.
- Regulatory mechanisms to fund and reward DNOs for implementing non capital solutions to network reinforcement.

It is noted that the introduction of any of these concepts would need complete engagement of all stakeholders involved in the energy sector - we would welcome further discussion through industry forums such as the DWG and Ofgem working groups on these matters.

In addition to the above pockets of revolutionary development may apply in the following areas:

- The proactive development of communications networks and operational IT infrastructure in specific areas to facilitate active control / "smartgrids"

concepts (see the 'AuRA-NMS' IFI project currently in development between SP, EDF-Energy, ABB, EPSRC).

- Interaction with DNOs infrastructure with the deployment of smart meters to all domestic customers. The change of conventional domestic meters to the sorts of smart meters that will give benefits across the energy sector (network operators in addition to suppliers) will require significant levels of infrastructure investment (communications systems, data handling infrastructure, etc). The opportunities offered up by such a once in a lifetime transformation could be revolutionary to the operation of the power system.

We note Ofgems continued preference for a market based roll out of smart meters to all customers, and whilst we recognise there is merit in elements of smart metering package being delivered in such a manner we are concerned that the roll out of smart meters needs to be delivered in a coherent manner in order to effective act as a catalyst to benefits that can be delivered by DNOs.

Many of the potential benefits that relate to DNO activity can only begin to be achieved once approaching 100% customer coverage of smart meters relative to the network that supplies them. In practice this means blanket coverage on a geographic basis and several of the market delivery models under consideration are unlikely to deliver this.

A further key factor is the requirement for DNO systems to be able to integrate with the smart metering communications infrastructure. This factor combined with the potential cost benefits of applying PLC technology to the majority of customers means that there is merit in considering DNO role in relation to this aspect of smart metering in particular.

Chapter 2 Question 2: Do you think that we have identified the key areas where DNOs can facilitate activities that have a positive impact on the environment?

We believe that Ofgem have broadly captured the key areas where DNOs can facilitate activities that have a positive impact on the environment, and believe that DNOs could and should play a major role in environmental initiatives associated with our networks, generators and customers. Development of associated DPCR5 regulatory mechanisms will be required during 2008 in order to enable their integration to a coherent DPCR5 package and to empower DNOs to deliver carbon reducing initiatives both in relation to their own activities and the activities of their network users.

a. Losses

DNOs have a significant role to play in reducing green house gas (GHG) emissions, however the DPCR4 losses incentive mechanism is not fit to facilitate this role and requires to be replaced with a 'quasi outputs' based approach.

Ofgem have correctly identified network technical losses as the single most important area that DNOs can have a positive impact in this area, particularly as our industry moves into a period of continued and intense asset replacement.

While we believe that there is a material opportunity to achieve a reduction in GHG, the current mechanism does not provide the appropriate framework to achieve this because it does not provide adequate signals to DNOs to invest in either low loss technology or loss reducing initiatives, it does not extend to deal with other market participants such as IDNOs and it cannot be accurately observed and measured as an output because of underlying volatility in the Settlements system.

Evidence suggests that the existing mechanism has produced little by way of real underlying reductions in technical losses and would seem to provide poor value for consumers in its current form. We do not believe that the scale of reduction in reported losses experienced in the first 2 years of DPCR4 can physically have been delivered through technical loss reduction initiatives.

One further perverse consequence of the current regulatory mechanisms in relation to IDNOs is that this class of licensed distribution operator is incentivised to innovate to utilise higher loss equipment than an equivalent DNO would utilise. For example we understand that IDNOs are ;

a) Utilising lower-cost higher-loss secondary transformers; and
b) Assuming lower Average Diversified Maximum Demands (ADMDs) for domestic customers than DNOs would typically use in order to minimise cable installation costs, but at the expense of significantly increased electrical losses.

We therefore propose a radical overhaul of the current mechanism and a move toward an agreed programme of initiatives and investment with targets based around an auditable, engineering based model of individual companies networks. We describe this mechanism further on as a 'quasi outputs' measure. Applying this approach can provide much greater certainty of environmental benefits for customers in relation to technical loss reduction initiatives.

There are a number of technical losses initiatives available to DNOs that lend themselves to much more accurate assessment of avoided losses than the current losses incentive mechanism, and a range of these are detailed below:

- Transformers – new and replacement with optimised loss characteristics
- Network voltage up-rating
- Network optimisation – planning timescales
- Network optimisation – operational timescales
- Transformer switching at times of low load
- Conductor over-sizing

At a time when a significant proportion of the UK asset base is reaching the end of its operational life there is an opportunity to introduce significant volumes of low loss equipment for a relatively small incremental cost, and that would deliver benefits throughout their useful life, typically 40-60 years.

The challenge for Ofgem and DNOs is to develop both an effective mechanism and a known proxy value for avoided lost energy / avoided carbon emissions that provides both funding and incentive to DNOs to apply the optimum technical solutions that will provide real and demonstrative environmental benefits for customers.

We look forward to working with Ofgem through their DPCR5 working groups to develop the solutions to these challenges.

b. Carbon Footprint

Beyond Losses we believe that DNOs should be monitoring the impact that their operations have on the environment as a matter of good corporate practice. However, the DNOs already interact with a host of regulatory bodies in these areas, including environmental agencies, and given the added complexities and a host of other factors that would need to be considered we believe any additional incentives in this area should be limited.

It is clearly desirable that all companies think progressively about the direct and indirect impact that they have on the environment. SP Energy Networks has a long track record in monitoring such factors as the impact of our use of transport and hazardous materials, to name a couple of examples, within our Corporate Social Responsibility activities. Experience has shown that setting environmental measures and incentives is complicated by company structures, the level of outsourcing deployed, different company policies and objectives, the franchise areas and environment served by businesses, network design and distribution asset characteristics and a host of other factors.

It would therefore seem to be a challenging objective for Ofgem to establish a baseline for all companies on an individual basis together with the development of a practicable incentive mechanism that is equitable to all. It also seems that perhaps Ofgem is stepping into the territory of other Regulatory bodies and we wonder if it is necessary.

An SF6 mechanism similar to TPCR4 could be developed fairly readily, however the scope for reduction and management of SF6 portfolio is much more limited on distribution networks.

As highlighted in paragraph 1.1 it would seem far more important, given the weight Ofgem attribute to the importance of Losses, that the Regulator concentrates efforts on developing a new Losses mechanism.

If there does remain a desire on the part of companies and the Regulator that carbon footprint is dealt with more generally, this measure should exclude Losses entirely (to be dealt with separately), and could be based on the existing Discretionary Reward mechanism for customer service where a relatively small reward is available to be shared among companies that demonstrate initiative.

c. Alternatives to network reinforcement

One area that will require significant effort by both Ofgem and the industry is in relation to the development regulatory mechanisms to facilitate and incentivise DNOs to interact with customers and generators both to minimise network losses and to introduce alternatives to network reinforcement.

We believe that Ofgems RPI-X review should address some of the more radical issues related to the future role of DNOs in relation to economic signals, mechanisms and incentives to enable DNOs to deliver non-infrastructure solutions. However, DPCR5 provides an opportunity to begin to develop and apply solutions of this nature, for example through development of the RPZ mechanisms to deal with a wider range of generation projects and demand projects.

DNOs can provide pricing signals across our customer bases in relation to customer's consumption of reactive power. However as part of a alternatives-to-investment tool box a much more direct DNO to customer interaction may be required.

In relation to DNOs contracting with Customers and DG to avoid reinforcement we believe that derogations to the Quality of Supply incentives may be necessary, and that a much more proactive interaction between DNOs, customers and Generators will be required to facilitate various network management solutions available to DNOs.

Blanket geographical roll out of smart metering with sufficient technical capabilities will be required to facilitate such solutions for domestic demand and generation.

The interactions of these new regulatory mechanisms need to be considered in the context of the whole regulatory framework to ensure there are no perverse consequences / disincentives, for example with regard to any network losses incentive as greater network utilisation typically results in increased network losses.

We believe that Ofgems RPI-X review should address some of the more radical issues related to the future role of DNOs in relation to economic signals, mechanisms and incentives to enable DNOs to deliver non-infrastructure solutions. However, DPCR5 provides an opportunity to begin to develop and apply solutions of this nature, for example through development of the RPZ mechanisms to deal with a wider range of generation projects and demand projects.

d. AONB

The current mechanism for under-grounding overhead lines in Areas of Outstanding Natural Beauty (AONB) has been a resounding success in areas of key environmental sustainability. We would likely to see this mechanism confirmed and strengthened going forward and believe there would be broad support for an early regulatory decision in this area ahead of DPCR5 final proposals. This would provide early certainty to interested parties, such as the Friends of the Lake District, who have materially increased their activities as a direct consequence of this mechanism.

The AONB funding mechanism during DPCR4 is enabling us to successfully address a number of stakeholder visual amenity concerns within Snowdonia National Park, with our project in the Catel Curig area considered a particular success by all stakeholders. Experience during DPCR4 has indicated that the financial strength of the mechanism needs to be increased.

e. Oil Filled Cables

There is some stakeholder interest in having a defined programme of removal of all fluid filled cables from G.B. distribution networks as a consequence of the environmental impact that leakages have. We see merit in having an agreed industry timetable that all DNOs should factor into their business plans.

Chapter 2 Question 3: How do we ensure progress is made on the issues identified with the connection of DG? Should progress be facilitated through a working group or should more formal obligations be developed?

We believe the existing principles of the DGIM are perfectly compatible with the objectives of connecting distributed generation and propose that the existing mechanism should continue with only minor modification to deal with areas where there is only sparse existing infrastructure

As an owner of two Distribution licences, both of which lie in the most resource rich areas for Renewable Generation in the whole of Great Britain, it is our view that the low levels of megawatts connected are directly attributable to the complexities of obtaining planning consents and land rights and the structure of incentives faced by the GB Transmission System Operator (TSO) under the current regime and do not relate to the DGIM or to the issues identified by Ofgem.

It is of concern to us that in Scotland we currently seem unable to connect schemes that cause no local transmission constraint costs and whose impact on deeper transmission constraint costs appears to be theoretical rather than clearly demonstrated in practice.

To illustrate we have a situation where a Distributed Generation scheme which could connect by 2010 may be forced to wait until 2016, at the earliest, even though the scheme requires no local transmission works and whose generation output would net

off the local GSP demand at all times[5]. In this case there is no incentive on the TSO to progress a solution to this problem as quickly or pragmatically as the customer or we would like. Indeed the TSO will compound this situation significantly if its proposed CUSC CAP[6] 167 is implemented as this will allow the TSO to block all generators connections of 1MW and above on the basis of deep network constraints and further restrict DNOs ability to innovate to facilitate additional DG connections, for example through contractual and technical arrangements with generators to disconnect or reduce generation levels at particular times.

In situations such as these we think there is a room for a different approach to be taken. For example a way forward might involve some form of independent arbitration where an independent hearing and decision can be taken that considers all relevant factors.

We would also highlight that any increases in constraints arising from connecting DG in southern Scotland are likely to be short term given the good progress SP Transmission is making in progressing upgrades of the main interconnected transmission system (e.g. upgrade of the Anglo-Scottish Interconnector).

Whilst we do not believe the issues identified are preventing generator connections, we recognise that resolution of the less significant factors identified may serve to expedite generator connections. Industry developments are already underway to address the majority of these issues and our view on each of the issues is detailed separately in appendix 1.

We believe that a working group would be an appropriate way to develop solutions in relation to the further development of the DG mechanism, the RPZ mechanism and the role of DNOs in relation to interface with NGT.

[5] SP Distribution currently has 4 fully consented DG projects (totalling 71MW) that NGT currently says cannot connect until 2016 earliest subject to deep network reinforcement of the transmission network in the North of England and the B6 interconnector between England and Scotland, the smallest of which is 6MW. In addition we have a further 9 projects awaiting consent totalling 172MW in a similar position.

[6] CUSC – Connection and Use of System Code; CAP – CUSC Amendment Proposal;

Chapter 2 Environmental Issues

Question 4: Do you agree that DNOs should have stronger financial incentives to reduce their carbon footprint? Do you think that we have identified the key areas where it may be possible to do this?

While we believe that there is a material opportunity to achieve a reduction in GHG, the current mechanism does not provide the appropriate framework to achieve this because it does not provide adequate signals to DNOs to invest in either low loss technology or loss reducing initiatives, it does not extend to deal with other market participants such as IDNOs and it cannot be accurately observed and measured as an output because of underlying volatility in the Settlements system.

The Growth term element of DPCR4 fundamentally flawed and is not consistent with Energy Policy consequently it is no longer appropriate.

We propose that a framework of environmental mechanisms is developed for DPCR5 including the following:

- A 'quasi outputs' based mechanism to deal with technical loss reduction initiatives where reduced losses can be accurately assessed from measured energy flows;
- An SF_6 incentive mechanism similar to the transmission licencees if the cost of implementing and managing this does not outweigh the benefits;
- A discretionary award incentive in relation to reporting and reduction DNOs Carbon Footprint excluding SF_6 and network losses;

In the light of the dominance of DNOs carbon footprint by network technical losses developments in this area need to be proportionate.

Beyond Losses we believe that DNOs should be monitoring the impact that their operations have on the environment as a matter of good corporate practice. However, the DNOs already interact with a host of regulatory bodies in these areas, including environmental agencies, and given the added complexities and a host of other factors that would need to be considered we believe any additional incentives in this area should be limited

It is clearly desirable that all companies think progressively about the direct and indirect impact that they have on the environment. SP Energy Networks has a long track record in monitoring such factors as the impact of our use of transport and hazardous materials, to name a couple of examples, within our Corporate Social Responsibility activities. Experience has shown that setting environmental measures and incentives is complicated by company structures, the level of outsourcing deployed, different company policies and objectives, the franchise areas and environment served by businesses, network design and distribution asset characteristics and a host of other factors.

It would therefore seem to be a challenging objective for Ofgem to establish a baseline for all companies on an individual basis together with the development of a practicable incentive mechanism that is equitable to all. It also seems that perhaps

Ofgem is stepping into the territory of other Regulatory bodies and we wonder if it is necessary.

An SF6 mechanism similar to TPCR4 could be developed fairly readily, however the scope for reduction and management of SF6 portfolio is much more limited on distribution networks.

As highlighted in paragraph 1.1 it would seem far more important, given the weight Ofgem attribute to the importance of Losses, that the Regulator concentrates efforts on developing a new Losses mechanism.

If there does remain a desire on the part of companies and the Regulator that carbon footprint is dealt with more generally, this measure should exclude Losses entirely (to be dealt with separately), and could be based on the existing Discretionary Reward mechanism for customer service where a relatively small reward is available to be shared among companies that demonstrate initiative.

It would seem far more important, given the weight Ofgem attribute to the importance of Losses themselves, that the Regulator concentrates their efforts on developing a new Losses mechanism. Whilst it is recognised in the Initial Consultation that network technical losses contribute the vast majority of DNOs carbon footprint it is critical that these should be dealt with separately and out-with any carbon footprint based incentive. Specifically the carbon footprint of a DNOs network is entirely reliant upon the generation mix used to supply the customers demand.

For example, despite the significant increase in renewable generators connected to the Scottish transmission and distribution networks, Scotland's carbon footprint in 2007/8 increased as a consequence of world energy prices and consequential economics driving a greater use of coal fired power stations.[7]

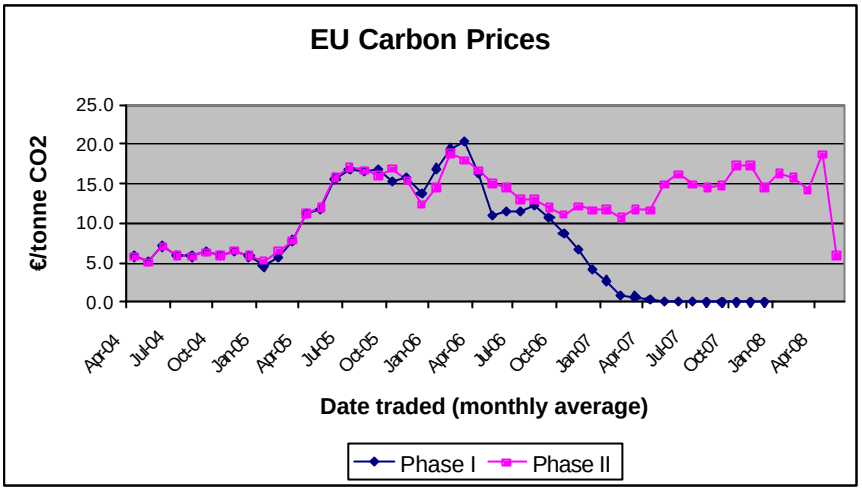
However, if there remains a desire on the part of companies and the Regulator that carbon footprint is dealt with more generally, this measure should exclude Losses entirely (to be dealt with separately) and could be based on the existing Discretionary Reward mechanism for customer service where a relatively small reward is available to be shared among companies that demonstrate initiative.

If the Regulator decides that there will be a carbon footprint based initiative (excluding network losses), then this brings the complication that it could expose DNOs to potentially a great deal of market volatility: to the wholesale price of carbon and also to currency volatility (as carbon is traded in Euros). Since the introduction of the EU Emission Trading Scheme (EU ETS), carbon prices have shown high level of volatility and correlation to market sentiment. Daily prices have varied between 0.01 and 32 €/tonne[8], as Figure 1 shows.

[7] **Source: Scottish Government 2nd annual report on Scotland's climate change programme.**

[8] Source: Point Carbon www.pointcarbon.com

Figure 1, EU Carbon prices



If the carbon incentive is linked to floating (or market) carbon prices, DNOs could be exposed to this volatility in a way that is independent of the target or the incentive itself. These factors are external to the DNO activities are we therefore have no control over the potential outcome.

This could also have accounting implications: If a floating or market-indexed price of carbon is included in the revenue (or incentive) formula it could be argued that this introduces an underlying indexation to a market commodity and therefore would need to be reported under IAS39 accounting rules.

This also raises the question on whether, if the DNO is exposed to commodity markets, will it be allowed to use market-based hedging instruments (such as options) to minimise the risk. If the answer is affirmative, will it then be allowed to recover the transactional costs (brokers fees, option premiums) as part of the cost based (there is the precedent of some regulated companies in the US, such as PacifiCorp Wholesale, which are allowed to hedge for weather events by using options and recover premiums from the price control). If DNOs engage in hedge trading they might have also have to consider other impacts such as compliance with the MiFID regulation.

However, if it is considered by the Regulator that DNOs carbon footprint (excluding network losses) is dealt with by a mechanism other than a Discretionary Reward then we suggest that Ofgem set a fixed incentive value of carbon and develop a scheme that compares a companies own year on year relative performance against an agreed reporting methodology for each company.

Chapter 2 Question 5: How can the Long Term Development Statements be made more useful for DG and other users of the network?

We believe that the wider question that faces DNOs and Ofgem is how should DNOs more effectively engage Developers and other major customers in order to meet the challenges going forward. The significance of this is increased given some of the more radical roles that DPCR5 may facilitate for DNOs and we believe the consideration of the appropriate levels and mechanism of developer communication should form a key element of the stakeholder engagement that DNOs will be performing for DPCR5.

In relation to the LTDS specifically we note the following:

- DNOs have made significant investments in developing and producing the LTDS.
- The LTDS have primarily been created to support the needs of a particular commercial project and the LTDS itself has limited customer / developer take up.
- Whilst the associated commercial online project provides LTDS information to Developers in a more non-technical user-friendly manner this is provided on a commercial basis and is limited in scope.
- The nature of electrical networks and industry commercial arrangements dictate that Developers require to engage with DNOs to fully assess their potential connections.
- We are unconvinced that the current LTDS or the commercial offering satisfies Developers or DNO needs moving forward.

Greater interaction between developers and DNOs is required, and this will increase materially if the regulatory framework changes significantly

One possible mechanism would be for DNOs to provide more online up-to-date network data, however this would require significant IT developments and associated funding. We note that DNOs did not receive an allowance for the development and ongoing operating costs associated with the current LTDS.

Chapter 2 Question 6: Is the current regulatory framework constraining a DNO's ability to facilitate low/zero carbon technologies and if so, what could be done to address this?

The current regulatory framework is constraining DNOs ability to facilitate low/zero carbon technologies in a number of key areas that require to be addressed as part of the DPCR5 arrangements.

a. Growth
We agree that the current DPCR4 growth term should not feature in DPCR5 as it is incompatible with energy policy and the existing mechanism is fundamentally flawed.

b. Losses
We believe that DNOs have a significant role to play in reducing green house gas (GHG) emissions. Ofgem have correctly identified losses as the single most important area that DNOs can have a positive impact in this area, particularly as our industry moves into a period of continued and intense asset replacement.

However, while we believe that there is a material opportunity to achieve a reduction in GHG, the current mechanism does not provide the appropriate framework to achieve this because it does not provide adequate signals to DNOs to invest in either low loss technology or loss reducing initiatives, it does not extend to deal with other market participants such as IDNOs and it cannot be accurately observed and measured as an output because of underlying volatility in the Settlements system.

Evidence suggests that the existing mechanism has produced little by way of real underlying reductions in technical losses and would seem to provide poor value for consumers in its current form.

One perverse consequence of the current regulatory mechanisms in relation to IDNOs is that this class of licensed distribution operator is incentivised to innovate to utilise higher loss equipment than an equivalent DNO would utilise.

We therefore propose a radical overhaul of the current mechanism and a move toward an agreed programme of initiatives and investment with targets based around an auditable, engineering based model of individual companies networks. We describe this mechanism further on as a “quasi outputs” measure. Applying this approach can provide much greater certainty of environmental benefits for customers in relation to technical loss reduction initiatives.

In considering the economic benefits of such technical initiatives it is important to recognise a number of factors:

- Technical losses initiatives will deliver benefits for the remaining life of the assets involved (typically ranging from 30-60 years)
- Carbon content of network technical losses is entirely dependent upon the generation mix supplying the customers
- The EU Emission Trading Scheme (EU ETS) has shown significant volatility in relation to the value of carbon and exposes GB companies to currency volatility as carbon is traded in Euros.

As a consequence there is a requirement for Ofgem to set the value of avoided losses in terms of £/kWh, to agree the most appropriate period of benefits to factor into investment decisions, and to consider the most appropriate proportion of benefits DNOs would retain in order to provide an increased incentive.

While we accept that this will require the Regulator to have a more active role in monitoring this type of mechanism and companies will require to invest significant effort reciprocally, we think the importance of the objective merits this approach and similar processes have already been established relatively successfully in the area of quality of service.

c. Carbon footprint

It is clearly desireable that all companies think more progressively about the direct and indirect impact that they have on the environment. ScottishPower has a long track record in monitoring such factors as the impact of our use of transport and hazardous materials, to name a couple of examples, within our Corporate Social Responsibility activities. Experience has shown that setting environmental measures and incentives is complicated by company structures, the level of outsourcing deployed, different company policies and objectives, the franchise areas and environment served by businesses and a host of other factors.

It would therefore seem to be an extremely challenging objective for Ofgem to establish a baseline for all companies on an individual basis together with the development of a practicable incentive mechanism that is equitable to all. It also seems that perhaps Ofgem is stepping into the territory of other Regulatory bodies and we wonder if it is necessary.

It would seem far more important, given the weight Ofgem attribute to the importance of Losses themselves, that the Regulator concentrates their efforts on developing a new Losses mechanism.

An SF6 mechanism similar to TPCR4 could be developed fairly readily, however the scope for reduction and management of SF6 portfolio is much more limited on distribution networks.

However, if there remains a desire on the part of companies and the Regulator that carbon footprint is dealt with more generally, this measure should exclude Losses entirely (to be dealt with separately). Given the volatility of EU carbon prices and associated Euro exchange rate, this could be based on the existing Discretionary Reward mechanism for customer service where a relatively small reward is available to be shared among companies that demonstrate initiative.

d. Distributed Generation

Five years on from developing the Distributed Generation Incentive Mechanism (DGIM) it is correct to take stock of its relative effectiveness. We note that Ofgem highlight in their document the relatively low uptake of Distributed Generation under this mechanism.

As an owner of two Distribution licences, both of which lie in the most resource rich areas for Renewable Generation in the whole of Great Britain, it is our view that the low levels of megawatts connected are directly attributable to the complexities of obtaining planning consents and land rights, and the actions of the GB Transmission System Operator (TSO) under the current structure of incentives relating to system constraints and do not relate to the DGIM.

It is of extreme concern to us that in Scotland in particular we seem unable to connect schemes that cause no local transmission constraint costs and whose impact on deeper transmission constraint costs appears to be theoretical rather than clearly demonstrated in practice. We have a real situation where a Distributed Generation scheme which could connect by 2010 may be forced to wait until 2016, at the earliest, even though the scheme requires no local transmission works and whose generation output would net off the local GSP demand at all times. There is no evidence that the TSO has been progressing a solution to this problem as quickly or pragmatically as we or our customers would like. Indeed the TSO will compound this situation significantly if its proposed CUSC CAP 167 is implemented as this will allow the TSO to block all generators connections of 1MW and above on the basis of deep network constraints.

Any increases in constraints arising from connecting DG in southern Scotland are likely to be short term given the good progress SP Transmission is making in progressing upgrades of the main interconnected transmission system (e.g. upgrade of the Anglo-Scottish Interconnector). We are therefore incredibly frustrated on the part of our customers in the current environment where Scotland almost appears to be closed to Distributed Generation, a situation in direct conflict with existing Government policy and targets.

Regarding the DGIM itself, experience has shown that the existing DGIM does not work in certain areas where there is little or no existing infrastructure to accommodate connection of Renewable Generation. A further complexity is that the majority of generation that has connected has not presented through the DGIM as a consequence of DNOs deep connection charges. That said the mechanism itself needs very little adjustment to accommodate these situations and the mechanism's existing principles are perfectly compatible with the objectives of connecting Distributed Generation, we therefore propose that the existing mechanism should continue with only minor modification.

In terms of the effectiveness of the DG Incentive in encouraging DNO's to be more efficient and economic in terms of connection, the application of the mechanism has in practice highlighted some benefits and some drawbacks. We continue to offer connections to generators that meet our licence requirements and are the most economic solution that meet is our and the developers technical requirements. The incentive, along with the background of IFI and RPZ, has provided additional impetus to consider more innovative solutions that either minimise infrastructure costs or lever additional export by control based schemes.

There are occasions where the incentive is ineffective in ensuring the most effective solution, in particular in:

Remote areas that are rich in renewable resource and where the distribution infrastructure is sparse. In these areas where there is a step change in generating capacity results in high infrastructure costs then these schemes can prove uneconomic. A separate mechanism should be considered for these situations that enables efficient expenditure to be demonstrated for a number of developments or for an area of network. In these situations this approach is likely to stimulate a pro-active engagement with developers.

- A good example of how this approach could work is mid Wales where a combination of a focussed planning (WAG's TAN8), the funding of 'deep' infrastructure through National Grid, and a flexible approach by all parties has stimulated in excess of 400MW of accepted distribution connection offers. Additional applicants are now coming forward to seek connection.

- Areas where 'light current' solutions may lever additional MWs, for one off or in situation that could lead to future multiple connections. The 'light current' infrastructure and particularly the communications can be disproportionately expensive, and the innovative nature of these solutions can pose increased risk for the DNO. In these situations, the incentive mechanism is ineffective and at low export capacities an RPZ enhancement does not encourage innovation and risk. A floor associated with the mechanism may encourage smaller schemes.

Seperately, the issue of a separate DG allowed revenue needs to be dealt with. The fact that DNOs are not currently allowed to recover any revenue related to generation connections from demand customers distorts any pricing signal. This approach means that any benefits identified by a generation charging methodology will be paid for by other existing generation users and not the demand customers whose reinforcement costs generation is considered to displace or delay. This issue should be addressed in any long term solution for charging methodologies as well as in the price control process.

The benefits of Use of System Charging Methodologies that recognise and balance the costs and benefits of generation and demand customers, such as our proposed G3 methodology that Ofgem is currently consulting on, will be negated unless this issue is addressed.

e. Customer based initiatives

The Supplier hub market model currently utilised in the GB market has meant that DNOs have been one step removed from customers in day-to-day interaction (with the exception of faults and new connections activities).

DUOS charges represent 17% of customers total electricity charges, a proportion that has been shrinking recently as a consequence of increasing energy price, and the scope for Suppliers charges to customers to reflect localized price signals is limited. Consequently there is very limited scope for DNOs to provide time of day price signals to customers to change behavior.

Through DPCR4 customer energy saving initiatives have been seen as an exclusively Supplier based activity. We agree with Ofgems suggestion that DNOs have a greater

role to play in this regard, and in particular in relation to consideration of alternatives network investment.

f. RPZ mechanism

DNOs are obliged to implement the most economic solution that suits the technical requirements of the connection. These are often carried out in line with existing technical policy and standards. The DGIM and RPZ incentive mechanisms allow options to be assessed that are beyond the norm. However, the RPZ mechanism is too narrow:

- Only applicable to new DG under DGIM. It doesn't facilitate legacy DG, where the introduction of novel techniques where an increased energy yield could be obtained.
- It suits large-scale generation connections where the incentive strength is adequate. The development / implementation of equally novel schemes that may facilitate many smaller schemes are not effectively incentivised.

We suggest that the scheme is developed to:

- Include legacy generation
- Include demand developments
- Include a minimum floor to promote smaller schemes.

g. Funding of DNOs for non-traditional solutions

One weakness of the current price control is facilitation, funding and rewarding of DNOs applying innovative alternative solutions to capex that reduce costs to customers and may have associated environmental benefits.

For example in considering generation contribution to network security:

- We calculate the DG contribution using the detailed assessment techniques in line with guidance in ETR130. It has been found that in the majority of cases the P2/6 contribution offered by a generator does not have a material impact on the design of the network.
- There are commercial complexities associated with contracting with some types of generators (e.g. large scale CHP linked to industrial processes), as the customers they serve are generally put above the needs of the network.
- There are physical constraints in relation to unpredictable renewable generation sources.
- There is no common mechanism within the UK for support contracts from generation.

In relation to energy storage, we have undertaken a recent IFI project, with a real application and costing analysis, and identified that:

- We believe that DNOs could install storage in place of reinforcement; but
- The capital costs of energy storage are disproportionate (£500k+ per 1MW) compared to conventional techniques, however this would perhaps allow

generators to make a more significant contribution to network security and when considered holistically may be more appropriate than disconnecting renewable generators at times of network constraint.

We suggest that a working group should be established to develop DPCR5 regulatory mechanisms that would better facilitate and incentivise DNOs to develop non-traditional solutions including the associated funding mechanisms.

Chapter 3 – Customers

Chapter 3 Question 1: Do the current regulatory arrangements deliver the levels of service that customers expect?

We believe that the current regulatory arrangements deliver the overall levels of service that our customers expect with a number of specific exceptions.

a. Long Term Network Sustainability
The requirement for network sustainability was recognised by Ofgem in DPCR4 by allowances to begin to address the requirement for SPD and SPMs overhead line networks needed to be fit for purpose and resilient to the severe weather in which they are required to operate in North Wales and the Scottish Borders. The programme of overhead line resilience works commenced in DPCR4 needs to continue into DPCR5 and future price controls. In addition, DPCR5 considerations of long-term network sustainability should begin to address the other operating environment challenges that DNO equipment will face in its operational lifetime as a consequence of climate change, for example thermal de-rating.

b. Worst Served Customers
Worst served customers were not addressed at DPCR4 and continue to be a concern, therefore we are happy to see that Ofgem propose to deal with this in DPCR5. It is important that this considers the relative service received by DNOs worst served customers and the cost to resolve, as the requirements to address this are unlikely to be uniform across DNOs.

c. Compensation for Domestic Customers – Supply restoration > 12 hours

Ofgems proposal to consider a reduction in the GS trigger for supply restoration from 18 to 12 hours may at first glance appear beneficial from a customer perspective.

However, given that a significant number of faults typically breach this threshold, and there has been no technological advance to deliver such a subjectively chosen threshold, such a move would be entirely based on the principle of compensation. As such the efficient level of this would require to be funded by customers, a move that we believe would be inappropriate.

d. Compensation / GS Payments for Business Customers
Increased GS payments would require to be funded on forecast fault rates of DNO. This would require increased UOS charges for business customers that are unlikely to be welcomed by customers.

A move towards providing compensation for business customers commercial loss is clearly inappropriate as DNOs have no facility to hedge or manage this risk, and does not reflect the network security that business customers are paying for. It is more appropriate that if business customers have specific business requirements that necessitate continuity of supply that they should consider financing the increased costs of a more secure supply or back up generation.

e. Competition in connections and DNO connections activities

We do not believe that competition in connections has yielded material savings for consumers under the existing framework and think this is an area of activity that also needs a fundamental overhaul.

As a Group we are committed to competition in connections provided it is on a level playing field and that the end consumer genuinely benefits in terms of quality and value of service. We do not believe that competition in connections has yielded material benefits or savings for end consumers under the existing framework and think this is an area of activity that needs a fundamental review and overhaul.

SP Energy Networks has actively engaged in facilitating competition in connections within our franchise areas. We are able to point to a level of competition in both our franchise areas (SP Manweb and SP Distribution) that is consistent with the level of competition in independent gas connections.

Ofgems Annual Connections Review of 2006/7 showed an IDNO market share in SP Distribution area of c.10% based on physical connections made. In the same period IDNOs won in excess of 50% of the market based on connections contracted, and dominated connections with higher volume customer connections (i.e. relatively lower cost / higher margin connections).

In this highly competitive environment our connections business is significantly under pressure to provide a service increasingly under demand but which is also a customer service interface that was over looked by the Regulator at DPCR4. For example, the significant growth in IDNO quotes and connections that we have experienced during DCPR4 have required an increased number of expert technical and commercial resources to develop interface arrangements and deal with increasing frequency of IDNO queries in this regard.

Our two licensees have been the subject of a number of regulatory investigations aimed at directly reviewing how we interact with customers, one of which actively paved the way for the adoption of standards for reporting timescales for provision of Point of Connection Quotations (POC) across our industry.

In the most recent investigation we provided evidence relating to some 1750 point of connection quotations over a 9-month period. The investigation ultimately concluded that there was no evidence of any discriminatory behavior by SPD and in their closure statement Ofgem drew a further significant conclusion that: *the level of connections activity in the SPD area was sufficient not to merit a general competition review*.

This conclusion raises a number of questions, relating to:

- Ofgem's veto regarding any DNOs ability to charge a margin for provision of connections in a demonstrably competitive environment
- need to consider how best to facilitate fair competition with IDNOs
- further consideration of proposals to extend competitive activities
- regulatory treatment of related parties who operate in a competitive market

Currently we believe the annual Competition in Connections report produced by Ofgem significantly understates the actual level of competition across each franchise area. A positive development that Ofgem could adopt to more accurately reflect the state of competition would be to report connections contracts won (including volumes and types of end customers) as well as connections physically delivered. As a consequence of the inherent lag (typically 6-24 months) between market conditions translating into delivered physical connections, the annual report historically has significantly understated the degree of competition experienced in the SP Energy Networks areas.

To emphasise, Ofgems Annual Connections Review of 2006/7 showed an IDNO market share in SP Distribution area of c.10% based on physical connections made. In the same period IDNOs won in excess of 50% of the market based on connections contracted, and dominated connections with higher volume customer connections (i.e. relatively lower cost / higher margin connections).

Our connections business is significantly under pressure to provide a service increasingly under demand but which also is a customer interface that was over looked by the Regulator at DPCR4

For example the significant growth in IDNO quotes and connections that we have experienced during DCPR4 have required significant expert technical and commercial resource requirement to develop interface arrangements and deal with increasing frequency of IDNO queries in this regard.

We are also concerned by the inequities that exist in the current regulatory framework where provision of licensed connections must be provided at cost, despite shareholders and companies engaging significant physical resources and working capital in providing connections.

The existing framework also seems to be directly in conflict with the principles of competition where Independent Distribution Network Owners (IDNOs) operate out-with the price control and incentive framework applied to DNOs and are able to offer asset values while DNOs can no longer offer tariff support.

In recent dealings with a number of Development Agencies in our franchise areas, it has been expressed to us that the removal of tariff support has led to a backward step in stimulating the economic success of the areas in question. They have also highlighted that there is a desire for DNOs and the Regulator to look more "strategically" at reinforcing the network to accommodate developments. This latter point may also be pertinent when we are considering the requirements of Renewable Developers as well.

In relation to environmental initiatives IDNOs are currently incentivised to innovatively develop solutions that are counter to EU energy policy and wider customer interests. As a Group we are committed to competition in this area provided it is on a level playing field and we equally want to ensure that the end consumer genuinely benefits in terms of quality and value of service.

The new SL4C licence obligations need time to bed in however Ofgem need to focus efforts on those DNO areas where no competitive market has developed

Ofgem annual review of the connections market is misleading in relation to current market position. Unlike retail supply market where contracts won translate to customer transfers within a matter of weeks, new connections contracts won from developers typically take 12-18 months to translate into delivered energised new connections. Indeed it is not uncommon for some housing developments to take in excess of 5 years to complete.

We understand from a recent meeting with a representative from a house builder federation that the majority of the complaints from developers stem from their lack of understanding of the industry structure. For example a common complaint was that developers wanted a single point of contact with the industry for a connections quote and delivery, supply contract, meter installation and energisation, a scenario that is not easily achieved in the current market structure.

Chapter 3 Question 2: Is the focus and scope of the current regulatory arrangements correct and are there any gaps that need to be addressed?

There are a number of gaps to be addressed and developments to regulatory mechanisms required to reflect current understanding, information and policies including:

a. Losses
Ofgem have correctly identified network technical losses as the single most important area in terms of carbon footprint for DNOs, particularly as our industry moves into a period of continued and intense asset replacement.

Evidence suggests that the existing mechanism has produced little by way of real underlying reductions in technical losses and would seem to provide poor value for consumers in its current form.

We therefore propose a radical overhaul of the current mechanism and a move toward an agreed programme of initiatives and investment with targets based around an auditable, engineering based model of individual companies networks. We describe this mechanism further on as a “quasi outputs” measure. Applying this approach can provide much greater certainty of environmental benefits for customers in relation to technical loss reduction initiatives.

b. Worst Served Customers
Worst served customers were not addressed at DPCR4 and continue to be a concern, therefore we are happy to see that Ofgem propose to deal with this in DPCR.

c. DG mechanism
Experience has shown that the existing DGIM does not work in certain areas where there is little or no existing infrastructure to accommodate connection of Renewable Generation, for example in Wales where the Welsh Assembly has laid out its TAN 8

proposals, or where the required infrastructure in the form of main network or 'light current' assets is disproportionate to the required connection capacity.

d. RPZ mechanism

The RPZ mechanism is too narrow, and we suggest the scheme is developed to include:

- Legacy generation
- Demand projects
- A minimum floor to promote smaller schemes.

e. Alternatives to network investment

One area that will require significant effort by both Ofgem and the industry is in relation to the development regulatory mechanisms to facilitate and incentivise DNOs to interact with customers and generators both to minimise network losses and to introduce alternatives to network reinforcement.

For example:

- DNOs can provide pricing signals across our customer bases in relation to customer's consumption of reactive power. However as part of a alternatives-to-investment tool box a much more direct DNO to customer interaction may be required.
- In relation to DNOs contracting with DG to avoid reinforcement we believe that derogations to the Quality of Supply incentives may be necessary.
- Market participant roles may need to change significantly as the existing Supplier hub market structure may not prove sufficiently flexible to meet the challenges faced by the industry.
-

f. Network sustainability

Long term network sustainability and fit for purpose resilience to forecast future weather patterns needs to be considered, for example increasing severity of extreme weather events and the effect of rising temperatures on network ratings.

Chapter 3 Question 3: Are DNOs customer focused enough or should they be doing more to improve communication with customers?

Ofgem customer survey results for all DNOs compare favorably with other industries.

We believe that DNOs are sufficiently customer focused and that current levels of communication work well, but recognise that there may be customers / generators / industry groups who have concerns about particular aspects of communication with DNOs. The potential development of DNO's role in relation to facilitation of a low/zero carbon future is likely to require significantly enhanced DNO – customer interaction.

Developments in this area should be informed by the Ofgem willingness to pay survey and DNO stakeholder engagement.

Chapter 3 Question 4: Is DNOs' financial exposure set at the right level and/or do we need to change the emphasis in certain areas?

We believe DNOs financial exposure is broadly set at the right level with the following exceptions:

a. ISS Incentive scheme & Guaranteed standards
We believe the existing IIP customer service mechanisms are broadly correct and should be developed to resolve identified weaknesses rather than radically changed.

The recent low frequency event in the UK has demonstrated that the IIS mechanism makes no provision for the exclusion of a range of events that DNO's are obliged to comply with through the Grid Code. We propose that a further EE exclusion mechanism should be introduced to IIS to enable Ofgem to exclude 'force majeure' type events, such as any events related to Operating Code 6 of the Grid Code or HILP events.

DNO's upper exposure to GS payments during one-off EE's is unlimited under the DPCR4 incentive mechanism. Alignment with weather related events is required to provide a reasonable level of exposure, this could be achieved by placing an upper limit on the payments to any individual customer to say £200.

b. Losses incentive
The DPCR4 losses incentive mechanism exposes customers and DNOs to unacceptable volatility as a consequence of settlement data and should be replaced with a 'quasi outputs' based mechanism.

Chapter 3 Question 5: Do you think we have identified the right issues and appropriate areas for development with the existing incentives?

ENVIRONMENTAL INCENTIVES

a. Network Technical Losses
Given that customers pay for incentives, current losses incentive exposes customers and DNOs to uncertainty in measurement as a consequence of errors in the settlement processes.

The first 2 years of DPCR4 showed a net benefit to DNOs averaging £100m p.a. which we believe cannot have been delivered by DNOs introducing loss reduction initiatives. Consequently the current losses incentive does not provide a strong enough incentive for DNOs to invest with confidence that they will be adequately rewarded, and sufficient certainty for customers that they will receive the environmental benefits that match the financial commitment that the regulator has made on their behalf.

We therefore propose a radical overhaul of the current mechanism and a move toward an agreed programme of initiatives and investment with targets based around an auditable, engineering based model of individual companies networks. We describe this mechanism further on as a "quasi outputs" measure. Applying this approach can

provide much greater certainty of environmental benefits for customers in relation to technical loss reduction initiatives.

b. Distributed Generation Incentive

We believe the existing principles of the DGIM are perfectly compatible with the objectives of connecting distributed generation and propose that the existing mechanism should continue with only minor modification to deal with areas where there is only sparse existing infrastructure.

As an owner of two Distribution licences, both of which lie in the most resource rich areas for Renewable Generation in the whole of Great Britain, it is our view that the low levels of megawatts connected are directly attributable to the complexities of obtaining planning consents and land rights and the structure of incentives faced by the GB Transmission System Operator (TSO) under the current regime and do not relate to the DGIM or the DG connections issues identified.

c. SF_6 Incentive

Given the relatively lower volume of SF6 utilised on DNO networks, and the differences in equipment design between distribution and transmission voltages it may not be appropriate to implement an incentive in this area.

e. Growth Term

We agree that the current DPCR4 growth term should not feature in DPCR5 as it is incompatible with energy policy and the existing mechanism is fundamentally flawed.

f. Carbon Footprint (excluding Network technical losses)

In the light of the dominance of DNOs carbon footprint by network technical losses developments in relation to the remainder of DNOs carbon footprint need to be proportionate. Consequently we do not believe an incentive mechanism is required or appropriate.

It is clearly desireable that all companies think more progressively about the direct and indirect impact that they have on the environment. ScottishPower has a long track record in monitoring such factors as the impact of our use of transport and hazardous materials, to name a couple of examples, within our Corporate Social Responsibility activities. Experience has shown that setting environmental measures and incentives is complicated by company structures, the level of outsourcing deployed, different company policies and objectives, the franchise areas and environment served by businesses and a host of other factors.

It would therefore seem to be an extremely challenging objective for Ofgem to establish a baseline for all companies on an individual basis together with the development of a practicable incentive mechanism that is equitable to all. It also seems that perhaps Ofgem is stepping into the territory of other Regulatory bodies and we wonder if it is necessary.

It would seem far more important, given the weight Ofgem attribute to the importance of Losses themselves, that the Regulator concentrates their efforts on developing a new Losses mechanism.

An SF6 mechanism similar to TPCR4 could be developed fairly readily, however the scope for reduction and management of SF6 portfolio is much more limited on distribution networks.

However, if there remains a desire on the part of companies and the Regulator that carbon footprint is dealt with more generally, this measure should exclude Losses entirely (to be dealt with separately). Given the volatility of EU carbon prices and associated Euro exchange rate, this could be based on the existing Discretionary Reward mechanism for customer service where a relatively small reward is available to be shared among companies that demonstrate initiative.

CUSTOMER SERVICE INCENTIVES

g. IIS Incentive

We believe the existing IIP customer service mechanisms are broadly correct and should be developed to resolve identified weaknesses rather than radically changed. Two key areas that need to be addressed include the wide variation on incentive rates which creates inequality for customers and the unfair treatment of frontier companies in the Customer Interruptions measure

There is a wide variation in the incentive rates, in terms of £m/CI and £m/CML, applicable to each DNO under the quality of service incentive regime (see table 1 below). This variation results in a significant inequality between customers in different parts of the country for a given interruption. This arises because the amount of revenue exposed to the incentive regime for each DNO is calculated as a percentage of allowed revenue without sufficient consideration of drivers of allowed revenue relative to differences in the customer base between DNOs.

We can illustrate this point by analysing the impact of an incident interrupting 500 customers for 60 minutes (see table 1 below). The highest value per connected customer across all DNOs is more than ten times the lowest and there are significant variations between companies.

Table 1: Analysis of Impact of Incident Interrupting 500 Customers for 60 Minutes

DNO	CI Rate (£m/CI)	CML Rate (£m/CML)	Incident Value (£k)	Impact per connected customer (pence)
SHEPD	0.08	0.11	10	1.45
WPD South West	0.1	0.17	9	0.88
SPM	0.18	0.22	11	0.73
SPD	0.23	0.3	10	0.53
LPN	0.3	0.34	11	0.50
NEDL	0.1	0.14	6	0.38
WPD South Wales	0.07	0.12	5	0.32
UU	0.18	0.23	7	0.29
YEDL	0.14	0.18	6	0.25
SEPD	0.18	0.26	6	0.21
CN West	0.15	0.2	5	0.21
SPN	0.09	0.14	4	0.17
CN East	0.11	0.15	4	0.17
EPN	0.16	0.25	4	0.13
Average	**0.15**	**0.20**	**7.1**	**0.35**

We note that some companies have expressed concern that the standardisation of penalty/reward rates might increase their relative exposure to risk under the CI/CML mechanism however we believe that this can be agreed by maintaining an appropriate cap on the total level of exposure in terms of revenue, or reviewing the bandwidth applied to targets.

An alternative solution might also be to link the incentives to components of the allowance rather than total revenues. For CML this could be opex and correlate to the fact that Ofgem view improvement in this area as an opex solution.

We agree with Ofgem that Frontier performers should be rewarded for accepting targets reflecting their current performance where these are more onerous than the calculated benchmark. This approach however should not be confined to DNO's demonstrating out-performance of CML targets but should be applied equally to those DNO's out-performing CI benchmarks.

We believe the IIS has been successful in ensuring DNO's remain focussed on improving customer service, however limitations of the current incentives include:

- Focus tends to be towards opportunities for 'Quick Wins' – i.e. cost effective solutions based upon protection and control to minimise impact of faults rather than addressing the underlying problems through fault prevention. This has led to increasing numbers of Short Interruptions and masked a deterioration in the underlying performance of certain asset types.
- Provides weak focus on Worst Served Customers and Communities.
- Wide range of incentive rates across DNOs that cannot reflect customer willingness to pay.

We believe that these limitations can be addressed through introduction of:

- Base case investment allowances which seek to move asset fault rates towards a benchmark (say national average or national upper quartile) over a period of time (say 10-15 years), and:
- An investment programme targeting Worst Served Customers & Communities
- The existing range of incentive rates result in a wide range of values being placed on each customer interruption (3.4:1) and each customer hour lost (2.8:1) and results in widely different cost benefit analysis outcomes for DNO's. This range should be standardised and linked to customer willingness to pay to ensure all DNO's are encouraged to deliver the same cost effective solutions. To achieve this we propose that the % of revenue exposed to incentives remains capped at 3% and that the performance envelope over which incentives operate is made variable.

h. Data used to set IIS targets.

The variability of performance year-to-year which is attributable to external factors such as weather remains significant, even after the exclusion of EE's, and to reduce the impact of this variability in the setting of targets it is essential that future targets are based at least 3-years, and preferably 5-years, data for LV and HV with 10-years being appropriate for the EHV and 132kV categories which are also exposed to the volatility caused by small numbers of faults.

We support the processing of LV data as a single group in place of separate processing of mains & services

We would support a review of the possible dominance affect that individual DNO's may be having on the setting of disaggregated band benchmarks, in particular:

- We are concerned that EdF's underground network dominates the calculation of national average fault rates in the UG disaggregation groups and has the result of setting more onerous CI targets for most DNO's when it is recognised that there are few cost effective measures a DNO can take to improve the failure rates of UG cables. We therefore propose that the CI benchmark value for the 'UG' groups should be set on the basis of a 90% of the DNO's own fault rate and 10% of the national average fault rate.
- We have concerns regarding the robustness of the approach used to calculate U.Q. CML/CI in each of the 23 bands (currently u.q. is calculated from the 13/14 observations even though some of these observations may be based upon very small numbers of circuits and or faults.).

i. Pre-Arranged Targets

We believe that future Pre-arranged targets should reflect a forward looking view of the likely levels of CI and CML and we look forward to participating in the development of an appropriate methodology.

j. Audits

We support the continuance of the current audit methodology. It is our view that there is no need for this to be extended to include a random audit during the DPCR as in our view this would add to overall costs, however we would have no objections if Ofgem wish to pursue this approach. We would support the setting of separate accuracy targets for LV and higher voltages. We believe that appropriate targets would be 90% for LV (as current), 96% for HV and 96% for EHV/132kV combined.

k. Exceptional Event treatment / Exclusion from IIS mechanism

We acknowledge Ofgem's concerns regarding the 27 EE's claimed on average per year, however within this number multiple DNO's will be making a claim for the same weather event so the number of events is less than this headline value.

Given changing weather patterns and evidence of increased risk to network businesses from climate change effects we believe the thresholds for exceptional events needs to be examined carefully and revised. Further, the existing mechanism needs to be refined to exclude certain events out-with the control of DNOs.

We believe that the requirement for an exclusion mechanism for exceptional events from the Quality of Service incentive has increased as a consequence of the frequency and severity of extreme weather events experienced during DPCR4 and the increased severity of extreme weather events forecast going forward by the Meteorological Office.

Excluding EE's from IIS is essential to ensure that the mechanism does not become a weather lottery, that targets can be challenging but achievable and that the likely result of actions to improve performance through investment or operational initiatives

are reasonably predictable for the DNO's.

We would assert that there is no need for IIS to have any role in encouraging DNO's to perform well during exceptional events as sufficient incentives are already in place related to EE's through DNO's exposure to:

- Repair costs – which are predominantly labour related & therefore proportional to total repair time.
- Customer storm compensation payments.

We believe that there is benefit in terms of consistency in retaining the current methodology for weather related events in DPCR5 but if changes are to be made we would opt to re-introduce a 'materiality of impact test', based upon 2% of annual CI or CML, alongside the current exceptionality test rather than changing the current exceptionality thresholds.

By exclusively focussing on events outside the control of the DNO, the one off EE exclusion process fails to acknowledge that even the most prudent DNO is exposed to the risk of big IIS impact events, for example during a weather related fault on a higher voltage network during a pre-arranged outage to facilitate essential works. We would therefore propose that the one-off EE mechanism is extended to include a limited number of events within the control of a DNO, say by allowing the DNO to exclude one fault per annum (or possibly 5 over the review period) from the IIS mechanism.

The recent low frequency event in the UK has demonstrated that the IIS mechanism makes no provision for the exclusion of a range of events that DNO's are obliged to comply with through the Grid Code. We propose that a further EE exclusion mechanism should be introduced to IIS to enable Ofgem to exclude 'force majeure' type events, such as any events related to Operating Code 6 of the Grid Code or HILP events.

DNO's upper exposure to GS payments during one-off EE's is unlimited under the DPCR4 incentive mechanism. Alignment with weather related events is required to provide a reasonable level of exposure, this could be achieved by placing an upper limit on the payments to any individual customer to say £200.

l. Telephony Incentive

We support the proposal to streamline the customer survey into 'willingness of staff to help', 'accuracy of information provided' and 'satisfaction with speed of response' (dropping Politeness of staff and Usefulness of information provided)

It seems reasonable to expect that those DNO's who seek to provide a more personal service by answering customers calls by means of an operator will, as a consequence, experience an enhanced level of unanswered calls. In our view therefore it would be wrong to place a financial weighting on unanswered calls without also including customers who are answered by messaging in the customer survey to ensure their views on the relative merits of messaging or speaking to an agent can also be taken into account.

We would welcome the Telephony mechanism being more fully reflective of the overall service provided to customers. Therefore if the data protection issues associated with including customers answered by messaging in the survey can be resolved we would support incorporation of the views of customers who are answered by messaging and the level of unanswered calls in the overall mechanism.

m. Guaranteed Standards of Performance

Networks are designed to meet P2/6, which reflects a probabilistic approach to expected network performance. The result is that some customers connected to such networks can be expected to receive outlying levels of performance. It is these customers that the Guaranteed Standards should continue to seek to recognise.

Guaranteed Standards should be designed to provide a level of compensation for domestic and smaller industrial & (I&C) customers who are supplied by single and small (45kVa) 3-phase supplies since the larger capacity supplies provided to larger industrial and commercial customers are less likely to be impacted by events covered by GS's and those customers with such supplies are also more able to both select the type of connection they require to the DNO's network and design in appropriate mitigation against supply loss (UPS, generators, insurance etc).

In our view the current compensation levels for both domestic and smaller I&C customers, which reflect a considerable proportion of annual DUoS charges, are more than adequate

We do not support the evolution of Guaranteed Standards into what would effectively be a customer compensation scheme as this would be a costly burden on both DNO's and the wider customer base who would ultimately fund the scheme. Customers who, due to their specific circumstances, require enhanced levels of financial protection against loss of supply should seek to address their specific needs through the implementation of mitigation devices and/or insurance.

GS's should therefore continue to be set at a level which provide realistic 'back-stop' targets for DNO's to achieve in the majority of circumstances.

Associated with this an DNO's upper exposure to GS payments during one-off EE's is unlimited under the DPCR4 incentive mechanism. Alignment with weather related events is required to provide a reasonable level of exposure, this could be achieved by placing an upper limit on the payments to any individual customer to say £200.

n. GS2 reduction below 18hrs

Assets failures that result in longer supply interruptions, typically involving cables at voltages of 11kV and below, can usually be repaired with today's 'cold' jointing techniques within 18hrs. The introduction of 'cold' jointing was an enabler in the previous change to GS2 from 24hrs to 18hrs.

Moving GS2 below the current 18 hours could not be expected to deliver further significant changes in DNO's performance, indeed the greater acceptance by DNO's that the standard is not achievable in certain situations might lead to a deterioration in overall performance since the incentive to avoid GS2 failures would be weakened.

o. New Total Duration Standard

Whilst a standard along these lines seems attractive, with current connectivity models based upon best association at an LV feeder level, the ability of DNO's to track the impact of multiple interruptions over time on individual customers is limited. The operation of such a standard would therefore be difficult and potentially costly.

DNOs will generally be unable to respond differently to a fault that affects a customer who has already been off supply for 10 hours during the year to a fault that is affecting a customer for the first time in the year. Such a 'total duration standard', if introduced, will therefore purely operate as a compensation scheme.

p. Complaint Handling

It is difficult to see the case for a new GS covering complaint handling when new complaint handling arrangements covering all regulated service providers are being introduced following the Consumers, Estate Agents and Redress Act 2007.

The new regulations as proposed contain provision for dealing with complaints from customers about how their case has been treated by the regulated company. There is no case that we have seen for a new GS prescribing arrangements for responding to complaints over and above the procedures required under the new regulations

Chapter 4 – Networks

Question 1: Have we captured all the key lessons learnt from DPCR4 regarding cost assessment?

At the high level we believe that the key lessons from DPCR4 have been identified and understand how these are driving Ofgem's objectives for cost assessment in DPCR5. At the detailed level we will work with Ofgem to remove or improve those elements of the DPCR4 model that have added little value in this area. These are discussed later within our comments on this section. Our specific comments on how the lessons learnt translate to Ofgem's objectives moving forward are as follows;

a. Improving incentives to make efficient investment
SP would be receptive to incentives mechanisms that are balanced, exhibit sound fundamental principles (e.g. they are genuinely influenceable with measurable outputs) and encourage behaviours by DNOs that result in benefits to both customers and shareholders. We would contend that certain incentive mechanisms operating during DPCR4 e.g. distribution losses and the volume growth driver have not exhibited all of these features.

We would consider it important as part of the review to consider the economic outcomes of in-period adjustment mechanisms, next period true-up mechanisms and longer term mechanisms in terms of how these effect the balance of risk bourn by each party.

b. Remove distortions in the current control methodology
It is regrettable that the considerable efforts by Ofgem and the DNOs to develop clear cost reporting rules and practices have, in Ofgem's view, failed to remove reporting distortions. It is our view that considerable progress has been made in terms of improved reporting and transparency and that remaining differences are most likely isolated cases and not necessarily material. That said, we fully support the aim of removing any remaining distortions

c. Utilisation of data collected during current control period
As indicated above we agree that much progress has been made in cost reporting. We remain of the view however that much of the data collected is at a level that is more detailed than necessary and often adds little value to the quality of cost assessment.

d. Increase capacity for the price control to reflect specific business needs
We welcome the opportunity to present more business specific business plans. We would anticipate that this will have knock-on effects to other features of the overall price review package, e.g. the calibration of IQI as discussed in the consultation and later in this response.

Chapter 4 Question 2: Is our approach to cost assessment appropriate?

We consider this question to be in respect of both cost *and output* assessment. We believe that the overall approach set out in Figure 4.3 is based on sound principles and is appropriate. We look forward to working with Ofgem to ensure these are appropriately applied in practice.

We would urge caution particularly in the areas of 'bottom-up' analysis and of benchmarking at the disaggregated level. The first can be compromised by data quality and consequently comparability issues. In the second there exists the danger of constructing an unrealistic 'best in class' company across each and every activity as the frontier target. Where an uplift is applied to remedy this as seen in the Gas Distribution Review this must be demonstrably fair and transparent.

Two examples of the shortcomings of the operating cost analysis at DPCR4 are:

- In relation to tree cutting allowances were set on the basis of overhead network scale with no consideration of proportion of affected network and the relative tree density; and
- Operating costs were set on a comparative CSV analysis that did not take account of the underlying fault rates of the DNOs network assets.

We welcome the opportunity to further refine the approach to cost assessment in DPCR5 via the various DNO working groups and unilaterally.

Chapter 4 Question 3: Are there alternative approaches to cost assessment that we should be considering?

As stated above we believe that the proposed 'toolkit' for cost assessment appears appropriate and offers sufficient scope to arrive at fair and reasonable outputs. As such we do not at present see any need to consider a radically different approach.

We remain of the view that the benefits of top down and informed analysis of aggregated, total cost should not be undervalued. This emphasis generally suffers less from distortions arising from e.g. insourcing/ outsourcing and other cost classification boundary problems which are unhelpful and act as a distraction from giving in depth consideration to they key issues. In short, we believe that in terms of better regulation there are eventually diminishing marginal returns from in value from the quantity of data collected and analysed.

In relation to load related network reinforcement costs we note the intention to repeat cost modelling utilised at DPCR4. We believe that this approach was inherently flawed as it is based on an assumption that network reinforcement requirements are directly related to customer numbers and the kWh consumed by those customers. Network reinforcement requirements are much more a function of customers demand (or generation), the nature of that demand and existing utilisation of the network in the proximity to where that demand or generation presents. We believe a fundamental shift in approach to cost assessment for load related costs is required to ensure that DNOs have sufficient allowances in this regard.

Chapter 4 Question 4: How might our approach to benchmarking be improved?

We believe that Ofgem's approach to benchmarking is sound in principle. We would again however highlight that how this approach is put into practice that is key. We appreciate that this will emerge later in the review with the engagement and assistance of the DNOs.

We will be interested to see the output of any international comparisons. Although these will inevitably be difficult to draw on a like for like basis, we would expect that this may demonstrate the extent to which UK regulation and the DNOs have been highly successful in driving out inefficient expenditure since privatisation when compared to international operations.

Chapter 4 Question 5: Have we captured all the key issues for "networks?"

a. Capital allowances
We welcome the fact that Ofgem expect the step change in capital allowances required by industry in DPCR4 to continue into DPCR5 as a consequence of the age and condition of the networks and as a consequence of input cost rises.

We note Ofgems concerns regarding DNOs delivery against DPCR4 capital allowances. This underspend has occurred despite the introduction of Ofgem's IQI mechanism which was designed to address the threat of companies overbidding capital allowances.

Despite the position reflected in the industry, SP Distribution and SP Manweb are spending in line with DPCR4 capital allowances. At DPCR4 the issues around capacity to deliver were considered thoroughly by our company and reflected into our profiles for investment plus our recruitment and resource planning. SP Energy Networks has been amongst the most active in our industry in the recruitment of graduate electrical engineers and craft apprentices [add footnote with the numbers].

Nonetheless the market factors we mentioned above have affected the programmed volumes of activity that we have been able to undertake, in particular increases in raw material prices, for example the cost of a 33 kV transformer has increased by [80]% in the last 3 years. As a result of this global market phenomenon our asset risk indices have increased and due to the financial constraints imposed by the current structure of the sliding scale mechanism, now referred to as IQI, this is an issue that will need to be dealt with at this price control review.

b. Operating cost allowances:
The RRP reporting for 06/07 demonstrated that all DNOs are struggling to achieve operating costs in line with opex allowances.

We believe that this is a result of the DPCR4 cost analysis failing to capture all of the relevant cost drivers faced by DNOs and the efficiency stretch applied by the Regulator being unsustainable. Going forward we expect that through careful

consideration of the "building blocks" approach proposed by Ofgem this can be addressed.

c. Network Sustainability

We are concerned that sustainability is not considered. In particular network resilience to increasing frequency and scale of severe weather events is not considered other than whether the exceptional events mechanism requires to be revised to exclude more events.

In DPCR4 we demonstrated to Ofgem the requirement for networks to be fit for purpose in severe weather areas and in particular to be resilient to an appropriate degree of line icing and high winds. This was recognised with an allowance that provided funding to begin to address some of these concerns. It is critical that DPCR5 continues this programme of works.

d. DCPR4 Assumptions

One significant concern carried forward from DPCR4 was that the Quality of Supply incentive targets were based upon an assumption that the capital allowances for asset replacement and refurbishment would allow DNOs to maintain their existing network fault rates.

Unfortunately the subsequent capital allowances provided did not satisfy this assumption for all DNOs, an issue that has been further compounded by the effects of input prices during DPCR4. There is a need to ensure that DPCR5 Quality of Supply targets reflect the consequential degradation of network performance experienced by some DNOs.

Chapter 4 Question 6: Is our building block approach to forecasting appropriate?

The building block approach proposed is a generally positive development from DPCR4 and may allow a more coherent settlement across capex and opex allowances.

We would urge that consistency is maintained with the content, format and definitions currently prescribed within the historical RRP and we welcome the proposed working group to further develop the building blocks including definitions, assumptions and outputs.

We have some specific concerns regarding comparability between companies in-sourcing and outsourcing the same activities that will need to be dealt with in this work but believe what is proposed is a pragmatic step forward.

Specifically, we welcome Ofgem's recognition of the consequences of significant input cost pressures through the creation of a building block designed to address this concern. We believe this is an increasingly significant factor affecting the whole of our industry and because of global market conditions leaves DNOs significantly exposed in terms of cost and asset risk. Our internal analysis on this area suggests that input prices have risen far beyond RPI with the trend continuing to rise in both the labour markets and materials.

With regard to engineering indirects or as expressed more widely as costs that are driven by the level of network spend, we would suggest that serious consideration be given to the inclusion of Network Policy and Control Centre as well as the proposed inclusion of Stores & Procurement and Vehicles & Transport. We are not yet convinced that other costs should be excluded. We recognise that Ofgem intend to further develop the remaining indirects under the banner of Business Costs and are broadly supportive of this approach.

Chapter 4 Question 7: What is the scope for developing additional output measures and how can these be incorporated into the price control?

a. Network Losses
There is scope to develop 'quasi' output measures in relation to network technical losses that will be far superior to the current losses incentive measures and will deliver real demonstrable environmental benefits for customers.

b. Network utilisation measures
There is some scope to develop network utilisation measures but it must be recognised that:

- There is a tension between increased network utilisation and environmental impacts, particularly network losses;
- DNOs network utilisation is a function of the historical environment in which it has functioned.

We would suggest that a working group should develop network utilisation measures in this context and that when considering DNOs investment plans that network utilisation should be considered in terms of relative rates of change of utilisation as this provides more meaningful information in relation to DNOs approach to risk. Network losses initiatives would need to be extracted from such analysis.

c. SF_6 Leakage
There is scope for developing an SF_6 leakage measure similar to TPCR4, however it should be recognised that the scope to reduce leakage at Distribution voltages is typically much reduced compared with transmission and that the administrations of the cost of an incentive mechanism is likely to outweigh the benefits.

In relation to competition in connections we believe there is merit in measuring the current state of the competitive market through reporting of contracts / end connection numbers won by IDNOs.

Chapter 4 Question 8: What is the best way for DNOs to gain stakeholder input to their forecast business plans and how should Ofgem facilitate/ incentivise this?

We believe that the DPCR5 process will benefit from the explicit emphasis upon greater stakeholder engagement to inform stakeholder plans, and that DNOs should engage with key stakeholders through formal stakeholder events, and with a broader sphere of stakeholders through an internet based consultation. This approach should

enable DNOs to present plans that are locally supported and informed where appropriate.

It should be recognised that it may not be straightforward for companies to reconcile the varying and often conflicting priorities of DNO stakeholders, and DNOs will need to exercise judgement in preparing their business plan submissions.

We believe that stakeholder engagement should form part of the Discretionary Reward mechanism.

SP Energy Networks first phase of stakeholder events are planned for 31st July in Glasgow and 6th August near Livepool. The details of the events and how stakeholders can register to attend will be published on the SP Energy Networks website and personal invitations will be issued to a wide range of stakeholders.

Chapter 4 Question 9: Is the IQI and capex rolling incentive the best way to ensure realistic forecasts and efficient investment?

We propose to work constructively with Ofgem to develop this mechanism towards a more efficient means of allowing companies the opportunity to invest more flexibly and that equally provides adequate protection to consumers.

At least two DNO groups, whose FBPQ submissions were assessed as being most robust (as measured by the the ratio of their DNO forecast to FBPQ at DPCR4) are among those companies who are significantly under spent at this point of the price control. These companies are currently earning a high additional return for the quality of their forecasting and in addition reaping a higher incentive rate for the significant and unanticipated out-performance of their capex.

It is therefore critical that the objective assessment of companies forecasts is made more robust going forward and that there is sufficient time allowed within the process to adequately review investment plans. If the IQI/menu based incentive mechanism is not sufficiently specified and communicated in advance of DNO FPBQ submissions then DNOs will require the opportunity to resubmit plans.

We are also concerned that in the form of the sliding scale, the IQI does not allow companies to invest beyond the allowances. It has been argued by Ofgem in the past, that the sliding scale allowance does provide companies with the incentive to spend more than the allowance. However, consider an asset replacement which is a straight forward cash cost aimed at effectively maintaining or renewing an existing asset with no additional financial savings. Under the current scheme if that investment took SP Energy Networks above the allowance for capex then we would be entitled to recover only 69% of that investment under the sliding scale mechanism, it is difficult to persuade investors or financial analysts of the merits of such an investment.

It is important that each DNO is adequately funded to deliver a safe, secure and sustainable network and it is important that the cost drivers facing DNOs are recognized by the cost analysis. For example, cost drivers overlooked at DPCR4 included tree density around DNOs overhead line networks and fault rates.

Going forward we propose to work constructively with Ofgem to find an efficient means of allowing companies the opportunity to invest more flexibly and that equally provides adequate protection to consumers.

We have are broadly supportive of the use of IQI and capex rolling incentive. The desired output for any price control submission is as realistic and efficient profiling of investments and costs that can be achieved in a forward looking view. We believe this mechanism has worked well in DPCR4 as represented by our continued delivery of investment to allowances.

We would urge Ofgem to ensure that if such mechanisms are to be retained, and if so presumably updated, that this is achieved in a transparent manner and is finalised in detail early in the process in advance of the timeframes for submission of detailed forecasts.

As Ofgem recognise, the application of the IQI approach requires a baseline level of costs. Care will be required in identifying these within more 'business specific' business plans and forecasts. We have no objection in principle against extending the IQI concept to certain categories of indirect costs although it may be that the additional complexity may be excessive compared with the value that this would yield.

One significant failing of the IQI mechanism that needs to be considered is the inherent incentive on DNOs to under forecast costs, which has the consequence of providing an incentive reward against the IQI mechanism but this will most likely be achieved at the cost of a detriment to the long term sustainability of the DNOs network.

Chapter 4 Question 10: How might the IQI and capex rolling incentive be improved or what additional measures could supplement them?

The sliding scale mechanism, which was developed for DPCR4, can be improved, so as to provide an IQI mechanism for various cost components. In particular, the incentive mechanism should be calibrated so as to avoid penalising a company that accurately forecasts its expenditure requirements. We also suggest that a more accurate mechanism can be established by mathematically solving the condition required for an optimal solution.[9] This would ensure the pay-off matrix is incentive compatible, without having to resort to a trial and error approach, which may produce invalid outputs.

One concern we have with IQI mechanisms is that they can place too much emphasis on the consultant's review process and the subsequent consultant's benchmark. We would stress that it is essential that there is full transparency of the consultant's reports.

[9] In mathematical terms, this is the solution of the differential equation for the first order condition that arises from imposing the incentive compatibility condition on the function that relates the company's profit to its forecast capital expenditure requirement, relative to the benchmark.

This factor becomes more significant given that Ofgem has asked each company to submit its business plans based upon its own assumptions and assessment of the needs of it's own network and stakeholders.

Chapter 4 Question 11: Should we aim to equalise incentives on network investment and business costs and how could this be achieved?

We believe there is merit in this objective in principle and look forward to further discussion and analysis on the above proposal.

Chapter 4 Question 12: Is the timetable realistic?

We believe that the timetable will be challenging but achievable. Specifically the development of regulatory mechanisms to empower DNOs to play a more significant role in facilitating environmental initiatives will require significant effort by Ofgem and DNOs and in particular to ensure that the entire DPCR5 package is coherent and consistent.

Chapter 5 - Financial issues

Question 1: Should Ofgem use its traditional approach to calculate the cost of capital or should other approaches be considered in order to provide the necessary incentives to invest?

At a time when a significant proportion of the UK asset base is reaching the end of its operational life it is crucial now, more than ever, to allow a cost of capital that enables DNOs to attract and retain funding to meet a step change in capital expenditure levels.

Attracting the appropriate level of funding whilst maintaining the financeability of the companies are key elements towards success in delivering on Ofgem's key priorities of tackling climate change and providing secure and more sustainable networks.

We agree that an appropriate cost of capital depends on the overall balance of risks and rewards contained within the overall price control settlement. For SP in particular, the impacts of various incentive mechanisms and revenue drivers have combined to ensure that any perceived headroom with in the DPCR4 allowed cost of capital was materially eroded. It is vital that Ofgem fully recognise these and other non-systematic risks faced by SP and other DNOs when formulating the allowed cost of capital.

Ofgem have highlighted that there have been several sales of regulated utilities at significant premiums to their RAV. We would urge caution over making any inference that this arises from an overly generous allowed cost of capital. Recent acquisitions and premiums reflect only a snap-shot of recent market conditions characterised currently by high demand for index-linked income streams and are the result of a wide range of other factors. In particular we believe that high MARs can result from potential unrealistic assumptions around RAV growth, outperformance of regulatory allowances and incentive revenues. In some cases there is also an element of assumed synergy and efficiency achievable from larger Groups and their non-regulated businesses.

We would also point to the lessons learnt by OFWAT following the 1999 Price Review in water, where a combination of factors including high premiums on regulated assets, perceived out-performance of returns, political pressure on prices, all of which took place during a time of significant policy debate led to a sharp reduction in allowed rate of return. As a result share prices fell very sharply, and for the rest of the period going forward over a period of 5-years, the market value of the companies lay below the regulatory asset values. This significantly undermined company and investor confidence and as result companies turned to more highly geared structures and simultaneously their appetite to undertake large CAPEX programmes significantly diminished.

Additionally, current problems being experienced in financial markets should serve as a reminder that over a five-year period DNOs can be faced by challenging conditions, particularly in this instance, surrounding the terms upon which companies are able to raise new debt.

We strongly believe that the trend in the allowed cost of capital observed in the decisions affecting the electricity and gas sectors must now reverse and that for DPCR5 an allowed cost of capital around the level seen at DPCR4 should be seriously considered.

We support the traditional approach to calculating the cost of capital, which continues to be widely used by regulators and the Competition Commission. Although a number of alternative variants have been suggested e.g. incorporating debt indexation and the concept of a split cost of capital, many of these remain untested and would potentially increase uncertainty for investors.

We support the continued use of the CAPM framework for setting the range for the weighted average cost of capital (WACC) in conjunction with cross-checks from other models. We note however that CAPM ignores any negative 'skewing' of rate of return caused by incentive regimes such as that for distribution losses which were not foreseen at the time of concluding a price control review. Academic research indicates that the traditional CAPM underestimates the required rate of return because such 'skewness' is not taken into account.

We agree that the appropriate cost of capital for a DNO depends on the overall balance of risks and rewards contained in the overall price control package. We would urge Ofgem to fully recognise the uncertainties and risks arising from its and the industry's commitment to the delivery of Government energy policy. Now more than ever it is essential when considering the cost of capital to provide a sufficient and stable return to attract and retain funding from capital markets.

Setting a cost of capital at or around the levels seen recently in the cases of Gas Distribution and Electricity Transmission may compromise future funding at a time when significant investment is required and in addition will not fully recognise emerging turmoil in financial markets, the duration of which is uncertain.

We would urge caution around any inference that recent apparently high RAV premia are attributable exclusively to previously allowed cost of capital. We will seek to demonstrate through this review that these are attributable to various unrelated factors. We look forward to further discussions with Ofgem on the appropriate ranges of values for the components of the CAPM model.

Chapter 5 Question 2: In particular, should measures to protect DNOs from debt market volatility be considered, such as indexation of the cost of debt, or the use of reopeners at "trigger" levels of interest rates?

We agree with the Competition Commission that, in general, companies are better placed than customers to manage interest rate risk. In practice, this typically results in a capital structure which includes a proportion of fixed rate debt. As such we do not favour such measures.

Furthermore, there are a number of practical difficulties in implementing debt indexation or triggers that have not yet been resolved, which include:

- Whether all debt is indexed or only new debt which is raised within the price control period;
- Whether indexation should apply only if interest rates move outside a deadband; and
- Which debt instruments would be used to calculate the target to be tracked?

Until these matters have been satisfactorily resolved it would not be possible to implement such measures. In practice, companies use a variety of debt instruments and the mix will vary across companies. This makes it even more difficult to construct a representative tracking portfolio, which would effectively protect DNOs from debt market volatility.

A potential unintended consequence of such measures would be to encourage more floating rate debt in DNOs' capital structures, which, through debt indexation, would lead to larger movements in allowed revenue and, hence, customer prices.

Finally, in so far as movements in nominal interest rates are correlated with the RPI, there is potential for some degree of double-counting of inflation through the RPI-X price control formula and the indexation of debt.

Chapter 5 Question 3: Should Ofgem make financeability adjustments or is this a matter for DNOs once the cost of capital is set?

a. Financeability

Consistent with previous price control reviews, Ofgem should continue to test proposals for consistency with credit ratings comfortably within investment grade. The current licence obliges companies to take all appropriate steps to ensure that they maintain an investment grade issuer credit rating at all times.

With companies being faced with raising new debt to fund higher capex programmes it is important that Ofgem reassess its view of 'comfortably within investment grade'. We believe that companies need to be within the 'A' range of credit ratings and that the floor should therefore be 'A-'. We believe that the current ratios themselves are fit for purpose although we are of the view that consideration of equity-based ratios such as dividend cover may also be appropriate.

We believe that these should also be tested for the duration of the price control period to ensure that they do not exhibit a deteriorating trend since such a pattern could in itself trigger a credit rating downgrade and thus make raising finance more costly. In addition we believe that these should be stress-tested for adverse shocks and that appropriate headroom should be maintained.

Separately financeability adjustments or other revenue smoothing methods are entirely appropriate to obviate price volatility being experienced by customers.

In theory an appropriate cost of capital including allowance for equity issuance would allow DNOs to raise capital in times of high investment. In practice equity issuance is perceived adversely by the market in terms of future performance risk and would undermine confidence in utilities. To address this problem, Ofgem may wish to

consider signalling to the financial community via its "RPI at 20" project that equity issuance may begin to emerge as a feature of future utility financing strategies beyond 2015.

b. Accelerated depreciation

We believe that accelerated depreciation remains an appropriate means of applying a financeability adjustment in electricity distribution where it is well understood, is predictable and transparent, and is NPV neutral thus ensuring companies have adequate cash-flows for investment and customers are protected financially.

SP Distribution and Scottish Hydro Electric Power Distribution are the last remaining DNOs to face the post vesting "cliff face". It is crucial that the resultant, very material, shortfalls in revenues are mitigated using the same approach and specific treatment as was previously applied to all other DNOs; i.e. the accelerated depreciation of post vesting assets using an assumed 20-year life with a 15-year catch up and that financeability tests are carried out from this baseline.

We understand Ofgem's concerns regarding depreciation rates and their long-term impacts. We believe however that in the interests of regulatory consistency the current precedent applied at DPCR4 and more recently for the Scottish companies at the TPCR should be extended for the duration of DPCR5.

We would recommend that longer term solutions are considered as part of Ofgem's RPI at 20 project when each DNOs RAVs and capex profiles can be modelled in detail in order to find an optimal strategy going forward. We believe that any attempt to reset depreciation rates as part of DPCR5 would introduce unnecessary complexity and uncertainty.

It must be recognised that resulting short term financial constraints arise from the interaction of regulatory remuneration mechanisms with investment profiles rather than from any mismanagement of companies.

We note Ofgem's ongoing concerns surrounding assumed regulatory depreciation rates being inconsistent with statutory depreciation lives and the longer term revenue profile implications and potential intergenerational inequity arising from the use of accelerated depreciation. We believe that any alternative, longer term solution such as those discussed in the joint Ofgem/ Ofwat paper 'Financing Networks' should be considered as part of Ofgem's "RPI at 20" work rather than being considered as part of DPCR5. Any attempt to do this prior to all DNOs having been brought to a consistent position would lead to considerable unnecessary complexity and uncertainty.

Even in the absence of the cliff edge issue faced by the Scottish DNO's it should be noted that any move to lengthen regulatory asset lives would lead to financeability problems in the absence of other remedies. These alternatives may be more feasible if developed and carefully communicated externally via the RPI at 20 process.

Chapter 5 Question 4: **Is it appropriate for Ofgem to be making commitments on investment and its financeability over the longer term?**

Significant investment will be required to be undertaken by DNOs during DPCR5 and beyond in order to address the twin challenges of replacing ageing networks and of taking an active role in helping to tackle climate change. In order to attract the necessary investment it is vital that investors have confidence that Ofgem is, and is seen to be, committed to a financial framework that supports such long term investment.

Allied to this Ofgem must also demonstrate its commitment to RAVs both in terms of clarity over any potential disallowance of capital expenditure from the RAV and in terms of the rules and normalisation processes which determine what *allowed* expenditure is included within the RAV. In the latter case current normalisation rules have proven to be cumbersome and complex to apply. The RAV is the focal point for investors when assessing value and as such it is important that regulatory uncertainty is minimised.

Furthermore, any moves which reduce and/or distance the RAV from statutory asset values should be avoided as this will increase the risk of future issues surrounding asset impairment.

Chapter 5 Question 5: Should a mechanism for ex-post adjustments for major changes in the tax regime be introduced and, if so, how?

Such changes to the tax regime which are outwith the control of the DNO's, in accordance with allocative efficiency principles, should be subject to an ex-post adjustment mechanism.

Chapter 5 Question 6: Do respondents support the publication of a fully populated financial model?

We note the precedent of a published, populated model at GDPCR and Ofgem's view that this aids transparency of the price control process. We do not object to this in principal but would urge that Ofgem consults DNOs' in advance as to the most appropriate form and content of the information to be published in order that any commercial sensitivities are properly considered.

We would expect Ofgem to play a part in communicating externally the purpose of the published model and advise on any generic interpretational issues that may arise from users of the information.

Chapter 5 Question 7: Should we calculate the DNOs' allowed revenues in a way that creates a smooth revenue profile over the course of the price control period and seek to reflect the level of costs expected in the last year of the control in order to reduce price changes from one control to another?

We believe that revenues should be smoothed to reduce price volatility.

Chapter 5 Question 8: What factors should we take into account when determining the level of gearing to assume?

The level of gearing for DNOs should continue to be assumed to be at a moderate level (i.e. not more than 57.5%) and must be consistent with a comfortable investment grade credit rating. We note that actual gearing amongst DNOs is generally below this level. Ofgem should not encourage highly leveraged capital structures, as these increase the risk of financial distress and potentially constrain investment opportunities, such as those required to facilitate the development of distributed energy and the movement to a low carbon economy.

Chapter 5 Question 9: Do respondents agree with the proposed treatment of net debt and gearing in ex post adjustments to tax allowances?

We agree with maintaining Ofgem's previous approach, which has allowed ex ante tax costs, with an ex post adjustment where the actual level of gearing exceeded that assumed in calculating the cost of capital.

We note that Ofgem propose to consult separately on proposals to address practical issues which apparently have arisen since DPCR4, which will also be applicable to transmission and gas distribution licensees. We shall respond to such proposals, when Ofgem have clarified the issues that have arisen and their views.

Chapter 5 Question 10: What are acceptable alternative approaches to calculating RAV additions; and, following recent market transactions, does RAV continue to reflect the underlying enterprise value of the business?

The RAV is a fundamental component of the regulatory regime which is essential to investors' understanding of the price control. Anything which served to undermine investors' confidence in the RAV would have severe consequences for the regulatory regime and the cost of financing essential infrastructure.

We are aware that there have been corporate transactions for some utilities, which have involved significant premia to the RAV. However, it is widely observed that gaining corporate control involves paying a premium to market value. The extent of this premium is primarily a matter for the acquiring entity and their owners and investors.

Chapter 6 - Process and timetable

Chapter 6 Question 1: Do you agree with the range of consultation approaches we intend to use throughout DPCR5?

We agree with the range of consultation approaches intended to be utilised throughout DPCR5 and welcome the introduction of more formal DNO stakeholder engagement and development of business plans based on individual DNO need.

We remain to have concerns regarding the omission of updated proposals in the Summer of 2009 as experience has shown that there can be significant shifts between initial and final proposals.

We are broadly supportive of the wide-ranging consultation approaches that Ofgem intend to use.

We note Ofgem's proposal to dispense with a September update paper. Whilst we are somewhat concerned that this leaves a long period between Initial and Final Proposals when DNOs have no formal update of Ofgem's views, we take comfort from Ofgem's proposals to offer bi-lateral meetings and to provide some form of more formal update if necessary. These will be essential to ensure transparency and appropriate dialogue is retained.

Chapter 6 Question 2: Do you believe that we should utilise a consumer orientated challenge group to inform DPCR5?

We believe Ofgem should consumer orientated challenge group. It is of course important that the members of such a group are appropriate and are suitably informed is order that their input is representative, balanced and realistic.

**Chapter 6 Question 3: Are there any other ways in which we should look to consult with
interested parties?**

The proposed approach outlined appears to be satisfactory.

Chapter 6 Question 4: Do you agree with our approach to publish specific impact assessments for key "important" decisions?

This approach seems sensible but there is an inherent risk of considering particular decisions in isolation when so many parts of the DNOs activities, and consequently DPCR are interactive.

We recognise the value of impact assessments in appropriate circumstances.

For example, we would highlight the large financial impact of any proposal by Ofgem to alter assumed asset lives for the purposes of determining depreciation allowances. Although we anticipate that recent precedent will apply for DPCR5, that is accelerating depreciation of post vesting assets to an assumed 20 year life, we strongly believe that any departure from existing policy on this issue would require to be subject to a full impact assessment.

Chapter 6 Question 5: Are there any other key milestones that you believe we should consider for DPCR5?

We remain to have concerns regarding the omission of updated proposals in the Summer of 2009 as experience has shown that there can be significant shifts between initial and final proposals.

Ofgem may wish to consider a more explicit position in terms of the calibration of any IQI parameters and timescales for this set against the provision of FBPQ information. The techniques employed to derive these should be considered carefully in consultation with DNOs since their outputs have material impacts.

Clarity of the IQI process and parameters should be provided to DNOs sufficiently in advance of business plan submissions to enable DNOs to properly react to the incentive, or there should be provision for DNOs to resubmit plans following receipt of this clarity. The IQI process for DPCR5 will include an additional element of complexity due to the plans for DNOs to develop their business plans based on their own stakeholder and network needs rather than generic Ofgem / consultant assumptions.

It may also be worth placing milestones around the resolution of any outstanding DPCR4 legacy issues which DNOs may have. SP, for instance, would seek resolution of the treatment of adopted connections and its RAV implications well in advance of Initial Proposals.

The resource requirement of revised Licence drafting should not be underestimated. We would suggest that this is formally timetabled in order that this is duly considered well in advance of December 2009.

We would also welcome a formal commitment from Ofgem to the development and publication of a complete, audited financial model early in the process in order that DNOs have an accurate picture of how Initial Proposals are likely to impact their businesses.

Appendix 1: ScottishPower Energy Networks Response to Table 2.1 Summary of Distributed Generation Issues

Table 2.1 DG Incentive:

We invite views on the effectiveness of the current DG incentive.

We believe the existing principles of the DGIM are perfectly compatible with the objectives of connecting distributed generation and propose that the existing mechanism should continue with only minor modification to deal with areas where there is only sparse existing infrastructure.

As an owner of two Distribution licences, both of which lie in the most resource rich areas for Renewable Generation in the whole of Great Britain, it is our view that the low levels of megawatts connected are directly attributable to the complexities of obtaining planning consents and land rights and the structure of incentives faced by the GB Transmission System Operator (TSO) under the current regime and do not relate to the DGIM or the DG connections issues identified.

It is of concern to us that in Scotland we currently seem unable to connect schemes that cause no local transmission constraint costs and whose impact on deeper transmission constraint costs appears to be theoretical rather than clearly demonstrated in practice.

To illustrate we have a situation where a Distributed Generation scheme which could connect by 2010 may be forced to wait until 2016, at the earliest, even though the scheme requires no local transmission works and whose generation output would net off the local GSP demand at all times. In this case there is no incentive on the TSO to progress a solution to this problem as quickly or pragmatically as the customer or we would like. Indeed the TSO will compound this situation significantly if its proposed CUSC CAP[10] 167 is implemented as this will allow the TSO to block all generators connections of 1MW and above on the basis of deep network constraints.

In situations such as these we think there is a room for a different approach to be taken. For example a way forward might involve some form of independent arbitration where an independent hearing and decision can be taken that considers all relevant factors.

We would also highlight that any increases in constraints arising from connecting DG in southern Scotland are likely to be short term given the good progress SP Transmission is making in progressing upgrades of the main interconnected transmission system (e.g. upgrade of the Anglo-Scottish Interconnector).

Regarding the DGIM itself, experience has shown that the existing DGIM does not work in certain areas where there is little or no existing infrastructure to accommodate connection of Renewable Generation, for example in Wales where the Welsh Assembly has laid out its TAN 8 proposals, or where the required infrastructure in the form of main network or 'light current' assets is disproportionate to the required

[10] CUSC – Connection and Use of System Code; CAP – CUSC Amendment Proposal;

connection capacity.

That said the mechanism itself needs only minor adjustment to accommodate these situations and the mechanism's existing principles are perfectly compatible with the objectives of connecting Distributed Generation. We therefore propose that the existing mechanism should continue with only minor modification.

We believe that a working group would be an appropriate way to develop solutions in relation to the further development of the DG mechanism, the RPZ mechanism and the role of DNOs in relation to interface with NGT.

Table 2.1 Connections:

How do we ensure progress is made during 2009 with:

- **A national standard connection agreement**
- **Reviewing the proportionality of ER G/59 & ER G/75**
- **A national connections process**
- **Reviewing the effectiveness of the LTDS for DG and other users of the network.**

- A national standard connection agreement

DNOs are developing a standard connection agreement for generators through the Commercial Operations Group (COG) and we expect that this will be delivered later this year, and implemented shortly thereafter.

- Reviewing the proportionality of ER G/59 & ER G/75

Work is underway through the Distribution Code (DCode) Review Panel to consider the proportionality of the interface requirements for smaller generators (ER G59, ETR 113 and ER G75) and to develop more cost effective solutions where possible that continue to provide acceptable levels of network safety and security.

We do not believe that this currently presents a significant barrier to generator connections and do not believe that a reduction in network safety and security is an acceptable price to achieve a marginal reduction in connections costs.

For microgeneration, we have continued to apply the principle of G83 and have extended this to slightly larger machines to enable simpler, economic connections; this is provided in the context of the protecting existing customers and public safety.

- A national connections process

In effect there is a national connections process through SLC4F, and this relatively recent development should be allowed sufficient time to take effect before considering whether further developments are needed.

For Statutory connections we recognise that there is some merit for Generators in adoption of best practice including standardised processes and documentation. We recognise that potentially one key aspect in this regard is effective communication with generators throughout connections projects from conception through to commissioning.

- Reviewing the effectiveness of the LTDS for DG and other users of the network

We believe that the broader question that needs to be addressed is what communication needs to take place between DNOs and parties seeking connection to the DNO's network, the timing of that communication and the most effective manner that this can be delivered.

The requirements for an effective interface to generators and larger demand customers should form an element of the DNOs stakeholder consultation process.

In relation to the LTDS specifically we note the following:

- DNOs have made significant investments in developing and producing the LTDS.
- The LTDS have primarily been created to support the needs of a particular commercial project and the LTDS itself has limited customer / developer take up.
- Whilst the associated commercial online project provides LTDS information to Developers in a more non-technical user-friendly manner this is provided on a commercial basis and is limited in scope.
- The nature of electrical networks and industry commercial arrangements dictate that Developers require to engage with DNOs to fully assess their potential connections.
- We are unconvinced that the current LTDS or the commercial offering satisfies Developers or DNO needs moving forward.

Greater interaction between developers and DNOs is required, and this will increase materially if the regulatory framework changes significantly

One possible mechanism would be for DNOs to provide more online up-to-date network data, however this would require significant IT developments and associated funding. We note that DNOs did not receive an allowance for the development and ongoing operating costs associated with the current LTDS.

The industry debate should not merely focus on incremental development of the LTDS.

Table 2.1 RPZ:

We invite views on the possible extension of RPZ to include demand connections.

DNOs are obliged to implement the most economic solution that suits the technical requirements of the connection. These are often carried out in line with existing technical policy and standards.

The incentives (DGIM and RPZ) allow options to be assessed that are beyond the norm.

However, the RPZ mechanism is too narrow:

- Only applicable for new DG under DGIM. It doesn't facilitate legacy DG, where the introduction of novel techniques where an increased energy yield (MWh) could be obtained.
- It suits large-scale generation connections where the incentive is sufficiently strong. The development / implementation of equally novel scheme that may facilitate many smaller schemes are not effectively incentivised.

We look forward to discussing how the scheme may be extended to provide greater opportunities for flexibility and repeatability whilst including further innovative ways of designing and operating the network on an ongoing basis.

Specifically we suggest that the scheme is developed to include:

- Legacy generation
- Demand developments
- A minimum floor to promote smaller schemes.

Table 2.1 Active network management:

Are DNOs obliged and/or incentivised to consider non-network solutions before undertaking reinforcement works?

Is there a potential conflict for DNOs in an ownership group that includes DG and storage plant?

The current regulatory framework and mandatory requirements for business separation of licensed entities prevent conflict in the current market structure, and should provide a strong base to ensure that any potential conflict is prevented from occurring through market design for any future developments of this nature.

Having undertaken a recent IFI project on storage, with a real application and costing analysis, we identified that:

- We believe that DNOs could install storage in place of reinforcement; but
- The capital costs of energy storage are disproportionate (£500k+ per 1MW) compared to conventional techniques, however this would perhaps allow generators to make a more significant contribution to network security and when considered holistically may be more appropriate than disconnecting renewable generators at times of network constraint.

Table 2.1 Roles & responsibilities:

Is there a role for DNOs around the interface with transmission?

If so, what are the possible developments in this area and how will it interact with DPCR5?

As an owner of two Distribution licences, both of which lie in the most resource rich areas for Renewable Generation in the whole of Great Britain, it is our view that the low levels of megawatts connected are directly attributable to the complexities of obtaining planning consents and land rights and the structure of incentives faced by the GB Transmission System Operator (TSO) under the current regime and do not relate to the DGIM or to the issues identified by Ofgem.

It is of concern to us that in Scotland we currently seem unable to connect schemes that cause no local transmission constraint costs and whose impact on deeper transmission constraint costs appears to be theoretical rather than clearly demonstrated in practice.

To illustrate we have a situation where a Distributed Generation scheme which could connect by 2010 may be forced to wait until 2016, at the earliest, even though the scheme requires no local transmission works and whose generation output would net off the local GSP demand at all times[11]. In this case there is no incentive on the TSO to progress a solution to this problem as quickly or pragmatically as the customer or we would like. Indeed the TSO will compound this situation significantly if its proposed CUSC CAP[12] 167 is implemented as this will allow the TSO to block all generators connections of 1MW and above on the basis of deep network constraints and further restrict DNOs ability to innovate to facilitate additional DG connections, for example through contractual and technical arrangements with generators to disconnect or reduce generation levels at particular times.

In situations such as these we think there is a room for a different approach to be taken. For example a way forward might involve some form of independent arbitration where an independent hearing and decision can be taken that considers all relevant factors.

We would also highlight that any increases in constraints arising from connecting DG in southern Scotland are likely to be short term given the good progress SP Transmission is making in progressing upgrades of the main interconnected transmission system (e.g. upgrade of the Anglo-Scottish Interconnector).

Whilst we do not believe the issues identified are preventing generator connections, we recognise that resolution of the less significant factors identified may serve to

[11] SP Distribution currently has 4 fully consented DG projects (totalling 71MW) that NGT currently says cannot connect until 2016 earliest subject to deep network reinforcement of the transmission network in the North of England and the B6 interconnector between England and Scotland, the smallest of which is 6MW. In addition we have a further 9 projects awaiting consent totalling 172MW in a similar position.

[12] CUSC – Connection and Use of System Code; CAP – CUSC Amendment Proposal;

expedite generator connections. Industry developments are already underway to address the majority of these issues and our view on each of the issues is detailed separately in appendix 1.

We believe that a working group would be an appropriate way to develop solutions in relation to the further development of the DG mechanism, the RPZ mechanism and the role of DNOs in relation to interface with NGT.

Table 2.1 Commercial:

We remain concerned about the cost-reflectivity of UoS charges to DG and the barrier this might present to the connection of DG.

How do we address the current lack of cost signals to generators that connected pre-April 2005 that currently do not pay UoS charges?

We invite views on the framework of the current DG incentive and the possible distortions this is creating on more cost reflective charges for DG.

- We remain concerned about the cost-reflectivity of UoS charges to DG and the barrier this might present to the connection of DG.

We are pleased that Ofgem recognise that the benefits of generation need to be considered in relation to DNO charges to generators, but do not believe that this represents a significant barrier to entry.

We believe that the issue of a separate DG allowed revenue requires to be dealt with. The fact that DNOs are not allowed to obtain any revenue related to generation connections from demand customers distorts any pricing signal.

This approach means that any benefits identified by a generation charging methodology will be paid for by other existing generation users and not the demand customers whose reinforcement costs generation is considered to displace or delay. This issue should be addressed in any long-term solution for charging methodologies as well as in the price control process.

- How do we address the current lack of cost signals to generators that connected pre-April 2005 that currently do not pay UoS charges?

We recognise Ofgems concerns regarding lack of cost signals to generators that contracted for connection prior to April 2005. One approach that may merit consideration is to facilitate equivalent treatment of all generator connections and UoS charges by retrospective review of connections charges, an approach that would similar to the rollout of NGTs 'plugs'methodology, although this would be limited by DNOs shallow-ish connections charging methodologies.

- We invite views on the framework of the current DG incentive and the possible distortions this is creating on more cost reflective charges for DG.

We are pleased that Ofgem recognise that the benefits of generation need to be considered in relation to DNO charges to generators.

We believe that the issue of a separate DG allowed revenue needs to be dealt with. The fact that DNOs are not allowed to obtain any revenue related to generation connections from demand customers distorts any pricing signal.

This approach means that any benefits identified by a generation charging methodology will be paid for by other existing generation users and not the demand customers whose reinforcement costs generation is considered to displace or delay.

Another factor that plays into the DG incentive is DNOs shallow-ish connection charging methodologies, which limit the applicability of the DG mechanism in many circumstances.

These issues should be addressed in any long-term solution for charging methodologies as well as in the price control process.

Appendix 2 : ScottishPower Energy Networks response to Table 3.2 Summary of current incentives and areas for development

Table 3.2 Interruption incentive scheme:

- **Possible new mechanisms related to worst served customers and short interruptions.**
- **Utilise more/better data to set targets.**
- **Include part of exceptional events in the scheme or raise exceptional event thresholds**
- **Possibly equalize incentives rates for all DNO, while varying other elements such as the bandwidths.**

We believe the IIS has been successful in ensuring DNO's remain focussed on improving customer service, however limitations of the current incentives include:

- Focus tends to be towards opportunities for 'Quick Wins' – i.e. cost effective solutions based upon protection and control to minimise impact of faults rather than addressing the underlying problems through fault prevention. This has led to increasing numbers of Short Interruptions and masked a deterioration in the underlying performance of certain asset types.
- Provides weak focus on Worst Served Customers and Communities.
- Wide range of incentive across DNOs that cannot reflect customers willingness to pay.

We believe that these limitations can be addressed through introduction of:

- Base case investment allowances which seek to move asset fault rates towards a benchmark (say national average or national upper quartile) over a period of time (say 10-15 years), and:
- An investment programme targeting Worst Served Customers & Communities
- The existing range of incentive rates result in a wide range of values being placed on each customer interruption (3.4:1) and each customer hour lost (2.8:1) and results in widely different cost benefit analysis outcomes for DNO's. This range should be standardised and linked to customer willingness to pay to ensure all DNO's are encouraged to deliver the same cost effective solutions. To achieve this we propose that the % of revenue exposed to incentives remains capped at 3% and that the performance envelope over which incentives operate is made variable.

Possible new mechanisms related to worst served customers and short interruptions.

Worst served customers were not addressed at DPCR4 and continue to be a concern, therefore we are happy to see that Ofgem propose to deal with this in DPCR.

The requirements to address worst served customers are unlikely to be uniform across all companies and we will require to examine the relative service faced by these customer groups compared to the cost to resolve any issues.

SP Energy Networks is currently taking a lead in developing a measure of worst served customers through the Quality of Supply working group and are developing a mechanism that could be adopted by the industry.

For simplicity we would propose a mechanism based on the number of >3min long interruptions experienced by customers.

Our experience in addressing WSC demonstrates that the 'fixes' required do not usually withstand scrutiny by normal investment appraisal techniques since the cost per customer can be very high and on this basis we do not believe that an incentive type mechanism using realistic incentive rates could be developed as it is likely in most cases to be more cost effective for DNO's to take the incentive penalty rather than that proactively fix the issue.

We propose that WSC are addressed through the allocation of an annual Capex allowance which DNO's have to demonstrate retrospectively was effectively targeted to their WSC – this approach would be similar in operation to the Capex allowance for under-grounding in AONB.

Utilise more/better data to set targets.

The variability of performance year-to-year which is attributable to external factors such as weather remains significant, even after the exclusion of EE's, and to reduce the impact of this variability in the setting of targets it is essential that future targets are based at least 3-years, and preferably 5-years, data for LV and HV with 10-years being appropriate for the EHV and 132kV categories which are also exposed to the volatility caused by small numbers of faults.

We support the processing of LV data as a single group in place of separate processing of mains & services

We would support a review of the possible dominance affect that individual DNO's may be having on the setting of disaggregated band benchmarks, in particular:

- We are concerned that EdF's underground network dominates the calculation of national average fault rates in the UG disaggregation groups and has the result of setting more onerous CI targets for most DNO's when it is recognised that there are few cost effective measures a DNO can take to improve the failure rates of UG cables. We therefore propose that the CI benchmark value for the 'UG' groups should be set on the basis of a 90% of the DNO's own fault rate and 10% of the national average fault rate.
- We have concerns regarding the robustness of the approach used to calculate U.Q. CML/CI in each of the 23 bands (currently u.q. is calculated from the 13/14 observations even though some of these observations may be based upon very small numbers of circuits and or faults.).

We believe that future Pre-arranged targets should reflect a forward looking view of the likely levels of CI and CML and we look forward to participating in the development of an appropriate methodology.

We agree with Ofgem that Frontier performers should be rewarded for accepting targets reflecting their current performance where these are more onerous than the calculated benchmark. This approach however should not be confined to DNO's

demonstrating out-performance of CML targets but should be applied equally to those DNO's out-performing CI benchmarks.
We support the continuance of the current audit methodology. It is our view that there is no need for this to be extended to include a random audit during the DPCR as in our view this would add to overall costs, however we would have no objections if Ofgem wish to pursue this approach. We would support the setting of separate accuracy targets for LV and higher voltages. We believe that appropriate targets would be 90% for LV (as current), 96% for HV and 96% for EHV/132kV combined.

Include part of exceptional events in the scheme or raise exceptional event thresholds:

We acknowledge Ofgem's concerns regarding the 27 EE's claimed on average per year, however within this number multiple DNO's will be making a claim for the same weather event so the number of events is less than this headline value.

Given changing weather patterns and evidence of increased risk to network businesses from climate change effects we believe the thresholds for exceptional events needs to be examined carefully and revised. Further, the existing mechanism needs to be refined to exclude certain events out-with the control of DNOs.

We believe that the requirement for an exclusion mechanism for exceptional events from the Quality of Service incentive has increased as a consequence of the frequency and severity of extreme weather events experienced during DPCR4 and the increased severity of extreme weather events forecast going forward by the Meteorological Office.

Excluding EE's from IIS is essential to ensure that the mechanism does not become a weather lottery, that targets can be challenging but achievable and that the likely result of actions to improve performance through investment or operational initiatives are reasonably predictable for the DNO's.

We would assert that there is no need for IIS to have any role in encouraging DNO's to perform well during exceptional events as sufficient incentives are already in place related to EE's through DNO's exposure to:

- Repair costs – which are predominantly labour related & therefore proportional to total repair time.
- Customer storm compensation payments.

We believe that there is benefit in terms of consistency in retaining the current methodology for weather related events in DPCR5 but if changes are to be made we would opt to re-introduce a 'materiality of impact test', based upon 2% of annual CI or CML, alongside the current exceptionality test rather than changing the current exceptionality thresholds.

By exclusively focussing on events outside the control of the DNO, the one off EE exclusion process fails to acknowledge that even the most prudent DNO is exposed to the risk of big IIS impact events, for example during outages on higher voltage networks. We would therefore propose that the one-off EE mechanism is extended to

include a limited number of events within the control of a DNO, say by allowing the DNO to exclude one fault per annum (or possibly 5 over the review period) from the IIS mechanism.

The recent low frequency event in the UK has demonstrated that the IIS mechanism makes no provision for the exclusion of a range of events that DNO's are obliged to comply with through the Grid Code. We propose that a further EE exclusion mechanism should be introduced to IIS to enable Ofgem to exclude 'force majeure' type events, such as any events related to Operating Code 6 of the Grid Code or HILP events.

DNO's upper exposure to GS payments during one-off EE's is unlimited under the DPCR4 incentive mechanism. Alignment with weather related events is required to provide a reasonable level of exposure, this could be achieved by placing an upper limit on the payments to any individual customer to say £200.

Possibly equalize incentives rates for all DNO, while varying other elements such as the bandwidths.

We believe the existing IIP customer service mechanisms are broadly correct and should be developed to resolve identified weaknesses rather than radically changed. Two key areas that need to be addressed include the wide variation on incentive rates which creates inequality for customers and the unfair treatment of frontier companies in the Customer Interruptions measure

There is a wide variation in the incentive rates, in terms of £m/CI and £m/CML, applicable to each DNO under the quality of service incentive regime (see table 1 below). This variation results in a significant inequality between customers in different parts of the country for a given interruption. This arises because the amount of revenue exposed to the incentive regime for each DNO is calculated as a percentage of allowed revenue without sufficient consideration of drivers of allowed revenue relative to differences in the customer base between DNOs.

We can illustrate this point by analysing the impact of an incident interrupting 500 customers for 60 minutes (see table 1 below). The highest value per connected customer across all DNOs is more than ten times the lowest and there are significant variations between companies.

Table 1: Analysis of Impact of Incident Interrupting 500 Customers for 60 Minutes

DNO	CI Rate (£m/CI)	CML Rate (£m/CML)	Incident Value (£k)	Impact per connected customer (pence)
SHEPD	0.08	0.11	10	1.45
WPD South West	0.1	0.17	9	0.88
SPM	0.18	0.22	11	0.73
SPD	0.23	0.3	10	0.53
LPN	0.3	0.34	11	0.50
NEDL	0.1	0.14	6	0.38
WPD South Wales	0.07	0.12	5	0.32
UU	0.18	0.23	7	0.29
YEDL	0.14	0.18	6	0.25
SEPD	0.18	0.26	6	0.21
CN West	0.15	0.2	5	0.21
SPN	0.09	0.14	4	0.17
CN East	0.11	0.15	4	0.17
EPN	0.16	0.25	4	0.13
Average	**0.15**	**0.20**	**7.1**	**0.35**

We note that some companies have expressed concern that the standardisation of penalty/reward rates might increase their relative exposure to risk under the CI/CML mechanism however we believe that this can be agreed by maintaining an appropriate cap on the total level of exposure in terms of revenue, or reviewing the bandwidth applied to targets.

An alternative solution might also be to link the incentives to components of the allowance rather than total revenues. For CML this could be opex and correlate to the fact that Ofgem view improvement in this area as an opex solution.

We agree with Ofgem that Frontier performers should be rewarded for accepting targets reflecting their current performance where these are more onerous than the calculated benchmark. This approach however should not be confined to DNO's demonstrating out-performance of CML targets but should be applied equally to those DNO's out-performing CI benchmarks.

Table 3.2 Telephony incentive scheme:

- **Broaden survey to cover wider aspects of customer satisfaction and streamline existing assessed attributes.**
- **Possible incorporation of financial incentives on key measures.**
- **Explore scope for incorporating existing telephony survey into DNO customer satisfaction surveys.**

We support the proposal to streamline the customer survey into 'willingness of staff to help', 'accuracy of information provided' and 'satisfaction with speed of response' (dropping Politeness of staff and Usefulness of information provided)

It seems reasonable to expect that those DNO's who seek to provide a more personal service by answering customers calls by means of an operator will, as a consequence, experience an enhanced level of unanswered calls. In our view therefore it would be wrong to place a financial weighting on unanswered calls without also including customers who are answered by messaging in the customer survey to ensure their views on the relative merits of messaging or speaking to an agent can also be taken into account.

We would welcome the Telephony mechanism being more fully reflective of the overall service provided to customers. Therefore if the data protection issues associated with including customers answered by messaging in the survey can be resolved we would support incorporation of the views of customers who are answered by messaging and the level of unanswered calls in the overall mechanism.

Table 3.2 Guaranteed standards of Performance:

- **Explore business compensation arrangements and the trigger point for compensation associated with supply restoration in normal weather conditions taking into account the results of the quantitative consumer research.**
- **Possibly introduce a total duration standard.**
- **Introduction of a standard that provides timescales and compensation levels for resolving complaints.**

Networks are designed to meet P2/6 which reflects a probabilistic approach to expected network performance. The result is that some customers connected to such networks can be expected to receive outlying levels of performance. It is these customers that the Guaranteed Standards should continue to seek to recognise.

Guaranteed Standards should be designed to provide a level of compensation for domestic and smaller industrial & commercial customers who are supplied by single and small (45kVa) 3-phase supplies since the larger capacity supplies provided to larger industrial and commercial customers are less likely to be impacted by events covered by GS's and those customers with such supplies are also more able to both select the type of connection they require to the DNO's network and design in appropriate mitigation against supply loss (UPS, generators, insurance etc).

In our view the current compensation levels for both domestic and smaller I&C customers, which reflect a considerable proportion of annual DUoS charges, are more than adequate

We do not support the evolution of Guaranteed Standards into what would effectively be a customer compensation scheme as this would be a costly burden on both DNO's and the wider customer base who would ultimately fund the scheme. Customers who, due to their specific circumstances, require enhanced levels of financial protection against loss of supply should seek to address their specific needs through the implementation of mitigation devices and or insurance.

GS's should therefore continue to be set at a level which provide realistic 'back-stop' targets for DNO's to achieve in the majority of circumstances.

Associated with this an DNO's upper exposure to GS payments during one-off EE's is unlimited under the DPCR4 incentive mechanism. Alignment with weather related events is required to provide a reasonable level of exposure, this could be achieved by placing an upper limit on the payments to any individual customer to say £200.

GS2 reduction below 18hrs

Assets failures that result in longer supply interruptions, typically involving cables at voltages of 11kV and below, can usually be repaired with today's 'cold' jointing techniques within 18hrs. The introduction of 'cold' jointing was an enabler in the previous change to GS2 from 24hrs to 18hrs.

Moving GS2 below the current 18 hours could not be expected to deliver further significant changes in DNO's performance, indeed the greater acceptance by DNO's that the standard is not achievable in certain situations might lead to a deterioration in

overall performance since the incentive to avoid GS2 failures would be weakened.

New Total Duration Standard
Whilst a standard along these lines seems attractive, with current connectivity models based upon best association at an LV feeder level, the ability of DNO's to track the impact of multiple interruptions over time on individual customers is limited. The operation of such a standard would therefore be difficult and potentially costly.

DNOs will generally be unable to respond differently to a fault that affects a customer who has already been off supply for 10 hours during the year to a fault that is affecting a customer for the first time in the year. Such a 'total duration standard', if introduced, will therefore purely operate as a compensation scheme.

Complaint Handling
It is difficult to see the case for a new GS covering complaint handling when new complaint handling arrangements covering all regulated service providers are being introduced following the Consumers, Estate Agents and Redress Act 2007.

The new regulations as proposed contain provision for dealing with complaints from customers about how their case has been treated by the regulated company. There is no case that we have seen for a new GS prescribing arrangements for responding to complaints over and above the procedures required under the new regulations.

Table 3.2 Connections – Licence condition SLC4F and minimum performance Indicators:

- Introduction of financial incentives to respond to requests for connections within a timeframe.
- Extended licence obligations.
- Standard pricing mechanisms to regulate connection charges for domestic customers.
- Possible one-off revenue adjustments/awards for particular leadership in connection related activities.
- Possible structural separation.

SPEN's areas amongst the most competitive in GB, as regularly demonstrated in Ofgem's annual Connections Industry Review;

SPEN has undertaken a number of changes to support an improved service to connections customers, including provision of POC information for customers seeking "section 16" quotations;

We have regular dialogue with users, and take account of their concerns in developing our processes;

Direct regulation of connection charges is not appropriate, as it will introduce cross subsidy between different connections and distort the connections market;

Condition 4F gives detailed requirements for responding to requests in the competitive market, and bears most heavily on companies with most highly developed connections markets;

Further regulation, including financial incentives, in support of competition, would be likely to further load burden on companies with most open markets.

Rather, we believe that Ofgem should recognise and further incentivise leadership in connection related activities with:

- One off revenue adjustments to recognise the increased costs associated with facilitating effective levels of competition.
- Allowing DNOs to retain profits of their affiliate in-area connections businesses where competition is effective in their distribution services area.
- Allowing DNOs to compete in-area on an equal basis with IDNOs where competition is effective in their distribution services area. In particular the market distortion effects associated with inequitable treatment of the provision Asset Values needs to be addressed.

Table 3.2 Customer service reward scheme:

- Incorporation of best practice from DPCR4 into licence conditions.
- Increase awards.
- Bring environmental issues within scope.

We believe there is a role for a discretionary Customer service reward scheme to reward those DNO's who explore best practice in those aspects of Customer Service not covered by current incentive mechanisms.

However, we do not believe that all initiatives commended as best practice should automatically be considered for adoption by all DNO's at the next DPCR since not all initiatives would 'fit' with all DNO's existing processes and procedures.

Ofgem should seek to publish more detail regarding the initiatives that receive commendation during a DPCR to enable other DNO's to choose which initiatives would best fit their own operations.

The Customer Service reward scheme is an appropriate mechanism to encourage best practice in relation to reporting and reducing DNOs carbon footprint (excluding network technical losses) as DNOs already interact with a host of regulatory bodies in these areas, including environmental agencies, and given the added complexities and a host of other factors that would need to be considered we believe any additional incentives in this area should be limited.

It is clearly desirable that all companies think progressively about the direct and indirect impact that they have on the environment. SP Energy Networks has a long track record in monitoring such factors as the impact of our use of transport and hazardous materials, to name a couple of examples, within our Corporate Social Responsibility activities. Experience has shown that setting environmental measures and incentives is complicated by company structures, the level of outsourcing deployed, different company policies and objectives, the franchise areas and environment served by businesses, network design and distribution asset characteristics and a host of other factors.

It would therefore seem to be a challenging objective for Ofgem to establish a baseline for all companies on an individual basis together with the development of a practicable incentive mechanism that is equitable to all. It also seems that perhaps Ofgem is stepping into the territory of other Regulatory bodies and we wonder if it is necessary.

As highlighted in paragraph 1.1 it would seem far more important, given the weight Ofgem attribute to the importance of Losses, that the Regulator concentrates efforts on developing a new Losses mechanism.

If there does remain a desire on the part of companies and the Regulator that carbon footprint is dealt with more generally, this measure should exclude Losses entirely (to be dealt with separately), and could be based on the existing Discretionary Reward mechanism for customer service where a relatively small reward is available to be shared among companies that demonstrate initiative.

Appendix 3: ScottishPower Energy Networks response to questions raised on voltage quality

Voltage Quality

In our view the impact of the proposed revision of EN 50160 appe ars to be much larger than the problem. The costs of adhering to tighter voltage parameter limits or new measuring intervals could far outweigh the benefits to consumers. We are currently investigating the ramifications of the EN 50160 review and would welcome views from respondents on current voltage arrangements and proposed changes.

In general we do not have any major concerns regarding the revisions to EN50160 itself, generally the standards are comparable to or less onerous than those already established in the ESQCR, Engineering Recommendations etc.

However, we are concerned overv the possible application and use of EN50160 going forward since there appears to be a desire in some quarters to change the status of EN51060 from a description of the supply characteristics that a customer might expect to receive from a network to a mandatory European standard of network performance. Such a move would lead to a need to clarify the status of 51060 in the UK and it's relationship to ESQCR, Engineering Recommendations etc.

If the revised definitions in EN50160 were to be adopted in the UK as the mandatory performance standards we would anticipate additional costs in replacing and/or reprogramming the numerous portable and fixed monitors/instruments that are in use.

Some customers, particularly those supplied at HV might be concerned at the changes since the +/-6% voltage tolerance the receive under ESQCR would be widened to +/-10% under EN51060