



RIIO T1 Business Plan

Section 1 Introduction

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This **Introduction** section introduces our overall Business Plan submission providing a high level view on

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1. Introduction

This RIIO T1 Business Plan submission is on behalf of SP Transmission Limited ("SPT"), which is the transmission licensee for central and southern Scotland. SPT provides transmission services to National Grid, as the National Electricity Transmission System Operator ("NETSO"), in accordance with its obligations under its transmission licence and the System Operator – Transmission Owner Code ("STC").

At a time when there are unprecedented challenges for the energy sector, we believe that RIIO provides a full 'toolkit' to allow the UK and Scottish Governments, Ofgem and Companies alike to meet their objectives without placing an unfair burden upon customers. We recognise that we have an absolutely key part to play in meeting UK climate change targets, and thereby facilitating the transition to a low carbon economy.

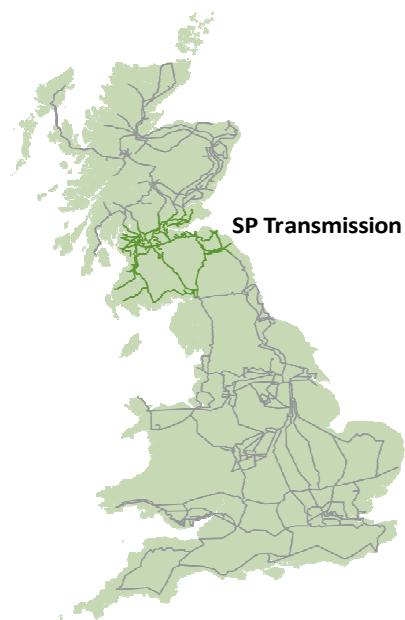
Our transmission business must connect large quantities of renewable generation to our network and also ensure that we provide sufficient transmission capacity across central and southern Scotland to support the high levels of renewables connecting in northern Scotland. This challenge comes at a time when our high voltage transmission network needs significant investment to replace and refurbish key network assets in order to maintain the current high level of quality of supply that we provide to our customers.

Our Business Plan sets out a 'best view' capital expenditure forecast of £2.1B (2009/10 prices), with non-load expenditure of £0.7B and load expenditure of £1.4B. We believe we have submitted a fully justified, financeable Plan which delivers investment grade credit ratings. This is in large part achieved by moving to a notional gearing level of 50% alongside a sizeable equity injection of close to £375M during the period. Our plans include an assumed cost of equity at the top of Ofgem's recommended range to recognise various risks within the overall package, some generic features of RIIO-T1 and some specific to SPT. We have also proposed a transitional arrangement to mitigate the negative short term cash flow implications of the move to an approximation of useful economic regulatory asset lives and preserve an element of regulatory consistency.

Our Transmission Network

Our transmission network comprises over 4000 kilometres of circuits and 127 substations operating at 400, 275 and 132kV. Our system maximum demand is around 4.2GW and we currently have over 8.4GW of generation connected to our network. To rebuild our existing network would cost in the region of £4billion.

Our 132kV, 275kV and 400kV transmission network is a key, UK strategic asset that has historically facilitated the bulk transfer of power from thermal generating stations to large urban load centres and recently the rapid increase in renewable forms of generation. As the renewable generation portfolio has evolved, the dynamic nature of load flows have changed, necessitating an increased boundary transfer capability of energy from Scotland to National Grid in the south. Most of the



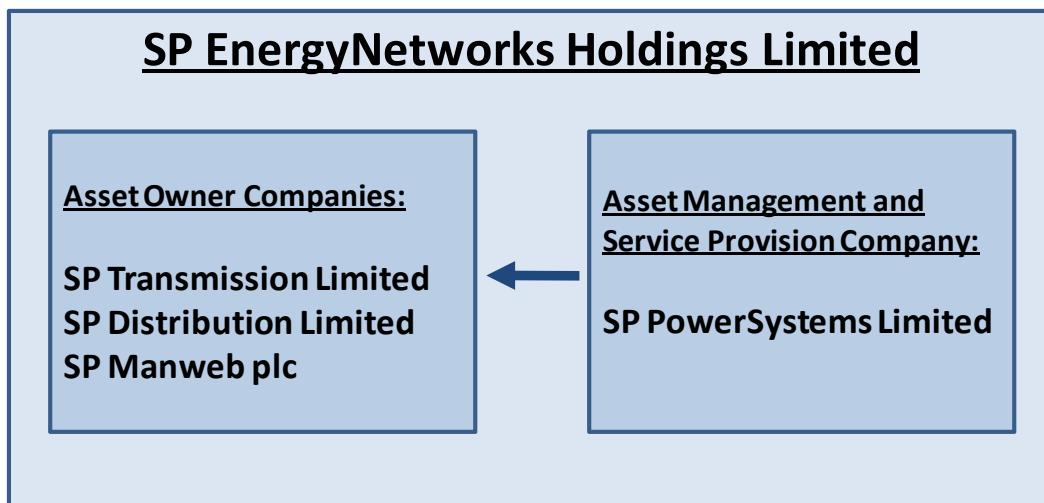
network was built in the 1950s - 1960s and now a significant portion requires replacement due to its condition. It is notable that the majority of our 275kV network is over 40 years old and significant sections of our 132kV network are over 60 years old.

SP Transmission

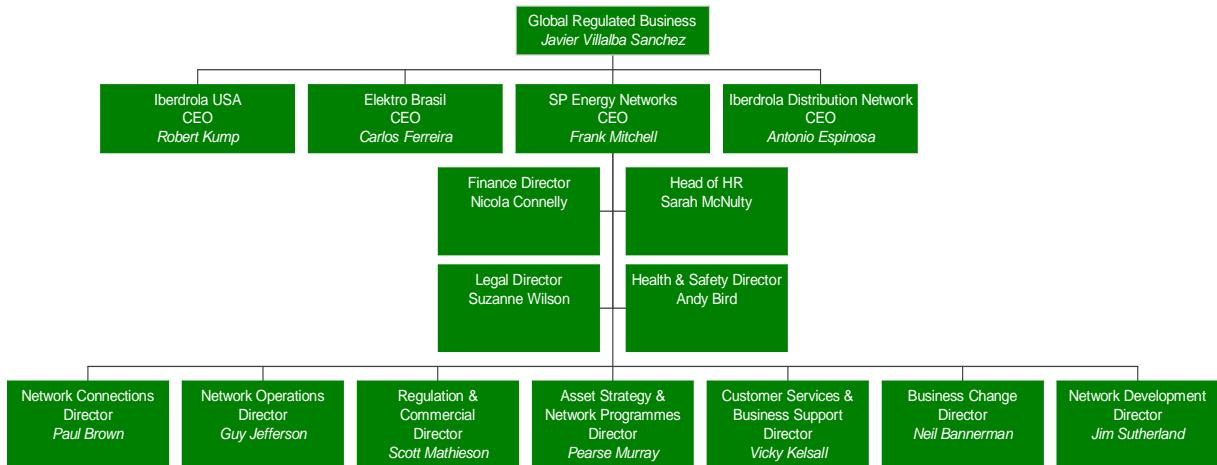
SPT is part of Iberdrola Group which is an experienced industrial player world-wide with the capability and commitment to help fulfil the UK and European agenda in the electricity sector. Iberdrola has already shown a strong commitment to participate in the sizeable investments needed in the UK electricity sector.

SPT owns and maintains transmission assets in central and southern Scotland and is one of three businesses managed by *SP EnergyNetworks Holdings Limited*. SP EnergyNetworks is also the brand name for the businesses within the Iberdrola group that own and manage the three licensed businesses; SP Distribution Ltd, SP Manweb plc and SP Transmission Ltd. The networks of these licensed businesses are in turn managed and operated by an Asset Management Services company called *SP PowerSystems Limited* under a service level agreement.

SP EnergyNetworks is structured as an Asset Owner/Service Provider model, as set out in the following diagram, in which the licences for the network businesses are held by different legal entities, with separate legal directors.



The following diagram sets out the current organisation of SPEnergyNetworks within the overall Iberdrola Group.



Scottish Power Energy Networks Holdings Limited

Board Members:

Javier Villalba, Antonio Espinosa, Jose Izaguirre, Frank Mitchell, Nicola Connelly and Scott Mathieson.

Secretary: Suzanne Wilson

Transmission Licence Obligations

Under its Transmission Licence, SPT must:

- Make available its assets to the NETSO (National Grid) in accordance with the STC,
- Plan and develop its transmission system in accordance with the National Electricity Transmission Security and Quality of Supply Standard ("NETS SQSS"), and
- On receipt of an application, offer to enter into, or modify, a connection agreement with the NETSO.

Under the STC, we are responsible for managing investment planning, with collaborative arrangements to ensure that the NETSO can input into the investment planning process.

2. Our Safety Focus

SP EnergyNetworks recognise that the health and safety of our employees, contractors and customers is of paramount importance to our continued success, and we maintain our assets to safeguard our reliability and performance, championing best practice and sharing the lessons we learn. We utilise a set of six Big Goals to provide a common purpose by combining our operational objectives with associated performance metrics. '*Health & Safety Matters*' is the first of these goals to ensure that health, safety and reliability are at the core of everything we do.

A key safety objective is to ensure that all risks to public and staff safety are as low as reasonable practicable. This is achieved through application of our risk management philosophy which ensures that safety risks are identified and managed effectively. We continue to strive for improved performance and to maintain certification to the Occupational Health and Safety Assessment Series (OHSAS) 18001:2007 standard. Our Integrated Management System Policies and Principles document is detailed in an appendix to this section and includes policy for Occupational Health and Safety.

During 2010, representatives from Det Norske Veritas (DNV) and the ScottishPower Corporate Health and Safety team carried out an assessment of the businesses within the ScottishPower Group using the DNV ISRSver8 measurement tool with the aim of sharing best practice and delivering agreed improvement plans.

SP EnergyNetworks' key focus on health and safety includes a continued emphasis on promoting safe working behaviours and progress improvements in the physical identification and control of workplace risk and the need for prevention. One of SP Energy Network's goals for operational excellence is to achieve zero injuries.

In 2010/11 the Energy Networks Business has:

- Continued to work on the implementation of a an industry leading Process Safety programme with a KPI dashboard at the heart of governance – recognised by the HSE as exemplar and resulting in winning the IChemE Award for Health & Safety.
- Continued work on the implementation of the Cintellate H&S software system for Incident management, change management, risk management, behavioural safety, hazard management and action tracking.

There has been a continued focus on employee involvement in health and safety with Safety Stand-Downs being held covering specific issues that are topical. The Stand-Downs provide a forum for raising awareness and to allow employees to openly debate and improve areas by focusing on changing behaviours.

The wellbeing of staff remains a priority and we continue to utilise the services of an Occupational Hygienist for advice and for the delivery of an agreed annual hygiene plan which includes task based monitoring. SP EnergyNetworks participates in ScottishPower's Wellbeing initiative, carries out health surveillance monitoring and offers voluntary Fit for Life assessments to staff.

In addition, public safety information and education promotion continues through a mixture of internet, community and schools teaching programmes.

3. Our Stakeholders

We welcome Ofgem's focus on customer satisfaction and stakeholder engagement as integral to their RIIO-T1 strategy. Historically, we have always endeavoured to engage effectively with those direct and indirect customers that we provide a service to, or are affected by our activities. We have also worked in conjunction with other transmission owners, the NETSO and industry bodies to deliver a reliable, sustainable transmission network that provides long term benefit for customers and other stakeholders. Although we have not formally monitored the satisfaction levels of our stakeholder community in respect of our transmission activities, we are committed to improving our stakeholder and customer satisfaction, year on year, throughout the RIIO-T1 period and beyond.

The extensive stakeholder consultation we conducted in support of our RIIO-T1 submission has already resulted in real outputs. We have reviewed all our stakeholder interactions in respect of Transmission related activities, identified key stakeholder groupings, developed a contact database, and determined the structure of customer satisfaction and stakeholder engagement surveys.

In preparing this Business Plan we have taken care to consult with all of our stakeholders through late 2010 and early 2011, and the full engagement can be viewed on our website at the following link:

http://www.spenergynetworks.co.uk/publicinformation/stakeholder_consultation.asp

The messages from this consultation process are clear. We must:

- Maintain the current level of quality of supply,
- Fully support the transition to a low carbon economy,
- Have due regard for the environment, and
- Ensure that we do all of the necessary work as cost-efficiently as possible.

Going forward, we intend to develop a strategy for engagement with our stakeholders. We will also ensure that we take action in response to this engagement that delivers changes in our processes and plans that produce overall benefit and real results in delivering our outputs better and more efficiently.

For our customer satisfaction and stakeholder engagement surveys, we intend to develop, test and baseline performance in time for the start of the RIIO price control in 2012. However, the challenges to developing effective surveys because of our relative small stakeholder pool and range of stakeholder engagement are significant but can be overcome. We will do this by working with National Grid and SHETL to identify shared service areas, and work with our stakeholders to develop appropriate stakeholder groups and understand the different levels of engagement they need and want. In order to deliver consistent improvements to our customer satisfaction levels we will develop stakeholder engagement strategies specific to each stakeholder group. We will do this with our stakeholders thereby developing stronger and more constructive relationships, at both national and local levels, that will ultimately achieve longer term efficient delivery of our primary outputs.

4. Outputs

We recognise that outputs are at the core of the RIIO regulatory framework and we believe that an important principle should be that outputs are within the control of the transmission companies. It is also important there are no conflicting incentives and that we have full access to information on which any incentive is based.

A summary of our position on key outputs is set out below.

Output Area	Outputs Summary
Safety	We will continue to strive to ensure compliance with all appropriate safety legislation
Reliability – ENS	We will provide average ENS performance of 225MWh over RIIO-T1. Our investment proposals will maintain performance in line with stakeholder expectations.
Reliability – Asset Risk	We will replace assets at end of life prioritised by criticality.
Reliability – Wider Works	We will deliver reinforcement projects which will increase the boundary capabilities of the network, within the context of the 'Gone Green Generation' scenario
Environmental – SF6	Our SF6 inventory will more than double by the end of RIIO T1. We aim to continue to target SF6 leakage performance which is above plant design standards.
Environmental – Visual Amenity	We will consider undergrounding of overhead lines in Areas of Outstanding Natural Beauty on a case by case basis when a line is considered for full asset replacement or when a new line is required. This will include consideration of consumer willingness to pay.
Environmental – Business Carbon Footprint	We will provide annual reporting of business carbon footprint and will identify measures to improve overall footprint where appropriate.
Environmental – Transmission Losses	We will consider the whole life costs (including losses) of transmission equipment and will utilise appropriate equipment on the network. We will also continue to consider the impact of losses when developing the network, and will work with NGET as SO to develop optimal designs to support a cost efficient network.

Output Area	Outputs Summary
Environmental – Broad Environmental	<p>We will continue to contribute to the UK's low energy targets through the connection of renewable generation and the completion of key boundary reinforcements.</p> <p>Through RIIO-T1 we will provide connection for 2.5GW of wind generation and increase the boundary capability to England & Wales from 3,150MW to 6,600MW.</p>
Customer Satisfaction – Survey	<p>We will develop and follow a stakeholder engagement strategy. We will also develop and implement a stakeholder survey. We will endeavour to continually improve our stakeholder engagement.</p>
Customer Satisfaction – Survey	<p>We will continue to strive to provide excellent customer service and if appropriate submit examples for consideration for the discretionary reward.</p>
Connection – Provision of Quote	<p>We will continue to work with NGET and developers to provide quality and timely connection quotes. As per current practice, we will aim to have no failures to provide quotes within the current licence deadlines.</p>
Interaction with System Operator	<p>We will continue to develop and finalise the Network Availability Policy through consultation with relevant stakeholders. We will implement this policy and will endeavour to be fully compliant with it. Additionally we will consider the impact of actions on short term constraint costs and work with NGET to minimise these within the context of delivery of the RIIO-T1 plan.</p>

5. The Development of our Capital Plan

Non-Load Investment

Our non-load investment strategy for the our transmission network aims to ensure an optimum level of investment by adopting a level of prioritised, targeted project specific, investment necessary to effectively manage the business risk and ensure long term sustainability of this key UK asset, utilising appropriate engineering interventions and risk management.

Specifically our strategy aims to:

- Maintain safety, integrity and performance of the network as its age increases whilst ensuring long term sustainability and to support network growth.
- To intervene prior to asset failure
- Minimise failures through interventions targeted on assets at or approaching end of life
- Target investment based on an assessment of risk through probability and criticality, taking account factors such as public and staff safety, strategic importance, customer sensitivity, asset performance and environmental considerations.

This investment strategy aligns fully with our Asset Risk Management policies and procedures. Our non-load investment plan therefore has been developed using our Asset Risk Management policies and procedures, which reflect the nationally agreed Network Output Measures methodology. Our plan sets out a 'best view' investment of £0.7B over the RIIO T1 period, and has been developed using extensive current asset condition information, asset replacement age based modelling, and cost benefit analysis. Condition and modelling data, along with site criticality, has been used to ensure our plans reflect the key investment priorities.

Risk assessment and risk management is a vital component of our overall asset management strategy. To ensure that risks and effectively managed the outputs from investments also need to be clearly understood. To aid this understanding a measure of asset risk has been developed achieved through monitoring of replacement priorities which are based on asset health and criticality. The classification of asset health and criticality has been developed by the three transmission owner companies and has resulted in a documented joint methodology detailing the approach to asset health and criticality and the application of replacement priorities.

Load Investment

Our load investment strategy is to meet licence requirements for the connection of generation and to facilitate, with stakeholders, a move towards a low carbon generation mix.

Our overall load investment plan sets out a 'best view' investment of £1.4B, including TIRG, over the RIIo T1 period. This plan has been informed by using the output of the generation planning scenario analysis conducted by NGET through consultation with SPT, SHETL and through ongoing dialogue with industry partners, project developers and other relevant stakeholders as part of our business as usual processes. These scenarios have formed the key starting point for the development of our load related investment plan. However we have additionally considered stakeholder dialogue, other local sources of intelligence and data to develop our plans, which have developed into a lower (baseline) plan, a best view plan and an upper plan.

Our overall load investment plan aspires to meet both the Scottish and UK Government policies for both the 2020 and 2050 renewable generation and carbon emission reductions targets. Our 'best view' takes into account our ongoing close dialogue with developers, which has slightly varied the mix from the national "Gone Green" scenario.

In addition to the consideration of the changing profile of generation, the industry planning scenarios also considered the future demand that the electricity transmission would need to accommodate. This analysis considered a range of inputs including projections for the economy, embedded generation and energy efficiency measures. In addition, potential new sources of demand such as ground source heat pumps and electric vehicles were considered.

Generation Connections

Over the current price control period, we have seen a significant rise in the number of generation projects seeking connection to the transmission network. Our current forecast of generation capacity that will connect by the end of the TPCR4 period is 1,756MW which represents an increase beyond the 1734MW target set by Ofgem at the commencement of the current price control period. By March 2012 the total transmission connected renewable generation in SPTL's area is expected to be 1890MW, and when embedded generation connections are included, this totals well over 2500MW.

Demand for renewable generation connections in our licensed area remains high with a contracted transmission renewable generation connection portfolio totalling over 9GW, including several offshore connections totalling over 4GW. This forecast is in line with the ENSG Gone Green scenario on which our 'best view' load investment is based.

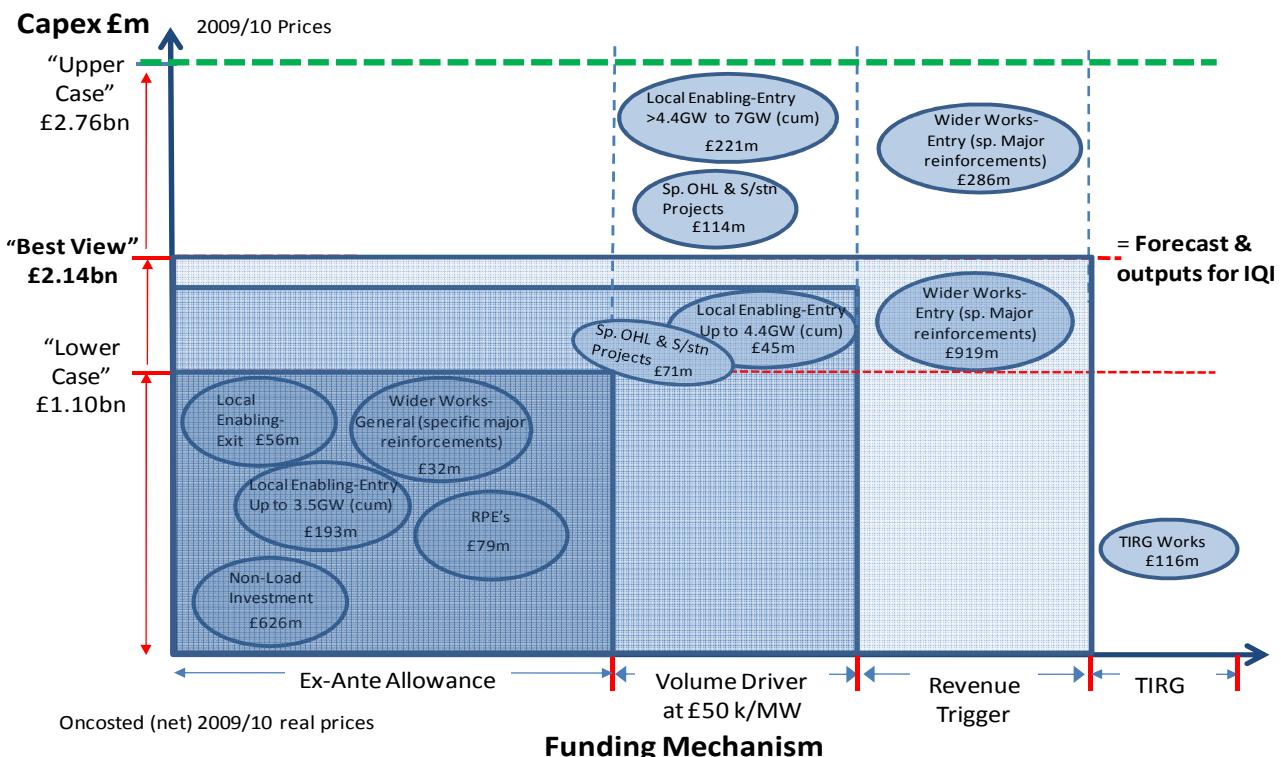
Delivery of Our Investment Plan

Given the scale of investment in both load and non-load, and the challenges in minimising constraint costs, we have paid particular attention to our capability to deliver this investment, in terms of our delivery model, internal resourcing, the consent and procurement challenges, and system access. The significant level of investment in assets and change to normal patterns of system use will increase and continue throughout the review period. Our medium and short term plans have therefore been set within the context of a longer term delivery strategy to ensure the non-load can be integrated with new connections and capacity reinforcements. We fully recognise that it is not possible to deliver the levels of investment proposed unless a high degree of programme management structure and control are in place, working with the NETSO and

SHETL. This will help to create some flexibility in our plans, thereby providing the space to resolve any conflicts between load and non-load programmes, and also with the NETSO on any system cost issues. Our approach therefore is to develop the non load programme in such a way that it can be linked and co-delivered alongside the projects driven by reinforcement and generation needs.

6. Uncertainty Mechanisms

Our “best view”¹ forecast is for capital expenditure across RIIO T1 of £2.1B and our ‘upper’ view is £2.7B. Given the scale and uncertainty of investment we recommend funding should be based on a baseline ex-ante allowance² and uncertainty mechanisms. This approach is set out in the following diagram.



Four funding mechanisms are set out; ex ante allowance, volume driver, revenue trigger and TIRG. We believe that making use of these mechanisms will ensure that we have the right balance of risk while also ensuring that we have cost-efficient funding. The key point is that this approach ensures that the customer only pays for necessary and cost-efficient investment i.e. “we deliver value for money network services for existing and future consumers”.

We propose that our ‘best view’ investment plan of £2.1B should be funded through an ex ante allowance and uncertainty mechanisms (covering both generation revenue drivers and wider system works revenue triggers). The incremental investment of £0.6B to our upper case view of £2.7B would be funded through uncertainty mechanisms.

¹ “Best View” - Defined as the TO’s best view of what is most likely to happen, regardless of the form of remuneration. This Best View will be used in Ofgem’s Information Quality Incentive (IQI) assessment.

² “Baseline” - Defined as the level of spend TO’s would propose to be remunerated via an ex-ante allowance

It is important to note that we are proposing to make use of uncertainty mechanisms for both load and non-load investment. As we outlined earlier, our delivery approach is to develop the non load programme in such a way that it can be linked and co-delivered alongside load projects. This means that there may be circumstances where we can take the opportunity to undertake additional non-load schemes, or possibly replace wider system works with non-load schemes.

Given that there is some uncertainty over system access, we believe that the right approach is to for some non-load projects to be funded through revenue driver and trigger based uncertainty mechanisms. This applies both to non-load projects within our 'best view' and also to non-load projects in our 'upper case' view.

7. Innovation

Innovation is an essential part of all our future plans for our transmission network and we have been very proactive over recent years in maximising the benefits from innovation. For example, SPT's development of technically sophisticated generator intertripping on the interconnector circuits from Scotland to England is an innovation which has had a huge benefit for GB customers. Similarly, we have also been at the forefront of developing wide area monitoring, and proactively encouraging the other companies to follow suit, to ensure that we monitor the state of the transmission system in real time and thereby maximise transfers, in terms of thermal, voltage and stability limits, across key circuits on the GB electricity transmission

We therefore welcome the inclusion of the Network Innovation Competition (NIC) and Innovation Allowance (IA) for funding of research, development and demonstration of new technology and techniques associated with the electricity network. The changing generation mix towards remotely located relative small scale renewables is creating many pressures particularly on our transmission network. Some of these pressures must be addressed using new technology, innovation and smarter commercial arrangements.

Furthermore, the ageing asset base and the pressures of extensive asset replacement will require an inherent level of innovation to ensure that installed assets are future proof and the doors are not closed on future opportunities. In addition, changing load patterns through the uptake of new technology such as Electric Vehicles, heat pumps, micro-generation & energy efficiency will create a challenging landscape for transmission networks which will require innovation throughout.

We see three clear areas for the applications for the various innovation mechanisms:

- For existing customers: to maintain security of supply through improving existing assets availability, and utilisation or new technologies which can be used to manage the existing network. This includes condition based plant monitoring, enhanced system monitoring, dynamic rating and alternative conductor types
- For future customers: To accommodate new network users with sustainable developments that minimise the use of new assets, and connect in shorter time-scales, and address potential changing demand profiles such as the widespread use of electric vehicles
- To deploy alternative and SMART technologies which will change the way we use the network. HVDC technology, SMART transmission zones and new energy storage systems etc. are examples.