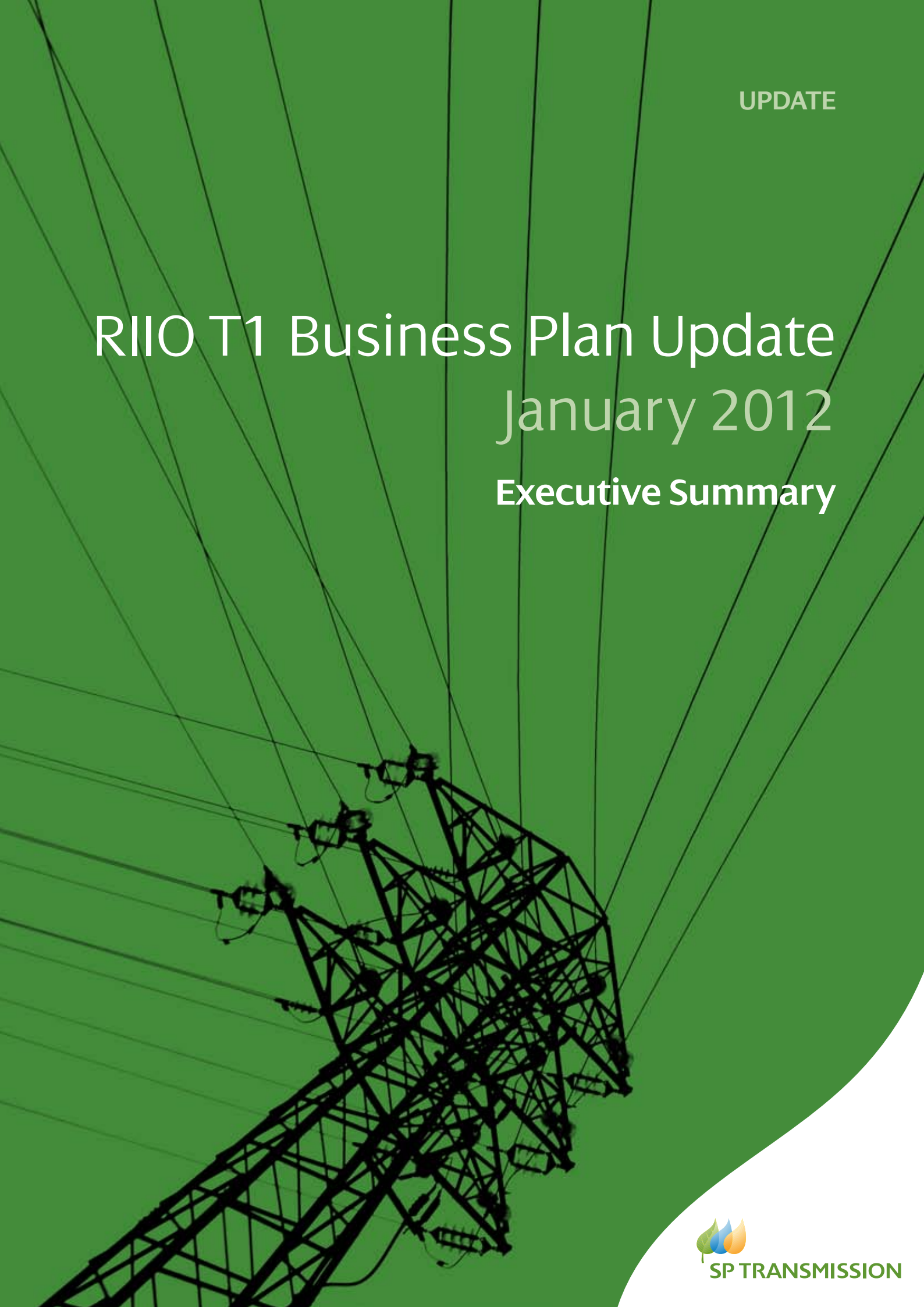
UPDATE

RIIO T1 Business Plan Update

January 2012

Executive Summary



SP TRANSMISSION

Purpose of this Document

In accordance with Ofgem's fast-track process, this updated Executive Summary sets out SP Transmission Limited's (SPT's) updated Business Plan submitted to Ofgem in December 2011, and updated in early January. Changes from the original July business plan submission are indicated in blue.

In addition to this document, our updated Plan includes the following documents:

- **Risk Management and Uncertainty Mechanisms**, ref. SPT_Upd_1
- **Delivery and Cost Assessment**, ref. SPT_Upd_2,
- **Workforce Renewal**, ref. SPT_Upd_3
- **Business Support Services**, ref. SPT_Upd_4,
- **Stakeholder Engagement Strategy**, ref. SPT_Upd_5
- **Innovation Strategy**, ref. SPT_Upd_6,
- **Environmental Submission**, ref. SPT_Upd_7 (covering Visual Amenity and Willingness to Pay, Business Carbon Footprint, SF6 Gas Leakage, and Transmission Losses)

These documents provide more detail in specific areas highlighted by Ofgem as requiring more information and clarification following their review of our July Business Plan.

Note that there is no change to our overall totex; hence no update to our Financial Model Input Sheet for totex is required.

The following table sets out specific changes to our July 2011 Business Plan Submission.

Area	Description
SF6 Leakage Output	Our updated SF6 leakage target is based on forecast SF6 volumes to be installed, and the design leakage rates of the installed assets. Our revised leakage rate target varies from 1.47% in 2013/14 to 1.29% in 2020/21.
Unsupplied Energy Incentive	Our proposed collar for this incentive will be 3%. (Our other parameters remain unchanged.)
Network Availability Policy	Following a joint TO/Ofgem meeting in London on 2 December, our assumption is that there will be NO penalties associated with non-compliance with the Network Availability Policy.
Innovation	In our Innovation Strategy we have requested an innovation allowance of a maximum of 0.75% of allowed revenue per annum. This is higher than the default 0.5% set out by Ofgem in the March strategy document, and reflects our strong innovation aspirations, and also the challenges faced. We intend to work with Ofgem to further justify our requirements in this area.
Connections	We agree that the penalties would apply if we do not comply with our licence obligations relating to connections.
Non-Load Volume Driver	The 275kV non-load switchgear replacement projects for Currie and Strathaven, which were in our Best View to be funded through volume drivers, will now be added to our ex ante allowance. Additional OHL rebuilding and reconductoring, if required, will be financed through a trigger mechanism, subject to justifying to Ofgem clear customer benefits.
Generation Volume Driver	A baseline allowance of £72m to fund H1 Sole Use infrastructure to connect 2.503GW of renewable generation. A revenue driver of £42k/MW will adjust revenues around this 2503MW target. (There would be no logging up mechanism for high-cost projects.)
Wider System Works	The following five projects will be added to the **ex ante allowance:** 1) Western HVDC 2) SPT-NGET Series Compensation 3) East-West Upgrade 4) Hunterston-Kintyre link 5) Pre-Construction Works for Non-Baseline Wider System Projects The threshold for triggering Asset Value Adjusting Event on the Western HVDC project will be 10% of the total project cost, and this would be subject to a 50:50 sharing. Also, where tenders are outstanding, provision is made for insertion of costs at a later stage. **Wider system trigger** mechanisms are required for the following projects: 1) Dumfries and Galloway, and 2) East Coast 400kV. The trigger level for funding for major new wider system reinforcement projects that are not set out in the current plan will be £100m.
Financial	To further balance the impact of RIIO T1 upon our stakeholders we have increased notional gearing from 50% to 55% and have reduced our allowed cost of equity assumption from 7.2% to 7.0%.

Executive Summary

Our Business Plan

In accordance with Ofgem's process for the RIIO T1 Transmission price control review, SP Transmission Limited ("SPT") is submitting our investment plan outlining a requirement for our shareholders and consumers to fund between £2-3 billion pounds sterling (2009/10 prices) in investment, creating up to 1,500 new directly associated jobs in the SPT licence area in this period. We estimate that the impact of our business plan on customers' bills is an increase of thirteen pence in the annual charge per customer in each year of RIIO T1.

65% of this investment is aimed at accommodating a large increase in offshore and onshore wind generation in Scotland (around 11 GW by 2020) in accordance with the UK's legally binding targets for Renewable Generation and decarbonisation of the economy. This target requires associated increases in the export capacity from the SPT transmission network from 3.3 GW at April 2013 to close to 7GW by March 2021. Progression against these targets is highlighted as becoming critical both in terms of delivering the targets but also in light of thermal generation closures scheduled to take place in this period in Scotland.

35% of this investment is required to modernise the network to ensure that the excellent security of supply and reliability enjoyed in the SPT area is maintained. This investment is being targeted at an ageing asset base where the majority of the 275kV network is over 40 years old and significant sections of the 132kV network are over 60 years old. This ageing asset base is also impacted by higher levels of utilisation arising from the Connect and Manage arrangements introduced through Transmission Access Reform, and by our future network requirements.

By 2021 this Business Plan provides the following high level outputs for the network user and customer:

- 6.6GW of export capacity & 2.5GW of import capacity between Scotland & England
- Connect an additional 2.5GW of Renewable Generation in our licence area and facilitate 6GW in Scottish Hydro-Electric Transmission Limited's (SHETL) licence area, delivering the target of 11GW for all Scotland
- Ensure that the UK meets its Renewable targets under the industry agreed Gone Green scenario
- Renew and replace over 15% of our existing substation assets and replace around 800 km of overhead line to ensure we continue to deliver excellent reliability and security of supply

For an investment plan of between £2 to £3 Billion pounds, recovery of which is amortised over 20-45 years, these outputs will deliver value to the UK consumer as a whole of around £1.7 Billion cumulative by 2021 in reduced constraint costs and will support the delivery of over £2 Billion in reduced carbon emissions (equivalent to over 45 million tonnes of CO2) from the Renewable Generation sector over this period. Without this investment the cumulative constraint costs to customers would rise to £16 billion by 2030.

We are acutely aware of the impact of funding this investment on UK customers, and whilst we do not run the GB transmission charging model, since that is the role of National Grid as the NETSO, it is clear to us that the cost to the consumer and to the UK from not undertaking this investment far outweighs the investment costs.

In our planning process we have applied Iberdrola's (among the 5 biggest utilities in the world) global procurement expertise to ensure that the costs that underpin our programme are the most efficient in the UK for the solutions we have proposed. To further minimise costs to customers our submission has also been built up from a baseline ex-ante view, involving a minimum investment case, with the flexibility to scale up through the use of volume drivers and trigger mechanisms to provide both our "Best View" of our likely investment plans, and the capability to deliver our upper case view as required. This has the advantage of ensuring that the customer only pays for investment and outputs we undertake but also provides the company with the necessary cash-flow required to maintain this progress in delivering against a business plan that must be viewed as being critical against the Government's recently restated policy objectives and roadmaps.

As we look at the RIIO T1 years more generally, we expect to find that actual WACCs will be higher, and probably more volatile, than during any other five-year period since privatisation, some two decades ago. This is because throughout the next period, but particularly from 2013, the energy projects required to meet the UK's 2020 targets will enter the large-scale construction phase.

Unlike previous Price Control Reviews, companies have been invited to submit a full, holistic financing package with Ofgem providing guidance only in a few key areas. As such we are submitting a business plan that includes a financing plan which complies with Ofgem's policy recommendations and which also provides a fair deal for customers and shareholders alike.

As a consequence of the significant increase in capital expenditure during the RIIO T1 it is inevitable that prices will rise during the period. We will work with Ofgem to ensure that these are smoothed as far as possible as we move from the roll over year of 2012/13 into the RIIO T1 period to avoid unnecessary price shocks. We estimated that the impact of our original business plan on customers' bills was an increase of thirteen pence in the annual charge per customer in each year of RIIO T1. Our updated business plan will result in an annual increase to customer bills of approximately ten pence.

Our business plans require equity injection of £200M supplementing an increase in debt of £1,004M during the period. We have included within our plans a minimum allowed cost of equity of 7.0% (post tax real) and a notional gearing of 55%. Both of these parameters have been amended compared with our original Business Plan submission. During extensive discussion with Ofgem as part of the fast track process we have been challenged on the level of risk which will impact our financing plan. We have decided to relax these two key financial parameters in order to ameliorate the impact of RIIO T1 upon our stakeholders. Additionally we have moved to a fixed capitalisation rate of 90% and recognise a reduction in IQI additional income reflecting a change in classification of certain wider works such that it falls outwith the mechanism.

What is important to industry is that Ofgem ensure that as well as protecting the consumer in terms of cost, they send out a strong signal that they support the blueprint laid out by the Government in July for Renewables and the required infrastructure to support this development. We hope this support will be underpinned by the Regulatory direction provided by DECC under the proposals from the Ofgem Review that has taken place, and that Ofgem will confirm as early as possible their commitment in terms of investment allowances and the key financial parameters (for example cost of equity allowances) that will create a context in which this investment can take place.

This is critical to industry since given the timescales we face. SP Transmission has already begun to work with our supply chains to deliver RIIO T1. In addition, working with our affiliate companies we have triggered staff recruitment processes (for example our engineering and construction business has more than doubled its dedicated Transmission workforce in the last eighteen months and is continuing to aggressively recruit), and we have also set out our consenting and procurement requirements.

This updated business plan and associated documents lay out the basis of our updated fast-track submission.

The United Kingdom is entering a period of unprecedented investment in electricity infrastructure at a time when financial markets are at their most volatile for some 80 years. It is vital if the UK Energy Policy is to be delivered on schedule that energy companies and Ofgem work collaboratively to achieve this ambitious agenda and attract the substantial levels of investment required. Key to this will be Transmission as by its very nature it has to lead the way and underpin energy policy by being ahead of the generation curve. SP Transmission has laid out how we can support this agenda and looks forward to working effectively with Ofgem to ensure that UK Energy Policy is delivered.

Contents

1. Overview

Prior to submitting the SP Transmission Forecast Business Plan for the period 1 April 2013 to 31 March 2021 there has been a very stark focus on energy policy, particularly in relation to ensuring the future security of supply for all connected customers and naturally the consequent impact on consumer prices.

Our Business Plan is presented against this context and sets out to establish how at the very heart of our strategy we have placed a very clear aim, that is:

To ensure that SP Transmission is at the forefront of facilitating the United Kingdom's transition to a low carbon economy and that as part of the Iberdrola Group we act as a catalyst to the Government's successful achievement of its legally binding 2020 targets for decarbonisation via a transition toward renewable generation.

In the following sections, we set out some of the policy and joint industry work we have undertaken to provide a clear context to the significant levels of investment we require to undertake within our transmission licence area.

Energy Market Reform

On 12 July 2011 the Secretary of State for Energy and Climate Change Chris Huhne announced his Energy Market Reforms. At the heart of these was an even stronger commitment to laying out a supportive framework to encourage a greater balance of supply from Renewable Energy resources. This, and associated announcements, highlight that the electricity transmission businesses in Great Britain will have to accommodate over a four-fold increase in our level of renewable energy consumption by the end of the decade.

This announcement confirms a leading role for Renewables and is particularly significant for Scotland, where it is anticipated that around one third of the contribution required to enable the United Kingdom to meet its European targets for renewable generation will be delivered.

On 12 July the Secretary of State for Energy and Climate Change Chris Huhne whilst announcing his Energy Market Reforms stated that: "We have a Herculean task ahead of us. The scale of investment needed in our electricity system in order to keep the lights on is more than twice the rate of the last decade" and that "A new generation of power sources including renewables, new nuclear, and carbon capture and storage, along with new gas plants to provide flexibility and back-up capacity, will secure our electricity supply as well as bring new jobs and new expertise to the UK economy."

In order to stimulate and bring forward the necessary "clean" plant that is required to deliver the Governments vision Mr Huhne announced a package of measures including:

- The announcement in Budget 2011 that the Government would put in place a Carbon Price Floor to reduce investor uncertainty, putting a fair price on carbon **and providing a stronger incentive to invest in low-carbon generation now.**
- The introduction of new long-term contracts (Feed-in Tariff with Contracts for Difference) to provide stable financial incentives to invest in all forms of low-carbon electricity generation.
- An Emissions Performance Standard (EPS) **to reinforce the requirement that no new coal-fired power stations are built without CCS.**
- A Capacity Mechanism, including demand response as well as generation, which is needed to **ensure future security of electricity supply.**

The necessary legislation which will underpin this package of measures for reform is aimed to reach the statute book by spring 2013 which also marks the start of the new RIIO T1 price control. In the intervening period the Government is putting in place effective transitional arrangements to ensure there is no hiatus in investment while the new system is established.

On the same day DECC also published the final report of the Ofgem Review, following publication of the Summary of Conclusions in May. This report provides further detail on how the Government will seek to strengthen the regulatory framework, bringing greater clarity and coherence to the distinct roles of government and the energy regulator.

Also at this time the UK Government and the Devolved Administrations published the Renewable Energy Roadmap setting out a comprehensive programme of targeted, practical actions to tackle the barriers to renewables deployment, enabling the level of renewable energy consumed in the UK to grow in line with our ambitions for 2020 and beyond. This work identifies eight technologies that have the greatest potential to help the UK meet the 2020 target. Energy from wind, biomass and heat pumps are the leading contributors, including offshore wind – where the UK has abundant natural resource.

The Government underlined its intention to ensure the full economic and energy security benefits of offshore wind resources come to the UK rather than its competitors.

This series of announcements in July confirms a leading role for Renewables and is particularly significant for Scotland, where it is anticipated that around one third of the contribution required to enable the United Kingdom to meet its European targets (from contributions both from onshore and offshore wind) will be delivered. The associated documents imply that the electricity GB electricity transmission businesses will have to accommodate over a four-fold increase in our level of renewable energy consumption by the end of the decade.

2. Capital Investment

Load Related Investment

Against the policy blueprint announced by the UK and Devolved Governments SPT faces a major challenge to connect and facilitate the boundary flows associated with connecting between 10 to 15GW of renewable generation across the whole of Scotland. This level of generation has been identified through a joint industry working group referred to as the Electricity Networks Strategy Group (ENSG) which is chaired by Ofgem and DECC.

There is a requirement to provide north to south transmission export capacity for this renewable generation (above the 6GW Scottish demand) through the SHETL and SPT licence areas to the major demand centres in England and Wales. This is a key aspect of our underlying business plan; this must be met while also addressing the major technical challenge related to the significant reduction in the conventional generation portfolio in Scotland, creating issues in terms of system stability and the underlying security of supply.

The Current Generation Background

The existing transmission network in central and southern Scotland has a maximum demand of around 4GW (total Scotland 6GW). This demand has historically been provided by a generation portfolio of nuclear and coal capacity, supported by pumped storage, industrial gas CHP and small scale hydro and embedded generation, with further capacity being available through interconnection with the north of Scotland, England and Northern Ireland. Over the past 5 years this has been supplemented by a growing portfolio of directly connected wind generation planned to reach over 1.8GW by the end of 2011/12.

By the end of RIIO T1 we anticipate that the SPT area demand will not be significantly different to the existing position. There are various conflicting drivers at play that drive this position, for example:

- Demand and consumption may drop due to the availability of feed in tariffs encouraging the development of micro generation along with Government initiatives to improve efficiency.
- On the converse side, rising gas and oil prices will encourage further usage of electric heating, and to de-carbonise the transport sector a shift to electric vehicles could be anticipated which could lead to an increase in electricity demand.

What is also clear is that conventional generation will reduce by 2GW, due to the expected closure of Hunterston and Cockenzie power stations, thereby creating a gap in base load generation capacity in Scotland.

Electricity Networks Strategy Group (ENSG)

Through stakeholder engagement, and working jointly with NGET and SHETL through the ENSG chaired by DECC and Ofgem, we have developed three scenarios reflecting possible changes in the generation portfolio and associated network capacity to plug this gap. These scenarios ensure that the transmission network is developed to play its part in transporting Renewable energy from Scotland, a Renewable rich area of Great Britain, with a clear commitment to wind power, and which will play a significant role in achieving the targets set out by Europe.

Looking forward, the ENSG Group has identified that based on the central planning scenario Renewable wind generation will increase to around 5GW by 2020 and Carbon Capture and Storage (CCS) will start being applied to the remaining coal generation in SPT's licence area. Further, renewable generation will increase to around 6GW in SHETL's area in the north of Scotland. This is in addition to their existing 3GW of capacity provided through hydro, pumped storage and gas generation.

The development of our Load Investment plan has been informed by using the output of the generation planning scenario analysis conducted by NGET through consultation with SPTL, SHETL and through ongoing dialogue with industry partners, project developers and other relevant stakeholders as part of our business as usual processes. These scenarios are referenced throughout our Load Related submission. 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.

The planning scenarios seek to align future network requirements with recognised Government targets. Three scenarios were identified these being:

- Slow Progression
- Gone Green, and
- Accelerated Growth

These scenarios were developed to provide a robust context to plan against in a period of quite considerable uncertainty. Only slow progression fails to meet the Renewable targets (by a minimum of around 5-years) and the industry, DECC and we believe Ofgem have agreed that the blueprint we must build towards prudently is the Gone Green scenario.

It would be imprudent not to recognise that many industry commentators and observers, and possibly even Regulators may well question the UK's ability to meet the targets in aggregate. However accurate or otherwise those thoughts may be industry does not have the luxury of being able to continuously debate these scenarios. We have been challenged to deliver a blueprint for Renewable Generation that sees the UK succeed in meeting its targets and we therefore would be unable to accept a lower scenario which we believe would emphatically contribute to us missing the targets.

However, much uncertainty does still surround the plans, particularly as Ofgem have moved price controls to cover 8-year periods. Therefore in order to minimise costs to customers our submission has been built up from a baseline ex-ante view, involving a minimum investment case built on solid engineering and planning progress, with the flexibility to scale up through the use of volume drivers and trigger mechanisms to provide both our "Best View" of our likely investment plans, and the capability to deliver our upper cases as required. The levels of investment falling into these categories is summarised in the diagram below.

In summary our Load Related Generation Investment plans deliver:

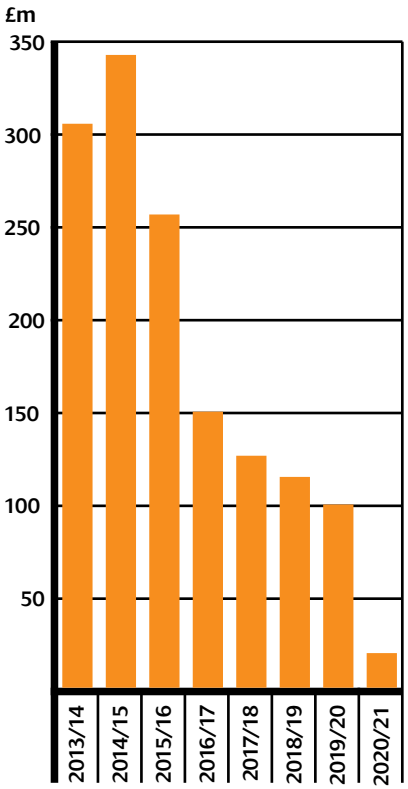
- An additional 3GW of renewable generation, in our Best View, connecting by 2021 giving a total of circa 5 GW of directly connected renewable generation in our area for £239m.
- In addition, our upper case scenario, established by the active dialogue and commitment shown by developers, reflects a further 7GW of predominantly wind connecting by 2021 for a further £221m that would be funded via a revenue driver mechanism.

To fund our planned 'Best View' investment we will require:

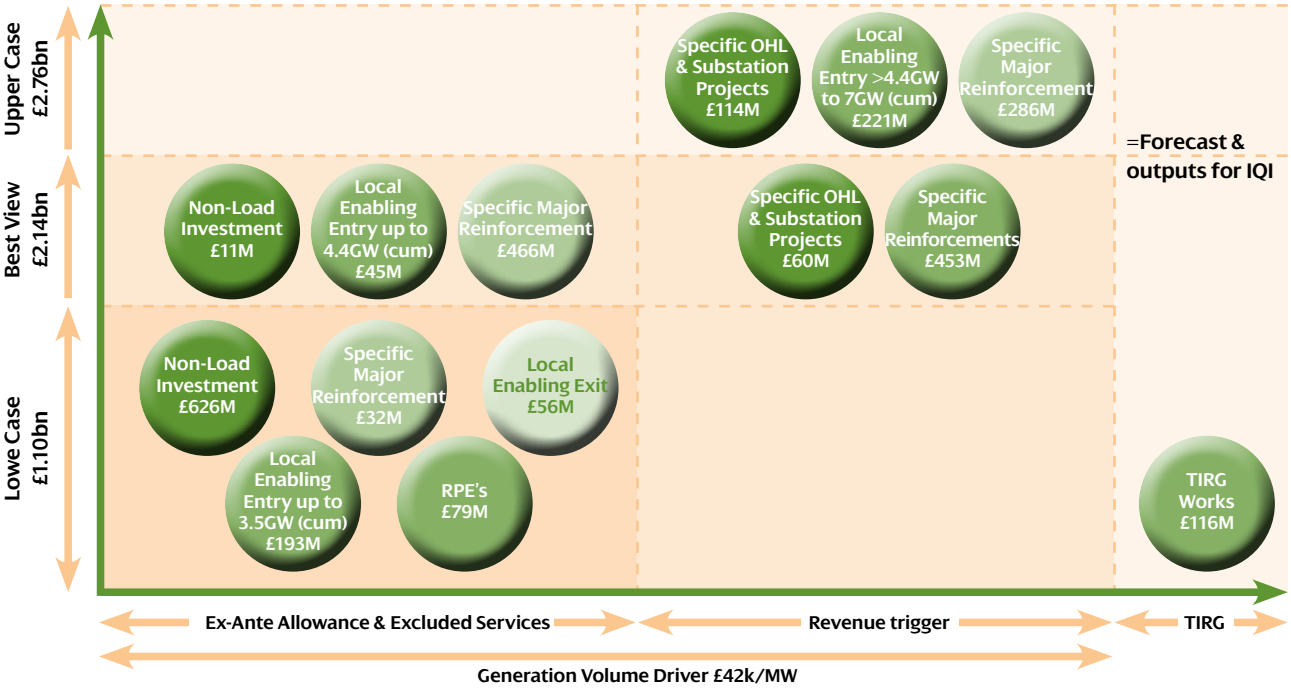
- A minimum baseline allowance of £72m to fund H1 Sole Use infrastructure to connect 2.503GW generation capacity.
- Development of a revenue driver based upon an average £42k/MW centred around 2503MW. (There will be no requirement for a logging up mechanism for high-cost projects.)
- Capital investment in electricity infrastructure for collectors of £117m.
- In addition we expect, as an excluded service, to invest in £79m of sole use customer work, either directly funded by the customer £30m, or paid through annual charges.

A summary of our load investment is set out in map in Appendix 2. More information is provided in our business plan in Appendix 1.

RIIO T1 Load Related Expenditure (including TIRG)



Flexible funding mechanism to scale delivery – minimises initial costs to customers



Lower Case reflects projects that are relatively certain. Best View reflects developments that have Advanced plans. Upper Case reflects Prospective Projects.

Non Load Related Investment

(The Refurbishment and Replacement of Existing Assets)

The investment strategy for the 132kV, 275kV and 400kV 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.

Our investment plan for RIIO T1 involves £696.5m for non load related investment associated with the replacement of assets which are at their end of life. The investment plan has been developed utilising our Asset Risk Management policies and procedures, which reflect the nationally agreed Network Output Measures methodology. It has been developed using extensive current asset condition information, contextualised with our asset replacement age based modelling. Utilising condition and modelling data, along with site criticality, has ensured our plans reflect the key investment priorities. Our prioritised detailed work programmes are developed, at a circuit or substation site specific level. To minimise costs to customers, we have built our non load related investment in RIIO T1 in the following manner:

- Lower plan (baseline ex ante) totalling £626m
- Best View plan totalling £697m (including baseline)
- An Upper Case plan totalling £811m

In our Best view Plan the two key investment areas involving £427m (61% of the non load investment programme) are:

- **Overhead Lines**
  £309m (44% of non load programme). To minimise end of life risk, we plan to replace 513km (39%) of the large population of 1960s ACSR conductor on the 275kV and 400kV network, with a further 677km (51%) in RIIO-T2. In addition, a further 357km (42%) of the 132kV network will be reconductored

- **Switchgear**
  £118m (14%). We will replace 111 circuit breakers of HI5 (52%) of the large population of 1950s and 1960s Air Blast and Bulk Oil circuit breakers which have become less reliable and difficult to maintain due to a lack spares and manufacturer support, plus the significant cost and outage time associated with maintenance. A further 42 circuit breakers will be replaced (20%) in RIIO T1 to manage end of life risk with this equipment.

- **Other Areas:**

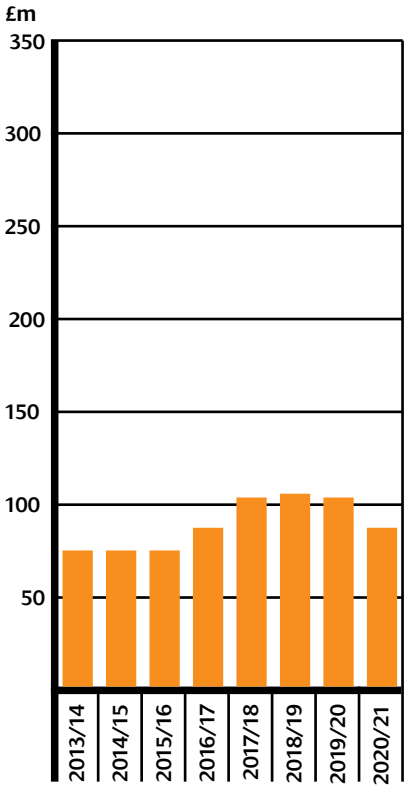
  Protection Control & Telecoms
  £80m (11%).

  Transformers
  £54m (8%) - we will continue to address end of life Bulk Supply Point transformers, and our strategy of replacing unreliable Bruce Peebles transformers.

  Cables
  £16m (2%) - this is a small programme as we have completed the replacement of the unreliable gas compression cables.

A summary of our non-load investment is set out below with a map detailing specific non-load schemes in Appendix 3.

RIIO T1 Non Load Related Expenditure



3. Outputs and Associated Incentives

SP Transmission fully supports the need for output measures. We recognise that this provides the consumer and the company alike with a transparent regulatory contract, enabling a clear statement of the value that we are creating in a business that can often be taken for granted because of its historical success in delivering security of supply and sound engineering progress and delivery.

However, we do believe these must be meaningful and value adding and take full account of the physical engineering attributes of the networks and circumstances across the UK.

Outputs are at the core of the RIIO regulatory framework, and are intended to support the transition to a sustainable energy sector. Clearly at the heart of that must be an output related to the connection of Renewables itself since this is perhaps the single most valuable and material output that the Network businesses can help facilitate. Contrast that in our estimation that the outcome from the package of incentives associated with outputs proposed by Ofgem will lie in a range of plus 100, minus 150 basis points of Return on Regulated Equity (RoRE) (100 basis points equals £12M per annum) and yet the cumulative savings in constraint costs we highlighted in the opening paragraph run to over £1.7 billion, and before any credit for reductions in carbon are included. It is therefore surprising that no explicit recognition of this has been included in output measures, especially given strong stakeholder feedback from some participants to this effect.

Another important principle should be to ensure that outputs be within the control of the transmission company. It is also important we have full access to information on which any incentive is based, and there must not be conflicting incentives.

In our full report we have conducted a detailed analysis of the output and incentive proposals based on the incomplete information that remains to be developed beyond the Business Plan submission (for example targets and other similar parameters) alongside other inherent risks. Our initial analysis leads us to believe that the overall skew towards penalties means that on average the package tends towards -80 to -90 basis points of downside risk in RoRE. This is a factor we will return to in the Financial Strategy section.

For planning purposes our base case submission is assumed to be neutral in terms of outputs, given we expect ultimately Ofgem will set stringent targets as previous experience would suggest.

We also strongly hold the view that the base Business Plan must be adequate for the investor to undertake the critical investment, and that incentive rewards and penalties are additional factors which differentiate companies from that base case. That is, they reward excellent or exceptional performance, i.e. above good or expected performance, or alternatively penalise below average performance.

These mechanisms do not provide an additional means of achieving the expected returns for investors for a given investment programme as was proposed to be the case at DPCR 5.

Our high level assessment of these is contained in the table below and our impact analysis is referred to in the Finance Strategy section. Rather than focus on every measure (which is analysed in detail in our section on Outputs), in the following commentary we consider some of the key output measures and associated incentives.

Area	Output Measure	Forecast Annual Impact	Comments
Safety	Comply with HSE safety legislation	N/A	No financial incentive
Reliability	Energy Not Supplied (ENS)	+£2m to -£10m	Penalty collar proposed at -3% of allowed revenue
Reliability	Asset health and replacement priorities	N/A	Penalty mechanism similar to DPCR5. Non-delivery penalty applied to RIIO-T2 revenues
Reliability	Delivery of wider works	£0m to -£10m	Penalty only for late delivery of boundary increases
Environment	SF6leakage	-£0.1m to +£0.1m	Assumed variation of ±80kg around target, financial strength only £1.2k per kg
Environment	Broad environmental measure	Uncertain	Ofgem to consult on broad environment incentive measure
Environment	Business Carbon Footprint & Losses	N/A	Reputational incentive based on reported data, losses based on network model output
Customer Satisfaction	Customer survey	+£3m to -£3m	±1% of allowed revenue based on customer survey performance. No incentive Yr1 RIIO T1
Customer Satisfaction	Stakeholder engagement	+£1.5m to £0m	Reward only incentive based on demonstrating engagement leads to exceptional positive outcomes
Connections	Comply with Licence obligations	£0m to -£1.5m	Penalty on failure to meet licence obligations relating to connections

Reliability - Energy Not Supplied

We agree that Energy Not Supplied (ENS) is an appropriate primary measure of the performance of the transmission network, and it should be recognised that this measure is not directly within the control of Scottish TOs.

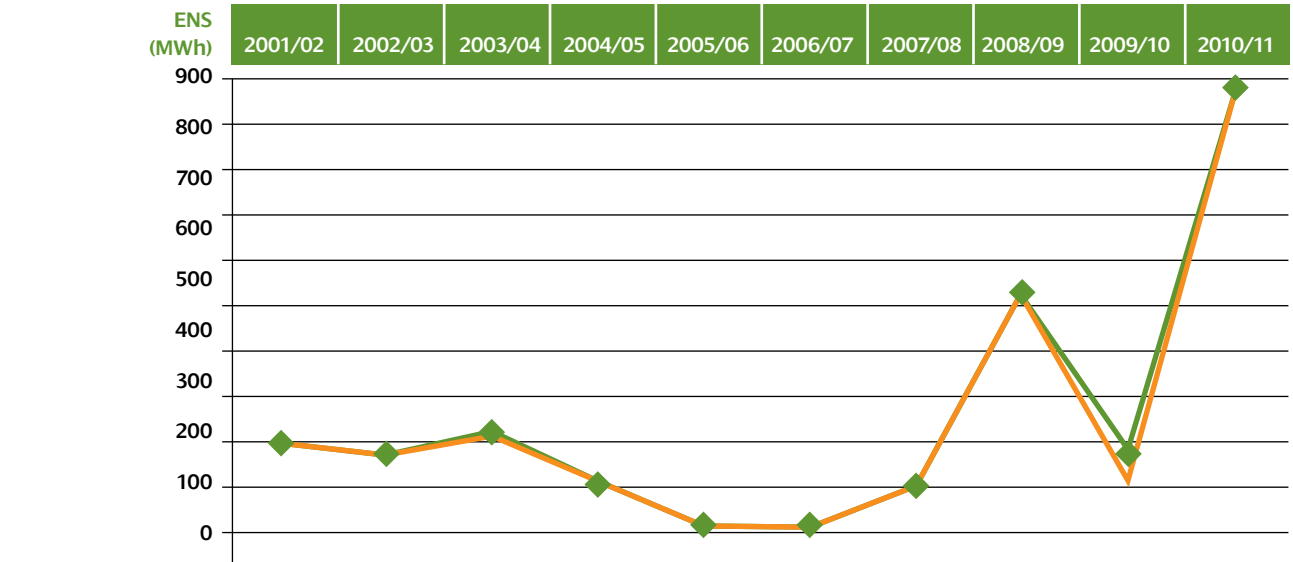
Based on our historic performance over the last 10 years, as set on in the graph below, and taking into account project improvement in performance we propose a target for SPT of 225MWh unsupplied energy per annum, with a linear incentive based on a slope of £16k/MWh, the penalty/reward shared 50:50 between customers and SPT, and a 3% collar. That is, we would be in penalty if we exceed 225MWh unsupplied energy in any given year, subject to the agreed ENS Framework.

It is also essential that companies are not at risk from exceptional events (as per the Distribution scheme) since it would be unfair to penalise a TO for the full extent of a severe weather occurrence for example. We believe that more work needs to be done to calibrate this incentive appropriately. The following principles should be adopted (as discussed and justified in more detail in our full submission):

- Events lasting three minutes or less should be excluded. This would allow weather related events that are resolved by network protection to be excluded.
- The exclusion for severe weather, seven faults in 24 hours, remains appropriate.
- The proposed approach for exclusion of third party damage, and other exceptional events, where transmission companies would be required to demonstrate that they meet exceptionality requirements, is appropriate.
- Planned outages affecting demand customers should continue to be excluded. In principle interruptions to demand customers should be incentivised to reflect the inconvenience however planned outages affecting demand customers on the transmission system are only taken with the agreement of customers. The process of the SO agreeing the planned outage with customers provides them with advance notice of outages and minimises their inconvenience.

The proposed secondary deliverables related to this primary output cover a wide range of variables covering Asset Health, Criticality, Replacement Priority/Risk, Circuit Unreliability, System Unavailability, System Faults and Asset Failures. We believe that Asset Health, Criticality and Replacement Priority are the main secondary deliverables which should be considered as output measures. Our non load related investment plan has been aligned therefore to these specific outputs.

SPT Historic Energy Not Supplied



	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Overall ENS	179.20	159.89	202.20	102.27	20.53	19.81	97.71	478.96	162.70	885.80
Reportable ENS	178.35	158.88	200.78	102.27	19.65	19.81	96.31	478.26	103.75	885.80

Constraints and Outage Management

Avoiding constraints both within and from Scotland are best resolved by reinforcing the wider transmission system through undertaking reinforcements to the wider system as quickly as possible. This principle is at the heart of our plan and we hope is evident from the significant reductions in forecast congestion costs of £1.7 billion by 2021 and £11 billion by 2030.

We believe that Ofgem's approach for each transmission company to prepare a Network Availability Policy is a pragmatic and sensible solution. We prepared our draft Policy and took the lead in consulting on it with the other TOs and the NETSO and it has been revised as a result of this consultation process. This is included as an appendix in our section on Deliverability. We have included a draft, rather than final, policy as we are keen to continue the consultation process with relevant stakeholders to ensure the policy is robust.

In terms of deliverability our plans are critically dependent on an efficient and certain outage plan. Cancellation carries a significant direct and indirect cost upon SPT and the customer alike. A constraint incentive has the potential to compromise the essential asset replacement and refurbishment required to maintain quality of supply, and our concern is that the operation of this incentive must not compromise our access to the system to undertake essential asset replacement and refurbishment which we believe should take precedence over constraint minimization.

Following recent discussions with Ofgem, we understand that failure to comply with the Network Availability Policy, for whatever reason, will NOT result in a financial penalty.

Our updated plan is based on the assumption that for actions taken beyond the Policy, where the TO supports the SO to minimise system costs including constraint costs, the TO shall not receive any economic benefit for such actions.

An example of an action that has minimised constraint costs is the SPT led innovation to upgrade the Operational Intertrip on the Anglo-Scottish Interconnector. In this case conventional devices and signalling equipment could not satisfy the very stringent operating time requirements and with such complexity. To achieve the operating time requirement and to manage the complexity, SPT have pioneered the use of IEC61850 technology which replaces conventional wiring with an optical Ethernet system. It is believed that when commissioned in 2008, it was the first installation in the UK to employ this technology in a fully operational system. The scheme bettered the operating time by a considerable margin and had a number of additional benefits. In addition to the high performance and flexibility of the scheme, it was extremely cost-effective and has proved its value in operation. The cost of the scheme was in the order of £700k. Using data from the NETSO associated with the impact of a recent outage related to the scheme identified that the benefit provided by this scheme was approximately £1 million pounds per week in constraint costs.

This ground breaking scheme is presently being extended to include the Eastern Interconnector circuits and this deployment will be commissioned in August 2011. SPT have also proposed an extension of the scheme in response to a proposal from SO for the rapid post-fault management of reactive compensation across the Anglo-Scottish Boundary.

Wider Works - Arrangements to encourage timely delivery

Transmission companies are incentivised to complete wider works as early as possible. Not only is there a business driver in increasing the business RAV as quickly as possible, but there is also a reputational driver given that the wider system reinforcements are key to supporting Government energy policy.

Ofgem intends to also introduce a penalty-based financial incentive for those projects funded through uncertainty mechanisms with target delivery date for wider works. We agree that if penalties are to be introduced then there must be clear and transparent guidelines around their application, and which address "exclusions". For example, outage changes caused by the NETSO in order to minimise constraint costs, delays due to obtaining consents (where there is clear evidence demonstrated that the licensee has been pro-active in obtaining consents), and other exceptional circumstances should be taken into account.

4. Environmental Outputs

Our business aims to align and focus our combined energies on six **'Big Goals'** which apply to the whole ScottishPower group of companies. The Big Goals are focussed on themes of Health and Safety, **the Environment**, Ethics, Customer Service, Performance, Staff Motivation, Scorecard etc. In terms of the Environment, we are therefore committed to:

- Developing sustainable energy sources which will help our world leading status in the energy market.
- Continuing to reduce waste and to minimise our environmental impact, exploring and harnessing new and sustainable technologies where possible.

In striving to meet these objectives, we will ensure that we consider and respect the environment in everything we do. More detail is set out in our Environmental Submission attachment (ref. SPT_Upd_7).

SF6 Leakage

Sulphur Hexafluoride gas (SF6) is used in the electricity industry as a gaseous dielectric medium for high-voltage circuit breakers, switchgear, and other electrical equipment. However, SF6 is one of the most potent greenhouse gases, with a global warming potential of over 22,000 times that of CO2. Transmission assets which make use of SF6 have various benefits; for example SF6 based switchgear help minimize substation footprint, and the SF6 gas insulated transformers being installed at Dewar Place are essential from a safety standpoint.

Currently we have over 40 tonnes of SF6 gas equipment installed on our transmission network and by the start of RIIO T1 this will have increased to over 55 tonnes. Over RIIO T1 we will install new SF6 equipment as part of our load and non-load capital expenditure programmes and in so doing significantly increase our inventory of SF6 to up to 90 tonnes by 2020/21. We are therefore very aware of the essential requirement to manage our SF6 inventory in accordance with industry good practice.

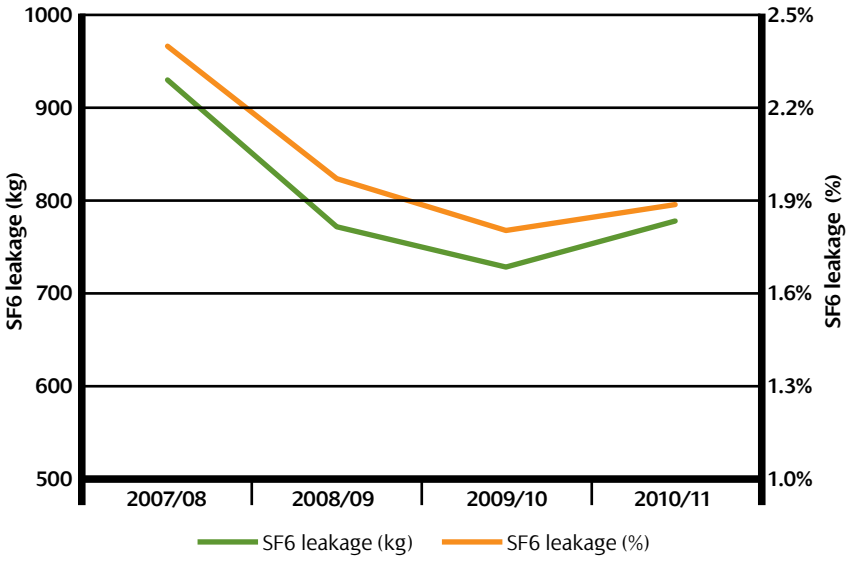
The adjacent chart shows the leakage of SF6 from SPTL equipment over the last four years. Through focussed operational efforts we have driven reductions in the kg of SF6 leakage from the 2007/08 levels. However, in 2010/11 the leakage increased back to 2008/09 levels and we believe that this level represents the expected background level of leakage which cannot be improved without significant investment.

Currently almost all transmission assets have been purchased and installed to IEC specifications which vary up to 3% leakage as design rating. Our current leakage rate at over 1.8% of total installed SF6 gas is on, if not below design standards. In effect, our operating regime is already performing much better than the equipment specification and we have determined that it is not possible to improve the performance further. The only effective method of reasonably operating at a significantly lower target would be a substantial capital programme of asset replacement. Therefore our plans for a flat background leakage profile are appropriate and we believe there is limited scope for further reductions.

Out of our current inventory of 40 tonnes gas SF6 gas, around 50% is located at Torness. In order to reduce our inventory and actual loss of gas, one solution would be to replace this site with a modern equivalent with a lower designed leakage rate. However, based on the current non-traded value of carbon the cost benefit of the saving through reduced SF6 leakage does not justify a £30m asset replacement. This would not be value for money for customers, as this site is generally in good condition.

We have forecast our leakage performance over RIIO T1 based on our existing performance and our planned network investments. For all new assets we have applied the design rating leakage rates which are 0.5% for indoor equipment and 1.0% for outdoor equipment.

SPTL SF6 Leakage Performance



Our strategy for SF6 emissions therefore has been aligned to Ofgem's view, although we believe that convergence towards Ofgem's proposed best practice leakage of 1% is impossible unless we undertake significant investment, such as at Torness, at sites which are in generally good condition. Ofgem would like to introduce a symmetric incentive based on carbon equivalent emissions and we have therefore assessed the impact of an incentive based on the prevailing non-traded annual carbon price recommended by DECC. We recommend that a neutral position should be based on the agreed targets by weight, and we believe that this level sets the right risk balance as it maintains background performance despite an ageing asset base which has an increasing leakage rate. Our target SF6 leakage is set out in the table below.

Our **Environment Submission**, ref. SPT_Upd_7 provides more information on our approach and methodology for SF6 gas leakage.

Transmission Losses

Although responses were limited, there was stakeholder support in our online Stage 1 stakeholder consultation for transmission companies to be incentivised to minimise transmission losses. In later feedback from our stakeholder workshops, incentivisation of transmission and environmental losses was considered to be a positive driver of long term benefit, with a proviso that this focus should not result in favouring a particular type of energy source.

Hence our approach to transmission loss minimisation is as follows:

- At the design stage to consider the impact of losses when developing the network, and work with NGET to develop optimal designs to support an overall cost efficient network, and
- For our procurement process, to consider the whole life costs at the procurement stage i.e. including losses of transmission equipment.

Our Environment Submission provides more information on our approach to minimising Transmission Losses.

Visual Mitigation

We recognise the importance of considering and delivering visual mitigation in the design and delivery of major new infrastructure. Our approach is documented in our recent paper on Visual Amenity, which is included in our appendix in our environmental submission. This is based on considering each project on a case by case basis, incorporating stakeholder engagement throughout the project lifecycle. The approach undertaken on the Beauly–Denny project is typical of our visual mitigation approach and is based on two key elements:

- Engineering design, identification of optimal routing and assessment of mitigation measures (including undergrounding), and
- Stakeholder consultation (including various forums, drop in sessions, public meetings, one-to-one meetings etc)

Stakeholder consultation supports and informs each stage of the engineering design and construction process. Throughout the project life-cycle a range of forums are used including drop in sessions, public meetings, one-to-one meetings and review and consideration of all representations and comments received from interested parties.

We support Ofgem's proposal to establish an allowance based on willingness to pay for visual amenity for existing infrastructure in National Parks and Areas of Outstanding National Beauty. However, we recommend a broader scope for the allowance should be considered as only 3% of our existing network falls within these designations. Currently the visual amenity of our existing infrastructure is considered only as part of the overall Visual Mitigation scheme of a new or rebuild project.

Our Environment Submission, ref SPT_Upd_7, provides more information on our approach to visual mitigation.

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21
SF6 leakage (kg)	829.03	843.37	900.39	996.98	1021.9	1021.9	1039.6	1041.7
Leakage as % age of mass	1.47%	1.45%	1.39%	1.34%	1.31%	1.31%	1.29%	1.29%
SF6 Installed Volumes (kg)	56292	58160	64814	74632	78014	78014	80353	80778

Business Carbon Footprint

SP Transmission is part of Scottish Power Group which in turn is part of the Iberdrola Group of companies. We intend to make use of synergies, processes and data by taking advantage of work already done under SP Manweb and SP Distribution licences to provide a report for SP Transmission. In the near future the three licences will be included under the same Business Carbon Footprint Statement Report.

In 2010 Scottish Power set out a Big Goals framework for forward environmental targets, this sets out a 20% target for reduction of carbon emissions by 2020. As an initial measure SP Energy Networks has set a target of 15% reduction in non-operational buildings energy use.

Our Environment Submission, ref SPT_Upd_7, provides more information on our approach to Business Carbon Footprint.

Customer Satisfaction - Connections

SP Transmission has a good track record in delivering timely grid connections. The adjacent graph shows the growth in renewable grid connections connected during TPCR4 – a performance significantly ahead of any of the other licensees. Obviously there are many external factors which impact on project timescales but we still believe that our project delivery performance is very good reflecting our extensive transmission project delivery experience over many years.

Our experience is that any changes from the originally contracted dates are due to factors out with our control; usually due to planning consent delays and changes to developer requirements.

Obtaining all necessary consents is dependent on outside agencies, such as local authorities, providing consent approval to competent planning applications in realistic timescales. Also, the advent of considerable onshore wind in Scotland has led to Scottish landowners becoming much more aware of the value of land necessary to connect wind hence agreement of landowner consents can take some time, particularly if we are to ensure that connections and associated infrastructure are delivered cost-efficiently. Consenting has been a key area of focus within our assessment of the deliverability of our plans.

Although SPT faces considerable challenges in obtaining consents, SPT supports Ofgem's requirement for SPT to be required to comply with licence obligations.

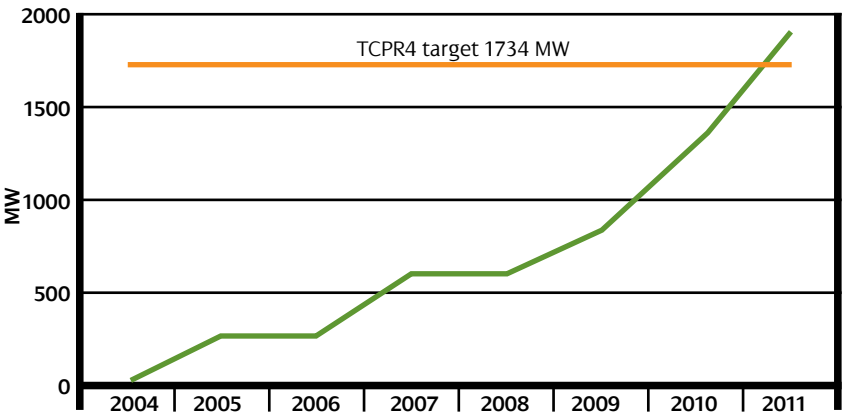
Stakeholder Feedback

SP Transmission welcomes Ofgem's focus on customer satisfaction and stakeholder engagement as integral to their RIIO T1 strategy. The extensive stakeholder consultation we conducted in support of our RIIO T1 submission has already resulted in real outputs. The details of the process we undertook, who we engaged with and their feedback is laid out fully in our section in the Business Plan on Stakeholder Engagement.

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 on an ongoing basis and to deliver consistent improvements to our customer satisfaction levels we will develop stakeholder engagement strategies specific to each stakeholder group.

Our feedback through our RIIO stakeholder engagement is that we – working with National Grid - should deliver sustainable low carbon energy through fair, clearer and more accessible processes. Our stakeholder strategy in this area includes a commitment to review the current connection process with National Grid to look to provide more clarity on the connection process particularly for new, smaller developers.

SPTL Transmission Connected Generation



5. Deliverability

It has been recognised by SP Transmission that significant investment in assets and change to normal patterns of system use is expected to increase and continue throughout the review period in order to meet government energy policy objectives. These must also take place while the need to deliver increased levels of asset modernisation is becoming a significant delivery issue.

Our delivery plans are therefore set within the context of a longer term delivery strategy which will ensure the investment requirements of asset stewardship can be integrated with new connections and capacity reinforcements.

We will deliver the significant levels of investment proposed via a high degree of programme management structure and control designed to ensure that the interactions between issues can be managed.

We have also retained a degree of flexibility within our plans to allow us to resolve conflicts arising within the programmes. Our overall approach is to develop the non load programme in such a fashion that it can be linked and co-delivered alongside the projects driven by reinforcement and generation needs which are envisaged over the price review.

- To ensure that required volumes are achieved it is considered that more modernisation projects must be pre engineered and available within a delivery window than will actually be worked upon.
- The consequences of external issues, such as planning consent, outage availability etc, will then be managed by choosing which individual scheme elements can proceed within the available outage opportunities.
- Non load schemes can therefore flex around changes in the reinforcement programmes within the review period.
- Additionally a significant volume of transformer replacement and 132kV substation renewal projects need to be overlaid on the investment programme.
- A degree of smoothing has also been considered within these programmes to manage the sensitivity around supply chain and resource dependencies, for example in the area of overhead lines.

A detailed description of the way in which Procurement will be used to secure efficient and sufficient levels of investment is set out in the Deliverability section of our Business Plan. Further information is provided in our section on Business Support Services, ref SPT_Upd_4.

Procurement

SPT will purchase its equipment, goods and services efficiently through Iberdrola's Global Purchasing Organisation. While the level of investment proposed in RIIO T1 is a significant increase in volume over TPCR 4. When considered within the Global market within which Iberdrola Group Procurement operates the relative volume increases are much less dramatic and SPT is confident that efficient investment can be procured in line with its proposed business plan.

Iberdrola Support and Delivery Model

SPT considers that there is an opportunity for a fundamental change in delivery which will take advantage of the improved leverage available via a global purchasing organisation, with is described more fully under the Procurement heading below.

SPT has, and intends to maintain, an established and formal relationship with Iberdrola Engineering and Construction (IEC). IEC was created in 1995 and is now one of the leading energy engineering companies in the world with a presence in over 30 countries across Europe, Middle East, America and Africa.

Its current project portfolio is in excess of 2.5 billion Euros, with a turnover in excess of 1.4 billion Euros in 2009. Although the company is headquartered in Spain, 87% of its project portfolio is abroad and more than 80% of its sales are from outside the Iberdrola Group. The current worldwide workforce stands at more than 2400 people of 48 different nationalities, more than 80% of which are professionally qualified in engineering/ project delivery disciplines. This organisation is currently increasing its UK capacity to support SPT in managing the delivery of transmission investment.

The expertise available within IEC and the associated delivery methodology means that work elements within projects can be disaggregated and supply of materials and services re-aggregated under appropriate procurement strategies. By this means it is possible to open up new delivery options and introduce fresh and competitive capacity from the supply chain incorporating local, national and global suppliers as required and where competent and cost effective. Through this approach the technical and commercial risks are managed and controlled in house by IEC engineering teams and project managers. Standardisation is more readily achievable than historically where different main contractors have to be engaged directly to Engineer Procure and Construct their individual projects. SPT believe that this new approach is more appropriate where major programmes of work have to be integrated and delivered onto a system which is heavily utilised in supporting established users and is subject to high levels of depletion when key outages are taken. A significant level of control is achieved through this approach and increased levels of activity and interactions between projects can be reliably managed.

In support of this Executive Summary, we have also included further information on Delivery and Costs in a supporting paper (reference SPT_Upd_2). This paper includes high level information on our contract with IEC, Market Testing and Measurement of Efficiency.

Outage Delivery

Key to success is the control and management of changes in outage plans. Earlier outage certainty will allow key sensitivities to be robustly monitored through project and programme level governance reports and corrective action agreed with the key parties which will ensure critical outage windows are adhered to by all parties. SPT will seek to secure a greater level of certainty both in the delivery aspects of site work and in system access.

SPT has scoped its investment plans in detail during the preparation of this business plan. By having an established view at an early stage several benefits will be realised. In addition to identifying opportunities for standardisation which will reduce the scale of the procurement task and this will also lead to higher levels of consistency and drive generic solutions to problems identified through construction and commissioning. These factors will reduce the likelihood of overruns in the medium term and improve confidence levels among stakeholders.

SPT is now therefore able to plan more carefully and accurately the outage requirements.

By bundling modernisation projects together and into outage plans necessary for other works, SPT believes it will be able to secure agreement from other stakeholders through improved forward planning and formal mechanisms to resolve issues.

SPT has engaged with the NETSO and shared its overall vision of the extent of the modernisation plans and is continuing to develop the forward programme through to a stage by stage outage plan with emphasis on key interactions between the various modernisation works and proposed load driven schemes.

Consenting

Consenting is key to the critical path for any major project and has been a major area of focus within our assessment of the deliverability of our plans.

Obtaining all necessary consents is dependent on outside agencies, such as local authorities, providing consent approval to competent planning applications in realistic timescales. Also, the advent of considerable onshore wind in Scotland has led to Scottish landowners becoming much more aware of the value of land necessary to connect wind hence agreement of landowner consents can take some time, particularly if we are to ensure that connections and associated infrastructure are delivered cost-efficiently.

The common theme is that a considerable portion of the consenting process is outwith the immediate control of SPT, e.g. Local Authorities, Landowners, Statutory Consultees and the Public. Building on our experience of the likely delays, greater certainty can only be offered by early engagement and monitoring progress against set 'timelines' that must include 'critical' and 'tactical' milestones to ensure delivery improvement. Hence, for every type of major project scenario we typically deliver, Consenting and Wayleave templates have been developed which set out the optimal process for obtaining the necessary consents across our schemes. They also lay out key metrics and milestones that will be monitored on an ongoing basis.

As part of the building of our investment plan, the consenting process has featured heavily. A resource management study has been undertaken to manage all future load and non load projects against the rolling programme for RIIO T1. The main outcomes from this study are to:

- Increase resource levels, especially within Wayleaves, to ensure that each project can be managed efficiently,
- Introduce improved monitoring of programme 'critical path', and
- Utilise compulsory powers if and when reasonable offers are not being accepted, or when negotiation is used merely as delay tactics.

In terms of implementing these changes, recruitment from within the SPEN business is our preferred option and should provide approximately 50% of the requirement. The remainder in the shorter term will be contracted, with the preferred option being additional wayleave staff from our contracted chartered surveyors.

Overall Staffing

Like most established ESI organisations in the UK, SP Transmission has an ageing workforce and we recognise that to successfully meet the challenges of RIIO T1 we must have an HR strategy that reflects the need to increase capability to deliver future growth in transmission workload and which also addresses the requirement to maintain our current workforce skills and experience taking into account current age profiles and expected attrition.

Incremental Increase in Resource Demand

Against this Business Plan up to 1,500 new and incremental directly associated jobs will require to be created in the SPT franchise area during this period. Approximately 53 of these roles will be within SPT's business directly, approximately 160 within our principal contractor IEC and approximately 1,200 to 1,300 across our full contractor base. This excludes any clerical or business support requirements.

Workforce Renewals

Also during this period because of attrition and retirement, SP Transmission will need to recruit a further 107 staff bringing our total projected recruitment requirement of 160 staff. The total cost associated with ensuring we have the required skills to deliver RIIO T1 included in our plans is around £3M (with a significant proportion of this cost incurred prior to the start of RIIO T1).

Recruitment Plan

The table below sets out the projected recruitment for SP Transmission over RIIO T1, taking account of the factors set out above.

We have built our initial manpower projection against the programme of works required during RIIO T1 (i.e. up to 2021 and not beyond). Planning over effectively a 10-year horizon means that it is very difficult to make accurate predictions about attrition rates and manpower requirements toward the end of this period. This future workforce requirement will also be influenced by the relative success of our IEC delivery model and the future programmes we develop over this Control period. This uncertainty is also a result of moving to longer price control periods. At this stage, and the interests of prudence, we have not therefore included any manpower requirements for RIIO T2.

In order to address this we see three potential options for Ofgem to consider:

1. Similar to the approach taken to equity issuance costs at TPCR 4, Ofgem make an allowance available upon application under the licence for companies to fund Work Force Renewal (WFR) requirements for RIIO T2. This allowance could be based on the level required during the early stages of RIIO T1 (for example the £3M we have referred to upon our case). Companies would be required to evidence their plans and provide supporting independent corroboration before accessing this allowance through a licence condition.
2. Provide a specific reopener clause within the Licence for WFR, which would be dealt with at the year 4 progress review that Ofgem have indicated will take place.
3. An agreed log up mechanism could be provided which would be "trued up" at RIIO T2.

We require some certainty from Ofgem that they will consider the issue of future workforce renewal through either one of these mechanisms (or a similar variant) within the RIIO T1 process. We are happy to work with Ofgem on this as we progress discussions towards agreeing the new price control but at this stage our preference would be option 2 outlined above.

More information on our approach to workforce renewal is set out in an attachment to this Executive Summary entitled Workforce Renewal (ref SPT_Upd_3).

FTE	2010/11	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Engineering Staff (start)	**133**	**132**	**143**	**166**	**176**	**186**	**188**	**189**	**186**	**183**	**184**
- less Retirements	-1	-5	-7	-4	-4	-3	-3	-7	-7	-3	-3
- less Attrition		-3	-4	-4	-4	-4	-4	-4	-4	-4	-4
- Intake from Market		9	18	18	18	9	8	8	8	8	8
- Graduate Intake		10	16								
Engineering Staff Net (close of year)	**132**	**143**	**166**	**176**	**186**	**188**	**189**	**186**	**183**	**184**	**185**
Non-Engineering Staff	**60**	**60**	**60**	**60**	**60**	**60**	**60**	**60**	**60**	**60**	**60**
Industrial Staff (start)	32	32	32	36	41	46	45	42	40	36	33
- less Retirements			-2	-1			-2	-1	-3	-2	
- less Attrition		-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
- Intake from Market											
- Apprentice Program Intake		1	7	7	6						
Industrial Staff (close)	**32**	**32**	**36**	**41**	**46**	**45**	**42**	**40**	**36**	**33**	**32**
Total	**224**	**235**	**262**	**277**	**292**	**293**	**291**	**286**	**279**	**277**	**277**

6. The Financial Case and Financial Risk Assessment

The material below reflects that submitted within our original plan submission and we simply repeat here for completeness and ease of reference. In section 6.1 we provide our updated financial analysis.

As we look at the RIIO T1 years more generally, we expect to find that actual WACCs will be higher, and probably more volatile, than during any other eight-year period since privatisation, some two decades ago. This is because throughout the next period, but particularly from 2013, the energy projects required to meet the UK's 2020 targets will enter the large-scale construction phase.

As we look ahead to the period covered by RIIO T1, we see the early stages characterised by extreme economic uncertainty, where opinion varies starkly over the predicted course of domestic and international recovery in light of the sovereign debt crisis affecting the Eurozone.

Companies are not simply exposed across the debt and equity markets but commodities present a significant challenge in managing our cost base. In the last couple of years a tightening balance of copper supply/demand has resulted in a rapid rise in the red metal's prices. Furthermore, there has also been a rise in interest in copper as an wealth asset similar to the impact on gold so oft quoted in the popular press, in addition to the traditional, physical demand. Copper is deemed a strategic asset in China and provides a way to diversify from the US dollar and US treasuries.

While copper demand has risen, supplies have not kept pace. This is resulting in speculation that we are on the path to peak copper prices across RIIO T1.

Aside from these direct influences on our cost base, there is also much uncertainty about what early impact of global economic turmoil could have on the financing of our sector. For example, the current Eurozone crisis affecting Greece, Portugal, Italy, Spain and Ireland is characterized as to have the potential to be greater than the impact of the collapse of Lehmans at the height of the banking crisis.

The distortion of current market parameters is being compounded as the markets wait for a clear signal from the ECB and the most influential of Europe's politicians, but the combination of the banking collapse together with European member state failure to take action has inevitably lead to unprecedented levels of national debt. We do not know precisely when, or by how much, these factors will ultimately impact our cost base or funding costs but at this stage we can already see the impacts on more recent debt issuances that have taken place in our own company. With an increase to 8-year price control periods this risk and volatility is viewed as being significant by our investors.

Competition for Investment

As we look at the RIIO T1 years more generally, we expect to find that actual WACCs will be higher, and probably more volatile, than during any other eight-year period since privatisation, some two decades ago. This is because throughout the next period, but particularly from 2013, the energy projects required to meet the UK's 2020 targets will enter the large-scale construction phase.

Investment to support significant cash-outflows across RIIO T1 will require companies to be accessing the markets for very large sums of money. Estimates of the spend in the UK electricity energy market, directly attributable to meeting 2020 targets, such as for on-shore and offshore transmission upgrades, smarter distribution networks, new conventional and nuclear generating plant, and renewables, is estimated to be around £200bn in the RIIO T1 period.

Competition for funding will be stiff given £110 billion of this investment, by the government's estimates; will be in new generation plant and equipment which is likely to attracting far higher returns than the infrastructure investment upon which it depends. Combined with serious economic uncertainty all of these factors will affect the price of debt and the returns expected by equity investors faced by the Transmission businesses.

Given the experience of the past three years since the banking collapse and the emergence of the latest crisis, our own company is acutely aware of the benefits and importance of managing credit ratings and we think that this will be a sustained strategic goal in most UK boardrooms.

We believe that the high number of energy projects coming to market, combined with the practicalities of managing the operational delivery of such a major programme of critical investment must be taken account of within the key financial parameters that Ofgem ultimately decide upon.

Financial Information

Unlike previous Price Control Reviews, Companies have been invited to submit a full, holistic financing package with Ofgem only providing guidance in only a few key areas. As such we are submitting a business plan that includes a financing plan which complies with Ofgem's policy recommendations and which also provides a fair deal for customers and shareholders alike.

As a consequence of the significant increase in capital expenditure during the RIIO T1 it is inevitable that prices will rise during the period. We will work with Ofgem to ensure that these are smoothed as far as possible as we move from the roll over year of 2012/13 into the RIIO T1 period to avoid unnecessary price shocks. **We estimate that the impact of our business plan on customers' bills was an increase of thirteen pence in the annual charge per customer in each year of RIIO T1.**

Shareholders will be expected to play their part. Our business plans require equity injection of £375M supplementing an increase in debt of £825M during the period. As a consequence we have included within our plans a minimum allowed cost of equity of 7.2% (post tax real) which we believe will be the minimum necessary to attract the investment necessary to fund our capital expenditure commitments.

We include within our plans a notional gearing of 50%, lower than previous price control reviews but at a level that is appropriate for a company of SPT's size facing such a dramatic increase in capital expenditure relative to our current RAV. We also see this as key to facilitate access finance at attractive rates at a time when financial markets remain extremely uncertain.

Financial Consequences of Base Assumption

Based on the regulatory financial model assumptions our total modelled revenues amount to £2.5 billion (2009/10 prices) over the eight years of RIIO T1.

(£m 2009/10 prices)	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
RIIO T1 revenues	248	277	303	319	329	339	348	355

Summary Statutory Financial Statements (all Nominal)

The following tables show the forecast statutory financial position of SP Transmission which can be found in greater detail within the submitted model and in the Financial templates. The highlights over the eight years of RIIO T1 are:

- Total Turnover £3,274m
- Average turnover £409m
- Capital Expenditure £2,597m "Best View" (Excluding Related Party margins)
- Equity Issue £375m
- Debt increase £825m

P&L	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
Turnover	292	335	376	407	431	454	478	501
Operating profit	209	239	268	296	313	323	345	361

Cash flow	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
Increase/ Decrease in Debt	-177	-193	-233	-119	37	-109	-85	54

Regulatory Asset Value

Closing RAV is shown in the following table

	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
Closing RAV	1486	1832	2217	2502	2676	2847	3019	3174	3186

Financeability

The target financial ratios for assessing our financeability are set out in the table below. We have targeted A/A- in our base position before considering the impact of incentive mechanisms.

The financial ratios that result from our plan are shown in the following table.

Financeability Ratios	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	Average
FFO interest cover(x)	4.2	3.9	3.5	3.4	3.6	3.8	3.8	3.8	3.8
Net Debt /RAV(%)	50.0	50.0	53.6	54.6	50.0	50.8	51.0	49.1	51.1
FFO/Net Debt(%)	26.0	24.2	22.0	22.4	24.9	24.0	24.2	25.4	24.1
PMICR using RAV depreciation(x)	2.1	1.8	1.6	1.6	1.7	1.7	1.7	1.7	1.7
RCF/Capex(x)	0.3	0.3	0.4	0.6	0.6	0.6	0.7	1.4	0.6
Regulated Equity/EBITDA	3.8	4.0	3.7	3.5	3.8	3.8	3.7	3.7	3.7
Regulated Equity/Earnings	3.1	3.3	3.1	3.0	3.3	3.3	3.3	3.2	3.2

The first three ratios comfortably meet or exceed the A- targets. PMICR is below the A- target for all years except 2013/14 and 2014/15. RCF/Capex is significantly below the A- target. However, Moody's believe that utilities undergoing a large capex programme that do not benefit from accelerated depreciation are expected to score this metric in the range 0.5 – 1.0.

Overall we consider this base scenario to provide A- quality ratios and therefore sufficient comfort to protect against a range of risk factors.

Risk Impacting Base Scenario

It is our belief that the RIIO framework itself is likely to present certain risks which we have been conscious of when calibrating our overall financing bid. We believe that extending the regulatory period to eight years from five necessarily increases 'regulatory risk' despite Ofgem's best efforts to mitigate this effect. One such policy has been to introduce a mechanism to index the allowed cost of debt such that this will flex during the regulatory period. In the very long term this may well meet the objective of providing an allowed cost of debt equal to Companies' actual debt costs however in the short term there is a high risk , if not virtual certainty, that companies will be 'out of the money' against the benchmark during RIIO T1. We have recognised this likelihood in our base financing strategy to by targeting A/ A- financial ratios.

In addition Ofgem are seeking to extend regulatory asset lives to something approximating to their useful economic asset life. The existing policy is to depreciate assets over a fixed 20 year period. We understand the attraction of moving to useful economic lives and welcome Ofgem's recognition that the resulting 'cliff face' reduction in revenues accruing from the depreciation allowance may require to be mitigated. Our plans include such a transitional arrangement which increases the lives of new assets gradually from 20 to 45 years over the period of RIIO T1.

Separately we believe that the package of incentives currently under development present us with significant downside risk (including the interest allowance gap discussed above) of between 80-90 basis points of return on regulatory equity arising from certain penalty-only mechanisms and some where targets being discussed currently appear unachievable or are capped but have no collar.

In aggregate after taking into account all of the above risk factors and financing assumptions our modelling suggests that the package provides SPTL with A-/ BBB grade financial ratios with other financial metrics also less favourable than those quoted above under our base assumptions.

Financial Consequences after Risk and Incentives

Summary Statutory Financial Statements

The following tables show the forecast statutory financial position of SP Transmission after reflecting the impact of the incentive mechanisms.

P&L	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
Turnover	279	321	361	393	417	440	463	487
Operating profit	197	225	253	282	292	316	330	347

Cash flow	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
Increase/ Decrease in Debt	-175	-190	-244	18	-121	-113	-96	45

Financeability

The financial ratios that result from our plan are shown in the following table.

Financeability ratios	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	Average
FFO interest cover(x)	4.0	3.7	3.4	3.5	3.7	3.7	3.6	3.6	3.6
Net Debt /RAV(%)	50.0	50.0	54.2	50.0	51.3	52.2	52.7	51.1	51.4
FFO/Net Debt(%)	24.9	23.3	21.0	23.8	23.1	23.2	22.8	23.9	23.3
PMICR using RAV depreciation(x)	1.9	1.7	1.5	1.5	1.6	1.6	1.6	1.5	1.6
RCF/Capex(x)	0.3	0.3	0.4	0.6	0.6	0.6	0.7	1.3	0.6
Regulated Equity/EBITDA	4.0	4.2	3.8	3.9	3.9	3.8	3.7	3.7	3.9
Regulated Equity/Earnings	3.3	3.4	3.2	3.4	3.3	3.3	3.2	3.2	3.3

The first three ratios comfortably meet or exceed the A- targets. PMICR is below the A- target for all years except 2013/14. RCF/Capex is significantly below the A- target.

Overall we consider that the ratios provide only borderline investment grade after all the risks and uncertainties are taken into account.

6.1 Updated Financial Plan

1. Summary

Since the submission of our original Business Plan we have engaged extensively with Ofgem under the auspices of the fast-track process. During that time we have been challenged by Ofgem on our financing plan and our assessment of risk.

Whilst we believe that Ofgem did not fully recognise the level of risk facing SPTL within its business plan we believe that we are now faced with a balance of risk and reward that should be acceptable to both customers and shareholders. We provide a summary of our position within section 3. We decided to remain within the fast track process and to this end decided to adjust two key financing assumptions in order to address Ofgem's concerns that our original plans did not necessarily deliver the best deal for customers.

Firstly we have reduced the assumed cost of equity from 7.2% to 7.0%, a value that is well within Ofgem's recommended range. Secondly we have increased notional gearing to 55% from 50%. The financial outputs are presented in section 2. We must stress that these adjustments to our modelled cost of equity and notional gearing have been made purely to reduce the impact of RIIO T1 on stakeholders and in no way reflect any new economic evidence. In the event that SPTL is not fast ultimately tracked, we reserve the right to refresh all assumptions within our Business Plan. We would reiterate that, for example, regarding the cost of equity we believe we have presented strong evidence that the cost of equity likely to be faced by SPTL during RIIO T1 is higher than the original 7.2% but that we were mindful of Ofgem's prescribed policy ranges and we will seek to increase our returns through outperformance of the package.

2. Financial Outputs

We have reduced the assumed cost of equity from 7.2% to 7.0%, a value that is well within Ofgem's recommended range. Secondly we have increased notional gearing to 55% from 50%. Additionally we have moved to a fixed capitalisation rate of 90% and recognise a reduction in IQI additional income reflecting a change in classification of certain wider works such that it falls outwith the mechanism. As a result our revenues are reduced by £25M per annum when compared with our 'Base Assumption' of £409M per annum described above and calculated within our original financial model submitted in July.

Regulatory Financial Model Assumptions

a. Cost of capital

Our cost of capital assumptions are set out in the table below:

Cost of capital assumptions	TPCR4 Roll-over	RIIO T1
Cost of Debt	3.25%	3.20%
Cost of Equity	7.00%	7.0%
Gearing	60%	55%

b. RAV depreciation lives

We continue to apply an 8-year (one regulatory period) transitional arrangement.

Consistent with the decision in Ofgem's March 2011 strategy decision paper existing assets at 31 March 2013, including new expenditure on projects already started under the transmission investment for renewable generation (TIRG), will continue to use the existing 20 year life.

The combination of our capital expenditure profile, which is weighted towards the earlier years of RIIO T1, and the move to 45 years asset lives for post 1st April 2013 RAV additions have negative short term cash flow implications. In order to mitigate this we have proposed a transitional move to 45 year asset lives, for these new assets only, over the RIIO T1 price control period. This strategy on asset lives reduces the negative cash flow impacts arising from Ofgem's decision to move to useful economic lives as the basis for regulatory depreciation allowance whilst delivering the goal of sustainable long term financeability and inter-generational equity.

Asset lives will increase linearly from 20 in 2012/13 to 45 in 2020/21 as set out in the table below.

Year of spend	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
Asset life	20	23.125	26.25	29.375	32.5	35.625	38.75	41.875	45

RAV asset lives remain at the life allocated to it in the year of expenditure until fully depreciated – for example RAV additions in 2013/14 will retain a life of 23.125 years for the life of that asset.

c. Balance Sheet

The Business Plan model reflects the balance sheet position as at 31st March 2011 per the 2010/11 regulatory accounts.

d. Capitalisation

The Business Plan model reflects Ofgem's request to use a fixed totex capitalisation rate. The capitalisation assumption we have applied has been amended to 90% for the 8 years of RIIO T1 ending on 2020/21.

e. Allocations of expenditure to taxation capital allowances pools

Consistent with the Ofgem March 2011 Strategy decision paper that allocations of expenditure to taxation capital allowances pools should be company specific for Transmission electricity companies (Financial Issues paper Appendix 4 paragraph 1.15) we have selected the user defined option. Our totex plans are unchanged from our July submission and therefore the allocations of expenditure to capital allowances pools are also unchanged. In the July submission we included detailed modelling of the allocation of expenditure to capital allowances pools and we have further explained this process in our responses to subsequent clarification questions.

f. Equity Issue

By 2014/15 gearing increases and consequently an equity injection of £200m is assumed.

g. IQI additional allowance

We include the maximum value for additional income assuming a 'fast track' award commensurate with a 100% assessment of company versus Ofgem view.

h. Inflation

We have used the inflation assumptions contained in the model issued by Ofgem on 5th November 2011.

Assumption for Inflation	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
RPI Forecast %	4.58	3.68	3.28	2.93	2.72	2.61	2.56	2.54	2.53	2.53

i. Dividends

We have retained Ofgem's policy working assumption of 5% of the Equity element of nominal RAV.

3. Statutory Financial Statements

In respect of our fast track financial position the highlights over the eight years of RIIO T1 are (all nominal):

- Total Turnover £3,077m
- Average turnover £385m
- Capital Expenditure £2,598m (excluding related party margins)
- Equity Issue £200m
- Debt increase £1,004m

4. Regulatory Asset Value

Regulatory asset value increases by £1,778m to £3,226m.

Closing RAV is shown in the following table:

Closing RAV (£m Nominal)	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
Closing RAV	1448	1806	2181	2464	2652	2833	3015	3185	3226

5. Risk Assessment

We believe that Ofgem do not fully recognise the level of risk facing SPT at RIIO T1. Our approach in dealing with risk within our original business plan submission was to present a pre-risk financing plan then apply the results of a full RORE risk analysis to identify the real 'post-risk' cash flows facing the business.

Our original pre-risk submitted Business Plan yielded average annual revenues of £409M and comfortable investment grade ratios which provided sufficient comfort to protect against a range of risk factors. On a post risk basis we presented financeability ratios which were only borderline investment grade. As presented above our updated Business Plan (pre-risk) is now reduced to annual average revenues of £384M. However in our attempt to meet Ofgem's concerns over the fairness of the package to customers and with our further understanding of risks presented by the package overall we are willing to accept the resultant financeability ratios.

We have not refreshed our risk analysis for this business plan as our view has not changed materially. Below however we provide further information on our position and respond to some of the challenges that Ofgem have made to our risk assessment.

During our discussions on Ofgem's financial concerns, Ofgem have put forward a number of challenges to our position. These include:

- The apparently high relative cost of SPT's embedded debt
- The apparently high nominal cost of new debt during RIIO T1
- Insufficient justification of "add-ons" to the cost of debt index
- Rejection of case for higher returns required for longer duration
- Challenge to the claim for SPT's relatively high capex programme
- Non-comparability of US precedents for add-ons
- Questioning of our approach to risk analysis

Table 6.1 Scottish Power Outstanding Bonds

Issuer	Amount (£Mn)	Start Date	Maturity	Coupon	Yield all in
Juneau	200	22-Feb-01	22-Feb-21	5.900%	6.310%
Juneau	100	21-Jun-11	22-Feb-21	5.900%	6.759%
Scottish Power UK PLc	250	29-May-98	29-May-23	6.750%	6.853%
Scottish Power UK PLc (IL)	175*	13-Oct-00	14-Oct-24	6.599%	Real 3.494%
Scottish Power UK PLc	50	09-Dec-99	09-Dec-39	5.750%	5.750%
Scottish Power UK PLc	100	31-May-01	31-May-41	6.375%	6.375%
Scottish Power UK PLc	200	20-Feb-97	20-Feb-17	8.375%	8.565%
Average					**6.9%**

Source: NERA analysis of data provided by SPTL.

We summarise our response to these points below.

a. SPT's embedded debt

For the avoidance of doubt we must stress that we have observed Ofgem's policy of using the expected allowed cost of debt yielded by its proposed debt index for the purposes of calculating revenues. Much of our discussion on debt has focussed upon the actual, embedded debt costs faced by SPTL as they impact our financeability ratios and risk arising from the differential between the index and these actual debt costs.

Looking at debt issued by Scottish Power, one of the main drivers of SPT's comparatively high cost of embedded debt is the fact that SPT (through its parent company Scottish Power) had raised long-term debt during a period of comparatively high interest rates. Table 6.1 shows that the main driver of this high cost of embedded debt is one bond with a coupon of 8.375% issued in 1997. This bond does not mature until 2017, i.e. roughly mid-way throughout RIIO T1 and will therefore keep the cost of embedded debt up for some time to come.

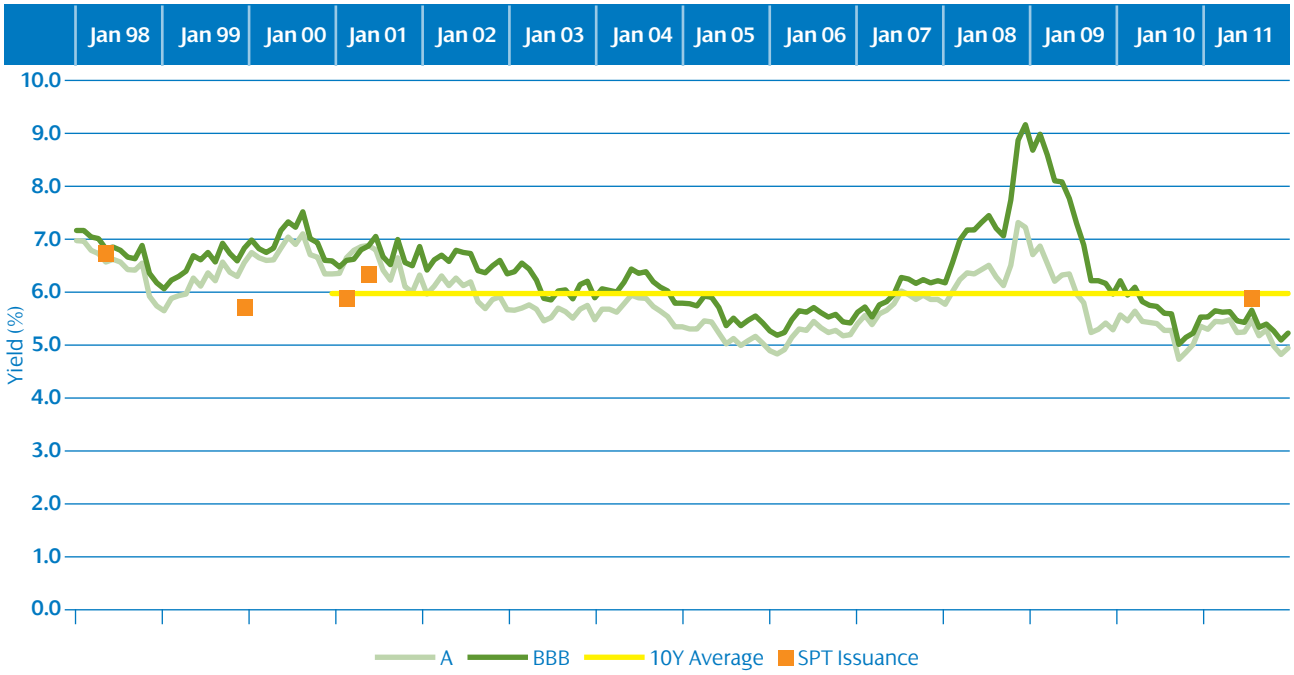
Figure 6.1 shows that over the last 13 years the coupon yields at issue for SP's debt issues have generally been in line with the value of Ofgem's index at the time, although the most recent issue in 2011 was slightly above the index value.

Unfortunately Ofgem's index does not go back far enough to confirm that the 1997 bond issue is also in line with index levels at the time but Figure 6.1 has shown that there is no reason to believe that any of Scottish Power's debt has been raised in an inefficient manner. Therefore there does not seem to be a rationale for challenging the impact of Scottish Power's embedded debt costs within our financeability assessment.

In the context of the above and the observation that Scottish Power raised a significant part of its current stock of debt more than 10 years ago when interest tended to be higher (as confirmed by the evolution of Ofgem's index prior to 2001) Ofgem's comparison of the cost of Scottish Power's existing debt compared to the current ten-year trailing average of the index (6%) is not relevant.

By a similar argument Ofgem's comparison of SP's embedded cost of debt with other licensed companies is also not relevant, given that these have issued at different times, which may have seen more favourable issuing conditions.

Figure 6.1 SP Issuance in the context of Ofgem's index



Source: NERA analysis of Bloomberg and iBoxx data and information provided by SPT. "SPT issuance" shows yield at issue for SPT issues.

Moreover, a comparison made by Ofgem with Centrica is potentially misleading, as Centrica has significantly lower levels of debt than SPT. As such, while Centrica may have higher business risk, it is of significantly lower financial risk than SPT, which can explain why debt costs are comparable even for companies with different business risk profiles.

b. Nominal cost of new debt

First, again we emphasise that we have used Ofgem's proposed index for the real cost of debt to calculate allowed revenues. We have only used our own projections of nominal interest rates to calculate the financial ratios in our financeability assessment.

Ofgem's reference to the coupons payable on recent utility bond issues ignores market expectations of increasing yields between now and 2013 when RIIO T1 starts. For example, reversal of quantitative easing would raise interest rates by c100bps, which when added to the recent SP coupon of 5.875% would give 6.875%, in line with our assumption of 6.9% for the first part of RIIO T1, even before considering issuance costs.

The Bank of England has concluded that the impact of quantitative easing is:

"The most clear-cut evidence on the impact is from asset prices. Gilt yields were depressed by around 100 basis points."[1]

In addition, we evaluate Ofgem's claim that network operators have been able to issue debt significantly below the index and therefore do not need a separate allowance to cover transaction costs. While this may have been true in general in the past (as Ofgem shows on p.29 of the March Strategy decision paper) the same is no longer true to any significant extent.

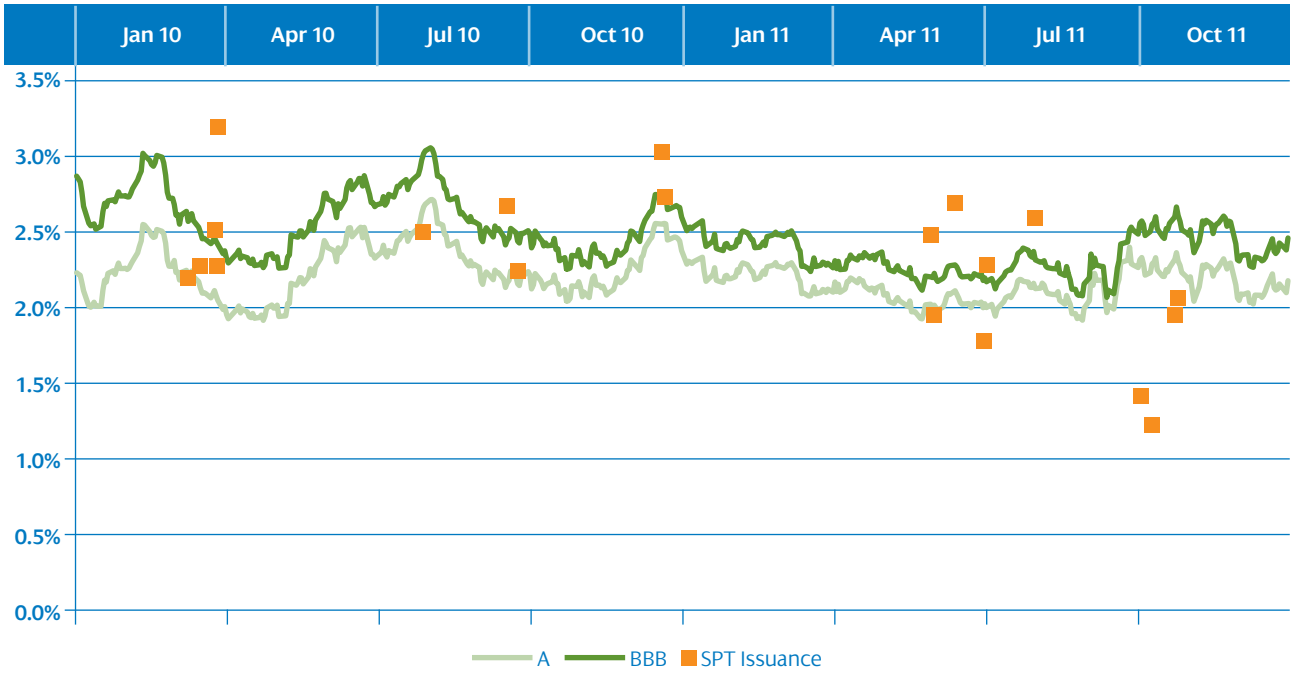
Figure 6.2 shows that there is no basis for Ofgem's assertion that utilities have been able to issue debt at rates below the index that would allow them to cover transaction costs out of the cost of debt allowance. While some utilities have managed to beat the index, a significant number of others did not. Consequently, utilities will not, on average be able to fund transaction costs out of the debt allowance, which means Ofgem needs to recognise the fact that the indexed allowance by construction covers coupon costs only in their assessment of risk (if they are not to allow explicit allowance).

Network operators' diminished ability to outperform the index may be due to perceptions that the introduction of RIIO has increased or has the potential to increase risk for debt investors in the sector. For example, as recently recognised[2] by Standard & Poor's who refer to the potential for RIIO to increase business or financial risk for the regulated utility companies.

1 Joyce, M, Tong, M and Woods, R (2011), "The United Kingdom's quantitative easing policy: design, operation and impact", Bank of England Quarterly Bulletin, 2011 Q3, p. 211

2 Standard & Poor's (September 2011), "How the proposed RIIO Regulatory Framework Could Affect Ratings ON U.K. Energy Utilities.

Figure 6.2 Network operator's ability to outperform the CoD index since 2010 (based on NERA analysis of Ofgem data)



Source: NERA analysis of iBoxx data as supplied to SPT by Ofgem. See Appendix for list of bonds and issuers.

c. Cost of debt "add-ons"

Ofgem appear to misunderstand OXERA's risk modelling results[3] in their challenge to our reference to their work on debt risk. While OXERA conclude that the index presents less risk than a fixed allowance, in most cases, this does not automatically mean that the allowance should be zero. OXERA note that in the past the implicit headroom allowance had been 30bps, the historical difference between the ten-year trailing average of 10Y debt at the time and the actual allowed cost of debt. Consistent with the conclusion that indexation is lower risk than a fixed allowance OXERA's modelling indicates that an uplift of 10bps (a reduction by two thirds) is consistent with the new risk profile for an "average company" as some residual risk will be borne by companies under indexation as well.

In addition to the risk of not being able to match the index, which requires compensation, Ofgem fail to recognise the impact of the capex programme on the risk of SPT's debt. As set out below, in our response on the cost of equity, SPT's capex programme is a significant risk factor according to the criteria used by the rating agency Moody's.

3 OXERA (July 2011): What is the link between debt indexation and the allowed returns? p.20.

4 Moody's (August 09): Rating Methodology- Regulated electric and gas networks, p.6

SPT's capex programme over RIIO T1 in context

	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	Avg-T1
Capex	417	471	384	287	293	301	290	153	324,5
Average RAV	1659	2024,5	2359,5	2589	2761,5	2933	3096,5	3180	2575
Capex Ratio	25%	23%	16%	11%	11%	10%	9%	5%	13%
Implied Rating	B	B	Ba	Baa	Baa	Baa	Baa	A	Ba

Source: NERA analysis of SPT business plan and Moody's rating methodology for regulated electric and gas networks (August 2009)

SPT's capex programme over RIIO T1 in context

	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	Avg-T1
RCF / Capex	0,3	0,3	0,4	0,6	0,6	0,6	0,7	1,4	0,6
Implied Rating	B	B	B	Ba	Ba	Ba	Ba	Baa	Ba

Source: NERA analysis and business plan, p.31

Together these two factors account for c. 10% of total weight in Moody's determination of the rating grade shows the average difference in the yield for "BBB" and "BB" rated debt. We use this difference to simulate the possible yield differential between two otherwise identical companies where one has a significant capex programme (placing it in the Ba/BB category for capex risk) while the other does not.

Difference between BB and BBB rated bonds

	BB	BBB	Difference
1Y Average	6.58	4.44	2.14
5Y Average	8.24	5.23	3.01

Source: NERA analysis of iBoxx data. We use the indices "iBoxx e Non-Financials BBB" and "iBoxx EUR High Yield main Non-Financials cum crossover LC BB" as neither iBoxx nor Bloomberg report series for "BB" rated GBP debt.

Assuming the yield differential between "BB" and "BBB" rated debt affects the valuation of SPT's debt in line with the 10% weight given to capex risk in Moody's guidelines we calculate an expected yield differential of between 0.21 and 0.30 percentage points. Judging against this standard SPT's use of a 10bp yield differential to account for the difference in capex risk between themselves and other network operators looks conservative. Note that many investors are unlikely to differentiate between bonds within one rating class. However, this within-class differentiation could be seen as reflecting differences in the likelihood of being downgraded in the case of adverse developments generally; thereby affecting the expected cost of debt.

There are two further reasons to believe this differential is conservative. Firstly, our estimate was based on a comparison with a company that would score "BBB" on capex risk, while some network operators will score higher. Secondly, Moody's gives disproportionate weight to poor scores in one category as it argues that these can only partially be mitigated by good scores elsewhere.[4]

d. Longer duration

Ofgem are dismissive of our view on the impact of the longer duration of cash flows which are a feature of RIIO T1.

There are three main arguments used by NERA and OXERA that suggest an increase in the cost of capital because of a lengthening of the duration of cash flows.

- Term premium effects
- Beta effect
- Time inconsistency effect

e. Term Premium

NERA's analysis of US BBB bonds has shown a term premium of around 50 bps for an increase in asset lives from 20 to 50 years. NERA used the US bond market as it is significantly deeper and more liquid than the UK market, which CEPA looks at. Due to the low liquidity of the UK bond market at the long end the US evidence may actually be an underestimate of the impact on UK distribution networks as these will not necessarily be able to match their cash flows and liabilities; the risk of which will be borne by equity.

f. Beta

The evidence provided by simple studies of beta developments over time is of limited use. OXERA[5] provides a way of evaluating the impact of lengthening the duration of cash flows without the confounding effects of a full regulatory review by decomposing the equity beta of the relevant network operators into the element of the beta due to cash flow risks and the element of the beta due to discount rate risks. OXERA's empirical results for the companies used by Ofgem shows that these are likely to experience a material increase in the cost of equity as a consequence of an increase in the duration of cash flows. OXERA shows that this result is independent of time inconsistency by regulators but the impacts for regulated companies will be amplified if a larger proportion of revenues is exposed to time inconsistency because of a lengthening of cash flows.

g. Time Inconsistency

There is an argument that every regulatory review contains a degree of asymmetric risk that is correlated with the market as a regulator is more likely to take a "consumer first" approach in a recession. Consequently there is an argument that extending the asset lives to cover more regulatory reviews leads to higher risk of "time inconsistency" independent of whether the correlation of regulatory risk with the broader economic cycle should increase over time as Ofgem's advisors Europe Economics claims is necessary.

h. Size of SPT's Capex programme

- Comparison with Terminal 5

Ofgem's criticism of SPT's comparison of its capex programme with BAA's for Heathrow Terminal 5 misses a number of important issues.

First, Ofgem's argument about applying the uplift to both the cost of debt and the cost of equity does not square with its approach to RIIO T1. Ofgem is planning to apply one (indexed) cost of debt to all companies. As long as Ofgem does not apply a different cost of debt index to SPT any additional risk arising from its capex programme will be borne by SPT's shareholder and thus affect the cost of equity only. As such, even a 17.5 bps post-tax uplift to the WACC will be equivalent to a cost of equity uplift of 35-44 bps uplift for 50-60% gearing.

Second, Ofgem misses that the RAV impact of SPT's capex programme (a more than doubling of the RAV) is significantly larger than it was for BAA at the time. As such there would appear to be an a priori expectation that if anything the uplift for SPT would be larger given similar risks.

Moreover, Ofgem's discussion of the reasons why the CC allowed an uplift for Heathrow T5 fails to recognise that a number of points the CC raised are also valid for SPT.

5 OXERA (Jul 2011): The impact of longer asset lives on the cost of equity: estimating cash flow betas

- US precedent

Table 6.2 shows that the allowed returns for transmission investment that have been allowed in the US have been significantly higher than the 7.0% real that SPT is now seeking.

Ofgem has shown no evidence that risks in US transmission are so much higher that they would explain an uplift of around 150 bps (when accounting for differences in capital structure) as they suggest. Moreover, independent of any consideration of relative risks between US and UK transmission systems, we note that new investment in transmission infrastructure in the US is explicitly granted adders through FERC order no. 609. These are applied on top of the existing (significantly higher) base rates of return in the US. As such, the US precedent also shows that new investments are viewed as riskier than existing infrastructure and thus require an additional premium.

6 See http://www.ferc.gov/industries/electric/indus-act/trans-invest/2011.asp for a list of the decisions

Table 6.2 FERC Decisions for Transmission

Company Name	Decision Year	Nominal Base ROE	Real Base ROE	Gearing
Virginia Electric and Power Company (VEPCO)	2008	10.9	8.2	48%
Startrans	2008	12.0	9.3	
Virginia Electric Power Company	2008	10.9	8.2	48%
Pepco Holdings (includes Potomoc Electric Power Company)	2008	11.3	8.6	53%
Central Maine and Maine Public Service	2008	11.1	8.4	
NSTAR	2008	11.1	8.4	58%
Duquesne Light Company (1)	2008	10.9	8.2	46%
Public Service Electric and Gas Company (PSE&G) (1)	2008	11.2	8.5	
Duquesne Light Company (2)	2008	10.9	8.2	46%
Green Power Express LP	2009	10.8	8.3	
ITC Great Plains LLC	2009	10.7	8.2	
Pioneer Transmission	2009	10.5	8.1	40%
Public Service Electric and Gas Company (PSE&G) (2)	2009	11.2	8.7	
Atlantic Grid	2011	10.1	7.4	40%
Ameren	2011	12.4	9.6	44%
Average		**11.1**	**8.4**	**47%**
Median		**10.9**	**8.3**	**46%**

Source: NERA analysis of FERC decisions. Note all FERC decisions in 2010 were re-hearings of earlier decisions. There were no new decisions on base ROEs in the context of transmission investment.[6]

7. Risk Management

Progressive companies use enterprise risk management frameworks as a tool to help manage and improve business delivery. SP Energy Networks is striving towards best practice risk management processes that improve the effectiveness of the business. It operates an enterprise risk management framework across its business and has done so for more than ten years. This framework is designed to capture all key risks to the delivery of the businesses strategic goal, its yearly objectives and its effective day to day operations of the network. Strong risk management is imperative to ensure that the strategic and operational objectives underlying all transactions are realised, and that sound internal control is in operation.

SPT's review of risks has identified a number of major uncertainties. These are:

- Patterns of generation and demand
- Planning requirements
- Real price effects
- Design and security standards
- Legislation
- Protection of critical infrastructure

We aim to manage these risks through reducing the probability of their occurrence, mitigating their impact, insuring against adverse events and hedging risk exposure. We have sought to take full account of Ofgem's March 2011 policy decisions for RIIO T1 and build on the existing uncertainty mechanisms which have been applied during TPCR4, which are well understood. We have considered Ofgem's initial assessment of our proposed treatment of uncertainty and risk. In our view, it would be counter-productive to attempt to develop novel and untried mechanisms, where existing mechanisms have been demonstrated to work satisfactorily. We are especially mindful of the risk of unintended consequences arising from regulatory mechanisms, which can distort incentives and divert resources from activities and outputs, which customers and other stakeholders consider to be more desirable.

We have therefore made use of 'Uncertainty Mechanisms' as a means of mitigating the impact of developments outside of SPT's control, which would otherwise require a significant increase in allowed revenue and increased customer cost. Our capital expenditure submission has also been built up from a baseline ex-ante view, involving a minimum investment case, with the flexibility to scale up through the use of volume drivers (for generation connection capacity) and trigger mechanisms (for wider reinforcement works and additional OHL rebuilding and re-conductoring) to provide both our "Best View" of our likely investment plans, and the capability to deliver our upper case view as required. This has the advantage of ensuring that the customer only pays for investment and outputs we undertake but also provides the company with the necessary cash-flow required to maintain this progress in delivering against a business plan that must be viewed as being critical against the Government's recently restated policy objectives and roadmaps.

We propose the use of trigger mechanisms for wider reinforcement works and additional overhead line (OHL) rebuilding and reconductoring. These are designed to incorporate flexibility, as it is not yet clear which projects may be required.

These arrangements are set out in detail in our attachment on Risk management and Uncertainty Mechanisms, ref. SPT_Upd_1.

8. Support from our Stakeholders

We are committed to further developing our current stakeholder engagement, to bring increased benefits to our stakeholders and to improve our outputs over the RIIO T1 period. We recognise that this will involve an increased focus on our stakeholder activity that requires:

- A consolidated approach across the ScottishPower businesses
- Robust and consistent processes for capturing & responding to stakeholder messages
- Behavioural change from all our staff

The first requirement of any stakeholder strategy is to know who your stakeholders are. Identifying stakeholders of our transmission business is complex. Ultimately every distribution connected customer is dependent on the transmission network for the supply of their electricity. However, customers connected at transmission voltages are relatively few in number and according to the BETTA rules are contractually the customer of National Grid the Transmission System Operator. Nevertheless interaction exists at various levels to a wide variety of stakeholders who have significant interest and influence in our activities. SPT have undertaken a review exercise with both internal and external stakeholders to identify four significant groupings:

1. Electricity Connections – Developers seeking new generation connections
2. Management and Delivery of Projects – Statutory and non-statutory consultees and our supply chain
3. Electricity Interruptions and Outages – Connected demand and generation customers
4. Broad Interest – Political, Research and development, academia, consumer and environmental groups, etc.

Key messages from these specific groupings are summarised below:

Electricity Connections:

With respect to new connections we understood from our stakeholders that we should deliver sustainable low carbon energy through fair, clearer, more accessible processes.

Management and Delivery of Projects

Minimising the environmental impact and mitigating consenting and planning challenges through better stakeholder engagement was clearly communicated to us as fundamental for our infrastructure construction activities.

Electricity Interruptions and Outages

Maintaining security of supplies and maximum long term value for end-users through improved network availability and reliability processes we understood from our stakeholders must be a priority for us.

Broad Interest

We should engage with a broad stakeholder group but we should target appropriate communication to those groups. Web based information is essential but should supported by seminars and printed materials.

European Engagement

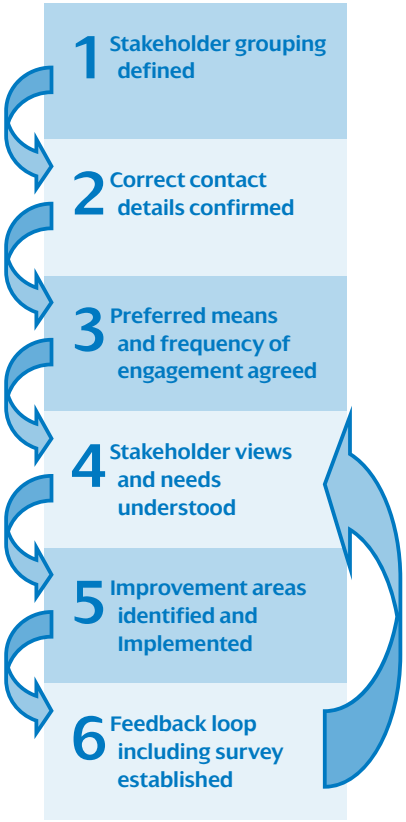
Over the last ten years SP's transmission business has been particularly pro-active in supporting the development of European electricity legislation, and the requirement for independent transmission system operation to facilitate an open market in electricity trading. In the early 2000s SPT was heavily involved in helping establish the European Transmission System Operators association (ETSO), which two years ago was reconstituted under the under the EU Third Energy Package legislation into a formal organisation called European Network of Transmission System Operators – Electricity (ENTSO-E). SPT is fully involved in monitoring and engaging in European activities as a full member of ENTSO-E.

Representatives from SP Energy Networks has been very pro-active in monitoring and influencing the development of new network codes, having often taken a lead role in representing and briefing the ENA and GB network companies. This work includes supporting 'Eurelectric', and through 2009 and 2010 SPT chaired a Eurelectric working group responsible for the transmission / distribution interface.

We are currently liaising closely with Ofgem and DECC on being formally certified as a Transmission System Operator, having made a formal application for SPT's certification as a Transmission System Operator ("TSO") under Article 9(9) of Directive 2009/72/EC. This application was prepared on the basis that our "Scottish Model" under which SPT operates guarantees more effective independence of the transmission system than the ITO model set out in the Directive. This is because the entirely independent role of NGET as SO removes from SPT some of the key tasks and decisions of the ITO role relating to facilitating the market, and the remaining ITO activities performed by SPT are subject to a wide range of ring-fencing, compliance and reporting requirements, enforcement powers and a more sophisticated and stronger regulatory framework than that envisaged by the ITO requirements.

Stakeholder Strategy Development

Development of an effective stakeholder strategy will require increasing levels of understanding. Key indicators can be identified as follows:



The development of our stakeholder engagement strategy for the rest of the RIIO period will cycle through these stages, increasing our understanding of stakeholder views and needs, delivering improvement areas and ultimately achieving more and better outputs.

Our strategy of engagement will vary according to stakeholder group and relationship type as explained in our Transmission Stakeholder Strategy document.

We are committed to developing customer satisfaction and stakeholder engagement surveys for the RIIO period starting in 2013. We will work with our stakeholders directly and engage specialist consultancy support to achieve a baseline performance in 2012. We are currently finalising a draft survey question set in conjunction with NGET and SHETL. We intend to engage with our stakeholders early in 2012 to test our database, trail these questions and hear our stakeholder's views on the survey and our engagement in general. We will use this feedback to further inform our engagement strategy.

In parallel with this we are developing and implementing internal processes to deliver our stakeholder strategy. This involves cultural and behavioural change elements. Typically at transmission level, our engagement is functionally focussed and used to influence individual projects, customers or initiatives. As a business we recognise a significant improvement opportunity for improvement if we can co-ordinate and share our stakeholder engagement. This will provide focus and consistency. We also need to formalise processes for capturing, reviewing and responding to stakeholder feedback. These processes must be able to influence our business plans and provide effective answers to our stakeholders.

Ultimately we expect our stakeholder strategy to deliver improved stakeholder satisfaction, increased outputs for our business and influence the regulatory regime. Ofgem have proposed a discretionary incentive if we can demonstrate exceptional outcomes from our stakeholder engagement.

We are working with SHTL, NGT and Ofgem to develop the framework for this incentive. This work is ongoing and several proposals are being considered. At this stage SP Transmission consider proposals for this incentive would merit adoption of the broader distribution customer satisfaction measures as follows:

Audit/Accreditation
Independent Audit/Accreditation to show our stakeholder engagement is robust and effective. This should be against set criteria determined by OFGEM.

Evidence of Actions as a Result of Engagement
We will provide evidence of stakeholder feedback through engagement and how we have included this into future business plans. We will also show what action has been taken or decisions made as a result of the engagement process.

As stakeholder engagement is a discretionary reward we propose that Audit/Accreditation against set criteria is a minimum level (ticket to entry). If this is achieved we can submit evidence of feedback from customers and what action has been taken to allow OFGEM to determine the appropriate reward.

Summary

- We are committed to developing continuously improving stakeholder engagement over the RIIO T1 period and beyond.
- Improvements to our current engagement include consolidation across the business, improved processes and systems, and changes to behaviours and culture.
- We will work with Ofgem, SHETL, NGET and our stakeholders to develop and baseline our engagement strategy in time for the start of the RII0 T1 period.
- We consider the incentive award should be based on an external audit/accreditation to supplement submitting evidence of exceptional outcomes from our engagement.

9. Innovation

The overall strategic goal for SP EnergyNetworks is to become the leading energy networks business in the UK and Iberdrola group by 2014. A key part of this requires innovation and **we have a strategy for innovation to identify new systems and solutions to help develop an economic and sustainable network for existing and future customers.**

Scotland has the richest source of renewable wind energy in Europe with huge untapped resources from wave and tidal sources. Within the price control period SPT will continue to play a major role facilitating Government renewable energy targets and delivering a low carbon economy. We recognise the importance of innovation as we strive to provide economic new windfarm connections and enhance the main infrastructure required to transmit energy south.

Existing assets continue to form a major focus for innovation as we seek to maximise the performance and utilisation of these assets, and extend their useful life where possible.

This section details our objectives for out innovation strategy and explains how these objectives create a coherent and comprehensive approach to innovation on the transmission network. SPT have a robust management process to manage the innovation process and ensure successful projects are adopted by the business. A number of example projects are outlined along with a mapping of how these align with our innovation development process. Within our business plan we have embedded the application of a variety of unique and innovative concepts and technology, this document summarises some of the most notable projects within the business plan as well as our intentions for realising our innovation strategy through the Innovation Allowance and Network Innovation Competition.

The five key objectives of our innovation strategy are:

1. Identify the needs and expectations of stakeholders for the future network;
2. Identify and develop innovation opportunities to meet stakeholders needs and the future challenges facing the network;
3. Efficiently manage our innovation portfolio to balance the need for innovation with risk;
4. Pursue a balanced portfolio of innovation initiatives which includes technology, commercial and process innovation; and
5. Ensure that learning from innovation activity is adopted by the business.

Throughout our business plan we have embedded a number of technological, commercial and process innovations. These include Embedded HVDC, new protection and control techniques and integrated offshore transmission. Our innovation also extends to other areas such as developing new procurement approaches like the introduction by Iberdrola of IEC into the marketplace to increase competition, participation in the Power Academy to encourage skills development and exploring new commercial arrangements with customers to benefit the operation of the network.

Key projects which have been identified are shown and demonstrate the variety of innovation that we are covering.

All projects have the potential to deliver significant benefits to customers through:

- Greater utilisation of assets,
- Minimising constraints on the network,
- Lower cost innovative alternatives to traditional investment, which are not yet proven,
- Facilitating a competitive market for generator connections

In order to deliver this strategy and the associated benefits, SPT will require an innovation allowance of circa 0.75% of revenue per annum in order to deliver, which we believe will deliver value to customers by allowing a number of projects to be pursued early in RIIO T1 so that the benefits can be maximised. This will be managed through a rigorous approach to ensure projects are meeting the objectives we have highlighted in this strategy document and deliver value for money.

	High level area for focus	Quality and security of supply		Sustainable energy systems with minimal environmental impact			Maximise value and optimise cost
Delivery Method	Specific topics / Innovation project	Meeting customer service expectations	Preparing for future uses of electricity	Facilitating new generation	Reducing our asset environmental impact	Improving our asset performance and utilisation	Becoming more cost efficient
Business Plan Innovation	Series Compensation		Technical/ Commercial	Technical/ Commercial	Technical	Technical	Commercial
	Embedded HVDC – West Coast Interconnector		Technical	Technical			
	Integrated Offshore Transmission – East Coast Interconnection		Commercial	Commercial			
	New protection and control techniques	Technical/ Commercial		Technical			Technical
Innovation Allowance	Wide Area Monitoring		Technical	Technical			
	Smart Transmission Zones					Technical/ Commercial	
	Dynamic Rating of Overhead Lines			Technical/ Commercial	Technical/ Commercial	Technical	
	New conductor corrosion testing techniques				Technical		
	Non intrusive health monitoring of transformers					Technical	
	Protection asset management tools					Process	
	Circuit breakers diagnosis tools					Technical/ Process	
	Risk assessment of substation earthing systems						Process
	Alternative low cost tower foundations				Process		Process
NIC	Energy Storage	Technical/ Commercial	Technical/ Commercial	Technical/ Commercial			
	DC Technology		Technical		Technical		
	Impact of demand side management and embedded generation	Commercial/ Process	Commercial/ Process			Commercial/ Process	

10. Conclusions

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. We 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.

We believe we have submitted a fully justified, financeable Business Plan which delivers investment grade credit ratings. This is in large part achieved by moving to a notional gearing level of 55% alongside a sizeable equity injection of £200M 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.

In summary, we believe that this Plan ensures that SP Transmission is at the heart of facilitating the United Kingdom's transition to a low carbon economy and that as part of the Iberdrola Group we act as a catalyst to the Government's successful achievement of its legally binding 2020 targets for decarbonisation via a transition toward renewable generation.

Our business plans require equity injection of £200M supplementing an increase in debt of £1,004M during the period. We have included within our plans a minimum allowed cost of equity of 7.0% (post tax real) and a notional gearing of 55%. Both of these parameters have been amended compared with our original Business Plan submission. During extensive discussion with Ofgem as part of the fast track process we have been challenged on the level of risk which will impact our financing plan. We have decided to relax these two key financial parameters in order to ameliorate the impact of RIIO T1 upon our stakeholders. Additionally we have moved to a fixed capitalisation rate of 90% and recognise a reduction in IQI additional income reflecting a change in classification of certain wider works such that it falls outwith the mechanism. As a result our revenues are reduced by £25M.

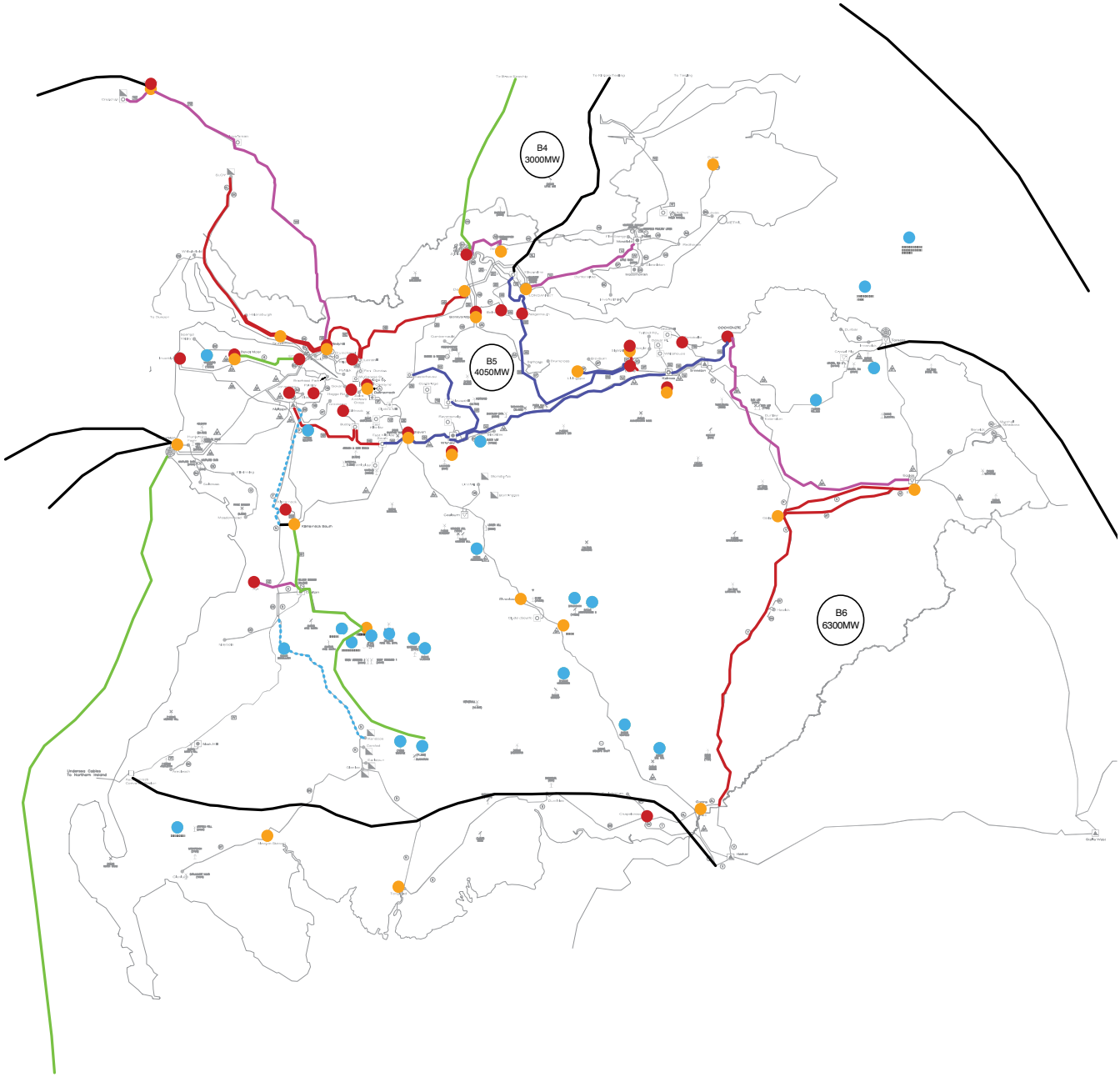
Appendix 1
Business Plan Capex Summary

Best View/Baseline's and Remuneration produced 11/12/2011

	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	RIIO T1 Total
Funding Mechanisms for "Best View"									
Funded via ex-ante									
Local Enabling (Entry - Sole Use)	11.6	13.5	13.2	11.8	14.5	6.2	5.5	2.5	78.9
Local Enabling (Entry - Sole Use) Contributions	-5.0	-5.8	-7.3	-6.1	-5.8	0.0	0.0	0.0	-30.0
Local Enabling (Exit - Sole Use)	0.0	1.3	5.1	3.5	1.9	1.9	1.9	1.6	17.3
Local Enabling (Exit - Sole Use) Contributions	0.0	-1.3	-5.1	-3.5	-1.9	-1.9	-1.9	-1.6	-17.3
Local Enabling (Entry)	67.1	65.5	34.4	3.1	4.8	5.7	6.2	2.9	189.7
Local Enabling (Exit)	6.7	11.1	9.5	4.4	0.1	3.2	11.4	9.9	56.4
Wider Works (Entry)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wider Works (Exit)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Preconstruction for non baseline wider works projects	5.3	11.4	5.6	0.1	0.4	0.0	0.0	0.0	22.8
Voltage Support at Kilmarnock South for Hunterston Power Station retiral	0.0	0.0	0.0	0.0	1.7	6.8	6.0	1.8	16.2
Completion of 3300MW upgrade	5.1	0.6	0.0	0.0	0.0	0.0	0.0	0.0	15.7
Hunterston - Kintyre Link (SHETL/SPTL)	5.0	11.1	4.2	0.0	0.0	0.0	0.0	0.0	20.3
Total for East West Upgrade	21.2	26.2	11.0	0.0	0.0	0.0	0.0	0.0	58.5
Total for HVDC Linlk	93.1	113.5	77.2	23.3	0.0	0.0	0.0	0.0	307.1
Total for Series Compensation	29.5	18.8	9.5	0.0	0.0	0.0	0.0	0.0	57.8
Wider Works (General)	169.3	181.6	107.5	23.4	2.1	6.8	6.0	1.8	498.4
Infrastructure - TSS	0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.6
Total LRE funded by ex-ante allowance	**249.8**	**266.4**	**157.3**	**36.6**	**15.7**	**21.9**	**29.1**	**17.1**	**794.0**
Total NLRE funded by ex-ante allowance	**70.1**	**71.4**	**72.2**	**85.1**	**97.1**	**89.0**	**91.9**	**73.2**	**650.0**
RPEs	0.4	5.2	7.5	9.2	12.8	15.9	18.0	10.1	79.1
Total Capex funded via ex-ante allowance	**320.3**	**343.0**	**237.0**	**130.8**	**125.7**	**126.8**	**139.0**	**100.5**	**1523.1**
Funded via Revenue Trigger									
XK - Jnc. XN route to Jnc. XM route OHL modernisation Major Refurbishment (Recond 21cctkm)*	0.0	0.0	0.0	0.0	0.0	0.2	2.7	6.8	9.7
XM - Jnc. XK route to Currie OHL modernisation Major Refurbishment (Recond 62cctkm)*	0.0	0.0	0.0	0.5	6.0	15.1	5.0	0.0	26.7
XN Jnc. XD route to Jnc. XK route/ Jnc. XK route to Grangemouth Major Refurbishment (Recond 19cctkm)*	0.0	0.0	0.0	0.0	0.0	0.2	1.9	4.7	6.8
XD Jnc. XN route to Kincardine Major Refurbishment (Recond 10cctkm)*	0.0	0.0	0.0	0.0	0.0	0.9	2.5	0.0	3.4
Non-Load table 4.20	0.0	0.0	0.0	0.5	6.1	16.3	12.1	11.5	46.5
Total Non- Load Schemes funded by Volume Driver	**0.0**	**0.0**	**0.0**	**0.5**	**6.1**	**16.3**	**12.1**	**11.5**	**46.5**
Total for East Coast 400kV upgrade	5.1	22.7	36.7	35.4	19.5	0.0	0.0	0.0	119.5
Dumfries and Galloway Strategic Reinforcement	0.0	3.1	24.0	63.8	82.7	90.8	68.6	0.0	333.0
Total Load Schemes funded by Revenue Trigger	**5.1**	**25.9**	**60.7**	**99.3**	**102.2**	**90.8**	**68.6**	**0.0**	**452.5**
**required if East Coast option above goes ahead*									

	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	RIIO T1 Total
Funded via TIRG mechanism									
Total Funded via TIRG mechanism	**46.5**	**39.4**	**25.6**	**4.4**	**0.0**	**0.0**	**0.0**	**0.0**	**115.8**
Total Capex - Best View (all funding mechanisms) *tble 4.18 (BV) = 2058.8+RPEs (79.1) = 2137.9*	371.9	408.3	323.3	235.0	233.9	233.9	219.6	112.0	2137.9
Upper case Funding									
Funded via Volume Driver									
Local Enabling (Entry - Sole Use)	3.6	5.9	11.8	15.6	15.3	14.8	11.7	2.7	81.5
Local Enabling (Entry - Sole Use) Contributions	-0.1	-0.3	-1.3	-1.3	-0.3	-0.3	-0.6	-0.2	-4.4
Local Enabling (Entry)	6.0	9.5	27.7	44.2	30.8	14.9	8.3	3.0	144.3
Total Load Funded via Volume Driver **required if alternative East Coast option goes ahead*	**9.5**	**15.1**	**38.2**	**58.6**	**45.7**	**29.4**	**19.4**	**5.5**	**221.4**
XR - Newarthill to Wishaw Major Refurbishment (Recond 32cctkm)*	0.0	0.1	2.2	5.4	0.0	0.0	0.0	0.0	7.8
XX Easterhouse to Newarthill Major Refurbishmen (Recond 15 cctkm)*	0.0	0.2	1.6	2.9	0.0	0.0	0.0	0.0	4.8
YJ - Longannet to Westfield Major Refurbishment (Recond 60cctkm)*	0.8	4.5	7.9	5.9	0.0	0.0	0.0	0.0	19.1
YW Route Dalmally to Windyhill Major Refurbishment (Recond 153cctkm)	3.4	18.8	34.5	25.9	0.0	0.0	0.0	0.0	82.6
Total NLRE subject to Volume Driver	4.2	23.6	46.2	40.2	0.0	0.0	0.0	0.0	114.2
Total NLRE Funded via Volume Driver	**4.2**	**23.6**	**46.2**	**40.2**	**0.0**	**0.0**	**0.0**	**0.0**	**114.2**
Funded via Revenue Trigger									
Eastern HVDC Link (SPT/NGET) and Onshore Collector	0.6	10.0	45.6	97.3	110.3	22.5	0.0	0.0	286.2
Total Load Schemes funded by Revenue Trigger	**0.6**	**10.0**	**45.6**	**97.3**	**110.3**	**22.5**	**0.0**	**0.0**	**286.2**
Total Capex - Upper case (all funding mechanisms) *tble 4.18 (UC) = 2680.6+RPEs (79.1) = 2759.7*	386.2	457.0	453.4	431.0	389.9	285.8	239.0	117.5	2759.8

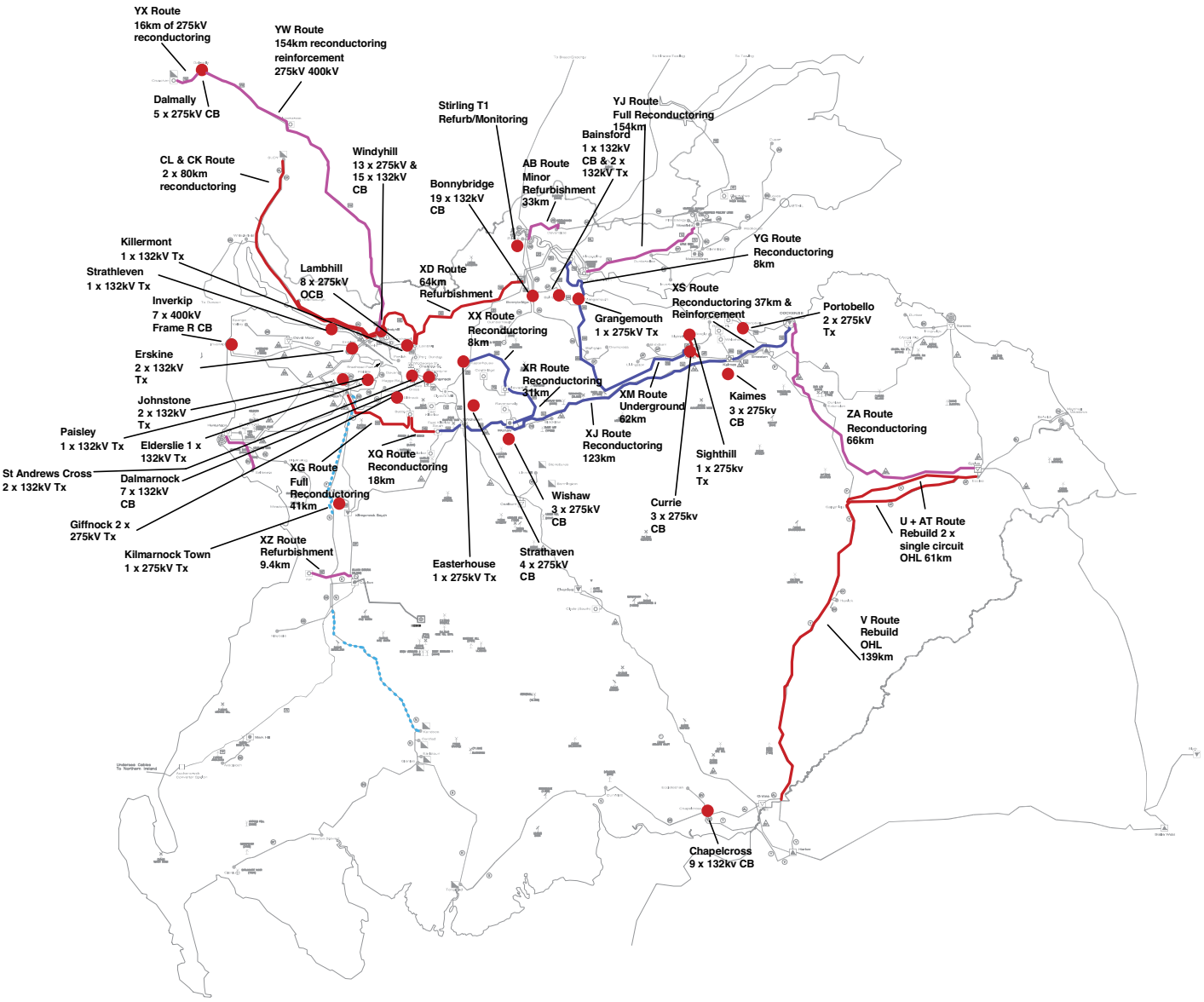
Appendix 2
Load Projects



RIIO-T1 Outline Plan Load and Non Load 2013 - 2021

- Wind farms
- Substations - Non Load
- Substations - Load
- Non Load circuits
- Load circuits
- Load and Non load circuits
- Non Load circuit substitution
- Possible load circuit
- Circuit removal

Appendix 3
Non-Load Projects



RIIO-T1 Outline Plan NLRE 2013 - 2021 Non Load Plan

- Wind farms
- Substations - Non Load
- Substations - Load
- Non Load circuits
- Load circuits
- Load and Non load circuits
- Non Load circuit substitution
- Possible load circuit
- Circuit removal