



RIIO T1 Business Plan

Section 7 Delivering the Plan

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7 DELIVERING THE PLAN

Negotiation and securing system access, engineering and project management, procurement activity and mobilisation of suppliers and installation contractors and obtaining the necessary third part permissions, are essential activities in the delivery of the network investment programme. This section describes the network context within which SPT has to manage its programme and outlines the approach to meeting the challenges posed by a significant ramp up in the volume of capital work.

This section is supported by five appendices as follows:

- Appendix 1 - Procurement Strategy'
- Appendix 2 - Iberdrola Engineering and Construction
- Appendix 3 - Environmental Planning and Wayleaves Strategy
- Appendix 4 - Draft Network Availability Policy
- Appendix 5 - Resourcing Plan

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7.1 Overall Delivery Strategy

It has been recognised by SPT and its agents 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. The consequences of management interventions associated with end of life assets have introduced year on year increases in exposure to unplanned events and consequent risk mitigation investment has been factored into the delivery priorities set out in the various policy documents.

Taken together all of these factors interact on delivery plans and this dictates that medium and short term plans must be 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. It is not possible to deliver the levels of investment proposed unless a high degree of programme management, structure and control are introduced to ensure that interactions between issues can be managed and crucially a degree of flexibility must be configured into the plans to provide the space to resolve conflicts within the programmes.

Hence the 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 interference by external issues 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. Provided that these schemes are coordinated with what are essentially local network issues it is not envisaged that there will be any significant external interactions impacting on the programme. Overall, a degree of smoothing will be available within these programmes to manage the sensitivity around supply chain and resource dependencies.

7.2 Modernisation Drivers

Asset condition, increasing technical risks and service performance have been assessed, as described more fully in the section covering our non-load investment. The overall picture developed through this approach can be summarised as a comprehensive modernisation requirement which encompasses many of the 275/400 kV assets forming a ring around the Central Belt of Scotland which were originally constructed in a peak period of investment during the early sixties when the supergrid system was being established across the UK. At that time the assets were constructed in essentially green field conditions with already connected customers being supplied via 132 kV assets from relatively local thermal power stations. The expansion in use of electricity triggered the transformation to the higher transmission voltages and larger thermal power stations, including nuclear, which were more remote from the load centres.

The electricity transmission networks have evolved over the latter part of the 20th century and the bulk of the 132kV assets were optimised and reorganised into bulk local distribution configurations. As a consequence of this evolution we must now develop a modernisation programme strategy which takes account of the situation where the wider community is now served from an asset base which requires a major refit to be carried through over several decades.

As these modernisation investments are being managed the consumer has and will continue to have ever increasing dependence on electricity to support the technology which is now essential to our standard of living and the modern way of life. Also the supergrid system has been and will continue to be updated to serve the evolving wholesale energy market and the power transfers associated with changes in generation patterns. There are clear and significant commercial, economic, political and social factors which mean that planned outages and system reliability interaction with end of life asset risks and forced outages must be balanced and optimised in a way which meets stakeholder expectations. SPT considers the consequences of underachievement in its modernisation plan over the medium term are untenable.

SPT regards system access as its major delivery challenge and it is therefore of paramount importance that the sequence of works and delivery within the RIIO T1 period is seen as a subset of a modernisation programme which will be carried through over the T2 and T3 periods. System access opportunities must therefore be fully utilised and it will be important to ensure that interventions are planned and delivered within a strategy which removes the need for subsequent outages with return visits in the medium term. Project and installation methodology needs to consider system availability and reliability as being maintained to an agreed service level for the network users while investment is delivered.

In developing and implementing the delivery programme for modernisation, SPT is mindful that delivery constraints will remain a critical success factor for the following price control periods and it must avoid circumstances developing where delivery issues are deferred. An overall strategy which will utilise the network access opportunities being generated from other investment inputs has therefore been employed. Our strategy is to maintain these linkages and flex the modernisation plans to match changes arising from other investment workstreams.

7.3 Deliverability Strategy

Outage Delivery

Key to success is through the control and management of change 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 developed a draft Network Availability Plan (NAP)¹ must be developed to afford an opportunity to plan and lock in key outage dates with a better view of the sensitivities and interaction, while also We believe that our policy clearly meets Ofgem's objectives by clarifying what the SO, and other stakeholders, can expect from the TO. .

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, it 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, reasoned arguments and formal mechanisms to resolve issues. SPT has engaged with the NETSO and shared its 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.

Procurement

SPT will purchase its equipment, goods and services efficiently through Iberdrola's Global Purchasing Organisation. It is recognised that there are large scale volume and capital spend increases proposed as we move into RIIO-T1 and these opportunities offer challenges for networks purchasing to deliver more, increased value and volume contracts. While the level of investment proposed in RIIO T1 is a significant increase in volume over TPCR4, when considered within the Global market within which Iberdrola Group Procurement operates the relative volume increases are much less dramatic. SPT is therefore confident that efficient investment can be procured in line with its proposed business plan.

¹ Our NAP is discussed in more detail below, and also in Section 8 in Outputs, and is also included as an appendix.

SPT Purchasing is currently midway through a change of direction in market engagement moving from Engineer, Procure, and Construct (EPC) to a more disaggregated engagement with the supply base in which much of the interface and design risk is taken back to the engineering organisation to manage. This allows work elements within projects to 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. By removing this element of costs from the tendered schemes the benefits are passed back to SPT. In addition, efficiencies are also established by engaging with Tier 2 and Tier 3 contractors who typically would not have been able to engage directly with SPT. A detailed description of the way in which Iberdrola Procurement will be used to secure efficient and sufficient levels of investment is provided in Appendix 1.

As outlined above SPT will open new routes to market to secure the volume increase and efficient procurement of its investment where required. A high level assessment has been completed and the volumes represented by the overall investment plan evaluated against the existing and potential supplier base. Areas of sensitivity have been identified and procurement strategy developed to meet the needs of the investment plan. A programme of engagement has commenced to inform and encourage both existing and potential suppliers and to gauge their appetite for participation in the IEC delivery model.

Current market engagement suggests that most work streams (Substation, Cable, and Civil) are still competitive and have a healthy marketplace. However, Overhead line refurbishment, with its large increase across all Transmission Operators, has a degree of uncertainty attached and a plan is being developed to engage current and new entrants to the tender lists and to understand the market capabilities. Market analysis once completed, will determine the purchasing strategy for engagement. This work will be crucial for determining the direction OHL contracts will follow. This approach will be taken for all contracts and the expectation is that tender lists will increase for purchasing activity. We believe that engagement with Tier 2/3 contractors will offer greater competition, reduced costs and an increased pool of resource to deliver from.

IEC Delivery Model

We expect the small number of turnkey (or tier 1) contractors in the electrical infrastructure supply chain to increase during RIIO-T1. SPT has, and intends to maintain, an established and formal relationship with Iberdrola Engineering and Construction (IEC) as set out in Appendix 2.²

² This organisation, and its preparations to increase its capacity to support SPT in managing the delivery of transmission investment, is described in more detail in Appendix 2 to this Section.

IEC's delivery methodology is focused on developing a deeper engineering and project management model that disaggregates the traditional EPC approach. A strategic advantage of this approach is the reduced reliance on the limited number of turnkey / tier 1 contractors. Importantly, this strategy facilitates the direct engagement of the whole UK and international supply industry in order to meet the demands of SPT and does not constrain purchasing in dealing with a very limited turnkey supply market.

SPT considers that the opportunity for fundamental change in delivery methodology can be taken which will take advantage of the improved leverage available via a global purchasing organisation which is described more fully under the Procurement heading above. The expertise available within IEC and the associated 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.

Consenting

Our experience in delivery of transmission windfarm connections is that connection times vary depending on a number of factors and not just the capacity of the generators. However, the common thread that impacts all connection timescales regardless of location, type or size of generation, is undoubtedly consents.

Obtaining all necessary consents is dependent on outside agencies, such as local authorities providing consent approval to competent planning applications in realistic timescales. Our experience is that changes from the originally contracted dates are due to factors out with our control; usually due to planning consent delays, changes to developer requirements and a lack of understanding or guidance within the industry of mitigating programme slippage.

SPTL has quantified the volume of environmental planning, wayleave negotiation and access negotiation activities. These, together with a mobilisation plan to secure the necessary permissions, are set out in Appendix 3. The key to securing consents is to have a clear view of requirements in sufficient time to manage the necessary stages of the respective activities. Advantage can therefore be derived from the longer timeline of RIIO to provide greater certainty at an earlier stage of the actions required to deliver permissions. The programme and project level governance forums will be utilised to

track the key actions in good time to trigger the escalation options and to consider the alternatives where they may be found.

A key factor in the RIIO programme is that most of the network activity proposed is actually on or adjacent to established assets and is an up-rating or modernisation scheme. SPT consider that given sufficient time this is able to be planned into the programme with a high level of confidence in securing the land access.

Two significant schemes which will be more difficult to secure consents are the Dumfries and Galloway 275kV reinforcement,³ and rebuilding of the 132kV lines between Eccles, Galashiels and Hawick. These activities are likely to be subject to significant environmental planning delays therefore works have been positioned toward the end of the review period and it is intended to push on early with the planning process to secure the consents in good time. In the event that the 132kV work is not consented there are alternative works "on existing line route" elsewhere which can be brought forward from T2, which are equally critical in terms of modernisation due to condition. The projects can therefore be deferred if consent is delayed without an impact on the required output volumes.

Direct Staff Resources

We recognise that in order to successfully meet the challenges of RIIO T1 we must have a clear resourcing strategy that maintains workforce skills and experience, in an environment of extensive growth for transmission but also with an ageing workforce. Appendix 5 provides information on our staff profile, the additional resources required for RIIO T1, our forecast retirement and attrition, and our plans for future recruitment.

³ The Dumfries and Galloway 275kV reinforcement is in our "upper case view" rather than our "best view".

7.4 Contingency/ Mitigation Plans

As mentioned above in the overall strategy the modernisation programme has been developed from a range of drivers. In terms of 275kV switchgear, performance and condition of whole asset populations have essentially similar issues and the volumes are such that our policy is to deal with the issues over two price reviews. SPT has selected for earlier intervention sites where the risks of poor condition affecting system users are higher. Those sites have been worked through into the proposed programme bundled together with the associated overhead line circuits. The programme has been configured to address approximately 50% of the circuit breakers comprising the asset type within RIIO T1. Also approximately 50% of the L2 vintage of overhead lines are being scheduled for refurbishment works.

It is intended that the balance will be tackled during T2. However if unforeseen factors were to come into play which meant that system access were not possible economic or efficient either in financial or system terms for the selected circuits, it will be readily possible to substitute circuits from the T2 batch. Equally if load drivers were to promote schemes to uprate circuits which are currently planned for refurbishment, then clearly these uprating schemes cover part of the overall circuit length renewed from within the targeted asset population. This would therefore meet the strategic policy objective and overall programme targets.

As has been outlined, there is adequate scope to meet the overall volumes required provided that the delivery strategy, strong programme control and governance forums are used to trigger key action and decision points, and key project development deliverables are coordinated in sufficient time. As outlined in section 1, we also propose that there is scope within the intended funding mechanism to move relatively small non-load volumes forward or backward between T1 and T2 to match the delivery opportunity on either side of the end point of the price control window.

Overhead Line Activity

A significant ramp in overhead line activity is proposed and SPT has set out a lower rate of increased delivery over the first three years with a step change upwards at that point. This profile will allow time to mobilise the supplier engagement and give time for the land access and way leaving operation to gear up to the necessary strength.

Network Availability Policy

It is a fundamental requirement that outages can be coordinated and agreed in good time with the other stakeholders such that programmes of delivery can be fully developed and contracts placed with a suitable degree of certainty. SPTL has assumed that the stakeholders will act collectively to ensure that all interests are taken on board sufficiently early to allow the optimum position to be agreed which will afford the required system access. SPTL has participated in the joint consultation which is underway to develop and agree a Network Availability Policy which would provide the

framework to achieve the joint objectives of developing and maintaining an economic and sufficient transmission system in keeping with its licence and statutory obligations. Given the extent of the investment being proposed across the UK it is unlikely that this investment can be achieved without significant impact on the economic use of the system. It is therefore evident that mechanisms must be developed which will ensure that optimal plans can be implemented with a view to overall minimisation of cost to the end user as the determining criteria.