

<b>Active Equipment Programme - Ofgem justification paper</b>	
<b>Name of Scheme/Programme</b>	Active Equipment Refresh Programme
<b>Primary Investment Driver</b>	Asset Health
<b>Scheme reference/mechanism or category</b>	SPNLT2057 Non-Lead Asset – Protection, Control, Telecoms and Metering
<b>Output references/type</b>	NLRT2SP2057 / Non-Lead
<b>Cost</b>	£ 7.3m
<b>Delivery Year</b>	RIIO-T2
<b>Reporting Table</b>	C0.7 Non-load Master / C2.2a Scheme Summary
<b>Outputs included in RIIO T1 Business Plan</b>	No

<b>Issue Date</b>	<b>Issue No</b>	<b>Amendment Details</b>
July 2019	Issue 1	First issue of document
December 2019	Issue 2	Cost updated

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## 1 Introduction

The SPT telecommunication network is dependent on industry standard active telecoms equipment. In many instances, this equipment has a very short asset life compared to power systems assets and typically is made obsolete by respective manufacturers only a few years after being released. This is due to the reliance on software/electronic hardware within the assets themselves. There is a typical lifetime of 10years from when the asset is installed. There is therefore a requirement to replace End of Life (EOL) time expired equipment to ensure SPT is not exposed to the significant cyber or equipment failure risks that are no longer mitigated via the equipment manufacturer.

The ability to support the telecoms equipment is a key consideration for the replacement of discrete asset types. Due to the nature of the strategic telecoms network, it is essential any equipment that fails can be replaced or repaired without compromising the network. Similarly, it is important that equipment can be reconfigured as required. The rationale for the replacement of specific telecoms equipment is detailed in the sections below.

## 2 Background Information

The investment requirements identified within this paper relate to telecoms network assets that are essential to the continued provision of services on the networks. The investment requirements identified are essential for the following systems.

- Control Telephony
  - The need to ensure that the Operational Telephony Systems are fully supported and protected
- Cyber Security
  - 
- Black Start Radio
  - There is a need to change from Airwave to the new UK Emergency Services Network (ESN) network in 2022
- Auxiliary Equipment
  - There is a need to replace end of life ancillary equipment such as Batteries/Chargers /GPS clocks/Air Conditioning/Alarm Systems

There are many pieces of auxiliary equipment that are essential to the continued operation of the active telecoms equipment used in the strategic telecommunications network. These assets typically have limited asset life and ongoing investment is essential to ensure that critical equipment is modernised prior to failure.

The telecommunication equipment such as Firewalls and Management Server are based on IT platforms and hence all have relatively short asset life due to software and hardware obsolescence and the subsequent loss of support against evolving threats. They will need to be replaced in the RIIO-T2 period. In addition, the continued development of these products will provide enhancement

beyond current system features which will provide additional benefit or security to the telecommunication networks.

### **3 Optioneering**

The following is a summary of the options considered for this project.

	<b>Option</b>	<b>Status</b>	<b>Reason for rejection</b>
1	<b>Do nothing:</b> Maintain the existing telecoms network as is.	Rejected	Rejected on the basis that system security would be too compromised by this approach in both the short and long term and would not deliver the network resilience as required.
2	<b>Replacement of Equipment:</b> Delivery of a secure system to ensure that no single failure or any single site loss should reduce the telecoms network	Proposed	-

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## 4 Detailed analysis

### 4.1 Selected option

The SPT Telecommunications network relies on a number of auxiliary assets. In addition to the main operational telecommunications systems, they are essential for the resilience, availability and security of the strategic SPT services for RIIO-T2 and beyond

#### 4.1.1 Control Telephony

The 44 Control Telephony dispatch turrets located [REDACTED] will be replaced. This will also include the replacement of 2 dual redundant control Telephony Call Managers, [REDACTED].

This scope will also include the replacement of various other servers and supporting infrastructure including voice recorder servers, element management server for Turrets and local switches and routers at both Glasgow and Kirkintilloch.

#### 4.1.2 Cyber Security

[REDACTED]

#### 4.1.3 Management Platforms

The telecommunication network is managed using a different technique to that on the electrical network. The network uses a series of management platforms that allow for fault analysis, auditing, configuration management and other functional requirements. The scope will include the replacement of 10 servers that support various element management systems application used in the provision of the telecommunication network at Glasgow and Kirkintilloch

#### 4.1.4 Black Start Radio

There is a GB wide project to complete the transition of the emergency services network from Airwave to a new provider. As a result, there is a need to replace 100 Airwave Black Start capable handsets held at strategic locations throughout SPEN and 7 desk units with the Emergency Services Network alternative.

#### 4.1.5 Auxiliary Equipment

There is a need to replace 50 end of life DC chargers including batteries and LV distribution board supplies, at strategic sites across SPT.

#### 4.1.6 Replacement of clock sources

The telecommunication network uses very high accuracy sources to distribute time across the network. This is used in a range of other services including protection services. The time sources have a finite supportable life and these require to be replaced. The scope includes the replacement of 3 critical clock sources across the SPT operational network.

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## 4.2 Innovation

Innovation is a key component to deliver developments in all aspects of work. While the technology used in the project will be standard with a proven track record and the topology adopted in line with industry standards, SPEN will look to use innovative ways of project delivery and installation to deliver the resilient telecoms network required.

## 5 Conclusion

The nature technology and data today makes the Telecoms network of and Power System a fundamental requirement. In such a manner that its availability and resilience must be greater than the power systems to allow the power system to deliver its high level of availability that we have come to expect by today standards.

The proposed solutions, maintains SPEN security levels and delivers a resilient telecoms network for the future, with the ability to deliver and support the transition to a Low Carbon Network.

- Costs: £ 7.3 m
- Timing of investment: RIIO-ET2 period
- Declared outputs: N/A

## 6 Future Pathways – Net Zero

We have reviewed this project against the criteria set out within the business plan guidance and have assessed that it does not prevent achievement of our Net Zero plans or lead to stranded assets.

## 7 Outputs included in RIIO T1 Plans

There are no RIIO-T1 plans or outputs