

- High Voltage (HV) Feeder Renewals
- HV Switchgear Renewals
- Direct Current (DC) Switchgear Renewals
- Negative Short Circuit Device (NSCD) Installation
- Integrated DC and NSCD switchgear trials
- Transformer Rectifier Renewals



Case Study

Rail – E&P Programme Full speed ahead on Wessex Route

PROJECT	Multiple projects
CUSTOMER	Network Rail
LOCATION	Wessex Route
CONTRACT	IP Southern SMD Framework
COMPLETION	Ongoing





Need

The Network Rail Capital Delivery Southern Multi-Discipline Framework (SMDF) has adopted a new approach by expanding the traditional scope for Control Period 6 (CP6) to include Electrification and Plant (E&P) renewals and enhancements work.

The E&P programme of work is substantial and incorporates:

- High Voltage (HV) Feeder Renewals
- HV Switchgear Renewals
- Direct Current (DC) Switchgear Renewals
- Negative Short Circuit Device (NSCD) Installation
- Integrated DC and NSCD switchgear trials
- Transformer Rectifier Renewals

E&P activities will account for almost 20% of the project work to be delivered by us on the Wessex Route in the next year. The programme will continue at pace throughout the duration of the framework in CP6.

Traditionally E&P work has been procured and delivered in isolation outside of the established building and civil engineering delivery frameworks. Incorporation of this activity into the new multi-discipline framework brings

significant benefits. Creating opportunities to increase efficiencies, improve the resilience of the railway much faster, and reduce project risks.

This procurement route enables E&P activities to immediately benefit from an established collaborative delivery model. Site investigations, surveys and design development and interfaces are carefully and progressively assessed and managed. Early supply chain involvement and their integration into the entire process guarantees more effective and efficient solutions. The alignment and co-ordination of E&P activities with other asset work enables greater flexibility and efficiency in planning and possession utilisation.



Figure 1 - Cable Train

Solution

In a relatively short period, the existing E&P team has been strengthened to meet the potential escalating workload. This has ensured the necessary skills and capacity have been put in place with people who demonstrate behaviours that align with the Wessex SMDF Framework working ethos.

An E&P Programme Manager was appointed to head the specialist team and became the strategic link between Network Rail, designers, specialist supply partners and the delivery teams.

The milestones dates are critical, and we have moved at speed to build upon the relationships and expertise developed on the Multi-Functional framework in CP5 by:

- Ensuring the E&P Team are experienced in delivering E&P activities across and specific to the wider southern region.
- Integrating the E&P team into the use and adoption of the collaborative systems and behaviours that aid decision making and accelerate design approvals.
- Engaging the existing framework design partner Arcadis for E&P design development on new packages to Form A and for detailed design.



Our in-house possession planning has been a crucial asset on the initial tranche of HV Feeder Renewals, HV/DC Switchgear Upgrades and NDCS packages. The possession team's detailed asset knowledge and agility has significantly increased the efficiency in use of possessions. HV Feeder cable installation, UTX's and station platform works have been undertaken simultaneously at multiple locations. A further example is the opportunity taken to accelerate E&P substation works and station upgrades into an emergency embankment project on the same line.



Figure 2 – HV Feeder Renewal

Outcome

Such has been the success of the integration of E&P activities under the collaborative umbrella of SMDF that from a standing start we will deliver over £15m of work this year. This growth is set to continue, and E&P will become a significant and rewarding pipeline of work.

The first tranche of work to renew HV Feeder cables on the Portsmouth route has been completed, including 20 km of cabling installed by cable trains over two well executed weekends.

Access for six HV/DC Switchgear sites is also progressing with environmental hurdles being overcome to ensure the new 20T switchgear modules will be installed as planned utilising possessions booked over two years in advance.

The inclusion of E&P within the SMD framework shortens the supply chain and shares the knowledge, design and installation expertise and possession planning across the full range of schemes undertaken through the framework. Benefitting passengers and increasing resilience of the railway better, faster and greener.

For more information or if you wish to discuss your E&P requirements, please contact Paul Welch on 07875 177638.



Figure 3 - Switchgear Renewal