



Office of Rail Regulation
Independent Reporter Services (Part C)
Delivery Plan Power Supply Assessment

Executive Summary



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Ref: C3/09 Delivery plan power supply assessment

**Final report from the Independent Reporter's review of
Network Rail's assessment and plans for its traction
power supply systems strengthening as set out in the
CP4 Delivery Plan (March 2009)**

5 August 2009

1. Executive summary

1.1 Introduction

During June 2009, the Reporter undertook a review of Network Rail's assessment of how much strengthening of its traction power supply systems is needed and its plans to do this work, as described in the document titled 'Network Rail CP4 Delivery Plan 2009 Enhancement programme: statement of scope, outputs and milestones March 2009' (the 'Delivery Plan'). The Reporter was asked to describe how this assessment and planning was carried out and to provide an opinion on whether or not this was robust.

1.2 The approach

The Reporter considered two main areas: Network Rail's assessment and the Delivery Plan, focussing on the DC traction power network South of the River Thames and on one particular route, Route 2 (Sussex). This DC network was chosen as it is more complex than the AC network and it is understood to be approaching its capacity in a number of geographical areas. The Reporter reviewed various documents and met a number of people, mostly from Network Rail, and also had telephone discussions with an electricity distribution network operator, a train operating company and the National Grid. Information was gathered, analysed and reviewed in a workshop and the findings were presented to the ORR and Network Rail on 26 June 2009. A draft report was submitted to the ORR and Network Rail on 30 June 2009 and their comments have been incorporated, as appropriate, in this final report. We have not considered the June 2009 update to the Delivery Plan as part of this report.

1.3 Findings

Overall, the Reporter found that the assessment work being carried out by the national specialist team (NST) for traction power design within Network Rail is carried out in a professional and appropriate manner. A significant amount of modelling and electrification design work has now been done, or is currently underway, and this appears to be following a sound approach. There is room for improvement in the area of assessment: for example, in developing procedures and high-level guidance documentation, and the Reporter believes that the implementation of an accredited quality management system would be of benefit here.

The Reporter concluded, however, that the Delivery Plan is not robust for traction power supply systems strengthening. This is because the March 2009 Delivery Plan is based on old information that was never signed off and it no longer reflects current plans. It was the best estimate at the time but has now been superseded. A substantially revised Delivery Plan is required urgently. A revised Delivery Plan (June update) was in development at the time of the

Reporter's review but had not been published and so could not be considered as part of that review.

Many traction power upgrade projects remain at an early GRIP stage and this introduces risk and uncertainty to the Delivery Plan. The revised Delivery Plan (June update) will play an important part in understanding and managing this risk. It is therefore essential that this document provides a coherent strategic overview of traction power supply systems work and is not simply a catalogue of discrete projects. It must be 'joined up'.

1.4 Wider issues

During the course of this review, the Reporter touched on areas, which were outside the scope of the mandate. These wider issues were important to the context of the review and the challenges faced by Network Rail in meeting its Delivery Plan obligations.

Although Network Rail operates a client - sponsor – delivery model, this clear structure has not always been visible in the past with the multitude of sponsors and clients, some with overlapping responsibilities and priorities, for the schemes within the Delivery Plan. Clear governance and organisation is essential if the Delivery Plan is to be achieved as planned and lessons are to be learned from past projects, such as the Brighton Main Line and the Southern Power Supply Upgrade Project. The Reporter believes that a holistic approach is needed to achieve system efficiencies and that a strategic overview of the electrification system is needed to provide a more joined-up approach to the various projects. The Reporter understands that Network Rail is addressing these issues under its transformation programme.

1.5 Conclusions

Network Rail has committed itself to transforming its processes and developing the skills and competencies of its workforce. In making an assessment of the Delivery Plan, the Reporter considered carefully all the observations and evidence received from both Network Rail and its supply chain. It was encouraging to have witnessed the professionalism and capabilities of the traction power design NST within Network Rail, plus Network Rail's intention to bring together its many traction power supply projects into a detailed, overarching programme with high-level sponsorship. However, Network Rail faces considerable challenges to understand the condition of its power supply assets, the scope of traction power supply strengthening work, and key project interdependencies and constraints, within the timescales available to successfully deliver the outputs.

Overall, the Reporter's opinion is that Network Rail's assessment and planning of the traction power strengthening work required for CP4 is not yet robust. Further work is required by Network Rail, particularly in the area of planning, with regard to the Delivery Plan.

1.6 Recommendations

The Reporter's main recommendations fall into three areas: Network Rail's assessment, the Delivery Plan and wider issues.

Network Rail's assessment

- A programme management resource should be provided to co-ordinate and prioritise electrification system modelling requirements and manage any changes to them.
- A national traction power supply strategy should be developed, covering all strategic routes.
- A database or list should be set up detailing the traction power supply strengthening proposals planned for each strategic route with an indication of GRIP level and proposed commissioning date.
- Network Rail should consider implementing a certified quality management system to parts of its organisation, such as the NST.
- Electrification asset information from all industry sources required for electrification system modelling should be anticipated, obtained and verified in advance of a request for electrification system modelling.

Delivery Plan

- There is an urgent need for Network Rail to revise and re-issue the Delivery Plan to bring this up to date and provide more clarity to customers and stakeholders. The Reporter would expect this revised and updated version of the Delivery Plan to include clear statements of how the CP4 traction power supply strengthening will be delivered to meet HLOS/PR08 capacity specifications.

Wider issues

- A clearly defined and communicated governance structure for the Delivery Plan is required in order that delivery is achieved.



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