



Executive summary

The Office of Rail Regulation (ORR) asked the Independent Reporter (Part C), hereafter referred to as the Reporter, to undertake an ex-post efficiency review to determine whether the North West and Great Western electrification development costs incurred by Network Rail up to GRIP Stage 3 are efficient.

This report covers the North Western scheme, comprising the Liverpool–Manchester and the ‘Lancashire Triangle’ routes, which reached GRIP Stage 3 at the end of December 2011. The review involved interviews with a number of key people, and an assessment of documentation and processes covering governance, cost estimating and control, and delivery arrangements within Network Rail.

Evidence of efficiency

Network Rail’s development costs for GRIP Stages 0 to 3 have been assessed based on evidence provided in four key areas developed from the ORR’s Investment Framework:

- **Efficient governance.** We have found significant evidence, including from Network Rail’s investment papers and GRIP project management products, that it has established effective governance over the North West Electrification programme and development costs, including the changes and improvements that have taken place during scheme development, notably in how the programme evolved into its current four phase configuration.
- **Efficient cost estimating and control:** There is a detailed cost estimate in place, which has been used to structure, report and track costs. Our review has found good evidence of adherence to budgets and that costs these remain in line with and slightly lower than historical estimates. We have, however, found limited evidence of cost benchmarking being undertaken by Network Rail.
- **Efficient programme and project controls:** Our review has identified that programme and its costs are adequately monitored, reported and controlled. This is via oversight by a programme office operating independently of the delivery team. This was evidenced during our review by undertaking checks on how scope, cost, schedule, risks and issues are controlled, and any changes to these are managed; all of which demonstrated that mature and well understood processes were in place.



- **Efficient delivery:** We have found good evidence that Network Rail has delivered its development work efficiently, utilising a competent internal team, augmented with external input on only key specialist tasks, and with effective, competitive procurement process and controls applied to these. There is also evidence that work has identified value management solutions and innovations that are expected to lead to high levels of productivity and also cost efficiency in delivery.

Findings

The main findings are:

- The review based on these efficiency criteria has identified good evidence that Network Rail's £7.118m development costs up to GRIP Stage 3 have been efficiently expended. This is for development work covered by a £9m authority, for a scheme with a total estimated cost of £422m, estimated at the end of GRIP Stage 3, to be delivered by the end of 2016.
- There have been external factors that have led to changes to the scope of the programme during development, for example to align with funder's emerging requirements. These have imported some complexity to cost allocation and governance, and have changed the configuration and phasing of the scheme. We have found evidence that Network Rail has managed these changes effectively, and nothing to suggest that this has had other than a small cost impact.
- The North West programme is the first of a new generation of major network electrification schemes. There are, therefore, limited cost benchmarks available for all-new electrification scheme development work for Network Rail to draw upon. Notwithstanding this we have found that the GRIP Stage 0-3 costs incurred, at c.1.7% of the estimated total cost of the scheme, compare favourably with a database of costs for other enhancement schemes when at the same stage of development.
- There is evidence that Network Rail has learnt from its North West Electrification development work, for example in relation to managing the GRIP Stage cost estimating process and maintaining communication between the project team, sponsor and estimators. Network Rail has also had success in pursuing innovation and programme efficiencies, targeting high levels of productivity and cost saving in construction. For example via modular construction and in applying new computer gauge clearance modelling that creates saving in structures alteration works.

Two further findings highlighted during the review are that:

- Network Rail has, in parallel with recent GRIP Stage 3 work, already started to commit significant costs for the critical path enabling works required to meet the delivery dates for Phases 1 and 2 of the programme of December 2013 and 2014 respectively.



- The overall business case for the North West Electrification programme remains dependent on the specification and successful deployment of electric rolling stock. This activity was not within Network Rail's electrification infrastructure scope of work, and is also related to the delivery of other regional rail schemes, all of which will require careful integration. We have found evidence, for example via the Northern Hub Steering Group, that this integration work is already being satisfactorily progressed. This is also evident in the positive findings of the further reporter review report entitled 'North West Electrification – Efficiency and Deliverability Review for GRIP 4-8'.

Recommendations

Consequently, we recommend the following:

1. The ORR is invited to agree that development costs of £7.118m to GRIP Stage 3 have been efficiently expended and should be added to the RAB.
2. Network Rail to conduct a post GRIP 3 workshop review with the DfT and ORR, to ensure continued agreement on programme scope options, benefits, costs and delivery plans, and to clarify any intervention required to address important issues raised before delivery costs start to ramp-up significantly.
3. Network Rail to establish its refreshed cost and authority structure for work from GRIP Stage 4 onwards that is consistent with the configuration and phasing of the programme proposed for delivery. As part of this, Network Rail to confirm that there are no further cost allocations changes to/from the CP5 Development Fund.
4. Network Rail to establish and maintain a benchmarking and cost capture plan for electrification development and construction work that can be used to help plan, deliver and demonstrate the improved efficiency of future schemes.
5. Network Rail to share the findings and lessons learnt from their North West development work with other electrification schemes, most notably for the benefit of the Great Western Electrification programme team.
6. Network Rail, together with industry partners, to maintain the recent focus on systems integration, co-ordination and planning work that incorporates rolling stock requirements and the interdependency with other relevant regional schemes.