

EGIP Efficiency Review

Initial Phase KO1

Change controls to the Target Price



Executive Summary

Independent Reporter Lot 2
Mandate Reference: L4Ni004
10 January 2020



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1. Introduction

1.1 Background

The Edinburgh to Glasgow Improvement Programme (EGIP) is being undertaken by Network Rail to meet a set of high-level client requirements from Transport Scotland. The programme is being undertaken in several stages (referred to as key outputs).

This report relates to key output 1 (KO1) which comprises electrification of the route between Edinburgh and Glasgow and associated works necessary to introduce new, longer and more frequent services between these two cities and the intermediate stations. To deliver KO1, Network Rail acting as client established a formal alliance between itself (acting as owner participant) and contractors Costain and Morgan Sindall (the Alliance). The alliance contract was based on an agreed target cost with gainshare and painshare arrangements.

1.2 The mandate for the review and this report

Nichols Group was engaged as an Independent Reporter by Network Rail and ORR to undertake a review of the efficient cost of changes relating to EGIP KO1 which were made using the adjustment event (AE) provisions in the project alliance agreement (PAA). Due to the nature and extent of the changes, the Office of Rail and Road (ORR) requested that the review be undertaken in two parts:

Part 1 – An initial review of the total quantum of changes with Network Rail and a proposed methodology for undertaking an efficient cost review.

Part 2 – A detailed review and determination if the cost of the changes represents efficient delivery of KO1.



The mandate specified four key questions for the Reporter to answer:

1. Is the forecast cost to completion of changes efficient?
2. If not, what is the range of costs that would be considered efficient?
3. Are the changes required to meet the project outputs?
4. Are the forecast costs suitably distinct from normal project costs?

This is the report following completion of Part 2.

1.3 Review scope and methodology

The scope of changes subject of this review were defined in the Reporter mandate. The review was required to consider the conditions surrounding the changes, and the cost of each change. To do this, we have undertaken: a review of generic factors' surrounding change on the project; a deep dive review of a sample of 29 contract adjustment events (AEs) that cover 80% of the change scope; a review of claims items within the AE sample, and a review of the mapping of changes to the risk allocation matrix.

When completing Part 1 of the mandate, the Reporter proposed a methodology for Part 2 comprising the following four workstreams:

1. A review of generic factors covering:
 - a. The overall level of change on the Edinburgh Glasgow Improvement Programme (EGIP) KO1 programme
 - b. The change processes applied
 - c. Understanding of the context for change events and modifications to the contractual change procedures
2. Review of a sample of 29 AEs
3. Review of claims items within the sample
4. Review of the mapping of the sample to the risk allocation matrix



1.4 Report scope and structure

The full report is structured as follows:

- Section 2 Executive summary, providing the Reporter's answer to the four key questions in the mandate
- Section 3 Findings from our review of generic factors
- Section 4 Findings from our review of a sample of 29 AEs
- Section 5 Findings from our review of claims items
- Section 6 Findings from our review of the risk allocation matrix
- Section 7 Conclusions
- Section 8 Key questions from the mandate



2. Executive summary

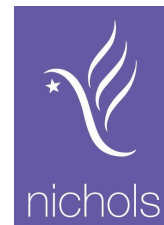
The mandate contained four key questions for the Reporter to answer. These questions were modified by agreement after the Reporter had completed Part 1 of the mandate and the revised wording was included in the Reporter's methodology for Part 2.

2.1 Is the forecast cost to completion of changes efficient?

Based on the evidence we reviewed in the sample of AEs and claims, we conclude that Network Rail are unable to demonstrate an efficient cost for the changes, specified in the scope of the Reporter's mandate, for the KO1 phase of the EGIP programme.

In summary, there are a number of reasons for this:

- The number of changes happening, including revisions to designs; changes to access; changes in standards; unexpected site conditions and under estimation led to shortcomings in control processes and a lack of clarity on actual costs associated with changes. The decision to undertake commercial settlements that superseded the original contractual target cost approach illustrates this loss of control and commercial assurance by Network Rail as client.
- Site works started before the project development phase (including design, surveying, estimating and work scheduling activities) was completed. This led to rework; programme pressures; a loss of optimum sequencing of works; prolongation and reworking all of which impacted the Alliance's ability to deliver an efficient programme.
- The project alliance agreement (PAA) envisaged that (because of the project development stage), change would be minimal. This assumption appears to have influenced the set-up of the Alliance and of Network Rail's client team and led to a reduction of project control and commercial resources, particularly by Network Rail (as client). This caused a lack of cost validation, benchmarking of pricing, challenge of actual cost or mapping between estimates and the actual cost for AEs.



2.2 If not, what is the range of costs that would be considered efficient?

Insufficient information available to determine efficient cost range

The scale of changes necessary to deliver the scheme resulted in significant disruption to the KO1 project as originally planned. Assessment of the efficient cost of these changes would require data to separately identify:

- The additional scope which, had it been identified during the development phase, would have been included in the target cost and contract programme.
- The costs associated with abortive work, inefficient access and/or methodology, additional preliminaries and other costs which flowed from incomplete pre-planning.

Even with good data, the impact of these matters on efficient cost is hard to assess retrospectively, as some of the additional works would have been included in the target cost if the requirements had been accurately identified during the project development phase. However, it is likely that estimated cost of changes now include rework, unforeseen site conditions, additional preliminaries, changes in access, shorter productivity periods, a proportion of the Alliance claims for prolongation and other costs arising from inefficient delivery.

Unfortunately, the limited records which Network Rail currently hold coupled with the absence of a detailed reconciliation between the actual costs incurred by the Alliance and the estimated costs of AEs used in the change control process means that it is not possible to undertake an efficient cost analysis based on the available information.

Approximation method to determine a range of efficient cost

In lieu of not being able to determine an efficient cost range from the information available, the Reporter has devised an approximation method that the ORR and Network Rail could use to inform their discussions to agree on an efficient cost settlement. This method has been devised with knowledge of what information exists and by establishing precedents from the commercial adjustments made to the changes in the Reporter's sample.

The method comprises three elements:

- Consideration of adjustments to reflect effectiveness of the commercial process applied by Network Rail.
- Consideration of adjustments to reflect inefficiency in execution of changes.
- Scale of adjustments to be based on precedents derives from the change sample.



2.3 Are the changes required to meet the project outputs?

Better planning in the project development phase would almost certainly have reduced the volume of change and led to more efficient delivery of KO1. This would have increased the initial target cost, however by less than changes made during construction with insufficient project controls. A decision to delay the start of the delivery phase would have had an impact on the forecast completion date but whether this would have been more or less than the 12-month delay which transpired is a matter of conjecture. A key lesson to learn from this is the need for very rigorous go/no-go decision-making for alliances at the point of transition between their development and delivery phases.

Although much of the change during construction was avoidable if more planning time had been allowed during development, we did not see evidence of any significant changes which were not necessary to deliver KO1 once work had commenced. The impact was more on the efficiency of the execution of the changes than on the need for them. We have identified several examples of changes where there is additional scope to the benefit of the project i.e. not all the scope is necessary to deliver the project outputs. Generally the changes were required to meet project outputs.

2.5 Are the forecast costs suitably distinct from normal project costs?

The cost estimates in the sample of AEs we reviewed are based on incremental change to the underlying works, which have then been adjusted through the change control and settlement processes. So, although the changes are discrete events which attracted increased cost, they form a part of the overall project cost associated with delivering the entirety of KO1. The forecast costs are not suitably distinct from the normal project costs.

