

Network Rail and Office of Rail and
Road

**Independent Reporter - Lot 1
L1 AR 002 Assessment of
Compliance with CP5 Asset
Policies**

Executive Summary

L1 AR 002/REP/1

Issue 1A | 31 October 2016

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

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ARUP

Glossary

| | |
|------|--|
| CAM | Civils Adjustment Mechanism |
| CP4 | Control Period 4 (April 2009 – March 2014) |
| CP5 | Control Period 5 (April 2014 – March 2019) |
| DRAM | Director of Route Asset Management |
| DST | Decision Support Tool |
| E&P | Electrification and Plant (Power) |
| ELR | Engineers Line Reference |
| EM | East Midlands |
| FY15 | Financial Year 2014/15 |
| GRIP | Guide to Railway Investment Projects |
| HQ | NR Central Team |
| IP | Investment Pack |
| LNE | London North Eastern |
| M&R | Maintenance and Renewal |
| NR | Network Rail |
| OP | Oracle Projects |
| ORR | Office of Rail and Road |
| PIP | Project Investment Pack |
| PR13 | Periodic Review 2013 |
| RAM | Route Asset Manager |
| S&C | Switches and Crossings |
| SBP | Strategic Business Plan |
| STE | Safety, Technical and Engineering |
| WLC | Whole Life Cost |

1 Executive summary

1.1 General

1.1.1 Arup has been appointed by the Office of Rail and Road (ORR) and Network Rail (NR) as Lot 1 Independent Reporter to advise on strategic matters related to the systems and processes by which NR manages its assets in order to deliver its business objectives.

Mandate

1.1.2 The purpose of this Mandate (Ref. L1AR002) was to verify the degree to which workbanks delivered in the first year of CP5 were in alignment with Network Rail's maintenance and renewal Asset Policies and, in turn, the degree to which NR is able to demonstrate that it is managing the network sustainably in a Whole Life Cost efficient manner.

1.1.3 The Mandate asked us to focus on three NR Routes, namely

- South East (Sussex and Kent);
- Scotland; and
- LNE and East Midlands.

We were asked to review seven asset groups:

- Track;
- Off-track;
- Buildings;
- Drainage;
- Civils;
- Signals and Telecoms; and
- Electrification.

1.1.4 We were also asked to take account of recommendations made under previous studies and reviews of Asset Policies.

1.2 Approach

1.2.1 We have agreed with NR and ORR that we should focus solely on renewal projects rather than maintenance ones.

1.2.2 During the first year of CP5, NR have undertaken over 2,715 renewals projects¹ across the three NR Routes packaged into 594 Oracle Project numbers by Network Rail.

1.2.3 We have agreed that, to reduce the imposition on NR Routes, the Investment Packs would be the primary source of information for our review, complemented by selected meetings with Professional Heads of Disciplines and Route meetings with DRAMs and RAMs (Route Asset Managers) to discuss our findings.

Sample and assessment

1.2.4 We selected a sample of projects, nominally 232, across the three specified NR Routes and seven asset groups. NR provided Investment Packs for these and we then agreed a sub-sample of 40 projects for a detailed review.

1.2.5 Our sub-sample of 40 Investment Packs represents whole or parts of projects, with a total estimated Oracle Project value (estimated final cost) of £661m.

1.2.6 We based our assessment on the nine Assessment Questions in the Mandate and we assigned confidence ratings for each with a narrative. The nine questions and confidence rating scale are set out below in Table 1-1 and Table 1-2 respectively.

| Aspect | No. | Question |
|---------|-----|---|
| Inputs | 1 | Are identified works being recorded in a consistent and auditable way across Routes? |
| | 2 | Are interventions in line with the appropriate policies? |
| | 3 | Do workbank items outside policy have clear justification and authorisation for acceptance into the workbank? |
| Process | 4 | How have the inputs been checked and audited by NR? |
| | 5 | To what extent can Routes deviate from policy? How is this controlled? |
| | 6 | Where a more cost effective non-compliant solution is found, is there evidence that best practice is being fed back into policies and shared with the other routes? |
| | 7 | Are WLC models being used to test and validate works outside of policy? |
| Outputs | 8 | How have the outputs been checked and audited by NR prior to issue? |
| | 9 | Where the budget is constrained and compliance is deemed unaffordable, how is the workbank being managed to mitigate risks? |

Table 1-1 Nine Assessment Questions

¹ Where 'project' has been defined in this report as an individual line in the FY15 Route Volume Submissions Document [18] Network Rail "FY15 Route volume submissions – with proj descriptions"

| Confidence Rating | Description |
|-------------------|--|
| 3 | Reasonably high confidence of compliance |
| 2 | Some confidence of compliance |
| 1 | Low confidence of compliance |
| 0 | Reasonably high confidence of non-compliance |
| - | No information provided for review |

Table 1-2 Confidence rating scale adopted

1.2.7 Following review of the Investment Packs, NR arranged Route meetings with a selection of DRAMs (Directors of Route Asset Management) and RAMs in Scotland, LNE and East Midlands Routes. These meetings enabled us to understand how the Routes apply the Asset Policies in practice.

1.2.8 An overall confidence rating was then assigned to each of the nine questions.

1.3 Findings

1.3.1 Our overall confidence ratings for the nine Assessment Questions, based on our review of the Investment Packs and subsequent Route meetings, are summarised in Table 1-3 below.

| Assessment Question | | | | | | | | |
|---------------------|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 2 |

Table 1-3 Overall confidence ratings

1.3.2 As shown in Table 1-4 there are some differences in level of application between different Routes and disciplines visited.

| Route Meeting | Assessment Question | | | | | | | | |
|---------------|---------------------|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Meeting A | 2 | 2 | 3 | 3 | 2 | 3 | 1 | 3 | 2 |
| Meeting B | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Meeting C | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Meeting D | 1 | 3 | 3 | 1 | 1 | 2 | 2 | 1 | 2 |
| Meeting E | 3 | 3 | 2 | 3 | 3 | 2 | 3 | 1 | 3 |
| Meeting F | 2 | 2 | 1 | 2 | 1 | 3 | 1 | 1 | 3 |
| Meeting G | 3 | 2 | 3 | 3 | 3 | 1 | 1 | 2 | 1 |
| Meeting H | 2 | 3 | 2 | 1 | 1 | 3 | 1 | 1 | 3 |

Table 1-4 Route meetings heat map

1.3.3 Our key finding from this review is that whilst all the Routes are using the Asset Policies there is some difference in application. Most Routes are using the Asset Policies as guidance when developing their workbanks, applying local knowledge and engineering judgement to select a specific solution rather than treating them as fully mandatory. This approach does not seem unreasonable but is discussed further in Section 5.1 and is the subject of Recommendation [2016APR02]. See Section 6.7 for the content of recommendations made in relation to this Mandate.

Consistency of recording

1.3.4 Workbank formats differ by discipline, tailored to suit their individual needs and data requirements, but all the sample Routes and asset types are using a consistent format for recording projects in the Project Investment Packs.

1.3.5 The size of project and level of detail provided in an Investment Pack varies significantly; for example, an individual Investment Pack had been prepared for an £80k activity and another for activities with an estimated final cost of £426m. See Recommendation [2016APR01].

Alignment with Asset Policies

1.3.6 The Investment Packs prepared for Track, Signalling and Telecoms Assets generally refer to a specific Asset Policy, which gives us reasonable confidence that the policy intent is understood and is being applied by the Routes.

1.3.7 Generally, however, we have seen limited evidence in the Investment Packs regarding the demonstration of compliance or justification for non-compliance with Asset Policy, and no reference to where compliance may be deemed unaffordable. There is an opportunity to capture these instances along with associated risks. Our Recommendation [2016APR01] refers.

1.3.8 The Route meetings give us some confidence, that although not explicitly demonstrated in the Investment Packs, alignment with Asset Policy is being considered by RAMs and engineering judgement is being applied.

1.3.9 However, it is recommended that NR reviews the Asset Policies in terms of the level of prescription and considers clearly categorising the policy statements into

- mandatory;
- controlled recommendations; and
- guidance.

Our Recommendation [2016APR02] refers.

Control and justification of policy exceptions

- 1.3.10** We have seen limited evidence regarding the control and justification of policy exceptions in the 40 sample Investment Packs reviewed.
- 1.3.11** Routes have confirmed that deviation from policy is controlled at Route level, with the RAM ultimately responsible.
- 1.3.12** It is unclear to us whether NR have formal requirements to capture and to record justification of policy deviation, or to elevate decisions beyond route level to the NR STE function for approval. Our Recommendation [2016APR02] refers.

Feedback and continuous improvement

- 1.3.13** Discussions with the Professional Heads of Asset Disciplines indicate that NR has a number of formal and informal communication channels to share and provide feedback on the practical implementation of Asset Policies. The format of these seem to vary between asset disciplines.
- 1.3.14** We understand that Asset Technical Reviews are held on a monthly basis, common across all routes and disciplines. RAMs attend alongside Professional Heads to discuss policy, legislative requirements and to share and discuss lessons learned.

Adoption of Whole Life Cost models

- 1.3.15** The GRIP process will govern a large majority of maintenance and renewal projects. It has been acknowledged that Asset Policies are underpinned by WLC principles², whereby compliance will be of lowest WLC; and that GRIP3 Option Selection Reports³ allow for commentary on WLC Assessment of Options.
- 1.3.16** At present RAMs rely on Asset Policy compliance as a means of demonstrating lowest Whole Life Cost solutions. We understand that NR is currently developing a suite of Whole Life Cost models that will in due course be made available to the Routes to support their decision making, particularly where works are identified as non-compliant to policy. Our Recommendation⁴ from the previous Reporter review for Mandate AO/026 [AO-26-03]⁵ refers.

² Network Rail “Whole Life Cost Manual – 11 April 2014”, p22, section 4.4

³ Network Rail “GRIP Option Selection Report Template – Template Version Number 1.1”

⁴

AO-26-03 ‘Problem Statement : No standardised tools are available to allow Routes to calculate the whole life costs of various intervention options’

‘Recommendation : NR should be supplied with a suitable set of tool kit which complements the policies and that is ready for use in CP5’

⁵ Arup “Part A Reporter Mandate AO/026: Application of CP4 Asset Policies”, p120, Table 11-1

Management of risk where compliance is deemed unaffordable

- 1.3.17** NR's operational management of risk during the period from identification of renewal need to actual implementation was examined in 2013 as part of our Route visits on Mandate AO/045⁶. No specific concerns were identified at that time.
- 1.3.18** Our review under this Mandate has not identified any instances where work recommended by Asset Policy has been deemed unaffordable by NR. We recommend that NR reviews the requirements for capturing and for approving departures from policy. Our Recommendation [2016APR02] refers.

Checking and audit

- 1.3.19** Meetings with Professional Heads of Disciplines indicate some central assurance processes are in place, including reviews of workbanks. We note that Investment Packs for Track projects generally state that works have been HQ Peer Reviewed and we have seen generic examples of desk top based reviews for Civils - Earthworks.
- 1.3.20** We have not seen evidence of formal checking and auditing performed by the centre consistently across all Routes and disciplines in relation to renewal intervention selection. The main focus of checking and auditing appears to focus on cost and volumes.
- 1.3.21** We recommend that NR reviews the requirements for capturing and for checking compliance with policy. Our Recommendation [2016APR02] refers.

1.4 Progress with previous recommendations

- 1.4.1** There are two outstanding Recommendations from our previous Reporter reviews relevant to this Mandate. [AO-26-R1] and [AO-26-02]⁷ relate to additional detail being included in the Investment Packs presented at approval stage. These are replaced by our new Recommendation [2016APR01]. Another [AO-26-03], related to the provision of Whole Life Cost tools to Routes to support their option selection, has been closed on the basis that NR is due to make such tools available in the near future.

1.5 Recommendations

- 1.5.1** The following recommendations are made in relation to this Mandate:

⁶ Arup "Part A Reporter Mandate AO/045 BCAM Embedment Review", p39, paragraph 7.8.9

⁷ Arup "Part A Reporter Mandate AO/026: Application of CP4 Asset Policies", p120, Table 11-1

| No. | Recommendation | Benefits | Evidence of implementation | Owner | Target date for completion |
|-----------|--|---|--|-------|----------------------------|
| 2016APR01 | We recommend that NR provides further instruction on the level of detail to be included in Investment Packs to demonstrate a clearer line of sight to Asset Policy. Aspects to be considered include: project value per Investment Pack, explicit reference to specific Asset Policy and explanation as to how compliance to key policy objectives has been achieved, inclusion of reasons for proceeding with non-compliant solutions (if adopted) and proposed checks and assurance. | Improved confidence that Routes are being able to implement Asset Policies | Revised Investment Packs and relevant guidance | NR | 31 Sept 2017 |
| 2016APR02 | We recommend that NR reviews the Asset Policies in terms of the level of prescription and considers clearly categorising the policy statements into <ul style="list-style-type: none"> • mandatory; • controlled recommendations; and • guidance. This should be accompanied by a clear requirement for capturing and checking compliance and approving departures from policy. | Improved clarity for Routes in terms of the degree of local flexibility and when formal approval for deviation is required. | Instruction to Professional Heads and draft CP6 Asset Policies | NR | 31 Mar 2017 |

Table 1-5 Summary of recommendations

1.6 Sampling

1.6.1 Our review has taken a ‘snapshot’ based on a sample of projects and data that has been provided by NR centrally and at Route meetings. Any assessment or audit activity is based upon the use of sampling techniques and as such, there is always a possibility that issues or non-compliance will remain unidentified during an assessment. Similarly, the absence of comment on any area or system element does not necessarily imply conformance.

1.7 Acknowledgements

1.7.1 The Independent Reporter Team would like to thank both NR and ORR staff for their assistance with this study.