



RSC-G-017-B Guidelines for the Safety Assessment of New Infrastructure Works for PPP Schemes

1. Introduction

The Railway Safety Act 2005 obliges railway undertakings to submit a 'Safety assessment of new works' or a 'Safety assessment of new rolling stock' to the Railway Safety Commission (RSC) before the bringing into use of same, (sections 42 and 43). These Guidelines, RSC-G-017, describe what should be contained in a New Infrastructure Works Assessment (NWA), and outline the process for making submissions and gaining acceptance.

These Guidelines should be read in conjunction with the following additional RSC Guidelines, where relevant to an individual PPP scheme:

- RSC-G-018 ***Guidelines for the Safety Assessment of New Rolling Stock for PPP Schemes;***
- RSC-G-019 ***Guidelines for the Safety Assessment of Safety Cases for Testing, Commissioning, Trial Running and Passenger Service Operations for PPP Schemes.***

2. What Should Be Contained in the NWA?

Particulars that are expected to be included in the NWA are as detailed in Table 1.

Item Ref.	Description
a	Type and purpose of the new infrastructure; to include all disciplines i.e. track, signalling electrification and structures.
b	Enabling works, including how the operational railway will be protected during these works.
c	Design specifications.
d	Applicable standards covering such infrastructure including any non-compliances and details of same.
e	Details of the safety management systems governing the design, operation, maintenance and disposal of such infrastructure, including a risk assessment.
f	Compatibility of the new infrastructure with existing assets and operations.
g	A declaration of the intended life cycle of the project and identification of safety requirements in order to achieve this (e.g. equipment replacement).
h	Compliance with any relevant principles and guidelines adopted by the RSC and relevant legislation, including a description of the compliance.
i	Demonstration that the regime for testing, commissioning and bringing into operation of the infrastructure is consistent with the duty of the railway undertaking under the legislation, including a testing and commissioning safety case, test plan, and test results where appropriate.
j	The railway undertaking's safety case for: j.1 - testing, commissioning and trial running operations, and j.2 - passenger service operations.
k	Safety validation by competent third party/independent assessor, where appropriate in the opinion of the RSC.
l	Any other matters that may arise which the RSC or the railway undertaking deems appropriate.

Table 1: Elements of the NWA

There are four stages of an NWA submission leading to acceptance. Under the requirements of the Railway Safety Act 2005, the responsibility for making such submissions rests with the railway undertaking. Under a PPP scheme, this role is fulfilled by different parties as the process progresses through the defined stages. Early in the project, this responsibility rests with the entity or agency procuring/sponsoring the PPP scheme whilst, later in the process, the responsibility transfers to the PPP consortium. Table 2, below, confirms which party is responsible for performance of the duties of the railway undertaking at each stage, and also confirms the contents of the submission at each stage from the items in Table 1 above.

Stage of Project	Information to be Submitted	Railway Undertaking
Preliminary Design	Items a and b	Procurement body/Sponsoring entity
Detailed Design	Items c, d, e, g, h and k	PPP consortium
Prior to Testing, Commissioning and Trial Running	Items f, i, j.1 and k	PPP consortium
Prior to Passenger Service Operations	Items j.2 and k	PPP consortium

Table 2: NWA stages and contents

The following section should be read in conjunction with the flow diagram contained in Appendix 1. Note also that where safety validation by a competent third party is required that validation must accompany each submission from the railway undertaking/PPP consortium. Each box on the flow diagram is numbered in the lower right hand corner, with the number corresponding to the following numbered points:

2.1 Preliminary Design Stage

1. The railway undertaking will submit to the RSC details covering items a, and b.
2. The RSC will review the submission and feed back comments and issues to the railway undertaking, who will incorporate any changes required and resubmit to the RSC as appropriate.
3. At such time that the RSC is satisfied with railway undertakings submission, a letter of acceptance will be raised to allow the project to proceed to the next stage.

At this stage the project enters the 'Detailed Design' phase and the PPP consortium takes over responsibility for submissions to the RSC. These submissions should be staggered to reflect the evolution of the projects detailed design but each 'design element' should be submitted to the RSC in accordance with the following steps until the entire detailed design has been submitted, at which point a review of the totality of the design will take place.

2.2 Detailed Design Stage

At the start of the Detailed Design phase the PPP consortium should compile a table showing all design elements with indicative submission dates

4. The PPP consortium will submit to the RSC details covering items c, d, e, g, h and k for each 'design element'
5. The RSC will review the submission and feed back comments and issues to the PPP consortium, who will incorporate any changes required and resubmit to the RSC as appropriate.
6. At such time that the RSC is satisfied with submissions, a letter of no objection will be raised to allow the PPP consortium to submit further design element submissions, until such time that submissions have been received for the entire project detailed design.
7. Once in possession of submissions covering the entire projects detailed design the RSC will conduct a 'totality review' to enable it to be satisfied that the totality of the

- design is acceptable. The RSC may at any point request further information from the PPP consortium, or ask it to attend meetings and presentations to ensure that it is sufficiently informed to proceed.
8. At such time that the RSC is satisfied with the overall detailed design, a letter of acceptance for detailed design will be issued.
 9. Prior to any testing and commissioning of the infrastructure the PPP consortium should submit a testing and commissioning plan & safety case to the RSC.
 10. The RSC will review the submission and feed back comments and issues to the PPP consortium, who will incorporate any changes required and resubmit to the RSC as appropriate.
 11. At such time the RSC is satisfied with the Testing & commissioning Plan & Safety Case the RSC will issue a letter of acceptance for testing, commissioning and trial running. The RSC will witness tests/commissioning as deemed appropriate.

Following issue of the RSC's letter of acceptance for the 'Prior to Testing, Commissioning and Trial Running' stage, the project enters the 'Prior to Passenger Service Operations' stage. Whilst the NWA submission and review process, as detailed herein, addresses infrastructure acceptance, other aspects of the system also require RSC review and acceptance at these stages. Guidance on all aspects of the acceptance process of the system for testing, trial running and passenger service operations is given in the RSC's ***Guidelines for the Safety Assessment of Safety Cases for Testing, Commissioning, Trial Running and Passenger Service Operations for PPP Schemes***, RSC-G-019.

3. How to Make a Submission

The railway undertaking should ensure the timely submission of assessments. The time required for consideration of any proposal will depend on its complexity. Where novel technology or systems are proposed, the scheme should be discussed at an early stage with the RSC.

Submissions should comprise 1 no. hard copy and 1 no. soft copy. File formats of soft copy documents should enable them to be readily opened, read and printed using standard proprietary software. Where other file formats are proposed, these should be agreed with the RSC in advance.

Drawings submitted should be of an appropriate size to enable all detail to be easily read. Whenever possible, such drawings should be limited to A3 size. Where drawings need to be larger than A3, additional hard copies may need to be submitted. This should be agreed with the RSC prior to submission.

3.1 Development of Submission

To prevent issues arising at an untimely point in the project, which could lead to increased cost and delays for the railway undertaking, submissions should be made at the earliest possible time. The process for developing assessments is shown in Appendix 1.

It should be further noted that, as per section 42(12) of the Railway Safety Act 2005, it is the objective of the RSC to respond to a submission within 28 days. Therefore adequate time should be allowed for submission, review, comment and possible request for further information and second review.

The programme of submissions should be structured to ensure in so far as is reasonably practicable that the RSC is not in receipt of a number of submissions at the same time, as to do so may lead to delays for the railway undertaking. The table mentioned earlier under Detailed Design stage showing all design elements with indicative submission dates is very important in this context.

4. On Site Inspections by RSC

Site inspections may be carried out as deemed necessary by the RSC. The RSC is to be kept informed of the project's progress and is to be notified in advance of significant milestones, as an inspector may choose to carry out an inspection.

5. Acceptance

At each stage of the project the RSC will issue a letter of acceptance provided it is satisfied with the information provided. The letter of acceptance will be issued to allow the railway undertaking to proceed to the next stage of the project; it may include conditions.

6. Safety Validation by Competent Third Party/Independent Assessor

In complex projects, the RSC may direct the railway undertaking to employ a competent Independent Assessor (IA). The role of the IA will be to undertake a review of all safety-related aspects of the project to a level that is consistent with the RSC's own review processes, thereby supplementing and supporting the role of the RSC in assessment of NRSA submissions. The evidence of system performance provided by the IA review will enable the RSC's own scope and depth of review to be reduced, normally to spot checks. The selected IA should be advised to the RSC at an early point in the project for agreement that the individual's competence is appropriate for scope of the project.

Where employed, the IA will issue reports at each staged NRSA submission. The reports should include all the results of assessments performed and conclusions reached, as well as all information needed to understand and interpret these results and conclusions. All this information should be reported correctly, accurately, and clearly. The report should also contain a clear statement of the IA's level of support for the NWA submission.

7. Further Clarification

Further clarification on these Guidelines can be sought from the RSC.

Appendix 1

