



# **RSC-G-033-B**

## **Guideline providing List of Parameters and Requirements for Authorisation for Placing in Service (APS) Light Rail Infrastructure, Energy and Command-Control Subsystems**

---

Prepared	Ruth Baldwin in consultation with industry representatives.	07.05.2015
Reviewed	Mary Molloy	07.05.2015

## 1. Introduction

This Guideline must be read in conjunction with the RSC ***Guideline for the Process of Authorisation for Placing in Service (APS) Light Railway Infrastructure, Energy and Command-Control Subsystems (RSC-G-032)***.

It provides:

- the List of Parameters to be assessed as part of APS for Light Railway Infrastructure, Energy and Command-Control Subsystems. The Parameters include the requirements for safe design, construction, integration, operation and maintenance.

Should there be any aspect of a specific project which is not integrating into the items listed in the matrix, it is expected that the matrix (Annex 1) is amended accordingly by the Project.

## 2. Process for APS

The general process of submission and review of the NWA shall follow the approach outlined in the RSC ***Guideline for the Process of Authorisation for Placing in Service (APS) Light Railway Infrastructure, Energy and Command-Control Subsystems (RSC-G-032)***. A sufficient timeframe must be allocated within project programmes to allow for the submission and review cycle at each of the defined stages. Each cycle should include sufficient time for the development of robust submissions, for review by the RSC, and for any subsequent iterations of the submission through revisions and re-reviews prior to acceptance.

In principle, for each stage of the approval process the appropriate conformity evidence and assessment reporting must be prepared and submitted to the RSC.

At each stage of the approval process, and in order for the RSC to develop its judgement on the safety, level of compliance with law and fitness for purpose of the Project, the RSC reserves the right to review any or all of the supporting safety evidence and to participate in relevant verification and validation processes of aspects related to the APS process.

The RSC's normal intention, however, is to undertake a number of spot checks in order to gain sufficient confidence in the ability of the applicants safety management processes to assure the safety and fitness for purpose of APS.

Range and depth of these spot checks will generally depend on:

- engineering judgement,
- safety criticality of the individual aspects,
- availability of Independent Assessment Reporting, and
- findings of the initial spot checks.

## 3. V&V, Testing

It is a fundamental safety management principle that, in order to validate any safety related design calculations, simulations and assumptions, V&V and type testing is performed. Any deviation from this principle shall be justified.

Routine testing must cover a suitable subset of the type testing scope in order to demonstrate that a series production item complies with the core parameters of the design.

The tests shall be of repeatable nature and be covered by retrievable test procedures and test reports. A test report shall include (but is not limited to):

- identification of the tested item and description of its parameters,
- reference standards,

- the method of testing,
- description of environmental parameters,
- all results of testing,
- any deviations from the test method,
- the determination of conformity made from these results,
- all information needed to understand and interpret the report.

All information shall be reported correctly, accurately, and clearly.

Testing should follow legislative requirements as well as current good industry practice where appropriate.

#### **4. Independent Assessor to Railway Safety Act**

In complex projects, the RSC may direct the railway undertaking to employ a competent Independent Assessor (IA) according to RSA 2005. The evidence of system performance provided by the IA review shall 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 the scope of the project.

Where employed, the IA shall issue reports compatible with ISO 17020 type A as indicated in the Annex. The reports shall 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 shall be reported correctly, accurately, and clearly. The report shall also contain a clear statement of the IA's level of support for the applications.

The RSC's decision on the acceptability of the submission, shall be based on the findings within the IA report and the RSC's own conclusions from its review and spot checks undertaken.

#### **5. Independent Professional Review**

All safety management approaches contain the fundamental requirement that safety management activities must be reviewed by suitably independent professionals who are not involved in the activities concerned.

These assessments may be structured as a series of safety audits and/or safety assessments. Audits provide evidence that the planned safety management approach has been followed and is effective. Assessments provide evidence that safety requirements are met.

Frequency, depth and level of independence of each review shall depend on the extent of the risk as well as novelty and complexity of the design.

As a general principle it is expected that the safety aspects of the following design features require independent professional assessment by an independent and qualified professional compatible with the requirements of ISO 17020 type A:

- Signalling
- Traction supply system
- Bridges/tunnels/buildings
- Road traffic controller

This principle is driven by the magnitude of potential consequences of the related risks and any exemptions to this principle require justification.

The work carried out by the independent professional shall be covered by a retrievable report. The report shall include all the results of examinations and the determination of

conformity made from these results as well as all information needed to understand and interpret them. All this information shall be reported correctly, accurately, and clearly.

The full range of independent professional assessment may be carried out by a single organisation, or each individual assessment can be carried out by a different organisation.

## **6. Further Clarification**

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

## **7. Annexes**

RSC-G-033-B Annex1