Approval of New Railway Works

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CRR
AN COIMISIÚN UM RIALÁIL IARNRÓID
COMMISSION FOR RAILWAY REGULATION

What are the Implications for you

Major investment in railway projects right now:

MetroLink
DART+
Train Protection System
Cork Area Commuter Rail, Foynes Freight Line
National Train Control Centre and many many others

We need a common understanding and to demystify the process on what is required for the approval of these new railway works so that these projects are brought into operation as planned

What Legislation

National:

Regulation of Railways Acts 1842 and 1871 up to 2005

Now we have the Railway Safety Act 2005

European:

Interoperability Directive (IOD) (EU) 2016/797 and transposed by SI 477 of 2020

Earlier IODs in 1996, 2001 and 2008

Where in the Legislation

Railway Safety Act Section 42 and use of the term acceptance

IOD Article 18 new railway works now called Fixed Installations, and

Authorisation to Place in Service, not approvals

Who can be an Applicant – RSA

RSA 2005 – Applicant must be a a Railway Orgainsation (RO)

RO is fully defined in SI 476 of 2020, in summary RO means:

a) An organisation with responsibility in operating:

- **i. metro, tram, other light rail system**
- **ii. heritage railway on its own network**
- **iii. heritage railway on the railway system in the State**

b) An IM or an RU to European Regulations (no. of exceptions but not relevant for the purposes of FI

CRR issues acceptance to an RO

Who can be an Applicant – IOD

‘applicant’ is defined in IOD Art 2 (22) and is a broad definition

NSAs must provide detailed guidance to Applicants on how to obtain authorisations for FI – IOD Art 18 (3)

There are two main rail systems in the Republic of Ireland, the Iarnrod Eireann Heavy Rail system and the LUAS Light Rail system The CRR use similar processes for the two systems and these are described in guidelines CRR-G-009 and CRR-G-032

Who can be an Applicant – IOD

Logically the applicant for Fixed Installations should be the IM. The applicant needs to provide documentary evidence of compliance with (EU) 402/2013 and (EU) 2018/762

The IM may also have other particular requirements.

So What is Needed

IOD Art 18(1) - The trackside control-command and signalling, energy and infrastructure subsystems shall be placed in service only if they are designed, constructed and installed in such a way as to meet the essential requirements, and the relevant authorisation is received in accordance with paragraphs 3 and 4.

Essential Requirements

IOD Art 2(9) 'essential requirements' means all the conditions set out in Annex III which must be met by the Union rail system, the subsystems, and the interoperability constituents, including interfaces

Included is:

- **Safety**
- **Reliability and Availability**
- **Health**
- **Environmental protection**
- **Technical Compatibility**
- **Accessibility**

and requirements specific to each subsystem

So What is Needed

All that is needed to fulfil the essential requirements, (not a trivial process) which includes [1]:

- **Legal requirements**
- **Contractual/Network access requirements**
- **Standards/Codes of practice/Alternative Solutions**
- **Technical Compatibility**
- **Human Factors**
- **CSM RA requirements**
- **IM SMS requirements**
- **QMS requirements**

Harmonisation

IOD Art 17 "…… subsystems which demonstrate compliance with harmonised standards or parts thereof, …… shall be presumed to be in conformity with the essential requirements covered by those standards or parts thereof "

(EU) 402/2013 harmonises the risk management process for change management

Requirements Capture

The Requirements Capture process that is mandated for vehicles, (EU) 2018/545 is systematic and all inclusive

For FI CRR recommends it use in gathering the requirements needed to fulfil the essential requirements, particularly for the larger projects

Michael will elaborate after the coffee break

3 Approaches: (EU) 2018/545 EN 50126-1 (EU) 402/2013

(EU)2018/545	EN 50126-1	(EU) 402/2013
	1. Concept	Preliminary Sys Definition
Identify	2. Sys Def and Operational Context	Risk Assessment
	3. Risk analysis and evaluation	
Assign	4. System requirements specification	
	5. Apportionment of sys requirements	
Implement	6. Design and Implementation	Demonstration of compliance with safety requirements
	7. Manufacture	
	8. Installation	
Validate	9. Validation	
	10. Acceptance	

How to make submissions to the CRR ?

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Documentation

IOD looks for ‘documented evidence’ (Art 18 (4))

This is COMPARABLE to EN50126 which talks about ‘safety demonstration evidence’

Similar approach for over two decades so nothing new

The Safety Case is the RESULT of this DEMONSTRATION of DOCUMENTED evidence

Safety Case (EN50126)

Documented demonstration that the produce (e.g. a system, subsystem or equipment) complies with the specified safety requirements

This afternoon I will elaborate on the Safety Case/Project SMS

Application stages

We have divided applications into stages so that:

- **Issues are identified early, and**
- **Risk to the project is reduced**

- **Guidelines:**
  - **CRR-G-009 Heavy Rail**
  - **CRR-G-032 Light Rail**

How you document applications:

Project Application Stage	Primary Project Documents	Additional Evidence Including
1 Concept 2 Preliminary Design 3 Detailed Design 4 Testing 5 Interim Operation 6 Operation	Safety Plan Hazard Record Safety and Compliance Matrix Safety Case(s)	Independent Assessment Reports/Files (NoBo/DeBo/AsBo) Declarations and Certificates

Checking Processes - IOD

Self assessment – ALWAYS, ALWAYS

NoBo – TSIs

DeBo – National Rules

CSM AsBo:

- Significant change
- If mandated by TSIs
- Requirements Capture Safety (Voluntary)

ISA – When EN 50126/28/29 used

Checking Processes – RSA 2005

Self assessment – ALWAYS, ALWAYS

ISA – When EN 50126/8/9 used

IPR – Required for some FI parameters

Conclusion

There is major investment in railway projects right now

These projects must be brought into use in a SAFE and LEGALLY COMPLIANT WAY

We want to work with you TO ACHIEVE THAT and to bring these projects into operation as planned

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