حكومة دبي
GOVERNMENT OF DUBAI

هيئة الطرق والمواصلات
ROADS & TRANSPORT AUTHORITY
RTA

هيئة الطرق والمواصلات

دليل جهة تنظيم السلامة – وفق القرار الإداري رقم 986 لعام 2018

متطلبات تنفيذ قرار المجلس التنفيذي رقم (1) لسنة 2017 بشأن تنظيم السكك الحديدية في إمارة دبي

يشرح هذا الدليل متطلبات جهة تنظيم السلامة لتنفيذ القرار التنفيذي رقم (1) لسنة 2017 بشأن تنظيم السكك الحديدية في إمارة دبي شاملة إجراءات شهادات السلامة لأنظمة السكك الحديدية ومشغليها وإجراءات التحقيق الفني في الحوادث.

ينطبق هذا الدليل على أي طرف يعتزم تصميم أو إنشاء أو اختبار أو تشغيل أو تقييم أو امتلاك أو صيانة نظام سكك حديدية في إمارة دبي.

يتضمن هذا الدليل على وجه الخصوص ما يلي:

- منهجية ومتطلبات ترخيص السلامة لأنظمة السكك الحديدية.
- منهجية ومتطلبات تنظيم السلامة لأنظمة السكك الحديدية.
- منهجية ومتطلبات الإبلاغ والتحقيق في حوادث السكك الحديدية.
- قواعد التفتيش وتطبيق المخالفات.

كما يشمل الدليل على عدة مرفقات كما يلي:

- نموذج نضج إدارة المخاطر المتبع من قبل جهة تنظيم السلامة.
- قواعد الممارسة لمُقيمي السلامة المستقلين ومتطلبات الحصول على تصريح مُقيم السلامة المستقل من قبل جهة تنظيم السلامة.

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Code of Practice for Railway Independent Safety Assessors

Annex to

RTA Safety Regulation Authority

Dubai Railway Law Implementation Requirements

(Safety Regulatory Entity Manual in accordance with Administrative Resolution 986/2018)

Version: 3.0
Prepared by: Safety, Risk, Regulation and Planning Department
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Contents

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Version	Date	Status	Writer
Draft	27th Mar 2016	Drafted	Robin Smith
1.0	10th Jul 2016	Revised following ISA Workshop held on 28th April 2016.	Robin Smith
1.1	21st Feb 2017	Update for issue of Dubai Railway Law revision.	Robin Smith
2 Draft A	05th Mar 2019	Update for By Law 986/2018 and general clarifications.	Rigby Wason
2 Draft B	12th Jun 2019	Implementation of Stakeholders comments. Update after internal review.	Rigby Wason
2.0	31st Jul 2019	Final version.	Rigby Wason
3.0	28th Dec 2021	Requirement for Declaration of Interest and reference to Cableways added. Reformated based on revised template.	Rigby Wason

Glossary of Terms

Term	Description
CENELEC	European Committee for Electrotechnical Standardization
COP	Code of Practice
CSM RA	Common Safety Method for risk evaluation and assessment
Declaration of Interest	A formal declaration stating any interest or involvement with other stakeholders on a project
DRLIR	Dubai Railway Law Implementation Requirements (the document to which this is an Annex)
EN	EuroNorm – European Standard
EU	European Union
IET	UK Institution of Engineering and Technology
ISA	Independent Safety Assessor appointed in accordance with this 'Code of Practice for Railway Independent Safety Assessors'
ISO	International Standards Organization
RAMS	Reliability, Availability, Maintainability and Safety
RPDG	RTA Rail Agency's Rail Planning and Design Guidelines
RTA	Roads & Transport Authority of the Dubai Government
SLC	Supreme Legislation Committee of Dubai
SRA	(RTA) Safety Regulation Authority – the 'Safety Regulatory Entity' in Dubai Railway law

1. Introduction

1.1 Purpose of this Document

The purpose of this document is to provide guidance for the conduct of railway independent safety assessment in the Emirate of Dubai.

This Code of Practice (COP) consists of a set of requirements (the "Code of Practice for Independent Safety Assessors") that are mandatory for users of the Code together with amplification and guidance to help in using and applying the requirements.

The Code of Practice may be used and referenced by:

a) Independent safety assessors: to show their commitment to a high level of professional conduct;

b) Users of independent safety assessors: in the procurement of the services of an independent safety assessor and to guide their working relationship with them;

c) Companies whose staff carry out independent safety assessments: to ensure high professional standards in the independent safety assessment services they provide; and

d) Everyone concerned with railway safety assurance: to have confidence in safety assurance through independent safety assessment.

1.2 Background

The Supreme Legislation Committee (SLC) and Roads and Transport Authority (RTA) established a revised Railway Regulation No.1 of 2017, which was applied from February 2017 (meaning that it must be used from that date). The principal amendments relate to the evaluation of the ISA by the RTA Safety Regulation Authority (SRA) and the recognition and accreditation of assessment bodies.

Further requirements are contained in the implementing bylaw Administration Resolution No 986 of the year 2018.

1.3 Applicability

This COP is applicable to any railway safety assessment activity in which the assessor is required to be independent. Note that in accordance with section 1.7 of the Dubai Railway Implementation Requirements (DRLIR) this includes cableways as defined in (EU) 2016/424. This COP, therefore, also applies to "Conformity Assessment Bodies" as required by (EU) 2016/424 for cableways.

e) This Code of Practice applies only to carrying out railway system safety assessment activities for which independence is required. It does not apply to safety assessments where independence is not a requirement or to

assessments that are carried out for purposes other than for assuring safety; and

f) It does not apply to inspections or assessments carried out to assure compliance with technical standards or regulations or to occupational health and safety assessments, even though they may provide evidence for the safety of a railway system.

2. Guidance on Independent Assessment

2.1 Key Points

An Independent Safety Assessor is defined in the revised Dubai Executive Council Resolution No.1/2017 as:

"A company or establishment authorised by the Safety Regulatory Entity to review Safety Proofs and verify compliance by Owners, Operators, or Contractors with the safety requirements prescribed in Safety Conditions and Safety Proofs, and with the requirements of the Safety Regulatory Entity." (Article 1)

The Administrative Resolution No. 986/2018 sets out requirements that the assessment body (i.e. ISA) must meet, including requirements on competence, independence and provision of evidence.

2.2 The Role of the Independent Safety Assessor (ISA)

In broad terms, to perform the assessment, the role of the ISA is to:

a) Ensure it has a thorough understanding of any new system or significant change based on the documentation provided by the contractor or the operator or any proposer;

b) Conduct an assessment of the processes used for managing safety and quality during the design and implementation of the new system or significant change, if those processes are not already certified by a relevant conformity assessment body;

c) Conduct an assessment of the application of those safety and quality processes during the design and implementation of the new system or significant change; and

d) Deliver the safety assessment report. The safety assessment report is provided before bringing the new or changed system into service. It will form an important part of the grounds for the proposer's decision to proceed with bringing it into service, and in some cases, it will be provided when seeking an authorisation for placing in service under Executive Council Resolution No.1/2017.

These activities are mandatory under the Administrative Resolution No.986 /2018.

2.3 Independent Safety Assessment

Independent safety assessment is the formation of a judgement, separate and independent from any system design, development or operations personnel, that the safety requirements for the system are appropriate and adequate for the planned application and that the system satisfies those safety requirements.

In discharging this responsibility, the key tasks for the function are:

a) Acquiring an appreciation of the scope and context of the assessment;

b) Selecting and planning a cost-effective assessment strategy;

c) Gathering relevant evidence; and

d) Forming a judgement including managing any outcomes.

Gathering the evidence is likely to be a combination of auditing for conformance to planned arrangements, reviewing project documentation, witnessing tests, and performing additional analyses.

3. RTA SRA Requirements for Evaluating the ISA

3.1 Accreditation and Recognition

The RTA Safety Regulation Authority (SRA) will evaluate any ISA wishing to work in the Emirate of Dubai under Regulation No. 1/2017 and Administrative Resolution No.986/2018. The assessment body must be either:

- Accredited by an EU accreditation body; or
- Recognized by a recognition body[1] (see paragraph below);

The assessment body has to be accredited or recognized for the different areas of competence within the railway system or parts of it, for which an essential safety requirement exists. This includes the area of competence involving the operation and maintenance of the railway system.

The assessment body has to be accredited or recognized for assessing the overall consistency of the risk management and the safe integration of the system under assessment into the railway system as a whole. This must include the competence of the assessment body in checking the following:

Organisation

The Organisation shall have the necessary arrangements to ensure a coordinated approach to achieving system safety through a uniform understanding and application of risk control measures for sub-systems.

Requirements:

a) The assessment body shall be either Accredited by an EU accreditation body (i.e. ISO/IEC 17065) or Recognized by a recognition body;

b) The assessment body shall ensure and demonstrate to RTA SRA the same Quality Assurance between the parent company and the branch company;

c) A reference ISA Plan implemented on other projects; and

d) The assessment body shall meet relevant International Standards (or equivalents), including:

   i. Testing and calibration laboratories ISO/IEC 17025;

   ii. Inspection ISO/IEC 17020; and

   iii. Management system auditing ISO/IEC 17021.

[1] Recognition Body means a body (including a professional association, professional institute or any other professional organisation) required or authorised by or under a law of the State to supervise or regulate the conduct of persons engaged in a profession.

Methodology

Evaluation of the methods and resources deployed by various stakeholders to support safety at sub-system and system level.

Requirements:

The assessment body shall fulfil the requirements of the following standards:

a) ISO/IEC 17020:2012 standard and of its subsequent amendments;

b) IEC 61508 Functional Safety of Electrical/ programmable electronic safety related systems;

c) EN 50126-1:1999 Railway applications The Specification and demonstration of Reliability, Availability, Maintainability and Safety (RAMS) – Part 1 Basic Requirements and Generic Process;

d) EN 50128:2011 Railway applications – Communication, signalling and processing systems – Software for railway control and protection systems; and

e) EN 50129:2003 Railway applications Communication signalling and processing systems – Safety related electronic systems for signalling.

Technical aspects

The technical aspects necessary for assessing the relevance and completeness of risk assessments and the level of safety for the system as a whole.

Requirements:

a) The assessment body shall provide an assurance for the technical quality assurance and completeness of the system level of safety; and

b) The assessment body shall comply with the RTA Rail Planning & Design Guideline (RPDG).

The RTA Safety Regulation Authority may consider the use of a reference system to assess a new railway system or subsystem.

An assessment body accredited in an EU Member State in accordance with the requirements of the Common Safety Method for risk evaluation and assessment (CSM RA) may use evidence of this accreditation to support application to the RTA SRA for an ISA Permit[2] to practice in Dubai.

Evidence must also be provided of the Authority provided to them from their parent companies and the parent companies liability in giving this Authority.

[2] Referred to as Independent Safety Assessor Authorization in Administrative Resolution 986/2018

3.2 Registration

The independent assessment body must be registered as a company in the Dubai Economic Department and by the RTA Rail Agency.

3.3 Competence

The ISA shall be demonstrably competent to undertake the assessment activities, to make judgements regarding safety and to communicate effectively the results of their work.

All Codes of Conduct require an individual to be competent. The following items relate specifically to ISA competence:

a) Guidance for the competency of ISAs can be found in the IET/BCS 'Competence Criteria for Safety Related Practitioners' and its predecessor 'Safety, Competence and Commitment: Competency Guidelines for Safety-Related System Practitioners' (see section 5.2);

b) The competence requirements will depend on the system being assessed and its application;

c) It is unlikely that one individual has sufficient competency to adequately undertake the complete assessment for a complex system. Therefore, where a team of assessors is used, the team should collectively have adequate competency;

d) When a team of assessors is used then there should be one ISA who has overall responsibility for the conduct of the assessment and this person would typically be a Chartered Engineer or equivalent;

e) The competency of the ISA (individual or team) should be justified in writing, for instance in an ISA Plan. It should be demonstrated that the overall competency is sufficient to match the ISA competency requirements for the system being assessed;

f) An ISA should continually review the required competencies. They should obtain specialist support and advice whenever additional competence is required that the ISA (individual or team) does not already have;

g) Competency requirements should cover the relevant technology, domain, skills and experience; and

h) The ISA should know and understand the relevant safety legislation, regulations and standards.

3.4 Communication

All formal communication made by the ISA regarding safety shall be clear, timely, objective and documented and shall distinguish fact and evidence from opinion

and judgement.

a) There should be an agreed means of escalating safety issues;

b) Findings and other significant communications should be formally reported and documented;

c) Findings would typically include not just the overall opinion on the safety of the product or system, but observations raised during the assessment on documentation etc;

d) Typically, the findings would be reported to the appropriate Design or Safety Authority;

e) Findings should be reported in a timely manner so that remedial action may be taken without unduly compromising the development programme;

f) Findings should avoid subjectivity, such as opinions that cannot be adequately defended;

g) Findings should avoid reporting trivial points which may distract from key safety issues (such as typographical issues unless they substantially affect meaning);

h) If appropriate, the ISA should track the issues raised to a satisfactory resolution; and

i) The ISA should not ignore other issues that they observe in the conduct of their assessment (such as those which may indirectly affect the safety of the system being assessed or may even be in another system) and should report these in an appropriate manner.

3.5 Independence

The ISA shall ensure that there is nothing that might affect or call into question their ability to carry out an impartial assessment or to make impartial judgments regarding safety.

a) The ISA should be sufficiently independent that any commercial, financial or other interests do not compromise their ability to carry out the assessment or affect their judgments;

b) The ISA may be an independent person or independent organization with usually a higher level of independence required for more critical railway systems;

c) The level of independence is usually defined in the standards applicable to the system development (such as IEC 61508 and EN 50129). The independence requirements should cover all staff involved in the assessment, including any sub-contracted assessment activities;

d) The ISA should ensure that their independence is not compromised by any

activities carried out by their organization (such as designing or supplying constituents or subsystems that are within the scope of the assessment);

e) The ISA should continually monitor their independence and inform the purchaser of the ISA services in writing if any conflict in the level of independence arises and take steps to resolve;

f) The ISA should declare and justify their independence in writing (for instance, in an ISA Plan); and

g) All Independent Safety Assessors must sign a Declaration of Interest stating that they do not have any conflicts of interest between their ISA role and the task being undertaken.

3.6 Integrity

The ISA shall ensure that their judgements regarding safety are not influenced by inappropriate pressures or other factors.

a) The ISA should be alert to pressures from the client/project or from their own employer, which may include time and financial pressures, and attempt to avoid them if possible. Otherwise, they should raise and seek to resolve the matter with the relevant management and if necessary to raise it to the RTA Safety Regulation Authority; and

b) Where a matter of professional integrity is concerned, a member may seek advice from their professional institution.

3.7 Priority of Safety

The ISA shall ensure that safety is given due priority amongst the relevant stakeholders.

a) Ensuring and achieving Safety should be the top priority for the ISA (above all commercial and financial objectives);

b) The ISA should encourage openness and a balanced view with respect to safety matters and should set a personal example, for example avoiding a ‘good news only’ or ‘bad news only’ culture;

c) When the ISA considers that safety is not being given sufficient priority or is not addressed adequately, the ISA should make best endeavours to ensure that the information is communicated to all appropriate parties, including the RTA SRA, giving their reasons; and

d) If the ISA identifies a safety issue that is outside their remit, they should ensure that appropriate persons are notified, including the RTA SRA.

3.8 Advice

The ISA may only provide advice if it cannot compromise their independence.

a) Clients and projects often seek advice or guidance from the ISA, but this could compromise independence; and

b) The ISA should only offer advice or guidance that is general, not specific to the system under development and as such would be given to any broadly similar project. Examples of advice that could be given include safety management process best practice, guidance on the interpretation of standards and the consequences of specific technology choices. Examples of advice that could compromise independence include recommending which design option should be taken, what technology to use and specific mitigations for hazards.

3.9 Escalation

The ISA shall make best endeavours to ensure that the safety implications for the operation of the system are made known to appropriate persons or organisations that have responsibilities for its safety.

a) If the judgments of the ISA regarding safety are not accepted, then the ISA should make best endeavours to ensure that the implications for the safe operation of the system are made known to appropriate senior persons within the organization (i.e. the contractor or the operator) that has responsibilities for its safety;

b) If appropriate, the ISA should inform the person's employer, or the RTA Safety Regulation Authority of the potential risks involved which may include the consequences or any danger or loss which could ensue; and

c) Any such communication should be carried out responsibly and within the wider context of applicable Codes of Practice of relevant professional bodies.

3.10 Management and Planning

The ISA shall ensure that the ISA work programme is planned and managed to deliver the required outputs when needed and minimize disruption or delay to the client project or programme.

a) The ISA terms of reference should be defined for the programme or project;

b) The ISA work programme should be planned and agreed with the client;

c) The ISA should ensure that the ISA roles and responsibilities (including those of an ISA team) are known and understood by all relevant persons;

d) If at any time the ISA believes that the authorized resources and effort are not sufficient to carry out the ISA work satisfactorily, they should raise this as soon as possible with the appropriate person or organization;

e) The ISA should monitor the client project or programme for changes and

should modify the ISA work programme to take into account any such changes;

f) The ISA should inform, justify and seek to reach an agreement with the client in respect of any significant changes to the ISA work programme, particularly if they might affect planned ISA deliverables or the client project or programme; and

g) While the ISA should seek to minimize disruption or delay to the client project or programme, this should not be at the expense of an adequate assessment of safety.

4. Process for Issuing the ISA permit and Sanctions

4.1 Applying for an ISA Permit

To apply for an ISA permit, the certification body (i.e. ISA) must submit a permit application form (see Appendix 1), including previous experience and competence in undertaking Independent assessments and verification, producing safety assessment reports, and providing supporting documentary evidence.

4.2 Evaluation

The RTA Safety Regulation Authority will evaluate the application of the ISA against part 3 of this code of practice and the Administrative Decision 986/2018.

4.3 Validity

After the compliance to all RTA SRA requirements has been demonstrated, the SRA will issue the ISA permit. This permit will be valid for a period of 3 years, subject to SRA monitoring.

4.4 Consequences of non-compliance and misuse

During the 3 years, the SRA will monitor and audit the ISA performance against this document and best practices. The consequences in case of non-compliance and misuse depend on the increase in risk resulting from the non-compliance.

Any non-compliance generally leads to the implementation of corrective measures. The proof of compliance can still be awarded provided that the non-compliance is considered “minor”. The ISA can request a determined period to correct the non-compliance. Minor non-compliances can become “major” if they are not corrected after a certain period.

The SRA decision may be influenced by the number of open issues observed by the ISA. For example, an ISA with no recorded cases of “major” open issues (i.e. 0% of nonconformity) may not be as effective an ISA who identifies multiple open issues.

Based on the SRA assessment, the measures taken in case of non-compliance or misuse can be implementing corrective measures within a limited timeframe, strengthening verification, suspension or withdrawal of the permit, or sanctions such as fines.

5. Reference Documents

5.1 Standards

Independent safety assessment body

- ISO/IEC 17000 – Vocabulary and principles.
- ISO/IEC 17011 – Conformity assessment – General requirements for accreditation bodies accrediting conformity assessment bodies.
- ISO/IEC 17020 –Inspection bodies.
- ISO/IEC 17021 – Management Systems.
- ISO/IEC 17025 – Testing and calibration laboratories.
- ISO/IEC 17065 – Conformity assessment – Requirements for bodies certifying products, processes and services.
- (EU) 2016/424 - EU Regulation relating to new installations and modifications to cableways.

System Assurance

- EN 50126 Railway applications – Specification and demonstration of Reliability, Availability, Maintainability and Safety.
- EN 50128 Railway applications – Software for Railway Control & Protection Systems.
- EN 50129 Railway applications – Safety related Electronic System for Signalling.
- IEC 61508 Functional Safety of Electrical / programmable electronic safety related systems.

Quality Management

- ISO 9001 Quality systems – Model for quality assurance in design, development, production, installation and servicing.

5.2 Other References

1. The Institution of Engineering and Technology (IET):
    - What is Independent Safety Assessment (ISA) - https://www.theiet.org/impact-society/factfiles/isa-factfiles/what-is-isa/
2. The Institute of Engineering and Technology (IET):
    - Competency Framework for Independent Safety Assessors (ISA) - https://www.theiet.org/media/1499/isa-comp-frame.pdf

Appendices

Appendix 1 – Application Form

Independent Safety Assessor Permit Application Form		
1 - Name of company		
2 - Name of responsible person (normally project director or CEO)		
3 - Telephone number		
4 - Fax number		
5 - Email address		
6 - Main office address		
- Proposed Railway Activities Select from the options given (please "tick"); applicant may specify more than one	**Infrastructure**: operation, renewal and maintenance of a railway network or parts of a network, including track, fixed installations, signaling, control, communications, and energy supplies.	
	Passenger: operation and maintenance of a passenger rail service.	
	Freight: operation and maintenance of a freight rail service.	

Independent Safety Assessor Permit Application Form		
	Depot: operation of one or more rail maintenance depots or shunting, marshalling or freight terminal yards.	
	Station: operation of one or more passenger stations.	
	Metro: operation of an urban or metropolitan railway, including underground and surface lines, completely segregated from other forms of rail operation.	
	Light Rail or Tram: operation of a light rail or tram system (where some or all of the operations may be located on highways accessible to road vehicles).	
	Other Guided System: operation of another guided mode of transport, including but not restricted to personal rapid transit, group rapid transit, cable car system, monorails and maglev. Specify which systems applied for and provide relevant evidence of experience / competence.	
8 – List of locations used for service provision giving the purpose of each.		
9 – Name of the Independent Safety Assessor for whom approval is sought.		

Independent Safety Assessor Permit Application Form		
10 – Email and phone number of the responsible contact person at the offices of the nominated ISA.		
11 – Documents enclosed with this application: a) System description, b) Duty holder's ISA specification, c) ISA's Plan, d) List of ISA Certificates or diplomas, relevant to scope applied for, e) ISA Team Competencies for full scope applied for, and CVs for all individual ISAs, f) Signed Declaration of Interests for all individual ISAs, g) Evidence of Independence (ISA not part of the design team), h) Certificate from Dubai Economic Department, i) Evidence of previous similar ISA activities.		