Regulating Railways in the Emirate of Dubai

RTA Safety Regulation Authority

Dubai Railway Law

Implementation Requirements

(Safety Regulation Authority Guideline in accordance with Administrative Decision 986/2018)

Version: 2.0

Prepared by: Safety, Risk, Regulation and Planning Department

August - 2019
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# Change History

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<td>Reformatted and updated issue for consultation with Duty Holders</td>
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## Glossary of Terms

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<td>Accident</td>
<td>See ‘Incident’</td>
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<tr>
<td>ALARP</td>
<td>As Low As Reasonably Practicable</td>
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<tr>
<td>Asset</td>
<td>The railway infrastructure, systems and vehicles</td>
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<td>C&amp;R</td>
<td>Safety Certification &amp; Regulation</td>
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<tr>
<td>CENELEC</td>
<td>European Committee for Electrotechnical Standardization</td>
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<td>CEO</td>
<td>Chief Executive Officer</td>
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<td>Condition</td>
<td>A prerequisite attached to an LNO</td>
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<tr>
<td>Constraint</td>
<td>A restriction attached to an LNO</td>
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<td>Contractor</td>
<td>Appointed by the Owner or Operator to design, build, test and handover or maintain an Asset</td>
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<td>CoP</td>
<td>Code of Practice</td>
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<td>CSM</td>
<td>Common Safety Method</td>
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<td>DCD</td>
<td>Dubai Civil Defence</td>
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<td>DSC</td>
<td>Delivery Safety Certificate</td>
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<td>Dubai Railway Law</td>
<td>Executive Council Resolutions No 1 / 2014 and 1 / 2017 plus amendments and associated by laws</td>
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<td>Duty Holder</td>
<td>The organisation to whom the OSC or DSC is issued, the Operator or Owner respectively of the system — also referred to as a ‘Permit Holder’ in Dubai Railway Law</td>
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<td>EN</td>
<td>EuroNorm – European Standard</td>
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<td>Engineer</td>
<td>The Owner’s representative to manage the Contractor and ensure requirements are met</td>
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<tr>
<td>ERA</td>
<td>European Rail Agency</td>
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<td>IN</td>
<td>Improvement Notice – referred to as a ‘Notice of Remedy’ in Dubai Railway Law</td>
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<td>Incident</td>
<td>An event that resulted in, or could have resulted in, injury to passengers, staff, contractors or third persons and / or damage to property, including Infrastructure and / or Rolling Stock, and includes ‘near misses’, referred to as ‘Accident’ in Dubai Railway Law.</td>
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<td>Term</td>
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<td>Injury</td>
<td>Physical damage to a Person resulting from a fault or negligence related to railway systems.</td>
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<td>IRB</td>
<td>Independent Review Body</td>
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<td>ISA</td>
<td>Independent Safety Assessor appointed in accordance with RTA SRA’s ‘Code of Practice for Railway Independent Safety Assessors’</td>
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<td>ISO</td>
<td>International Standards Organization</td>
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<td>Judicial Control Officer</td>
<td>Any Person granted the authority to record acts committed in breach of the local legislation in force in the Emirate.</td>
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<td>Officer (or Law Enforcement Officer)</td>
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<td>LNO</td>
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<td>LOA</td>
<td>Letter of Amendment – used to communicate OSC/DSC changes to the Duty Holder</td>
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<td>Maintainer</td>
<td>Organization provides maintenance for any railway assets within the Emirates of Dubai</td>
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<td>Material Change</td>
<td>A significant change to a railway system that requires a certification response from the SRA</td>
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<td>Material Damage</td>
<td>Is damage to the railway infrastructure or rolling stock that effects the service and requires time consuming or costly repairs</td>
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<td>MOR</td>
<td>Minimum Operating Requirements – the minimum permissible degraded state for continued operation of an asset</td>
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<td>Near Miss</td>
<td>An event that under different circumstances could have been a reportable Incident</td>
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<td>O&amp;M</td>
<td>Operation &amp; Maintenance</td>
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<td>Operator</td>
<td>Organization that provides a railway transportation service within the Emirates of Dubai</td>
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<td>ORR</td>
<td>Office of Rail and Road, UK</td>
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<td>OSC</td>
<td>Operation Safety Certificate (Operational Safety Certificate in Dubai law)</td>
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<td>Owner</td>
<td>Asset possessor for any Railway Systems/ Subsystems within the Emirates of Dubai</td>
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<td>Passenger</td>
<td>A member of the public who is travelling, or is intending to travel, on any of the railway systems covered by Dubai Railway Law.</td>
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<tr>
<td>Term</td>
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<tr>
<td>Person</td>
<td>A natural or legal person</td>
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<tr>
<td>PN</td>
<td>Prohibition Notice (‘Notice of Prohibition’ in Dubai Railway Law)</td>
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<td>Qualification</td>
<td>A mandatory process requirement stated on a DSC or OSC</td>
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<td>RAA</td>
<td>Rail Agency of the RTA</td>
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<td>Restriction</td>
<td>A mandatory requirement or limit imposed on system operation or maintenance stated on a DSC or OSC</td>
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<td>RTA</td>
<td>Roads &amp; Transport Authority of the Dubai Government</td>
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<td>SCG</td>
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<td>SDT</td>
<td>System Demonstration Test</td>
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<td>SRA</td>
<td>(RTA) Safety Regulation Authority – the ‘Safety Regulatory Entity’ in Dubai Railway law</td>
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<td>SRA Inspector</td>
<td>A person formally appointed by the Director General / Chairman of the RTA Board to enforce those regulatory requirements of Dubai Railway Law that are the responsibility of the SRA. The term SRA Inspector includes RTA Judicial Control Officers with the SRA.</td>
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<td>SRRPD</td>
<td>Safety, Risk, Regulation and Planning Department within the RTA SCG, which acts as the SRA</td>
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<td>STRMTG</td>
<td>Service Technique de Remontées Mécaniques et des Transports Guidés, France</td>
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<td>TRA</td>
<td>Traffic &amp; Roads Agency of RTA</td>
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<td>UK</td>
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<td>Railway sanctions that require notification or not prior to the fine</td>
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1. Introduction

1.1 Purpose of this Document

The Safety Regulation Authority (SRA) is the Safety Regulator of railways in the Emirate of Dubai and was established by law in 2009 through Dubai Regulation No 5 / 2009 with supporting Bylaws as detailed in Section 1.2. The SRA is part of the Roads & Transport Authority (RTA) of the Emirate of Dubai which itself was established by Dubai Law No 17 / 2005.

Dubai Regulation No 5 / 2009 was replaced by Executive Council Resolution No 1 / 2017, which became effective in February 2017.

This document, the SRA Dubai Railway Law Implementation Requirements, explains the role, strategy and requirements of the SRA in undertaking Safety Certification and Regulation (C&R) of the railways in Dubai, including the technical investigation of incidents, in accordance with Dubai Railway Law.

The primary elements of C&R are summarized in Section 1.3 and are explained in detail in later sections. This document and annexes give information and guidance about the SRA’s processes and requirements for implementing Dubai Railway Law. This document applies to:

- The SRA’s own management and Inspectors; and
- Any party that is intending to design, construct, test, commission, independently assess, own, operate or maintain a railway system in the Emirate of Dubai.

This document includes the SRA’s requirements for organisations making applications for an Operation Safety Certificate (OSC) or Delivery Safety Certificate (DSC) and for Incident Technical Investigation and Safety Performance Reporting.

A Railway for the purposes of SRA C&R is defined in Section 1.7.

The SRA retains the right to amend the information and requirements stated in this document as required to fulfil its obligations to implement Dubai Railway Law.

1.2 Legal Framework for Regulation

This is supplemented by Executive Council Resolution No 1 / 2014 – Regulating the Tram Operation in the Emirate of Dubai and its implementing by law Administrative Decision 277/ 2014.

The hierarchy is summarized in Figure 1.2.

The suite of Regulations and Administrative Decisions is collectively referred to in this document as “Dubai Railway Law”.

The Safety, Risk, Regulation and Planning Department (SRRPD) of the Strategy & Corporate Governance Sector (SCG) of the RTA undertakes the role of the RTA Safety Regulation Authority (SRA) which is the Safety Regulatory Entity referred to in the Dubai Railway Law and is responsible for implementation of the C&R requirements of Dubai Railway Law, including Incident Technical Investigation.

The Dubai Railway Law imposes requirements on Owners, Contractors and Operators in relation to railway systems in the Emirate of Dubai, including reporting to the SRA on a routine basis and following specific incidents or events.
The Dubai Railway Law empowers Inspectors to enforce provisions and identifies a number of remedies available to them in the case of breach or incident.

It is the responsibility of the reader of this document to ensure that he/she has the current and full version of the Dubai Railway Law and not to rely on any passages quoted in this document or its Annexes.

The RTA Rail Agency acts as the Railway Supervisory Authority, now referred to as the Agency in Dubai Railway Law, and has its own requirements and inspectors that are not within the scope of this document.

### 1.3 The Elements of Certification & Regulation

The elements of C&R are shown in Figure 1.3.

![Diagram of Certification & Regulation Elements](image)

**Figure 1.3**

Detail of the C&R elements shown in Figure 1.3 is given in this document with the exception of:

- Regulation Assessment Criteria; and
- Code of Practice for Railway Independent Safety Assessors
These exceptions are contained in Annexes to this document.

The SRA’s approach to C&R is based on the European Common Safety Method (CSM), although some terminology and detail has been adapted by the SRA for use in the Dubai environment, as described in Appendix 1.

1.4 Certification

The purpose of Certification\(^1\) is to ensure that an operational railway is designed, constructed, operated and maintained to be safe and fit to operate and that the risks arising from the assets and their operation are As Low As Reasonably Practicable (ALARP) when operations commence. Evidence must be provided that the processes and competences exist within the Duty Holder organisations to manage, modify and enhance the system to ensure that the risk is proactively managed to keep it ALARP through the life of the system.

Certification is the process leading to the issue by the SRA of:

- A Delivery Safety Certificate\(^2\) (DSC) to the Railway System Asset Owner, when evidence has been received that the Assets have been taken over and are fit and safe to operate;
- An Operation Safety Certificate (OSC) to the Railway System Operator, when evidence has been received that the Operation and Maintenance (O&M) organisation is fit and ready to start passenger operation; and
- A DSC, OSC or both following a Material Change to an existing railway system as defined in section 3.8. Note that at the SRA’s discretion some Material Changes may be covered by a Letter of Amendment (LOA) to the relevant certificate(s).
- A new OSC on expiry of the current certificate.

If an Owner, an existing or potential Operator has any doubt about the need for certification, the type of certification or the process and requirements for achieving it, the SRA should be contacted for clarification. Discussions shall be held with the SRA at the

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\(^1\) Certification can be considered to be equivalent to safety certificate and safety authorisation as described in the EU ‘Common Safety Method’, see Appendix 1.

\(^2\) Referred to as Safety Certificate in Dubai Railway Law, renamed to Delivery Safety Certification for clarity by the SRA.
earliest possible opportunity when a new railway project or change to an existing system is being planned or contemplated.

The organisation to which a certificate is issued is referred to as the system **Duty Holder**\(^3\).

The Owner must be in possession of a DSC and the Operator must be in possession of an OSC before passenger operations can legally commence.

The **Certification** process does not address health and safety risks during construction, which are normally contained within a protected, secure work site. These are covered under Incident Technical Investigation.

In cases such as an on-road tramway or trolley system, some testing has to take place before a DSC or OSC has been issued in an environment where there will be interaction with the general public, pedestrians and road traffic. Similarly, testing of a new asset may need to be conducted on an operational railway prior to that asset having been fully demonstrated to be safe or contractually accepted. To ensure that the risk to the general public is managed to be ALARP during such activities, evidence of the safety management arrangements must be provided to the SRA to enable a **Letter of No Objection (LNO)** to be issued by the SRA before starting such activities as described in section 3.6 of this document.

Fees are charged for the Certification service in accordance with Dubai Railway Law.

Section 3 provides more guidance and the SRA’s requirements for Certification and section 4.7 for Re-certification following expiry of an OSC.

### 1.5 Regulation

Regulation\(^4\) is the process by which the SRA monitors railway systems operation after issue of the DSC and OSC to ensure that risks to passengers, staff, contractors and third parties / general public continue to be identified and managed to be As Low As

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\(^3\) A Duty Holder is a ‘Permit Holder’ in Dubai Railway Law, although ‘Permit Holder’ has a wider definition.

\(^4\) Regulation can be considered to be equivalent to *supervision* in the EU ‘Common Safety Method’, see Appendix 1.
Reasonably Practicable (ALARP) and that, through proactive risk management, safety performance is improved. Important elements are:

- The management of change to the assets, procedures and practices, personnel and management organisation;
- The response to, and reporting of, incidents and issues arising and the ongoing analysis of safety performance;
- The updating of risk assessments and hazard logs to reflect actual performance; and
- Pro-active risk management to ensure continuous safety improvement.

If rolling stock or other equipment is to be installed, tested or commissioned on an operational railway before that rolling stock or equipment has been contractually accepted and included within the scope of an OSC or DSC issued by the SRA and if such activity could result in a safety risk to the operational railway or disrupt reliable operation of the railway, the Owner/Contractor/Operator must be in possession of an LNO or LOA from the SRA. The application for the LNO or LOA should contain the necessary risk assessments and supporting evidence to describe how the risks to the operating railway safety and reliability will be managed to ALARP, as described in Section 3.6 below.

Fees are charged by the SRA for Regulation in accordance with Dubai Railway Law.

Section 4 provides more guidance and the SRA’s requirements for Regulation.

1.6 Incident Reporting and Investigation

An Accident is defined in Dubai Railway Law as ‘An unexpected and undesirable incident which is directly associated with Railway Systems and which results or may result in personal injury or material damage’. Note that for the purposes of this document Accident and Incident have the same meaning.

‘Injury (Personal)’ is defined in Dubai Railway Law as the ‘physical damage to a person or persons resulting from a fault or negligence related to Railway Systems’.

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5 Executive Council Resolution No (1) of 2017.
‘Material Damage’ is damage to the railway infrastructure or rolling stock that effects the service and requires time consuming or costly repairs.

In accordance with Dubai Railway Law the Owner, Contractor and Operator shall notify the SRA immediately, in the manner the SRA determines, of any incident falling into the above definition that occurs during performing construction works or Operations and provide it with a preliminary report on investigations and their findings within twenty-four (24) hours from the occurrence of the incident.

Notification of any incident falling into the above definition shall be reported to the SRA within fifteen (15) minutes of the incident occurring (see section 5 of this document).

In addition to meeting the mandatory requirements of Dubai Railway Law the SRA requires notification of other incidents that may increase the risks to passengers and staff as outlined in table 5.1a of this document.

If there is any doubt about the need to report an incident the Owner, Operator or Contractor should report the incident to the SRA.

The SRA will then undertake its own technical investigation if it deems it necessary.

The depth of investigation by the SRA will depend on the:
- Actual or potential seriousness of any injuries.
- Actual or potential damage to the infrastructure or rolling stock.
- Affect on the Reputation of Dubai.

SRA technical investigations are independent of any other investigation that may be undertaken by parties such as RTA Rail Agency or Dubai Police and will focus on the root cause/s of the incident.

1.7 Definition of a Railway

Executive Council Resolution No 1 / 2017 defines Railways as:

‘A transport system designated for the transportation of Passengers and goods on specific tracks. This includes, but is not limited to, light and heavy Railways.’
SRA interprets this as ‘A Railway is any guided and centrally or automatically controlled system for the transport of passengers or freight of any type in the Emirate of Dubai.’

Executive Council Resolution No.1 / 2014 defines a Railway as:

‘A rail transport system designed for the Tram which is bound by specific routes and positioned in partial or full alignment with the Road, on the Road or on any other area accessible to the public.’

SRA interprets this as ‘Any system that is not fully enclosed and protected with controlled access for passengers, the general public and road vehicles.’

The Executive Council Resolutions defines Infrastructure, Rolling Stock and Tram. This document refers to Assets to mean all infrastructure, rolling stock, systems and equipment, including software, comprising the railway system.

The scope of the railway Assets includes, but is not limited to:

- The civil infrastructure of the guideway, stations, depot and other buildings;
- building systems and facilities including fire protection, HVAC, lifts and escalators, signage, public address and emergency egress;
- Operation and maintenance (O&M) control centres, including functionality, human / system interface;
- The railway systems, including track / guidance system, power supply/energy, current collection, signalling, communications, platform screen doors;
- The vehicles, including locomotives, passenger, freight and maintenance vehicles;
- Depot facilities, including maintenance plant and equipment.

Dubai Railway Law provides definition of other relevant terms.
2. **SRA Strategy**

2.1 Vision and Objectives

**Vision**

In accordance with the RTA Vision 'Safe and smooth transport for all', the SRA Vision is:

*To achieve proactive Regulation of Railways in Dubai, enabling Railway Owners, Contractors, Operators, Maintainers and key Stakeholders in general to deliver and realize Railway Systems that are as safe as the highest international benchmarks, and with risks actively managed to be As Low As Reasonably Practicable (ALARP) throughout their whole life cycle.*

**Objectives**

The SRA has the following objectives to fulfil the vision:

1. Apply the Dubai Railway Law for Regulation of Railways in the Emirate of Dubai proactively and consistently and ensure it is being implemented effectively by Duty Holders.
2. Monitor the design and construction of new railway systems (and major changes to existing systems) to ensure that suitable systems assurance processes are applied to ensure (safety) risk is being managed to be ALARP and that project processes deliver railways that are safe to operate and maintain – and to issue a Delivery Safety Certificate as appropriate.
3. Examine the proposals of potential Railway System Operators (including Maintainers) to ensure that the developing organisation, plans, procedures, workforce and preparation for service will deliver a safe service – and to issue an Operation Safety Certificate as appropriate.
4. Monitor the operation, maintenance, modification and improvement of Railway Systems once in operation to ensure that they are being proactively managed to reduce risk to ALARP throughout the system life, that a culture of continuous safety improvement is embedded in the Duty Holder organisations.
5. Gather safety performance data in a System Risk Model to better understand system safety risks.

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6 In accordance with EuroNorm EN50126, or equivalent to be agreed with the SRA.
6. Undertake Incident Technical Investigations of serious incidents to establish root cause and make recommendations and issue sanctions as necessary to prevent reoccurrence during both construction and operational phases.

7. To have requirements and processes for Safety Certification & Regulation, including Incident Technical Investigation, that are clear and transparent and independently benchmarked against best international practice.

8. To have a suitable number of competent Inspectors and expert advisors, whose competence is monitored, enhanced and independently reviewed.

The SRA will work to deliver these objectives by implementing its C&R strategy (detailed in this document) for continuous improvement in health and safety, by:

- Working within the law, publicly available criteria and enforcement policies;
- Ensuring that Assets are designed to ‘engineer out’ hazards to minimise health and safety risks to a level which is ALARP;
- Testing and challenging operational health and safety risk controls to ensure they are capable of delivering safety, remain effective and that Duty Holders are seeking to continuously improve these;
- Ensure that Assets are subjected to appropriate asset management throughout their lifecycle, including suitable and sufficient on-going maintenance, overhaul and replacement;
- Issuing enforcement notices and fines where necessary; and
- Having a competent C&R team.

An overview of activities related to these objectives applied to a railway system life cycle is shown Figure 2.1.
2.2 Principles of C&R

The principles adopted by the SRA for meeting its objectives are based on the European Rail Agency (ERA) ‘Common Safety Methods’ and the UK ORR ‘Assessment criteria for mainline railway safety certificate and safety authorisation applications’, amended for application in the Emirate of Dubai, described in Appendix 1.

The principle for incident reporting is to ensure that reporting is proportional to the actual or potential seriousness of the event and is in a manner and format that will enable comparison between systems in Dubai and with international best practice. Further detail on reporting of accidents and incidents is contained in Section 5.

In meeting its objectives, the SRA will adopt a ‘due diligence’ approach in which the breadth and depth of its activities will depend on the perceived risk, according to:

- The complexity of the system, including the presence of any new or novel systems, procedures or processes;
- The complexity of the operation in terms of number, frequency and speed of trains and the number of passenger or freight-tonne journeys or kilometres per day;
The maturity and experience of the Owner, Contractor, Operator, Maintainer or other relevant party in undertaking similar activities in Dubai;

The thoroughness of the Owner, Contractor, Operator or Maintainer in investigating incidents addressing issues and taking effective corrective action;

The quality of the safety management system, systems assurance process and documentation;

The seriousness of the actual or potential harm that may be caused to passengers, staff, contractors or the general public, or to the image of the Emirate of Dubai;

The on-going safety performance of the system and the degree of continuous improvement demonstrated; and

Specific incidents or issues that have occurred.

At all times the SRA encourages and requires open communication with the Owner, Contractor, Operator and other relevant parties to ensure that issues are raised, discussed and addressed in a timely manner.

The principles of SRA’s approach can be summarised as in Figure 2.2.

Figure 2.2
2.3 SRA Annual Plan

The SRA will produce each year an Annual Plan for safety Certification and Regulation activities. This plan shall detail inspections of certified systems and certification activities for new systems to ensure that the appropriate resource may be allocated and prioritized to the appropriate areas.

This Plan is a living document and will be amended according to issues arising including the inclusion of unplanned events as they occur.

The Regulation activities would typically include for each current system:

- Specific inspections arising from certificate qualifications;
- Periodic inspections of operational practice and records;
- Periodic inspection of maintenance practice and records;
- Periodic inspection of the Duty Holder’s management and monitoring of Asset condition against Asset management plan requirements;
- Review of safety approval processes for change, including determination if the change is Material;
- Specific reviews following unplanned events;
- Periodic observance of Duty Holder’s safety management and related meetings;
- Periodic safety review meetings; and
- Re-certification (if required).

The number and frequency of inspections in any particular area or system and the focus of the inspections will be dependent on:

- The risk areas as perceived by the SRA based on previous experience of the Duty Holder / system;
- Areas where the Risk Management Maturity Model score is poor and/or there has been no evidence of improvement;
- Areas not previously examined or where no Risk Management Maturity Model assessment has been undertaken; and
• Newness of the system or Operator in which case requirements for SRA inspections will usually be stated as a qualification on the OSC, especially if not fully demonstrated during Trial Operation.

For a new system undergoing Certification but not yet operational, the plan should include:

• Key activities in the approval process;
• Dates for review of an application for DSC and its planned issue;
• Dates for review of an application for OSC and its planned issue; and
• Dates for any interim approval or planned issue of a LNO.

SRA’s activity will be proportional to perceived risk and is likely to be more intrusive where the implementing organisation is new to Dubai or where the proposed activity, equipment or system is novel or new to Dubai and where there is the potential to increase risk.
3. **SRA Approach and Requirements for Certification**

### 3.1 Communications

The SRA must have open and clear communication channels with the railway system Owner, Contractor, Engineer, ISA and other stakeholders for the relevant issues associated with the design, construction, testing, take over and assurance of safety of the railway system assets.

Similarly, the SRA must have open and clear communication channels with the Owner, potential Operator and Maintainer, Independent Safety Authority (ISA) and other stakeholders for the relevant issues relating to readiness for operation and maintenance.

This will allow emerging system safety risks to be brought to the attention of the SRA and, in turn, the SRA can raise concerns for discussion and action.

The SRA must be invited to meetings, workshops, tests, trials, demonstrations and other activities that relate to system safety assurance, specific technical safety issues or planning and program issues that relate to certification or key service start dates.

The SRA may call meetings with stakeholders, including the Owner, Contractor, Engineer, Operator, Maintainer or ISA, to address specific issues or concerns.

### 3.2 Planning and Timescales

It is essential that requirements for Certification are agreed with the SRA at the earliest opportunity in the project and that project programmes take account of the provision of the relevant evidence of safety, submission of formal applications for a DSC and an OSC and time for the SRA's review and issue of certification.

There are a number of key activities and documents that the SRA would expect to review which are essential precursors to an application for certification.

Figure 3.2a shows a simplified typical sequence to support issue of a DSC.
Figure 3.2a

A more detailed plan would be agreed with the Owner, Contractor, Engineer and ISA as appropriate.

Figure 3.2b shows a simplified typical sequence to support issue of a first OSC.

Figure 3.2b

A more detailed plan would be agreed with the Operator and ISA as appropriate.
The required activities must be identified and their logical sequence determined at an early stage in the project. The SRA would normally form these into a diagram, an example of which covering both DSC and OSC is contained in Appendix 3.

The SRA requires demonstration that, as a minimum, the following events have taken place:

- The Owner / Contractor / Engineer has identified the configuration of the system that is to be taken over and/or put into operation, particularly if this is a reduced configuration or limited operation compared with that originally envisaged and specified;
- The Contractor has submitted a suitable hazard log and engineering safety case that is up-to-date;
- The Owner / Engineer has defined the acceptance criteria for taking over the system Assets and supporting documentation from the Contractor in a published document;
- The system has been demonstrated by the Contractor in System Demonstration Tests (SDT) or equivalent, including operation at full capacity (if possible) and in degraded/reduced mode;
- Third party approvals have been received (see Appendix 2 for examples of third party organisations);
- The agreed system has been taken over by the Owner, and any operating limitations or unclosed safety hazards have been identified and transferred to another body (e.g. Owner, Operator, Maintainer,) who has accepted them and developed a suitable mitigation;
- The Operator has submitted a suitable safety management system, hazard log and O&M safety case;
- The Operator has developed criteria for determining their readiness for operation;
- The Operator has undertaken a sufficient period of Trial Operation in which the personnel, which has demonstrated readiness for operation;
- Degraded mode and emergency scenarios have been tested, with the involvement of the emergency services and other parties as necessary;
• Maintenance arrangements, including the Maintenance Management System (MMS), depot facilities have been reviewed and key processes demonstrated; and
• The ISA has conducted a review of the project process, outputs and key documents and made positive recommendations for start of Trial Operation and, after Trial Operation, for the start of service operation.

It should be noted that, in most cases, Trial Operation must not commence until the system has been taken over by the Owner and a DSC issued by the SRA. Should this not be possible, it must be agreed with the SRA in advance.

Passenger Operation must not commence before the SRA has issued an OSC to the Operator. In this context passenger operation includes any situation in which staff or invited guests are acting as if they were passengers before the system formally opens. This does not include situations where staff or guests have received a briefing or instructions relating to a structured exercise, or where they are accompanied by the Operator’s representative, such as a VIP visit.

The SRA recognizes that for documents such as hazard logs, safety cases and applications for certification, key evidence required for their completion may not be available until the end of testing and so would delay the submittal of the ‘final’ versions. The SRA is therefore prepared to accept preliminary versions that are substantially complete for review and discussion to avoid undue delay when the final evidence becomes available. The timescale for submission of such preliminary versions must be agreed with the SRA and shown on the project programme, taking cognisance of the requirement of Administrative Decision 986/2018 which states that applications should be submitted no later than one month before the required certification date.

Where the project is to be delivered in stages or elements, the plan should identify these, including the level of approval required by the SRA for each stage. If the scope or number of stages changes during the course of the project the plan should be amended accordingly in discussion with the SRA.

### 3.3 Delivery Safety Certificate (DSC)

A DSC is issued to the railway Asset Owner by the SRA following receipt and evaluation of a formal application and is valid until the assets are subject to Material Change, as defined in section 3.8.
The SRA will begin assessment of a new rail project as early as the option selection or preliminary design stage. At this stage some fundamental features of the design should be risk assessed by the Owner or his representative. This might include, for example choice of elevated/at grade/tunnel alignment; type of tunnel (single bore double track/twin bore single track); junctions (flat/grade-separated); – the list is not exhaustive - and demonstrated to be ALARP. Such features are often presented to the design and build contractor who is only then able to offer mitigations for inherent risks.

Evidence must be provided to the SRA during the project to enable it to satisfy itself that the project and railway Asset, including civil works, infrastructure, facilities, systems (including software) and rolling stock, have:

- Been designed so that health and safety risks have been eliminated or reduced to a level which is ALARP (as described in Appendix 1), including the safety justification for the selected option;
- Embedded risk controls which demonstrate use of the risk control hierarchy;
- A precisely defined scope at the time of handover to the Owner;
- Identified the risks which will have been transferred to the Operator and obtained their acceptance, including those that may have resulted from incomplete or outstanding work at the time of handover;
- Been designed and implemented with a robust human factors analysis (human failure and human - machine interface);
- A safety management system which has the capability of managing the risks associated with any change to the asset;
- Been adequately demonstrated to be safe and fit for operation; and
- Been demonstrated to comply with third party requirements and obtained formal acceptance or certification where necessary.

The DSC is issued to the Owner for a specific configuration of the rail system, infrastructure and rolling stock comprising the Asset. If this is not the configuration that is taken over by the Owner and available to the Operator, then the DSC will contain corresponding Restrictions and/ or Qualifications.
A formal Application for DSC, signed by the Engineering Director or Chief Executive Officer of the Owner’s organisation, must be made for new systems and for existing systems subject to Material Change and must, as a minimum, contain:

- A description of the complete Asset, including key facilities and systems and its full configuration;
- Local Authority Approvals such as Dubai Civil Defence and Dubai Municipality;
- Listing of any novel systems or novel applications of equipment compared with international best practice and experience in Dubai;
- A description of the scope of the application (if less than the full configuration is to be certificated);
- A description of the verification process used by the Owner, Owner’s Representative, Independent Review Body (IRB)/Engineer, Design and Build Contractor(s), Independent Safety Assessors (ISA) and Third Parties to achieve, demonstrate and confirm that the Assets are capable of being operated safely;
- Confirmation that hazards have been properly identified, Asset risks have been reduced to ALARP by design or, in exceptional cases, transferred to another party (in which case confirmation is also required that the other party concerned has accepted them and is able to provide adequate mitigation);
- Confirmation that a Maintenance Management System (MMS) including databases for material management and defect management have been set up and populated;
- Confirmation that O&M Manuals, drawings and any other relevant information to enable the assets to be maintained in a safe condition have been provided to the Operator and any necessary training given;
- Reference to the Engineering Safety Case, which should be complete;
- Evidence of Take Over of the Asset from the Contractor including a list of outstanding works that have an implication for safe operation and a list of restrictions on operation;
- Timescales and process for completing outstanding works to enable restrictions to be lifted;

7 In accordance with RTA SRA ‘Code of Practice for Railway Independent Safety Assessors’ which is an annex to this document
- Evidence of necessary Third Party approvals;
- Statements from the Owner, IRB/Engineer and ISA that they each consider the risks to be As Low As Reasonably Practicable (ALARP) and that the asset is fit for use and capable of being operated safely;
- Confirmation that an Operations/Safety Review Panel or equivalent (see section 4.5) has been set up; and
- Any other specific information identified by the SRA during the course of the project.

The checklist in Appendix 2 may be helpful in identifying potential stakeholders and Appendix 4 may be helpful in indicating the areas of interest to the SRA when considering issue of a DSC.

3.4 Operation Safety Certificate (OSC) – initial issue or material change

The OSC is issued to a named Operator who is the recognized Duty Holder for operation and maintenance of the railway system. The OSC is valid for a specific period, determined by the SRA, with an expiry date stated on the certificate. Typically, the period of validity would be five (5) years, but it could be shorter if the SRA determined that the railway system was novel or if the potential Operator or Maintainer was not sufficiently experienced.

Application for renewal on expiry should be made in accordance with Section 4.7 of this document.

If there is a Material Change during the currency of an OSC (see section 3.8) for which a new OSC, LOA or LNO is required, an application for the new certificate must be submitted and the SRA will issue a new certificate that will again be valid for a specific period.

The SRA will undertake an assessment to determine that the system Operator has the capability and is adequately prepared to operate the system safely. This will include assessment of:

- The capability of the Safety Management System (SMS) to deliver safe operation of the system and safe maintenance of the assets;
- The risk transfer process from Owner to Operator to ensure that the Operator has put in place suitable and sufficient controls to reduce the risks to a level which is ALARP; and
• The operational readiness of the Operator, including demonstration during a period of Trial Operation.

An Application for OSC must be signed by the Managing Director or Chief Executive Officer of the Operator's organisation and by the General Manager (or equivalent) of the railway system concerned. The application must, as a minimum, contain:

• Evidence of the organisation's registration to be a railway system Operator in Dubai;
• A description of the complete Asset, including its key facilities and systems and its full configuration, that has been transferred to the Operator;
• A description of the scope of the Operator's application (if less than the full configuration is to be certificated for operation);
• Status of O&M documentation provided by the Contractor / Owner;
• The Operator's System Hazard Log updated for service start, including any hazards transferred from the Contractor and associated safety mitigation;
• The Operator's Safety Case, Safety Management System, including organization, the manager responsible for day-to-day safe operation, other key and safety critical personnel, competence management arrangements, permit to work/safe working arrangements;
• Operational and maintenance policy, procedures and work instructions, including the minimum operating requirements;
• Results of the outcome of operational readiness activities and in particular the outcome of the Trial Operation period, including testing of degraded and emergency scenarios;
• Statements from the Operator (and the Maintainer if a different organization) and ISA8 that they each consider the system is safe to operate and risk to be ALARP;
• Evidence of necessary Third Party approvals, including as a minimum the Dubai emergency services;

8 In accordance with RTA SRA ‘Code of Practice for Railway Independent Safety Assessors’ which is an annex to this document
• In the case of a Material Change, a full description of the change, an analysis of its safety impact on the existing railway and any transition arrangements with its implementation;
• Confirmation that the Operations/Safety Review Panel (see section 4.5) is in operation;
• Evidence that a public awareness campaign, if required, has been launched to the satisfaction of the Owner and RTA and
• Any other specific information identified by the SRA during the course of the project.

The checklist in Appendix 2 may be helpful in identifying potential stakeholders and Appendix 5 may be helpful in indicating the areas of interest to the SRA when considering issue of an OSC.

It should be remembered that the Operator Duty Holder is responsible for all O&M activities and duty of care to staff, contractors and third parties. If some activities are undertaken by another Contractor, whether that Contractor is appointed by the Operator or the Owner, the Operator remains responsible for ensuring that all O&M and related activities are carried out safely and in accordance with the Operator’s Safety Case and the Operator Duty Holder must undertake oversight, audit activities and corrective action accordingly.

3.5 Restrictions and Qualifications

The SRA may issue safety certificates with Qualifications or Restrictions:

• A Restriction is applied to limit the asset operation if the functionality is less than the specified full system or if there are outstanding risk mitigations to be implemented or to enforce specific safety management requirements.
• A Qualification is applied when there is a process activity outstanding or on-going.

As the system becomes functional, evidence received and other issues closed, Restrictions and Qualifications may be closed. This process is managed by the SRA using directly received evidence
and through the process of the Owner’s Operation/Safety Review Panel (or equivalent – see section 4.5) and does not require any formal applications from the Owner.

The SRA will issue a Letter of Amendment (LOA) as necessary to update the restrictions and qualifications and in the event of closure of a significant number of restrictions and qualifications the SRA may re-issue the DSC and/or OSC.

The SRA may also add Restrictions and Qualifications as necessary to reflect system changes and these will also be communicated by LOA. In these circumstances the Duty Holder should make a formal application to the SRA which should follow the same process as outlined in section 3.3 for a DSC and section 3.4 for an OSC.

There is no fee for a DSC or OSC re-issued under the above circumstances.

If a certificate is cancelled the LOAs are also cancelled.

If a certificate is superseded the relevant restrictions and qualifications in the LOA will be incorporated in the new certificate and the letter becomes defunct.

### 3.6 Letter of No Objection

The SRA may issue a Letter of No Objection (LNO) at any time that it wishes to confirm its no-objection to a course of action where the level does not warrant issue of an OSC or DSC, or a formal letter amending an OSC or DSC.

The SRA may issue a Letter of No Objection under the following circumstances:

1. **LNO for Testing and Commissioning on a non-segregated system.**

   There is a particular occasion on which an LNO may be issued by the SRA as defined in Dubai Railway Law in relation to testing of tram systems.

   On a tramway, trolley or any system which is not fully segregated from the general public, pedestrians and road users in which passenger access is controlled, some testing has to take place before a DSC or OSC has been issued. If this testing is to take place in an environment where there will be interaction with the general public, pedestrians and road
traffic, (for example testing of tram and traffic signals at junctions) the Owner or Contractor must take specific action to ensure that the risk to the general public is managed to be ALARP during such activities. Evidence of the safety management arrangements for such testing must be provided to the SRA to enable a LNO to be issued by the SRA before starting such activities.

The requirements to enable a LNO to be issued are the same in principle as for a safety certificate. The Owner / Contractor must submit a formal application to the SRA that, as a minimum, includes:

- The scope of activity, including any staging or increase as testing progresses;
- A hazard log identifying risks to the general public, pedestrians and road users arising from the activities;
- Mitigating actions and demonstration that the resulting risks are ALARP;
- Confirmation of the involvement of the Dubai Police and the RTA in the planning and their approvals for the activities;
- Confirmation that the planned activities have discussed with the emergency services and that they have a response plan should any incident occur;
- A public awareness campaign has been launched to the satisfaction of the Owner and RTA;
- A description of how vehicles are to be moved to the test site and returned to the Depot at the close of tests and the plans and procedures for recovery of vehicles in the event of failure, derailment or incident;
- A program for the activities, including the approval requirements.
- Other specific information requested by the SRA according to the circumstances,

It is likely that there will be a series of testing activities, in which case the Contractor or Owner may wish to propose holding a series of meetings of stakeholders, with a specific interest in the safety of testing to review the scope and management of each stage before it goes ahead and review the outcome of each stage before agreeing progression to the next.

The meeting must be attended by the Owner, Contractor, Engineer and ISA, and any other stakeholder and include a formal signing-off process. This meeting should have the power to impose
any additional controls considered necessary and may need to include the RTA Traffic & Roads Agency (TRA).

If the Owner or Contractor wish to adopt such an approval process, the SRA must give its approval in advance and must be invited to attend all such meetings.

When the above application has been evaluated and accepted by the SRA, it will issue a LNO. It may be that a series of LNOs is required for the progressive stages of testing or, if the accepted process includes holding of an approval meeting with a formal record of discussion and agreements as described above, SRA acceptance may be given in that forum.

2. **LNO for Construction, Testing and Commissioning on an Operational Railway**

If rolling stock or other equipment is to be installed, tested or commissioned on an operational railway before that rolling stock or equipment has been contractually accepted and included within the scope of an OSC or DSC issued by the SRA, it may be necessary to obtain an LNO from the SRA before commencing activities. The scope of the proposed activity should be discussed with the SRA to establish if an LNO will be required.

The following factors would require an LNO for the activity, there may be others:

- If such activity could result in a safety risk to the operational railway;
- If such activity could result in unplanned disruption or impact on reliability of the operational railway;
- If such activity requires the Operator Duty Holder to introduce novel / non-standard procedures or practices;
- If the activity includes use of new (not certificated) rolling stock on the operational railway during engineering or operational hours.

The application for the LNO should contain the precise scope of the activity, the necessary risk assessments to staff and the operational railway, supporting evidence to describe how the risks to the operating railway safety and reliability will be managed to ALARP, clear definition of responsibilities (bearing in mind that the Operator must have overall responsibility).
An application for LNO must be endorsed by the Contractor, Owner and Operator Duty Holder and, where appropriate, by the Engineer and ISA. Where appropriate, an LNO may have Constraints or Conditions attached.

Note that if the scope of the proposed change involves any changes to the OSC or any existing Restrictions or Qualifications, then an LOA would be required (see section 3.5).

### 3.7 Renewal of a Safety Certificate

The SRA shall issue a new safety certificate:

1. On application by the Duty Holder proposing a Material Change (defined in section 3.8) to the Asset or operation. This will require a formal application in accordance with section 3 of this document. A Duty Holder should contact the SRA to establish if any proposed change is considered Material in this context and whether a new certificate or an LOA is most appropriate.

2. When, in the view of the SRA, the amendments to certificate Restrictions and/or Qualifications are significantly large in number or significance to merit a reissue. In this case, the SRA shall decide when it is appropriate. The Duty Holder is not required to make any application. The validity of the new certificate will have the same expiry date as the one it is replacing (in the case of the OSC) and will not be subject to a fee.

3. Where an application by an Operator Duty Holder is made on expiry of an OSC, without any Material Change being proposed. This will require a formal application in accordance with section 4.7 of this document.
3.8 **Material Change**

A proposed change that has any of the following attributes would be considered to be Material:

2. Change of Operator / OSC Duty Holder, or maintainer.
3. Change of scope of the Assets or operation outside that described in the system safety cases and which has been certificated, which would include but not limited to:
   a. Extensions to the route or addition of new stations or other facilities on the existing lines.
   b. Major changes in key systems.
   c. Operating at headways or speeds beyond the original design specification.
   d. Re-engineered or new rolling stock.
   e. Significant change to maintenance philosophy or practice.
   f. Introduction of technology or processes that are novel or new to Dubai.
4. The change cannot be managed within the scope of the Duty Holder’s Safety Case, processes or competence.

The fundamental consideration is to understand and manage the risks associated with the new features and the risk imported onto the existing systems arising from the proposed change.

There will usually be a staged approach to the introduction of Material Change involving various levels of acceptance, testing and commissioning before the change is finally introduced into operational service.

In general, such activities undertaken in a protected and/or closed site environment, such as a depot or specially designated test area, no-objection from the SRA would not be required, unless the

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9 Material Change can be considered to be equivalent to Significant change as described in the EU/ORR document ‘Common Safety Method for risk evaluation and assessment’, see Appendix 1.
activities went beyond the agreed procedures and practices agreed for that location and stated in related safety cases or DSC or OSC.

In situations where the SRA does not issue an LNO, the SRA may inspect project documentation to ensure that project acceptance, risk assessment, risk mitigation and project approval processes have been completed satisfactorily.

If an LNO (or LOA if changes to existing Restrictions or Qualifications are required) is to be issued, an application from the Owner/Operator will be required, supported by relevant evidence that all processes have been followed, that all parties are in support and risks are managed to ALARP.

Where the Material Change has a number of such stages, the stages should be determined at the outset of the project and the Owner/Operator should undertake an assessment of the risk and need for SRA approval for each stage and gain SRA’s agreement for the plan. The plan should be reviewed as the project progresses to ensure that any changes to the risks, and therefore the SRA’s involvement, are identified and agreed with the SRA.

The criteria for determining whether SRA no objection is required should be discussed with the SRA.

The risk to the existing system whilst the changes are being implemented must also be identified and managed. The risks to current operations during implementation of the change will probably be greater than the incremental risk of the finished project. This will require a risk assessment to be undertaken by personnel competent in the systems being impacted and mitigating measures to be implemented that may be temporary. These may require the SRA to give an LNO or LOA to these changes before commencement.

The flow chart in Appendix 6 outlines this process in general terms. It may be adapted by the SRA to suit particular projects.

With changes of significant complexity it would be good practice to employ an Independent Safety Assessor (ISA)\(^\text{10}\) to assess the processes being adopted and the outcomes and to make recommendations at each approval stage.

\(^{10}\) In accordance with RTA SRA ‘Code of Practice for Railway Independent Safety Assessors’ which is an annex to this document
If there is any doubt as to whether a proposed change is Material, the SRA should be consulted at the earliest opportunity so that approval requirements can be considered, including identification of the approval elements and a time plan. The SRA must be given sufficient time to assess the change.
4. SRA Approach and Requirements for Regulation

4.1 Regulation Objectives

The SRA has five key objectives for the regulation of systems that have had Delivery and Operation Safety Certificates (DSC, OSC) issued by the SRA and are operating in the Emirate of Dubai. That is:

1. Is the system being operated, maintained, changed and generally managed in a manner that ensures that the safety risk to passengers, staff, contractors and the general public is to be as low as reasonably practicable (ALARP)? Is the risk being CONTROLLED?

2. Is there a CULTURE of proactive safety management and CONTINUOUS (safety) improvement?

3. Is the Duty Holder COMPLYING with Dubai Railway Law, the requirements of the system safety cases and the Restrictions and Qualification of the OSC and DSC?

4. To COLLECT safety performance data for each system to enable the SRA to make a Risk Management Maturity assessment, benchmarking against international best practice, for input into SRA’s Annual Safety Report.

5. To gather sufficient evidence from each system over the period of validity of an OSC to enable an assessment to be made of all elements of the OSC Duty Holder’s Risk Management Maturity (see section 4.6) and to aid assessment of an application for RE-CERTIFICATION (see section 4.7).

These objectives are summarized in Figure 4.1
It is a fundamental requirement that the Duty Holders of the DSC and OSC should maintain an effective Safety Management System (SMS) that delivers continuous improvement in the safe operation and maintenance of the system including the management of change to the assets, organisation and personnel.

### 4.2 Regulation Activity

#### Proactive

1. SRA will prepare an SRA Annual Plan for its proactive activities to test and challenge the operational risk controls of each Dubai rail business / Duty Holder holding a safety certificate.
2. The SRA Annual Plans will focus on the strategic risk priorities; targeting the risk areas and testing the safety management system controls for each risk area, as described in section 2.3 of this document.
3. Over the period of validity of the OSC, the SRA aims to test all of the safety management system controls in each of the risk areas for all OSC Duty Holders to inform assessment of their application for re-certification.
4. Inspections may be ‘anonymous’, in which case the Inspector will act as a passenger or member of the public.

5. Inspections may be ‘unannounced’, in which case SRA Inspectors will visit with minimal notice and observe particular activities that are being undertaken at the time. If access is required to a controlled site then it will of course be pre-arranged.

6. SRA Inspectors may make visits to observe specific activities in detail or may request specific activities to be undertaken for the purpose of the inspection, in which case the visit will be pre-arranged in detail.

7. The SRA maintains the SRA Annual Plan that identifies the areas to be inspected for each system dependent on the technical or operational complexity of the system, the perceived risks, historic safety performance and the SRA’s confidence in the Duty Holder’s ability to proactively manage safety, to ensure the SRA Inspector resource is deployed most effectively to fulfil the SRA’s obligations. Inspections should be undertaken over the period of validity of an OSC to enable all the RM3 elements to be assessed, see section 4.6 below.

Reactive

1. The SRA will respond to incidents and issues arising as they occur depending on their nature, the perceived safety risk and the appropriateness and effectiveness of the Duty Holder’s response to the incident.

2. In the case of reportable incidents, the SRA may undertake a Technical Investigation as described in section 5.

3. SRA Inspectors will seek to determine underlying causes for events and identify whether any enforcement action needs to be taken.

4. Through their contacts with other regulatory bodies, the SRA will monitor accidents and incidents elsewhere in the world and determine if they have any relevance or require any action in Dubai.

4.3 Enforcement - acting on findings

The SRA will continuously review the findings from its regulatory interventions.
If the SRA Inspector believes that there has been a breach of Executive Council Resolution No. 1 of year 2017 or of a DSC or OSC Restriction or Qualification, or there has been a failure to effectively manage safety risk, then a sanction against the Owner, Operator or Contractor may be imposed. This process is described in section 6.

The SRA has a process for the escalation of issues should there not be an adequate and timely response by the Duty Holder to concerns raised.

4.4 Communication between SRA and the Duty Holder

The SRA must have open and clear communication channels with the Duty Holders, so that relevant issues relating to current and emerging system safety risks are brought to the attention of the SRA and, in turn, the SRA can raise concerns for discussion and action by the Duty Holder.

The OSC Duty Holder will be required to provide a periodic safety report to the SRA and hold a periodic safety review meeting to discuss safety performance and issues. The exact content of the report and agenda for the meeting and their periodicities will be determined by the SRA and may be stated as a qualification on the OSC. A typical periodicity would be monthly for the report and one, two or three monthly for the meetings, depending on the complexity of the system, the level of perceived risk and the confidence the SRA has in the safety management of the system. Formal minutes of these safety liaison meetings must be issued.

The periodic safety report must contain the information relating to incidents and injuries in accordance with section 5.

It is the SRA’s intention to move towards attendance at Duty Holder’s own safety management meetings and reduce the number of periodic Duty Holder / SRA safety liaison meetings. This approach will be developed system by system with the relevant Duty Holder.
Duty Holder’s Annual Safety Performance Report

The OSC Duty Holder must provide the SRA with an Annual Safety Performance Report to cover the year (preceding 12 months) to the end of September and to be submitted to the SRA by the 15th October each year.

A typical Annual Safety Performance Report would contain:

- Significant changes to operation or maintenance in the year;
- Significant changes to organisation or key contractors in the year;
- An overview of passenger usage and service levels over the year;
- Incidents, including near misses and a summary of mitigating actions taken, including the information identified in section 5;
- Safety trends showing any changes in safety performance when compared with previous years;
- Confirmation that the Hazard Logs and Risk Assessments are up to date, including quantifications and restrictions;
- A self-assessment in accordance with the SRA’s Risk Management Maturity criteria, with supporting evidence (see section 4.6);
- Safety Risk Model outcomes (Time Frame will be discussed with the SRA).

Whilst routine communications can take place at meetings, by e-mail, telephone, text/messaging and other electronic means, formal communications from the Duty Holder, including applications for certificates, LOAs, LNOs or to remove/amend restrictions and qualifications or response to letters from the SRA, should be made formally by letter.

Equally, formal communications from the SRA will be by letter, including Letters of Concern, Improvement Notices, letters issuing Fines, amendments to certificate Restrictions and Qualifications and issue of new certificates.

4.5 Management of Change

Assets: At the Certification stage, the Owner of the system must have put in place a system for the management of change that could have an impact on safety, or which varies the configuration or status of the system that was certified.
The Operator will have put in place an Asset Management process to ensure that the handed-over assets or any new assets that are introduced are fit and safe for operation, that the risks are ALARP and are maintained to be ALARP throughout the life of the asset.

**O&M**: The Operator will also have in place, as part of the SMS, a process to manage change to its operation and maintenance arrangements and processes, organisation and personnel.

These change processes may be the subject of SRA inspection and the Duty Holders must therefore ensure the appropriate records are available to the SRA on request.

**Operations/Safety Review Panel**: At the certification stage the Owner will have put in place an Operations/Safety Review Panel, (or equivalent body) that is responsible for management of safe operation of the railway system, in particular the approval of change. This would include changes such as:

- Removal of operating restrictions as a result of completion of outstanding or remedial work;
- Amendment to system Minimum Operating Requirements;
- Change to the operating pattern - such as operating more vehicles, operating at closer headways, operating for longer hours, opening new stations, increasing speed, etc, within the terms of the current DSC and/or OSC; an

Safety-related change that would change the scope of the existing DSC and/or OSC, for example system extension, is considered to be Material. This may be discussed at ORP, but the SRA approval process for Material changes applies, see section 3.8.

The Operations/Safety Review Panel (or equivalent body) must have a formal terms of reference, submitted to the SRA at the time of certification, which identifies the attendees required for the panel to be quorate. The attendees must include senior representatives of the Owner and Operator who are in a position to speak with authority for their respective organisations and include other parties such as the Contractor, Engineer, RTA TRA, the ISA, Maintainer, as required dependent on the subject matter on the agenda. The SRA must be invited as an observer to all Operations Review Panels (or

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11 A meeting will not be quorate, and therefore cannot go ahead if the key attendees or their alternates nominated in the Terms of Reference are not present.
equivalent) meetings and be provided with the minutes of all meetings, regardless of whether a member of the SRA actually attended the meeting.

4.6 Duty Holder’s Risk Management Maturity

For Dubai railway systems the SRA has adopted Risk Management Maturity Assessment Criteria, based on the UK ORR’s Risk Management Maturity Model (RM3). This model identifies five (5) levels of management maturity in twenty six (26) critical areas of a safety management system and is detailed in the SRA ‘Risk Management Maturity Assessment Criteria’, which is an annex to this document.

The SRA team will assess all interactions with Duty Holders against the criteria in this model and will use these assessments to determine weaknesses and strengths and help set future areas for action. A fundamental element will be assessment of the organisation’s safety culture.

The SRA requires Duty Holders to undertake their own Risk Management Maturity assessment using the SRA criteria and present the results in their system Annual Safety Performance Safety Report to the SRA, see section 4.4. This must be supported with evidence and should demonstrate improvement year on year.

The SRA will discuss this assessment with the Duty Holder, particularly if the SRA’s own assessment is at variance.

The assessment results for each Duty Holder / system will be included in the SRA’s Annual Regulation Safety Report, see section 8.3.

Operators are required to demonstrate continuous improvement in their management of risk to maintain their Operation Safety Certificate.

4.7 Re-certification due to expiry of OSC

OSCs have a specific validity. The period of validity will be determined by the SRA with the expiry date stated on the certificate. Typically, the validity would be three (3) to five (5) years.

If, as the expiry date of the OSC approaches, there is no Material Change proposed, the Operator should make an application to the SRA for re-certification in accordance with the following:
1. Not later than six (6) months before the OSC expiry date, the Duty Holder should discuss the requirements for re-certification, including the time-frame for submission of relevant evidence to support the application, with the SRA.

2. Relevant evidence must include:
   a. Confirmation that the Operations Safety Case and Safety Management System fully reflects current operations (including maintenance), or justification and presentation of changes;
   b. Confirmation that the Hazard Log and Risk Assessments are fully up to date and quantified, reflecting experience through the use of data from a failure/defect recording and analysis system or process;
   c. Review of risk controls to demonstrate they are effective and proportionate to risk;
   d. Evidence of safety improvement initiatives and the effectiveness of their outcomes;
   e. Evidence of effective briefing arrangements to staff and contractors for normal, degraded and emergency service operations;
   f. Evidence of competence management, including non-technical skills where appropriate, and how the overall competence of the organisation is assured;
   g. Evidence of the management of change and controlling new risk;
   h. Evidence of the safe operation and maintenance of the railway, including safe working arrangements in depots, and demonstration of continuous improvement;
   i. Summary of significant safety incidents that have occurred during the validity of the expiring certificate, the mitigating actions taken by the Duty Holder and lessons learnt;
   j. Summary of performance against key safety targets over the period of validity of the expiring certificate;
   k. Summary of enforcement action taken against the Duty Holder (Improvement Notices, Prohibition Notices, Fines) and the resultant actions taken and lessons learnt;
   l. Evidence of effective emergency planning and response, including arrangements with the Dubai emergency services, and validation through planned emergency exercises;
   m. Monitoring and management of contractors’ safe working arrangements;
   n. Demonstration of continuous improvement in safety performance, including a self-assessment in accordance with the RM³ criteria and demonstration of systematic improvement;
   o. Where appropriate, a report from an ISA stating that any safety risks are ALARP. The need for an ISA is to be agreed with the SRA and is dependent on a number of
factors such as the complexity of the system and the degree of any changes since the previous OSC was issued; and

p. Any other specific information requested by the SRA.

This evidence may be formally submitted to SRA or provided during an SRA inspection as agreed with the SRA.

The Duty Holder will be expected to make a presentation to the SRA addressing the above evidence requirements prior to the formal application for a new OSC.

The Duty Holder should agree with SRA the particular evidence that should be included in the formal application for a new OSC.

The SRA will consider the Duty Holder’s application along with its own evidence collected and risk management maturity assessments made during the period of validity of the expiring OSC. As a result, further information may be requested to assure the SRA that there is a sound safety culture and history of continuous improvement. The SRA may impose restrictions and/ or qualifications on the new certificate.

If a change is Material, determined as described in section 3.8, the OSC Duty Holder (and DSC Duty Holder if the significant change is to the system Assets or Asset ownership) must make an application for a new certificate in accordance with section 3 of this document.
5. SRA Approach and Requirements for Incident Reporting and Technical Investigation

Further to section 1.6 of this document, Dubai Railway Law requires the Owner, Operator and Contractor to notify the SRA of incidents\(^{12}\) that occur on a railway, including near misses. The Owner, Operator and Contractor will be provided with SRA contact numbers for notifying such incidents on a 24/7 basis. Safety related incidents must be notified by telephone call and SMS message.

Once notified by either the Owner, Operator or Contractor that a notifiable incident has occurred, the SRA Inspectors will assess and may then deploy Inspectors and other SRA members to site to undertake an independent technical investigation.

5.1 Requirements of Notification

Table 5.1a identifies incidents that must be notified to the SRA. Notification must take place within fifteen (15) minutes of the Owner, Operator or Contractor becoming aware that the Table 5.1a requirement has been triggered. Table 5.1b contains the basic information that the SRA requires when being notified.

<table>
<thead>
<tr>
<th>Incidents that are immediately notifiable to the SRA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Any fatality caused by or related to railway system operation, maintenance or construction.</td>
</tr>
<tr>
<td>2. Any non-minor injury caused by or related to railway system operation, maintenance or construction.</td>
</tr>
<tr>
<td>3. Member of staff lost time injury of more than three (3) days. Note: Immediate notification in this case refers to notifying SRA once 3 days passed in addition to Notifying Requirement Number 2.</td>
</tr>
<tr>
<td>4. Case of communicable disease (as defined under Dubai Law).</td>
</tr>
</tbody>
</table>

\(^{12}\) Referred to as ‘Accidents’ in Dubai Railway Law
### Incidents that are immediately notifiable to the SRA

<table>
<thead>
<tr>
<th>Incident Description</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Incident that results in staff, contractors, passengers or members of the public being evacuated from railway vehicles or from the railway infrastructure, including during construction</td>
<td>5</td>
</tr>
<tr>
<td>Railway vehicle striking an animal or object where that collision causes damage to the railway vehicle or affects the service.</td>
<td>6</td>
</tr>
<tr>
<td>Unauthorised passing of a restrictive signal by a railway vehicle.</td>
<td>7</td>
</tr>
<tr>
<td>Runaway involving any rail or track mounted vehicle or equipment.</td>
<td>8</td>
</tr>
<tr>
<td>Derailing, decoupling, collision or fire associated with railway vehicles. Note: Fire, smoke and fire alarm activation will be separated as covering all railway systems.</td>
<td>9</td>
</tr>
<tr>
<td>Any failure of vehicles that affects the service and increases the risks to staff, contractors, passengers or members of the public.</td>
<td>10</td>
</tr>
<tr>
<td>Collision between a railway vehicle and a road vehicle.</td>
<td>11</td>
</tr>
<tr>
<td>Any damage occurring to a railway vehicle due to a dangerous incident.</td>
<td>12</td>
</tr>
<tr>
<td>Any defect of the infrastructure or system that affects the service or increases the risks to staff, contractors, passengers or members of the public.</td>
<td>13</td>
</tr>
<tr>
<td>Incident involving railway vehicles carrying dangerous goods or materials.</td>
<td>14</td>
</tr>
<tr>
<td>Incidents involving the fall or collapse of structures onto the railway infrastructure.</td>
<td>15</td>
</tr>
<tr>
<td>Incident involving the fall or collapse of the railway infrastructure, including during construction.</td>
<td>16</td>
</tr>
<tr>
<td>Any material falling onto the railway tracks that affects the passenger service or the passage of railway vehicles.</td>
<td>17</td>
</tr>
</tbody>
</table>

---

13 Refers to as ‘Rolling stock’ in Dubai Railway Law
### Incidents that are immediately notifiable to the SRA

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>Any other incident that causes a delay to passenger services of 20 minutes or over on any part of the system including closure of a station.</td>
</tr>
<tr>
<td>19</td>
<td>Incident where there is an impact on the physical or biological environment.</td>
</tr>
<tr>
<td>20</td>
<td>Incident or dangerous occurrence not mentioned above that receives or is likely to receive media attention.</td>
</tr>
<tr>
<td>21</td>
<td>Any dangerous occurrence that under slightly different circumstances could have led to a notifiable incident (Near Miss).</td>
</tr>
<tr>
<td>22</td>
<td>Failure of Safety Critical and Safety Related Software</td>
</tr>
</tbody>
</table>

Table 5.1a

### Incident Notification Minimum Requirements

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Date:</td>
</tr>
<tr>
<td></td>
<td>Time:</td>
</tr>
<tr>
<td></td>
<td>Transport system:</td>
</tr>
<tr>
<td></td>
<td>Location of incident:</td>
</tr>
<tr>
<td></td>
<td>Category of incident – see Table 5.1a</td>
</tr>
<tr>
<td></td>
<td>Description of incident:</td>
</tr>
<tr>
<td></td>
<td>Effect on system operation:</td>
</tr>
<tr>
<td></td>
<td>Names of persons injured (if any):</td>
</tr>
<tr>
<td></td>
<td>Extent and type of injury – see Tables 5.2b, 5.2c, 5.2d:</td>
</tr>
<tr>
<td></td>
<td>Contact person/s on site:</td>
</tr>
</tbody>
</table>

Table 5.1b
5.2 Investigation Reporting Requirements on Owner, Operator and Contractor

1. Initial Investigation Report:

Following notification in accordance with section 5.1, the Owner, Operator or Contractor must provide the SRA with an Initial\textsuperscript{14} Incident Report within 24 hours of the incident occurring.

2. Final Investigation Report:

If the Incident warrants it and the Initial Investigation Report was not conclusive, a more detailed Final Incident Report must be provided by the Owner, Operator or Contractor to the SRA when the investigation is completed.

Note: If the Final Incident Report takes more than 21 calendar days from the date of the incident, the Owner, Operator or Contractor must provide an Intermediate Investigation Report to the SRA. The SRA may or may not accept the justification for delay of the Final Report.

Table 5.2a contains the information that the SRA requires from the Initial, Final and any Intermediate Investigation Incident Reports. Tables 5.2b, 5.2c and 5.2d contain definitions of the classification of injury that must be reported.

\textsuperscript{14} Referred to as ‘Interim’ in Dubai Railway Law
### Information Required from the Owner, Operator and Contractor in Incident Reports

<table>
<thead>
<tr>
<th>Information Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of incident.</td>
</tr>
<tr>
<td>Time of incident.</td>
</tr>
<tr>
<td>Location of the incident.</td>
</tr>
<tr>
<td>Transport System.</td>
</tr>
<tr>
<td>Category of incident as defined in Table 5.1a</td>
</tr>
<tr>
<td>Consequences of the incident.</td>
</tr>
<tr>
<td>Names and contact details of persons injured if applicable.</td>
</tr>
<tr>
<td>Names and contact details of other persons affected if applicable.</td>
</tr>
<tr>
<td>Names and contact details of any witnesses relevant to the incident.</td>
</tr>
<tr>
<td>Classification of injuries if applicable – see Tables 5.2b, 5.2c and 5.2d</td>
</tr>
<tr>
<td>Indication as to cause of death/s if applicable and if known.</td>
</tr>
<tr>
<td>Evidence and findings</td>
</tr>
<tr>
<td>Identified causal factors / root cause</td>
</tr>
<tr>
<td>Conclusions</td>
</tr>
<tr>
<td>Actions Taken &amp; Plan</td>
</tr>
</tbody>
</table>

Table 5.2a
### Injury Classification - Severe

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Any bone fracture diagnosed by a registered medical practitioner, other than to a finger, thumb or toe.</td>
</tr>
<tr>
<td>2</td>
<td>Amputation of an arm, hand, finger, thumb, leg, foot or toe.</td>
</tr>
<tr>
<td>3</td>
<td>Any injury diagnosed by a registered medical practitioner as being likely to cause permanent blinding or reduction in sight in one or both eyes.</td>
</tr>
<tr>
<td>4</td>
<td>Any crush injury to the head or torso causing damage to the brain or internal organs in the chest or abdomen.</td>
</tr>
</tbody>
</table>
| 5 | Any burn injury (including scalding) which:  
   (i) covers more than 10% of the whole body's total surface area; or  
   (ii) causes significant damage to the eyes, respiratory system or other vital organs. |
| 6 | Any degree of scalping (separation of skin from the head) requiring hospital treatment. |
| 7 | Loss of consciousness caused by head injury or asphyxia. |
| 8 | Any other injury arising from working in an enclosed space which leads to hypothermia or heat-induced illness. |
| 9 | Requires resuscitation or admittance to hospital for more than 24 hours. |

Table 5.2b

### Injury Classification - Moderate

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Any injury or illness requiring more than first aid.</td>
</tr>
</tbody>
</table>
| 2 | Any lost-time injury to staff.  
   [3 (three) days or more (not including the day of the incident) to be reported]. |

Table 5.2c

### Injury Classification - Minor

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Any injury requiring first aid.</td>
</tr>
</tbody>
</table>

Table 5.2d
On an operational railway system, incidents and near-misses that resulted in or could have resulted in Minor Injury as defined in Table 5.2d shall be summarized into the periodic safety report to the SRA, the frequency of which is to be agreed by the SRA (refer to section 4.4 of this document).
5.3 SRA Investigation and Reporting

Where required SRA Inspectors will investigate the root causes of the incident and report in accordance with the requirements of Dubai Railway Law.

If the SRA Inspector judges from the initial notification, as described in section 5.1, that the incident is sufficiently serious, the SRA Inspector / other SRA member will immediately go to site to undertake a technical investigation, independently of any investigation being undertaken by the Owner, Operator or Contractor or any other party, such as Dubai Police. This may include incidents in which there are no injuries, if it is judged that under different circumstances there could have been significant or severe injuries.

The SRA Inspector may terminate the investigation as soon as he has sufficient evidence to establish that:

- The Owner, Operator or Contractor’s own investigation is satisfactory;
- The incident is not as serious as originally thought;
- The cause of the incident is well understood from previous occurrences and mitigations are already in hand; or
- The root cause has been adequately identified.

The SRA Inspector will review the report(s) submitted by the Owner, Contractor or Operator together with his/ her own findings and will report accordingly to the Chief Executive Officer of the RTA Strategy & Governance Sector and to the Director General, Chairman of the RTA Board as required.
6. SRA Inspectors and Enforcement Guidance

6.1 Introduction

SRA Inspectors are appointed by the RTA Director General, Chairman of the Board, to act as Law Enforcement Officers and have powers in accordance with Dubai Railway Law\textsuperscript{15}.

The term SRA Inspectors includes RTA Judicial Control Officers with the SRA.

Inspectors are confronted by many unique variables when carrying out inspections, assessments and investigations, such as different work activities, organisational structures, contractual relationships and assessing risk and compliance with the law, which can range from being relatively straightforward to extremely complex. Therefore, this section does not provide a prescriptive approach but attempts to provide guidance that may help to structure a SRA Inspector’s assessment of the risk arising from the breach and determination of enforcement action.

This may also assist others (for example, those directly affected and the RTA Railway Appeal Committee) in their understanding of the principles SRA Inspectors follow when deciding on a particular course of action.

SRA may determine at any time that a DSC or OSC Duty Holder or Contractor needs to:

- take immediate action to deal with serious risks;
- improve so that they meet the legal requirements; and
- be held to account through fines for any health and safety failings that warrant financial penalties.

The SRA also has a policy to escalate regulatory action if there has been no progress in addressing issues and concerns raised by the SRA, see section 6.8.

\textsuperscript{15} Executive Council Resolution No 1 / 2017, Article (17)
6.2 Enforcement Policy

General Principles of Enforcement

The SRA will use its powers to enforce compliance with the requirements of Dubai Railway Law. This policy does not deal with the enforcement responsibilities and powers of the RTA Rail Agency.

The term ‘enforcement’ has a wide meaning and applies to all dealings between the SRA and those on whom the law places legal obligations as defined in Dubai Railway Law.

The purpose of enforcement is to:

   a) Ensure that Owners, Contractors and Operators manage and control risks effectively, thus preventing injury and damage and take action to deal immediately with serious issues;

   b) Promote and achieve sustained compliance with the law;

   c) Ensure that Owners, Contractors and Operators who breach legislation and directors or managers who fail in their health and safety responsibilities may be held to account, which may include financial penalty (fines) as set out later in this policy.

Investigating the circumstances encountered during inspections or following incidents or complaints is essential before taking enforcement action. In deciding what resources to devote to these investigations, the SRA will have regard to the principles of enforcement set out in this document, striking a balance between investigations and mainly preventative activities such as inspections. It will generally focus investigation resources and priorities on individual events of material significance, failures to comply with health and safety law and instances where risks to health and personal injury arise, rather than one-off minor instances.

SRA Inspectors use their discretion in deciding when to investigate or what enforcement action may be appropriate. SRA has developed a process for dealing with health and safety incidents as described in this document to provide a framework for Inspectors to make consistent decisions.

SRA believes in firm but fair enforcement legislation. This is informed by best practice regulatory principles:

Proportionality in applying the law and securing compliance:
This means relating enforcement action to the level of risk\(^\text{16}\) arising from a breach and/ or the seriousness of a failure to comply with a legal obligation, taking account of the proactivity and effectiveness of the Duty Holder in mitigating the risk and preventing a re-occurrence. The action taken by SRA to achieve compliance or bring Duty Holders to account for non-compliance should be proportionate to any risks to health and safety.

In considering seriousness, SRA will look at (amongst other things):

- a) The actual or potential harm caused to passengers, staff, contractors or third parties and to the public interest;
- b) How far standards have fallen below those required by the law and/ or those standards stated in the Duty Holder’s Safety Case;
- c) The culpability of the offender, including whether the Duty Holder has acted negligently, recklessly, knowingly or intentionally, including the adequacy of any action that may have been taken.

Some legal duties are specific and absolute. Others require action to reduce the risks to a level which is As Low As Reasonably Practicable (ALARP) which is the risk management technique preferred by SRA\(^\text{17}\).

Deciding on the level of risk control which is ALARP involves the exercise of judgment. The Duty Holder must take measures and incur the cost unless it can be shown that there is gross disproportion between these factors and that the risk is insignificant in relation to the cost.

SRA will expect good practice to be followed. SRA requires Duty Holders to fully and clearly establish the significance of the risks to determine what action needs to be taken.

**Targeting** of enforcement action:

This means making sure that actions are targeted primarily on those whose activities give rise to the most serious risks, where the hazards are least well controlled or where ongoing compliance with the law needs to be verified; and that action is focused on the responsible Duty Holder best placed to control it.

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\(^{16}\) In this policy, ‘risk’ is defined broadly to include a source of possible harm (injury or damage), the likelihood of that harm occurring and severity of that harm.

\(^{17}\) ‘The system must meet the risk management requirements, standards, techniques and procedures approved by the Safety Regulation Authority’ as outlined in Appendix 1 of this document).
The Duty Holder’s management competence is important because a relatively low hazard activity or a site poorly managed can entail greater risk to workers or the public than a higher hazard or site where proper and adequate risk control measures are in place.

Any enforcement action will be targeted against the Owner, Contractor, Operator, Maintainer, supplier or tram driver\(^{18}\), as appropriate, responsible for the breach.

Where several Duty Holders or others have responsibilities in respect of one incident / breach, the SRA will take action against more than one when it is appropriate to do so in accordance with this policy.

When an SRA Inspector issues a Letter of Concern, Improvement Notice\(^{19}\), Prohibition Notice\(^{20}\), vary Restrictions or Qualifications of a DSC or OSC or issue a fine, the SRA will notify a senior officer of the Duty Holder or other organisation concerned.

**Consistency** of approach:

This does not mean uniformity. It means taking a similar approach in similar circumstances to achieve similar ends. Duty Holders that manage similar risks, or who are responsible for ensuring compliance, expect a consistent approach from the SRA in the advice tendered, the use of enforcement notices, decisions on whether to issue fines and in the response to incidents.

In practice, SRA Inspectors are faced with many variables including the degree of risk, the attitude and competence of management, any history of incidents or breaches involving the Duty Holder, previous enforcement action and the seriousness of any breach, which includes any potential or actual harm arising from a breach of the law. Decisions on enforcement action are discretionary, involving judgment by the Inspector in accordance with the principles outlined in this document. SRA has arrangements in place to promote consistency in the exercise of discretion by its Inspector, including where necessary, effective arrangements for liaison with other health and safety enforcing authorities, for example the ORR in the UK and the STRMTG in France.

\(^{18}\) Enforcement action against tram drivers by SRA is limited to a fine for a breach of the absolute requirements for a tram driver to ‘(1) Not drive the Tram unless he holds a valid Permit’ and ‘(2) Carry the Permit while driving the Tram and during the training and present it to the inspectors of the Authority’(Article (14) Executive Council Resolution No. (1) of 2014 Regulating the Tram Operation in the Emirate of Dubai)

\(^{19}\) ‘Notice of Remedy’ in Executive Council Resolution No 1 /2017.

Transparency about how the SRA operates:

This means helping Duty Holders and others to understand what is expected of them and what they should expect from the SRA. It also means making clear to Duty Holders what they have to do and distinguishing between statutory requirements and guidance about what is good practice.

This statement sets out the general policy framework within which SRA will operate. Duty Holders and others need to know what to expect when an Inspector calls and what rights of complaint are open to them. Existing Duty Holders will be familiar with the way in which SRA Inspectors operate and what will be required from them during an inspection or investigation. Any new Duty Holder will be informed during the early stages of their contact with SRA of what they and their employees and representatives can expect when an SRA Inspector calls at a workplace. In particular:

a) When SRA Inspectors offer Duty Holders guidance, face to face or in writing (including any warning) they will tell the Duty Holder what it has to do to comply with the law and explain why. SRA Inspectors will, if asked, write to confirm any guidance and to distinguish legal requirements from known best practice;

b) In the case of Improvement Notices the SRA Inspector will discuss the notice and, if possible, resolve points of difference before serving it. The notice will say that, in the Inspector’s belief, a breach of the law has been committed, what needs to be done to correct it, why, and by when; and

c) In the extreme cases of a Prohibition Notice or withdrawal of an OSC the SRA will explain why the prohibition or withdrawal is necessary.

Accountability for SRA’s actions.

The SRA makes an Annual Safety Report, as described in section 8, which is reviewed by the ORR before it presents findings to the RTA Board.

Enforcement actions taken by the SRA can be challenged in accordance with Dubai Railway Law as described in Section 7 ‘Appeals’.

6.3 Investigation

SRA Inspectors undertaking technical incident investigations will follow the process described in section 5.
6.4 SRA Inspector Responsibilities

SRA Inspectors shall:

**Act objectively:**
It is important that the SRA Inspector focuses on the breach/ incident under investigation and does not get distracted on to matters not related. That is not to say that, however, that the investigation should not drill down to the underlying (root) cause(s) of the breach/ incident.

Statements of fact should be verified independently or supported by evidence.

**Act impartially:**
The SRA Inspector must take care not to be influenced by previous relationships with the Duty Holder or other parties involved, nor ‘take sides’ in a dispute between parties.

**Adopt a systematic and logical approach:**
The SRA Inspector must identify the prima facie cause of the breach and then identify contributing factors and underlying reasons for the breach/ incident, which should lead to the root cause.

For example the *prima facie* cause of a breach/ incident may be an error by a member of staff. Contributing factors could be:

- Poor equipment design or layout;
- Poor maintenance;
- Poorly written procedures or work instructions that cannot be followed;
- Poor training / lack of competence;
- Lack of monitoring of the activity.

The underlying reasons for these could be:

- A poor safety culture in the team or organisation (for example, an endemic failure to follow procedures and take ‘short cuts’);
- Failure of ‘management’ to respond to previous reports of difficulty in complying with requirements;
- Failure of the Duty Holder to routinely monitor activities and address issues.
**Keep records:**

It is important that adequate records are kept by the SRA Inspector of all meetings, interviews and inspections held including copies of relevant procedures and evidence submitted and any relevant photographs taken by the SRA Inspector. It is important that such material is dated (and marked with time where relevant) and the names of participants noted.

Key statements made by relevant individuals should be signed by the individual concerned.

These records will be required to support the case for the enforcement action proposed and support any presentations made to senior RTA Management. This includes evidence to support any decision to take no enforcement action.

**Confidentiality**

It is essential that information gathered during an inspection or investigation is treated as confidential and not divulged to any other party except in a formal report.

### 6.5 Assessment of the Breach

The SRA Inspector is required to determine:

- The nature of the breach;
- The seriousness of the breach in respect of any heightened risk to passengers, staff, contractors and third parties;
- The Duty Holder’s understanding of the risk and any actions undertaken by the Duty Holder to mitigate the risk and the level of the resulting risk;
- The remaining (residual) risk following the Duty Holder’s action;
- The history of previous actions by the Duty Holder in relation to the breach or any similar previous incidents;
- The co-operation and transparency displayed by the Duty Holder in relation to the breach and SRA investigation;
- The appropriate regulatory enforcement action.

The process is summarised in section 6.7 below.
6.6 Regulatory Actions Available

Letter of Concern

SRA Inspectors may offer Duty Holders information and advice. This may include warning a Duty Holder that, in the opinion of the SRA Inspector, they are failing to comply with the law. Such advice or warning may be given to the Duty Holder at a regular safety liaison meeting between the Duty Holder and the SRA (and recorded in the minutes of the meeting) or by means of a formal Letter of Concern (LOC).

The following formal regulatory actions are available as prescribed in Dubai Railway Law:

Improvement Notice (IN)\(^{21}\)

Executive Council Resolution No (1) of 2017: Article (1):

‘Notice of Remedy:

A written notice served by an Inspector on any Permit Holder\(^{22}\) who violates the provisions of this Resolution, the resolutions issued in pursuance hereof, Safety Proofs\(^{23}\), or Safety Conditions\(^{24}\) requiring him to take necessary actions and measures to manage risks to which the Railway Systems may be exposed.’

An Improvement Notice must define a specific action to be undertaken by the Duty Holder and define a timescale in which the action must be completed. It may require discussion with the Duty Holder to establish the precise action and the time plan for completion.

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\(^{21}\) ‘Notice of Remedy’ in Executive Council Resolution No 1 / 2017.

\(^{22}\) ‘Permit Holder’ includes Duty Holder.

\(^{23}\) The Duty Holder’s Safety Case and supporting evidence.

\(^{24}\) Design requirements.
Fine

Executive Council Resolution No (1) of 2017: Article (15)a and associated Schedule (5) identify the fines that may be imposed by the SRA. Schedule (5) lists the category and level of fines.

Article (15)b requires a written warning to be sent by the SRA to the violator in advance of imposing fines for violations prescribed by a resolution of the Director General (of the RTA). Those violations are identified in Administrative Decision No (462) of 2017.

This Article permits the fine to be doubled should a repetition of the same violation occur within one (1) year. This Article also permits suspension of works or revocation of a certificate in addition to the fine.

Prohibition Notice (PN)25

Executive Council Resolution No (1) of 2017: Article 1:

‘Notice of Prohibition:

A written notice served by an Inspector on any Person requiring him to cease performing any works or to take any measure required to avoid jeopardising Railway Systems.’

A Prohibition Notice must define a specific equipment or system that must be taken out of operation because it presents a real and immediate risk to passengers, staff, contractors or third parties. It must make clear the actions that need to be taken by the Duty Holder and the criteria for permitting the equipment or system back into operation. It may require discussion with the Duty Holder to establish the precise action and the time plan for completion.

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6.7 Withdrawal of OSC or DSC

Administrative Decision No. 986/ 2018 Article 7 states:

'The SRA may terminate the Delivery Safety Certificate and Operation Safety Certificate in any of the following cases:

1. The existence or possibility of a direct and significant danger to railway systems, passengers, staff, contractors or third parties.
2. Violation of the Safety Conditions.
3. Violation of the conditions of issuance of the certificate issued to the duty holder.
4. Occurrence of a serious incident within the total protection zone.
5. Failing of the Duty Holder to comply with restrictions and qualifications identified on the certificate.

Depending on the nature of the breach or violation, it would be good practice for the SRA Inspector to advise the system Owner or Operator of concerns through formal meetings or letters and only issue formal sanctions, as above, if corrective action has not implemented within a reasonable timescale. Clearly, if the breach or violation has resulted in a real and imminent risk to the safety of passengers, staff, contractors or third parties, urgent formal action may be required.

The actual enforcement action may be dependent on other factors and will be determined in discussion between the SRA Inspector, C&R Manager, Director, SRRPD and specialist advisers as necessary.
6.8 Summary of Assessment Process

Investigation of a Possible Breach

Breach comes to notice of SRA

SRA Assigns Inspector

SRA Inspector Undertakes Investigation

SRA Inspector Establishes Nature of Breach

SRA Inspector Establishes Risk and/or Harm to Passengers, Staff, Contractors, 3rd Parties from the initial breach

SRA Inspector Establishes Mitigating Actions already taken by Duty Holder

SRA Inspector Establishes Remaining Risk to Passengers, Staff, Contractors, 3rd Parties following Duty Holder actions

SRA Inspector proposes enforcement action to Director SRRPD

Regulatory enforcement action following investigation of a breach

Was this:
- Advised to SRA by the Duty Holder?
- Discovered during an SRA inspection / investigation?
- Advised by a 3rd party (e.g. ISA)?

- Assigned by the C&R and/or the Accident Investigation Manager
- Meets SRA Inspector competence

SRA Inspectors must:
- Be Objective and Impartial
- Adopt Systematic approach
- Keep records

Breach of:
- Law / This document
- SMS / Safety Case
- OSC / DSC Conditions

- Minimal risk
- Near miss
- Real and immediate

Has Duty Holder been:
- Unaware?
- Reactive?
- Proactive?
- Negligent / dishonest?

- Unaddressed
- Partial addressed / temporary fix
- Fully mitigated / plan to prevent reoccurrence
Escalation

Should a Duty Holder not respond adequately to a sanction imposed by the SRA within a reasonable timescale as stated in the sanction, the SRA will consider increasing the sanction.

Executive Council Resolution No (1) of 2017: Article (15) permits the fine to be doubled should a repetition of the same violation occur within one (1) year. This Article also permits suspension of works or revocation of a certificate in addition to the fine.

In the case of the RTA agencies, escalation will be to the CEO of the Agency concerned and then to the Director General / Chairman of the RTA.

6.9 Appeals

Executive Council Resolution No (1) of 2017: Article (18):

‘Any affected party may submit a written grievance to the Director General against any decision, procedure or measure taken against him under this Resolution within fifteen (15) days of being notified of the contested decision, procedure or measure. The grievance will be determined within thirty (30) days from the date of its submission by a committee formed by the Director General for this purpose and the decision on the grievance will be final.’

In accordance with this Regulatory provision, the recipient of any enforcement measure issued by the SRA may submit an appeal to the RTA Railway Appeal Committee which acts as the Grievance Committee.

In this case, the SRA Inspector will be required to justify the Regulatory action taken including the provision of evidence of:

- The nature of the breach;
- The relevant part of the Dubai Railway Law;
- The risk to passengers, staff, contractors and third parties;
- Previous relevant incidents and the regulatory action taken;
- The reason for selecting the particular enforcement action.
7 Risk Assessment

The approach is based on the UK ORR document ‘Common Safety Method for risk evaluation and assessment’, March 2015. Refer to Appendix 1.

Risk Management

Risk management must be in accordance with the International Standards Organisation’s ISO31000 ‘Risk Management – Principles and Guidelines’ family of standards and CENELEC EN50126 ‘Railway Applications – The Specification and demonstration of Reliability, Availability, Maintainability and Safety (RAMS)’ standards.

Hazard Logs

The SRA requires the Owner, Contractor, Engineer or other relevant stakeholder to identify all hazards during the initial feasibility, option selection, preliminary design, detail design, construction and testing phases of a new system, or system subject to material change, and to eliminate or reduce them to a tolerable level. Only in exceptional cases should an unclosed hazard be transferred to the O&M phase for mitigation. Maintenance of this hazard log should be the responsibility of the Owner after handover of the project Assets. This hazard log must be included with the Application for DSC.

The SRA requires the Operator / Maintainer to identify and manage risks arising during development of operational and maintenance readiness. This Operator’s O&M hazard log must also address any hazards transferred from the design and build phase.

The Operator must then maintain the hazard log as a live document throughout the system life, updated for system changes and with quantification of risk informed by operational experience.

On-going management of the hazards logs will be the subject of periodic SRA inspection.
ALARP

It is a fundamental requirement of the SRA that risk must be managed to be ALARP through the life of the rail system.

Guidance on ALARP and approach to risk reduction may be found in Appendix 1.

Transfer of Hazards

Where a hazard cannot be addressed at source and has to be transferred to another party it is essential that the recipient formally accepts responsibility and the originator accepts the proposed mitigation as being sufficient. If there is a financial implication to mitigating the transferred hazard it is essential to include the party responsible for finance in the agreement.
8 SRA Annual Review

8.1 Strategy Review

The SRA will regularly review and update this strategy and requirements document to reflect changes in its regulatory focus, use it to help plan and prioritise its activities as regulator and to strike a balance on the resources allocated to each activity.

8.2 Peer Review

Every year the SRA will seek a peer review by the ORR UK or other regulator of its certification and regulation activity to ensure it keeps in step with international best practice in health and safety regulation.

8.3 Annual Safety Report

The SRA will produce an Annual Safety Report for:

- Submission to the RTA Senior Management for discussion of SRA’s on-going strategic plan to achieve continuous improvement in health and safety and ‘deliver safe and smooth transport for all’; and
- Discussion with Duty Holders as necessary.

This report will provide an overview of certification, investigation and regulation activity, (including reportable incident technical investigations) during the year and will:

- Describe the Certification activities undertaken by SRA in the year and identify significant issues raised during assessment,
- Summarise any Investigations undertaken with recommendations,
- Report on SRA’s Annual Inspection Plans for the year with progress, key findings and outcomes,
- Provide the Risk Management Maturity Overview for each Duty Holder and compare between Dubai systems and internationally,
- Identify any Enforcement activity undertaken and the outcome,
- Report on improvement metrics for each system,
- Incorporate the findings from peer reviews by other regulators,
• Review the adequacy of the C&R Strategy,
• Conclude on the certification and regulation activities for the year, emerging trends and areas to be tested in the following year.

The OSC Duty Holder’s Annual Safety Performance Report, including the Duty Holder’s self-assessment using the SRA Risk Management Maturity Criteria, (in accordance with sections 4.4 and 4.6) will be an essential input to the SRA Annual Safety Report.

Following receipt of the Duty Holder’s Annual Safety Performance Report for each system by 15th October each year the SRA may wish to discuss the content before compiling its own Annual Safety Report in November.

The process is illustrated in Figure 8.3.

Further actions and discussions may arise from review of the SRA’s Annual Safety Report by the ORR and/or from the ORR’s presentation of their review to the RTA Board.
Appendix 1

Common Safety Method (CSM) and ALARP

Common Safety Method

European Commission Regulation (EU) No 1169/2010 defines a Common Safety Method for national safety authorities for assessing conformity with the requirements for obtaining railway safety authorisation (‘Certification’) for European railway systems. The UK Office of Rail & Road (ORR) has produced more detailed ‘Assessment Criteria for mainline railway safety certificate and safety authorisation applications’ which have been adopted by the SRA as guidelines for undertaking Certification of railway systems in the Emirate of Dubai.

Commission Regulation (EU) No 1077/2012 defines a Common Safety Method for supervision of European railway systems by national safety authorities after they have been issued with a safety certificate (referred to as ‘Regulation’ in this document). The European Rail Agency (ERA) Safety Unit has published a guidance note ‘Supervising the safety performance of railway undertakings and infrastructure managers’.

The European Commission has issued ‘A Common Safety method for risk evaluation and assessment’ and the ORR has published guidance ‘Common Safety method for risk evaluation and assessment’ which has been adopted by the SRA as guidelines for assessing risk evaluation for both its Certification and Regulation processes.

The SRA identifies three methods of demonstrating that a system or sub-system is sufficiently safe and the risk ALARP:

- By undertaking risk analysis from first principles at the design stage;
• By adopting a suite of relevant internationally-recognised standards, together with those issued and / or specified by authorities in Dubai, with implementation of a hierarchy of controls and demonstration of how standards have eliminated risk in this application;

• By comparison with a Reference System; in which case the specific elements in the Reference System must be identified, together with their operating role and environment, safety approval status, safety performance and period of operation.

The approach to be adopted must be agreed with the SRA at the outset of the project. In all cases, the SRA will require that the risk is demonstrated to be ALARP.

The process adopted for the development and verification of new, or modification of existing, software used in safety-related applications will be of particular interest to the SRA.

Guidance on ALARP and Risk Reduction

1. Purpose:

In maintaining regulatory credibility the SRA must be consistent in its decisions on health and safety duties qualified by reducing risks to levels “As Low as is Reasonably Practicable” (ALARP). This section describes what the SRA expects of the Duty Holders when they assess whether risks have been reduced to ALARP and the risk reduction methods proposed.

2. Scope:

The requirement for risks to be managed to ALARP applies to the initial design and introduction into service of the assets by the Contractor and Owner and to their subsequent modification, operation and maintenance, throughout their whole life, under the responsibility of the Operator, Maintainer and Owner.

Safety risk to passengers, staff, contractors and third parties who may be affected by railway operations must be considered.

26 Including the requirements of, for example, the RTA Rail Agency, Dubai Municipality, Dubai Civil Defense (DCD).
3. Risk Assessment:
Contractors, Owners, Operators and Maintainers must make a suitable and sufficient assessment of risks and, where considering duties constrained by ALARP, must compare the cost of implementing risk control measures (in terms of money, time and effort) against the reduction in risk those measures might achieve, and whether there is a gross disproportion between them, such that the costs grossly outweigh the risk reduction.

4. Good practice:
Contractors, Owners, Operators and Maintainers should, as a minimum, follow relevant good practice (which is not necessarily the same as general industry practice). Most railway Duty Holders’ day-to-day decisions are based on current good practice as captured by industry’s standards. Duty Holders should keep good practice under review, as it changes over time. They should challenge industry standards if they have evidence that they do not deliver risk control to the level required by ALARP, or ensure additional controls are put in place to reduce risks ALARP.

5. Risk Reduction:
In approaching risk reduction Duty Holders are generally required to:

1) Carry out suitable and sufficient assessments, appropriately recorded, of risks to the health and safety of both employees and non-employees affected by their undertakings.

2) Identify and implement the measures needed to deliver appropriate risk control including, where appropriate, an estimation of the potential costs and benefits of additional control measures.

3) When deciding what new control measures will be required, it is helpful to work through the ‘hierarchy’ of controls. The hierarchy is as follows:
   i. Elimination – get rid of the risk altogether,
   ii. Substitution – exchange one risk for something less likely or severe,
   iii. Physical Controls - separation/Isolation, eliminate contact with the hazard,
iv. Administrative controls - safe systems of work, rules in place to ensure safe use/contact with hazard,

v. Information, instruction, training & supervision – warn people of hazard and tell/show/help them how to deal with it,

vi. Personal Protective Equipment (PPE) – dress workers appropriately to reduce severity of accident.

That is, attempt to eliminate/reduce the risk as close to source as possible, usually in the system design and only resort to the use of complex procedures or the use of PPE as a last resort. This is shown diagrammatically below:

![Hierarchy of Controls Diagram]

4) Make a decision on whether there is gross disproportion and (if not) then develop an appropriate plan and timetable to implement any additional risk control measure identified and carry out regular reviews of both the assessments and control measures.

Control measures should be practical and easy to understand (what to do and why they are doing it), applicable to the hazard, able to reduce the risk to acceptable levels, acceptable to the workforce and easy to operate.
6. **Assessing the risks:**

1) Employers must assess the health and safety risks to their employees at work and others (such as passengers, other workers and the public) who may be affected by their work activities. This includes risks shared with other Duty Holders, other interface risks and risks associated with low probability but high consequence incidents, especially if the risk arises from a new hazard.

2) The assessment of risk and ALARP must be made at the level of the activity that could give rise to potential harm. So, for example, if a work activity on a specific piece of equipment could give rise to fatal injury, and the precautions (for that piece of individual equipment) cost a proportionate amount relative to that outcome, then those precautions should be implemented, even if there are many similar items of such equipment across the duty-holder’s business. In other words, the calculation of gross disproportion should not be based on the total cost to implement the precautions across all of the items of equipment.

3) Risk assessments must be carried out by individuals that understand the engineering, operation and maintenance of the systems involved and the local cultural and climatic environment in which the system is working.

7. **Removal of existing control measures:**

Removing existing control measures is usually only acceptable where circumstances have changed, (for example, where risks have been removed or controlled by other measures), there are changes in the understanding of the hazard, or the costs of continuing the measure are clearly grossly disproportionate to the risk reduction it achieves.

Any organization undertaking a risk assessment related to a railway system in Dubai should contact the SRA if there is any uncertainty regarding the suitability of the risk assessment process or any risk reduction measures they are planning to implement.
Appendix 2

Organisations that may be Stakeholders

This is a non-exhaustive list of organisations that may be stakeholders.

It is the responsibility of the Operator, Owner or Contractor to ensure that all stakeholders have been identified and their requirements determined.

**Project Organisations**
- Owner
- Design & Build Contractor
- The Engineer / Independent Review Body
- Specialist Advisors
- ISA

**System Operation & Maintenance**
- Operator
- Maintainer
- Specialist Contractors
- ISA

**Existing Rail Systems**
- Owner
- Operator

**Emirate of Dubai Organisations**
- RTA Rail Agency including: Rail Planning and Design Guidelines (RPDG) and Railway Right of Way Office (RROWO) requirements
- RTA TRA including: Traffic Control Devices Manual and Traffic Safety Audit
- Dubai Municipality
Dubai Electricity & Water Authority (DEWA)
Dubai Police
Dubai Civil Defense (DCD)
Dubai Ambulance
Etisalat / DU and other communications organisations
Chilled water providers
Dubai Airports (including Airport Rescue and Fire Fighting Service (ARRFS))
Dubai Free Zone Organisations
Appendix 3

Typical Certification Sequence Chart

A project-specific chart may differ from this and will need to have dates inserted for completion of the various activities so that it can be ensured that the relevant documentation is available to support applications for certification and to enable the SRA to undertake review prior to issue of a DSC or OSC.
Appendix 4

DSC Checklist

The following non-exhaustive checklist will be used by the SRA when inspecting and reviewing the assets for safety and fitness for operation.

The Owner

- Organisation / Competence (employment of Owner’s representative if needed)
- Safety Management Processes

The Engineer / IRB

- Competence / expertise
- Safety management and V&V processes, including take-over.

The ISA

- Appointment in accordance with CoP
- Process and Plan
- Reports, issues, concerns raised - Level of unclosed comments, especially Cat 1 & 2 (or equivalent)
- Recommendation to start Trial Operation.

Contractor’s System Assurance

- Programme
- Process and Plan
- Hazard Log, Risk management
- Engineering Safety Case, including commitment to update to reflect test and handover status and subsequent changes during completion of works.

The Take Over Process

- Criteria
- Configuration
- Safety implications of Outstanding / Incomplete works
- Third party approvals, eg DCD
Transfer of unclosed hazards
Depot lifting equipment and plant acceptance

Testing
- Factory Tests – Specifications, acceptance criteria, results
- System Tests – Specifications, acceptance criteria, results
- SDT – Specifications, acceptance criteria, results, conclusion

Application for DSC
- Clear statement of scope of application and system status to be certificated
- Signed by Owner's CEO / Engineering Director
- Completeness
- Positive safety statements from key parties, (Owner, Engineer, ISA)
Appendix 5

OSC Checklist

The following non-exhaustive checklist will be used by the SRA when inspecting and reviewing the operation and maintenance readiness of a railway system.

The Operator (including, where applicable, the Maintainer if a separate organisation)

- Timely appointment (sufficient time to develop readiness) and registration in Dubai,
- Recognised railway operator / maintainer with requisite qualification for Dubai,
- Safety Management System for ensuring proactive management of safety, effective management of change, continuous improvement, and reduction of risk to ALARP throughout the system operational life,
- Operation Safety Case, procedures and work instructions, recording, reporting, including for maintenance activity (even if conducted by another organisation),
- Organisation – including professional heads, safety critical roles and sufficient resource,
- Human factors assessment of safety-related roles and evidence that procedures, rosters, mitigations, have taken account of fatigue and other workplace issues,
- Competence and training of personnel with safety-related roles, including assessment of non-technical skills, and records thereof, provision of driving permits where necessary,
- Safe systems of work – permits to work, permits to enter, within Depots, buildings, on the track/guideway,
- Management of sub-contractors, including the Operator’s oversight of activities,
- Protection of the right of way,
- Evidence of liaison with emergency services, regular exercises to practice emergency scenarios,
- Third parties – adjacent infrastructure, over bridges, roads and pavements, other railway systems,
- Emergency evacuation procedures and arrangements, maintenance of signage, safe egress routes and muster points,
- Depot facilities, signage, safe walking routes, including the protection and safe operation of plant such as wheel profiling lathes, cranes, lifting jacks and their safety certification.
**Trial Operation**

- Sufficient duration,
- Plan with success criteria defined,
- Conducted with Operator's operational personnel using operational procedures,
- Covers normal modes of operation, including full scope/density of service,
- Covers abnormal and degraded modes of operation,
- Emergency scenarios conducted in co-operation with emergency services,
- Includes demonstration of key depot maintenance plant and facilities and recovery/re-railing of vehicles on line,
- Public awareness campaigns have been launched to the satisfaction of the Owner and RTA TRA, if required.

**Application for OSC**

- Clear statement of scope of application and system status to be certificated
- Signed by Operator's Managing Director / CEO and system General Manager
- Completeness
- Positive safety statements from other key parties, (eg ISA, Emergency Services)
Appendix 6

Flowchart for determining if a change is Material

1. Define change and impact on existing system
2. Does the Work impact on Safety of existing System?
   - Yes
   - No
   - Is the change Novel or New to Dubai?
     - Yes
     - No
     - Can risk be managed in accordance with existing Operator authority? Note (1)
       - Yes
       - No
       - Apply Change / Safe working processes
         - ORP (or equivalent) for approval
1. Identify Hazards, Assess Risk (CSM RA)
2. Identify areas of 'Non Compliance' with Note (1). Identify mitigation options / Nature of Change & Reassess Risk
3. Make Safety Argument (CSM RA / ALARP)
4. Application to SRA for No Objection / Letter of Amendment / New Safety Certificate(s)
5. SRA No Objection or Letter of Amendment
6. Keep Records of decision process. Note (2)

Note (1) – Existing Operator Authority comprises:
- Engineering Safety Case
- Operations Safety Case
- Hazard Log updated to current status
- ORP approved changes

Note (2) – SRA may inspect records on a sample basis, based on risk priorities.