Metrolinx
Operations Procedure: Product Description

MX-SEA-PD-142

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Revision	Date (DD/MM/YYYY)	Description of changes

Preface

This is the first edition of the Metrolinx Operations Procedure Product Description (MX-SEA-STD-142). It forms part of a suite of guidance documents that describe the procedures to be followed to comply with Metrolinx Reliability, Availability, Maintainability and Safety (RAMS) requirements.

The purpose of this document is to describe the documentation of procedures required for the operation of the railway system after a proposed change has been implemented. This product applies for technical changes to the railway system, modifying a maintenance regime, or operational changes to the railway system.

Suggestions for revision or improvements can be sent to the Metrolinx Systems Engineering Assurance office at Engineering.Assurance@metrolinx.com. The Director of the Systems Engineering Assurance office authorizes the changes. Include a description of the proposed change, background of the application and any other useful rationale or justification. Be sure to include your name, company affiliation (if applicable), e-mail address, and phone number.

May 2023

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Documents

Table 1: Supporting Documents

Document Number	Document Title	Relation
BS EN 50126-1:2017	Railway Applications – The Specification and Demonstration of Reliability, Availability, Maintainability and Safety (RAMS) (PHASE 1: Adoption of European Standard EN 50126-1:2017)	Parent Standard
MX-SEA-STD-100	RAMS Process Standard	Related Standard
MX-SEA-PD-127	Operations Plan Product Description	Product Description
MXSD-SSA-L1-STD-0001	Railway Risk Assessment Standard	Standard
I SO 9001:2015	Quality Management Systems — Requirements	Supporting Standard
ISO/IEC/IEEE 15288:2015	Systems and software engineering — System life cycle processes	Supporting Standard
MX-SEA-TOR-001	Metrolinx System Review Panel (SRP) Terms of Reference (ToR)	Review Panel ToR
April 5, 2023	Metrolinx Safety Certification Committee (SSC) Terms of Reference (ToR)	Certification Committee ToR

Acronyms and Abbreviations

Table 2: Acronyms and Abbreviations

Acronym	**Full Name**
CTO	Consent To Operate
RACI	Responsible, Accountable, Consulted and Informed
RAM	Reliability, Availability and Maintainability
RAMS	Reliability, Availability, Maintainability and Safety
SCC	Safety Certification Committee
SRAC	Safety-Related Application Condition
SRP	System Review Panel

Definitions

Table 3: Definitions

Term	Definition	Source
Asset owner	Groups and individuals that are responsible for asset ownership, asset maintenance, inventory management, document control, asset handover and reliability engineering	MX-ALM-STD-001
Availability	Ability of an item to be in a state to perform a required function under given conditions at a given instant of time or over a given time interval, assuming that the required external resources are provided.	BS EN 50126:2017
Maintainability	Ability to be retained in, or restored to, a state to perform as required, under given conditions of use and maintenance.	BS EN 50126:2017
Project Company	The private sector entity which enters into the Project Agreement with Infrastructure Ontario and Lands Corporation and Metrolinx to design, build and where applicable, finance, operate or maintain a Project. The special-purpose entity which has entered into a Project Agreement with the Contracting Authority.	CKH-QMA-FRM-003
Project Manager	Appointed by Metrolinx as its representative and is responsible for the delivery of the Project within the prescribed Schedule and budget. Metrolinx employees fulfilling the role of the Project Manager may also be considered the Cost Centre Manager, if this person is also delegated signing authority in accordance with the Metrolinx Corporate Administrative Manual, Administrative Management, Approval Authorization Controls and Designations. It is noted that non-Metrolinx employees fulfilling the role of the Project Manager are not considered Cost Centre Managers. In such cases refer to approved Project Chart of Accounts for the Program for the designated Cost Centre Manager.	CKH-QMA-FRM-003

Reliability	Ability to perform as required, without failure, for a given time interval, under given conditions.	BS EN 50126:2017
Safety	Freedom from unacceptable risk that related to human health or to the environment.	BS EN 50126:2017
Safety Related Application Condition	Those conditions which need to be met in order for a system to be safely integrated and safely operated.	BS EN 50126:2017
Subsystem	Part of a system, which is itself a system.	BS EN 50126:2017
System	Set of interrelated elements considered in a defined context as a whole and separated from their environment.	BS EN 50126:2017

1 Operations Procedure

1.1 Purpose

1.1.1 The Operations Procedure document defines the procedures that are required for the operation of the railway system after the proposed change has been implemented.

1.1.2 The procedures shall include all the relevant information required to operate the railway system safely and reliably and enable compliance with RAMS requirements to be maintained during the operation of the railway system with the proposed change implemented.

1.1.3 The procedures for operation shall consider any Safety-Related Application Conditions (SRACs) identified during the course of project development.

1.2 Applicability

1.2.1 This product is mandatory for any project that undertakes a technical change to the railway system (i.e., introduction of a new subsystem, renewal of an existing subsystem, a modification to an existing subsystem, or introduction of a new or modified maintenance regime) or undertakes an operational change to the railway system.

1.2.2 This product is not applicable for established routine maintenance activities including like-for-like replacement of components.

1.2.3 This product is considered good practice when developing or modifying any complex system.

1.3 Supporting Materials

1.3.1 The Operations Procedure shall be compiled by the responsible stakeholder.

1.3.2 The Operations Plan PD [MX-SEA-PD-127] supports this document.

1.4 Products

1.4.1 The Operations Procedure is a product of the System Assurance process. Guidance on this process is available via MX-SEA-STD-100.

1.5 Key Responsibilities

1.5.1 The Project Company is the organization that is responsible for the contracted scope of work at the time of development.

1.5.2 The Project Company is responsible for the production of the Operations Procedure. Preparation of the Operations Procedure may be delegated; however, the Project Company is responsible for its content and quality.

1.5.3 The Project Management may be performed by Metrolinx or may be contracted, for example in a Design/Build, whereby Metrolinx Project Management would ensure contract

provisions for the Operations Procedure are met and would not develop the Operations Procedure.

1.5.4 Some of the Asset Owner obligations and responsibilities may be transferred through contracting, whereby the contract contains Reliability Availability Maintainability and Safety (RAMS) and operating requirements. The Metrolinx Asset Owner would participate in endorsing the Operations Procedure whereas a contracted party responsible for RAMS would develop the Operations Procedure as directed by the Project Management.

1.5.5 The System Review Panel (SRP) has delegated authority from the Safety Certification Committee (SCC) and is responsible for endorsing the Operations Procedure. The System Review Panel ensures that the Operations Procedure is compliant with the project requirements, applicable legislation, and national, industry, and Metrolinx standards. The SRP may also identify uncertainties, issues, and assumptions that may arise as the project progresses that should be addressed.

1.5.6 The full Responsible, Accountable, Consulted, and Informed (RACI) information that sets out the interaction between all stakeholders involved in the production and endorsement of the Operations Procedure is available in MX-SEA-STD-100.

1.6 Competence

1.6.1 The Operations Procedure shall be completed by personnel with knowledge of safety management and railway operations. Personnel with expertise of operations in the area of the project shall support development.

1.7 Structure

1.7.1 The Structure of the Operations Procedure should have the following section titles:

a) Introduction;

b) Project Scope;

c) Roles and Responsibilities;

d) Competence Required;

e) Procedures to Operate (in different operating modes); and

f) Safety Precautions (if any).

1.8 Contents

1.8.1 The contents of the Operations Procedure shall contain the following:

a) the operational impact of the project;

b) description of the system;

c) the procedure to operate the system safely and reliably in different operating modes (such as normal, abnormal and emergency) after the change implemented by the contracted project; and

d) consideration for any Safety-related Application Conditions (SRACs) and any needed instructions on temporary and/or permanent conditions.

1.8.2 Any update to the Operations Procedure shall include the status of the implementation at the different Phase(s).

1.9 Quality Criteria

1.9.1 The quality management system used shall conform to ISO 9001:2015 rules or equivalent rules accepted by the Metrolinx Project Delivery Team and be appropriate for the system under consideration.

1.9.2 The Operations Procedure shall have sufficient detail for the audience to understand the changes to operations required by the contracted project and the procedure for implementing those changes at the correct stage. It shall set a clear procedure for all actors responsible for operations activities.

1.10 Document Management

1.10.1 The Operations Procedure is produced at Phase 6 (Design) and reviewed at Phase 10 (Acceptance).

1.10.2 The Operations Procedure is a requirement for the Consent to Construct (CTC) Gate.

1.10.3 Document	Phase
Operations Procedure	6 - Design – 10 - Acceptance

1.10.4 Table 4 provides an overview of the Operations Procedure document phases.

Document	Phase
Operations Procedure	6 - Design – 10 - Acceptance

TABLE 4: DOCUMENT PHASES