METROLINX

Metrolinx Operations Plan: Product Description

MX-SEA-PD-127

Revision 00

Date: May 2023

Operations Plan: Product Description

MX-SEA-PD-127

Publication Date: May 2023

Amendment Record

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

Preface

This is the first edition of the Metrolinx Operation Plan Product Description (MX-SEA-PD-127). It forms part of a suite of guidance documents that describe the procedures to be followed to comply with Metrolinx's Reliability, Availability, Maintainability and Safety (RAMS) requirements.

The purpose of this document is to describe the Plan that defines the impact a proposed change has on the operation of the railway system and details how this change shall be implemented. Project proponents may need to apply the process when they are undertaking a technical change to the railway system or modifying a maintenance regime or undertaking an operational change 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

Contents

Documents ..... **iv**

Acronyms and Abbreviations ..... **v**

Definitions ..... **vi**

1 Operations Plan **1**

1.1 Purpose 1
1.2 Applicability 1
1.3 Supporting Material 1
1.4 Products 1
1.5 Key Responsibilities 1
1.6 Competence 2
1.7 Structure 2
1.8 Contents 2
1.9 Quality Criteria 2
1.10 Document Management 3

Tables

Table 1 Supporting Documents iv

Table 2 Acronyms and Abbreviations v

Table 3 Definitions vi

Table 4: Document Phases 3

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) – Part 1: Generic RAMS Process	Parent Standard
BS EN 50126-2:2017	Railway Applications – The Specification and Demonstration of Reliability, Availability, Maintainability and Safety (RAMS) – Part 2: Systems Approach to Safety	Parent Standard
MX-SEA-STD-100	RAMS Process Standard	Related Standard
MX-SEA-GDC-127	Operations Plan Guidance	Guidance
MX-SEA-TPL-127	Operations Plan Template	Template
MX-SEA-PD-142	Operations Procedure Product Description	Product Description
MXSD-SSA-L1-STD-0001	Railway Risk Assessment Standard	Supporting Standard
ISO 9001:2015	Quality management systems – Requirements	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**
CTC	Consent To Construct
CTO	Consent To Operate
ISA	Independent Safety Assessor
PDD	Process Description Document
PFD	Process Flow Diagram
RACI	Responsible, Accountable, Consulted and Informed
RAM	Reliability, Availability and Maintainability
RAMS	Reliability Availability Maintainability and Safety
SCC	Safety Certification Committee
SRP	System Review Panel
ToR	Terms of Reference

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 Management	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	CKH-QMA-FRM-003

	approved Project Chart of Accounts for the Program for the designated Cost Centre Manager.	
Reliability	Ability to perform as required, without failure, for a given time interval, under given conditions.	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 Plan

1.1 Purpose

1.1.1 The Operations Plan defines the impact the proposed change has on the operation of the railway system and details how this change shall be implemented.

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 Material

1.3.1 The Operations Plan shall be documented in the Operations Plan template located in MX-SEA-TPL-127.

1.3.2 Guidance on completing the Operations Plan is located in MX-SEA-GDC-127.

1.4 Products

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

1.5 Key Responsibilities

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

1.5.2 The Project Company is the organization responsible for the design at the time of development.

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 Operations Plan are met and would not develop the Operations Plan.

1.5.4 Some of the Asset Owner obligations and responsibilities may be transferred through contracting. The Metrolinx Asset Owner would participate in endorsing the Operations Plan whereas a contracted party would develop the Operations Plan 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 Plan. The System Review Panel ensures that the Operations Plan is compliant with the project requirements, applicable legislation, 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 Plan is available in MX-SEA-STD-100.

1.6 Competence

1.6.1 The Operations Plan 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 Plan is described in the Operations Plan Guidance document located in MX-SEA-GDC-127.

1.7.2 The document requires the following section titles:

a) Introduction;

b) Project Scope;

c) Operational Impact;

d) Readiness Strategy; and

e) Readiness Schedule.

1.8 Contents

1.8.1 The contents of the Operations Plan are described in the Operations Plan Guidance document located in MX-SEA-GDC-127.

1.8.2 As a minimum, it shall contain the following:

a) the operational impact of the project;

b) the actions that shall be taken to implement those changes; and

c) the plan to complete those actions.

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

1.9 Quality Criteria

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

1.9.2 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.

1.10 Document Management

1.10.1 The Operations Plan is produced at Phase 5 (Architecture & Apportionment) and reviewed at Phase 8 (integration) and Phase 10 (Acceptance). The Operations Plan is a requirement for System Design Safety (SDS) Gate progression.

1.10.2 Table 4 provides an overview of the Operations Plan document phases.

Document	Phase
Operations Plan	5- Architecture & Apportionment of system requirements
Operations Plan (Review)	6 – Design and Implementation
Operations Plan (Review)	8 – Integration
Operations Plan (Review)	10 – Acceptance

TABLE 4: DOCUMENT PHASES