METROLINX

# Standards Deviation Procedure

MX-EST-PRC-002

Revision 02
June 2024

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# Preface

This is the third edition of the Standards Deviation Procedure. Changes to this version include:

- Simplifying and clarifying the procedure;
- Introducing Prerequisites with elaboration on Early Engagement facilitating quicker resolution of potential Deviations;
- Introducing Kick-off Meetings once the need for a Deviation has been confirmed;
- Updating requirements for the Safety Risk Assessment and the Hazard Log; and
- Introducing a new streamlined approach for low risk Deviations.

This procedure is to be used by any party wishing to deviate from a Metrolinx technical standard.

This document was developed by Engineering Standards, Engineering and Asset Management Division, Metrolinx.

Suggestions for revision(s) or improvement can be sent to Metrolinx Engineering and Asset Management, Attention; Director, Engineering Standards, who will introduce and coordinate the management of the proposed change(s) within Metrolinx. Be sure to include a description of the proposed change(s), complete with appropriate background information and any other useful rationale or justification. Also, be sure to include your name, company affiliation (if applicable), email address, and phone number.

June 2024

# Contents



# Tables



# Figure

# Documents

TABLE 0-1 SUPPORTING DOCUMENTS

| Reference | Title |
|---|---|
| MX-EST-FRM-005 | Deviation Request Form |
| MX-EST-FRM-006 | Notice of Deviation Form |
| MX-EST-FRM-007 | SME Checklist for Notice of Deviation |
| MX-EST-FRM-008 | Deviation: Low-Risk Form |
| MX-SEA-STD-006 | Metrolinx RAMS Risk Assessment Process |
| MXSD-SSA-L3-TK-0004 | Hazard Management Toolkit |

# Acronyms and Abbreviations

TABLE 0-2 ACRONYMS AND ABBREVIATIONS

| Acronym or Abbreviation | Definition |
|---|---|
| ALARP | As Low As Reasonably Practicable |
| CPG | Capital Projects Group |
| E&AM | Engineering & Asset Management |
| ES | Engineering Standards |
| O&M | Operations & Maintenace |
| PDT | Project Delivery Team |
| RAMS | Reliability, Availability, Maintainability and Safety |
| SME | Subject Matter Expert |
| SRP | System Review Panel |

# Definitions

The following terms and definitions apply in this document:

**ALARP**: as low as is reasonably practicable; that which is, or was at a particular time, reasonably able to be done to ensure health and safety, taking into account all relevant matters, including:

a) the likelihood of the hazard or the risk concerned occurring;

b) the degree of harm that might result from the hazard or the risk;

c) what the person concerned knows, or ought reasonably to know, about the hazard or risk, and ways of eliminating or minimizing the risk;

d) the availability and suitability of ways to eliminate or minimize the risk; and

e) after assessing the extent of the risk and the available ways of eliminating or minimizing the risk, the cost associated with available ways of eliminating or minimizing the risk, including whether the cost is disproportionate to the risk.

**Competent Person**: a person identified or certified within an organization to have required skills and knowledge to perform specified tasks.

**Deviation**: an accepted departure from a Metrolinx Engineering Standard and Design Standard.

**International Standard**: an internationally accepted standard such as those prepared by an internationally recognized standards development organization such as ISO or IEC.

**Metrolinx Engineering Standard(s)**: All Metrolinx technical Standards applicable to Metrolinx projects that consultants and contractors are obligated to achieve when delivering or modifying assets for revenue service.

**Nonconformance**: a change to a Metrolinx contract, which includes a Deviation from a Metrolinx standard, that has occurred without prior approval from ES or standards owners/appropriate SME teams.

**Not reasonably practicable:** means that the cost of compliance grossly outweighs the risk being managed through the standard, and other suitable means of reducing the risk to a tolerable level are available.

**Requestor**: the proponent requesting a review and approval of a Deviation from a Metrolinx standard; the Requestor is a project-specific, engineering/architectural consultant, design builder, constructor, or full lifecycle concession owner.

**Responsible Body (PDT)**: the Metrolinx business unit responsible for the management of the contract to which the Deviation or review of Nonconformance request relates and is acting in the best interests of Metrolinx.

**Risk Control Owner:** the party at Metrolinx that is responsible for managing/controlling the increased risk as a result of a Deviation being accepted.

**Subject Matter Expert:** the technical expert at Metrolinx and is the Owner of the standard that is being deviated from.

# 1. Overview

## 1.1 Introduction

1.1.1 Consultants and contractors providing design or construction services to Metrolinx are required to comply with all technical standards.

1.1.2 While it is expected that every effort is made to comply with all technical standards, Metrolinx recognizes that it may not be reasonably practicable to comply fully with its Standards at all times. In other instances, better outcomes can be achieved for Metrolinx through innovative noncompliant alternatives even when compliance is reasonably practicable to achieve.

1.1.3 When a contractor or consultant feels they are unable to achieve Metrolinx technical standards, they will need to follow the Metrolinx Standards Deviation Procedure.

## 1.2 Purpose

1.2.1 The Metrolinx Standards Deviation Procedure defines the steps necessary to resolve a Deviation from a Metrolinx technical standard:

a) When compliance is Not reasonably practicable; or

b) When an innovative solution that benefits Metrolinx is proposed as an alternative.

1.2.2 This procedure requires risk identification and acceptance. Risk acceptance requires the use of As Low As Reasonably Practicable (ALARP) principles.

## 1.3 Scope

1.3.1 This procedure addresses when there is a potential departure from a defined technical standard. As a best practice, the process includes assessing risks and evaluating the proposed options. Any departure from technical standards shall be approved by technically qualified personnel, and a record of this approval shall be maintained.

1.3.2 This procedure applies to all Metrolinx works, including Capital Projects Group (CPG), Maintenance Delivery and State of Good Repair (SOGR) projects/contracts, which include new assets or altering existing assets initiated after the publication date of this standard.

1.3.3 This procedure does not address reputational, commercial, and customer service risks.

## 1.4 Application

1.4.1 This procedure applies to Deviations from Metrolinx standards that are published and managed by Metrolinx.

1.4.2 The requirements in this document apply to the following:

a) Consultants and contractors that are contracted/ required to comply with Metrolinx standards;

b) Metrolinx internal designers; and

c) Third parties whose work affects a designated transport corridor or service are required by a planning instrument to comply with Metrolinx standards.

1.4.3 This document does not apply to derogations to regulatory requirements, and project requirements which are not a standard.

# 1.5 Roles and Responsibilities

1.5.1 The tasks associated with the roles of the process described in this document:

a) Requestor shall:

1) Participate in the early engagement phase, as requested;

2) Complete the Deviation Request Form (MX-EST-FRM-005), including:

i. all necessary technical information fully defining the proposed alternative to the Engineering Standard in sufficient detail for the SME to make a complete assessment of that alternative (Including revisions/improvements and cost estimates) ;

ii. all technical content to support the Deviation Request which shall be endorsed (signed and/or stamped) by the lead technical professional such as a P.Eng. or O.A.A., as applicable.

iii. capital and O&M cost impacts; and

iv. the Risk Assessment with all necessary supporting technical information.

3) Where a Notice of Deviation has been issued, be accountable for the execution of the work in accordance with the notice.

b) Responsible Body (PDT) shall:

1) Participate in the early engagement phase;

2) Oversee the completion of the Deviation Request, including signatures.

3) Where a Notice of Deviation has been issued, be responsible for arranging that the controls and conditions are met.

4) Notify the SME and Engineering Standards the date that the Deviation was implemented (eg. Design package, shop drawings, constructed – depending of the project stage when the Deviation occured) including Controls and Conditions.

5) The Responsible Body (PDT) and SME shall determine the full Stakeholder list which will be subject to ongoing reviews.

6) The Responsible Body (PDT) shall be responsible for Stakeholder administration and sign-off.

c) Asset Class Subject Matter Expert Team (SMEs) shall:

1) Participate in early engagement phase;

2) Be the Decision-maker for starting the Deviation Process or not;

3) Technically review the Request for Deviation Form, including Risk Assessment and all supporting technical information;

4) Accept/deny (if technical, operations, maintenance and/or safety risks are not ALARP – based on respective feedback) final Request for Deviation; and
5) Complete the Notice of Deviation Form (MX-EST-FRM-006), including signatures.
6) The SME and Responsible Body (PDT) shall determine the full Stakeholder list which will be subject to ongoing reviews.

d) Project Sponsor shall:
   1) Endorse the completed Deviation Request Form; and
   2) Endorse the outcome described in the Notice of Deviation.

e) Engineering Standards shall:
   1) Schedule and facilitate Kick-off meeting with Requestor, Responsible Body (PDT) and SME once SME has confirmed a Deviation during early engagement.
   2) Administer and review all Deviations to Metrolinx technical standards to ensure the Metrolinx Deviation Procedure is followed.
   3) Obtain final sign-off on the Notice of Deviation from the VP Engineering Management Systems (on behalf of the Chief Engineer).

# 2. Prerequisite

## 2.1 Early Engagement

2.1.1 Early engagement between the Requestor, Responsible Body (PDT) and SME is required before the Deviation Process begins or a Request for Deviation is prepared.

2.1.2 The outcome of early engagement is agreement on how to proceed with the potential departure from a technical standard.

2.1.3 Requestors who feel that they may need to deviate from an Engineering Standard are required to engage the Responsible Body (PDT), who must engage the SME, to discuss the concern with the Standards and possible options.

2.1.4 Early engagement starts with the Responsible Body (PDT) contacting the SME regarding a possible departure from a technical standard.

2.1.5 During early engagement, the Requestor, Responsible Body (PDT), SME and other impacted stakeholders shall discuss potential options with the intent to arrive at a mutually agreeable direction on how to proceed.

2.1.6 Through this discussion between the Requestor, Responsible Body (PDT) and SME, a decision is formed on how to proceed:

a) Resolution through alternative options (redesign);

b) Reject the proposed Deviation, the technical standards are to be achieved; or

c) Proceed with the Deviation Process.

2.1.7 Records of early engagement shall be maintained by the SME. This includes identification of relevant stakeholders with engagement details and organizational titles.

2.1.8 When the outcome is a Deviation, SME shall provide Engineering Standards with the following to start the Deviation Process:

a) Early engagement start date;

b) Requestor (if available), Responsible Body (PDT) and SME Contact;

c) Project name and number; and

d) Deviation topic.

# 3. Deviation Process

## 3.1 Overview

3.1.1 The Deviation Process is initiated when the outcome of the Early engagement is a Deviation (clause 2.1.6c)).

3.1.2 Requestor submits a Deviation to a Metrolinx technical standard on the Deviation Request form. Signatures are required.

3.1.3 E&AM assesses the request and issues a Notice of Deviation to the Responsible Body (PDT) and the Requestor advising the outcome. Signatures are required.

3.1.4 When a Deviation bears low technical, operational, maintenance and safety risks to the project and/or asset, and confirmation has been received from the SME Engineering Director, then an expedited Deviation process can be followed using a single form for the entire process Deviation: Low-Risk Form (MX-EST-FRM-008).

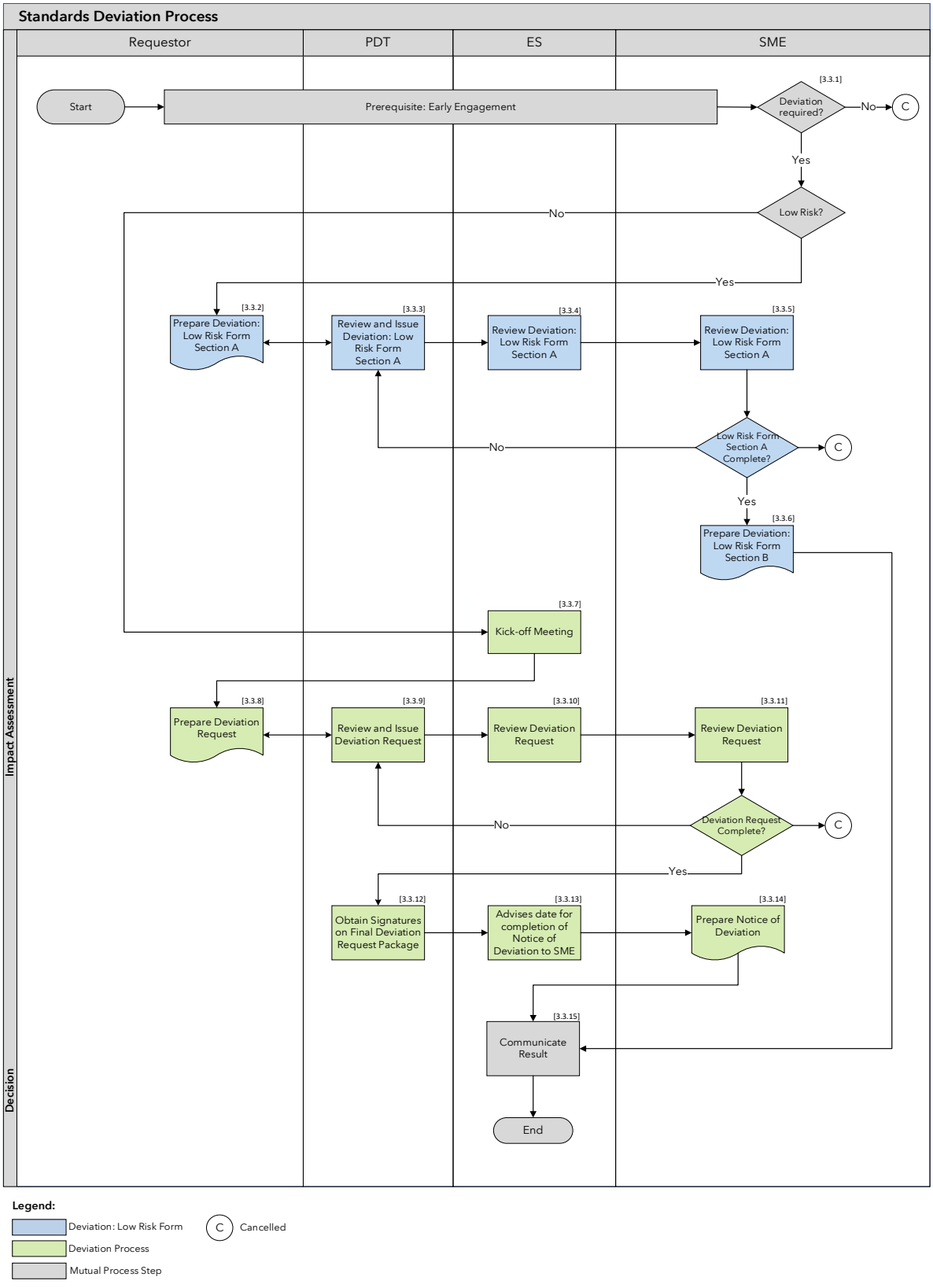
3.1.5 Submission of such a request does not infer or imply acceptance of any Deviation to a technical standard.

3.1.6 Deviations are project and location-specific and are not transferable.

# 3.2 Deviation Process Overview

3.2.1 Figure 1 provides an overview of the Deviation process.

**FIGURE 1 Deviation Process Overview**



# 3.3 Deviation Process Description

3.3.1 Requestor completes Early Engagement and SME Evaluates Risk

a) When a SME Engineering Director is able to determine through a qualitative analysis that a Deviation bears low risk to the project and provides written confirmation, then an expedited Deviation process can be followed using a single form for the entire process.

b) If written confirmation has been obtained, proceed to steps 3.3.2 through 3.3.6 and fill out the Deviation: Low-Risk Form (MX-EST-FRM-008). Finish with step 3.3.15 Communicate Result.

c) If this is a regular Deviation, proceed to steps 3.3.7 through 3.3.14. Finish with step 3.3.15 Communicate Result.

3.3.2 Requestor prepares Deviation: Low-Risk Form Section A

a) Prepare the Deviation: Low-Risk Form Section A (MX-EST-FRM-008) with all supporting documentation, including confirmation from the SME Engineering Director.

3.3.3 Responsible Body (PDT) Reviews and Issues Deviation: Low-Risk Form Section A

a) Reviews the submission for completeness, quality and that necessary due diligence has been performed. Revise submission as required.

b) When acceptable, issues Deviation: Low-Risk Form to Engineering Standards for review via MxDeviationRequest@metrolinx.com mailbox.

3.3.4 ES Reviews Deviation: Low-Risk Form Section A

a) Reviews the submission for completeness and provides comments as necessary.

b) Submits the request to the Responsible Body (PDT) for their reference, and the SME for their assessment.

3.3.5 SME Reviews Deviation: Low-Risk Form Section A

a) Reviews the submission for completeness, quality and evidence that all items have been adequately investigated and addressed.

b) Review includes assessment of:

1) Technical Solution;

2) Interfaces for the proposed Deviation have been properly identified and managed;

3) Appropriate stakeholders (including additional SME teams) have been consulted; and

4) The risks are low (including technical, operational, maintenance and safety risks) and has done everything ALARP to ensure safety in operation and that associated residual risks are tolerable.

c) Provides comments to Responsible Body (PDT) and ES in a timely manner. Ten business days (or earlier) is suggested timeframe within which to provide comments.

d) Repeat Steps 3.3.2 Requestor to Prepare Section A of Deviation Low-Risk Form through 3.3.5 SME Reviews until Section A has addressed all comments, is complete and accepted by SME.

3.3.6 SME Prepares Deviation: Low-Risk Short Form Section B

a) Prepares Deviation: Low-Risk Short Form Section B (MX-EST-FRM-008) and obtains signatures.

b) Go to step 3.3.15 ES Communicates Result

3.3.7 ES Kick-off Meeting

a) Engineering Standards schedules a Kick-off meeting with Requestor, Responsible Body (PDT) and SME.

b) Meeting purpose to discuss:

1) Review of Deviation process;

2) Review of submission requirements;

3) High-level review of Deviation;

4) Review of Stakeholder list; and

5) Confirmation of Responsible Body (PDT) schedule for Deviation submission and project.

c) Responsible Body (PDT) to provide and confirm dates for milestone submissions for Deviation and seek agreement from the SME. The timelines for the completion of the request shall include:

1) Hazard Log;

2) Draft solution (e.g. design, procedures, reports, etc.);

3) Finalized solution; and

4) Completed Deviation Request Form.

d) Engineering Standards to log Deviation, assign number and issue meeting notes.

3.3.8 Requestor to Prepare Request

a) The Deviation Request Form (MX-EST-FRM-005) shall be used for requesting a Deviation.

b) Requirements are described in the form and include the following:

1) Justification of why the standard is Not reasonably practicable or why the proposed design solution provides an equal or better outcome for Metrolinx compared with a compliant design solution.

2) The various options identified, the associated risks and costs, and why the proposed alternative is considered the best option.

3) Lifecycle cost assessment for the proposed Deviation, which needs to benefit Metrolinx in comparison with the lifecycle costs associated with other compliant options identified.

c) A complete Risk Assessment, following the Metrolinx RAMS Risk Assessment Process (MX-SEA-STD-006), must be conducted for every Deviation with the resulting

approved Hazard Log (MXSD-SSA-L3-TK-0004) submitted as part of the Deviation Request package.

1) Appropriate risks have been identified, and risks transferred and accepted.
2) Risk Control Owners/Duty Holders are identified, their roles and responsibilities defined, and appropriate communication protocols are in place to inform all affected parties.

d) The complete Deviation Request package shall include the Deviation Request form and all supporting documentation combined in one PDF with the Hazard Log included as an embedded Excel file.

e) Submit package to Responsible Body (PDT).

3.3.9 Responsible Body (PDT) Reviews and Issues Request

a) Review each requirement in Section 3.3.8 for completeness and quality. Revise Deviation submission as required.

b) Ensure the SME team and risk owners have provided their final assessment of the outcomes in the Safety Risk Assessment via the Hazard Log.

c) Ensure package is complete, necessary due diligence has been performed, and is ready for signatures.

d) If this is a resubmission, ensures that all comments have been addressed.

e) When acceptable, issues draft Deviation Request to Engineering Standards for their review via MxDeviationRequest@metrolinx.com mailbox.

3.3.10 ES Reviews Request

a) Reviews the submission for completeness and provides comments as necessary. Five days or earlier is suggested timeframe within which to provide comments to Responsible Body (PDT) and SME.

b) If this is a resubmission, checks that all comments ES provided have been addressed.

c) Submits the request to the Responsible Body (PDT) for their reference, and the SME for their assessment.

3.3.11 SME Reviews Request

a) Review each requirement in Section 3.3.8 for completeness, quality and evidence that all items have been adequately investigated and addressed.

b) Review includes assessment of:

1) Technical Solution;
2) Interfaces for the proposed Deviation have been properly identified and managed;
3) Appropriate stakeholders (including additional SME teams) have been consulted; and
4) The risk assessment (including technical, operations, maintenance and safety risks – based on respective feedback) demonstrates due diligence, is complete and has done everything ALARP to ensure safety in operation and that associated residual risks are tolerable.

c) Provides comments to Responsible Body (PDT) and ES in a timely manner. Ten business days (or earlier) is suggested timeframe within which to provide comments.

d) Depending on the complexity of issues associated with the request, the SME time for assessing a request could vary. SME to provide timeframe upfront if review is expected to take longer than ten business days.

e) If this is a resubmission, check that all comments provided have been addressed.

f) Steps 3.3.8 Requestor to Prepare Request through 3.3.11 SME Reviews Request repeat until Deviation Request has addressed all comments, is complete and accepted by SME.

3.3.12 Responsible Body (PDT) Obtains Required Signatures on Final Request Package

a) Consults with Project Sponsor regarding changes to benefits and/or project and O&M cost changes and obtains all required signatures on the Deviation Request Form. Five days or earlier is suggested timeframe within which to obtain all required signatures.

b) The final Request Package shall include all documentation combined in one PDF with the Hazard Log included as an embedded Excel file.

c) Submits final Deviation Request package with all required signatures via MxDeviationRequest@metrolinx.com mailbox.

3.3.13 ES Receives Signed Deviation Request Package

a) Receives fully signed Deviation Request package and advises date for completion of Notice of Deviation to the responsible SME team.

3.3.14 SME Prepares Deviation Notice

a) Assesses the request for Deviation and notifies its decision by issuing a Notice of Deviation that either grants or doesn't grant the Deviation request. SME can recommend additional risk controls and conditions where necessary.

b) The Notice of Deviation includes all supporting evidence, including the Request compiled as part of a single PDF for sign-off to ensure an archival record and audit trail.

c) Complete the fully signed Notice of Deviation within fifteen business days upon receipt of the complete (signed) Deviation Request package,

d) Obtain all signatures on the Notice of Deviation. Note that ES can assist with obtaining final signature from VP Engineering Management Systems.

3.3.15 ES Communicates Result

a) Deviation package, including Notice of Deviation, Deviation Request, and all supporting documentation, shall be communicated to all consulted parties, including the signatories and Chief Engineer.

b) The Deviation package shall be submitted to SRP if required.

c) A list of all Granted and Not Granted Deviations will be submitted to SRP SRP.Secretary@metrolinx.com monthly.

d) Deviations granted are either time-bound (temporary) or permanent.

# 3.4 Deviation Types

### 3.4.1 Urgent Deviation

a) An urgent Deviation is a temporary Deviation issued in a time-constrained situation where E&AM agrees in principle to a proposed Deviation to avoid possible delays to a project or the operation of transport services.

b) An urgent Deviation is valid for a period of up to 10-working days from the date of issue, unless a different length of validity period is agreed with the assessor at the time of granting the urgent Deviation. The urgent Deviation shall be replaced either by a temporary Deviation or by a permanent Deviation within that period. The Requestor shall apply for a formal Deviation as stated in Section 3.3.8 by submitting the required documentation within the validity period of the urgent Deviation, allowing sufficient time for review and determination.

c) Situations that justify the request for an urgent Deviation usually arise from construction and maintenance activities where latent conditions, unplanned circumstances, or operational needs render the meeting of Metrolinx standards Not reasonably practicable. In such situations, the responsible consultant or contractor may request an urgent Deviation from the relevant discipline lead SME within Metrolinx. In requesting such Deviations, the consultant or contractor shall obtain prior approval from the relevant operations and maintenance authorities for the risk controls to be implemented during the Deviation period.

d) Urgent Deviation requests shall be made directly to the relevant lead SME by emailing details of the Deviation being sought. An urgent Deviation may be granted by the lead SME, and the notice of the urgent Deviation shall be in writing.

### 3.4.2 Temporary Deviation

a) A temporary Deviation is issued in one of the following situations:

   1) Work is of a temporary nature, and full compliance with Metrolinx standards is Not reasonably practicable.

   2) Temporary conditions prevent full compliance but are likely to change to normal in the foreseeable future.

   3) A Nonconformance that has been rejected is allowed to remain until rectified within a given period.

b) A temporary Deviation has an expiry date and requires the Responsible Body (PDT) to notify the SME and Engineering Standards that the Deviation has expired and shall gain agreement with the SME to one of the following actions:

   1) Allow to expire (upon meeting the set conditions).

   2) Renew for a further period (upon request for an extension).

   3) Replace with a permanent Deviation.

3.4.3 Permanent Deviation

a) A permanent Deviation is issued when the circumstances that cause the Deviation to occur may not change over the life of the asset to which the Deviation applies. A permanent Deviation is valid only for the project detailed in the request form.

# 3.5 Inactive Deviations

3.5.1 Deviation Requests that are inactive for over 6 months will automatically be placed On-Hold. Engineering Standards shall notify the Responsible Body (PDT) and have them advise – continue/hold or cancel.

3.5.2 Responsible Body (PDT) needs to sign off on a date provided for re-submission, if a Deviation is put On-Hold.

# 3.6 Withdrawal of a Deviation

3.6.1 A Deviation request may be withdrawn in writing to MxDeviationRequest@metrolinx.com. Provide rationale with withdrawal request (e.g. Requirement to be met through redesign, standard must be met, affected scope removed from project, project cancelled, etc.)

3.6.2 Engineering Standards will accept Deviation withdrawal requests in writing and acknowledge the Responsible Body (PDT)/Requestor in response to the request.

# 3.7 Escalation

3.7.1 A Deviation can be escalated when there is disagreement with the outcome that the Requestor/ Responsible Body (PDT) or Sponsor is not willing to accept.

3.7.2 Escalation can occur at the end of Early Engagement, while the Deviation Request is underway or after the Deviation process is complete and the Notice of Deviation has been issued.

3.7.3 To begin escalation, Requestor/ Responsible Body (PDT) shall submit a complete package of information to Engineering Standards. This includes all information required for a complete Deviation Request. If the Deviation has already gone through the full process, then submit the final Notice of Deviation package.

3.7.4 Escalation proceeds via the following channels:

a) Director Engineering Standards, Engineering & Asset Management. If not resolved at this level, then proceed to:

b) VP Engineering Management Systems, Engineering & Asset Management. If not resolved at this level, then proceed to:

c) Chief Engineer, Engineering & Asset Management.