

VIA RAIL TRACK CLASSES 6-7 SAFETY CASE

MANDATE

VIA Rail is proposing to operate passenger trains at Class 6 (up to 110 mph) and Class 7 (up to 125 mph) track speeds. Under the Railway Safety Act, VIA Rail is required to submit rules to Transport Canada (TC) designed to ensure safe railway operations. In addition, TC has requested that VIA Rail's proposal to operate at Class 6 track speeds or higher be supported by a comprehensive safety case.

TC has established guidelines for risk assessment and analysis, however, it does not have established guidelines covering the processes required under a full safety case.

To address this, VIA Rail mandated SYSTRA Canada to develop a roadmap for the implementation of a safety case for higher speed operations and move forward with the initial stage of preliminary hazard identification and control.

DESCRIPTION

SYSTRA Canada's mandate included:

- Scope identification and description of the steps/stages required as part of a complete safety case;
- A gap analysis of the rules and regulations in the Canadian railway industry relative to higher operating speeds;
- A preliminary hazard assessment for the implementation of classes 6 and 7 track speeds in Canada;
- Recommendations for the subsequent stages of the project.

SYSTRA Canada determined that a full safety case should contain the following stages:

- Stage 1 – Risk Identification and Risk Control Strategies;
- Stage 2 – Document Standards, Verification Criteria and Design Process;
- Stage 3 – Monitor Detailed Design, Manufacturing and Installation;
- Stage 4 – Testing Phase;
- Stage 5 – Monitor Commissioning Phase; and
- Stage 6 – Reporting & Close-out Documentation.

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CLIENT
VIA Rail Canada

COUNTRY
Canada

YEARS
2019-2020

DURATION
14 months

TYPE OF SERVICES
Regulatory/Technical Study

As part of the regulatory analysis carried out, SYSTRA Canada identified the gaps in current legislation, rules and regulations, relative to higher speed operations, that would need to be covered by VIA Rail's rules for higher speed operations, or by amendments to the legislation itself.

Through workshops with VIA Rail, SYSTRA Canada developed a preliminary hazard assessment, which provided the first step in Stage 1 of the Safety Case. The hazards (risks) were grouped into four major categories:

1. Infrastructure;
2. Systems (Signalling and Communications);
3. Rolling Stock; and
4. Operations.

To provide focus to the areas requiring further attention by VIA Rail to complete the risk analysis and Stage 1 of the safety case, the proposed and possible mitigations to the identified hazards were broken into three categories:

1. Mitigations that will be automatically implemented under the current regulatory regime;
2. Mitigations that are expected to be implemented as part of the industry's standard design best practices; and
3. Mitigations that warrant further investigation to fully assess risk severity and evaluate and select the most effective mitigation measures.