

BRIEFING INFORMATION NOTE

Topic	New Railway Extreme Heat and Fire Risk Mitigation Rules					
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Purpose	For Decision			For Information	X	
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Issue

Transport Canada has announced new fire mitigation rules measures for railways to increase their capacity to detect, monitor and suppress fires and reduce the risk of wildfires in the context of extreme weather, which also complement recent revisions to the *Rules Respecting Track Safety*. Given the degree of changes, the set of rules requires a full review and assessment to consider how this may apply to BC's provincially regulated railways.

Background

- On July 11, 2021, Transport Canada announced interim precautionary measures to address safety concerns resulting from extreme weather and wildfire risks.
- The interim precautionary measures came about when British Columbia was dealing with unprecedented wildfires that displaced hundreds of people in Lytton, the Lytton First Nation and the surrounding areas. The elevated risks of wildfires both in British Columbia and throughout Canada continue to pose a threat to safe railway operations and public safety.
- The new *Railway Extreme Heat and Fire Risk Mitigation Rules* make permanent the interim precautionary measures contained in [Ministerial Order 21-06](#). The rules have an effective date of June 15, 2022.
- There are two new rail safety measures. One focuses on railway-related fire prevention, while the other improves the resiliency of Canada's railway infrastructure against climate change impacts, such as flooding, landslides and fire risks.
- These rules are in effect for the fire season (April 1 to October 31) and are a part of broader federal government efforts on climate change adaptation.
- Transport Canada also announced the Rail Climate Change Adaptation Program. Its objective is to support research, development, and implementation of innovative technologies, tools, and approaches to better understand and address the increasing risks and impacts of climate change on Canada's rail sector.
- The Rail Climate Change Adaptation Program provided up to \$2.2M in contribution funding to Canadian railways to cost-share research as part of the Canada National Adaptation Strategy.
- The new *Railway Extreme Heat and Fire Risk Mitigation Rules* complement recent revisions to the *Rules Respecting Track Safety*, which strengthen track inspection and maintenance requirements.

Discussion

Railway Extreme Heat and Fire Risk Mitigation Rules

The following highlights the new *Railway Extreme Heat and Fire Risk Mitigation Rules*. These new rules require railway companies to:

- Reduce train speeds and conduct additional track inspections when temperatures are high to reduce the risk of a derailment caused by track conditions;
- Inspect locomotive exhaust systems more frequently to ensure they are free of any deposits that could pose a fire risk; and
- Implement a Fire Risk Mitigation Plan.

The Fire Risk Mitigation Plan includes preventative measures that require companies to monitor fire risk levels, manage vegetation, reduce activities that could spark fires, and respond to detected fires. Each company must have a process to review the Plan at least once every five years and update it as required. The Plan must be communicated to Indigenous communities and relevant municipal and other levels of local government, and railway companies are required to provide company contact information through a publicly accessible website for safety-related comments for further engagement. The Fire Risk Mitigation Plan complements the Fire Hazard Plan and Fire Preparedness Plan as required under the Prevention and Control of Fires on Line Works Regulations

The new rules and the Rail Climate Change Adaptation Program (noted above) are two adaptation measures the Government of Canada is taking to build climate resiliency as efforts continue on developing Canada's first National Adaptation Strategy. The National Adaptation Strategy will establish a framework for action on how to improve our health and well-being, build and maintain infrastructure, steward the environment, make informed economic decisions, and prepare for and prevent climate-related disasters over the longer term.

The Extreme Heat and Fire Danger Rules are developed for the unique circumstances of the railway industry (e.g., fires along the right-of-way), whereas the Prevention and Control of Fires on Line Works Regulations are applicable to fires on line works irrespective of their cause or origin on where they started. The Regulations have a greater focus on high-risk work to include control measures, training for critical positions, internal fire notification procedures, communication requirements to fire services and maintenance and inspection of fire suppression equipment.

See Appendix A for the specific additions of the *Railway Extreme Heat and Fire Risk Mitigation Rules*.

Impacts

Railway Extreme Heat and Fire Risk Mitigation Rules

- It is anticipated that Section 6, **Locomotive Inspection Requirements**, may have an impact on provincially regulated railways. The new requirement specifies that companies must ensure the entire exhaust system of root blower locomotives is inspected and cleaned at intervals of 30 days by a qualified person during fire season, which could pose a significant economic draw. It's worth noting however, that this will impact a select number of provincial railways - mainly our common carrier SRY.
- It is anticipated that Section 7, **Requirements for A Fire Risk Mitigation Plan** for the Prevention of Fires on Railway Rights-Of-Way, may have an impact on provincially regulated railways. The Fire Risk Mitigation Plan is in addition to two already required fire plans (Fire Preparedness Plan and Fire Hazard Plan). The Fire Risk Mitigation Plan include monitoring fire risk levels, detecting and reporting fires along the right-of-way, managing vegetation, mitigating fire hazards during line work, implementing appropriate mitigation during active fire events on or encroaching on the right-of-way to maintain safe railway operations, and responding to detected or reported fires.
- It is anticipated that Section 8, **Fire Risk Mitigation Plan Reviews and Municipal and Other Levels of Local Government Input**, may have an impact on provincially regulated railways. Companies must communicate the Fire Risk Mitigation Plan to relevant municipal and other levels of local government, including Indigenous communities, provide company contact information through a publicly accessible web site to receive safety related comments for consideration, and engage with the commenter to determine if the Fire Risk Mitigation Plan requires modification.
 - Some consideration may need to be given to the practicality of these requirements for industrial railways and options around provincial implementation.

Conclusion

To ensure provincially regulated railways align with the latest industry best practices, Technical Safety BC advises the Province to adopt the new *Railway Extreme Heat and Fire Risk Mitigation Rules*.

Appendix A: Additions to the *Extreme Heat and Fire Mitigation Rules*

1.0 Short Title

- These Rules may be cited as the *Extreme Heat and Fire Danger Rules*.

2.0 Objective

- 2.1 These rules are intended to ensure that companies have:
 - Mitigating measures to protect safe railway operations and the infrastructure during periods of extreme heat;
 - Appropriate methods in place to detect and to prevent the starting of fires during periods of Extreme Fire Danger Levels; and
 - Mitigating measures for fires that may be started on railway rights-of-way during periods of Extreme Fire Danger Levels.
- 2.2 Section 6 and Section 7 of these rules supplement the requirements of the Prevention and Control of Fires on Line Works Regulations.

3.0 Scope

- These rules shall apply during the fire season.

4.0 Definitions

- “Extreme Fire Danger Level” means a fire danger level reported as “Extreme” for an area that, as part of the Canadian Wildland Fire Information System (CWFIS), is published on the Department of Natural Resources (NRCAN) website or on any other Government of Canada website. If more than one danger level is shown for an area, the fire danger level for the area is the highest indicated level.
- “Fire season” means the period of time from April 1st to October 31st;
- “Locomotive” means “locomotive or engine” as defined in the “Railway Locomotive Inspection and Safety Rules”.
- “Qualified person” is as defined in the “Railway Locomotive Inspection and Safety Rules”.
- “Right-of-way” means railway operated right-of-way.

5.0 Requirements to Address Track Integrity during Periods of Extreme Heat

- companies must establish temperature thresholds for train speed restrictions and supplemental track inspection requirements. Requirements applicable to continuous welded rail must be contained in each company’s Continuous Welded Rail Management Plan

6.0 Locomotive Inspection Requirements

- 6.1 Companies must ensure the entire exhaust system of root blower locomotives is inspected and cleaned at intervals of 30 days by a qualified person. A record of the inspection needs to be retained for at least 90 days.
- 6.2 Companies must ensure that locomotives equipped with turbocharged engines have their entire exhaust system inspected and cleaned by a qualified person and that a record of the inspection is retained until the next required inspection. This has been completed at intervals of:
 - 92 days for turbocharged engines equipped with mechanical fuel injection
 - 184 days for turbocharged engines equipped with electronic fuel injection

7.0 Requirements for a Fire Risk Mitigation Plan for the Prevention of Fire on Railways Right-of-Way

- 7.1 Each company must develop and adhere to an Extreme Weather Fire Risk Mitigation Plan will be in effect during the fire season.
- 7.2 The Fire Risk Mitigation Plan must include, at a minimum, measures to:
 - a) Monitor fire risk levels;
 - b) Detect and report fires along the right-of-way including reporting by the public of fires on rights-of- way to railway companies;

- c) During periods of Extreme Fire Danger Levels, for each railway company that operates or maintains the line work, to manage vegetation, including the removal of combustible materials or debris from the right-of-way being generated through vegetation management activities;
- d) During periods of Extreme Fire Danger Levels, for each railway company that operates or maintains the line work, to mitigate fire hazards during line work maintenance activities; e.g., rail cutting, welding, rail grinding; and respond to fires resulting from such activities, if needed. Except in the case of emergencies or where required to maintain safe railway operations, mitigations may include restricting or stopping certain line work maintenance activities as appropriate;
- e) Assess conditions and implement appropriate mitigations during active fire events on or encroaching on the right-of-way to maintain safe railway operations, including adjustments to train operations; and
- f) Respond to detected or reported fires, which could include immediate action to suppress the fire, communication to and/or deployment of appropriate emergency response resources. Emergency response resources may include external parties such as first responders and/or fire services.

8.0 Fire Risk Mitigation Plan Review and Municipal and Other Levels of Local Government Input

- 8.1. Each company must have a process to review the Fire Risk Mitigation Plan at least every five years and update it as required.
- 8.2. The process must include a method for each railway company that operates or maintains the line work for which the plan applies, to receive safety related comments on the Fire Risk Mitigation Plan from relevant municipal and other levels of local government, including Indigenous communities, for the company's consideration. The method shall address the following requirements:
 - a) Communication of the Fire Risk Mitigation Plan to relevant municipal and other levels of local government, including Indigenous communities;
 - b) Provision of company contact information through a publicly accessible web site to receive safety related comments for consideration;
 - c) Consideration of comments received, including further engagement with commenter if necessary; and
 - d) Determination as to whether the Fire Risk Mitigation Plan requires modification.

In all cases, companies will acknowledge receipt and keep records of comments received for six years.

- 8.3. The process must include a method for each company to ensure that the Fire Risk Mitigation Plan is communicated to the railway company that operates or maintains the line work for which the plan applies.