



REASSESSMENT OF THE RESPONSE TO TSB RECOMMENDATION R03-02

National standards for locomotive data recorders

Background

On 19 January 1999, at approximately 0830 eastern standard time, VIA Rail Canada Inc. train No. 52 passed signal No. 2328S at Mile 232.8 of the Canadian National Kingston Subdivision at the Trenton Junction while it was indicating stop. The train subsequently passed through a main track switch, which was in the reverse position in a trailing point direction, and came to a full stop at Mile 232.17. There was no derailment, no injuries to passengers or crew, and no damage to property other than to the switch that was forced open by the train wheels as it passed through.

Beyond the benefits of voice and data recorder capabilities for the advancement of accident investigation, the Board believes that the safety deficiency related to the backup safety defences for signal communication is still not addressed and continues to pose a threat to the public. The existence of a continuous sound record in the locomotive cab, in combination with other on-board and wayside systems recorded data, can be considered as a possible solution to the issues raised in this occurrence. Had the locomotive event recorder (LER) in the controlling locomotive cab been equipped with voice recording capability, it may have been possible to determine more definitively the effectiveness of the crew's communications as they approached the occurrence location.

The Board concluded its investigation and released report R99T0017 on 25 July 2003.

TSB Recommendation R03-02 (July 2003)

Beyond the requirement for the installation of survivable LER systems on passenger and freight locomotives, there is a need for comprehensive national performance standards for LER to include specifications for performance (such as operational requirements and data items to be recorded), technical characteristics (including audio capabilities), and methods of testing.

Therefore, the Board recommended that

The Department of Transport, in conjunction with the railway industry, establish comprehensive national standards for locomotive data recorders that include a requirement for an on-board cab voice recording interfaced with on-board communications systems.

TSB Recommendation R03-02

Transport Canada's response to Recommendation R03-02 (October 2003)

A response from the Minister advised that Transport Canada will work with the Canadian rail industry, the TSB, and the Federal Railroad Administration (FRA), including the National Transportation Safety Board, to discuss and identify options and determine the advisability of the potential establishment of:

- 1) Comprehensive national standards addressing the survivability of Locomotive Event Recorders; and
- 2) Specifications for performance regarding the type of data recorded, which may include audio capabilities, and technological options available to the industry in order to interface with on-board communications systems.

Consultation with the FRA will also continue as harmonization with the U.S. regulatory requirements, whenever practicable, is important to facilitate the significant cross-border rail transport movements.

Transport Canada's response to Recommendation R03-02 (February 2004)

TC has finalized the Terms of Reference for the purposes of creating a Project Team on the development of national standards for addressing the survivability of locomotive event recorders and specifications for performance. These specifications will include the type of data recorded, which may include audio capability. The team will consist of representatives from TC, RAC, FRA, rail industry unions and others as required. The scope of the project will be to identify options and provide advice on the potential establishment of comprehensive national standards and may include:

- Identification of present regulatory requirements for LERs including survivability and specifications for the type of data recorded both in Canada and in the United States (U.S.);
- Identification of present and future regulatory requirements for event recorders, including audio capabilities, both in Canada and in the U.S.;
- Identification of present and future technologies available to the industry with regards to LERs, including survivability, type of data that can be recorded, audio capabilities and interface with on-board communications systems;
- Draft a final report identifying options and providing advice to TC and the rail industry on the potential establishment of comprehensive national standards for LERs; and
- Development of national safety standards on LERs by the industry.

The project was expected to commence in January 2004, however, due to operational urgencies at TC, it is expected that the project will now commence in the fall 2004. A draft report will be prepared by April 2005 by the project team with an anticipated completion date of December 2005. TC considers this recommendation open.

TSB assessment of Transport Canada's responses to Recommendation R03-02 (March 2004)

TC has indicated a partial acceptance of the recommendation, and has initiated a project to provide advice on the establishment of standards, however no policy or procedures yet as there is adamant rejection of the proposal from operating unions.

In consideration that TC has accepted the recommendation and is taking actions which may reduce the risks associated with the safety deficiency, the Board assesses the response to this recommendation as **Satisfactory in Part**.

Transport Canada's response to Recommendation R03-02 (December 2005)

The Project Team on the development of national standards for addressing the survivability of locomotive event recorders did not formally meet. However, following discussions between various stakeholders and as indicated in the update provided by TC in regards to TSB Recommendation R02-04, the U.S. DOT FRA published the Locomotive Event Recorders; Final Rule, 49 CFR, Part 229 which came into effect on October 1, 2005. TC has been in discussion with the RAC and have been informed that the RAC will be reviewing the FRA's rule in order to make modifications to the existing *Railway Locomotive Inspection and Safety Rules* which contain certain requirements in regards to locomotive event recorders. TC anticipates that revisions to the rules, which will include new design specifications and provisions regarding the survivability of data will be harmonized with the U.S. rule and will be submitted within a year. However, the Project Team will be meeting in 2006 to review the requirement for an on-board cab voice recording interfaced with on-board communications systems contained in TSB Recommendation R03-02 in order to make a recommendation to the Department. TC will keep the TSB informed on the progress of this issue.

TSB reassessment of Transport Canada's response to Recommendation R03-02 (December 2005)

The project team meetings are expected to continue in spring 2006. As the project team is assessing requirements related to the safety deficiency, but the outcome is not known, the Board maintains the assessment of response to this recommendation as **Satisfactory in Part**.

TSB reassessment of Transport Canada's response to Recommendation R03-02 (September 2006)

The last response (July 2006) indicated TC had no update at that time. As the project team is addressing the safety deficiency, but the outcome is not known, the Board maintains the assessment of response to this recommendation as **Satisfactory in Part**.

TSB reassessment of Transport Canada's response to Recommendation R03-02 (February 2008)

The Railway Association of Canada submitted their revised Railway locomotive Inspection and Safety Rules to Transport Canada. The revision was approved on 18 September 2007. This revision does not contain any reference to on-board cab voice recording interfaced with on-board communications systems.

As the revised Railway locomotive Inspection and Safety Rules are approved by Transport Canada and the Rules do not contain standards for on-board cab voice recording, the Board reassesses the response to this recommendation as **Unsatisfactory**.

Transport Canada's response to Recommendation R03-02 (February 2008)

The Locomotive Event Recorder working group composed of officials from TC, CN, CP, RAC, U.S. FRA, Teamsters and the UTU met on October 24, 2006. There was good discussion but no final decision at that time. TC is currently studying voice recording requirements for locomotive event recorders with the U.S. government and the rail industry. This recommendation remains open for TC.

TSB reassessment of Transport Canada's response to Recommendation R03-02 (March 2008)

In a meeting with TSB, TC advises that they are revisiting this issue with the parties to promote a positive outcome. However the outcome is not known, therefore the Board reassesses the response to this recommendation as **Satisfactory Intent**.

Transport Canada's response to Recommendation R03-02 (November 2009)

The RSA Working Group on Proximity/Operations is dealing with several recommendations, including Recommendation Number 44 that states: "Transport Canada should require the application of voice recorders on all new and existing locomotives, with survivability provisions similar to those for locomotive event recorders." There have been three meetings of the working group and at the last meeting of 26 August 2009, it was determined that the US Federal Railroad Administration (FRA) were not proceeding with the possible inclusion of voice recorders on new and existing locomotives in the USA. Therefore, in the interest of cross-border harmonization as well as possible privacy issues and that some unions are opposed, Transport Canada has decided not to proceed, but will continue working with the FRA to monitor benefits in the future.

Transport Canada's response to Recommendation R03-02 (January 2010)

TC will monitor developments in the U.S. TC will forward this issue to its new Audit/Risk Assessment group to review data and risk work done by FRA, and use Canadian data where possible to make assessment.

TSB reassessment of Transport Canada's responses to Recommendation R03-02 (September 2010)

Since TC has implemented some performance specifications for data collection, the Board assesses TC's response as **Satisfactory in Part**. However, the Board remains concerned that the notion of voice recordings as a valuable safety tool has not been implemented on the grounds of cross border harmonization.

Transport Canada's response to Recommendation R03-02 (March 2012)

The Minister has referred the issue of Locomotive Voice Recorders (LVRs) to the Advisory Council on Railway Safety (ACRS) for immediate consideration. ACRS will establish a LVR working group to study the issue and report on its progress and make recommendations to

ACRS. It is anticipated that a final recommendation would be made to the Minister within a year. Transport Canada (TC) established the ACRS to revitalize the rail safety consultative process between Transport Canada, the railway industry and unions, and to address future directions in rail safety, rule-making, regulation, policy and other strategic issues.

TSB reassessment of Transport Canada's response to Recommendation R03-02 (March 2012)

TC has referred the issue to the Advisory Council on Railway Safety (ACRS) in order to establish a working group involving all stakeholders. A final recommendation is expected within one year.

As the issue has not advanced beyond the existing performance specifications, the Board reassesses the response to Recommendation R03-02 to remain as **Satisfactory in Part**.

Transport Canada's response to Recommendation R03-02 (January 2013)

The ACRS working group examined and discussed among other topics, the positions of shortlines relating to voice recordings, outward/inward facing (instrument or crew) video; the privacy issues and limitations; the applicability/scope of the *CTAISB Act*; the costs; and the possible approaches (regulatory, voluntary, and exemptions/exceptions).

The working group reached consensus on a number of findings. Industry and union members obtained concurrence from their respective members/organizations with respect to the findings. The report was finalized in December 2012 and was sent to the Minister for consideration. The formal TC position will be finalized following comments from the Minister.

TSB reassessment of Transport Canada's response to Recommendation R03-02 (March 2013)

The issue of in-cab video and voice recorders was added to the TSB Watchlist in 2012, highlighting those issues that pose the greatest risk to Canadians.

The ACRS working group report concerning voice and video recorders was completed and has been forwarded to the Minister for consideration. The TSB acknowledges that the ACRS working group has completed its task, but neither the conclusions of this advisory council nor the final position of the Minister have been made public.

Until safety action is initiated, the Board reassesses the response to Recommendation R03-02 to remain as **Satisfactory in Part**.

Railway Association of Canada's response to Recommendation R03-02 (June 2013)

The only way to get a clear picture of what is transpiring inside the cab of the locomotive is to have both voice and video recorders installed inside the cab. Train crews are identified under the *Railway Safety Act* as Safety Critical positions. Monitoring the cab of a locomotive with audio and video surveillance for rule compliance should be done to optimize safety. The RAC feels the federal government should take an active and public position that specifically encourages and permits the use of such technology for both post-accident investigation and company managed safety performance monitoring.

Transport Canada's response to Recommendation R03-02 (January 2014)

On June 7, 2013, the study by the ACRS Working Group on Locomotive Voice and Video Recorders was released. The study calls for the voluntary installation of voice/video recording devices on locomotives by railway companies. At the same time, Transport Canada also wrote to the Railway Association of Canada and individual railway companies to strongly encourage the voluntary installation of recording devices. VIA Rail and Rocky Mountaineer Railway have committed to installing voice recorders on their entire fleet of locomotives.

Transport Canada is currently looking at encouraging the rail industry to voluntarily install locomotive voice and video recorders as a tool to monitor their safety management systems in a non-punitive manner. Regulation of such an SMS requirement may require legislative change.

Teamsters Canada Rail Conference's response to Recommendation R03-02 (March 2014)

The Teamsters Canada Rail Conference (TCRC), representing the on-board trains operating crews, appreciates the TSB recommendation concerning installation of voice/video recording devices (LVVRs) on locomotives. Notwithstanding privacy issues and individual rights, the LVVR may have value for safety in the industry. The TCRC is reviewing the proposal for LVVRs at their next meeting and expects to develop a position and policy on the matter in the near future.

Transport Canada's response to Recommendation R03-02 (May 2014)

The TCRC supports the implementation of LVVR on certain conditions. Where LVVR is clearly and demonstrably necessary and has probative value to enhance Canada's Rail Safety System, the TCRC will support its implementation on the condition that access to any data is controlled and restricted to the Transportation Safety Board (TSB).

Further and in addition, that the implementation of LVVR provides the necessary correct and required balance between the probative value of LVVR to enhance Rail Safety and the rights of the TCRC and its Members such as, *inter alia*, the right of privacy and freedom from workplace harassment, intimidation and discipline.

Rocky Mountaineer's response to Recommendation R03-02 (March 2014)

The Rocky Mountaineer fully supports the TSB recommendation on LVVRs. We firmly believe that LVVR devices provide powerful safety benefits. All locomotives will have fully functional forward facing cameras and microphones for exterior recording for April 2014. The in-cab wiring and infrastructure will also be installed for interior recordings, but interior cameras and microphones will not be in place pending issues to be settled with the on-board train crews.

VIA Rail's response to Recommendation R03-02 (March 2014)

VIA has voluntarily begun testing the installation of in-cab voice recorders. While this testing nears completion, we continue to actively discuss usage terms with our Locomotive Engineer Union. VIA plans to begin installation later this year.

TSB reassessment of the responses to Recommendation R03-02 (March 2014)

While Transport Canada is promoting voluntary installation of locomotive voice and video recorders as a tool to monitor railway operations in a non-punitive manner, the railways wish to use this technology to monitor employee compliance with rules and to take corrective measures. The railways may not agree to the expense of this technology if there are any restrictions on its use. The railways also have challenges with acceptance of this technology by their employees. TC has facilitated bringing the LVVR issue to the forefront with all stakeholders. There has been moderate success with the passenger service railways.

However, until additional definitive safety action is initiated, the Board continues to assess the response to Recommendation R03-02 as **Satisfactory in Part**.

Transport Canada's response to Recommendation R03-02 (February 2015)

TC will continue to look at encouraging the rail industry to voluntarily install locomotive video and voice recorders, and will explore the possibility of developing mandatory requirements with stakeholders.

Moreover, a joint TSB/TC safety study, in conjunction with key stakeholders, on Locomotive Voice and Video Recorders (LVVR) has been initiated.

The Locomotive Voice and Video Recorders study is planned as two phases:

- Phase 1: Assess the technological and operational aspects of on-board voice and video recordings; identify best practices; and evaluate implementation issues and collect information for future legislative, regulatory and/or rule changes. This phase is scheduled to begin in March 2015 and be completed by the fall 2015.
- Phase 2: Initiate legislative, regulatory and/or rule changes to reflect use of LVVR. The timing will be based on the results of the Phase 1 study.

Railway Association of Canada's response to Recommendation R03-02 (February 2015)

RAC has completed consultation on rules addressing the handling of LVVR if the system is used by industry. *The Rules Governing Locomotive Inward Facing Video and/or In-Cab Voice Recording (LVVR)* have been filed with TC. The purpose of these rules is to ensure railways with LVVR systems have appropriate controls in place. The rules do not mandate the use of LVVR. Industry and RAC are in discussion about guiding principles in order to participate in the LVVR Safety Study Project with the TSB and TC. CP, CN and VIA continue to evaluate opportunities to implement this technology. RAC and industry are calling for TSB/TC to change the current legislation to permit the expanded use of this technology.

Rocky Mountaineer's response to Recommendation R03-02 (March 2015)

The Rocky Mountaineer (RM) has installed LVVR (inward and outward) on its 5 lead locomotives. RM is waiting for guidance from the industry prior to activating this equipment.

TSB reassessment of the responses to Recommendation R03-02 (March 2015)

This recommendation is related to the TSB Watchlist issue of On-board video and voice recorders. Without a requirement for on-board video and voice recorders on locomotives, key

information to advance railway safety may not always be available. It is also related to recommendation R13-02, in which the Board recommended that the Department of Transport require that all controlling locomotives in main-line operation be equipped with in-cab video cameras.

The Board is pleased that Transport Canada and industry stakeholders have agreed to work collaboratively with the TSB on a joint study that will provide valuable information for the review of the legislative and regulatory framework governing on-board recorders.

However, in the absence of definitive commitments and plans to install on-board cab video and voice recorders that would be available for accident investigation purposes, the Board considers the response to the recommendation as **Satisfactory in Part**.

Transport Canada's response to Recommendation R03-02 (January 2016)

TC supports the ACRS Working Group's recommendation to install voice/video recording devices on a voluntary basis, and has written letters to individual railway companies and the Railway Association of Canada (RAC) urging the voluntary installation of recorders.

TC will continue to look at encouraging the rail industry to voluntarily install locomotive video and voice recorders and will explore the possibility of developing mandatory requirements with stakeholders.

A joint Transportation Safety Board of Canada (TSB) and Transport Canada (TC) project on Locomotive Voice and Video Recorders (LVVR) was initiated in May 2015.

The LVVR project consists of two phases:

- Phase 1: Assess the technological and operational aspects of on-board video and voice recordings; identify best practices; evaluate implementation issues and collect information for future legislative, regulatory and/or rule changes. This phase is scheduled to be completed by spring 2016.
- Phase 2: Initiate legislative, regulatory and/or rule changes to reflect use of LVVR. The timing for this phase will be based on the results of the Phase 1 study.

Railway Association of Canada's response to Recommendation R03-02 (January 2016)

The RAC and industry propose that LVVR be used for both post accident investigation and company managed prevention monitoring offering great safety benefits. CP and CN have been using this technology effectively in the United States. VIA continues to evaluate opportunities to implement this technology and has equipped over 20 locomotives with on-board voice recorders. In addition, GO Transit has developed and installed voice and video recorders on 4 locomotives as part of a pilot project. These recorders are planned to be installed on the rest of the GO Transit locomotive fleet later this year. The RAC and industry are calling for TSB/TC to change the current regulation.

TSB reassessment of the responses to Recommendation R03-02 (March 2016)

This recommendation is related to the TSB Watchlist issue of "On-board video and voice recorders." Without a requirement for on-board video and voice recorders on locomotives, key information to advance railway safety may not always be available. It is also related to Recommendation R13-02, in which the Board recommended that the Department of Transport

require that all controlling locomotives in main-line operation be equipped with in-cab video cameras.

The views of the railways and Transport Canada have not changed since last year. However, VIA and GO Transit have started to equip their locomotive fleets with on-board recorders. In addition, Transport Canada and industry stakeholders have been working collaboratively with the TSB on the joint LVVR study. This study will provide valuable information for the review of the legislative and regulatory framework governing on-board recorders. The LVVR study is progressing well and a draft report will be completed in spring 2016.

However, in the absence of definitive commitments and plans to install on-board cab video and voice recorders on a widespread basis, the Board considers the response to the recommendation as **Satisfactory in Part**.

Transport Canada's response to Recommendation R03-02 (February 2017)

This recommendation is linked to TSB Recommendation R13-02.

On 03 November 2016, the Minister of Transport publicly announced a commitment to mandate in Canada the installation and use of voice and video recorders in locomotive cabs as part of Transportation 2030 - A Strategic Plan for the Future of Transportation in Canada. This commitment is aligned with recommendations stemming from the recent review of the Canada Transportation Act, as well as the Standing Committee on Transport, Infrastructure and Communities Report "An Update on Rail Safety".

In addition, in September 2016, the Transportation Safety Board released its report on the results of a joint study with Transport Canada on the safety benefits and technical requirements for LVVR. The report summarized that LVVR would support proactive safety management by railway companies, as well as post-accident investigations. TC is currently developing legislation and regulations to not only require installation and use, but to protect the privacy of employees to the extent possible.

Railway Association of Canada's response to Recommendation R03-02 (March 2017)

The RAC feels the federal government should continue to take an active and public position that permits the use of such technology for both post-accident investigation and company managed safety performance monitoring. The RAC and industry are calling for TSB/TC to change the current regulations.

Railway companies need access to locomotive voice and video recorder data to help identify and mitigate risks before accidents occur. The RAC and industry will put robust rules and procedures in place to protect the data and ensure LVVR systems have appropriate controls.

TSB reassessment of the responses to Recommendation R03-02 (March 2017)

This recommendation is related to the TSB Watchlist issue of "On-board voice and video recorders." Without a requirement for on-board voice and video recorders on locomotives, key information to advance railway safety may not always be available. It is also related to Recommendation R13-02, in which the Board recommended that the Department of Transport require that all controlling locomotives in main-line operation be equipped with in-cab video cameras.

In September 2016, the Transportation Safety Board released its safety study report on LVVR. This safety study, which included participation from TC and key rail stakeholders (i.e., railways and unions), identified some best practices, identified and evaluated implementation issues, examined potential safety benefits of the expanded use of on-board recorders, and collected background information for the development of an action plan to implement LVVR. The report also highlighted that LVVR could support proactive safety management by railway companies, as well as post-accident investigations.

On 03 November 2016, the Minister of Transport publicly announced a commitment to mandate in Canada the installation and use of voice and video recorders in locomotive cabs. Following this announcement, TC is developing legislation and regulations to not only require installation and use of this technology for proactive safety management, but to protect the privacy of employees to the extent possible.

The Board considers the response to the recommendation to have **Satisfactory Intent**.

Transport Canada's response to Recommendation R03-02 (February 2018)

On November 3, 2016, the Minister of Transport publicly announced a commitment to mandate in Canada the installation and use of voice and video recorders in locomotive cabs as part of Transportation 2030 - A Strategic Plan for the Future of Transportation in Canada. This commitment is aligned with recommendations stemming from the recent review of the *Canada Transportation Act*, as well as the Standing Committee on Transport, Infrastructure and Communities Report "An Update on Rail Safety". In addition, in September 2016, the Transportation Safety Board of Canada released their report on the results of a joint study with Transport Canada on the safety benefits and technical requirements for Locomotive Voice and Video Recorders (LVVR). The report summarized that LVVR would support proactive safety management by railway companies, as well as post-accident investigations.

Bill C-49, the *Transportation Modernization Act*, is currently in the Senate and contains amendments to the *Railway Safety Act*, as well as consequential amendments to other Acts, that would require installation and use of LVVR, including limitations on the use of LVVR data to protect employee privacy. TC is in the process of developing policy options for LVVR regulations that would be developed subsequent to Royal Assent of the Bill. The regulations would contain further technical requirements respecting the LVVR equipment and would further enhance privacy protections for employees.

Railway Association of Canada's response to Recommendation R03-02 (January 2018)

The Railway Association of Canada (RAC) and industry are prepared to put robust rules and procedures in place to ensure LVVR systems have appropriate controls in order to protect LVVR data and employee privacy. The RAC affirms that company access to locomotive voice and video recorder data as part of Safety Management Systems, along with post-accident data, will offer great safety benefits. The RAC encourages the federal government to continue to progress the necessary legislation and regulation changes to permit the use of this safety technology for proactive safety management.

TSB reassessment of the responses to Recommendation R03-02 (March 2018)

This recommendation is related to the TSB Watchlist issue of on-board voice and video recorders. Without a requirement for on-board voice and video recorders on locomotives, key

information to advance railway safety may not always be available. It is also related to Recommendation R13-02, in which the Board recommended that the Department of Transport require that all controlling locomotives in main-line operation be equipped with in-cab video cameras.

In May 2017, the Minister of Transport tabled the proposed *Transportation Modernization Act*, (Bill C-49) in the House of Commons, which includes provisions for on-board recorders in locomotive cabs. Specifically, Bill C-49 contains amendments to the *Railway Safety Act*, as well as consequential amendments to other acts, that would require installation and use of LVVR, including limitations on the use of LVVR data to protect employee privacy. While Bill C-49 was being reviewed in the House of Commons and the Senate, TC started its review of policy options for LVVR regulations that would be developed subsequent to royal assent of the Bill.

The RAC and industry confirmed that they are prepared to put robust rules and procedures in place to ensure LVVR systems have appropriate controls in order to protect LVVR data and employee privacy.

The Board considers the response to the recommendation as having **Satisfactory Intent**.

Transport Canada's response to Recommendation R03-02 (February 2019)

Bill C-49, the *Transportation Modernization Act*, received Royal Assent on May 23, 2018. The Bill amended the *Railway Safety Act* (RSA) to mandate locomotive voice and video recording equipment in the locomotive cabs of Canada's federally regulated railways. TC is in the process of developing proposed LVVR regulations which would contain further technical requirements respecting the LVVR equipment, and would further enhance privacy protections for employees.

Formal stakeholder consultations were held in November and December 2018 with railway companies, unions, manufacturers, the Office of the Privacy Commissioner and the TSB. Proposed regulations would address recommendations made by the *Canada Transportation Act* Review Panel, and the House of Commons Standing Committee on Transport, Infrastructure and Communities. The proposed regulations are planned for pre-publication in the *Canada Gazette*, Part I, in June 2019 followed by a public comment period. Current plans for final publication are slated for Spring 2020.

Railway Association of Canada's response to Recommendation R03-02 (February 2019)

The Railway Association of Canada (RAC) and industry were pleased to see the passage of Bill C-49 in May 2018 which will require that LVVR systems be installed on controlling locomotives in Canada and require that railways use LVVR data as part of Safety Management Systems. RAC and the rail industry are of the opinion that this will provide important safety benefits if the regulations remain sufficiently flexible to allow for effective use under SMS; evolution of technology and cost-effective systems.

RAC is currently involved in communication with Transport Canada on the specific requirements to be included in the regulation.

TSB reassessment of the responses to Recommendation R03-02 (March 2019)

This recommendation is related to Recommendation R13-02, in which the Board recommended that the Department of Transport require that all controlling locomotives in main-line operation be equipped with in-cab video cameras.

With royal assent of Bill C-49, the *Transportation Modernization Act*, in May 2018, the *Railway Safety Act (RSA)* was amended to mandate the installation of locomotive voice and video recorders in the locomotive cabs of Canada's federally regulated railways. Bill C-49 also amended the *Canadian Transportation Accident Investigation and Safety Board Act* to permit the use of on-board recorders by Transport Canada (TC) and operators for proactive safety management purposes. Following this amendment, TC has been developing proposed LVVR regulations which will identify the technical requirements for the LVVR equipment and the privacy protections for employees. The proposed regulations will also address the related recommendations made by the *Canada Transportation Act Review Panel* and the House of Commons Standing Committee on Transport, Infrastructure and Communities.

Formal consultations with key stakeholders were held in November and December 2018. The proposed regulations are planned for pre-publication in the *Canada Gazette*, Part I, in June 2019. Following a public comment period, final publication of the regulations is planned for spring 2020.

The Railway Association of Canada continues to remain engaged with TC regarding the specific requirements to be included in the regulations.

The Board considers the response to Recommendation R03-02 as having **Satisfactory Intent**.

Transport Canada's response to Recommendation R03-02 (December 2019)

Bill C-49, the *Transportation Modernization Act*, received Royal Assent on May 23, 2018. The Bill amended the *Railway Safety Act (RSA)* to mandate locomotive voice and video recording equipment in the locomotive cabs of Canada's federally regulated railways.

TC developed proposed LVVR regulations which contained further technical requirements respecting the LVVR equipment, and would further enhance privacy protections for employees. Formal stakeholder consultations were held in November and December 2018 with railway companies, unions, manufacturers, the Office of the Privacy Commissioner and the TSB. In addition to addressing TSB recommendations R03-02 and R13-02, the proposed regulations would address recommendations made by the *Canada Transportation Act Review Panel*, and the House of Commons Standing Committee on Transport, Infrastructure and Communities. The proposed regulations were pre-published in the *Canada Gazette*, Part I on May 25, 2019. This was followed by a 60 day public comment period that ended on July 24, 2019. Stakeholder comments were reviewed and analyzed, and follow-up meetings have been held with the TSB and railway equipment manufacturers in order to confirm technical requirement feasibility. TC expects that the LVVR Regulations will be ready for final publication in the *Canada Gazette*, Part II in late Spring 2020.

Railway Association of Canada's response to Recommendation R03-02 (December 2019)

The Railway Association of Canada (RAC) and industry reviewed the proposed regulations in the *Canada Gazette*, Part I, and provided feedback and comments to Transport Canada (TC) regarding specific sections and requirements in the proposed regulations.

As previously mentioned, RAC & industry were pleased to see the passage of Bill C-49 in May 2018 and we are committed to working closely with TC and TSB as the proposed regulations are being finalized. However, we believe it is important to re-iterate that we have major concerns regarding the existence and costs of the technology that would be required in the technical specifications in the proposed regulations. Furthermore, we are concerned that the restrictions placed on the use of on-board voice and video recordings, will greatly limit the intended value and safety benefits in the context of proactive safety management and thus reduce positive safety improvements and the rail industry's efforts towards accident prevention. We offered, and remain available, to discuss in detail with TC the comments and feedback provided with the objective of finalizing the proposed regulations in a manner that delivers the full safety benefits intended by this legislation.

TSB reassessment of the responses to Recommendation R03-02 (February 2020)

This recommendation is related to Recommendation R13-02, in which the Board recommended that the Department of Transport require that all controlling locomotives in main-line operation be equipped with in-cab video cameras.

Bill C-49, which amended the *Railway Safety Act* to mandate the use of locomotive voice and video recording equipment on federally regulated railways, received Royal Assent on 23 May 2018.

With the passage of Bill C-49, Transport Canada (TC) developed proposed locomotive voice and video recorders (LVVR) regulations, which contained additional details on the technical requirements and further enhanced privacy protections for employees. Formal stakeholder consultations were held in November and December 2018. The proposed regulations were pre-published in the *Canada Gazette*, Part I on May 25, 2019. Following the 60 day public comment period, stakeholder comments were reviewed and analyzed. Additional follow-up meetings were then held with equipment manufacturers to confirm technical requirement feasibility.

TC expects that the LVVR Regulations will be ready for final publication in the *Canada Gazette*, Part II in late spring 2020. The Board considers the response to Recommendation R03-02 to show **Satisfactory Intent**.

Transport Canada's response to Recommendation R03-02 (January 2021)

In response to recommendations R03-02 and R13-02, TC's *Locomotive Voice and Video Recorder Regulations* (LVVR) were published in the *Canada Gazette*, Part II, on September 2, 2020 and will come into effect on September 2, 2022. On that date, federally regulated railways will be required to install locomotive voice and video recorder systems in the cabs of controlling locomotives.

The Regulations establish a national approach for installation of locomotive voice and video recorder systems and the use of the recordings by federally regulated railways, the TSB, and TC

and will improve rail safety, as well as the safety of the Canadian public by providing data about the causes and contributing factors of accidents or incidents and contributing to evidence-based regulatory decision-making.

The full text of the Regulations can be found at <http://gazette.gc.ca/rp-pr/p2/2020/2020-09-02/html/sor-dors178-eng.html>.

Railway Association of Canada's response to Recommendation R03-02 (January 2021)

As previously mentioned, the Railway Association of Canada (RAC) and industry were pleased to see the passage of Bill C-49 in May 2018 and we are committed to working closely with TC and the TSB during the implementation of the Locomotive Voice and Video Recorders (LVVR) as per the regulations which were passed in September 2020 and come into effect in 2022.

The railways continue to have concerns with respect to the relative safety benefit to be derived given the restrictions that have been placed on the use of LVVR.

Many of the concerns raised by railways, prior to and during consultation, in terms of implementation of the regulations in practical terms in context of railway operations have not been addressed.

The railways continue to have concern that the 2-year regulatory compliance timeframe, to equip all locomotive fleets will be challenging.

TSB reassessment of the responses to Recommendation R03-02 (March 2021)

The Board notes that, in 2018, the *Railway Safety Act* was amended to mandate locomotive voice and video recorder (LVVR) equipment in the locomotive cabs of Canada's federally regulated railways, including limitations on the use of such data to protect employee privacy. Subsequently, Transport Canada published the *Locomotive Voice and Video Recorder Regulations* in the *Canada Gazette*, Part II, on 02 September 2020; these regulations will come into effect on 02 September 2022.

The LVVR Regulations were developed to establish national standards for the installation of voice and video recorder systems in all the locomotive cabs of approximately 16 federally regulated railways, and to provide specific guidance on the use of the recordings by railway companies, the TSB and Transport Canada for the purposes of advancing transportation safety.

When the LVVR Regulations come into effect in 2022, the safety deficiency noted in Recommendation R03-02 will have been fully addressed.

Therefore, the response to Recommendation R03-02 is assessed as **Fully Satisfactory**.

Next TSB action

This deficiency file is **Closed**.