RAC Safety Culture Steering Committee Meeting

October 3, 2024

People. Goods.
Canada moves by rail.

Railway Association
of Canada

Competition Law Compliance Policy

STATEMENT

The RAC is committed to compliance with all **competition laws** applicable in Canada, including Canada's *Competition Act*.

Under the leadership of its Board of Directors, the RAC carries out its activities in strict compliance with all **competition laws**, provides guidance to its committees and its employees on how to comply with these laws, and promotes with them the importance and value to the RAC of complying with them.

The RAC Corporate Secretary ensures that RAC, its committees and its staff are familiar and comply with this policy.

COMPETITION LAW

Competition laws are designed to maintain and encourage competition in the marketplace. Non-compliance with the **competition laws** relating to improper coordination among competitors could constitute a criminal offence to which significant fines and prison terms can be attached, and for which significant damages can be awarded in private lawsuits, including large class actions.

RAC is a forum for railway members to exchange information and views on the railway sector. Particularly because RAC is an association that represents most of the players in the rail sector in Canada, including many that compete with one another, any activity it conducts must be in strict accordance with the **competition laws**, and avoid even the perception of possible improper conduct.

PROHIBITED ACTIVITIES

Due to the presence of multiple competing entities in RAC, any activity, including discussions or agreements that relate, directly or indirectly, to the following "**Prohibited Topics**" are strictly prohibited:

- ☐ Prices (rates) charged to shippers for services provided by members of the RAC
- ☐ Prices (costs) paid to suppliers for services provided to members of the RAC
- ☐ Any other conditions associated with services provided to shippers or received from suppliers of RAC members, including discounts, rebates, etc. and level of service provisions
- ☐ Customer or territory allocation
- ☐ Limitation of supply of services provided by RAC members to their customers

GUIDANCE

Any activity, including discussions or agreements that could even remotely be construed as relating to the above Prohibited Topics, cannot take place at the RAC or any of its committees or any meeting organized or attended by RAC staff, or otherwise among RAC members.

To ensure compliance with these rules, when meeting, members of a RAC committee or of the Board of Directors must:

- ☐ Have a pre-set agenda and take minutes, recording resolutions adopted and summarizing the essentials of conversations that took place.
- ☐ Limit themselves to issues identified on the agenda, except if circumstances call for other issues to be addressed, in which case careful notes of the additional issues discussed must be recorded.
- ☐ If any participant believes that Prohibited Topics have been raised or discussed, they must advise all participants of their concern and any discussion relating to that issue be ceased immediately pending legal advice.
- ☐ Require legal advice if any issue to be discussed might cause the members to believe that **competition laws** could be infringed.
- ☐ Suspend or even postpone to a later date discussions on such issues if legal advice cannot be sought in a timely manner.

Staff of the RAC shall in their duties ensure the confidentiality of information brought to their attention by members, avoid conflict of interest or situations that would discredit the RAC, unless doing so could violate the **competition laws**.

Updated May 3, 2021

RAC Safety Culture Steering Committee 03-2024
Thursday October 3, 2024
13:00-15:00 EDT

Item	Lead	Time
1. Administrative Items		
a. Opening Remarks	Lisa	13:00
b. RAC Competition Statement	Julia	13:05
c. Approval of Meeting Minutes	Lisa	13:10
d. Winter Meeting & Workshop	Ben/Julia	13:15
2. RAC Updates		
a. SCALE	Keri	13:25
b. 2024 Safety Culture Assessments	Bronson	13:30
c. Safety Culture Indicators	Sam	13:40
d. Committee Member Focus Group	Ben/Julia	13:50
e. ACRS Update	Julia	13:55
3. External Updates		
a. AAR	Jeff Moller	14:00
b. SLSI	Tom Murta	14:10
4. Steering Committee Member Roundtable	All	14:20
5. Other Business	Ben	14:40
6. Adjourn	All	15:00

RAC Safety Culture Committee Meeting 2024-02

Monday, June 17, 2024
Virtual Meeting

Meeting Minutes

Attendees

Lisa Smith, Cando – Chair
Bronson MacFarlane, RAC Consultant
Daniel Goodfellow, TTR
Johanne Delaney, RAC
Keri Harvey, RAC Consultant
Mike Lovett, SRY
Robert Tully, CPKC
Sam Berrada, RAC Consultant
Wes Kuzio, Universal Rail System

Jeff Moller, AAR
Kira Cailes, Great Canadian Railtour
Heather McKeown, URS
Pascale Villeneuve, VIA Rail
Ben Chursinoff, RAC
Paul Newsome, PDCR
Laurie Laronde, ONR
Jo Strang, ASLRRA
Julia Leone, SLSI

Special Guest: Virginie Papillault, International Union of Railways (UIC)

Absent

Greg Barney (CSX), Renota Dennard (NSCORP), Doug Dillon (PDCR), Benoit Gringas (exo), Becky Hamilton (CSX), Bruno Riendeau (VIA), Ryan Ringleman (BNSF), Sylvain Rodrigue (exo), Stéphane Tardif (GWRR), Jeff Livingstone (PDCR), Gurpreet Bola (Metrolinx), Mark Fleming (SMU), Michael Leonard (BNSF), Brian Hartlep (CN), Jenny Ho (Metrolinx), Tom Murta (Shortline Safety Institute), Gerald Linden (SRY)

Ben Chursinoff represented the RAC and supported Chair Lisa Smith – the meeting was called to order at 14:03 EDT.

1. International Union of Railways

Virginie Papillault, Manager of Human and Organisational Factors and Safety Culture at UIC spoke about their new approach titled Safety Culture Peer Review.

Peer Review is a tool to improve safety, quality, resilience, processes, and organization to help identify potential issues and vulnerabilities. It is used in risk industries such as nuclear, gas and oil, aviation, etc. Carried out by volunteer UIC members, a Peer Review aims at strengthening the effectiveness of safety culture and thus improving safety performance.

An 18-month Twinning European project coordinated by UIC began in January 2022 until June 2023 where they conducted three PE reviews in Europe at the Austrian Railway, Belgium Railway, and CFL in Luxembourg. It was a major gain for the team and Peer Reviewers.

A manual was created to raise awareness and help railway companies understand the objectives, added value, and benefits of conducting a safety culture peer review exercise.

The goal is to organize an annual plan of three to four exercises per year for the next four years (2024-2028).

The process of conducting and carrying out a peer review is to prepare the team and train the reviewer and team leader to use the European Railway Agency (ERA) safety culture model, which is a European reference safety culture model to give them an understanding of the fundamentals of safety culture. Outside of Europe, it will be the reference model of that country. Next is to define the scope, collect data, surveys, and interviews, analyze data, and finally, report the findings both written and verbal. All of this could take between two to three months.

To capture the company's safety organization, documents such as its safety culture model, charts, and leadership are key documents to have in advance.

2. **Administrative Items**

   RAC Competition Law Compliance Policy
   The Competition Guidelines, as adopted by the RAC Board of Directors, were read to the committee participants. The Guidelines are enclosed in the briefing book and explain that the policy emphasizes our organization's compliance with Canadian Competition Laws in all our meetings and activities.

   Approval of Meeting Minutes
   The April 3, 2024, meeting minutes were reviewed and unanimously approved by the Committee.

   Committee Transition
   It was announced at the committee meeting that going forward, the safety culture committee would be led by Julia Desmarais, RAC's Manager of Regulatory Affairs. Julia worked at CN for 16 years and has done work on safety culture. This transition will not impact the committee.

   Fall Meeting & Workshop
   The RAC will be hosting its annual conference on October 3 in Ottawa to bring industry leaders together and talk about different issues and challenges that are happening in the rail sector such as supply chain efficiency, effectiveness, innovation, technology, and of course, safety. It was recommended to hold the Fall steering committee meeting on October 2 in Ottawa.

   A safety culture workshop will take place at this committee meeting to identify and overcome barriers to culture changes. Discussions such as the assumptions made about planned changes, the role of the organizational/team dynamics, and building sustainability and creating an action plan. Case scenarios will be discussed in groups.

3. **RAC Updates**

   a. **Safety Culture Asynchronous Leadership Education (SCALE)**
      Keri Harvey, RAC Consultant gave the update.

      As mentioned at the last meeting, the pilot was completed in January 2024, with an overall positive perception of the scale pilot. 17 people across five organizations participated and collected. Based on the feedback, changes were made to the training

content. Soft launch started today, June 17 with 37 participants across three organizations participating. After the soft launch, SCALE will be edited based on feedback and made fully available to RAC members in 2025. The final version will be available for companies to enter their learning management system (LMS). The final version will be reviewed annually

b. **2024 Safety Culture Assessments**
Bronson MacFarlane, RAC Consultant updated the committee on RAC's 2024 assessments.

The team has done five assessments this year, three of which we're currently conducting, and two that we'll be conducting in the Fall.

The following assessments are done with qualitative data that focuses on the quality of the data instead of quantity for small railways and are currently in process.

- Great Western Railway – Survey completed. Writing report.
- A&B Rail Quebec – Being done in French. Survey underway.
- Universal Rail Atlantic – Assessment underway and combined with A&B.
- Hudson Bay Railway – Fall 2024 with qualitative assessment for a small railway.
- Tshiuetin Rail Transport – Fall 2024 with standard assessment.

Assessments are ramping up in 2024, suggesting that members are working to improve their safety culture.

c. **Safety Culture Indicators**
Sam Berrada, RAC Consultant, gave a high-level update on safety culture indicators.

Safety Culture Indicators provide companies with a process to obtain insight into their safety culture, complement safety culture assessments and reassessment processes, and align with the direction of industry and regulators. Indicators provide insight into specific areas of safety culture for a given company.

Document review is an element recently added to the safety culture indicators process and is aligned with SMS.

Transport Canada commissioned Dr. Mark Flemming to do a study, and the focus of this effort is to work with the common ground, the intersection between the indicators and the Mark Fleming report. Six potential shortlist indicators have been identified that are structured around three of the five safety culture dimensions which are leadership, learning, and employee engagement.

- Leadership – Increase the number of interactions. Increase understanding of real-life issues and enhance decision-making capabilities.
- Learning – Provides additional knowledge and perspectives. Opportunities to strengthen SMS.
- Employee Engagement – Looking at risk assessment. Provide insight from employees.

The next steps are to develop a practical approach for data collection, analysis, and interpretation, and to provide a process to members for piloting and sharing learnings.

d. Committee Member Focus Group
Ben Chursinoff gave the update.

At the last committee meeting, it was presented that RAC was seeking volunteers to participate in a focus group discussion. The purpose is to provide the RAC with feedback on where it can enhance support for members relative to safety culture. This was previously done back in 2020 and members provided great feedback which led to actions such as the development of the assessment guidance document, introducing the Peer Safety culture, sharing initiatives to facilitate member learning, and the development of a training initiative that is now known as scale, which will be undergoing a soft launch this week. It was proposed that a focus group discussion be scheduled in person on October 2 after the committee meeting and workshop. This is a chance for members to bring forward opportunities for improvement that can not only benefit themselves but other railways across Canada.

4. External Updates

a. American Association Railway (AAR)
Jeff Moller, American Association Railway delivered an update.

The National Transportation Safety Board (NTSB) will have a press release next week as they present their report on the Norfolk Southern Railway Train derailment and subsequent hazardous material release and fires in East Palestine. The Federal Railroad Administration (FRA) is looking at trade break modernization, which is a euphemism for Electronic Controlled Pneumatic brakes which are a type of railway braking system. They're also looking at wayside detectors. The NTSB issued new safety recommendations such as inspection intervals, emergency escape, and breathing apparatus. to protect crew members so they can get away from a hazardous material leak. This was proposed back in 2008. The FRA put out a recommendation document and has mandated it.

The FRA exerted discretion about hours of service and some drug and alcohol testing, and the AAR would hope they would do the same here, especially if the train is traveling at a low speed and a short distance, and so on.

Transport Minister, Peter Buttigieg has taken a personal interest in this issue and written letters to CEOs and two railroads have joined.

The Department of Justice proposed that they downgrade marijuana. The AAR will be facing the same challenges as Canadians have, especially because marijuana, unless there are other regulation changes, would be removed from the Federal drug testing panel.

Transportation Research Board will be releasing a study in the Fall that looks at the impact of longer trains from safety to customer, service to community impacts, and so on. The FRA has also been studying pneumatic brake performance. The most recent test involved a 230-car loaded train and travel from the Midwest out to the port of Seattle with instrumented FRA rail cars on it. They also mandated for three years to begin

reporting a lot of data about the length of a train when it is involved in a mishap. The AAR doesn't have a system in place to capture, let alone broadcast this information to the Central Repository, therefore, the carriers are struggling with how to do this. They want to know how long crossings are blocked, and how often a long train is involved in PTC abnormality.

   b. Shortline Safety Institute (SLSI)
   Julia Leone, Manager of Research and Organizational Development at Shortline Safety Institute, delivered the update.

   SLSI's first commuter rail safety culture assessment will be launched in July. Each assessment will now take two weeks to complete to observe all the different shifts and locations. SLSI is working with the railroad and planning.

   SLSI is hosting its second Annual Women's Only leadership development class in Denver in August. It will be a full class of 20 women with two days of leadership principles and a third day of integrating how leadership principles can work with safety culture and make everybody not just a leader, but a leader in safety on their property. SLSI participated in RAC's Women In Rail with positive feedback.

   Safety indicator research is something SLSI will explore further.

5. **Steering Committee Member Roundtable**
   VIA Rail is looking forward to the SCALE soft launch. Five candidates will participate. They will organize a meeting with them on Peer group meeting and will then evaluate as they are doing their VIA Academy, a program for leaders, and will return to the committee with feedback at the next meeting.

   VIA Rail's safety culture falls under one big umbrella of culture and safety. This prevents working in silos and helps with sharing different components of a culture.

6. **Other Business**
   No other business was discussed.

   The next committee aligns with the RAC's Annual Conference scheduled for October 3 in Ottawa. The committee discussed having a workshop. The Chair will discuss this further with Ben Chursinoff.

7. **Adjourn**
   The Chair thanked the coming members and presenters and adjourned the meeting at 3:45 pm ET.

Railway Association of Canada

Safety Culture Asynchronous Leadership Education (SCALE) — Update

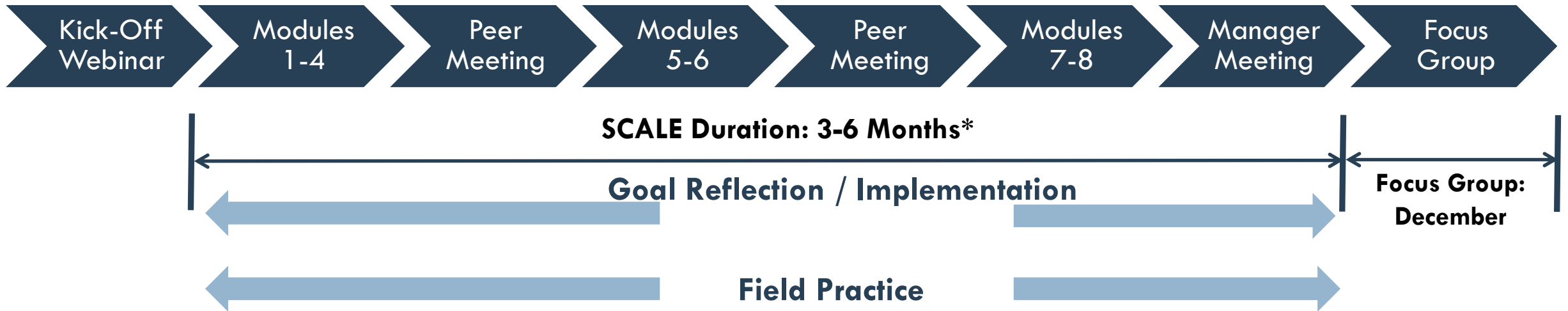PEOPLE. GOODS. CANADA MOVES BY RAIL.

SCALE Soft Launch

- Soft launch started in June

  - 36 participants from 3 organizations

- Monthly check-ins on Microsoft Teams

- Feedback:

  - Reduce reading by having more videos and voiceover

  - Tailor examples to reflect different levels of safety leaders (ex. supervisor versus management)

  - Difficult for some participants who do not work on the frontlines to create a safety goal

  - Some issues with saving module progress

SCALE Timeline for Pilot - Guidance

| Kick-Off Webinar | Modules 1-4 | Peer Meeting | Modules 5-6 | Peer Meeting | Modules 7-8 | Manager Meeting | Focus Group |

SCALE Duration: 3-6 Months*

Goal Reflection / Implementation

Field Practice

Focus Group: December

Milestones for SCALE Pilot Completion in 4 months*				
	Month 1 (July)	**Month 2 (August)**	**Month 3 (Sept.)**	**Month 4 (October)**
Modules	Modules 1-4 in progress.	Modules 1-4 completed. Modules 5-6 in progress	Modules 5-6 completed. Modules 7-8 in progress.	All modules completed.
Goal	Consider various Goal alternatives.	Narrow down Goal alternatives to 1 or 2.	Goal design and start implementation if possible.	Goal implementation.
Peer Meetings / Field Practice / Manager Meeting	Plan peer meetings. Field practice planning.	Hold peer meeting 1. Field practice when possible.	Hold peer meeting 2. Plan manager meeting. Field practice when possible.	Hold manager meeting. Field practice when possible.

* SCALE is designed to be completed within 3-6 months. The above table provides milestones for a 4 month completion of SCALE pilot.

SCALE Timeline

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2025 Q1	2025 Q2
End of pilot focus group	■													
Enhancements based on user input, RAC team, and training specialist	■	■	■											
Steering committee consultation				■										
Announce limited implementation to members				■										
Confirm list of participating companies					■									
Limited implementation goes live						■								
Participating companies complete SCALE implementation (3-6 months)							■	■	■	■	■	■		
End of limited implementation focus group													■	
Enhancements based on user input, RAC team, and training specialist													■	
Meet with taskforce to discuss full implementation													■	
SCALE available to RAC members for implementation														■

Railway Association of Canada

2024 Safety Culture Assessments

Great Western Railway

- Small railway assessment - qualitative survey, interviews, and document review

- Conducted in English

- Paper copy surveys

- Currently being completed (finalizing action plan)

A&B Rail Quebec

- Small railway assessment - qualitative survey, interviews, and document review

- Assessment conducted in French

- Electronic (unique link) surveys

- Combined in-house team with Universal Rail Atlantic (URS)

- Currently being conducted (action plan phase)

Universal Rail Atlantic

- Small railway assessment - qualitative survey, interviews, and document review

- Assessment conducted in English

- Electronic (unique link) surveys

- Combined in-house team with A&B Rail Quebec (URS)

- Currently being conducted (action plan phase)

Hudson Bay Railway

- Standard assessment – Quantitative survey, employee/supervisor focus groups, management interviews, and document review

- Assessment to be conducted in English

- Electronic survey

- Assessment launched September 2024

Tshiuetin Rail Transport

- Standard RAC assessment - Quantitative survey, employee/supervisor focus groups, management interviews, document review

- French and English assessment (primarily French)

- Paper copy surveys

- Assessment launched September 2024

Questions?

Contents

➢ Background

➢ Value and Context

➢ Approach used for development of safety culture indicators

➢ Safety culture indicators - examples

➢ Next steps

Annex 1 – Six potential safety culture indicators / metrics

Annex 2 – RAC report excerpts

Annex 3 – TC report excerpts

Background - Safety Culture Indicators

Background

- ✓ SC steering committee commissioned report on SC indicators in order to support members and complement the assessment / reassessment processes;

- ✓ RAC Report identified 27 indicators (refer to Annex 2), but these require development for use in an effective and consistent manner;

- ✓ Further development made in 2024 in consultation with RAC members and Dr. Fleming – 3 areas developed for implementation;

- ✓ Regulator is active in this area – TC commissioned Dr. Fleming to prepare report on SC indicators in 2023 – completed in 2024.

Safety Culture Indicators – Value and Context

Value of SC indicators:

✓ Indicators are designed to support members by providing insight into:

- Specific areas of SC;
- Changes in SC;
- Impact of initiatives.

✓ Complement SC assessment and reassessment processes

✓ Designed to help companies strengthen their safety culture and SMS

Context:

✓ For a company's internal use only – not for external use or comparison;

✓ Provide insight on SC – do not assess how "good" or "bad";

✓ Not a performance measure.

Safety Culture – Value of Each Process

PROCESS	ELEMENTS	PURPOSE
SC Assessment	1. **Perception survey** 2. **Focus groups / interviews** 3. **Document review**	1. **Baseline understanding of safety culture** 2. **Identification of strengths / opportunities** 3. **Enable company to develop action plan to strengthen SC**
SC Reassessment	1. **Focused perception survey** 2. **Focus groups**	1. **Understand how perceptions of safety culture have changed since prior assessment** 2. **Understand perceived effectiveness of company-specific initiatives** 3. **Opportunity to take focused actions to further strengthen safety culture**
SC Indicators*	1. **Selection of relevant indicators** 2. **Data collection / analysis** 3. **Interpretation**	1. **Obtain insight on specific aspects of SC** 2. **Understand impact of initiatives** 3. **Understand change / progress over time** 4. **Opportunity to take focused actions to further strengthen safety culture**

** Indicators provide insight on specific areas of safety culture for a given company. Indicators can not be viewed in isolation or utilized to make comparisons between different companies.

Safety Culture Indicators – Approach

- Selected 3 areas in consultation with members:
    - ✓ Leadership (field visits and safety training)
    - ✓ Employee engagement (risk assessments and development of procedures)
    - ✓ Learning (near-miss reporting)
- Indicators encompass effectiveness as well as quantity

- Developed approach / guidelines for progressing each area – refer to Annex 1
- Consistent with 5 SC dimensions and SMS
- Aligned with TC report (refer to Annex 3)

SC Indicators Example 1 – Employee Engagement

SC INDICATOR	PROCESS
Employee Engagement - **Risk Assessments Performed with Employee Engagement**	**Criteria:** a) Risk assessments (RA) performed in accordance with company process b) RA's should include: i) identification of hazards; ii) determine probability, severity and risk level; iii) determine risk mitigation actions; iv) Implement actions **Data Collection:** a) Collect data on number of risk assessments performed. b) Data should include the number / proportion of RA's which had meaningful* employee participation in each aspect (refer to 'criteria' part 'b' above) over specific time frame (e.g. quarterly or annually) for a given territory **Analysis:** a) Determine number / proportion of RA's with meaningful employee participation b) As an option: meaningful employee participation can be divided into the respective parts of the risk assessment (refer to 'criteria' part 'b' above) **Interpretation:** a) Increased employee engagement in risk assessments strengthens safety culture. b) There are many benefits to employee engagement in risk assessments: i) knowledge / insight from employees; ii) increased effectiveness and follow-up; iii) increased buy-in and motivation

* Meaningful participation generally means that participants are: i) engaged from the inception; ii) provided a fair opportunity to participate in risk assessment, to provide input in the analysis, identification of key issues, and development / implementation of actions / mitigations.

SC Indicators Example 2 – Learning

SC INDICATOR	PROCESS
Learning - **Near-Miss Reporting**	**Criteria:** a) The company should use its existing definition for a 'near-miss'. Generally it is *"a hazardous event or situation where the sequence of events could have caused an accident / incident if it had not been interrupted".* **Data Collection:** a) Near-miss data is to be collected by the company. b) This should include the number of near miss reports, as well as aspects which relate to effectiveness such as: *i) was the near miss report reviewed / analyzed? ii) did the report result in opportunities and actions to enhance safety; iii) was the employee provided with feedback (step 1: when the company received the report; and step 2: when the analysis / actions were completed)* **Analysis:** a) The number of near miss reports can be monitored over time (tabular or graphical) b) As an option, analysis can include the elements in 'data collection' part 'b' **Interpretation:** a) An increase in the number of near miss reports, and the effective handling of such reports, are indicators of increased learning opportunities; b) Near miss reports (number and effectiveness) are beneficial in a several respects: i) increases opportunities for the company to learn and improve its safety management system; ii) provides the company with employee knowledge / perspective

Safety Culture Indicators – Progress and Next Steps

Why progress SC indicators?

✓ Valuable to strengthen safety culture and SMS in railways

✓ Proactive approach and positive message considering TC's intention to update SMS Regulations

Steps to progress SC indicators:

1) Identify shortlist of Indicators common in TC and RAC Reports	→	2) Develop practical approach for data collection / analysis / interpretation	→	3) Provide process to members for piloting and sharing learnings

Progress achieved:

1) Identified shortlist of indicators;

2) Developed practical approach for data collection, analysis and interpretation:
   a) Low workload; b) simplicity; c) leverage company's systems;

3) Consulted with RAC members and Prof. Fleming

Next Step:

✓ Seeking RAC member(s) to pilot certain indicators – RAC to provide support

Annex 1

Proposed Safety Culture Indicators / Metrics

Safety Culture Indicators – Potential Short List

SAFETY CULTURE DIMENSION	SC INDICATOR / METRIC*
LEADERSHIP COMMITMENT	1. Leadership safety visits to field – quantity and effectiveness 2. Leaders trained in safety – training delivered and subsequent actions
LEARNING	1. Near miss reporting – quantity and effectiveness 2. Investigation causes / contributing factors – proportion and effectiveness
EMPLOYEE ENGAGEMENT	1. Work Procedures developed / implemented with meaningful** employee involvement 2. Risk Assessments performed with meaningful** employee involvement

* For each SC dimension two indicators / metrics have been identified (Annex 1) to provide insight and monitor progress – these are generally aligned with RAC and Transport Canada reports (refer to Annexes 2 and 3)

** The term "meaningful" is defined in the detailed process (next slides)

Safety Culture Indicators – Leadership Commitment

SC INDICATOR	PROCESS
Leadership Commitment – **Leadership safety visits to field**	**Criteria:** a) Leaders defined as 2 levels or more higher than line management* b) Field visits counted must be related to safety or cultural initiatives **Data Collection:** a) Collect data on number of leaders who have performed field visits over a specific time frame (e.g. quarterly or annually) for a given territory b) An indication of the quality / effectiveness of field visits can be assessed with criteria such as opportunities identified, follow-up performed, employee perceptions etc. **Analysis:** a) Number of leadership field visits to be monitored over time (tabular or graphical) b) As an option, monitoring can separate leadership levels (i.e. Level 1 = CEO and VP's; Level 2 = Below VP {must 2 be levels or more higher than line management}) **Interpretation:** a) Increased leadership field presence and quality of interactions are indicators of commitment. b) There are many benefits to increased and quality leadership field activities such as: i) increased interaction with employees, supervisors and managers; ii) increased understanding of real-life work environment and issues which will enhance decision-making; iii) positive message to organization and employees

* Note: Line supervisors and their immediate managers are normally expected to be present in the field as part of their responsibilities (e.g. proficiency testing, walkabouts etc.)

Safety Culture Indicators – Leadership Commitment

SC INDICATOR	PROCESS
Leadership Commitment – **Leaders trained in safety**	**Criteria:** a) Leaders defined as 2 levels or more higher than line management b) Training data collected must be related to safety or cultural content c) Training can be classroom or field **Data Collection:** a) Collect data on the number of leaders trained over specific time frame (e.g. annually) for a given territory b) An indication of effectiveness can be obtained by monitoring subsequent leadership actions such as perceptions, number / quality of field interactions, engagements in internal events (e.g. town hall meetings) and / or external events (e.g. safety conferences etc.) **Analysis:** a) Number of leaders trained in safety to be monitored over time b) As an option, monitoring can separate leadership levels (i.e. Level 1 = CEO and VP's; Level 2 = Below VP {must be 2 levels or more higher than line management}) **Interpretation:** a) Increased leadership training in safety is an indicator of commitment. b) There are many benefits to increased leadership safety training: i) increased knowledge and awareness; ii) increased understanding / awareness will enhance decision-making; iii) positive message to organization

* Note: Line supervisors and their immediate managers are normally expected to take safety training related to Regulations and company policy

Safety Culture Indicators – Learning

SC INDICATOR	PROCESS
Learning - **Near-Miss Reporting**	**Criteria:** a) The company should use its existing definition for a 'near-miss'. Generally it is *"a hazardous event or situation where the sequence of events could have caused an accident / incident if it had not been interrupted"*. **Data Collection:** a) Near-miss data is to be collected by the company. b) This should include the number of near miss reports, as well as aspects which relate to effectiveness such as: *i) was the near miss report reviewed / analyzed? ii) did the report result in opportunities and actions to enhance safety; iii) was the employee provided with feedback (step 1: when the company received the report; and step 2: when the analysis / actions were completed)* **Analysis:** a) The number of near miss reports can be monitored over time (tabular or graphical) b) As an option, analysis can include the elements in 'data collection' part 'b' **Interpretation:** a) An increase in the number of near miss reports, and the effective handling of such reports, are indicators of increased learning opportunities; b) Near miss reports (number and effectiveness) are beneficial in a several respects: i) increases opportunities for the company to learn and improve its safety management system; ii) provides the company with employee knowledge / perspective

Safety Culture Indicators – Learning

SC INDICATOR	PROCESS
Learning - **Investigations – Causes and Contributing Factors Identified**	**Criteria:** a) Accident / incident investigations need to be performed broadly using the principles of 'human and organizational factors'. Causes / contributing factors need to go beyond the employee behavior / error. **Data Collection:** a) Collect data on the number of accident / incident investigations performed over specific time frame (e.g. quarterly or annually) for a given territory. b) Collect data on the types of causes / contributing factors identified, as well as the numbers which are not related to human behavior / error. **Analysis:** a) Determine and monitor the number / proportion of investigations which have causes / contributing factors which are not related to employee behavior / error. b) An indication of effectiveness can be achieved by looking for evidence of employee involvement, quality and follow-up of remedial actions etc. **Interpretation:** a) An increase in the proportion of non-human behavior causes / contributing factors, and effectiveness of investigation provides the company with broader learning opportunities; b) An increase in the proportion of non-human behavior causes / contributing factors, and effectiveness of investigation is beneficial in a several respects: i) increases opportunities for the company to improve its safety management system; ii) enables the company to undertake effective actions / initiatives to strengthen their safety and culture

Safety Culture Indicators – Employee Engagement

SC INDICATOR	PROCESS
Employee Engagement - **Procedures / Process Development / Updates**	**Criteria:** a) "Procedures" encompass any work procedures, safety-related procedures, change-management procedures etc. b) Procedures should generally encompass development and implementation. **Data Collection:** a) Collect data on number / proportion of: i) procedures developed / updated over specific time frame (e.g. quarterly or annually) for a given territory. ii) procedures which had meaningful* employee participation **Analysis:** a) Determine number of procedures / proportion with meaningful employee participation b) As an option: meaningful employee participation can be divided into 'development' 'implementation' and 'follow-up' **Interpretation:** a) Increased / meaningful employee engagement strengthens safety culture. b) There are many benefits to increased / meaningful employee engagement in developing / implementing procedures: i) knowledge / insight from employees; ii) increased effectiveness and follow-up; iii) increased buy-in and motivation

* Meaningful participation generally means that participants are: i) engaged from the inception; ii) provided a fair opportunity to participate and provide input in the analysis and preparation of procedure, as well in related follow-up (e.g. implementation, validation etc.)

Safety Culture Indicators – Employee Engagement

SC INDICATOR	PROCESS
Employee Engagement - **Risk Assessments Performed with Employee Engagement**	**Criteria:** a) Risk assessments (RA) performed in accordance with company process b) RA's should include: i) identification of hazards; ii) determine probability, severity and risk level; iii) determine risk mitigation actions; iv) Implement actions **Data Collection:** a) Collect data on number of risk assessments performed. b) Data should include the number / proportion of RA's which had meaningful* employee participation in each aspect (refer to 'criteria' part 'b' above) over specific time frame (e.g. quarterly or annually) for a given territory **Analysis:** a) Determine number / proportion of RA's with meaningful employee participation b) As an option: meaningful employee participation can be divided into the respective parts of the risk assessment (refer to 'criteria' part 'b' above) **Interpretation:** a) Increased employee engagement in risk assessments strengthens safety culture. b) There are many benefits to employee engagement in risk assessments: i) knowledge / insight from employees; ii) increased effectiveness and follow-up; iii) increased buy-in and motivation

* Meaningful participation generally means that participants are: i) engaged from the inception; ii) provided a fair opportunity to participate in risk assessment, to provide input in the analysis, identification of key issues, and development / implementation of actions / mitigations.

Annex 2

Excerpts from RAC Report on SC Indicators*

* Report entitled *"Safety Culture Metrics / Indicators - Progress and Next Steps"*, prepared for RAC Safety Culture Steering Committee in 2019

RAC Report on SC Indicators

➢RAC report on safety culture indicators prepared in 2019 under direction from RAC SC steering committee

➢3 major categories of safety culture indicators:
  - ✓ Initiatives
  - ✓ Perceptions
  - ✓ Attributes / outcomes

➢Identified 27 potential indicators

➢Safety Culture is complex and intangible - multiple indicators required to provide broad and meaningful understanding

Railway Association of Canada | Association des chemins de fer du Canada

Safety Culture Metrics / Indicators -

Progress and Next Steps

Prepared by Sam Berrada

for

The Safety Culture Steering Committee
of the Railway Association of Canada

June 19, 2019

RAC Report on SC Indicators: Safety Culture Indicators - Categories

- 3 categories of indicators (I = Initiatives; P = Perceptions; A = Attributes / Outcomes)
- Table shows considerations for safety culture indicators, including:
    i) Predictive strength; ii) Workload; iii) 5 Safety Culture dimensions

ITEM	INDICATORS (see notes below)				SAFETY CULTURE DIMENSION vs INDICATOR STRENGTH (L,M,H)				
	INDICATORS REQUIRING LOW LEVEL OF ANALYSIS / INTERPRETATION	Category** (I, P, A)	Predictive Strength (L,M,H)	Estimated Workload (L,M,H)	LEADERSHIP	COMMUNICATION - TWO WAY	EMPLOYEE ENGAGEMENT	LEARNING CULTURE	JUST CULTURE
A	Leaders Trained in Safety Culture (% managers trained past 5 years, measured year over year)	I	M	L	M				
B	Employees participating in formal employee engagement program (number of employees as measured year over year)	I	M	L			M		
C	Leadership participation in key activities - e.g. field presence, safety committees, town hall meetings etc. (measured YoY)	I	M	L	M				
D	Self assessments / evaluations - e.g. self-evaluation in safety / culture, safety culture assessment, safety / culture benchmarking, follow-up actions etc. (initiatives and follow-up actions measured year over year)	I	M	L	M			M	
E	Risk Assessments Performed with Employee Involvement (measured year over year)	I, A	M	L	M		M	M	
F	Near miss reports (number measured year over year)	I, A	L	L	L		L	L	
G	Near miss investigations with employee engagement (number - measured year over year)	I, A	M	L			M	M	
H	Health and Safety committees - management actions and follow-up activities undertaken to achieve proactiveness / empowerment - e.g. training / support / coaching (measured year over year)	I, A	M	M	M			M	
I	Health and Safety committees - number / percentage that have developed substantive safety action plans (measured YoY)	I, A	M	M	M		M	M	
J	Formal employee recognitions (measured year over year)	I, A	M	L	M	L			M
K	Formal employee discipline (number of employees disciplined formally year over year; decreasing trend)	I, A	M	L	M				M
L	Rules Compliance (Measured year over year)	A	L	L					
M	All injuries (ratio measured year over year)	A	L	L					
N	All accidents (ratio measured year over year)	A	L	L					
O	Safety Culture perception survey	P	M	H	M	M	M	M	M

Safety culture indicators requiring further research / development:

|									
Q	Speed and Quality of management response to employee safety concerns (avg time per item, measured year over year)*	A	M	H	M	M		M	
R	Quality of feedback employees receive when they raise safety concern *	A	M	H	M	H			
S	Quality of employee peer observations*	A	H	H		M	H		
T	Involvement of employees in development of procedures *	I, A	M	L			H	M	
U	Effectiveness of corrective action process *	A	M	H	M			M	
V	Compliance with management of change process*	A	M	M	M			M	
W	Insight gained from management inspections / observations*	A	H	H	M			M	
X	Quality of near miss reports*	A	M	H	M		H	H	
Y	Health and Safety committees - quality of safety action plans *	A	H	H	M	M	H	M	
Z	Leadership safety performance measure (measures used?, changes over time etc.) *	I	M	M	M				
AA	Employee-led safety related decisions (capture informational and bottom-up engagement opportunities) *	I, A	H	H			H		
AB	Organization's ability to maintain focus on safety during changes (e.g. restructuring, productivity focus etc.)	I, A	M	H	H				

RAC Report on SC Indicators:
Safety Culture Indicators - Considerations

The following factors require consideration in the selection
of safety culture indicators:

- ✓ Predictive strength
- ✓ Workload / Analysis

Other Considerations:
- ✓ Data availability
- ✓ Complexity
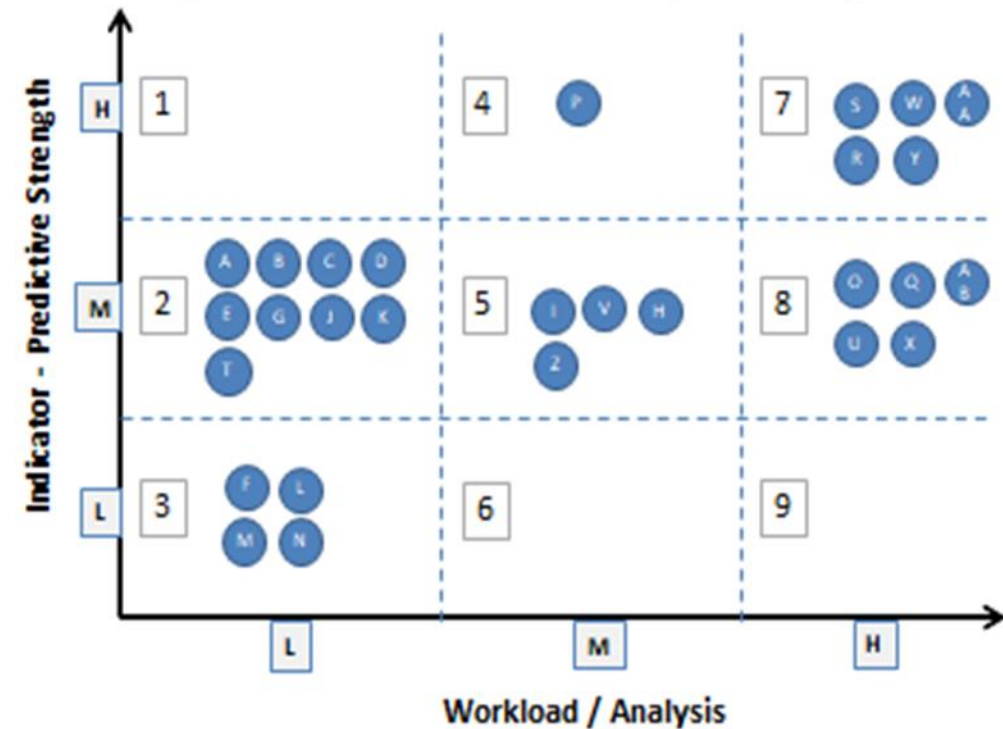
Annex 3

Excerpts from Safety Culture Report*
Prepared by Prof. Fleming for
Transport Canada

Note: the following slides only show certain excerpts from the Report – please refer to the Report for more details

Overview of Safety Culture Report by Prof. Fleming

- Research commissioned by Transport Canada

- Report prepared by Prof. Fleming in 2023

- Report highlights (refer to next slides)
  - ✓ Phase 1: Environmental scan identified 154 indicators
  - ✓ Phase 2: Evaluation of indicators resulted in shortlist of 29
  - ✓ Phase 3: Review / applicability of SC indicators and integration into SMS

SAFETY CULTURE: METHODS, PERFORMANCE MEASURES, AND LINKAGES WITH SAFETY MANAGEMENT SYSTEMS

FINAL REPORT

Prepared for Transport Canada

By: Dr. Mark Fleming and Ms. Rebecca Cairns
Saint Mary's University
tel: 902 420 5273
fax: 902 496 8287
e-mail: Mark.Fleming@smu.ca

Excerpts from Safety Culture Report by Prof. Fleming (cont'd)

- Report highlights:

  A. Effective indicators must:
    - ✓ be clear and specifically related to an aspect of safety culture,
    - ✓ capture real changes in the safety culture, and
    - ✓ practical to collect.

  B. Steps in creating indicators :
    1) Describing the aspect or element of safety culture the indicator is capturing;
    2) Considering how this aspect of safety culture is likely to be reflected in perceptions, processes, and practices;
    3) Identifying ways to capture changes in these perceptions, processes, and practices over time;
    4) Refining the indicators to ensure they are clear, directly related to changes in safety culture and practical to collect.

  C. Use of SC indicators requires organization to reliably collect, analyze and interpret data

  D. Shortlist of indicators and metrics (Annex A of TC Report) - requires development to implement

  E. "It may be possible to integrate indicators into Transport Canada's current SMS framework … could provide insight into SMS effectiveness".

Excerpts from Safety Culture Report by Prof. Fleming (cont'd)

Appendix A: Potential Metrics

Safety Culture Metrics Kept During Review Process	
Original Safety Culture Measure	**Proposed Metric**
Leaders attend safety training and participate in safety system reviews.	Change in % of leaders that participate in safety training Change in % of leaders that participate in safety system reviews
Speed of management response to employee safety concerns	Average response time for employee to receive a response to a safety concern, suggestion
The aging of action items related to risks determined to be in the category "reduce as soon as possible".	Average time it takes to resolve action items that are classified as a priority
Timely corrective and preventive actions are taken when deficiencies and hazards are detected.	Average time to implement corrective actions
The increase or decrease of total resources devoted to the PSMS in a fixed period. Resources in this context refer to budgets, numbers of persons with direct PSMS responsibilities, and contractors who perform important process safety duties. Because resource loads can vary over the year, this Indicator should be measured no more than semi-annually or annually.	Change in the budget allocated to SMS on a semi-annual basis Change in the number of employees allocated to SMS overtime using a three-year rolling average

Excerpts from Safety Culture Report by Prof. Fleming (cont'd)

Safety Culture Metrics Dropped During Review Process

Original Safety Culture Measure	Proposed Metric
The number of action items, such as recommendations from PHA/HIRA, incident investigations, audits, etc. that are overdue and aging.	Number of actions that are classified as overdue
Near miss reports (number measured year over year).	Number of near miss reports
The speed that an employee who has raised as safety concern receives feedback on the concern they raised is a reflection of the priority placed on safety.	Average time it takes to respond to employees who have submit a safety concern
Employees participating in formal employee safety engagement program.	Number of employees who participate in safety programs
	% of employees who participate in specific safety program
Near miss investigations with employee engagement.	% of investigations teams that include employees similar to those involved in the near miss

Leadership participation in key activities - e.g., field presence, safety committees, town hall meetings etc.	% of leaders completing required field visits on time
Formal employee discipline.	Number of employees disciplined formally for safety infractions
How many required training sessions are overdue and what is the aging of these overdue requirements?	Number of employees who are overdue required safety training
Rules Compliance.	% of rule compliance observed
Fatigue, resulting from excessive overtime, can lead to conditions conducive to normalization of deviance.	Number of employees working overtime
Average response time to the resolution of a process safety suggestion.	Average time it takes to respond to employees who have submit a safety concern
Manager attendance at management review meetings.	% of invited managers attending safety review meetings

Excerpts from Safety Culture Report by Prof. Fleming (cont'd)

Appendix B: Safety Culture Indicators for Each Attribute

Transport Canada Safety Culture Framework and Attributes**	Indicators
Leadership and a commitment to safety culture • Showing leadership's commitment to safety at the executive and senior level, and by line management. • Having safety as a core value at all levels • Making resources available to address safety. • Building safety into all levels of the company through policies, processes, procedures, goals and projects.	○ Leadership seeks to exceed the minimum established regulatory expectations. ○ The quality of the feedback an employee receives reflects the priority managers places on safety. Ideally employees would be contacted directly by the manager responsible, thanked for raising the concern and told what actions are going to be taken and the timeframe for completion.
Two-way communication • Supporting communication between management and employees (such as safety meetings, town hall meetings, safety forums, briefings, mentoring, performance reviews). • Improving employee awareness and understanding of safety (through newsletters, communiqués, brochures, safety flashes, training).	○ Hazards, risks, and related controls are communicated throughout the organization and beyond (contractors, suppliers, providers of service, etc.).
Involving stakeholders, employees and employee representatives • Involving stakeholders, employees and employee representatives in risk assessments and investigations.	○ Involvement of employees in development of procedures ○ Employees participate in setting safety standards and rules. ○ Employees participate in the investigation of incidents, including near misses. ○ Employee-led safety related decisions (capture informational and bottom-up engagement opportunities).

Excerpts from Safety Culture Report by Prof. Fleming (cont'd)

- Letting stakeholders, employees and employee representatives participate in safety site visits, walkabouts, audits, etc.
- Creating empowered and proactive health and safety committees.

A learning culture

- Always trying to improve through internal and external reviews.
- Monitoring safety trends (such as trend analysis)
- Using leading indicators (such as near-misses, audit results, rule violations, health and safety effectiveness).

- Safety performance indicators are tracked, trended, evaluated, and acted upon.
- Incident investigation aims to identify the failed system defenses and improve them.
- Quality of near miss reports
- Sophisticated information systems are used to collect and analyze data from a range of internal sources (e.g.: incidents, hazard reports, maintenance system data, inspections, audits, and reviews).
- All issues identified by investigations are resolved in a timely manner across the organization. The effective implementation of improvement actions is tracked.
- Risk assessments are conducted, and mitigation measures are developed, implemented, and assessed for effectiveness.
- Near misses or close calls are free lessons and provide organizations with great opportunities to learn. The nature and quality of near miss reports is a reflection of the culture. High quality near miss reports are those that provide detailed description of an event including personal failure that may not have been detected by other means.

Clear accountability for safety

- Recognizing that skilled people can make mistakes.

- There is robust oversight and monitoring of contractor performance, including direct surveillance and auditing of adherence to obligations as noted in all bridging documents.

• Accepting that everyone has a role to play when it comes to safety. • Clearly defining, documenting and making sure that employees understand the roles and responsibilities for all levels and positions in the organization.	○ Clear delegation of roles, responsibilities, authorities and accountabilities for health and safety are aligned and integrated into the operation of the organization. ○ Those with responsibilities for health and safety are motivated and held accountable for performance in-line with systems and methods used for other parts of the business.
A just (fair) culture • Encouraging and recognizing employees through company policies. • Creating an internal escalation process for unresolved health and safety issues. • Offering an internal recourse process for employees to deal with safety issues (such as safety ombudsman). • Investigating accidents and incidents without placing blame.	○ Employees are clear that they will be treated fairly if they are involved in a near miss or incident. ○ Mistakes, errors, and mental lapses are treated as an opportunity to learn rather than find fault or blame. ○ Personnel (regardless of position) report feeling empowered to stop work and/or suspend operations as the first line of defense against an incident.
Complacency (a false sense of security) • Assuming that all parts of safety are improving, which may not be true. • Being overly sure of safety system and its performance. • A reactive (instead of proactive) approach to safety.	**No indicators retained.**
Productive pressure (tension between safety and production) • Failing to assign resources to safety precautions.	○ The potential for conflict between health and safety and other business objectives is acknowledged and minimized and there is a process for resolving conflicts.

Excerpts from Safety Culture Report by Prof. Fleming (cont'd)

• Trading safety margins to save time. • Applying pressure to limit production delays.	○ Timely corrective and preventive actions are taken when deficiencies and hazards are detected.
Normalization of Deviance • Believing that non-compliance is okay. • Managers may approve of or ignore this behavior if performance improves.	○ Evidence that hazards and risks are disregarded in HA/HIRA, MOC and operational readiness.
Tolerating poor systems and resources • "Making do" with poor systems and resources. • Not recognizing the value of safety systems and resources. • Failing to provide enough human and financial resources, and skills to manage risks.	○ Personnel are able to provide multiple examples of proactively receiving adequate resources to resolve safety issues once identified.

** Transport Canada's Safety Culture Framework as stated by *"Policy Statement on Transport Canada's Rail Safety Culture"*.[9]

Background

Background

> In the context of continuous improvement and a dynamic operating and regulatory environment, the RAC endeavors to consult with members to strengthen the safety culture initiative;

> Focus group held December 2020 – identified several opportunities:
> - Leadership training
> - Guidance document on safety culture
> - Communication / awareness documents
> - Sharing initiatives and best practices

> Intention to organize a focus group before year end to consult with SC steering committee members

Objectives

Objectives

➢ Enhance the effectiveness of the RAC safety culture initiative to optimize support to members

➢ Organize focus group to consult with members to identify improvement opportunities in the following areas:

  ✓ Assessment and reassessment process

  ✓ Action plan development

  ✓ Documentation and resources

  ✓ RAC SC initiative broadly – what are the strengths, opportunities and gaps?

  ✓ Identify how the RAC can best support railway's safety culture journeys.

Next Steps

➤ Focus group:

  ✓ To be scheduled between end of November and early December

  ✓ Duration: 2 hours

➤ Identify volunteers (around 5) to participate in focus group:

  ✓ Everyone is welcome to participate, but members having experienced a SC assessment or reassessment would be valuable

What We Heard Report

**A summary of feedback from the RAC Safety Culture Focus Group
held December 3rd, 2020**

Executive Summary

On December 3, 2020 a two-hour long safety culture focus group was held with representatives from Cando Rail, CP Rail, Genesee & Wyoming Railway, Prairie Dog Central Railway, Southern Railway of British Columbia, and VIA Rail; providing a broad range of railway experiences with differing operations and perspectives. The RAC Safety Culture Team facilitated the discussions.

The objectives for the session were to:

➢ Consult about challenges and opportunities relative to pursuing the journey to assess and strengthen safety culture for the railway industry;
➢ Solicit feedback on the RAC Safety Culture Improvement Initiative
➢ Identify any gaps in the initiative; and
➢ Identify how the RAC can best support railway's safety culture journeys.

To begin the session, a presentation overview of the Safety Culture Improvement Initiative was provided to participants. The presentation provided information on the governance model of the initiative, the safety culture assessment process, leadership training, the compendium of best practices and tools, and safety culture research efforts (e.g., safety culture indicators and short-focused survey). Afterwards, discussion questions were presented to the focus group to help guide conversation. The four discussion questions were:

1. What are your key opportunities and challenges in advancing safety culture?
2. What support do you need to achieve this?
3. What can the RAC do to better support its members in advancing safety culture?
4. How can railway members best support each other in advancing safety culture?

The focus group was productive with the identification of several opportunities which can be advanced to help members strengthen their safety culture. The focus group prioritized the following items for development.

1) Leadership / Management Safety Culture Training

Participants reported that the differing levels of knowledge or understanding of safety culture amongst senior railway leaders is a challenge to advancing safety culture. An integral factor in developing a strong safety culture is having leadership commitment and buy-in, which encompasses having a good comprehension of what safety culture is. Discussions also indicate that companies are challenged by ensuring that leaders have the support and skills needed to be effective leaders (e.g., knowing how to intervene and understanding how to successfully establish relationships with employees). Additionally, it is perceived that changes amongst leadership can cause discontinuities in an organization's safety culture progression, therefore ensuring that safety culture training is available is key for maintaining knowledge and onboarding new personnel. This speaks to the need for the RAC to continue with leadership and safety culture training opportunities for railways.

2) Guidance Document on Advancing Safety Culture

Railway members suggested that further support for the safety culture journey be provided in the form of a safety culture standard, or guidance document, which explains the characteristics of a strong safety culture and outlines a practical approach for members to progressively

strengthen safety culture. This guidance document would describe the behaviours and characteristics associated with a strong safety culture, how companies can define and brand their culture, and identify best practices which can be used and adapted to make progress while suiting individual company needs.

3) Safety Culture Resource Information and Communication / Awareness Document

Enhancing and increasing communications to RAC members about safety culture resources and best practices was identified as a need. Members felt that they don't necessarily have a good knowledge or easy access to such information. As well, members suggested that a robust communication / awareness document be developed to help them raise the level of knowledge and awareness of safety culture in their company.

4) Peer Review Process

A peer review process for sharing initiatives and best practices amongst RAC members was suggested to facilitate and encourage peer learning and exchange. It was identified that the RAC is in a position to develop and facilitate this amongst its membership. This would allow railways to see what initiatives other railways have implemented relative to safety culture, thereby enabling peer support and learning.

Proposed Next Steps

Based on the feedback from the focus group, the Safety Culture Team proposes to address the priority findings through four buckets. These buckets are sufficiently broad in scope to address most of the feedback; however, it is important to note that not all feedback may be addressed through these initiatives. The work will continue to evolve as initiatives are completed and additional feedback is received.

The Safety Culture Team will be working in the following areas in 2021 to increase the support available to RAC members to assist with their respective safety culture journeys. This development effort will include consultation with members to ensure that deliverables are aligned with needs and opportunities.

1. **Leadership / Management safety culture training**
   - **Action:** The Safety Culture Team will produce a roadmap of training offerings in Q1 2021.

2. **Safety culture resources and communication / awareness document**
   - **Action**: Two deliverables will be developed:
     - a) a document detailing resources available to members; and
     - b) a safety culture communication / awareness document.

     Both will be developed along with a communication strategy in Q1 2021 by the Safety Culture Team.

3. **Developing a safety culture guidance document for members**
   - **Action:** Development of a guidance document to begin after completion of item #2, in collaboration with industry, targeted for Q2 2021.

4. Develop peer review process for sharing of best practices
- **Action:** Item to be included in 2021 RAC work plan for Q3.