SASB STANDARDS
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Rail Transportation

Sustainability Accounting Standard

TRANSPORTATION SECTOR

Sustainable Industry Classification System® (SICS®) TR-RA

Under Stewardship of the International Sustainability Standards Board

INDUSTRY STANDARD | VERSION 2023-12

IFRS Sustainability

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ABOUT THE SASB STANDARDS

As of August 2022, the International Sustainability Standards Board (ISSB) of the IFRS Foundation assumed responsibility for the SASB Standards. The ISSB has committed to maintain, enhance and evolve the SASB Standards and encourages preparers and investors to continue to use the SASB Standards.

IFRS S1 *General Requirements for Disclosure of Sustainability-related Financial Information* (IFRS S1) requires entities to refer to and consider the applicability of disclosure topics in the SASB Standards when identifying sustainability-related risks and opportunities that could reasonably be expected to affect an entity's prospects. Similarly, IFRS S1 requires entities to refer to and consider the applicability of metrics in the SASB Standards when determining what information to disclose regarding sustainability-related risks and opportunities.

In June 2023, the ISSB amended climate-related topics and metrics in the SASB Standards to align them with the industry-based guidance accompanying IFRS S2 *Climate-related Disclosures*. In December 2023, the ISSB amended the non-climate-related topics and metrics in connection with the International Applicability of SASB Standards project.

Effective Date

This version 2023-12 of the Standard is effective for all entities for annual periods beginning or after January 1, 2025. Early adoption is permitted for all entities.

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INTRODUCTION

Overview of SASB Standards

The SASB Standards are a set of 77 industry-specific sustainability accounting standards ("SASB Standards" or "Industry Standards"), categorised pursuant to the Sustainable Industry Classification System® (SICS®).

SASB Standards include:

1. **Industry descriptions** – which are intended to help entities identify applicable industry guidance by describing the business models, associated activities and other common features that characterise participation in the industry.

2. **Disclosure topics** – which describe specific sustainability-related risks or opportunities associated with the activities conducted by entities within a particular industry.

3. **Metrics** – which accompany disclosure topics and are designed to, either individually or as part of a set, provide useful information regarding an entity's performance for a specific disclosure topic.

4. **Technical protocols** – which provide guidance on definitions, scope, implementation and presentation of associated metrics.

5. **Activity metrics** – which quantify the scale of specific activities or operations by an entity and are intended for use in conjunction with the metrics referred to in point 3 to normalise data and facilitate comparison.

Entities using the SASB Standards as part of their implementation of ISSB Standards should consider the relevant ISSB application guidance.

For entities using the SASB Standards independently from ISSB Standards, the *SASB Standards Application Guidance* establishes guidance applicable to the use of all Industry Standards and is considered part of the Standards. Unless otherwise specified in the technical protocols contained in the Industry Standards, the guidance in the SASB Standards Application Guidance applies to the definitions, scope, implementation, compilation and presentation of the metrics in the Industry Standards.

Historically, the *SASB Conceptual Framework* set out the basic concepts, principles, definitions and objectives that guided the SASB Standards Board in its approach to setting standards for sustainability accounting.

Use of the Standards

SASB Standards are intended to aid entities in disclosing information about sustainability-related risks and opportunities that could reasonably be expected to affect the entity's cash flows, its access to finance or cost of capital over the short, medium or long term. An entity determines which Industry Standard(s) and which disclosure topics are relevant to its business, and which associated metrics to report. In general, an entity should use the SASB Standard specific to its primary industry as identified in SICS® . However, companies with substantial business in multiple SICS® industries should refer to and consider the applicability of the disclosure topics and associated metrics in additional SASB Standards.

The disclosure topics and associated metrics contained in this Standard have been identified as those that are likely to be useful to investors. However, the responsibility for making materiality judgements and determinations rests with the reporting entity.

Industry Description

Rail Transportation industry entities provide rail freight shipping and support services. Important activities include shipping containerised and bulk freight, including consumer goods and commodities. Rail entities typically own, maintain and operate their rail networks, which may require significant capital expenditures. The industry exhibits economies of density because of its network effects, potentially fostering natural monopoly conditions. Together with the large sunk costs of rail infrastructure, this provides a competitive advantage to incumbent entities in the industry and creates barriers to entry for new entities.

Note: The scope of the Rail Transportation industry does not include passenger rail transportation.

SUSTAINABILITY DISCLOSURE TOPICS & METRICS

Table 1. Sustainability Disclosure Topics & Metrics

TOPIC	METRIC	CATEGORY	UNIT OF MEASURE	CODE
Greenhouse Gas Emissions	Gross global Scope 1 emissions	Quantitative	Metric tonnes (t) CO_2-e	TR-RA-110a.1
	Discussion of long- and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Discussion and Analysis	n/a	TR-RA-110a.2
	Total fuel consumed, percentage renewable	Quantitative	Gigajoules (GJ), Percentage (%)	TR-RA-110a.3
Air Quality	Air emissions of the following pollutants: (1) NO_x (excluding N_2O) and (2) particulate matter (PM_{10})	Quantitative	Metric tonnes (t)	TR-RA-120a.1
Workforce Health & Safety	(1) Total recordable incident rate (TRIR), (2) fatality rate, and (3) near miss frequency rate (NMFR) for (a) direct employees and (b) contract employees	Quantitative	Rate	TR-RA-320a.1
Competitive Behaviour	Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behaviour regulations [1]	Quantitative	Presentation currency	TR-RA-520a.1
Accident & Safety Management	Number of accidents and incidents	Quantitative	Number	TR-RA-540a.1
	Number of (1) accident releases and (2) non-accident releases (NARs) [2]	Quantitative	Number	TR-RA-540a.2
	Number of rail safety standard defects cited by relevant authorities that may result in fines or other penalties by jurisdiction	Quantitative	Number	TR-RA-540a.3
	Frequency of internal railway integrity inspections [3]	Quantitative	Rate	TR-RA-540a.4

Table 2. Activity Metrics

ACTIVITY METRIC	CATEGORY	UNIT OF MEASURE	CODE
Number of carloads transported[4]	Quantitative	Number	TR-RA-000.A

continued...

1 Note to **TR-RA-520a.1** – The entity shall briefly describe the nature, context and any corrective actions taken because of monetary losses.

2 Note to **TR-RA-540a.2** – The disclosure shall include a discussion of the entity's processes and procedures to manage non-accident and accident releases.

3 Note to **TR-RA-540a.4** – The disclosure shall include, where relevant, a discussion of rail maintenance practices, operating measures and technologies that the entity implements in addition to inspections.

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ACTIVITY METRIC	CATEGORY	UNIT OF MEASURE	CODE
Number of intermodal units transported[5]	Quantitative	Number	TR-RA-000.B
Track kilometres[6]	Quantitative	Kilometres	TR-RA-000.C
Revenue tonne-kilometres (RTK)[7]	Quantitative	RTK	TR-RA-000.D
Number of employees	Quantitative	Number	TR-RA-000.E

[4] Note to **TR-RA-000.A** – The scope of disclosure includes all carloads the entity transported in conjunction with the shipping of freight (including freight not containerised) for its customers.

[5] Note to **TR-RA-000.B** – Intermodal units include shipping containers and truck trailers that can be transported across modes of transportation.

[6] Note to **TR-RA-000.C** – Track kilometres include route kilometres (the total extent of routes available for trains to operate) and consider multiple track routes such that each route kilometre with double track is considered two track kilometres.

[7] Note to **TR-RA-000.D** – A revenue tonne-kilometre (RTK) is defined as one metric tonne of revenue traffic transported one kilometre. Revenue tonne-kilometres are calculated by multiplying the kilometres travelled on each leg by the number of metric tonnes of revenue traffic carried on that leg.

Greenhouse Gas Emissions

Topic Summary

The Rail Transportation industry generates emissions mainly through the combustion of diesel in locomotive engines. Despite relatively low emissions compared to other transportation industries, fuel management has implications for industry entities in terms of operating costs and regulatory compliance. Greenhouse gases (GHGs) including carbon dioxide (CO_2) are of particular importance to government regulators concerned about climate change. Intensifying regulation of locomotive exhaust emissions and high fuel costs encourage rail entities to invest in fuel efficiency enhancements to manage emissions. These investments can improve an entity's operational efficiency and cost structure, with effects on value and competitive position both within the industry and compared to other modes of transport.

Metrics

TR-RA-110a.1. Gross global Scope 1 emissions

1 The entity shall disclose its gross global Scope 1 greenhouse gas (GHG) emissions to the atmosphere of the seven GHGs covered under the Kyoto Protocol—carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF_6), and nitrogen trifluoride (NF_3).

1.1 Emissions of all GHGs shall be consolidated and disclosed in metric tonnes of carbon dioxide equivalents (CO_2-e) and calculated in accordance with published 100-year time horizon global warming potential (GWP) values. To date, the preferred source for GWP values is the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (2014).

1.2 Gross emissions are GHGs emitted into the atmosphere before accounting for offsets, credits or other similar mechanisms that have reduced or compensated for emissions.

2 Scope 1 emissions are defined and shall be calculated according to the methodology contained in *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard* (GHG Protocol), Revised Edition, March 2004, published by the World Resources Institute and the World Business Council on Sustainable Development (WRI/WBCSD).

2.1 Acceptable calculation methodologies include those that conform to the *GHG Protocol* as the base reference, but provide additional guidance, such as industry- or region-specific guidance. Examples may include:

2.1.1 *GHG Reporting Guidance for the Aerospace Industry* published by the International Aerospace Environmental Group (IAEG)

2.1.2 *Greenhouse Gas Inventory Guidance: Direct Emissions from Stationary Combustion Sources* published by the US Environmental Protection Agency (EPA)

2.1.3 India GHG Inventory Program

2.1.4 ISO 14064-1

2.1.5 *Petroleum Industry Guidelines for reporting GHG emissions*, 2nd edition, 2011, published by Ipieca

2.1.6 *Protocol for the Quantification of greenhouse gas emissions from waste management activities* published by Entreprises pour l'Environnement (EpE)

2.2 GHG emissions data shall be consolidated and disclosed according to the approach with which the entity consolidates its financial reporting data, which generally is aligned with the 'financial control' approach defined by the *GHG Protocol*, and the approach published by the Climate Disclosure Standards Board (CDSB) described in REQ-07, 'Organisational boundary', of the *CDSB Framework for reporting environmental and social information*.

3 The entity may discuss any change in emissions from the previous reporting period, including whether the change was because of emissions reductions, divestment, acquisition, mergers, changes in output or changes in calculation methodology.

4 In the case that current reporting of GHG emissions to the CDP or other entity (for example, a national regulatory disclosure programme) differs in terms of the scope and consolidation approach used, the entity may disclose those emissions. However, primary disclosure shall be according to the guidelines described above.

5 The entity may discuss the calculation methodology for its emissions disclosure, such as if data are from continuous emissions monitoring systems (CEMS), engineering calculations or mass balance calculations.

TR-RA-110a.2. Discussion of long- and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets

1 The entity shall discuss its long- and short-term strategy or plan to manage its Scope 1 greenhouse gas (GHG) emissions.

1.1 Scope 1 emissions are defined according to *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard* (GHG Protocol), Revised Edition, March 2004, published by the World Resources Institute and the World Business Council on Sustainable Development (WRI/WBCSD).

1.2 The scope of GHG emissions includes the seven GHGs covered under the Kyoto Protocol—carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF_6), and nitrogen trifluoride (NF_3).

2 The entity shall discuss its emission reduction target(s) and analyse its performance against the target(s), including, if relevant:

2.1 The scope of the emission reduction target (for example, the percentage of total emissions to which the target is applicable);

2.2 Whether the target is absolute or intensity-based, and the metric denominator if it is an intensity-based target;

2.3 The percentage reduction against the base year, with the base year representing the first year against which emissions are evaluated towards the achievement of the target;

2.4 The time lines for the reduction activity, including the start year, the target year, and the base year;

2.5 The mechanism(s) for achieving the target; and

2.6 Any circumstances in which the target or base year emissions have been, or may be, recalculated retrospectively or the target or base year has been reset.

3 The entity shall discuss the activities and investments required to achieve the plans or targets, and any risks or limiting factors that might affect achievement of the plans or targets.

3.1 Relevant activities and investments may include operational improvements (such as decreased idling, trip optimisation and maximising loads) and fleet enhancements (such as new engines, fuel optimisation technology and aerodynamic fleet modifications, and upgrading the fleet with new locomotives).

4 The entity shall discuss the scope of its strategies, plans or reduction targets, such as whether they pertain differently to different business units, geographies or emissions sources.

5 The entity shall discuss whether its strategies, plans or reduction targets are related to, or associated with, emissions limiting or emissions reporting-based programmes or regulations (for example, the EU Emissions Trading Scheme, Quebec Cap-and-Trade System, California Cap-and-Trade Program), including regional, national, international or sectoral programmes.

6 Disclosure of strategies, plans or reduction targets shall be limited to activities that were ongoing (active) or reached completion during the reporting period.

TR-RA-110a.3. Total fuel consumed, percentage renewable

1 The entity shall disclose the total amount of fuel consumed from all sources as an aggregate figure, in gigajoules (GJ).

1.1 The calculation methodology for fuel consumed shall be based on actual fuel consumed as opposed to design parameters.

1.2 Acceptable calculation methodologies for fuel consumed may include methodologies based on:

1.2.1 Adding fuel purchases made during the reporting period to beginning inventory at the start of the reporting period, minus any fuel inventory at the end of the reporting period

1.2.2 Tracking fuel consumed by vehicles

1.2.3 Tracking fuel expenses

2 The entity shall disclose the percentage of fuel consumed that was renewable fuel.

2.1 Renewable fuel generally is defined as fuel that meets all of these requirements:

2.1.1 Produced from renewable biomass;

2.1.2 Used to replace or reduce the quantity of fossil fuel present in a transportation fuel, heating oil or jet fuel; and

2.1.3 Achieved net greenhouse gas (GHG) emissions reduction on a lifecycle basis.

2.2 The entity shall disclose the standard or regulation used to determine if a fuel is renewable

2.3 The percentage shall be calculated as the amount of renewable fuel consumed (in GJ) divided by the total amount of fuel consumed (in GJ).

3 The scope of disclosure only includes fuel directly consumed by the entity.

4 In calculating energy consumption from fuels, the entity shall use higher heating values (HHV), also known as gross calorific values (GCV), which are directly measured or taken from the Intergovernmental Panel on Climate Change (IPCC).

5 The entity shall apply conversion factors consistently for all data reported under this disclosure, such as the use of HHVs for fuel usage (including biofuels).

Air Quality

Topic Summary

Rail operations emit several types of air pollutants regulated under national and international laws. These air pollutants can create significant and localised environmental and health impacts. For example, locomotive engines idling at rail yards may be a health concern for nearby human populations because HAPs such as benzene are known human carcinogens. Nitrogen oxides (NOx) are a major component of smog and acid rain. At the same time, fuel is a significant industry cost. Rail entities that implement fuel efficiency enhancements and manage emissions may witness reduced costs in both the short and longer term.

Metrics

TR-RA-120a.1. Air emissions of the following pollutants: (1) NO_x (excluding N_2O) and (2) particulate matter (PM_{10})

1 The entity shall disclose its emissions of air pollutants, in metric tonnes per pollutant, released into the atmosphere.

1.1 The scope of the disclosure includes air pollutants associated with the entity's direct air emissions resulting from all the entity's activities and sources of emissions, which may include stationary or mobile sources, production facilities, office buildings and transportation fleets.

2 The entity shall disclose its emissions of (1) oxides of nitrogen (NO_x), reported as NO_x.

2.1 The scope of NO_X includes NO and NO_2 but excludes N_2O.

3 The entity shall disclose its emissions of (2) particulate matter 10 micrometres or less in diameter (PM_{10}), reported as PM_{10}.

3.1 PM_{10} is defined as any airborne finely divided solid or liquid material with an aerodynamic diameter less than or equal to a nominal 10 micrometres.

4 The entity may discuss the calculation method for its emissions disclosure, such as whether data is from continuous emissions monitoring systems (CEMS), engineering calculations or mass balance calculations.

Workforce Health & Safety

Topic Summary

Moving freight by rail includes the risk of accidents and unintended releases of hazardous materials. These events may harm employee health and well-being as well as have negative financial effects on entities, such as reduced productivity, higher employee turnover and increased insurance costs. Poor employee health also may cause accidents. A healthy workforce, strong safety culture, thorough and systematic approach to safety, risk management programmes (including emergency preparedness and response), and operational integrity at all levels of an entity may reduce the probability and magnitude of rail accidents.

Metrics

TR-RA-320a.1. (1) Total recordable incident rate (TRIR), (2) fatality rate, and (3) near miss frequency rate (NMFR) for (a) direct employees and (b) contract employees

1 The entity shall disclose (1) its total recordable incident rate (TRIR) for work-related injuries and illnesses.

1.1 An injury or illness is considered a recordable incident if it results in death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, or loss of consciousness. Additionally, a significant injury or illness diagnosed by a physician or other licensed health care professional is considered a recordable incident, even if it does not result in death, days away from work, restricted work or job transfer, medical treatment beyond first aid, or loss of consciousness.

1.1.1 First aid is defined as emergency care or treatment for an ill or injured person before regular medical aid can be provided.

1.1.2 The entity may use applicable jurisdictional criteria for definitions of a recordable incident and a non-recordable incident such as first aid. The entity shall disclose the legal, regulatory or industry framework used as the source for these criteria and definitions.

2 The entity shall disclose (2) its fatality rate for work-related fatalities.

3 The entity shall disclose (3) its near miss frequency rate (NMFR) for work-related near misses.

3.1 A near miss is defined as an unplanned or uncontrolled event or chain of events that has not resulted in a recordable injury, illness, physical damage or environmental damage, but had the potential to do so in other circumstances.

3.2 The entity may disclose its process for classifying, identifying and reporting near misses.

4 All disclosed rates shall be calculated as: (statistic count × 200,000) / total number of hours worked by all employees in the year reported.

4.1 The '200,000' in the rate calculation represents the total number of hours 100 full-time workers working 40 hours per week for 50 weeks per year can provide annually.

5 The scope of the disclosure includes work-related incidents only.

5.1 Work-related incidents are injuries and illnesses resulting from events or exposures in the work environment.

5.2 The work environment is the establishment and other locations where one or more employees are working or are present as a condition of their employment.

5.3 The work environment includes not only physical locations, but also the equipment or materials used by the employee during the course of work.

5.4 Incidents that occur while an employee is travelling are work-related if, at the time of the injury or illness, the employee was engaged in work activities in the interest of the employer.

5.5 A work-related incident must be a new case, not a previously recorded injury or illness being updated.

6 The entity shall disclose the rates for each of these categories of employee:

6.1 direct employees, defined as individuals on the entity's payroll, whether they are full-time, short service, part-time, executive, labour, salary, seasonal, migrant or hourly employees.

6.2 contract employees, defined as individuals who are not on the entity's payroll, but whom the entity supervises or manages, including independent contractors and those employed by third parties (for example, temp agencies and labour brokers).

7 The scope of the disclosure includes all employees regardless of employee location or type of employment.

Competitive Behaviour

Topic Summary

Industry consolidation and prior allegations of anti-competitive practices in relation to captive shippers, among other reasons, threaten the anti-trust immunity granted to railroads in some regions. Some of the proposed policy changes may result in significant costs or impede investment in the industry. Rail entities operating at the limits of allowable charges in areas where they have market dominance, or those not complying with applicable jurisdictional legally or regulatory enforced rate structures, may face increased regulatory scrutiny. Any associated fines or penalties may affect an entity's valuation negatively by increasing its cost of capital. In an environment of increased concerns about the market power and pricing practices of rail entities, competitive pricing and transparency in rate-setting while achieving adequate returns on investment is in their continued best interest.

Metrics

TR-RA-520a.1. Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behaviour regulations

1 The entity shall disclose the total amount of monetary losses incurred during the reporting period resulting from legal proceedings associated with anti-competitive behaviour regulations, such as those related to price fixing, anti-trust behaviour (for example, exclusivity contracts), patent misuse or network effects, as well as bundling services and products to limit competition.

2 The legal proceedings shall include any adjudicative proceeding involving the entity, whether before a court, a regulator, an arbitrator or otherwise.

3 The losses shall include all monetary liabilities to the opposing party or to others (whether as the result of settlement, verdict after trial or otherwise), including fines and other monetary liabilities incurred during the reporting period as a result of civil actions (for example, civil judgements or settlements), regulatory proceedings (for example, penalties, disgorgement or restitution) and criminal actions (for example, criminal judgements, penalties or restitution) brought by any entity (for example, governmental, business or individual).

4 The scope of monetary losses shall exclude legal and other fees and expenses incurred by the entity in its defence.

5 The scope of the disclosure shall include legal proceedings associated with the enforcement of applicable jurisdictional laws or regulations.

Note to **TR-RA-520a.1**

1 The entity shall briefly describe the nature (for example, guilty plea, deferred agreement or non-prosecution agreement) and context (for example, price fixing, patent misuse or anti-trust) of all monetary losses resulting from legal proceedings.

2 The entity shall describe any corrective actions implemented in response to the legal proceedings. This may include specific changes in operations, management, processes, products, business partners, training or technology.

Accident & Safety Management

Topic Summary

Rail accidents and unintended releases of hazardous materials have negative repercussions for the environment and communities along railroad tracks, as well as financial effects on entities themselves. Increasingly stringent safety regulations and the potential for significant costs following major accidents encourage entities to manage their safety performance with robust safety management systems. In addition, losing consumer confidence after such events may reduce revenues and damage an entity's social licence to operate, increasing its cost of capital.

Metrics

TR-RA-540a.1. Number of accidents and incidents

1 The entity shall disclose the total number of accidents and incidents involving the entity.

1.1 An accident or incident is defined as:

1.1.1 any impact between railroad on-track equipment and a highway user at crossings;

1.1.2 any collision, derailment, fire or other events involving the operation of railroad on-track equipment that results in reportable damage above thresholds established by applicable jurisdictional laws or regulations; or

1.1.3 other incidents or exposures that result in a fatality or injury to any person or result in the occupational illness of a railroad employee.

1.2 The scope of accidents and incidents includes events required to be reported to applicable jurisdictional legal or regulatory authorities.

TR-RA-540a.2. Number of (1) accident releases and (2) non-accident releases (NARs)

1 The entity shall disclose (1) the total number of accident releases of hazardous material.

1.1 Hazardous material is defined as a substance or material that an applicable jurisdictional legal or regulatory authority has determined can pose an unreasonable risk to health, safety and property when transported in commerce (including explosives; radioactive materials; infectious substances; flammable or combustible liquids, solids or gases; toxic, oxidising or corrosive materials; and compressed gases) and has been designated as hazardous under applicable jurisdictional laws or regulations.

1.1.1 The scope of hazardous materials includes hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, and materials designated as hazardous by the applicable jurisdictional legal and regulatory frameworks where the materials were generated.

1.1.2 The entity may use definitions of hazardous waste from the United Nations Environment Programme's (UNEP) *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal*.

1.2 An accident release is defined as a release of hazardous material required to be reported to applicable jurisdictional legal or regulatory authorities.

2 The entity shall disclose (2) the total number of non-accident releases (NARs) of hazardous material.

2.1 A NAR is defined as the unintentional release of a hazardous material while in transportation, including loading and unloading while in railroad possession, that is not caused by derailment, collision or other rail-related accidents.

2.1.1 NARs consist of leaks, splashes and other releases from improperly secured or defective valves, fittings and tank shells.

2.1.2 NARs include venting of non-atmospheric gases from safety relief devices.

2.1.3 NARs exclude normal safety venting of atmospheric gases such as carbon dioxide and nitrogen.

3 If relevant, the entity may provide a disaggregation of spills and releases by type, such as hydrocarbons and hazardous substances.

Note to **TR-RA-540a.2**

1 The entity shall discuss its processes and procedures to manage non-accident and accident releases.

1.1 Relevant processes and procedures may include the use of management systems, safety technologies, employee training, work shift limits and safe-arrival pay incentives.

TR-RA-540a.3. Number of rail safety standard defects cited by relevant authorities that may result in fines or other penalties by jurisdiction

1 The entity shall disclose the total number of defects resulting from applicable jurisdictional legal or regulatory rail safety authority inspections or audits that may be subject to administrative, civil or criminal fines or other penalties for being in contravention of local rail safety standards for each jurisdiction in which it operates.

1.1 The scope of the disclosure includes only those defects that safety inspectors and auditors have determined may be subject to jurisdictional fines or other penalties and have notified the entity of these defects as such.

1.2 The scope of the disclosure may include defects for any safety-related issue, including those related to:

1.2.1 accident reporting;

1.2.2 grade-crossing signal safety;

1.2.3 hazardous material regulations;

1.2.4 industrial hygiene (for example, occupational noise exposure);

1.2.5 motive power and equipment (for example, freight car and locomotive safety, passenger equipment safety, passenger train emergency preparedness, marking devices or safety appliances);

1.2.6 railroad operating practices (for example, alcohol and drug use, personnel qualifications, hours of services laws and record keeping, rail communications, rail operating rules and practices, safety enforcement procedures or quiet zones);

1.2.7 signal system safety (for example, signal inspections or positive train control system implementation); and

1.2.8 track safety (for example, bridge and track safety standards or worker protection and safety standards).

1.3 The scope of the disclosure may include defects that both did and did not result in administrative, civil or criminal fines or other penalties, such as the revocation of safety certifications permitting operations.

2 The number shall include each distinct, relevant defect cited by jurisdictional rail safety authorities regardless of whether numerous defects are combined in a single report to the entity.

TR-RA-540a.4. Frequency of internal railway integrity inspections

1 The entity shall disclose the frequency with which it conducts inspections of its tracks.

1.1 Frequency of inspections of tracks shall be disclosed as the number of inspections per week, weighted for the number of main rail line kilometres on which those inspections took place.

1.1.1 The frequency shall be calculated as the sum for all track of: (weekly inspections × kilometres of track on which they took place) / (total main rail line kilometres).

1.2 The scope of the disclosure excludes track other than main track.

2 The entity may discuss the frequency of its inspections in relation to applicable jurisdictional legal or regulatory requirements.

Note to **TR-RA-540a.4**

1 If relevant, the entity shall discuss rail-maintenance practices, operating measures and technologies it implements in addition to inspections.

1.1 Relevant practices to discuss may include the use of management systems, safety technologies and employee training.

1.2 Relevant measures to discuss include optimisation of tank car design, adding monitoring equipment, strengthening emergency-response capabilities by sharing relevant information with communities, providing training support and implementing mutual aid intervention protocols.

1.3 Relevant technologies to discuss include positive train control (PTC) technology, wayside detectors, wheel profile monitors, acoustic detectors, track geometry cars, advanced track grinding to reduce rail fatigue, improved track lubrication techniques and electronically controlled pneumatic brakes.

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