



Railroad Emergency Preparedness Guide
Dangerous Goods Awareness Level



Partners in
Responsible Care®

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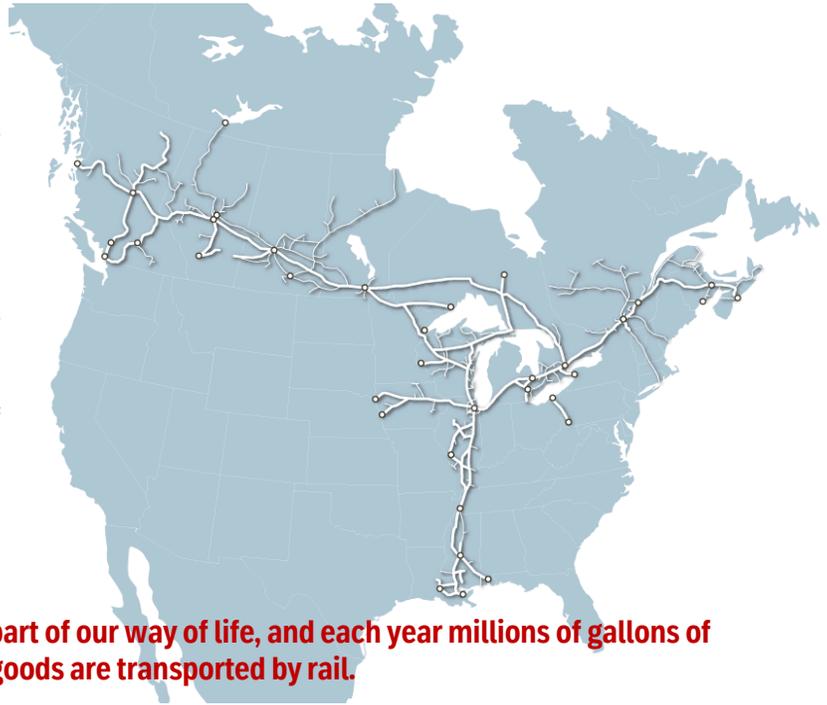
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SECTION 1 - INTRODUCTION

CN IS NORTH AMERICA'S RAILROAD

In business for over 100 years, CN's 19,600-mile network spans eight provinces in Canada and sixteen U.S. States, connecting ports on three coasts: the Atlantic, Pacific and the Gulf of Mexico.

CN transports a wide range of products across its network, products which are essential to the economy and to communities across North America, including dangerous goods. These dangerous goods account for only a small part of the overall commodities that CN ships.



Dangerous Goods are an indispensable part of our way of life, and each year millions of gallons of dangerous goods are transported by rail.

MOVING DANGEROUS GOODS SAFELY

Whether moving dangerous goods or any other freight on our network, we know that safe operations are the first priority and are critical to all stakeholders: employees, customers and the communities through which our trains travel.

As a rail transportation company in North America, we are legally required to serve all customers under our common carrier obligations. While we cannot refuse goods from customers, we recognize the important role we have to ensure the safety of communities when transporting dangerous goods.

HOW THESE PRODUCTS ARE MOVED

Dangerous goods can be transported in many different types of cars, including tank cars. These cars are built to federal regulations and specifications by railcar manufacturers. CN owns very few tank cars, and those are used mainly to transport materials necessary for the operation of the railroad, such as lube oil, non-potable water and diesel fuel.

The primary owners of the tank cars used to transport dangerous goods are chemical shippers and third-party leasing companies.



CN IS COMMITTED TO SAFETY

Accident and incident prevention are the primary focus and challenge of CN's dangerous goods program, with the goals of minimizing risks and maximising employee and transportation safety and protection of the environment. These goals are accomplished throughout CN through a program of effective employee training, regulatory / rule compliance and risk assessment.

Enhancing Safety Practices

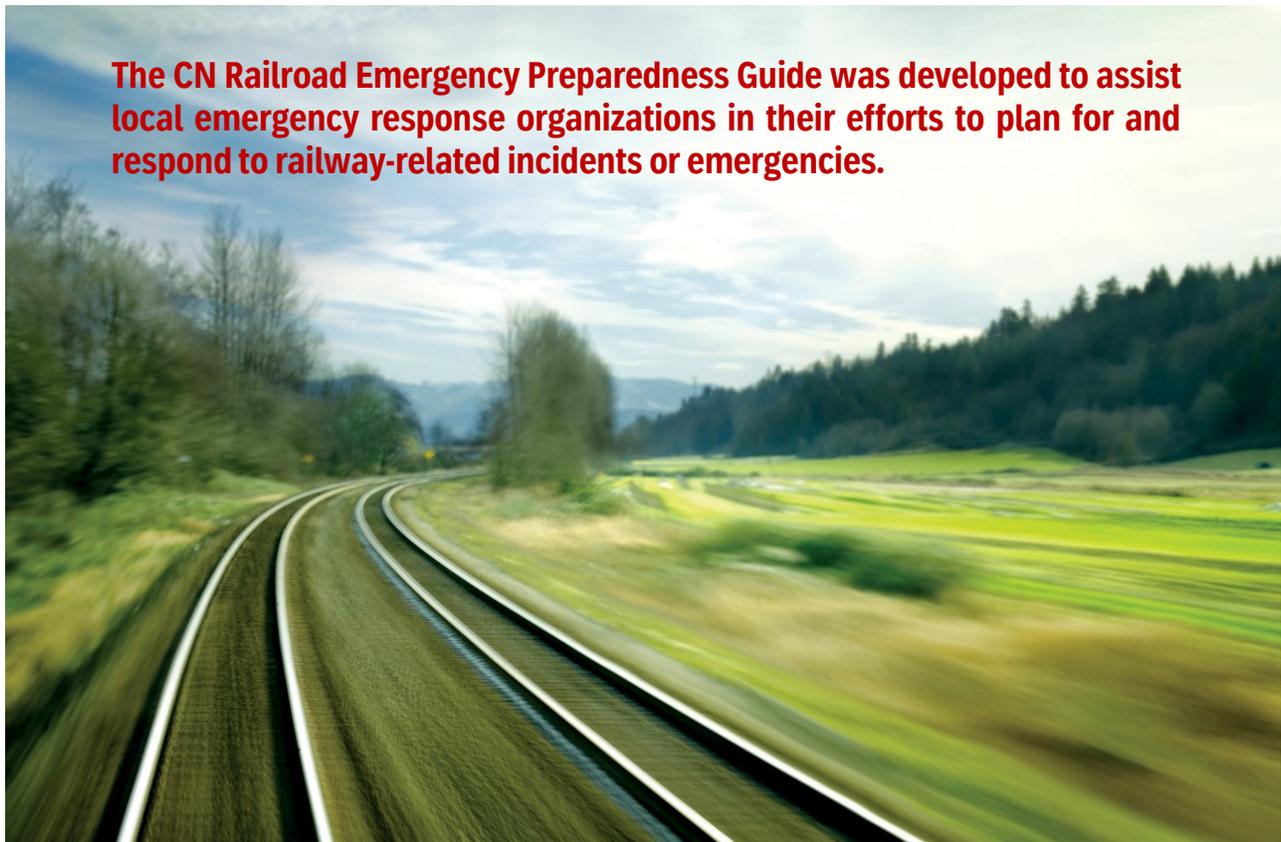
We are continuously working to further reduce the potential for, and impact of, accidents on our network. We've strengthened our robust train securement practices and restricted the speeds of trains hauling highly flammable liquids. We have invested in our flaw detection capabilities and conducted corridor risk-assessments to assess risk factors such as population, waterways, and volumes of dangerous goods along key corridors on our network.

Replacing Tank Cars

CN supports the retrofitting or phase-out of older model tank cars used to transport flammable liquids, and reinforced standard for new tank cars built in the future.

Working with Communities

We believe the rail industry can enhance safety by working more closely with communities. We engage first responders and civic officials, sharing information about our safety programs, notification and response protocols, and the training we can offer in our mutual goal to protect public safety.



SECTION 2 - EMERGENCY PLANNING AND PREPAREDNESS

The primary objective when transporting dangerous goods is to move each shipment in a timely manner from origin to destination safely and without incident. However, despite preventive efforts, incidents can occur, which is why it is crucial for communities to prepare.

Effective emergency response begins with planning and preparation. This can be accomplished through assembly of an emergency plan, conducting training and emergency response exercises and by the performance of regular evaluations to test the effectiveness of the response plans.

CN encourages local emergency management and response groups to consult the following section on preparedness to assist them in creating their local railway incident response plan, and to incorporate this guide into their own plans.

GET TO KNOW THE RAILROADS WITHIN YOUR COMMUNITY

The first step in planning for a railway incident is for emergency planners to familiarize themselves with local rail lines in their area to determine ownership of the line. There are various ways to identify the railroad(s) in your community, many of which can be found on Page 11, [Identify Your Local Railroad\(s\)](#).

Although there are only seven major Class 1 railroads in North America, there are hundreds more shortline and regional railroads in operation. These railroads operate independently of each other; therefore, it is imperative that you properly identify those lines in your community.



SECTION 2 - EMERGENCY PLANNING AND PREPAREDNESS

ESTABLISH COMMUNICATION WITH THE RAILROAD(S)

Once it has been determined which railroad(s) have rail lines within your community, it's important to establish communication with them. The railroads can assist in your emergency planning in a number of ways, with vital information regarding their local tracks, yards, terminals, and train traffic specific to your area. Phone numbers for the major Class I railroads is found on page 8.

ESTABLISH COMMUNICATION WITH THE RAILROAD'S DANGEROUS GOODS / HAZMAT TEAM

CN maintains a staff of specialists trained to respond to rail-related incidents and emergencies. These teams of Dangerous Goods Officers and Environmental Officers are strategically located throughout the CN network to assist company personnel and local emergency responders in mitigating emergency situations. These personnel have a variety of response tools and resources available to them and will work with CN company officials and local incident command personnel to ensure a safe and efficient handling of an incident.

The CN Dangerous Goods Officers can also offer assistance and guidance in your emergency planning efforts, as well as training in railway emergency response, hazmat and tank cars. More information about this training, as well as contact information for your local Dangerous Goods Officer can be found on the following pages.



CN is a member of TransCAER® (Transportation Community Awareness and Emergency Response), a voluntary outreach effort committed to assisting communities in preparing for and responding to a possible dangerous goods transportation incident. For more information on TransCAER® at CN, see page 17.



www.transcaer.org (U.S.)



www.transcaer.ca (Canada)

DANGEROUS GOODS TEAM

We have 13 Dangerous Goods Officers strategically located at major terminals across our network. Our officers are equipped with tools and resources to provide 24/7 emergency response and hazmat expertise to company personnel and local first responders during an emergency. To find contact information for your local Dangerous Goods Officer scan the QR code to visit our website



CN MEDIA / PUBLIC INQUIRIES

CN Public Inquiry helpline

For all general inquiries regarding CN railroad, as well as access to the CN Public Affairs representatives.

Phone 1-888-888-5909 / Email contact@cn.ca

CONTACT AND RESOURCE PHONE NUMBERS

NORTH AMERICAN RAILROAD EMERGENCY CONTACT

North American Class I railroads have dedicated 24-hour emergency phone numbers. Identify the railroad(s) in your community and keep the contact information on file.

Railroad	Contact Numbers
BNSF Railway	800-832-5452
CN	800-465-9239
Canadian Pacific (CP)	800-716-9132
CSX Transportation	800-232-0144
Kansas City Southern (KCS)	800-527-9464
Norfolk Southern (NS)	800-453-2530
Union Pacific (UP)	888-877-7267
VIA Rail	888-842-7245

CHEMICAL RESOURCES

CANUTEC (Canadian Transport Emergency Center)

Operated by Transport Canada, providing a bilingual (English and French) advisory service for incidents involving dangerous goods.

1-613-996-6666 / 1-888-CANUTEC (226-8832)
By cell phone (in Canada only) *666
24-hour non-emergency: 1-613-992-4624

CHEMTREC (Chemical Transport Emergency Center)

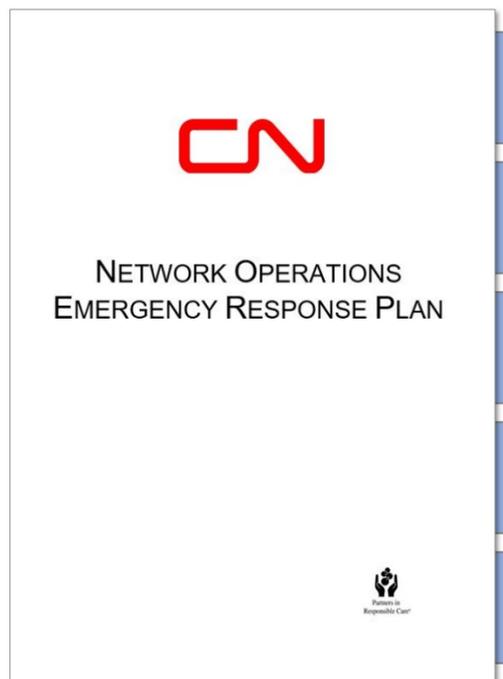
A service of the American Chemistry Council, providing 24-hour assistance to first responders for incidents involving hazardous materials.

1-800-424-9300
Outside the U.S.: 1-703-741-5500

EMERGENCY RESPONSE PLANS

If there are railroad tracks and operations within your jurisdiction, it is important to have an emergency plan to respond to potential railway emergencies safely and effectively. The railroad will play a critical role in response and recovery operations; therefore, it is recommended to coordinate with them in the planning.

The next few pages can help to guide you in your emergency response planning.



1 Identify the railroads in the community

Identification can be accomplished by using any of the methods described in the section, [Identify Your Local Railroads](#), on page 11.

2 Establish contact with the railroads

The railroads have personnel who can assist with your planning, such as CN's Dangerous Goods Team. Contact information for CN's team and contacts for other railroads are on page 8.

3 Identify the tracks, yards and terminals in the area

You can request information on the tracks, sidings, facilities and more from the railroad.

4 Identify other special considerations, such as bridges, tunnels and pipelines in the area

For more details on the types of additional considerations to take into account in your planning, please see section [Incident Response - Additional Considerations](#) on page 24.

5 Obtain the list of hazardous materials / dangerous goods transported through the community

Knowing the type and quantity of hazardous materials / dangerous goods transported through your jurisdiction will allow you to realistically prepare for a potential incident. You will find instructions on how to request this information from the railroads in the section [Dangerous Goods Information for Your Community](#) on page 11.

6 Identify the resources available

These can include railroad personnel and resources or specialized tools such as mobile device applications which can provide assistance to responders in the event of an emergency. See section [Response Resources](#) on page 27.

7 Train with the railroad / conduct exercises to test the effectiveness of the plan

CN and other railroads regularly participate in exercises and deliver training on emergency response, tank cars and hazardous materials. For more information about railroad training and exercises, see [Training & TransCAER](#) on page 16.

IDENTIFY YOUR LOCAL RAILROAD(S)

The first step in creating a railway incident response plan is to identify the railroads within your jurisdiction. It is critical that emergency planners familiarize themselves with local rail lines to determine ownership of the rail line, establish emergency contacts with that railroad, and plot out potential access routes for emergency response vehicles.

In Canada, the Railway Association of Canada online atlas can help to identify the railroads in your community:

<https://rac.jmaponline.net/canadianrailatlas/>

In the U.S., The Federal Railroad Administration (FRA) has created a railroad crossing database and app that allow communities to identify their local railroads. More information on the FRA Crossing Locator can be found in the section, [First Responder Tools](#), on page 14.

If there are multiple rail lines within the area, ensure that each has been correctly identified.

Railroads will have identifiers at every public road crossing, which display the name of the railroad, the mile post and the emergency telephone number for that railroad. This crossing information may be affixed to crossbucks, railroad signal masts and lights, or nearby signal bungalows and relay houses, and can be a decal or a reflective sign.



In the U.S., crossings will also have a DOT number, which is a unique number assigned to each crossing.



Mile post markers may also be found along the tracks mounted to posts in the ground. As CN operates tens of thousands of track miles with multiple repetitive mile post numbers, the mile post number alone cannot accurately indicate your location.

For assistance in determining the track mile post numbers in your community, contact the appropriate railroad.





CANADA

Canada's major railways worked with Transport Canada and the Federation of Canadian Municipalities to develop a process for providing valuable information on the dangerous goods transported through communities to assist emergency planners in developing effective and realistic emergency response plans.

This process, Transport Canada Protective Direction 36, allows communities to designate and register an Emergency Planning Officer (EPO) through the Canadian Transport Emergency Centre (CANUTEC). CN then provides the designated EPO of each municipality through which dangerous goods are transported with bi-annual reports.

The EPO will also receive an annual report on dangerous goods transported through their jurisdiction that may be shared with the public.

For questions on the reports that are specific to CN, you may contact CN at PD36@cn.ca.

UNITED STATES

Class 1 railroads in the United States regularly provide data on dangerous goods upon request. As in Canada, the information is intended to be used by authorized personnel for emergency response planning purposes.

To make a request for information on dangerous goods transported through your community in the United States, scan the QR code to visit our website and download the request form. Then complete and send to the mailing or email address listed at the bottom of the form.

HOW TO REGISTER AN EPO WITH CANUTEC

The municipality must send their designated EPO's contact information to the following address:

Canadian Transport Emergency Centre (CANUTEC)
Place de Ville, Tower C
330 Sparks Street, 14th Floor,
Ottawa, Ontario, K1A 0N5
Attention: Director of CANUTEC
Or by email to:

TC.ProtectiveDirection-
OrdrePreventif.TC@tc.gc.ca



FIRST RESPONDER TOOLS

AskRail®

The AskRail® app is a safety tool that provides first responders immediate access to accurate, timely data about what type of hazardous materials a railcar is carrying so they can make an informed decision about how to respond to a rail emergency. AskRail is a backup resource if information from the train conductor or train consist is not available.

- Use a simple railcar ID search to see whether a railcar on a train is carrying hazardous materials
- View the contents of the entire train
- View emergency contact information for all Class I railroads and Amtrak
- Access information from the North American Emergency Response Guidebook
- Map feature provides isolation zone and points of interest (street or satellite view)
- Available in English and French

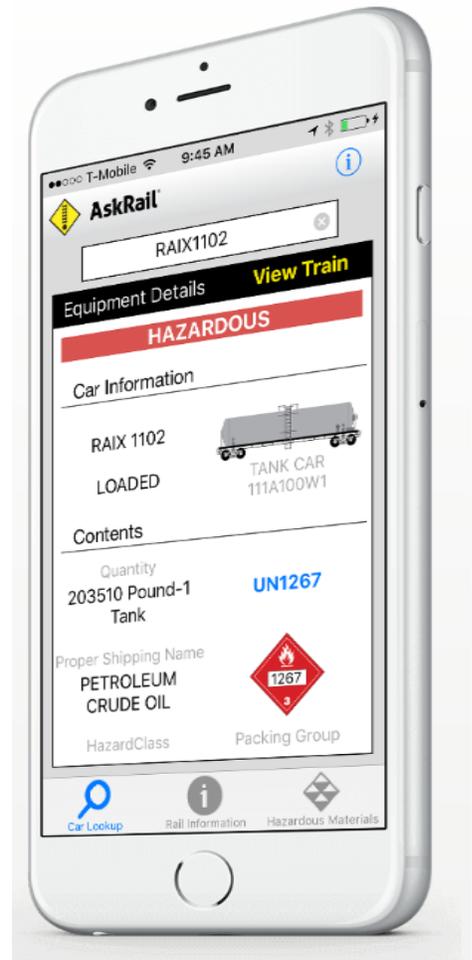
How to get access to the AskRail® app

1 Download the app from the Google Play Store, the Apple App Store, or download the Windows Desktop Application at www.askrail.us

2 Complete the registration process in the app on your device

3 You will receive an email notification once your registration has been approved. The approval process may take up to several weeks.

4 Once you have been approved, you need to register your device (each user, by default, is allowed to add 3 devices with the same email). To complete Registration, scan the QR code to visit railinc - Askrail page, and download the "Askrail User Guide".



How to troubleshoot the AskRail® app

- Visit railinc - Askrail page, and download AskRail Installation Troubleshooting Guide.
- For any other issue related to your access or increase the number of devices, contact askrail@cn.ca



For more information and to view a video of the app, go to www.askrail.us

FIRST RESPONDER TOOLS

FRA Crossing Locator – US

An important step for emergency planners to take is to familiarize themselves with local rail lines to determine ownership of the rail line, establish emergency contacts with that railroad, and plot out potential access routes for emergency response vehicles.

Every public railroad crossing identifies the railroad name, mile post and emergency telephone number, either on a mounted post, the crossing signals, nearby signal bungalows, or on decals on masts. In the United States, these will also feature a Federal Railroad Administration (FRA) unique Crossing Identification Number. Emergency responders can use these to identify the rail line location in the event of a railroad incident.

The Federal Railroad Administration (FRA) makes available a U.S. railroad crossing database, which can be accessed through their website at: <http://safetydata.fra.dot.gov>



The FRA has also developed a mobile application version of the Crossing Locator to provide users with access to the highway-rail grade crossing database and map features. The tool allows users to locate crossings by USDOT Crossing ID, address or geo-location, access inventory records submitted by states and railroads and view accident history.

Users can also select from multiple base map features and identify railroad crossings by special characteristics. Users may also use the app to find and call the Emergency Notification Number (ENS) in case of an emergency or a safety concern about a specific highway-rail grade crossing. The information accessed in the mobile application is derived from the Safety Data website using information submitted by States and Railroads.

The Crossing Locator App is currently available for Apple and Android Devices.

For more information and instructions on how to download the app, visit the FRA web site at: <https://www.fra.dot.gov/Page/P0845>

As part of its grade crossing program, CN has posted a telephone hotline number (1-800-465-9239) at each public crossing. In the U.S., this includes the Federal Railroad Administration (FRA) unique Crossing Identification Number (DOT number).

This program allows people to report emergencies or other issues at grade crossings to CN but can also be used by emergency responders to identify the proper rail line and location on that rail line in the event of a railroad incident.

FIRST RESPONDER TOOLS

Other Mobile Applications for First Responders



2020 Emergency Response Guidebook

A mobile app version of the 2020 Emergency Response Guidebook (ERG) was developed by the Pipeline and Hazardous Materials Safety Administration (PHMSA) to provide emergency responders with a go-to resource to help deal with hazmat incidents during the critical first 30 minutes. The app is available from Apple iTunes and Google Play stores.



WISER (Wireless Information System for Emergency Responders)

WISER is a mobile application designed to assist first responders with hazardous materials incidents. Developed by the National Library of Medicine, WISER provides a wide range of information on hazardous substances, including substance identification support, physical characteristics, human health information and containment and suppression guidance. The app is available from Apple iTunes and Google Play stores as well as a desktop version for Windows. All applications can be accessed through the WISER website:

https://wiser.nlm.nih.gov/choose_platform.html



FiRST Responder Support Tool

An app providing police, firefighters, security and emergency management personnel easy access to map-based standoff distances and hazmat spill evacuation areas. The app is available from Apple iTunes.



NFPA Hazmat FLIC

Providing on-scene Incident Commanders with guidance material for managing emergency responses for high hazard flammable train and petroleum pipeline emergencies. The app is available from Apple iTunes and Google Play stores.



NIOSH Pocket Guide to Chemical Hazards

The NIOSH Pocket Guide to Chemical Hazards (NPG) is a source of general industrial hygiene information on several hundred chemicals and classes. The information found in the NPG can help users recognize and control occupational chemical hazards. The NPG is available in pdf or for download as an app on iPhone and Android devices.

<http://www.cdc.gov/niosh/npg/>

EMERGENCY RESPONSE TRAINING & TRANSCAER®

As a Partner in the North American chemical industry associations' Responsible Care® program, CN understands its responsibility to the communities in which we transport hazardous materials. This responsibility extends to ensuring that first responders in these communities are trained and prepared in the event of a railroad incident.

CN reaches out to communities along our rail network to bring critical training to emergency responders through the TransCAER® Program (**T**ransportation **C**ommunity **A**wareness and **E**mergency **R**esponse).

This training focuses on response to railroad incidents, such as derailments, hazardous materials incidents and spills. CN's Dangerous Goods Team works with the community to coordinate and plan the training and delivers it all free of charge. Training with the railroad and conducting emergency response exercises are essential steps in testing the effectiveness of a community's response plan.

**CN has trained over
122,000 first
responders across our
network since 1988**



For more information on TransCAER® at CN, or to inquire about training for your community, contact your local CN Dangerous Goods Officer at DGofficer@cn.ca or through the contact information on page 7 of this guide.

For information about the TransCAER® program, visit: www.transcaer.com (U.S.) or www.transcaer.ca (Canada).



Security and Emergency Response Training Center (S.E.R.T.C.) - Pueblo, CO

CN sponsors several tank car specialty courses at the Center

EMERGENCY RESPONSE TRAINING & TRANSCAER® - CN TRAINING

CN's Dangerous Goods Team can deliver functional demonstrations and scenario-based training to attendees and lend assistance to local first responders with the planning and preparation of these events.

The following provides a brief description of the various types of training available through CN:

Classroom Training

Railroad Emergency Response Course

Response to Railroad Incidents involving Hazardous Materials:

- Awareness Level 1
- Operations Level 2
- Technician Level 3



Training Trailers

May include training in Awareness, Operations and Technician levels. The Training Trailer can be transported to virtually any location, including indoors. The trailer allows hands-on training with tank car valves and fittings.



CN 911 Training Tank Car

May include training in Awareness, Operations and Technician levels. The CN 911 Training Tank Car can be transported to a yard or a nearby rail siding.



Tabletop Exercises, Simulations and more

The DG Team enables full-scale exercises and simulations of hazmat transportation incidents, incorporating multiple agencies and stakeholders.

CN also sponsors a one-week Tank Car Specialist Class for firefighters at the SERTC training center in Pueblo, CO.



RAILWAY SAFETY - BASIC AWARENESS

The railway can be a challenging environment with many hazards; therefore, the utmost care must be taken when on railway property.

Perform a job briefing with employees to review any necessary safeguards for the task that will be performed. If you must conduct work on or enter a track, you **must** confirm with the railroad that the track you will be entering is protected from entry by railroad equipment.

Above all, the number one rule to observe is to expect a train or rail equipment on any track, in either direction, at any time.

BASIC SAFETY ON RAILWAY PROPERTY

- The walking surface (ballast) is comprised of rock and may be uneven. Care should be used when walking on ballast and all right-of-ways. If possible, cross only at a grade crossing, as these provide a more level walking surface
- Don't cross tracks near switches or any other movable track structure, and never step on rails or other parts of the structure which may be slippery
- If you must cross tracks, stay at least 25 feet from the ends of railroad cars, locomotives or on-track equipment and look both ways; be sure no equipment is moving toward you. When near any track, expect a train to move in either direction at any time. Cross tracks at a right angle to maximize the field of vision within the fouling space
- Ensure there is at least 50 feet of clearance between two pieces of standing cars, locomotives or on-track equipment before attempting to cross between them
- Never step on the rail. Step over the rail. The rail can be a slip or trip hazard
- Never stand between the rails

Expect a train or rail equipment on any track, in either direction, at any time.



STOPPING A TRAIN

If you should require a train to stop, contact the CN Police Communications Center (1-800-465-9239). The Police Communications Center will assist the local responder in contacting the appropriate train dispatcher.

- Because of their weight, stopping a train requires a lot of distance - a train may require a distance of more than one mile to come to a complete stop
- Plan and prepare in advance for an adequate stopping distance
- Never foul the tracks until the dispatcher acknowledges the train has stopped
- Remember to provide lookouts in both directions along the track for protection

CLIMBING EQUIPMENT

- If it is necessary to climb rail equipment, use three points of contact at all times. The ladders on rail equipment may curve around the car allowing little access for your feet. The first step on to rail equipment is typically some distance off the ground. When descending the ladder, do not jump from the last step
- If you use your own ladders, remember to block the feet and tie off at the top
- Locomotive steps are considered ladders. Always face the locomotive going up and coming down. Keep three points of contact
- Never climb or walk on the roof of a locomotive



Before approaching any rail equipment, confirm that the area and equipment are secured and protected by railroad personnel



OBSTRUCTING (FOULING) THE TRACK

If a situation occurs where you must obstruct the track, either with equipment (such as hoses or trucks) or personnel, then you **must** contact the railroad via the Police Communications Center (**1-800-465-9239**) and receive positive verification from the railroad that it is safe to do so **before** obstructing the track. Bear in mind that rail equipment extends out over the outside limits of the rail.

- Never climb over, under, or through rail equipment unless railroad representatives inform you the area has been secured and is being protected by railroad personnel
- Position yourself and/or equipment at least 25 feet away from the nearest rail. Locomotives and railway cars are wider than the rails. If you and your equipment are within 4 feet of the nearest rail, there is immediate danger of being struck either by equipment or material carried by rail cars
- Be careful when you must cross more than one track, as parallel tracks may belong to two different companies or be under control of two different employees of the same company



DRIVING ACROSS TRACKS

As vehicles can easily become hung up on tracks, cross only at grade crossings, heeding all crossing-warning devices.

You must always contact the railroad *before* conducting any work on or near rail property



CONDUCTING WORK ON OR NEAR TRACKS

There may be pipelines, fiber optic cables or other buried communication lines on the railroad's right-of-way. These lines will usually be marked with signs on posts. To be certain not to affect these utilities, you must always verify with railroad personnel before digging on any right-of-way.

Contact must always be made with the railroad before conducting work on or near rail property.

Call: 1-888-888-5909
Email: contact@cn.ca

RAILWAY SAFETY - REMOTE CONTROL LOCOMOTIVES

Before entering a rail yard, responders should be aware that some locomotives may not be manned during switching operations but are instead controlled remotely.

An operator may very well be up to half a mile away from the locomotive. These remote control locomotives will have flashing lights when operated in “remote” mode. Exercise extreme caution and allow for plenty of room when crossing tracks occupied by a remote control locomotive.

As always, before entering any railroad property, ensure that the railroad has confirmed its understanding that you are on site.



SECTION 3 - RESPONSE

INCIDENT RESPONSE

Railroad accidents present a unique challenge; therefore it is crucial that responders follow the necessary steps if confronted with such an incident. The following pages outline the actions to take in the initial phase of the incident to help ensure a safe response.

Notify the Railway

For incidents on or affecting CN property, call **1-800-465-9239**. Identify yourself and the agency you are representing.

Important to note: Contact the railroad for all emergencies involving railroad property, not just in the cases of derailments or dangerous goods incidents. Other types of incidents may include: crossing accidents, vehicles stuck on the tracks, fires, medical emergencies, trespassing and utility issues.

It is vital to also notify the railroad of incidents and accidents that are not on railroad property but may affect the railroad. These incidents may require the movements of trains to be stopped or slowed. For information on how to identify your location on the rail network and how to report the emergency, see page 11, [Identify Your Local Railroad\(s\)](#).

Confirm Your Location

Once in contact with the Rail Traffic Control Center (RTC), confirm your location. Look for mile posts or grade crossing numbers. (For more information on these, see section [Identify Your Local Railroad\(s\)](#) on page 11.

Locate the Train Crew

When you respond to a railroad incident, it is crucial that you are able to identify the material in each car. Locating the train crew is one of the first things you should do when arriving on the scene, as they will have the most current and updated list of the train's consist on the scene.

If the crew is unavailable, use CN's emergency number (1-800-465-9239) to establish communication with the railroad. You can also query the contents of a rail car on the train through the AskRail application if the train crew cannot be located. See page 11 for information on how to request access to the AskRail app. As well, all responding railroad officers should have a copy of the consist or paperwork, or a means to obtain it. Lastly, the railroad's rail traffic control center can provide a train's consist by email or fax. For details on how to read a CN rail consist, see page 40, [Freight Train Consist](#).



INCIDENT RESPONSE (CONT.)

Communication with the railroad and its responders will help to facilitate a coordinated response. The following are the actions to take when managing a railroad incident.

Secure the Area

The incident may span a large distance and securing this area may require a large number of personnel.

Establish the Proper Hazard Zones

Consult the North American Emergency Response Guidebook (ERG) to establish an isolation zone if necessary.

Begin a Site Assessment

This must always be done from a safe distance, upwind and uphill. General guidance on conducting a site assessment is found on page 25, [Incident Response – Site Assessment](#).

Establish Incident Command

It is critical that Incident Command (ICS) be established as early as possible during the incident, to coordinate resources, achieve response objectives and help to ensure a safe, secure response. When a railroad incident occurs, CN's most senior Transportation officer on scene will act as CN's representative within the Incident Command Structure. For more information on ICS and Unified Command at CN, see page 31, [Incident Command](#).

Determine Available Resources

When managing an incident, it is important to be aware of the resources available to you. This may mean equipment, but also includes the railroad and its' dangerous goods officers, personnel that have been specifically trained to respond to dangerous goods incidents involving railroad equipment, as well as its' environment officers, who will work with state/provincial and federal environmental regulators.

CANUTEC / CHEMTREC can also offer assistance, as well as the chemical shippers and manufacturers, who are the technical specialists on the products involved.



**Use all of the
resources available
to you to ensure a
safe and efficient
resolution to the
response**

INCIDENT RESPONSE – SITE ASSESSMENT

If dangerous goods / hazardous materials are involved in the incident, only trained and properly equipped responders should approach.

When conducting an assessment of an incident site, you must always keep the following in mind:

- **Your own safety**
- **Your capabilities**
- **Your resources**

Your approach to the restricted area should be from a position that is upwind, and if possible, uphill. Conduct the identification and assessment from a safe distance and ensure this for all locations if assessments need to be done from multiple locations.

An assessment must be conducted by observing the scene carefully, taking note of and recording details of the site. Even without having the rail consist there are clues that can help to determine the impact of the incident, such as the presence of vapor clouds, which could indicate that there has been a release of product, or frost on pressure tank cars, which could also indicate a possible leak.

Remember: DO NOT RUSH IN – be sure to build a clear picture of the incident from outside the hot zone

Not every railroad incident will be alike, as the location, commodities involved and circumstances will change. The following is a general list of items to consider when conducting your assessment, keeping in mind that circumstances may require additional considerations.

Location of the incident	Consider the terrain and geography, as these can impact the response
Rail car initials and numbers	Record the numbers of all cars involved, including those in proximity to the cars involved
Commodities or materials involved	Use the consist, placards and hazard markings to determine the commodities
Severity of the incident	Specifically identify situations that may pose immediate danger to life, health, and the environment.
Possible injuries	If rescue is required, how many, nature and extent of injuries
Weather conditions	These include wind direction and speed, humidity, pressure, and the forecast
Status of rail cars involved	Identify the condition of the cars involved
Identify hazards of the materials involved	Include potential hazards, and consider compatibility with other commodities involved
Distance to nearest populated areas	Considering potential evacuation
Nearby waterways	Include possible impact from run-off
Additional hazards	Impacted utilities (power lines, pipelines), as well as nearby facilities

INCIDENT RESPONSE – ADDITIONAL CONSIDERATIONS



The following are special considerations to take into account when responding to a railway incident and when formulating your local emergency response plan.

TUNNELS

A railway tunnel can pose additional safety hazards during a response, so proper pre-planning addressing these hazards is essential. In particular, an incident in a tunnel involving a release of dangerous goods may create a greater risk than one in an open area, as toxic vapors are not readily dissipated and may displace air normally available for breathing. A fire in a tunnel may consume the air, leading to an oxygen-deficient atmosphere.

In addition, extreme care must be taken not to introduce additional hazards into the tunnel. The generation of a hazardous atmosphere from gasoline or diesel powered equipment, welding fumes, chemical agents, and illuminating equipment may multiply the hazards already present.

The following is a list of additional factors to consider when responding to a rail incident inside of a tunnel:

- Air monitoring: conduct an initial survey and continuously throughout the response. The results will determine the required use of an SCBA or respirator.
- Visibility may be limited or non-existent due to smoke, soot or chemical vapors
- Possible high temperatures due to the presence of fire
- Structural failure may occur from initial impact or fire/chemical damage
- Variation in the track's grade may produce a chimney effect

If there is a rail tunnel in your jurisdiction, the following items should be taken into consideration when formulating the emergency response plan:

- Identify:
 1. Access points – portals, ventilation shafts, emergency exits, inspection manways
 2. Tunnel construction – length, curvature, gradient, height and width
 3. The location of electric, gas, water, fiber optic and pipeline utilities in relation to the tunnel
 4. Communication may be difficult or impossible via radio/cell – identify alternative methods
- Communication must be established at both ends of the tunnel to control entry
- Communication and lighting devices should be intrinsically safe.
- A personnel log must be kept of all people entering and exiting the tunnel
- Although ventilation units may be beneficial to remove fumes and vapors, they may also prove harmful in spreading a plume and fueling a fire.
- Foam generators may be an effective tool for fighting a tunnel fire.
- An alternative may be to seal the tunnel and smother the fire.

INCIDENT RESPONSE – ADDITIONAL CONSIDERATIONS (CONT.)

BRIDGES

Response to an emergency on elevated structures can create distinct challenges, such as excessive heights and lengths and difficulty in accessibility.

The following is a list of additional factors to consider when responding to a rail incident on an elevated structure, and when formulating the emergency response plan:

- Determining accessibility issues and required special assistance
- If over water, consider need for the U.S. Coast Guard, helicopter, and high level rescue team
- Notify downstream communities of possible impacts
- Consider structural damage due to fire or derailed equipment
- Additional hazards associated with bridges any include areas with limited natural airflow. Airborne chemical concentrations may become elevated in these areas.
- The impact on area dwellings, and places of business
- The requirement for specialized equipment: boats, barges and emergency seafaring equipment
- The closing and rerouting of public and private access routes, as well as navigable waterway traffic
- Downstream pollution control measures



PIPELINES

Pipelines are commonly laid under the railroad right-of-way, and many of these are used to transport dangerous goods. The pipelines may be buried parallel or even across the right-of-way under the tracks. The typical pipeline commodities can include natural gas, liquefied petroleum gas, gasoline, kerosene, diesel fuel and other petroleum products.

A derailment itself, or even the heavy equipment operations at a derailment site may disturb the right-of-way and damage buried pipelines. **The presence of pipelines carrying dangerous goods must always be considered when responding to a rail incident:**

- Look for posted pipeline markers and warning signs
- Identify the pipeline owner/operator and notify them. Pipeline operators have their own emergency response protocols when notified of possible damage to their lines
- Determine the commodity in the pipeline and if it has been breached, or if it has been impacted in such a way that a release is imminent. Look for signs such as pools of liquid, hissing sounds, or odors indicating a release
- Leave the area immediately if a release is discovered, and do not touch, breathe or make contact with vapors or liquids. Ensure all ignition sources are eliminated.
- Notify local emergency responders through the 911 system, warn others in the area and restrict access

For more information on pipeline response, visit the U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration at <http://www.phmsa.dot.gov/pipeline>, and in Canada, Natural Resources Canada at <http://www.nrcan.gc.ca/energy/infrastructure/pipeline-safety-regime/16440>.

INCIDENT RESPONSE - SITE SAFETY

When responding to a railway incident, be aware that the accident site can present additional hazards to the responder, even if no hazardous materials / dangerous goods are involved.



Bent/Stressed Rail

The wreckage may be unstable

You must be aware of tipping and leaning equipment which can move suddenly. Do not climb on or under any of the equipment - it is advised to stay at least 15 feet from all equipment.



Tipped/Leaning Equipment

Be alert for bent and stressed rail

These rails may be under pressure and could lash out suddenly.

Be aware of downed power lines and damaged underground gas pipelines

Power lines frequently run alongside the railway right-of-way and may be affected when there is an incident.

Pipelines can also run underground in close proximity to the railroad right-of-way. When at an incident, always check for the presence of pipelines. See Section [Incident Response – Additional Considerations](#) on page 26 for more information.



Downed Lines

Be aware of the presence of heavy equipment

Once the initial response phase has ended, clean up at an incident will require heavy equipment. Stay aware of this equipment, which may include cranes, side booms, bulldozers, and excavators.

For information on basic general safety precautions to take when on railway property, refer to section [Railway Safety – Basic Awareness](#) on page 18.



Sharp Wreckage

RESPONSE RESOURCES

CN INTERNAL RESOURCES

CN maintains an industry-leading team of Dangerous Goods Officers located at key terminals across its network, trained to respond to railroad emergencies and derailments, who can provide tactical advice, product knowledge and rail car expertise at an incident.

In addition to the Dangerous Goods Officers, CN has strategically placed emergency response assets, which include firefighting trailers, commodity transfer trailers, boom containers and other emergency response equipment. See page 62 or go to www.cn.ca/dg.

CN personnel can also serve as a crucial resource during an incident. Some of the internal resources that may be present on site:

- Transportation, Mechanical, Engineering Depts
- Environment Officers
- Railroad Police Officers
- Damage Prevention Officers
- Law and Risk Mitigation Departments
- Public Relations Officers

CN EXTERNAL RESOURCES

In the case of derailments or large spills, local responders do not have the equipment or expertise to handle large spill clean-up or railroad re-railing operations. CN recognizes its role in providing this specialized expertise and equipment to mitigate an incident. CN maintains standing contracts and agreements with various suppliers of these services.

- Railroad re-railing and wreck response contractors provide heavy equipment such as cranes, off-track lifting and heavy earth-moving equipment, as well as the operators and ground crews required to lift and re-rail damaged rail cars and locomotives.
- Emergency response (Hazmat) contractors provide vacuum equipment, pumping equipment, and cargo tanks for the recovery of spilled products.
- Environmental response contractors provide technical expertise in the on-site remediation or removal of contaminated water, soil, or debris from the site.
- Industrial hygiene and public health contractors provide technical expertise and equipment to perform on-site and off-site air and water sampling. These contractors are also used to develop work and exclusion zones, and to document any exposures.

Some specialized industrial hygiene contractors have specific scientific expertise in toxicology, risk assessment, occupational health, and response to emergencies or other events involving a release or threat of release of chemicals. These contractors assist CN in air monitoring and plume modelling to provide early warning to those who may risk exposure to a potentially harmful substance (See section [CN Air Monitoring and Plume Modelling](#) on [page 28](#)).



CN firefighting trailer, one of several located across the network



RESPONSE RESOURCES – CONT.

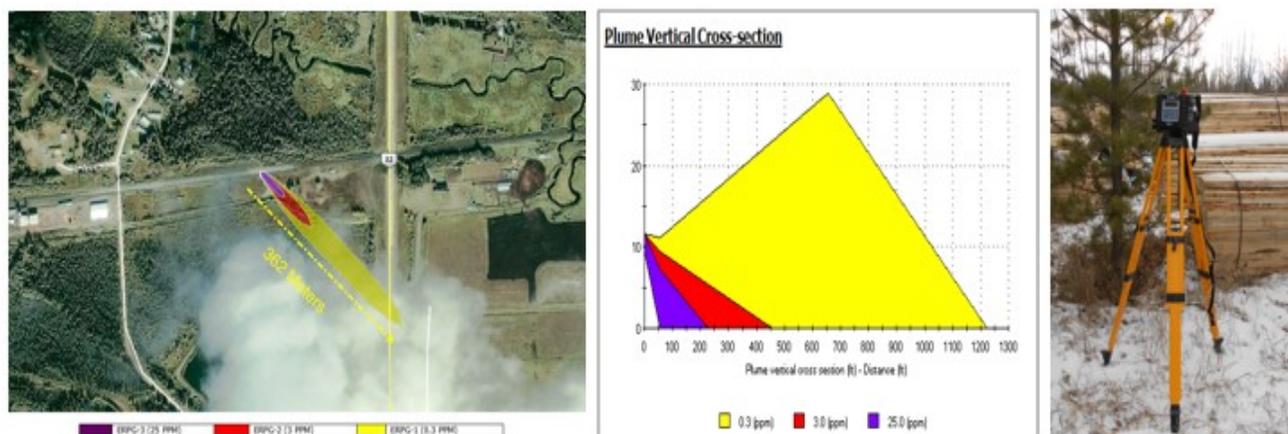
CN AIR MONITORING AND PLUME MODELLING

In the aftermath of a chemical transportation accident, timely and accurate information is critically important to saving lives and resources. It is also crucial to have this information in order to relay this information to the general public.

To assist Incident Commanders in assessing the impact of a gas release on a community along CN lines, CN employs a software system called SAFER One Hazmat Responder. SAFER One HR is a state-of-the-art plume modeling technology that is used to protect many of the world's largest industrial plants and their surrounding communities from the consequences of a chemical release but can be set up to manage a release event anywhere, even thousands of miles away.

Once the release site has been identified, SAFER One HR rapidly assembles appropriate maps, topographical data and meteorological data for the area. SAFER One HR allows the user to quickly understand the magnitude and scope of the incident, accurately modelling the effects of chemical accidents using powerful algorithms for addressing atmospheric dispersion, thermal radiation and blast overpressure modelling.

Ultimately, SAFER One Hazmat Responder software is designed to save lives and resources through the successful prediction and management of accidental chemical releases.



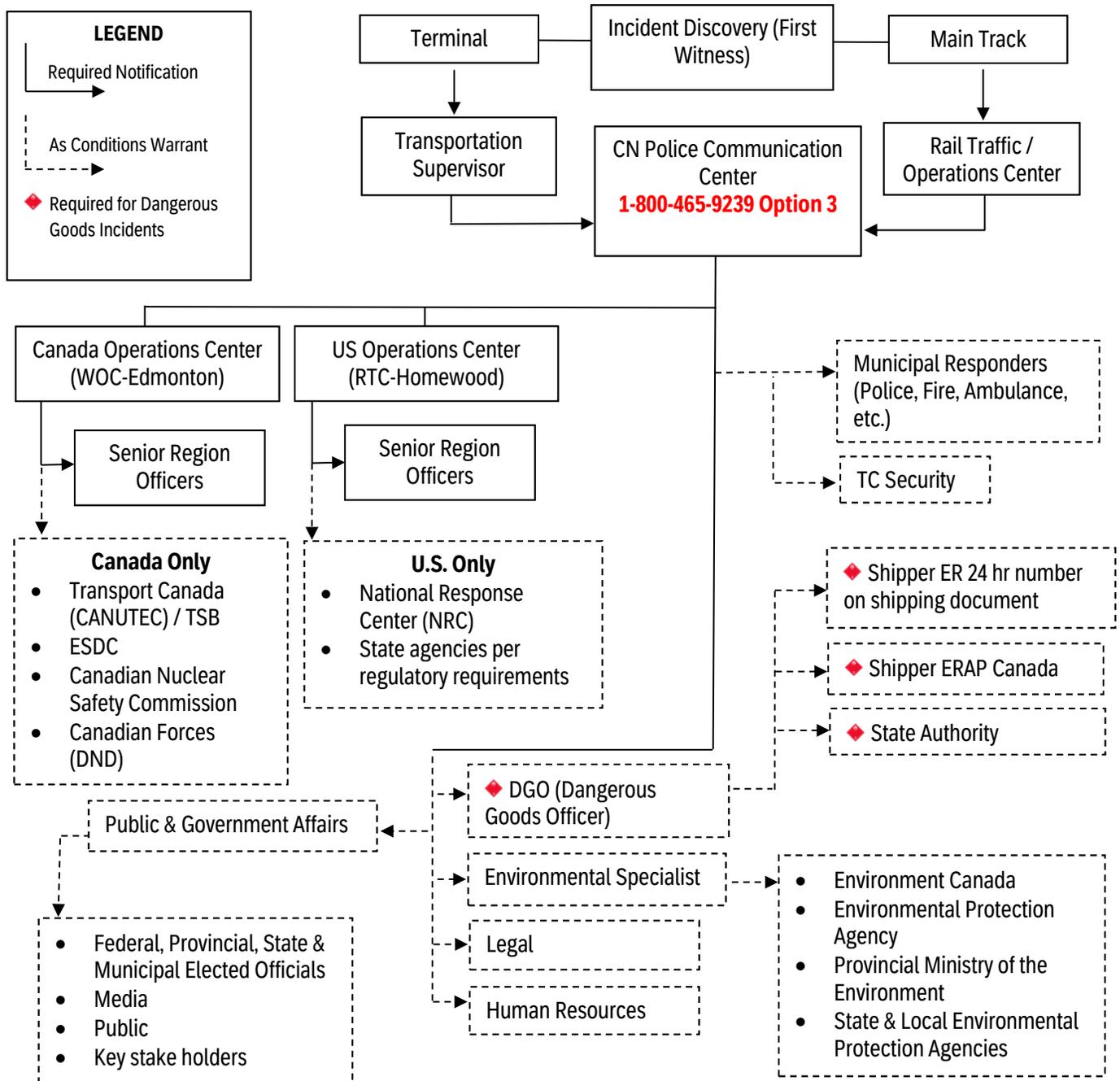
LOCAL RESOURCES

During an emergency operation, CN works with local emergency officials to identify local resources such as water supply equipment, emergency medical personnel, medical transport services, command posts, or food services. The senior or designated CN official will coordinate with the local Incident Commander to obtain these local resources, which remain under the control of the local authority as applicable.

CN NOTIFICATION PROCEDURE

The following displays CN's process for notification in the event of an incident. Various responders and stakeholders are alerted as required, depending on the nature of the incident.

When an incident occurs, whether in a rail terminal or on a mainline track, it is reported by CN Operations to the CN Police Communication Center (1-800-465-9239). The Communication Center employs a system which sends an automated message, advising all required internal stakeholders simultaneously.

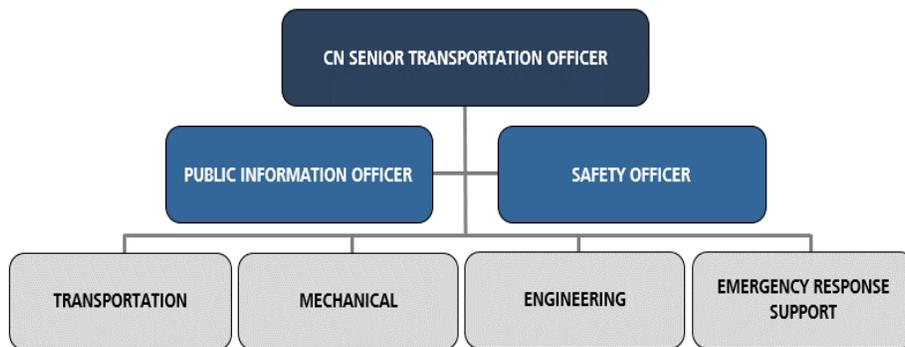


INCIDENT COMMAND

CN Railroad Incident Command

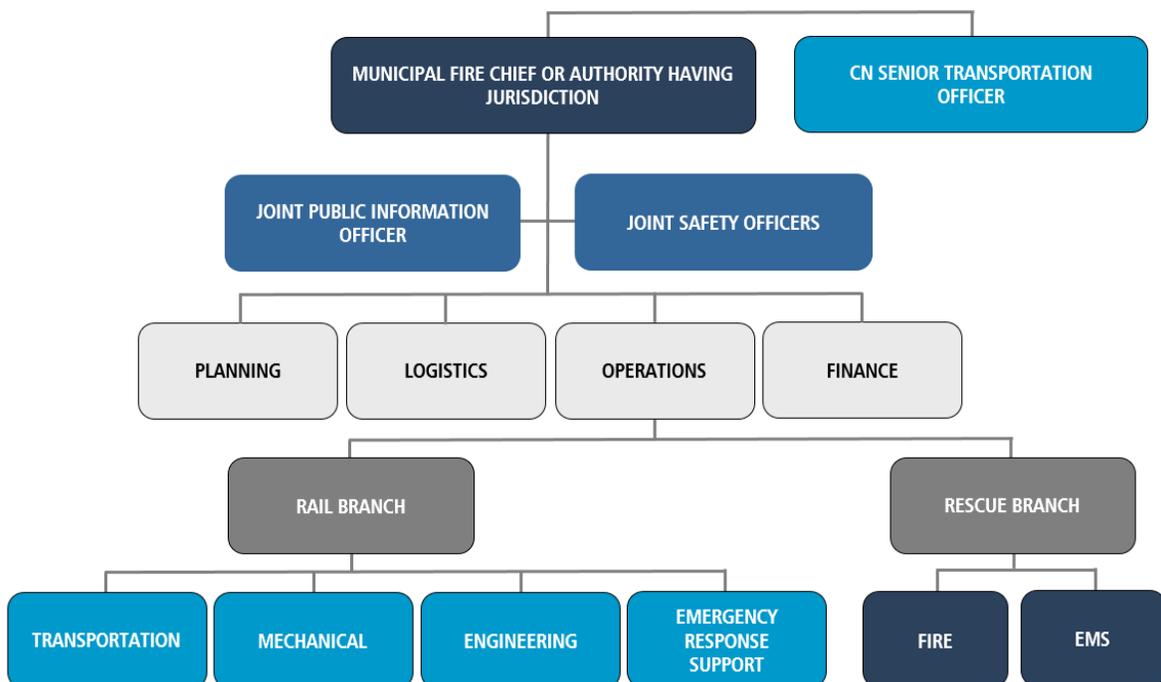
An Incident Command System (ICS) is required by US federal regulations under the National Incident Management System (NIMS), although CN applies the system within Canada as well during rail incidents, particularly those involving dangerous. This chart displays the internal Railroad Incident Command System model:

This chart demonstrates how CN's Incident Command structure can be incorporated into a Unified Command involving various response organizations, creating a link between the organizations responding to the incident and providing a forum for these agencies to make decisions.



CN Incident Command Structure under a Unified Command

This chart demonstrates how CN's Incident Command structure can be incorporated into a Unified Command involving various response organizations, creating a link between the organizations responding to the incident and providing a forum for these agencies to make decisions.



SECTION 4 – RECOGNITION & IDENTIFICATION

In the event of a railroad incident, being able to properly determine if hazardous materials are involved is crucial to a safe response.

There are many ways to do this, as regulations pertaining to dangerous goods / hazardous materials shipments require that the hazards of the shipments are properly communicated, either via rail car markings, placards or shipping papers.

This section demonstrates the various methods of recognizing and identifying dangerous goods shipments by rail.

Car Initial and Number – These are unique to every car in North America and are used to identify the car. The letter prefix often indicates the owner / shipper of the car. Rail cars will also feature additional information via markings.

Left Side:

- REPORTING MARK / NUMBER
- LD LMT (LB / KG)
- LT WT (LB / KG)

Consolidated Stencil

TYPE OF AIR BRAKE VALVES	→ DB – 10 DB – 20
CAR BUILT DATE	→ BLT 10-16

Right Side:

- DOT SP / SR / AAR ST
- COMMODITY NAME
- DOT / TC / AAR SPECIFICATION
- QUALIFICATION PANEL

Heads:

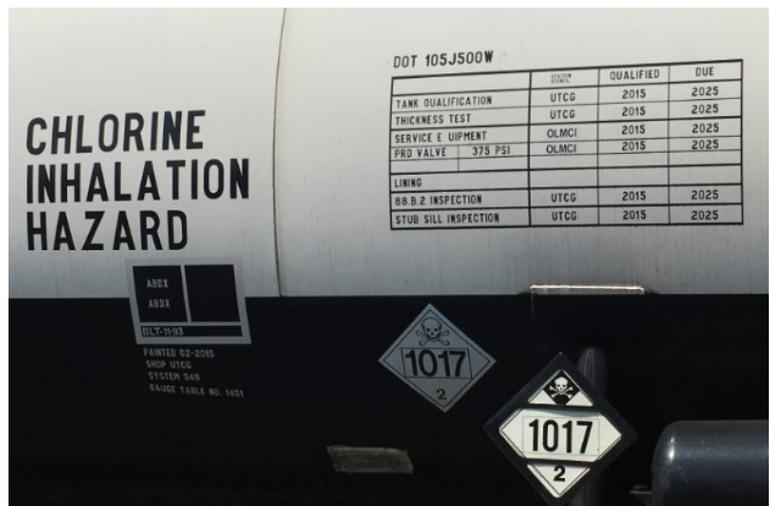
- REPORTING MARK / NUMBER
- CAPY (GAL)
- CAPY (L)

Commodity Name

– The U.S. DOT requires that certain dangerous goods have their proper shipping name stenciled on the side of the tank car.

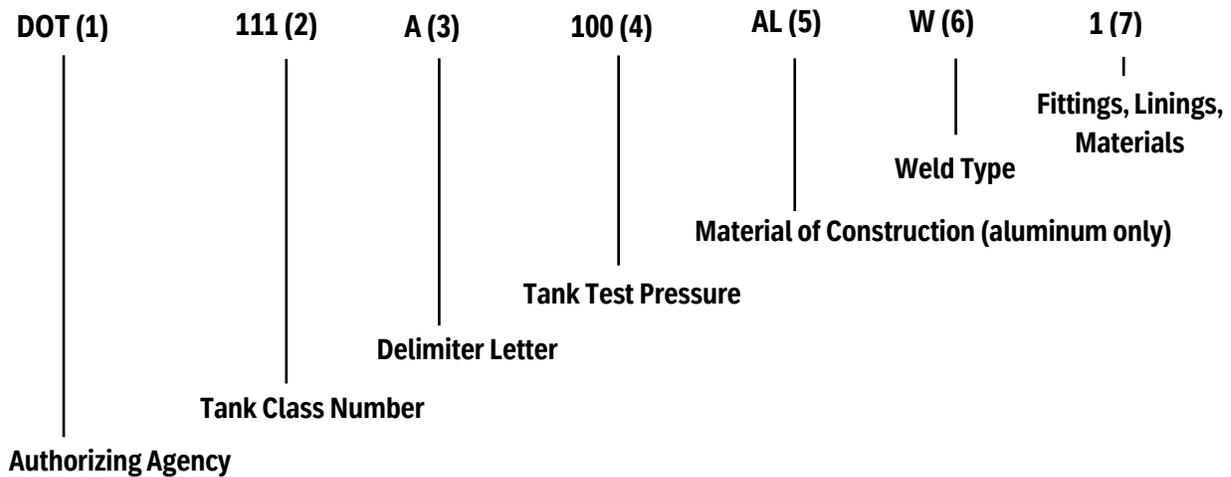
Hazard Warnings – Other markings that may be seen on rail cars are warnings specific to certain commodities, such as “Inhalation Hazard”.

Placards – These indicate that the commodity is hazardous and may feature the identification number on a numbered placard or on an orange panel. Placards provide the hazard class of the material.



TANK CAR SPECIFICATION

The specification is stenciled on the side of the car. As an example, the following is a breakdown of the marking system for a 111A100W1 specification tank car:



AUTHORIZING AGENCY (1)

DOT	US Department of Transportation
CTC	Canadian Transport Commission
TC	Transport Canada
AAR	Association of American Railroads

TANK CLASS NUMBER (2)

Non-Pressure	Pressure Tanks	Cryogenic
111, 115, 117	105, 109 112, 114, 120	103, 214

DELIMITER LETTER (3)

- A** – No special feature (used to separate the tank car class from the tank test pressure)
- S** – Equipped with head puncture protection
- T** – Thermal protection and head protection
- J** – Jacketed with thermal protection and head protection
- R** – Car has been retrofitted with safety feature
- H** – Tank car authorized for the transportation of PIH/TIH materials

Cryogenic Liquid Tank Cars

- A** – Authorized for minus 423°F loading.
- C** – Authorized for minus 260°F loading.
- D** – Authorized for minus 155°F loading.

Class-117 Tank Cars

- J** – Constructed to Class-117A specification.
- P** – Existing nonpressure tank car that meets performance standards for a Class-117A.
- R** – Existing nonpressure tank car that has been retrofitted to conform to the prescribed retrofit or Class-117A performance standards.

TANK TEST PRESSURE (4)

The pressure at which a tank car tank is to be hydrostatically tested at the time of construction.

MATERIAL OF CONSTRUCTION (5)

The letters AL appearing after the tank test pressure indicate that the tank was constructed of aluminum. For other materials of construction, no letters or numerals are shown.

WELD TYPE (6)

W – Fusion welded tank

I – Used to indicate interim design standards for a PIH/TIH tank car (ex: DOT112J500I). Cars meeting the "I" standards are authorized to reclassify to "H" as the Delimiter Letter (ex: DOT112H500W)

FITTINGS, LININGS, MATERIALS (7)

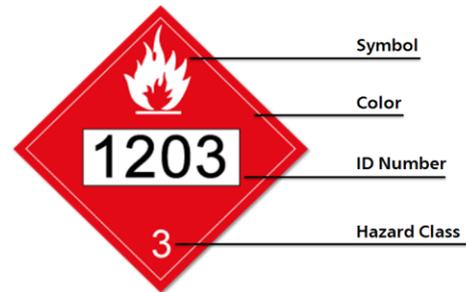
Specification	Insulation	Bottom Outlet	Bottom Washout	Other
111****W1	Optional	Optional	Optional	
111****W2	Optional	Prohibited	Optional	
111****W3	Required	Optional	Optional	
111****W4	Required	Prohibited	Prohibited	
111****W5	Optional	Prohibited	Prohibited	Lined
111****W6	Optional	Optional	Optional	
111****W7	Optional	Prohibited	Prohibited	

This section intentionally blank

PLACARDING, MARKING AND HAZARD CLASSES

Transport of dangerous goods regulations across the US and Canada require that the hazards of dangerous goods be communicated through markings, commodity names and hazard warnings. The most commonly seen markings, known as placards, are square-on-point shaped, and placed on the exterior of certain bulk container rail cars that are transporting dangerous goods or residues of these materials.

These placards provide responders with information on the hazards present within the container. It must be noted that many materials possess characteristics belonging to more than one hazard class, and therefore the hazard class information should be used in conjunction with information derived from other sources, such as shipping documents.



Placard on bulk package



Multiple placards on container

Commodity names / proper shipping names will most commonly be seen on bulk containers on both sides of the car, in letters of at least 3.9 inches high.

Other markings that can be found on rail cars are hazard warnings, specific to certain commodities. These warnings can include "Inhalation Hazard", "Marine Pollutant" and "HOT".

Dangerous goods are classified according to their chemical and/or physical properties. There are 2 worded classes (in the US only) and 9 numeric classes, some of which may be further divided into what are called *divisions*. A dangerous good is assigned to only one primary hazard class, even if it meets the definition of more than one hazard class.



An example of a hazard warning on an Anhydrous Ammonia tank car

The chart on the following page displays the hazard classes and divisions.

PLACARDING, MARKING AND HAZARD CLASSES – CONT.

The chart to the right lists the hazard classes and divisions in Canada and the US, along with the associated placards.

Placards

Canadian (TDGR) and IMDG placards are the same.

United States (49CFR) placards are worded.

UN Number

When the UN Number is required, it is indicated as follows:

Within a white rectangle across the middle of the placard;



OR

On an orange panel immediately adjacent to the placard.



Note that for United States placards, when required, the UN Number takes the place of the word.



Hazard Class	49 CFR	TDGR	Hazard Class	49 CFR	TDGR
1.1 Explosive with mass explosion hazard			3 Flammable liquid		
1.2 Explosive with projection hazard			4.1 Flammable solid		
1.3 Explosive with predominantly fire hazard			4.2 Spontaneously combustible material		
1.4 Explosive with no significant blast hazard			4.3 Dangerous when wet material		
1.5 Very insensitive explosive; blasting agent			5.1 Oxidizer		
1.6 Extremely insensitive detonating substance			5.2 Organic peroxide		
2.1 Flammable gas			6.1 Poisonous (toxic) material		
2.2 Non-flammable, non-poisonous (non-toxic) compressed gas			6.2 Infectious substance		
2.2 Oxidizing gases			7 Radioactive material		
2.3 (8) Anhydrous Ammonia in large package	N/A		8 Corrosives		
2.3 Gas poisonous (toxic) by inhalation			9 Miscellaneous Dangerous Goods		

PLACARDING, MARKING AND HAZARD CLASSES – CONT.

Additional Marking

The following table demonstrates additional markings that may be found on bulk packages such as tank cars and intermodal containers.

Mark	 49 CFR	 TDGR	Description
Combustible Liquid		N/A	The Combustible Liquid hazard class designation does not exist in Canada, however, these are permitted to be transported in Canada with these placards if they are moving to or from the United States
Marine Pollutant mark			These indicate that a release of the product into a waterway will harm the environment
Limited quantity mark		N/A	Indicate a shipment of dangerous goods transported in smaller quantities in smaller packages
Mixed Loads			Certain dangerous goods in mixed loads can be marked with a miscellaneous placard provided the packages do not exceed a certain size and the total quantity does not exceed a certain limit
Elevated temperature mark			Indicate an elevated temperature hazard for a product in a bulk package
Fumigation sign			When a container is fumigated using a dangerous good, the sign is affixed next to the entryways of the container, warning of the date of fumigation, name of fumigant, etc.
Orange panel			A panel containing the UN Number may be placed next to the primary class placard in lieu of on the placard itself

SHIPPING PAPERS / SHIPPING DOCUMENTS

The shipping paper / shipping document contains vital information about the dangerous good in the rail car. This example below displays what you will see and the facing page explains the terms on the documentation and what they will tell you as an emergency responder:

1	2	3	3 CBTX 727969 T5I L FLMLQD PULJCT NS 133 59 CRUESUPP _____ A2 HAZMAT-US TRAIN PLACEMENT GROUP 2 JC CDN MARSHALLING GROUP C JR ERAP PULLBY REQUIRED (CANADA) ***** * DANGEROUS * ***** W/B 691975 - 2017-03-21 ** DANGEROUS GOODS SHIPPING DOCUMENT ** TO:DUCK LAKE MS FROM:APPA AB CRUDE OIL SUPPLY CO CRUDE CO 2100 JOHN WALKER PARKWAY S HIGHWAY 123 EAST RANGE ROAD 2 TUSCALOOSA AL 35102 APPA AB S0H2T0
5	6	7	1 TANK CAR / 82789 KG UN1267 PETROLEUM CRUDE OIL CLASS 3 / PG II EMERGENCY 24-HOUR NUMBER USA (800) 424-9300 CCN 1234 EMERGENCY 24-HOUR NUMBER CDN (613) 996-6666 2-A-1234 ERP 2-1933-078 TEL (800) 265-0212 HAZMAT STCC 4910165 SHIPPERS CERTIFICATION: BOB SMITH I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.
9	10	11	***** * DANGEROUS * ***** W/B 691975 - 2017-03-21 ** DANGEROUS GOODS SHIPPING DOCUMENT ** TO:DUCK LAKE MS FROM:APPA AB CRUDE OIL SUPPLY CO CRUDE CO 2100 JOHN WALKER PARKWAY S HIGHWAY 123 EAST RANGE ROAD 2 TUSCALOOSA AL 35102 APPA AB S0H2T0 EMERGENCY 24-HOUR NUMBER USA (800) 424-9300 CCN 1234 EMERGENCY 24-HOUR NUMBER CDN (613) 996-6666 2-A-1234 ERP 2-1933-078 TEL (800) 265-0212 HAZMAT STCC 4910165 SHIPPERS CERTIFICATION: BOB SMITH I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.
13	14	12	***** * DANGEROUS * ***** W/B 691975 - 2017-03-21 ** DANGEROUS GOODS SHIPPING DOCUMENT ** TO:DUCK LAKE MS FROM:APPA AB CRUDE OIL SUPPLY CO CRUDE CO 2100 JOHN WALKER PARKWAY S HIGHWAY 123 EAST RANGE ROAD 2 TUSCALOOSA AL 35102 APPA AB S0H2T0 EMERGENCY 24-HOUR NUMBER USA (800) 424-9300 CCN 1234 EMERGENCY 24-HOUR NUMBER CDN (613) 996-6666 2-A-1234 ERP 2-1933-078 TEL (800) 265-0212 HAZMAT STCC 4910165 SHIPPERS CERTIFICATION: BOB SMITH I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

The following items correspond to the numbers in the shipping paper on the previous page and explains each one's purpose.

1. Position in Train	Indicates the location of the car in the train – the cars in a CN train are listed from front to rear
2. Car Initials and Numbers	Also known as “Reporting Marks”, these are the letters and numbers on the side of a rail car and are unique to each one. This is one of the most important pieces of information to obtain in order to access information on the contents of the rail car
3. Load or Empty	The shipping paper / document will indicate if the car is loaded or contains a residue. A car will contain a residue of dangerous goods if it has not been cleaned and purged. Placards do not indicate the load or residue status of a rail car
4. Shipper and Consignee	These indicate the shipper of the car and where it originated from, and the consignee section will show who will be receiving the shipment and the destination of the car
5. Package Type	This describes how the commodity is packaged. This can be a tank car, hopper car or a non-bulk package such as drums, totes, and bags
6. Quantity	The shipping paper / document will indicate how much product is being shipped, if loaded
7. Identification Number	Indicates the 4-digit UN (United Nations) or NA (North American) identification number
8. Proper Shipping Name	The name of the dangerous good
9. Hazard Class	Displays the hazard class or division number of the commodity. There are 9 hazard classes *Further details and descriptions of the 9 hazard classes is found on page 36. A secondary hazard class must be shown if one is required
10. Packing Group (PG)	A grouping of dangerous goods indicating relative severity of a material within its hazard class. Required for all except Classes 2, 7 or ORMDs (Other Regulated Materials). PG displayed in roman numerals: PG I = great danger PG II = medium danger PG III = minor danger
11. Emergency Response Phone Number	A phone number supplied by the shipper, which can be called to receive information on the dangerous good / hazardous material 24 hours/day
12. ERAP: Emergency Response Assistance Plan	Canadian regulations require that certain dangerous goods have an Emergency Response Assistance Plan (ERAP) when transported in Canada. The plan number and a telephone number to activate the plan are required to be displayed on the documentation.
13. Standard Transportation Commodity Code (STCC)	A number assigned to the specific product by railroads. Dangerous goods STCCs will begin with the number “48” or “49”
14. Shipper Certification	A certification of the shipment made by the consignor or by an individual acting on behalf of the consignor

Additional Information that may be found on a Shipping Paper / Shipping Document:

Marine Pollutant	When this appears on the documentation, it indicates that release of the product into a waterway will harm the environment
Limited Quantity (LQ)	“Limited Quantity” notation on the shipping document indicates dangerous goods that are in smaller quantities in smaller packages, oftentimes intended for consumer use and usually within a container (note: there may still be a significant amount of dangerous goods in the shipment)
Poison Inhalation Hazard (PIH) / Toxic Inhalation Hazard (TIH)	Indicates certain gases or liquids which may cause health problems if inhaled
Reportable Quantity (RQ)	The letters “RQ”, when required, indicate that the material is classified as a hazardous substance and if there is a release of the material which exceeds a certain amount, it requires notification of the National Response Center (US only)
Transport Canada Temporary Certificate / US DOT Special Approval / OTMA	Temporary Certificates and Special Permits allow for exemptions to certain regulations

FREIGHT TRAIN CONSIST

All CN crews will be in possession of a consist, or train journal, which lists the location of each rail car in the train. The following pages demonstrate what a CN consist looks like and important information which can be obtained from it.

For information on electronic consists, go to page 41.

Rail cars on CN trains are listed beginning from the first rail car behind the locomotive towards the rear of the train

Train list contains Canadian dangerous goods shipping records.

Cars in this train are counted from front to rear

TRAIN # < M 34371 22 > DEPARTING MATTESON IL generated 2015-01-01 AT 09:13

Train number and the station the train departed from

The summary box provides a quick view of the dangerous goods carried on the train

```

*****
*                               S U M M A R Y                               *
*   SPECIAL DANGEROUS - 0         DANGEROUS - 6         RESIDUE - 0         *
*   BAD ORDER - 5             DIMENSIONAL - 0         SPEED RESTRICTED - 0         *
*   POISONOUS INHALATION - 1     ESTOPPEL - 0         HEAVY AXLE LOAD - 0         *
*   ERAP - 1                   RSSM - 0                 *
*****
  
```

Dir	Op	Fac	DP	Code	HP	Avl	HP	Feet	Ton	Brk	DU	Axle	Fr	Stn	To	Stn
CN	2605	F	N	LN	4300	4300	73	197	6EF	N	6		MEMPHI		SYMINGT	
Total					4300	4300	73	197								

Seq	Car	L	Online	GRS	S/O-ZTS	DATE						
Num	Init	Number	Knd	E	Conten	Destin	RAJP	TON	LGT	CONSIGNEE	S/O-STN	TIME
Block MEMPF Setout MEMPHIS TN												
1	NW	140089	C5P	L	SAND	EFFING CSXT	127	68	EXXONMCHEMIC			
2	CN	32805	C5P	E		EFFING CSXT	132	68	EXXONMCHEMIC			
3	UP	32054	FB7	E		EFFING CSXT	128	68	EXXONMCHEMIC			

Position in train

Car initial and number

Signifies loaded or empty

FREIGHT TRAIN CONSIST (CONT.)

The following example demonstrates how a rail car containing dangerous goods will be displayed on a CN train consist.

Cars #4 & 5: These are not regulated dangerous goods, no product information is required

4	WS	32073	C5P	E	NEWTIL INRD 126	65	BEMIS
5	NS	37651	C5P	E	EFFING CSXT 127	64	EXXONMCHEMIC
6	SCMX	1042	T4F	L	FLMLQD	NEWTIL INRD 127	64 BEMIS

Car #6: This car contains dangerous goods

HAZMAT-US TRAIN PLACEMENT GROUP 2
CDN MARSHALLING GROUP C

* DANGEROUS *

W/B 968850 - 2016-09-21 ** DANGEROUS GOODS SHIPPING DOCUMENT **

TO/CONSIGNEE	FROM/SHIPPER
SBEAMER AB	SAUGET IL
SHELL TRADING	SHELL TRADING US
3500 1 st ST	4 PITZMAN AVE
CALGARY AB T2P 5H1	SAUGET IL

Dangerous goods hazard information will immediately follow the entry on a CN train consist

1 TANK CAR / 180,235 LB	Package type / Quantity of product
UN1193	Product identification number
METHYL ETHYL KETONE	Proper shipping name of the product
CLASS 3 // PGII	Hazard class / Packing group assigned to
EMERGENCY 24 HR NUMBER USA 800 424 9300	Emergency contact phone number(s)
EMERGENCY 24 HR NUMBER CDN 613 966 6666	
HAZMAT STCC 4909243	

ELECTRONIC CONSISTS

CN has transitioned from paper copies to electronic versions of train consists and shipping documents / shipping papers for the transportation of dangerous goods / hazardous materials. The use of electronic consists presents a change in how first responders can obtain copies of these documents.

The crew (conductor and engineer) will have electronic devices containing a copy of the train consist and shipping documents which can be shared in the event of an incident. The crew may share the information by directly handing over their device or may share via email or Bluetooth. If the crew cannot be located or the site cannot be approached, contact CN at 1-800-465-9239, option 3. CN will provide copies of the train consist and shipping documents to you or your dispatch center.

INTERMODAL TRAIN CONSIST

Because railroad intermodal cars may carry multiple trailers or containers on one railcar, the consists for intermodal trains will look slightly different from those for freight trains. The trailers or containers are listed after the rail car.

Denotes the car kind (ex: 3pack or 5pack)

1*	17 DTTX 766627 A2 JC DH DS TX	QS3	L FLMLQD	CHIINT	238 204	AGENT	HAZMAT-US TRAIN PLACEMENT GROUP 2 CDN MARSHALLING GROUP C DO NOT HUMP, KICK, DROP SWITCH OR HUMP INTO DXR -DIMENSIONAL-HEIGHT - SEE BLANKET MESSAGE FOR RESTRICTIO IN TRANSIT MOVE, BONDED THROUGH CANADA
2*	TX ZIMU 239450 KC1 L MDSE CHIINT 20C 20 ZIMINTSHICAN IN TRANSIT MOVE, BONDED THROUGH CANADA VESSEL SAILING DATE, SEATTLE EXPRESS TX CLHU 341717 KC1 L MDSE CHIINT 20C 20 ZIMINTSHICAN IN TRANSIT MOVE, BONDED THROUGH CANADA VESSEL SAILING DATE, SEATTLE EXPRESS TX ZCSU 253324 KC1 L MDSE CHIINT 40C 40 ZIMINTSHICAN IN TRANSIT MOVE, BONDED THROUGH CANADA VESSEL SAILING DATE, SEATTLE EXPRESS TX EXFU 527231 KC1 L MDSE CHIINT 20C 20 ZIMINTSHICAN IN TRANSIT MOVE, BONDED THROUGH CANADA VESSEL SAILING DATE, SEATTLE EXPRESS TX CPIU 300312 KC1 L MDSE CHIINT 20C 20 ZIMINTSHICAN IN TRANSIT MOVE, BONDED THROUGH CANADA VESSEL SAILING DATE, SEATTLE EXPRESS A2 SNIU 122791 KC1 L FLMLQD CHIINT 20C 20 ZIMINTSHICAN HAZMAT-US TRAIN PLACEMENT GROUP 2 JC CDN MARSHALLING GROUP C TX IN TRANSIT MOVE, BONDED THROUGH CANADA VESSEL SAILING DATE, SEATTLE EXPRESS						
<pre> ***** * DANGEROUS * ***** W/B 416970 - 2012-09-20 ** DANGEROUS GOODS SHIPPING DOCUMENT ** TO: CHIINTTER IL FROM:ROBBANK BC ZIM INTEGRATED SHPG SVCS (CDA) CO ZIM INTEGRATED SHPG SVCS (CDA) CO CHICAGO INTER TERM IL 1167 COVINGTON ST VANCOUVER BC 1 TANK / 19500 KG UN1126 1-BROMOBUTANE (1-BROMOBUTANE) CLASS 3//PG II EMERGENCY 24 HOUR NUMBER 800 251-1128 HAZMAT STCC 4909129 </pre>							



Dangerous Goods information for container within this 3pack

1* : Car initial and number (Reporting Mark)

2* : Containers on the rail cars

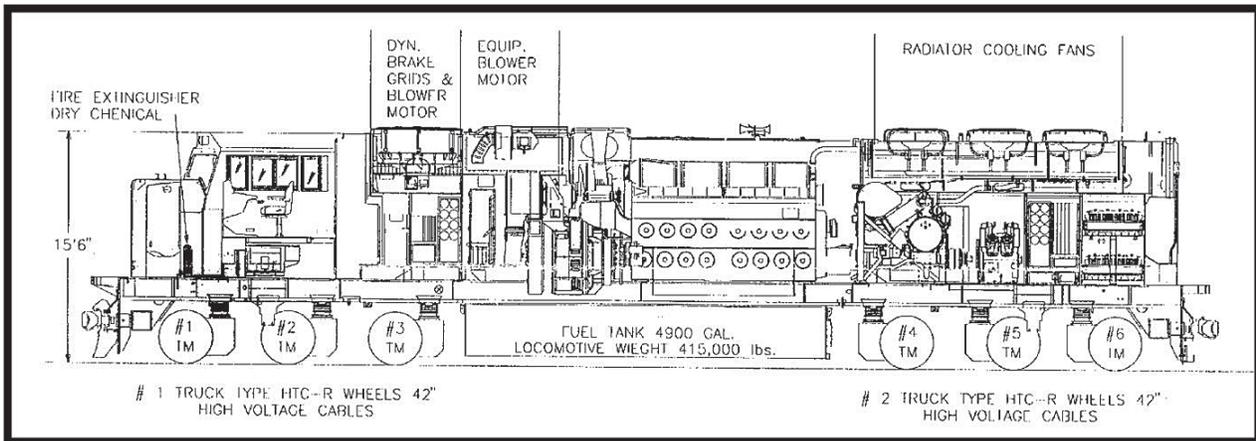
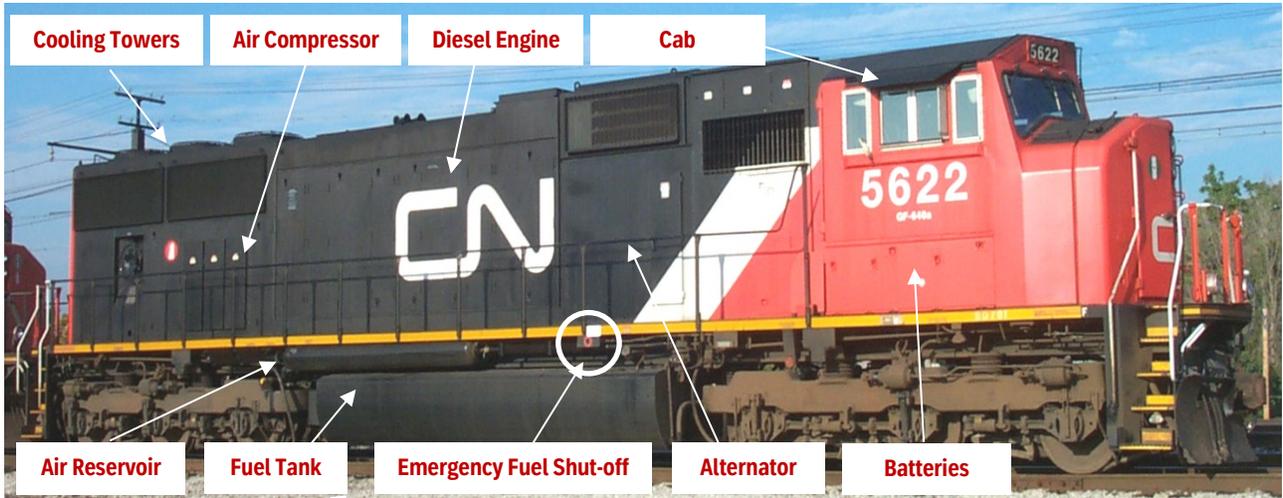
APPENDIX A: RAILROAD EQUIPMENT

LOCOMOTIVES

Railroad locomotives can present hazards of their own that first responders must be aware of. Some features of locomotives:

- Diesel fuel tanks - up to 6,000 gallons
- Electrical - 600 volts DC, 220 volts AC
- Lube oil - up to 410 gallons
- Coolant - up to 380 gallons
- Battery acid - up to 50 gallons
- Compressed air

Be aware that a typical locomotive will have a weight of over 400,000 pounds



Emergency fuel shut-off buttons are found on:



Each side of the frame of the locomotive, externally

On the electrical cabinet inside the locomotive cab



GENERAL RAILROAD EQUIPMENT

Dangerous Goods may be transported in many different car types. Below are descriptions of these cars and the typical commodities they carry.

Flat Cars

These transport lumber, pipe, and machinery, and may have bulkheads at each end or be equipped to carry autos, containers or trailers



Box Cars

Box cars transport a vast array of commodities, including many in small packages. These cars may be insulated



Covered Hopper Cars

These cars often transport dry dangerous goods in bulk, such as fertilizer (an oxidizer). Other commodities can include flour, grain, soda ash and cement



Automobile Carriers

"Auto racks" are a type of flat car designed to transport vehicles. These may have several levels and can carry up to 18 vehicles. The vehicles may contain fuel, battery acid, air bag inflators and refrigerants



GENERAL RAILROAD EQUIPMENT (CONT.)

Gondola Cars

These are often used to transport scrap metal, pipe, and contaminated soil/waste, and specialized coil gondola cars carry coiled steel products. If carrying dangerous goods, they will usually have a cover on top



Open Top Hopper Cars

Transport dry commodities, such as stone and coal. Will seldom carry dangerous goods

Air Cars

Generally used in colder seasons and placed in the middle or end of train. These are used to assist in generating air for braking control in trains. Potential dangers may include air compressor, diesel fuel, and battery acid



Mechanical Refrigeration Cars

Refrigeration units – hazards posed: fuel tank and batteries with acid

GENERAL RAILROAD EQUIPMENT (CONT.)

Container

Intermodal container being lifted with a crane. These units can contain a wide variety of goods, including hazardous materials

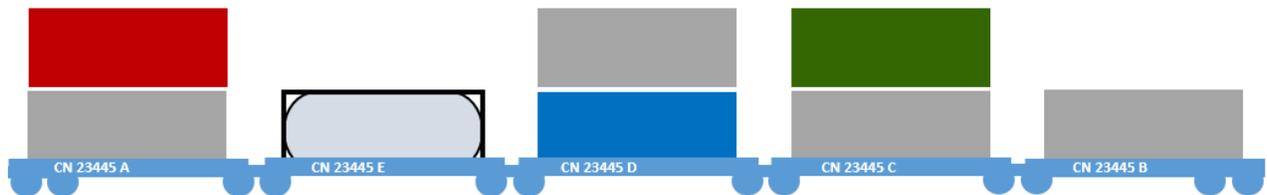


Containers in Well Cars (Five-Platform Car, Double-Stack Formation)

Containers and intermodal portable tanks can be placed as single units or may be double-stacked into well cars



Some well cars may be in a "three-pack" or "five-pack" configuration. This means that although it may appear to be an individual well car, it is actually part of a larger articulated unit which shares sets of trucks. Each individual unit of a multi-unit well car configuration will have the same reporting mark (car number) followed by a letter to distinguish it, such as A through E.



End of Train Device (EOT)

Mounted on the trailing coupler of the last car of the train and connected to the train brake pipe via a glad hand connection



Air Turbine EOT



Battery Mounted EOT

NON-PRESSURE TANK CARS



Non-pressure tank cars are also known as General Service, Low Pressure, or General Purpose tank cars. Acid Service tank cars are a subset of non-pressure cars. These will be referred to throughout this guide as non-pressure cars. Despite the name, these cars will have some pressure during transportation. The tank test pressure range is between 60 psi to 100 psi.

These are the most common type of tank car in use today, transporting a wide variety of liquid commodities. A typical tank thickness is 7/16 to 9/16 inch thick, with capacities of 6,000 to 33,500 gallons and a loaded weight of up to 286,000 pounds. Materials in the following hazard classes may be transported in non-pressure tank cars:

Hazard Class Number	Typical Commodities
3	Petroleum Products, Ethanol
4	Molten Sulfur
5	Hydrogen Peroxide 70%, Ammonium Nitrate Solution
6	Phenol
8	Sulfuric Acid, Hydrochloric Acid, Sodium Hydroxide
9	Ethylene Glycol, Coal Tar
Non-regulated	Syrup, Food, Clay Slurry, Citric Acid

The most common non-pressure tank cars in use today are DOT-111 and AAR-211. Notable differences in the non-pressure tanks cars are as follows:

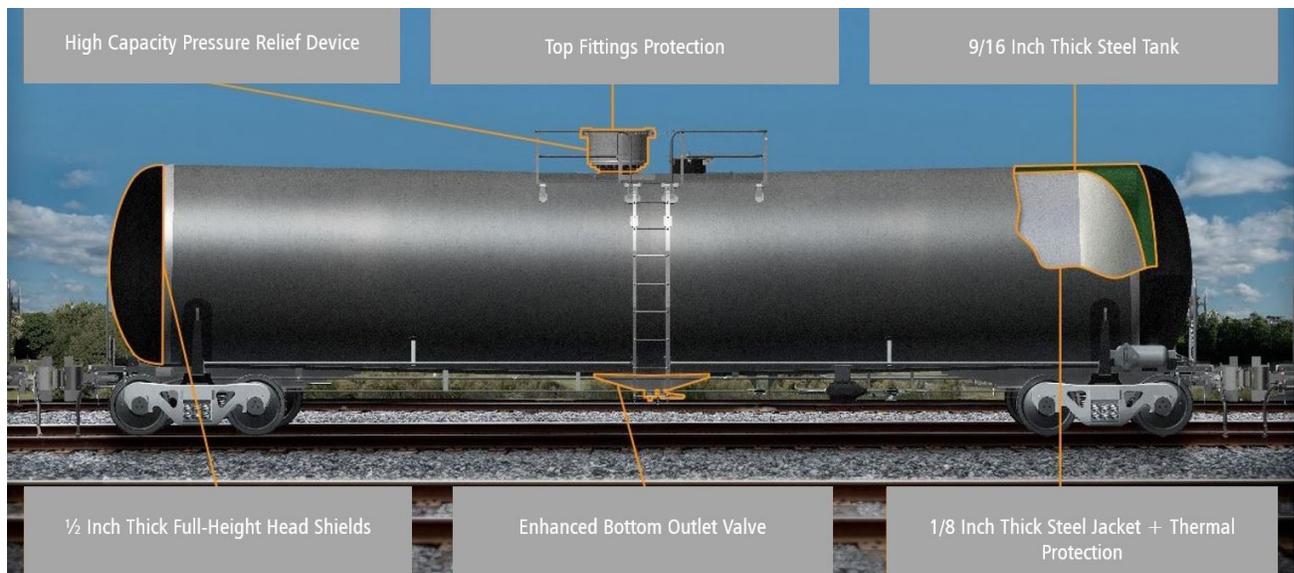
Car Type	Unique Features
DOT / TC 111	Most common tank car, wide variety of fittings / configurations, min 7/16" thick tank
DOT / TC 115	A tank within a tank construction with insulation between the tanks.
DOT / TC 117	Min 9/16" thick tank, full head shield, thermal protection, detachable bottom outlet valve handle, protected pressure relief valve (PRV) – more details on following page
AAR 206	Temperature-sensitive products, very efficient insulation, may be divided into compartments, 60 psi test pressure
AAR 211	General weld construction is different from the 111 cars. Additional / special fittings for AAR cars

Evolution of DOT-117 Tank Car

In 2009, the rail industry, working together with producers and shippers, voluntarily instituted an interchange rule improving the specifications of the DOT-111, dubbed the CPC-1232. The rule required that all DOT-111 tank cars built after September 2011 and used in flammable liquid service, packing groups I and II, should be upgraded to the new specification. The CPC-1232 upgrade included thicker tank shell, top fittings protection (protective housing) and a minimum of a half-height head shield.

In 2015, legislation was introduced in both Canada and the US, requiring a new enhanced tank car specification, the DOT-117, to be used for the transportation of all flammable liquids. A risk-based retrofitting schedule is assigned to phase out transportation of these products from the older DOT-111 (known as the legacy DOT-111) to the new DOT-117 specification tank car.

Details of the DOT-117 safety features:



Enhancements to DOT-117 Specification Tank Car

Full-height head shields, at least 1/2 inch thick

Thermal protection system

Increased tank shell thickness to 9/16 inch

Enhanced bottom outlet valve handle, if equipped

Top fittings protection

High capacity pressure relief device

Steel jacket

NON-PRESSURE TANK CARS – VALVES AND FITTINGS

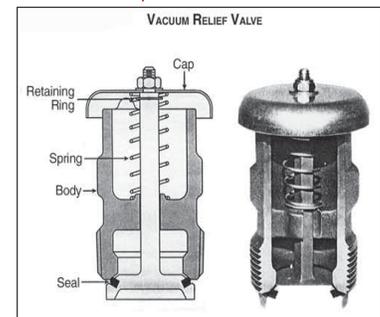
Non-pressure tank cars carry a wide variety of commodities; therefore several different types of features may be found on them:

Manway	Heater coils
Top loading / unloading valves	Insulation
Vacuum relief device	Bottom outlets
Pressure relief device	Thermal protection
Jackets	Sumps

Manway

Manways are openings in non-pressure cars used as access points for loading and unloading the contents of the car, and will normally have 6 to 8 bolts, and a gasket used to form a seal.

Some manways may have a vacuum relief device mounted on the lid, which allows air into the car.



Pressure Relief Device (PRD)

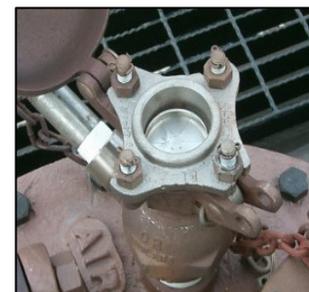
During the normal course of transportation, the pressure relief device should not activate, as the device is there to relieve pressure in case of emergency.

There are two types of pressure relief devices: spring and rupture disc. A spring-type PRD is the type which can be internally exposed to the product or external. Each performs the same function, which is to relieve pressure in the car. If pressure rises within the car, the spring will collapse, and vapors will be released from the car. Once the pressure is relieved, the spring will reseal the car.

The other type of pressure relief device is the rupture disc. Rupture discs are used on corrosive commodity cars and will not reseal the car once pressure has been relieved.



Spring-type pressure relief device



Rupture disc-type pressure relief device

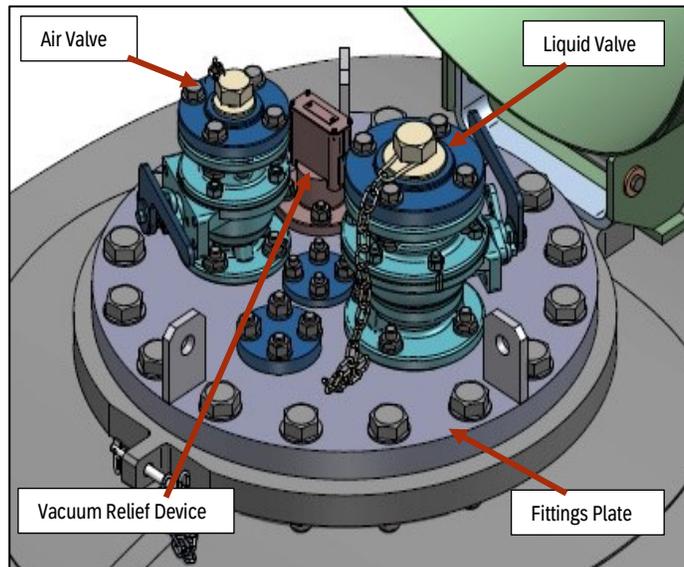
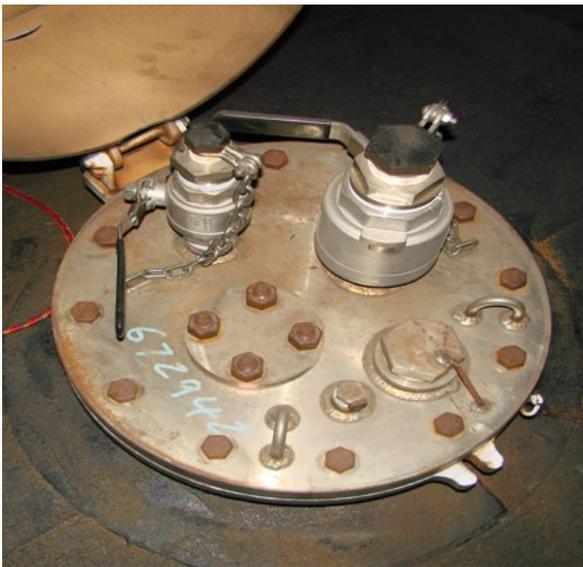
NON-PRESSURE TANK CARS – VALVES AND FITTINGS

Combination Housing / Protective Housing

CPC-1232 specification DOT-111 cars and all DOT-117 cars will have a protective housing which contains all of the valves and fittings (except the manway).



Legacy DOT-111 tank cars have combination housings. Combination housings are located on the top of these non-pressure tank cars, and house various valves and fittings.



The above photo shows the liquid and vapor valves, the liquid valve usually being the larger of the two. These are situated in line with the center of the car's curvature. Mounted below the liquid valve is an eduction tube used to draw liquid from the bottom of the tank car.

Depending on the type of commodity transported, the combination housing may also contain fittings such as vacuum relief devices, thermometer wells and gauging devices.

NON-PRESSURE TANK CARS – VALVES AND FITTINGS

Bottom Outlet Valves (BOV)

Bottom outlets are commonly used valves on non-pressure tank cars, used to load and unload product from the bottom of the car. There are many different types of BOV: ball valve, wafer-sphere or butterfly style, all operated from underneath the car. Some cars are equipped with top-operated bottom outlet valves, which are a type of valve attached to a rod that passes up through the tank car and through a stuffing box on top of the tank.



Cut-away of the ball valve

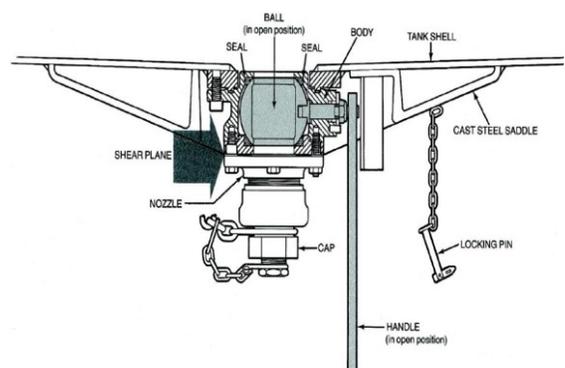


Spring closure bottom outlet valve

These bottom outlet valves are protected by a system known as “skid protection”. This system is designed to allow the loading / unloading attachments to be sheared off during an accident, leaving the bottom outlet intact and preventing a release of product



Bottom outlet valve on tank car, skid protection – external view

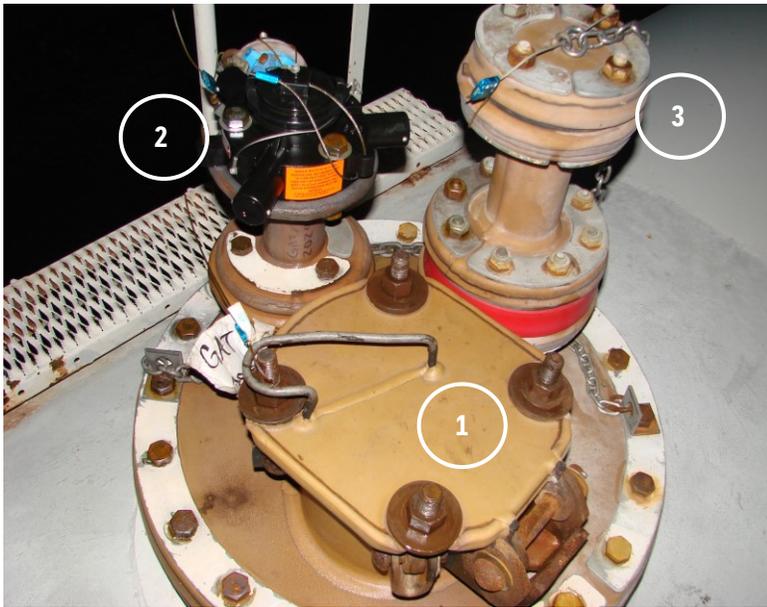


© Copyright, General American Transportation Corporation

Bottom outlet valve on tank car– internal view

NON-PRESSURE TANK CARS - ACID SERVICE

Corrosive commodities are shipped in a tank car with a valve arrangement which differs from other non-pressure tank cars. The fill hole has an arrangement of three or four bolts, rather than the typical six to eight bolts. For off-loading there is a liquid line and an air line, and these corrosive cars will have blank flanges instead of valves as well as a pressure relief device. Acid cars will usually have a rupture disc but may have an external-type spring pressure relief device. Acid cars will usually have a rupture disc but may have an external-type spring pressure relief device.

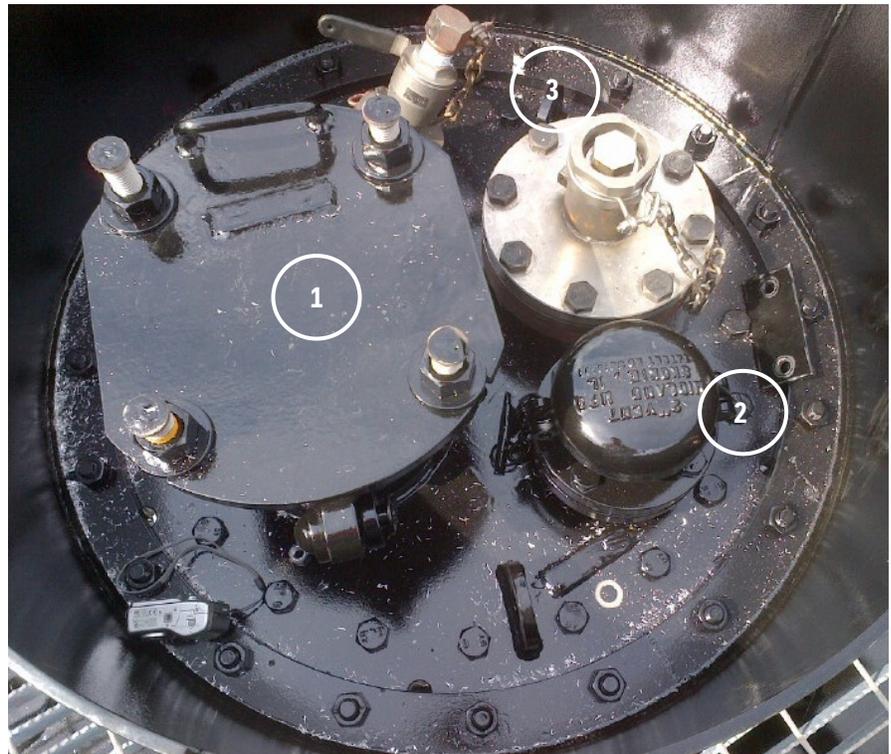


Hydrochloric Acid Valve Arrangement

1. Fill Hole
2. Pressure Relief Device: Rupture Disc Type
3. Liquid Line Assembly

Sulfuric Acid Valve Arrangement

1. Fill Hole
2. Pressure Relief Device: Rupture Disc Type
3. Liquid Line Assembly



PRESSURE TANK CARS



Pressure tank cars are used for the transportation of liquefied compressed gases (class 2 commodities) or the over-packaging of liquids. They have a tank test pressure ranging from 100 psi to 500 psi.

An identifying characteristic of a pressure tank car is the single protective housing on the top of the car, in which all of the valves and other devices are located. The thickness of the tank ranges from 9/16 to 1-1/4 inches and they can have a capacity of up to 33,500 gallons with a loaded weight of up to 286,000 pounds. The following are a few of the commodities typically transported in pressure tank cars:

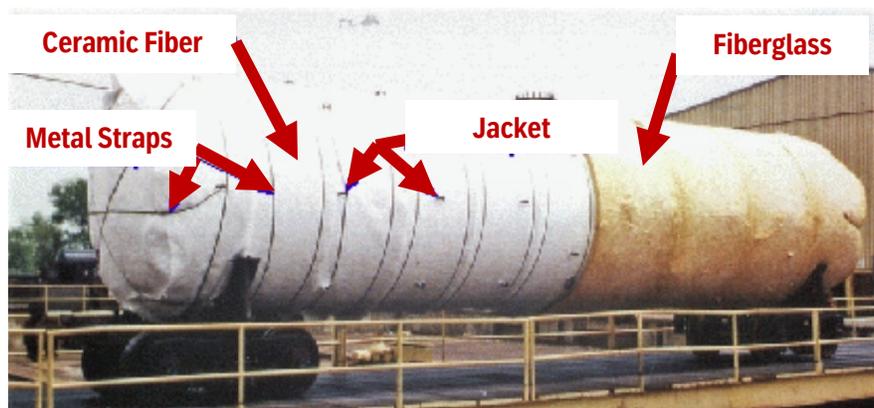
Hazard Class Number	Typical Commodities
2	Butane / Propane / Vinyl Chloride / Chlorine / Ammonia
3	Natural Gasoline

Transporting such a diverse array of commodities within the Class 2 family requires a variety of features. The following may be found on a pressure tank car depending on the commodity being transported:

Top loading / unloading valves	Insulation
Sample Valve	Magnetic gauging device
Pressure relief device	Thermal protection
Jackets	Thermometer wells

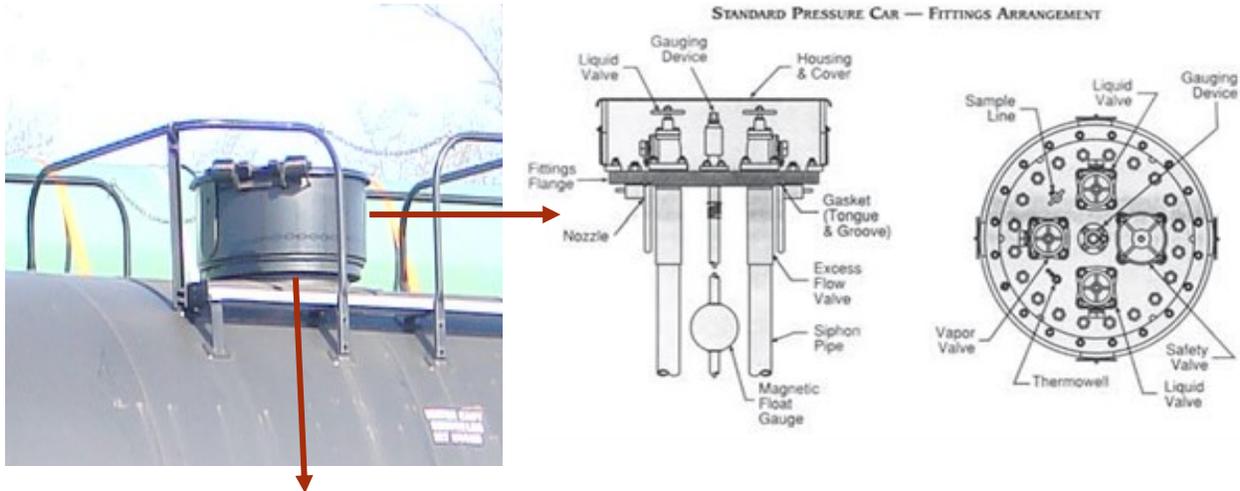
Thermal Protection

Some tank cars will have thermal protection, which is made of a ceramic fiber and applied directly to the outside of the tank. This thermal protection system is intended to provide thermal resistance when subjected to a pool fire for 100 minutes or a torch fire for 30 minutes.

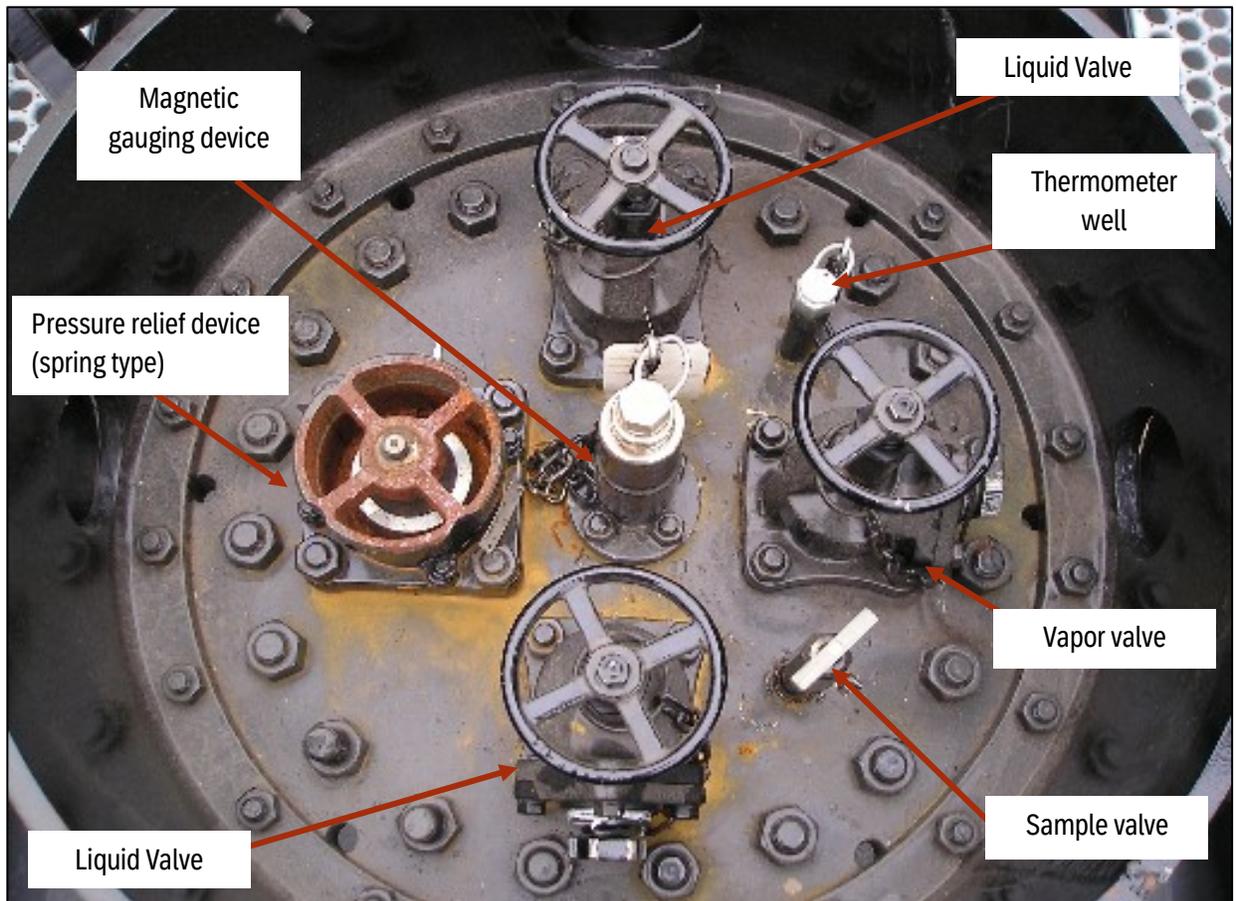


PRESSURE TANK CARS – VALVES AND FITTINGS

The valves on a pressure tank car are designed to transport a wide variety of commodities. The following pages display the various valves found on pressure cars within the single protective housing.



Pressure Car Valve Arrangement



PRESSURE TANK CARS – VALVES AND FITTINGS

All valves are required to be equipped with a shipping plug that is installed tool tight when in transportation. Most pressure cars will have a two-inch NPT outlet.

Excess Flow Valve

Mounted underneath valves that are open to the product is an excess flow valve. This device is intended to slow the flow of product if the valve is sheared off the car. The excess flow valve comes in a variety of sizes depending on the weight of the commodity.



Pressure Relief Device (PRD)

The size of the pressure relief device (PRD) will differ depending on the commodity being transported. The larger a valve is, the more cubic feet per minute (CFM) of vapor the valve can release from the car. The size of the valve is not an indicator of when it is set to discharge. The spring of the valve is set to discharge at a given pressure. A “spring-type” valve is used on pressure cars:



Internal spring



External spring



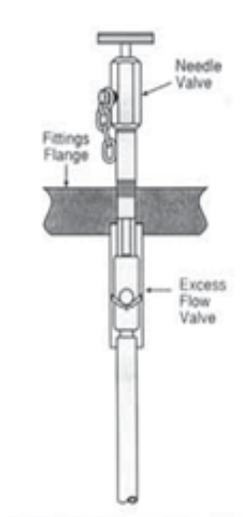
Angle Valve – Plug Style

The same valve is used as the liquid or vapor valve

PRESSURE TANK CARS – VALVES AND FITTINGS

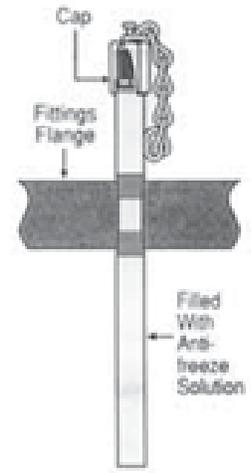
Sample Valves

Sample valves are used to take a sample of the commodity for purity or specification testing. The sample line is open to the product in the car, so for this reason it will have an excess flow device in the education tube.



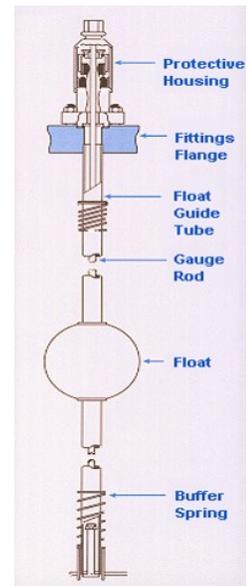
Thermometer Well

The thermometer well is a sealed system and is closed to the product. The tube is often filled with anti-freeze liquid. There is no thermometer in the well, it is only called that as it is the location where the temperature is capable of being taken.



Magnetic gauges

A magnetic gauge is used to determine how much product is in a tank car. It is a closed system which uses a ball float with a magnet on a gauge rod.



SPECIAL COMMODITY PRESSURE TANK CARS

Cryogenic Tank Cars

Cryogenic tanks are designed as a tank-within-a-tank configuration. The inner tank is a stainless steel or a nickel metal which is rated for a temperature of -130°F or colder. The outer tank is made of carbon steel. There is insulation between the tanks and a vacuum is applied. Tank test pressures can range from 60 to 120 psi.



All of the tank's valves are located in ground level cabinets that will be in the center of the tank car on either side or on opposite corners on either side of the tank car. Vent pipes must direct any product up and away from the cabinet or tank.



It is important to remember that these commodities are extremely cold, so proper protective equipment is required when responding to an incident involving cryogenic materials.

Carbon Dioxide (CO2) Tank Cars

CO2 tank cars are different from a typical pressure tank car. The protective housing will have several pipes protruding from it, with each pipe being marked with its function.

Venting from the regulating valve is a normal function, and a notice stating this will be marked on the protective housing next to the regulating valve pipes.

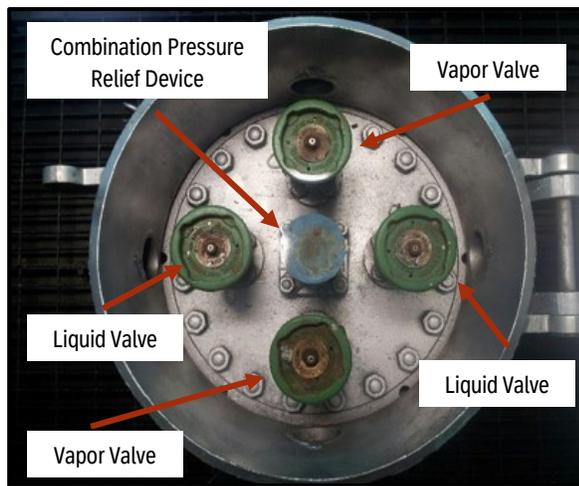


SPECIAL COMMODITY PRESSURE TANK CARS (CONT.)

Chlorine Service Tank Cars - Current

Chlorine service tank cars have two liquid valves with excess flow devices and two vapor valves without excess flow devices. These valves are one inch outlets.

Chlorine car pressure relief devices are known as combination devices and have either a break pin assembly or a rupture disc mounted below the external spring valve. This variation is meant to protect the spring from the corrosive properties of chlorine.



Chlorine Service Valve Arrangement



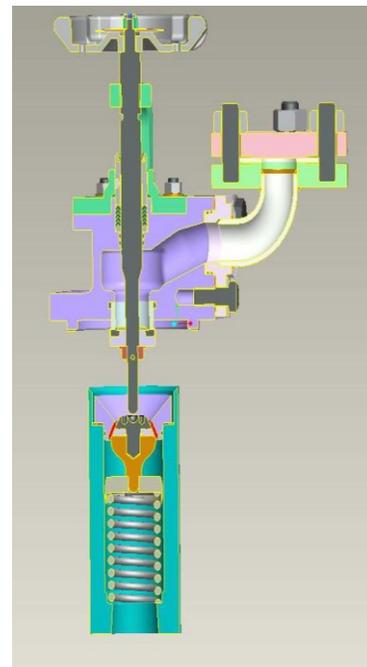
Chlorine Service Pressure Relief Device



Chlorine Service Valve

Chlorine Service Tank Cars - Next Generation

Next Generation chlorine service cars use a different valve arrangement and a new type of valve. The housing is larger than the current housing and there is only one vapor valve. The valve does not use an excess flow device but is instead equipped with a spring-type flow device.



INTERMODAL TANKS

Intermodal tanks are used in all modes of transportation and interchanged between countries. These types of tank are mounted in a supporting frame.

Intermodal tanks are categorized into three separate types: Pressure, non-pressure, and cryogenic. Most are made of stainless steel.

T1 through T22 (US DOT IM 101 & 102), pictured here, are non-pressure tanks. The fittings on these tanks may include top servicing equipment such as a liquid and vapor valve, manway, pressure relief device and a vacuum relief device.

A bottom outlet may be located on one side in the bottom corner. Unlike a tank car valve, there is an internal spring valve then an outer valve. A remote shut off should be located on the right side of the tank as you face the valve.



Intermodal Tank Type	UN Tank Type	Maximum Allowable Working Pressure (MAWP)
Non-pressure tank	T1 to T22 (IM 101)	25.4 – 100 psi
Non-pressure tank	T1 to T22 (IM 102)	14.5 – 24.5 psi
Pressure tank	T50 (Spec 51)	100 – 500 psi
Cryogenic tank	T75	Varies depending on commodity



T50 (Spec 51) – pictured above. These tanks are designed for liquefied gases such as LPG or ammonia and have a capacity of around 5000 gallons. Their pressure relief device is mounted on the top and is recessed into the tank. The off-loading valves are located on the bottom corner inside a protective housing. A remote shut-off should be located on the right side of the tank, when facing the valve.

INTERMODAL CONTAINERS

Intermodal containers are used in all modes of transportation and are interchanged between countries.

Intermodal containers can ship just about anything that can fit through the doors. The container sizes typically range from 20, 40 and 53 feet. Dangerous goods are packaged in non-bulk containers prior to being loaded in the container.



It is very common to see mixed commodities within containers, and a single container could have several different types of dangerous goods.

Loads within containers can shift, so caution must be used when opening container doors.



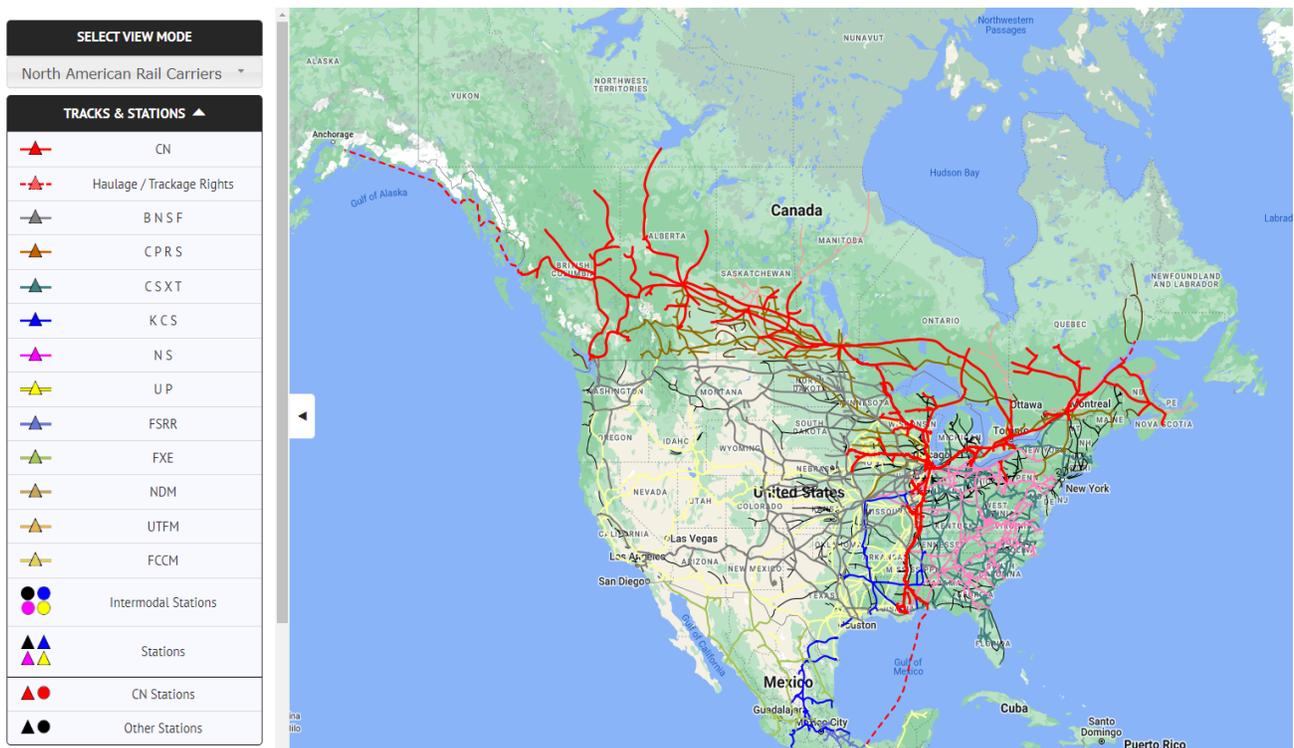
APPENDIX B: ADDITIONAL RESOURCES FOR THE FIRST RESPONDER

There are numerous resources available to assist responders in planning, preparing for, and responding to railroad incidents.

CN NETWORK MAPS

CN makes available various maps which display the stations across its network. The interactive map can be found online at:

<http://cnebusiness.geomapguide.ca/>



FIELD GUIDE TO TANK CARS

The Association of American Railroads compiles a guidebook on railroad tank cars' classification, construction, fittings, and more. This guidebook is available for free online at:

<https://www.aar.org/boe>

ADDITIONAL RESOURCES FOR THE FIRST RESPONDER (CONT.)

ONLINE SOURCES OF INFORMATION

Name	Description	Website Address
American Chemistry Council	Association of American chemical producers and manufacturers	www.americanchemistry.com
American Short Line & Regional Railroad Association	A resource for short line railroad information in the United States	www.aslrra.org
AMTRAK	American rail passenger service provider	www.amtrak.com
Association of American Railroads (AAR)	American railroad industry association	www.aar.org
Center for Toxicology and Environmental Health	Risk assessment and toxicology	www.cteh.com
CANUTEC (Canadian Transport Emergency Centre)	Resource for transportation incidents involving dangerous goods	www.tc.gc.ca/canutec
CHEMTREC (Chemical Transportation Emergency Center)	Resource for transportation incidents involving hazardous materials	www.chemtrec.com
Chlorine Institute	Association of Chlorine producers and distributors	www.cl2.com
Chemistry Industry Association of Canada (CIAC)	Association of Canadian chemical producers and manufacturers	www.canadianchemistry.ca
Environment Canada	Canadian environmental agency	www.ec.gc.ca
Federal Emergency Management Agency	US government disaster response and recovery agency	www.fema.gov
Federal Railroad Administration	Part of the US DOT, regulates railroad transportation	www.fra.dot.gov
National Transportation Safety Board (NTSB, US)	Independent US agency investigating transportation occurrences	www.nts.gov
Pipeline and Hazardous Materials Safety Administration (US)	US agency developing and enforcing regulations on hazardous materials transportation systems	www.phmsa.dot.gov
Railway Association of Canada (RAC)	Canadian railroad industry association	www.railcan.ca
TRANSCAER®	Transportation Community Awareness and Emergency Response – Training	US: www.transCAER.com Canada: www.transCAER.ca
Transport Canada	Canadian transportation regulatory authority	http://www.tc.gc.ca/eng/railsafety/menu.htm
Transportation Safety Board (TSB, Canada)	Independent Canadian agency investigating transportation occurrences	http://www.tsb.gc.ca
TTCI – Security and Emergency Response Training Center (SERTC)	AAR-owned Transportation Technology Center, Inc. – SERTC facility training responders in hazmat incidents	www.aar.com / www.sertc.org
U.S. Department of Transportation	American transportation regulatory authority	www.dot.gov
U.S. Environmental Protection Agency	American environmental agency	www.epa.gov
U.S. Fire Administration (National Fire Academy)	FEMA resource for fire prevention and safety	www.usfa.fema.gov
U.S. National Response Team (Oil & Hazmat Response)	Resource for response to various hazardous substances	www.nrt.org
U.S. Coast Guard	Branch of the US Armed Forces	www.uscg.mil
Via Rail	Canadian rail passenger service provider	www.viarail.ca

ADDITIONAL RESOURCES FOR THE FIRST RESPONDER (CONT.)

CN WEBSITE – PROVIDING ASSISTANCE AND RESOURCES TO COMMUNITIES

CN maintains web pages dedicated to addressing the needs of the communities in which we operate. These serve as online resources for our crossing and rail safety programs, proximity issues, Operation Lifesaver, Key Route Risk Assessments, and much more.

Visit <https://www.cn.ca/en/safety>



CN FIRST RESPONDER TRAINING & RESOURCES WEBSITE

Online training for subjects such as emergency response to railroad incidents and railroad equipment can be found on CN's First Responder website.

The site also features online sources of information, downloadable guides, response training resources from reputable associations and industry, and more detailed location and contact information for CN's Dangerous Goods team members.

CN has emergency response resources such as transfer equipment and firefighting trailers equipped with foam positioned in key locations across its network. The resource map is available on the site for download.



Scan the code to visit CN's first responder web page





In case of emergency, call the CN Police
Service at: **1-800-465-9239**

CN Public Inquiry Line
8 a.m. to 5 p.m. ET, Monday to Friday
Toll-free: **1-888-888-5909**
Email: **contact@cn.ca**

CN Dangerous Goods Team

