

CANADIAN  
HEARTLAND  
TRAINING RAILWAY



# Industrial Railway Transfer of Dangerous Goods Rules

Schedule 7

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APPENDIX

Railway (Alberta) Act

INDUSTRIAL RAILWAY REGULATION

*The document is only for ease of use and training purposes and does not replace the official version per the entire Industrial Railway Regulation.*

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# **INDUSTRIAL RAILWAY TRANSFER OF DANGEROUS GOODS RULES**

## **1 Definitions**

1.1 In these Rules,

- (a) “cathodic protection” means a technique to prevent the corrosion of a metal by making that surface the cathode of an electrochemical cell;
- (b) “dangerous goods” means dangerous goods as defined in the *Transportation of Dangerous Goods Act, 1992* (Canada);
- (c) “rolling stock” means any railway car that operates on track.

## **2 General**

- 2.1 Except as permitted in these Rules, no industrial railway operator shall transfer dangerous goods between a unit of rolling stock and a stationary bulk storage facility or a highway cargo tank.
- 2.2 When dangerous goods are being loaded or unloaded into or onto rolling stock, the rolling stock must not be moved.

## **3 Application of Rules**

- 3.1 Rules 4 to 9 apply in respect of dangerous goods with a primary or subsidiary classification of 2.1, 3, 4 or 5.
- 3.2 Rules 10 to 15 apply in respect of dangerous goods with any classification.

## **DANGEROUS GOODS WITH PRIMARY OR SUBSIDIARY CLASSIFICATION OF 2.1, 3, 4 OR 5**

### **4 Transfer of Dangerous Goods**

- 4.1 Subject to Rules 5 to 9, an industrial railway operator may transfer dangerous goods between a unit of rolling stock and a stationary bulk storage facility or a highway cargo tank if the industrial railway operator
- (a) establishes between the section of railway track on which any unit of rolling stock stands and the piping system that is to be used for transfer a permanent electrical connection that consists of at least 2 wires, each of which
    - (i) is made of number 6 copper strand wire or other corrosion resistant material, and
    - (ii) has a resistance of not more than 1.33 ohms/km,
  - (b) bonds sections of railway track on which any unit of rolling stock stands at each rail joint in the section and cross bonds the rails of that section in at least 2 places,
  - (c) grounds the section of railway track that is bonded as required by clause (b) with at least 2 ground rods that are
    - (i) at least 3 metres (10 feet) long,
    - (ii) at least 15.8 millimetres (5/8 inch) in diameter, and
    - (iii) connected to each other and to the section of railway track with 2 wires between each point of connection, each of which having a resistance of not more than 1.33 ohms/km between each place where the section of railway track is grounded,
  - (d) grounds all non-current-carrying components of the piping system that is to be used for the transfer, including tanks, pumps and stands, and
  - (e) installs insulated rail joints so as to electrically separate the section of railway track on which any unit of rolling stock stands from all other railway track.
- 4.2 Permanent bonding and grounding must be installed and inspected in accordance with the American Railway Engineering and Maintenance of Way Association, Communications and Signals Manual of Recommended Practice (AREMA).
- 4.3 A resistance earth test must be conducted every 2 years and the test results must be retained on file for a period of 3 years. Test records must be made available for inspection by a railway safety officer on reasonable request.

### **5 Additional Grounding Measures**

- 5.1 Where the grounding required under Rule 4 is difficult to implement because of local conditions, the industrial railway operator shall take such additional measures, including the installation of insulated rail joints in the piping system, the provision of additional ground rods or the provision of additional bonds between the piping system and the units of rolling stock, as may be required, to ground the section of railway track.

## **6** *Tanks with Cathodic Protections*

- 6.1 Where the tanks of a piping system have cathodic protection, the tanks must be grounded in a manner that does not interfere with the cathodic protection.

## **7** *Insulated Rail Joints*

- 7.1 Insulated rail joints that are installed in accordance with Rule 4.1(e) must not be bridged by rolling stock or any other means during the transfer operations.

## **8** *Transfer of Dangerous Goods Near Transmission Lines*

- 8.1 No transfer of dangerous goods between a unit of rolling stock and a stationary bulk storage that is constructed after the coming into force of these Rules may be made within 150 metres of a power transmission line that has a voltage of 360 kV or more or within 75 metres of a power transmission line that has a voltage of 230 kV to 259 kV.

## **9** *Rolling Stock Must be Grounded*

- 9.1 Rolling stock and highway cargo tanks must be grounded
- (a) with temporary bonds connected between the piping system with a pull off connector attached so as to be in electrical contact with the rolling stock or a highway cargo tank, and
  - (b) before the dome or bottom loading valves are opened and must remain in place until the transfer is completed and all valves and dome covers have been closed and secured.

## **DANGEROUS GOODS WITH ANY CLASSIFICATION**

## **10** *Debris and Vegetation*

- 10.1 The area within 25 feet of a loading rack must be free of debris and vegetation.

## **11** *Derail Required*

- 11.1 Rolling stock must be protected during the loading or unloading of dangerous goods by a derail that is locked with a lock that is controlled by the facility. The derail must be located at a minimum of one car length from the tank car on the connected end(s) of the track.

## **12 Sign Required**

- 12.1 During loading or unloading operations, the rolling stock must be protected on the connected end(s) of the track by a sign that is constructed of metal or other durable material and having a dimension that is equal to or greater than 30 x 38 centimetres (12 x 15 inches) and bears the words “STOP” (as a minimum) in white capital letters equal to or greater than 10 centimetres (4 inches) in height on a blue background.
- 12.2 Signage must be placed on the loading track in a manner that it is always visible to the crew of an engine.

## **13 Loading or Unloading Operations**

- 13.1 During loading or unloading operations, the rolling stock handbrakes must be kept applied and one set of wheels must be blocked/chocked in both directions on at least
- (a) one car for a one-or-2 car coupled string, or
  - (b) 2 cars for a 3-to-9 car coupled string plus an additional car for every block and any fraction of block of 10 cars in excess of the first 9 cars coupled to a string, including the first and last cars of the string.

## **14 Monitoring of Rolling Stock**

- 14.1 Rolling stock must be monitored by direct, remote or automated means during loading or unloading so that any condition or release of dangerous goods from a railway vehicle that could endanger public safety can be promptly identified.

## **15 Fire Extinguishers Required**

- 15.1 Portable fire extinguishers must be installed and maintained in accordance with the current Alberta Fire Code.