

TITLE 14. PUBLIC SERVICE CORPORATIONS; CORPORATIONS AND ASSOCIATIONS; SECURITIES REGULATION

CHAPTER 5. CORPORATION COMMISSION
TRANSPORTATION

Editor's Note: The Office of the Secretary of State publishes all Code Chapters on white paper (Supp. 02-2).

Editor's Note: The Corporation Commission has determined that rules in this Chapter are exempt from the Attorney General certification provisions of the Arizona Administrative Procedure Act (A.R.S. § 41-1041) by a court order (State ex. rel. Corbin v. Arizona Corporation Commission, 174 Ariz. 216 848 P.2d 301 (App. 1992)). This exemption means that the rule was not certified by the Attorney General. Because this Chapter was filed under a rulemaking exemption, as determined by the Corporation Commission, other than a statutory exemption, the Chapter is printed on green paper.

New Article 2 consisting of Sections R14-5-201 through R14-5-205 adopted effective October 23, 1987.

Former Article 1 consisting of Sections R14-5-01 through R14-5-103, Article 2 consisting of Sections R14-5-201 through R14-5-203, Article 3 consisting of Sections R14-5-301 through R14-5-324 repealed effective September 30, 1982.

Former Article 4 consisting of Sections R14-5-401 through R14-5-403, R14-5-405 through R14-5-407 renumbered as Article 1, Sections R14-5-101 through R14-5-106 effective September 30, 1982.

Former Section R14-5-408 repealed effective September 30, 1982.

New Section R14-5-107 adopted effective September 30, 1982.

Former Section R14-5-409 renumbered as R14-5-108 effective September 30, 1982.

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ARTICLE 1. RAILROADS

Editor's Note: The Arizona Corporation Commission has determined that the following Section is exempt from the Attorney General certification provisions of the Arizona Administrative Procedure Act (A.R.S. § 41-1041) by a court order (State ex. rel. Corbin v. Arizona Corporation Commission, 174 Ariz. 216 848 P.2d 301 (App. 1992)).

R14-5-101. Definitions

As used in this Article:

1. "Car stop" means a device installed or constructed at the end of a spur track to prevent railroad cars from going off the rails.
2. "Commission" means the Corporation Commission.
3. "Configuration of a public railroad-highway grade crossing" means the physical characteristics of the crossing, including, but not limited to, size and type of warning devices, path of the roadway over the railroad track or tracks, warning signs, pavement markings, and roadway crossing surface.
4. "Constructive placement" means cars cannot be delivered to the designated private siding because of the inability of the consignee to receive them. The cars are placed in a sliding, another private track, or interchange track near the consignee's facility until such time as they can be delivered to the consignee.
5. "Event recorder" means a device located in the locomotive that records information reflecting the operation of the train, including on speed, elapsed time, direction of travel, load (amps), automatic brakes, dynamic brakes, and throttle settings.
6. "Hazardous materials" means any hazardous substance as defined by A.R.S. § 49-201(16)(a), (b), (c), (e), and (f).
7. "Highway authority" means the county, municipal, or other local board or body exercising jurisdiction over highways under the laws of this state.
8. "House track" means a track adjacent to or entering a freight house, used for the primary purpose of receiving or delivering freight.
9. "Industrial track" means a track or portion of track over which a railroad operates but which the railroad does not own or maintain either the rails, ties, or roadbed; or a track or portion of track which is devoted to the purpose of the user, either by lease or written agreement, in which

- case the lease or written agreement shall be considered as equivalent to ownership.
10. "Ladder track" means a track connecting successively the body of tracks of a train yard.
 11. "Locomotive" means a self-propelled vehicle running on rails and generating or converting energy into motion for the primary purpose of hauling rail cars.
 12. "Overhead clearance" means the vertical distance from the level of the top of the highest rail to a structure or obstruction above.
 13. "Person" means any individual, firm, joint venture, partnership, corporation, association, municipality, governmental unit, department, or agency and shall include any trustee, receiver, assignee, or personal representative thereof.
 14. "Private grade crossing" means any crossing where a legal agreement exists between a private property owner and a railroad company for the exclusive use of the landowner and the landowner's invitee.
 15. "Public grade crossing" means any crossing, used by the general public, for which a legal agreement between a private property owner and a railroad company does not exist.
 16. "Rail gage" means the distance between the heads of the rails, measured at right angles to the rails in a plane 5/8 of an inch below the top of the railhead. Standard gage is 4 feet, 8 1/2 inches.
 17. "Railroad" means every railway, other than a street railway, operated for public transportation of persons or property.
 18. "Reconstruction" means the use of more than 50% of the material necessary to replace an entire structure or facility, or more than 50% of the current value of an entire installation.
 19. "Side clearance" means the shortest distance from the centerline of track to a structure or obstruction at the side of the track.
 20. "Spur track" means a stub track of indefinite length diverging from a main track or other track.
 21. "Team track" means a track subject to general use by the public for the loading or unloading of freight cars.
 22. "Unauthorized grade crossing" means any grade crossing that is not a public grade crossing or a private grade crossing or has not been issued an AAR/DOT crossing inventory.

Historical Note

Former General Order R-1; Former Section R14-5-401 renumbered as Section R14-5-101 effective September 30, 1982 (Supp. 82-5). Former Section R14-5-101 renumbered to R14-5-104, new Section R14-5-101 adopted effective May 28, 1992 (Supp. 92-2). Amended effective May 31, 1996 under a court-ordered exemption as determined by the Arizona Corporation Commission (Supp. 96-2).

R14-5-102. Adoption of Federal Regulations

- A. In the furtherance of its constitutional and statutory duty to promulgate and enforce safety regulations for public service corporations, the Commission adopts and approves as its own, subject to changes noted in subsection (E) below, 49 CFR 210, 213, 215, 216, 217, 218, 219, 220, 221, 223, 225, 228, 229, 230, 231, 232, 233, and 236, as amended and revised through October 1, 1989, which are incorporated by reference, are on file in the Office of the Secretary of State, and copies available from the United States Government Printing Office, P.O. Box

371975M, Pittsburgh, Pennsylvania 15250-7975, all being regulations of the Federal Railroad Administration, United States Department of Transportation, Railroad Safety regulations.

- B. The Commission also adopts and approves as its own, 49 CFR 171 through 174, as amended and revised through November 1, 1989, incorporated herein by reference and on file with the Office of Secretary of State: 49 CFR 178 and 179, as amended and revised through November 1, 1989, incorporated herein by reference, on file with the Office of Secretary of State, and copies available from the United States Government Printing Office, P.O. Box 371975M, Pittsburgh, Pennsylvania 15250-7975, all being part of the Research and Special Programs Administration, United States Department of Transportation, Hazardous Materials regulations as they apply to the shipment of hazardous materials by rail.
- C. The regulations adopted in subsections (A) and (B) of this Section shall apply to all standard gage rail operations within Arizona. All terms defined in the adopted regulations shall apply unless redefined in R14-5-101.
- D. A copy of the Federal Safety Standards is attached to the Article and is hereby made a part thereof as if set forth in full. (This copy is not printed in this volume but is available in the offices of the Arizona Corporation Commission and the Secretary of State.)
- E. The above-mentioned Parts of 49 CFR are changed, amended, or revised as follows:
 1. Substitute "Arizona Corporation Commission" (ACC) where "United States Department of Transportation" (DOT), "Federal Railroad Administration" (FRA), "Federal Railroad Administrator", "Administrator" or "Research and Special Programs Administration" appear.
 2. Substitute "Railroad Safety Section, Arizona Corporation Commission, at its office in Phoenix, Arizona" where addresses for the United States Department of Transportation, Federal Railroad Administration, Federal Railroad Administrator, Office of Chief Counsel, or Research and Special Programs Administration appear.
 3. Copies of all reports and forms required to be filed with the Federal Railroad Administration by Parts referred to in subsection (A) and the Research and Special Programs Administration by Parts referred to in subsection (B) of this Section shall be filed with the Railroad Safety Section, Arizona Corporation Commission, at its office in Phoenix, Arizona, within the same time limits required by the Federal Railroad Administration, and the Research and Special Programs Administration. Information pertaining only to that portion of the railroad's operations within the State of Arizona need be submitted.
- F. If the Commission finds that a waiver of compliance or an exemption from any Section of the aforementioned Parts is in the public interest and is consistent with railroad safety, the Commission may grant the waiver or exemption subject to any conditions it deems necessary.

Historical Note

Former General Order R-2; Former Section R14-5-402 renumbered as Section R14-5-102 effective September 30, 1982 (Supp. 82-5). Former Section R14-5-102 repealed, new R14-5-102 renumbered from R14-5-107 and amended effective May 28, 1992 (Supp. 92-2).

R14-5-103. Unauthorized Passengers

Railroads operating within this State shall prohibit and prevent unauthorized persons from traveling in or upon the cars and equipment of their trains.

Historical Note

Former General Order R-3; Former Section R14-5-403 renumbered as Section R14-5-103 effective September 30, 1982 (Supp. 82-5).

Editor's Note: The Arizona Corporation Commission has determined that the following Section is exempt from the Attorney General certification provisions of the Arizona Administrative Procedure Act (A.R.S. § 41-1041) by a court order (State ex. rel. Corbin v. Arizona Corporation Commission, 174 Ariz. 216 848 P.2d 301 (App. 1992)).

R14-5-104. Railroad-highway Crossings

- A.** The following rules shall apply in the construction, reconstruction, improvement, and maintenance of all public railroad-highway grade crossings within the state of Arizona. This Section is intended to be consistent with the provisions of the Manual on Uniform Traffic Control Devices, as adopted by the Department of Transportation.
1. No construction project taking place at or near a public railroad-highway grade crossing shall diminish the safety normally provided to a motorist approaching the crossing by the existing warning devices.
 2. No temporary change in the configuration of a public railroad-highway grade crossing, for the purpose of facilitating a construction project at or near the crossing, may be made by any person without first notifying the owner of the railroad track and the owner of the trains or other track equipment operating over such track in writing. The letter notifying the track owner and train/track equipment owner shall describe the date, place, and type of changes to be made. Such letter shall be written and signed by the responsible person for the project and shall constitute an affirmation that all temporary traffic control measures to be implemented due to the project shall be made in accordance with this rule and the Manual on Uniform Traffic Control Devices (MUTCD) Parts VI and 8A-5. Notice shall be sent by registered mail, return receipt requested, to the business address of the owner of the railroad track and the owner of trains or the track equipment operating over such track, or to the statutory agent at its known place of business, not less than 10 days prior to the commencement of the construction project.
- B.** Warning signals.
1. Railroad crossbucks.
 - a. A railroad crossbuck shall be installed on the right-hand side of the public roadway on each approach to every crossing to warn motorists approaching from each direction, except at crossings where automatic control devices are in use in conformance with Appendix 8.
 - b. If there are two or more tracks, the number of tracks shall be indicated on an auxiliary sign of inverted "T" shape mounted below the crossbuck, (See in conformance with Appendix 8).
 - c. Crossbucks shall be located at not less than 15 feet from the centerline of the nearest track, and shall be in a position to be visible to motorists.
 - d. Crossbucks shall be a reflectorized white "X" (48" X 9" panels drilled for a 90-degree mounting) with the words "RAILROAD CROSSING" in black letters.
 - e. The distance that shall be assumed to separate tracks before additional crossbucks are considered necessary is 100 feet.
 2. Automatically controlled crossing signals.
 - a. At railroad-highway grade crossings where studies indicate the need for warning beyond that provided by crossbucks, the Commission may order that automatically controlled crossing signals be installed.
 - b. Emergency stand-by power shall be provided for the operation of all automatically controlled crossing signals.
 - c. Automatically controlled crossing signals shall be arranged to provide not less than 20 seconds warning for motorists.
 - d. Signals shall operate until the rear of the last train using the crossing has cleared the crossing.
 - e. Traffic signals located within 200 feet of railroad crossing signals shall be preempted by the railroad crossing signals.
 - f. Where means are provided for cutting-out the automatically controlled warning devices during intervals when trains are making regular operating stops or performing switching operations on approach circuits, controls shall be arranged as follows:
 - i. Controls shall be so designed as to provide operation of warning devices before a train reaches the crossing,
 - ii. Automatic control of warning devices actuated by approaching trains (other than the train that has stopped or is performing switching operations) shall take precedence over any cut-out feature.
 - g. Where manual supervisory control of warning devices is provided in addition to automatically controlled signals, the following shall govern:
 - i. Automatic control, when actuated by approaching trains other than the train for which manual control has been made effective, shall take precedence over manual control;
 - ii. Means shall be provided to restore the controls to automatic operation;
 - iii. Means shall be provided to prevent manual operation by unauthorized persons.
 3. Flashing light signals.
 - a. Lamp units (center of lens), shall be located at not less than 8 feet, 4 inches, nor more than 10 feet, 4 inches above the crown of the roadway.
 - b. Signal lights shall shine in both directions along the roadway, and shall be mounted horizontally, 2 feet, 6 inches to centers.
 - c. Lamp units shall be arranged in pairs, back to back, except on one-way streets or other roadways where highway traffic approaches from one direction only.
 - d. Lamp units shall be equipped with mountings to provide ready adjustments in all directions with positive locking for such adjustments.
 - e. Lamp units shall be provided with hoods of not less than 12 inches in length and with backgrounds 20 inches in diameter. Hoods and backgrounds shall be in black, except that when backlights are omitted, the back of the lamp unit and background shall be aluminum-colored so that the signal will not be mistaken for a dark signal.
 - f. Lamp units installed after the effective date of this Section shall have lenses or roundels, red in color, not less than 12 inches in diameter for both front and rear indications. Lamp units in use prior to the adoption of this Section shall be made to meet this requirement when the automatic warning devices are upgraded, improved, or reconstructed.
 - g. The beam spread shall be not less than 3 degrees

- each side of the axial beam under normal conditions. Throughout the beam spread, the intensity of the beam shall not be less than 50% of the intensity at the axis.
- h. Lights shall flash alternately at a minimum rate of 45 flashes per minute and a maximum rate of 65 flashes per minute.
 - i. The effective range of flashing lights equipped with 10 volt, 10 watt lamps, or equivalent, burning at rated voltages, shall be not less than 1,000 feet under bright sunlight conditions with the sun at or near its zenith.
4. Highway traffic control signals shall not be used on main-line railroad crossings in lieu of flashing light signals. However, at industrial track crossings and other places where train movements are 10 miles per hour or less, highway traffic control signals may be used in lieu of conventional flashing light signals.
 5. Bell warning signals. At least one automatic gong-type bell shall be used with each flashing light signal except on median strip installations.
 6. Automatic gate arm signals.
 - a. Signals consisting of a combination of flashing lights, bells, and automatic gate shall, when indicating the approach or presence of trains, present towards the highway the appearance of horizontally flashing red lights and of a horizontal arm or arms extending over the traveled roadway a sufficient distance to cover the lane or lanes used by highway traffic approaching the crossing.
 - b. Automatic gate arms, when not indicating the approach or presence of trains, shall not obstruct or interfere with highway traffic, except as provided in subsection (B)(6)(d).
 - c. Automatic gate arms shall be mounted on posts or housing containing the arm-operating mechanism.
 - d. The design of the gate-opening mechanism shall be such as to ensure proper operation during unfavorable weather conditions. In case of power failure, the gate arm shall assume the horizontal position across the roadway.
 - e. The mechanism shall be so designed that if the arms, while being raised or lowered, strike or foul an object they will readily stop, and on removal of the obstruction shall assume the position corresponding to the control mechanism.
 - f. Each gate arm extending over the roadway shall have three red lights, with lenses not less than 7 inches in diameter, shining in both directions along the roadway, so positioned as to ensure as far as possible, that no vehicle or vehicles standing in the limits of the traffic lane or lanes approaching the crossing can obscure all three lights from the view of the drivers of the following vehicles. The light nearest the tip of each arm shall burn steadily, and the other two lights on each arm shall flash alternately in unison with the flashing lights on the roadside signal mast.
 - g. The gate arm shall, on new installations, be striped with 16 inch alternate diagonal reflectorized or fluorescent stripes of red and white.
 - h. Circuits for operation of signals shall be so arranged that the flashing lights, gate arm lights, and bell will start to operate at not less than 20 seconds before the arrival of the fastest train at the crossing. All lights shall operate at all times when the gate arm is in a position to obstruct highway traffic. The bell shall sound a warning from the time the signal lights start to operate at least until the gate arm has descended to within 10 degrees of the horizontal position.
 - i. Gate arms shall start their downward motion at not less than three seconds after the signal lights start to operate. Gate arms shall reach the full horizontal position before the arrival of the fastest train operated over the crossing and shall remain in that position until the rear of the train has cleared the crossing.
 - j. The bottom of the gate arms when in the horizontal position shall be not less than 3 feet nor more than 4 feet above the crown of the roadway.
 - k. Gate arms shall operate uniformly, smoothly, and complete all movement without slap or rebound, and be securely held when in the raised position.
7. Maintenance.
 - a. Metal parts shall be aluminum or painted aluminum, except as provided in subsection (B)(3)(e).
 - b. All materials and workmanship shall meet or exceed current industry standards in every respect, and every warning signal and sign in all details shall be constructed, installed, and maintained in a satisfactory manner.
 - c. The railroad shall provide for the maintenance of all grade crossing warning signs and signals. To this end, the railroad shall:
 - i. Provide for alternate operations of automatically controlled warning signals during periods of failure, either manually or otherwise, as soon as possible after the failure has occurred;
 - ii. Have skilled maintenance personnel available without undue delay for all emergency calls, including lamp failures;
 - iii. Provide proper maintenance for all components;
 - iv. Maintain the appearance of the installation in a satisfactory manner, with particular emphasis on painting and cleaning of optical systems;
 - v. Inspect warning signals at a frequency of not less than once every 45 days. A written record of inspection shall be retained at the railroad's office within Arizona.
 - vi. Provide standby equipment at a central location to minimize the interruption of signal operations due to equipment failure or damage.
 8. Whistle posts.
 - a. Whistle posts bearing the letter "X" or "W" shall be located in advance of each public crossing at grade to warn locomotive engineers of the presence of the highway grade crossing, and allow them sufficient time to sound the warning whistle.
 - b. A person in charge of a railroad locomotive shall, before crossing any traveled public way, cause the bell to ring or a whistle, siren, or other sounding device to sound at a distance of at least 1/4 mile from a crossing and until it is reached.
- C. Additional requirements.
1. When necessary to shove a railroad car or cars over a public grade crossing not having automatically controlled crossing signals, employees shall flag the crossing.
 2. When, during normal train operations at night, it becomes necessary to block a public grade crossing with standing railroad cars, and the crossing does not have automatically controlled crossing signals, flares, or fuseses, shall

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- immediately be placed in the center of the roadway on both sides of the track at not less than 10 feet from the railroad car or cars to warn motorists that the crossing is occupied.
3. Detached railroad cars containing explosive or hazardous materials shall not be left standing on any grade crossing at any time.
 4. Before moving onto any public railroad-highway grade crossing, operators of any on-track equipment, including high-rail vehicles, shall ensure that the automatic warning devices are activated or the crossing protected by a flagman. Public grade crossings without automatic warning devices shall be flagged by a flagman.
 5. It shall be unlawful for railroad employees to “drop” or “kick” any railroad car or cars containing hazardous materials across a grade crossing in any circumstances or any other railroad car or cars across a grade crossing unless the crossing is flagged by a flagman or traffic is restricted by automatic gate arms.
 6. Grade crossing maintenance and repair shall be conducted as follows:
 - a. Whenever a highway intersects a railroad track at common grade, the appropriate highway authority shall maintain and keep in repair the roadway approaches to within 2 feet of the outside of either rail, and the railroad shall maintain the planking or other materials between the rails and for 2 feet on the outside thereof.
 - b. At crossing involving more than one track, maintenance by the railroad shall include that portion of the crossing:
 - i. Between the tracks not exceeding 20 feet from the center of the tracks, and
 - ii. Two feet on the outside of each of the two outside (field site) rails.
 - c. Unless the Commission otherwise authorizes, public grade crossings hereafter constructed shall be not less than 24 feet in effective roadway width measured at right angles with the centerline of the roadway.
 - d. Turnouts, switches, and frogs or bolted rail joints shall be so placed or relocated as to avoid placement in the paved area of a crossing.
 - e. Materials for permanent repairs on any component of a railroad-highway grade crossing surface shall be of the same type and quality or of equal quality to those which are being repaired or replaced.
 - f. Temporary repairs shall be made until the arrival of materials necessary for permanent repairs. Temporary repair shall be made within five working days of the date that the railroad is notified of the defect by the Commission. Permanent repairs shall be completed within 90 days from the date of notification.
 - g. The railroad shall coordinate with the highway authority any road closures and reopenings caused by the maintenance and repair of grade crossing.
 - h. The railroad shall stencil the AAR/DOT inventory number on all railroad-highway crossings.
 7. Blockage of public grade crossing shall be limited as follows:
 - a. Except as provided in subsections (C)(7)(c) and (d), no railroad shall cause a public grade crossing to be blocked by railroad equipment in excess of 10 continuous minutes.
 - b. Each period of crossing blockage shall be followed by an interval of time sufficient to allow the passage of waiting traffic.
 - c. The limitations set forth in subsection (C)(7)(a) do not apply to:
 - i. Any train continuously moving in the same direction during the entire time it occupies the crossing; and
 - ii. Blockage caused by wrecks, derailments, acts of nature, mechanical failure, or other emergency conditions.
 - d. The Commission, after hearing, may grant variances from the limitations set forth in subsection (C)(7)(a), upon proper application by the railroad or appropriate highway authority.
 8. A crew member of a train blocking a public crossing shall immediately take all reasonable steps, consistent with the safe operation of such train, to clear the crossing upon receiving information from a peace officer, as defined in A.R.S. Title 13, member of any fire department or operator of an emergency vehicle, as defined in A.R.S. § 28-101.1, that emergency circumstances require the clearing of the crossing.
 9. The railroad shall coordinate road closures and reopenings during emergency blockages with the appropriate highway authority.
 10. When authorization for preliminary engineering and estimate or any federal-aid funding crossing improvement projects is submitted to the railroad, it shall be completed by the railroad and returned to the Department of Transportation within 60 days.
 11. The railroad shall notify the Commission, in writing, within 10 days of both the commencement and completion of the project. The railroad shall tender a statement to the Commission reflecting the Commission’s portion of such charges pursuant to A.R.S. § 40-337.02, within 60 days of completion of the project.
 12. Federal-aid crossing improvement projects shall be completed within 15 months from the date of the Commission Order.
 13. The Commission may approve an exception to any of the requirements of this Section. Such exceptions may be made upon the Commission’s own initiative or upon written request from an interested party. Written requests shall contain a statement of the circumstances involved, the nature of the exception desired, and the reasons justifying such an exception. An exception shall be limited to the particular situation described in the written requests.

Historical Note

Former General Order R-5; Former Section R14-5-405 renumbered as Section R14-5-104 effective September 30, 1982 (Supp. 82-5). Amended subsection (H) effective April 16, 1986 (Supp. 86-2). Former Section R14-5-104 repealed, new Section R14-5-104 renumbered from R14-5-101 and amended effective May 28, 1992 (Supp. 92-2). Amended effective May 31, 1996 under a court-ordered exemption as determined by the Arizona Corporation Commission (Supp. 96-2).

R14-5-105. Railroad Accident/Incident Reports; Investigation

- A. Reports by telephone.
 1. Railroads shall give the Commission immediate telephone notification of the following classes of accidents/incidents:
 - a. Accidents resulting in death;
 - b. Accidents resulting in injury requiring immediate hospitalization;

- c. Accidents resulting in damage to railroad property in excess of the amount for which the Federal Railroad Administration requires an accident report to be filed;
 - d. Accidents or incidents in which any hazardous materials are involved;
 - e. All public railroad-highway grade crossing accidents;
 - f. All accidents/incidents involving rail passenger operations.
2. The immediate telephone notification shall include but not be limited to the following:
- a. Name of person making the telephonic report;
 - b. Name of railroad or railroads involved;
 - c. Location of accident/incident;
 - d. Number of fatalities;
 - e. Number of injuries;
 - f. Number of derailed cars;
 - g. Generic name or names of the hazardous materials involved, including the name, address, and the telephone number of the shipper.
- B.** Federal reports of accidents/incidents -- Railroads shall submit to the Commission copies of all accident/incident reports and supplements filed with the Federal Railroad Administration and the Hazardous Materials Regulation Board for accidents/incidents occurring in Arizona. Said reports shall be submitted to the Commission within the time specified for submitting to the Federal Railroad Administration. Said reports shall include:
- 1. FRA F 6180.54 -- Rail Equipment Accident/Incident Report;
 - 2. FRA F 6180.55 -- Railroad Injury and Illness Summary;
 - 3. FRA F 6180.55a -- Railroad Injury and Illness (Continuation Sheet);
 - 4. FRA F 6180.56 -- Annual Railroad Report of Man-Hours by State;
 - 5. FRA F 6180.57 -- Rail-Highway Grade Crossing Accident/Incident Report;
 - 6. FRA F 6180.45 -- Annual Summary Report of Railroad Injury and Illness;
 - 7. DOT F 5800.1 -- Hazardous Materials Incident Report.
- C.** Investigations by the Commission.
- 1. Commission investigators shall investigate accidents, may inspect railroad records, accounts, books, memoranda, correspondence, and other documents, and may examine all lands, buildings, and equipment of railroads. Commission investigators may obtain all relevant information concerning accidents under investigation, make inquiries of persons having knowledge of the facts, conduct interviews, and attend, as observers, hearings or formal investigations by railroads into the causes of accidents. When necessary to carry out an investigation, the Commission may authorize the issuance of subpoenas to require the production of records and the giving of testimony.
 - 2. Whenever necessary, the Commission will schedule a public hearing on an accident.
 - 3. Incomplete or inaccurate reports will be investigated by the Commission. Incomplete or inaccurate reporting practices may be grounds for a public hearing into the matter.
 - 4. Late reports shall be accompanied by a letter of explanation. Late reports may be grounds for a public hearing into the matter.
- D.** All railroads operating wholly or partially within the state of Arizona shall give the Commission immediate telephone noti-

fication of accidents/incidents as prescribed herein. All accidents/incidents not reported in accordance with the provisions of this Section shall be investigated by the Commission.

Historical Note

Former General Order R-6; Former Section R14-5-406 renumbered as Section R14-5-105 effective September 30, 1982 (Supp. 82-5). Amended subsections (A), (B), (D), and (F) effective April 16, 1986 (Supp. 86-2). Amended effective May 28, 1992 (Supp. 92-2).

R14-5-106. Minimum Standards for Cabooses

- A.** Each railroad operating wholly or partially within the state of Arizona shall hereafter install and maintain minimum standards on cabooses in accordance with this Section.
- B.** No caboose shall be used in service unless it complies with subsections (C) through (R) of this Section.
- C.** Construction: Cabooses shall be of either the cupola or bay window type. Cabooses of metal construction shall have wooden or insulated metal floors. A cupola shall not extend inward toward the centerline of the car more than 3 inches from either side of the caboose.
- D.** Trucks: Trucks shall provide riding qualities at least equal to those of freight type trucks modified with elliptic or additional coil springs or other means of equal or greater efficiency and shall be equipped with steel wheels.
- E.** Draft gears: Draft gears shall have a minimum travel of 2 1/2 inches and a minimum capacity of 18,000 foot pounds. Draft gears shall be of rubber or a combination of friction and rubber types, or shall have other means of providing equal shock control.
- F.** Lighting: An adjustable, shielded electric light, or lights, shall be provided for the direct illumination of the caboose desk. A ceiling or wall light, or lights, operable from separate switches shall be provided to otherwise illuminate the caboose interior. The area of the drinking water and lavatory facilities shall be illuminated. The caboose marker, or markers, shall be electrically lighted.
- G.** Heating: A heating facility shall be maintained and shall be capable of providing a temperature of at least 70 degrees Fahrenheit in a standard caboose.
- H.** Seats and cushions: Seats and cushions shall be provided with a shock absorbent material initially at least 3 inches in thickness, and backrests shall be of sufficient height to protect the neck and head from injuries. Seats in cupolas shall be of the pullman type and those in bays shall be of the passenger reversible type. The top of said seats shall not be lower than 11 inches nor higher than 9 inches beneath the cupola or bay window sills and no more than 18 inches above the floor or footrest. The backrests shall incline backward to not less than 3 inches nor more than 5 inches from the perpendicular. Subject to the approval of the Commission, seats of different design or materials may be used when such design or materials provide equal or better protection or comfort than those enumerated in this Section.
- I.** Bunks: Each caboose shall have at least one bunk of not less than 2 feet in width and not less than 6 feet in length which shall be provided with a cushion of the same dimensions made of shock absorbent material initially of at least 3 inches in thickness.
- J.** Wind deflector: Each cupola side window shall be equipped with a wind deflector.
- K.** Weatherstripping: Weatherstripping or weatherproof sash shall be installed and maintained at all windows and doors to protect against weather and the seepage of dirt or dust.
- L.** Window shades: With the exception of windows in bays and cupolas, windows shall be equipped with shades.

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- M.** Stanchions: Stanchions, grab handles, or bars shall be installed at entrances and exits and at other locations within convenient reach of employees moving about the caboose while a train is in motion.
- N.** Drinking water: Caboose drinking water facilities shall be installed and maintained so as to provide fresh and pure drinking water. Such water facilities shall include individual bottled water containers placed in an ice chest. When ice is used for water cooling purposes, the containers shall be so arranged that the drinking water will not come in contact with the ice. Containers used for storing or dispensing potable water shall be kept clean at all times and shall be subjected to effective bactericidal treatment as often as may be necessary to prevent the contamination of the water so stored and dispensed.
- O.** Lavatory facilities: Caboose lavatory facilities for washing shall be provided at a location where the use thereof will not result in contamination of the drinking water dispensing system. All cabooses shall have operative toilets which are illuminated, are kept clean and free of noxious odors at all times, and are subjected to effective bactericidal treatment as often as may be necessary.
- P.** Fire extinguisher: Cabooses used in road service shall be equipped with an effective means of extinguishing minor fires. Such extinguishing agents shall be placed in a readily accessible location and shall be effectively maintained.
- Q.** First-aid kit: Each caboose shall carry, in a visible and readily accessible place, a plainly marked first-aid kit which shall be so constructed that it and its entire contents are readily removable. The kit shall consist of materials, approved by the railroad's consulting physician, in a weatherproof container with individually sealed packages for each type item. The contents shall be inspected weekly to ensure that expended items are replaced.
- R.** Maintenance and supplies: Cabooses shall be supplied with fresh water, paper towels, toilet tissue, sanitary drinking cups, fuel, ice as needed, hand soap or other cleaning agents in appropriate dispensers and such other equipment as may be required for service.
- S.** Conditions arising after departure from terminal: In the event of a failure of required equipment or standards of maintenance occurs in a caboose after it has commenced a move in service, the railroad operating that caboose shall not be deemed in violation of this Section if said failure of equipment or standards of maintenance is corrected at the first point at which maintenance supplies are available, or, in the case of repairs, the first point at which materials and repair facilities are available and repairs can reasonably be made.
- T.** Exemption: If, in any particular case, an exemption from any of the requirements of this Section is deemed necessary by a carrier concerned, the Commission will consider the application of such carrier for such exemption when accompanied by a full statement of the conditions existing and the reason why such exemption is needed. Any exemption so granted will be limited to the particular case covered by the application.
- B.** All of the following requirements shall be met:
1. Locomotives used in or through the state of Arizona shall be equipped with an effective means of extinguishing minor fires. Such extinguishing agents shall be placed in a readily accessible location and shall be effectively maintained.
 2. Each locomotive shall carry, in a visible and readily accessible place, a plainly marked first-aid kit which shall be so constructed that it and its entire contents are readily removable. The kit shall consist of materials, approved by the railroad's consulting physician, in a weatherproof container with individually sealed packages for each type item. The contents shall be inspected weekly to ensure that expended items are replaced.
 3. Each train operated in or through the state of Arizona at a speed in excess of 30 miles per hour shall have at least one locomotive equipped with an operating event recorder. Such event recorders shall be inspected at least once every 90 days and maintained in a fully operative condition.
 4. All locomotives shall have operative toilets which are illuminated, are kept clean and free of noxious odors at all times, and are subjected to effective bactericidal treatment as often as may be necessary.
 5. Drinking water facilities shall be installed and maintained so as to provide fresh and pure drinking water. Such water facilities shall include individual bottled water containers placed in an ice chest. When ice is used for water cooling purposes, the containers shall be so arranged that the drinking water shall not come in contact with the ice. Containers used for storing or dispensing drinking water shall be kept clean at all times and shall be subjected to effective bactericidal treatment as often as may be necessary to prevent the contamination of the water so stored and dispensed.
 6. Locomotives shall be supplied with fresh water, paper towels, toilet tissue, sanitary drinking cups, ice as needed, and such other equipment as may be required for service.
- C.** A locomotive operating in a controlling position shall have an operating two-way radio that is on a frequency for the railroad being operated on and is capable of contacting the train dispatcher or other responsible railroad personnel.
- D.** If, in any particular case, an exemption from any of the requirements of this Section is deemed necessary by a carrier, the Commission shall consider the application for such exemption as needed. Any exemption so granted shall be limited to the particular case covered by the application.

Historical Note

Adopted effective September 30, 1982 (Supp. 82-5). Amended subsections (A) and (B) effective April 16, 1986 (Supp. 86-2). Former Section R14-5-107 renumbered to R14-5-102, new Section R14-5-107 adopted effective May 28, 1992 (Supp. 92-2).

R14-5-108. Inspection of property

For the purpose of insuring compliance with safety rules and regulations, the Commission, or any authorized inspector or agent thereof, may, at any time, stop, board, ride, investigate, or inspect any train, locomotive, car, caboose, or any other rolling stock or equipment used by a railroad in the operation of their business.

Historical Note

Former General Order R-9; Former Section R14-5-409 renumbered as Section R14-5-108 effective September 30, 1982 (Supp. 82-5).

Historical Note
Former General Order R-7; Former Section R14-5-407 renumbered as Section R14-5-106 effective September 30, 1982 (Supp. 82-5). Correction in heading effective April 16, 1986 (Supp. 86-2). Amended effective May 28, 1992 (Supp. 92-2).

R14-5-107. Minimum Standards for Locomotives

- A.** Each railroad operating wholly or partially within the state of Arizona shall hereafter install and maintain minimum standards on locomotives in accordance with this Section.

R14-5-109. Industrial Track Standards

- A.** This Section shall be applicable to all industrial track construction, reconstruction, and repair commencing after the effective date of this Section.
1. The industry and the railroad contractor shall be responsible for notifying the Commission in writing prior to the construction, reconstruction, or alteration of industrial track, structures, or facilities adjacent thereto.
 2. The proposed design plans of any construction, reconstruction, or alteration of industrial track shall be submitted to the Commission, Railroad Safety Section, Phoenix, Arizona, prior to any construction, reconstruction, or alteration of industrial track.
- B.** The following construction standards shall apply for all industrial track:
1. Profile:
 - a. Maximum grade of any proposed track, as shown on any plan, shall be 2% and shall not be exceeded. At all locations, excessive grades and frequent changes of grade shall be avoided. Where grade line changes, appropriate vertical curves shall be installed.
 - b. In cut sections, grade line shall be uniform throughout the cut to facilitate proper drainage. Grades in cuts shall not be less than 3/10% and not more than 1%.
 2. Subgrade:
 - a. Where soil condition, drainage conditions or amount of traffic justify, the upper portion of the subgrade shall be designed to provide adequate support. Methods of increasing support shall be to provide select material to an adequate supporting depth over the existing subgrade or subgrade stabilization.
 - b. The depth of any proposed material shall be specified by the design plans.
 - c. The upper portion of any subgrade to be stabilized shall be stabilized by thoroughly mixing suitable chemical additives such as cement, fly ash, or lime with the soil before compaction.
 - d. Each layer shall be fully compacted by approved mechanical compacting equipment before the next layer is placed. A fully compacted layer shall have a dry density of at least 95% of the maximum dry density.
 - e. Type of soil and soil conditions shall be indicated on any proposed plans along with typical sections showing rail, tie ballast, subballast, and any other appurtenances.
 3. Drainage:
 - a. Each drainage or other water-carrying facility under or immediately adjacent to the roadbed shall be maintained and kept free of obstruction to accommodate expected water flow for the area concerned.
 - b. Every effort shall be made to keep the tracks, roadbed, and walkways properly drained at all times.
 4. Ballast:
 - a. Ballast material shall conform to the recommended specifications contained in the American Railroad Engineering Association "Manual for Railway Engineering" (AREA Manual), as amended and revised through July 31, 1990, incorporated herein by reference, on file with the office of the Secretary of State, and copies available from the American Railroad Engineering Association, 50 F Street NW, Washington, D.C. 20001. The gradation of a ballast material shall be a prime consideration in track performance of ballast materials. Ballast material used in industrial tracks shall be not less than 3/4 of an inch to 1 1/2 inches, pursuant to AREA No. 4 gradation in the AREA Manual.
 - b. Ballast material may be crushed rock, slag, or equally stable material that will provide uniform support to the ties, will drain properly, and is not chemically reactive. The material used for ballast shall not short track signals. Quarried stone or slag produced in a crushing-screening plant shall be preferred when it satisfies all of the following specifications:
 - i. A shrinkage factor of 12% to 15% in volume differential from loose to compacted state.
 - ii. Processed ballast shall be composed of hard, strong, and durable particles free from excessive amounts of deleterious substances.
 - iii. Deleterious substances shall not be present in processed ballast in excess of the following amounts:
 - (1) Soft and friable pieces--5%;
 - (2) Material finer than No. 200 sieve--1%;
 - (3) Clay lumps--1/2%.
 - iv. Percentage of wear of processed ballast, tested in the Los Angeles machine, shall not be greater than 40%.
 - v. Soundness of processed ballast for use in regions where freezing temperatures are expected shall be such that when tested in the sodium sulfate soundness test, the weighted average loss shall be not in excess of 7% after five cycles.
 - vi. Compacted weight of ballast shall be not less than 70 pounds per cubic foot for blast furnace-slag and 90 pounds per cubic foot for all other slags and crushed rock products.
 - vii. Flat or elongated particles, particles with length three times greater than average thickness, shall not exceed 5% by weight in the ballast.
 - c. Prior to installation, the supplier shall provide the railroad or industrial track owner with certified test results of ballast quality and grading.
 - d. Care shall be used to ensure even distribution of ballast in the track. A minimum ballast depth of 8 inches below the ties shall be acceptable as a subballast base. Ballast shall be inserted under ties in convenient lifts but under not less than two lifts. Proper cross level, line and grade shall be attained on the final lift in accordance with currently accepted practice.
 - e. Top of track ballast shall be dressed parallel with top of rails to a depth of 1 inch below top of tie extending 6 inches beyond end of tie. Ballast shall be thoroughly tamped for each tie end to 15 inches inside of rail. Centers shall be filled but not tamped. All work of track laying and surfacing shall be of the highest quality in accordance with currently accepted practice.
 - f. Each owner of the track to which the ballast standards apply shall maintain proper track cross level, surface, and alignment prescribed as follows:
 - i. The runoff in any 31 feet of rail at the end of a rise may be not more than 3 1/2 inches.
 - ii. The deviation from uniform profile on either rail at the mid-ordinate of a 62-foot chord may be not more than 3 inches.

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- iii. Deviation from designated elevation on spirals may be not more than 1 3/4 inches.
 - iv. Variation in cross level on spirals in any 31 feet may be not more than 2 inches.
 - v. Deviation from zero cross level at any point on tangent or from designated elevation on curves between spirals may be not more than 3 inches.
 - vi. The difference in cross level between any two points less than 62 feet apart on tangents and curves between spirals may be not more than 3 inches.
 - vii. Alignment may not deviate from mid-ordinate of a 62-foot chord more than 3 inches.
5. The material, preservative treatment, quality control, inspection, and miscellaneous requirements for timber crossties and switch ties shall conform with the recommendations of Chapter 3, "Ties and Wood Preservation" of the AREA Manual and all of the following:
- a. Crossties shall be either hardwood or softwood in accordance with the requirements of this Section.
 - b. Wooden crossties shall be new and manufactured from the following kinds of wood: Douglas fir, red oak, white oak, cypress, southern and western pine, elm, hickory, gum, or hemlock.
 - c. All wooden ties shall be made from sound, straight live timber and shall be free from any defects that may impair their strength and durability, such as bark, decay, splits, shakes, large or numerous holes or knots, pitch seams, pitch rings, grain with slant greater than 1 in 15, or other imperfections.
 - d. All crossties shall be a minimum of 8 feet in length. Ties shall measure 6 inches thick by 8 inches wide on top, AREA No. 6 grade. If a 6-inch wide base rail is used, 7-inch by 9-inch ties shall be required. All crossties shall be branded with the seller's symbol to indicate line end.
 - e. Crossties shall be spaced a maximum of 24 inches center to center. Each 39 feet of track shall be supported by a minimum of 19 crossties. The center of the ties shall coincide with the centerline of the track and the ties shall be laid at right angles to the rail with the wide-face up.
 - f. Hardwood ties shall be used on all curves of 2 degrees and over. Softwood ties shall be permitted on other curves and tangents.
 - g. Ties shall be inspected at suitable and convenient places satisfactory to the railroad or industry owner. Inspection shall include a reasonably close examination of the top, bottom, sides, and ends of each tie. All ties shall be judged independently using the following standards:
 - i. Decay shall be the disintegration of the wood substance due to the actions of wood destroying fungi. "Blue Stain" is decay and shall be permissible in all wood.
 - ii. A large hole shall be more than 1/2 inch in diameter and 3 inches deep within, or more than 1/4 the width of the surface on which it appears and 3 inches deep outside, the sections of the tie between 20 inches and 40 inches from its middle. Numerous holes shall be any number equaling a large hole in damaging effect. Such holes may be caused in manufacture or otherwise.
 - iii. Within the rail bearing areas, a large knot shall be one having an average diameter more than 1/3 the width of the surface on which it appears; but such a knot shall be allowed if it is located outside the rail-bearing areas. Numerous knots shall be any number equaling a large knot in damaging effect.
 - iv. A shake shall be a separation along the grain, most of which occurs between the rings of annual growth.
 - v. A split shall be a separation of the wood extending from one surface to an opposite or adjacent surface. In unseasoned crossties, a split no more than 1/8 of an inch wide or 4 inches long shall be acceptable. In a seasoned crosstie, a split no more than 1/4 of an inch wide or longer than the width of the face across which it occurs shall be acceptable. In seasoned crossties, a split exceeding the limit shall be acceptable provided split limitations and anti-splitting devices are approved by the buyer and properly applied.
 - vi. Except in woods with interlocking grain, a slant in grain in excess of 1 inch in 15 inches shall be rejected.
 - vii. In manufacture:
 - (1) A tie shall be considered straight:
 - (a) When a straight line along the top from the middle of one end to the middle of the other end is entirely within the tie; and
 - (b) When a straight line along a side from the middle of one end to the middle of the other end is anywhere more than 2 inches from the top and the bottom of the tie.
 - (2) The top and bottom of a tie shall be considered parallel if any difference in the thicknesses at the sides or ends does not exceed 1/8 of an inch.
 - viii. The lengths, thicknesses, and widths specified shall be minimum for the standard sizes. Ties over 1 inch longer, thicker, or wider than the standard size ordered shall be rejected.
 - ix. A bark seam or pocket shall be a patch of bark partially or wholly enclosed in the wood. Bark seams shall be allowed provided they are not more than 2 inches below the surface or 10 inches long.
 - x. Ties with continuous checks appearing on one face only, whose depth in a fully seasoned tie is greater than 1/4 the thickness and longer than 1/2 the length shall be rejected.
- h. The maximum distance between non-defective timber crossties shall be 70 inches, center of tie to center of tie.
 - i. A timber crosstie shall be considered defective when it is all of the following:
 - i. Broken through;
 - ii. Split or otherwise impaired to the extent that it will not hold spikes or will allow ballast to work through;
 - iii. So deteriorated that the tie-plate can move laterally more than 1/2 of an inch relative to the crossties;
 - iv. Cut by the tie-plate through more than 40% of its thickness; and

- v. Not spiked as required by this Section.
 - j. Industry track shall have at least one non-defective crosstie whose centerline is within 18 inches of the rail joint location.
 - k. Used crossties, although not recommended, may be used subject to prior approval from the Commission.
 - l. Treated tie plugs of proper size shall be used to fill holes tightly and driven into old spike holes of used ties. Approved granular tie plug material may be used in lieu of treated tie plugs.
6. Switch ties:
- a. Switch ties shall be new and shall be hardwood in accordance with the requirements of this Section. Switch ties shall be located as shown on the turnout plans.
 - b. All switch ties shall be 7 inches thick by 9 inches wide in cross section. Switch tie length shall be as indicated on the turnout plans in 1 foot increments.
 - c. All switch ties shall be sawed top, bottom and sides, cut square at the ends, have top and bottom parallel, and have bark entirely removed.
7. Tie plates:
- a. Tie plates shall be placed under each rail at every tie. The tie plates shall be placed with the shoulder squarely against the rail.
 - b. No crooked tie plates shall be permitted. Each tie plate shall be of proper design to fit the rail section being used.
8. Rail:
- a. All rail used in industrial track construction shall weigh a minimum of 90 pounds per yard. The majority of rails used shall be a minimum of 30 feet in length, with no more than 20% of varying lengths down to 24 feet, except as required in switches.
 - b. Rail shall be laid with joints staggered so that joints on one side will not be more than 4 feet from center of the opposite rail. The best running side of the relay railhead shall form the gage side of the rail as laid.
 - c. Rails shall be new or equal to No. 2 relay rail or No. 3 relay rail as per the AREA Manual recommendations for rail grading classifications. Overflow on one or both sides shall be less than 1/4 of an inch. Base shall be solid and free of visual defects with only minor pitting. Relay rail shall be considered to be used material.
 - d. The bottom of rail, tie plate, and top surface of tie shall be clean and smooth to provide for full bearing for rails and tie plates.
 - e. The use of a torch for cutting track rail, except for field welds or for burning bolt holes shall be prohibited. A rail saw or rail chisel properly and expertly used for cutting and a hand or power rail drill for boring holes shall be employed. All chips and burrs shall be removed and all drilled holes shall be peened. The bolt hole shall conform to the standard plans.
 - f. Angle bars of approved design shall be properly fitted against the rail and properly bolted. Each joint shall be bolted with at least two bolts through each rail end. Joint bars cracked or broken through between the middle two bolts shall be replaced. Compromise and insulated joint bars of proper design shall be used where rail size and conditions dictate. Track bolts, of proper size, fitted with approved spring washers, shall be fully tightened to proper tension.
9. Spiking:
- a. Each rail will be spiked with two spikes per tie plate on tangent track, staggered with inside spikes to the east or north, outside spikes to the west or south.
 - b. Spikes shall be 5/8 of an inch wide by 6 inches long.
 - c. Track spikes shall be started and driven vertically with face shank in contact with the rail so that the face of the spike shall have full hold on rail base. Damage to tie timber fiber shall be minimized.
 - d. Spikes shall not be struck after head is down to snug contact with the railbase. Care shall be taken not to overdrive spikes and rail shall not be gouged or struck with spike maul or other tool.
 - e. In the construction of road crossings and turnouts, line spikes and hold down or anchor spikes shall also be used throughout the crossing and turnout closure rails. Hold down or anchor spikes shall be used on curves of 5 degrees or more.
10. Gage:
- a. Gage is measured between the heads of the rails at right angles to the rails in a plane 5/8 of an inch below the top of the railhead.
 - b. In new industrial construction the rails shall be gaged to 4 feet 8 1/2 inches.
 - c. Rail gage shall be maintained at not less than 4 feet 8 inches, nor more than 4 feet 9 3/4 inches for both curved and tangent track.
11. Rail anchors:
- a. 16 anchors per 39 feet of track shall be used, and 4 nonconsecutive ties shall be box-anchored per rail.
 - b. Anchors shall be used throughout the turnout area. The same tie shall be box-anchored across.
 - c. Anchors shall not be placed on joint ties or ties adjacent to joint ties.
 - d. Additional anchors shall be applied where longitudinal rail movement needs to be effectively controlled.
12. Gage rods:
- a. Gage rods may be used on curves where it is difficult to maintain gage.
 - b. On curves between 7 degrees and 10 degrees, 4 gage rods per 39-foot panel shall be installed and on curves between 10 degrees and 12 degrees, 5 gage rods per 39-foot panels shall be installed.
13. Switches:
- a. Each stock rail shall be securely seated in switch plates, but care shall be taken to avoid canting the rail by overtightening the rail braces.
 - b. Each switch point shall fit its stock rail properly, with the switch stand in either of its closed positions to allow wheels to pass the switch point. Lateral and vertical movement of a stock rail in the switch plates or of a switch plate on a tie shall not adversely affect the fit of the switch point to the stock rail.
 - c. Each switch shall be maintained so that the outer edge of the wheel tread cannot contact the gage side of the stock rail.
 - d. The heel of each switch rail shall be secure and the bolts in each heel shall be kept tight.
 - e. Each switch stand and connecting rod shall be securely fastened and operable without excessive lost motion.
 - f. Unusually chipped or worn switch points shall be repaired or replaced. Metal flow shall be removed to ensure proper closure.

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- g. The railroad shall be responsible for the installation and maintenance of switches connecting industrial track to railroad track facilities.
 - h. Owners of industrial switches shall be responsible for the installation and maintenance of their switches.
 - i. “Run-through” or damaged switches shall be repaired immediately.
14. Derails:
- a. Derails shall be installed where grade or other conditions indicate the need.
 - b. Derails shall be installed so that derailed cars will not foul or damage adjacent track or railroad structures.
 - c. Derail signs shall be clearly visible.
 - d. When in a locked position, the derail shall be free of lost motion which will allow it to be operated without removing the lock.
15. Car stops or bumping posts:
- a. Car stops or bumping posts shall be installed at the end of all industry spur tracks.
 - b. Car stops or bumping posts may be of any design that will adequately stop a car without damaging the car, such as, “wheelstops”, “drawbar stop”, or “earth-tie stop”.

Historical Note

Adopted effective May 28, 1992 (Supp. 92-2).

R14-5-110. Walkway and Clearance Standards

- A.** The following shall be the standards for all walkways.
1. Walkways shall be provided adjacent to tracks in all areas where railroad or industrial employees are required to perform trackside duties.
 2. Walkways shall be:
 - a. A uniform regular surface with a gradual slope not to exceed 1 inch rise in 8 inches;
 - b. Kept clean and free of weeds, debris and other materials or equipment that might tend to interfere with the footing of railroad or industrial employees performing trackside duties; and
 - c. Constructed and maintained to ensure proper drainage and prevent pooling of water, oil, or other liquids.
 3. In areas where heavy foot traffic exists, such as train yards and manually operated switches, the uniform surface material used shall be no larger than 3/8 inch fines.
 4. Applicable walkway measurement and clearance standards contained in Appendices 1 through 6 shall be met.
 5. The center of tracks shall be kept clean and free from all foreign materials that tend to build up between rails causing poor footing and a deterioration of track components.
 6. Walkway standards shall not apply to any of the following:
 - a. Tracks in streets or tunnels, existing bridges, grade separation structures, railroad-highway crossings, existing trestles, cattle guards, and tracks adjacent to walks, abutments, platforms, pillars, and structures where minimum widths are otherwise provided;
 - b. Tracks within cities, towns, populated or congested areas where there is insufficient width of right-of-way, except that standards shall apply to the full width of right-of-way available; and
 - c. Tracks during periods of damage or obstruction due to heavy rain or snow, derailments, rock and earth slides and other abnormal periods. Walkways shall be brought back into compliance with this Section within 30 days after the damage or obstruction occurred.
- B.** The following shall be the clearance standards:
1. Minimum overhead and side clearances as prescribed in this Section may be decreased to the extent defined by the half circumference of a circle having a radius of 8 feet, 6 inches and tangent to a horizontal line 22 feet above the top of rail at a point directly above the centerline of track, except that for tunnels and through bridges, such radius may be 8 feet. The requirements contained in Appendix 7 also shall be met.
 2. Minimum overhead clearance above the top of rail shall be 22 feet except as follows:
 - a. Clearance may be reduced to 18 feet if the track terminates inside a building and all cars, locomotives, or other equipment are brought to a stop before entering the building.
 - b. Clearance shall conform to the requirements specified in the National Electrical Safety Code (ANSI C2-1990) pertaining to the installation and maintenance of electrical supply and communication lines, published by the Institute of Electrical and Electronic Engineers, Incorporated (approved on June 26, 1989), incorporated herein by reference, on file with the Office of the Secretary of State, and copies available from 345 East 47th Street, New York, N.Y., 10017.
 - c. Overhead clearances authorized in this subsection are applicable to tracks on which rail cars having a height of 15 feet 6 inches or less are transported. If rail cars of a height greater than 15 feet 6 inches are transported or proposed to be transported, minimum overhead clearance shall be increased by the amount of not less than such additional height, provided that such cars are exempt from this subsection when the top running boards have been removed, ladders and hand brakes lowered, car painted, stenciled, and otherwise modified in compliance with provisions of 49 CFR 231, as amended and revised through October 1, 1989, incorporated herein by reference, on file with the Office of the Secretary of State, and copies available from the United States Government Printing Office, P.O. Box 371975M, Pittsburgh, Pennsylvania 15250-7975.
 - d. Rotary dumpers used in the unloading of open top cars shall be exempt from the provisions of this Section.
 3. Minimum side clearance from centerline to tangent standard gage track to obstruction shall be 8 feet 6 inches except as follows:
 - a. For platforms:
 - i. Platforms 8 inches or less above the top of rail shall be 4 feet 8 inches from centerline of track.
 - ii. Platforms 4 feet or less above the top of rail shall be 7 feet 3 inches from centerline of track.
 - iii. Stepped platforms combining two or more of the platform clearances described in subdivisions (i) and (ii) of this subsection shall not be permitted.
 - iv. Existing platforms may be extended at existing clearance, provided that such clearance, unless otherwise permitted by this Section, shall not be less than 6 feet 6 inches from the centerline of track.
 - b. Mail cranes shall be exempt from the provisions of this Section.

- c. All poles shall be a minimum of 8 feet 6 inches from the centerline of track, except that 10 feet shall be recommended where possible.
 - d. Minimum clearance for through bridges supporting track and tunnels shall be 8 feet from the centerline of track.
 - e. Minimum clearance for handrails on bridges with walkways shall be 7 feet 6 inches from the centerline of track, except that the railroad may require clearances in excess of this minimum when the railroad deems it necessary.
 - f. Water barrels and refuge platforms shall be 4 feet above the top of rail and 8 feet distant laterally from the centerline of track.
 - g. For block signals and switch stands:
 - i. Block signals and switch stands shall be 3 feet or less above the top of rail and located between tracks. Where not practicable to provide clearances otherwise prescribed in this Section, they shall be a minimum of 6 feet from the centerline of track.
 - ii. All other block signals and switch stands shall be a minimum of 8 feet 6 inches from the centerline of track.
 - h. Water columns and oil columns shall be a minimum of 8 feet from the centerline of track.
 - i. Cattle guard fencing shall be a minimum of 6 feet 9 inches from centerline of track; except that existing cattle guards less than 6 feet 9 inches from the centerline of track may be maintained at existing clearance if such clearance does not extend beyond a line extending diagonally upward from a point level with the top of rail and 5 feet 10 inches distant laterally from the centerline of track to a point 4 feet above top of rail and 8 feet distant laterally from the centerline of track.
 - j. Log rollways may be constructed and maintained with impaired clearances when adjacent to tracks operated exclusively for logging purposes.
 - k. Clearances into shops and buildings where freight cars are spotted for repairs shall be a minimum of 7 feet 8 inches from the centerline of track.
 - l. For fences and gates:
 - i. The minimum distance between a fence and the centerline of track shall be not less than 8 feet 6 inches, except that where conditions permit, 10 feet shall be required.
 - ii. Fences topped with barbed wire shall have vertical arms or the arms shall be turned outward away from track, if necessary to maintain minimum clearances as prescribed herein.
 - iii. Gates shall be secure and shall be maintained in a condition that will allow for easy opening by one person. Gates, in the open position, shall be at least 8 feet 6 inches from the centerline of track.
 - iv. Mechanical means shall be provided to prevent gates from swinging closed while switching operations are being performed.
 - m. All minimum side clearances prescribed herein are for tangent track. All structures adjacent to curved track shall have a minimum side clearance 1 foot greater than the equivalent minimum side clearance for tangent track. Where space is limited, the minimum side clearance for structures adjacent to track of not over 12 degrees curvature shall be the same as for tangent track, but if over 12 degrees curvature, 1/4 of an inch shall be added to the equivalent minimum side clearance for tangent track for each degree of the curve. Where track contains superelevation, minimum side clearances shall be increased as necessary to give the equivalent clearances based on tangent track.
 - n. Minimum side clearances authorized in this subsection are applicable to tracks on which freight cars having a maximum overall width not greater than 10 feet 10 inches are transported. On tracks over which freight cars of greater width are transported, such minimum side clearance shall be increased by not less than 1/2 of such additional width.
4. The minimum distance between the centerlines of parallel standard gage railroad tracks, which are used or proposed to be used for transporting freight cars, shall be 14 feet, except as follows:
 - a. The centerline of any standard gage track, except a main track, parallel and adjacent to a main track, shall be at least 15 feet from the centerline of main track.
 - b. The centerline of any standard gage ladder track, constructed parallel to any other track, shall have a clearance of not less than 20 feet from the centerline of other track.
 - c. Minimum clearance between the centerline of parallel house or industry tracks shall be 13 feet, except that railroads may require clearances in excess of this minimum when conditions so warrant.
 - d. Minimum-clearance between centerlines of two parallel team tracks shall be 13 feet, except that railroads may require clearances in excess of this minimum.
 - e. Minimum clearances prescribed herein are applicable only to tracks on which freight cars having a minimum overall width of 10 feet 10 inches are transported. On track over which freight cars of greater width are transported, minimum distance shall be increased by an amount equal to 1/2 such additional width.
 - f. Existing tracks may be maintained, reconstructed, or extended at centers in existence as of the effective date of the Section.
 5. For track occupying or adjacent to public roadways:
 - a. Requirements for track occupying a public roadway shall be considered individually by the Commission.
 - b. Track adjacent to a public roadway shall have a minimum clearance of 10 feet from the centerline of track to the face of curb or edge of roadway. Railroad maintenance roads shall be exempt from the provisions of this subsection.
 6. For roadway structures over or under railroad track:
 - a. Overhead roadway structures shall be a minimum of 23 feet above top of rail, except that overhead clearances greater than 23 feet may be approved when justified on the basis of railroad electrification.
 - b. Roadway structures beneath railroad track shall have a minimum clearance of 15 feet above the surface of the roadway or, if additional clearance is required, as determined by the Commission after public hearing.
 7. The general clearance requirements shall be:
 - a. No merchandise, materials, equipment, or other articles shall be placed either on the ground or on a platform adjacent to any track at a distance less than 8 feet 6 inches from the centerline of track. A suitable

Corporation Commission – Transportation

line or other marker shall be maintained on all platforms at a distance of 8 feet 6 inches from the centerline of track to indicate minimum clearance for the articles.

- b. Nothing herein shall be considered as preventing the movement of special work equipment or cars, except that such operations shall be conducted in a safe manner.
- 8. For impaired clearance signs:
 - a. Impaired clearance signs shall be of sufficient size to accommodate any wording prescribed by the Commission. The letters of said wording shall be at least 2 1/2 inches in height with a 1/2 of an inch black stroke on a fluorescent white background. In the event the Commission does not specify said wording, railroads may use their own wording for such warning signs.
 - b. Impaired clearance signs shall be located at no less than 8 feet 6 inches from the centerline of track, shall be in a position to be clearly visible to approaching train crews.
- C. All railroads operating wholly or partially within the state of Arizona shall comply with the requirements of this Section in all construction, reconstruction, or modification of track or railroad facilities performed subsequent to the effective date of this Section.
- D. Existing track, walkways, or railroad facilities may be maintained at existing clearances, except that such track, walkways, or railroad facilities shall not jeopardize the safety of railroad employees, industrial employees, or the general public.
- E. Except as provided for in subsection (B)(4)(f) of this Section, all applications for exemption from any of the requirements of this Section shall be approved by the Commission prior to construction, reconstruction, or modification of track or railroad facilities adjacent thereto. An application for exemption shall:
 - 1. Be submitted to the Railroad Safety Section, Arizona Corporation Commission;
 - 2. Contain the full name and address of the applicant and the nature of the applicant's business;
 - 3. Set forth the reason and the extent for which relief is sought;
 - 4. Include sufficient information to support and justify the exemption; and,
 - 5. If necessary, include engineering drawings to further clarify the application.

Historical Note

Adopted effective May 28, 1992 (Supp. 92-2).

R14-5-111. Crew Requirements

- A. Railroads operating within Arizona shall maintain a minimum of two operating employees in the control compartment of the lead locomotive unit of a train.
- B. Compliance with subsection (A) of this Section shall not be required during switching operations, while moving cars for inspection purposes, or while performing setouts in conjunction with road service.

Historical Note

Adopted effective May 28, 1992 (Supp. 92-2).

R14-5-112. Reserved**R14-5-113. Hazardous Materials**

- A. All railroad operations which engage in the loading of railroad freight cars for the purpose of transporting hazardous materials by rail in and through Arizona shall be governed by all of the following:

1. The material to be transported shall be authorized for transportation in freight cars. The freight car selected shall be compatible with the lading and be authorized for the commodity by the United States Department of Transportation. All fittings, tank, and safety appurtenances shall be in proper condition for the safe transportation of the product.
 2. Loading operations shall be performed only by persons properly instructed in loading hazardous materials and made responsible for careful compliance with 49 CFR 174.67, as amended and revised through November 1, 1989, incorporated herein by reference, on file with the Office of the Secretary of State and copies available from the United States Government Printing Office, P.O. Box 371975M, Pittsburgh, Pennsylvania 15250-7975.
 3. Hand brakes shall be set and wheels blocked on all cars to be loaded.
 4. Caution signs shall be so placed on the track or cars to give necessary warning to persons approaching the cars from the open end of a siding and shall be left in place until after the cars are unloaded or loaded and disconnected from the loading or unloading connection. The signs shall be of metal or other comparable material, at least 12 inches high by 15 inches wide in size, and bear the words, "STOP--Freight Car Connected", or "STOP--Men at Work", the word "STOP" being in letters at least 4 inches high and other words in letters at least 2 inches high. The letters shall be white on a blue background.
 5. Loading connections shall be securely attached to inlet pipes and other fittings before any discharge valves are opened.
 6. Freight cars shall not be allowed to stand with connections attached after loading is completed. Throughout the entire period of loading, and while the car is connected to the loading device, the car shall be attended by the loader.
 7. If necessary to discontinue loading a freight car for any reason, all loading connections shall be disconnected. All valves first shall be tightly closed, and the closures of all other openings securely applied.
 8. As soon as a freight car is completely loaded, all valves shall be made tight, the loading connections shall be removed, and all other closures made tight, except that heater coil inlet and outlet pipes shall be left open for drainage. The manhole cover shall be re-applied by the use of a bar or wrench, the outlet valve reducer and outlet valve cap replaced by the use of a wrench having a handle at least 36 inches long, and the outlet valve cap plug, end plug, and all other closures of openings and of their protective housings shall be closed by the use of a suitable tool.
 9. Railroad defect cards shall not be removed.
 10. If oil or gasoline has been spilled on the ground around connections, it shall be covered with fresh dry sand or dirt.
 11. All tools and implements used in connection with loading shall be kept free of oil, dirt, and grit.
- B. Placarding shall be as follows:**
1. When lading requiring placarding in compliance with provisions of 49 CFR 172.500(c), as amended and revised through November 1, 1989, incorporated herein by reference, on file with the Office of the Secretary of State, and copies available from the United States Government Printing Office, P.O. Box 371975M, Pittsburgh, Pennsylvania 15250-7975, is loaded in a freight car, it shall be the responsibility of the person loading the

- freight car to affix the prescribed number and type of placards to the freight car.
2. The freight car shall be equipped with at least 4 metal placard holders which are suitable for service.
 3. Placards affixed to hazardous materials freight cars shall be in a condition so that the format, legibility, color, and visibility are not substantially reduced due to damage, deterioration, or obscurement by dirt or other matter.
- C.** The accumulation of static electricity during the loading or unloading of freight cars with flammable liquids or flammable compressed gases shall be prevented by providing a means of grounding the freight car body to a suitable location using a grounding device capable of conducting static electricity away from the freight car and the loading or unloading appliances and appurtenances.
- D.** For rail bonds and insulated joints:
1. Rail shall be adequately bonded at each joint upon which railroad equipment may stand while flammable liquids or flammable gases are being transferred.
 2. Insulated rail joints shall be installed to electrically separate the loading or unloading track section from all other track rails.
 - a. Insulated rail joints shall be applied only to rail having sawed ends.
 - b. Insulated rail joints shall not be applied to rails covered with scale, dirt, or other foreign matter; to rails with battered ends; or when the opening between rail ends is greater than 3/8 of an inch.
 3. An emergency transfer of flammable liquids or flammable gases that must be performed in conjunction with a hazardous material incident shall be exempt from Rail Bonding and Insulated Joint requirements, provided other means, such as ground rods, are utilized to ground the containers and transfer appliances.
- E.** A derail shall be used to prevent the intrusion into an area where freight cars are being loaded or unloaded with a hazardous material. This device shall be kept in “derailing” position and locked with an effective locking device while freight cars are connected for loading or unloading. The key for the lock used to immobilize the derailing device shall be maintained in the care of the person who is in charge of the freight cars being loaded or unloaded.
- F.** Placarded freight cars which contain hazardous materials shall not be left to stand in populated areas for the purpose of constructive placement where the freight car is not under the direct supervision, observation, or control of the railroad carrier.
- G.** Rail carriers shall be prohibited from allowing freight or freight cars carrying hazardous materials to be constructively placed or otherwise withheld from their destination at other than an Environmental Protection Agency-approved transfer facility. For the purposes of this subsection, “transfer facility” shall mean any transportation-related facility including loading docks, parking areas, and other similar areas where shipments of hazardous materials are held during the normal course of transportation.
- H.** All railroad operations that engage in the unloading of railroad freight cars for the purpose of transporting hazardous materials by rail in and through Arizona shall be governed by 49 CFR 174.67, as amended and revised through October 1, 1989,

incorporated herein by reference, on file with the Office of the Secretary of State, and copies available from the United States Government Printing Office, P.O. Box 371975M, Pittsburgh, Pennsylvania 15250-7975, all being regulations of the Federal Railroad Administration, United States Department of Transportation, Railroad Safety regulations.

Historical Note

Adopted effective May 28, 1992 (Supp. 92-2).

R14-5-114. End-of-train Device

Any railroad carrier subject to the provisions of 49 CFR 221, amended and revised through October 1, 1989, incorporated herein by reference, on file with the Office of the Secretary of State, and copies available from the United States Government Printing Office, P.O. Box 371975M, Pittsburgh, Pennsylvania 15250-7975, operating trains outside of yard limits without an occupied caboose at the rear of the train shall have an operable end-of-train device capable of activating the train’s emergency air brake system electronically from the control panel of the locomotive controlling the train.

Historical Note

Adopted effective May 28, 1992 (Supp. 92-2).

R14-5-115. Train Composition

All carriers operating within the state of Arizona shall strictly adhere to their respective instructions relative to “train makeup” or “special car handling instructions” as promulgated in the current timetable or other operating department special instructions.

Historical Note

Adopted effective May 28, 1992 (Supp. 92-2).

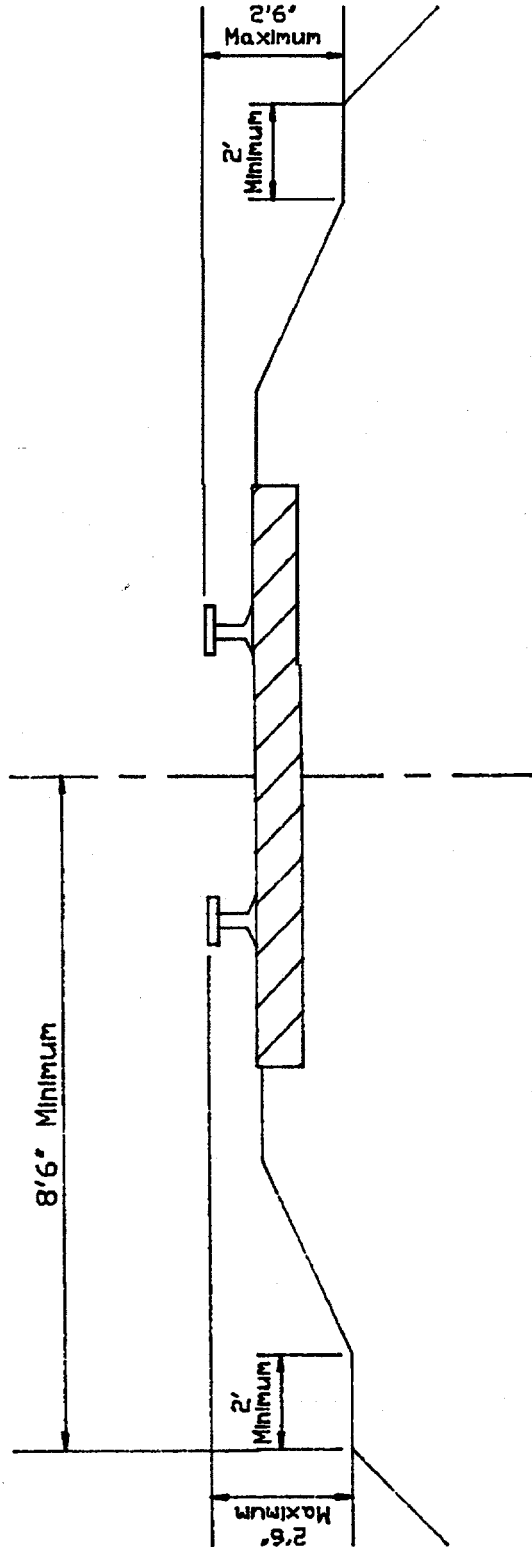
R14-5-116. Civil Penalty

- A.** Any person, firm or corporation violating any provision of this Article or Order adopted pursuant to this Article pertaining to railroad safety and the transportation of hazardous materials by rail shall be subject to a civil penalty not to exceed \$2,000 for each violation with each day constituting a separate violation. In no event shall the maximum civil penalty exceed \$200,000 for any related series of violations. The penalties described in this subsection shall not apply to R14-5-102.
- B.** Any civil penalty pertaining to railroad and rail hazardous materials transportation safety may be compromised by the Commission. In determining the amount of the penalty, or the amount agreed upon in compromise, the appropriateness of the penalty to the size of the business of the person, firm or corporation charged, the gravity of the violation and the good faith of the person, firm, or corporation charged in attempting to achieve compliance, after notification of a violation, shall be considered by the Commission. The amount of the penalty, when finally determined, or the amount agreed upon in compromise, may be deducted from any sums owed by the state of Arizona to the person, firm, or corporation charged or may be recovered in a civil action in the Superior Court of the state of Arizona.
- C.** The Commission may avail itself of any other authority or remedies available under the Constitution of Arizona and the Arizona Revised Statutes to effect the purpose of this Article.

Historical Note

Adopted effective May 28, 1992 (Supp. 92-2).

Appendix 1. Walkways Along Main Tracks Along Short Line & Branch Line - One Track

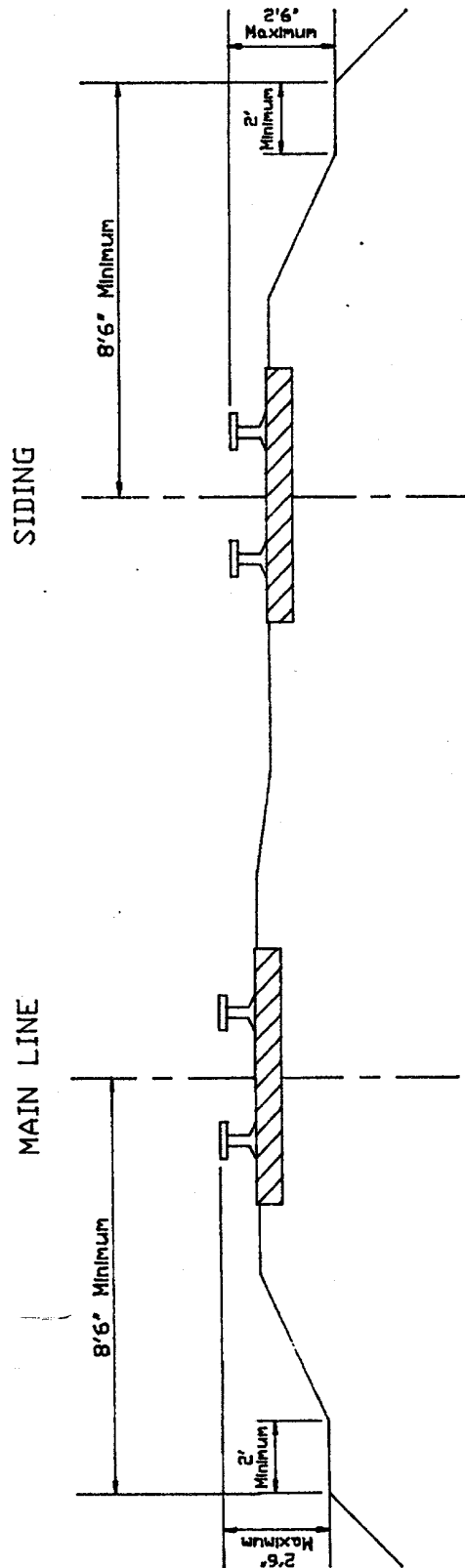


Walkways Along Main Tracks
Along Short Line & Branch Line

Historical Note

Adopted effective May 28, 1992 (Supp. 92-2).

Appendix 2. Walkways Along Main Tracks Along Short Line & Branch Line - Two Tracks

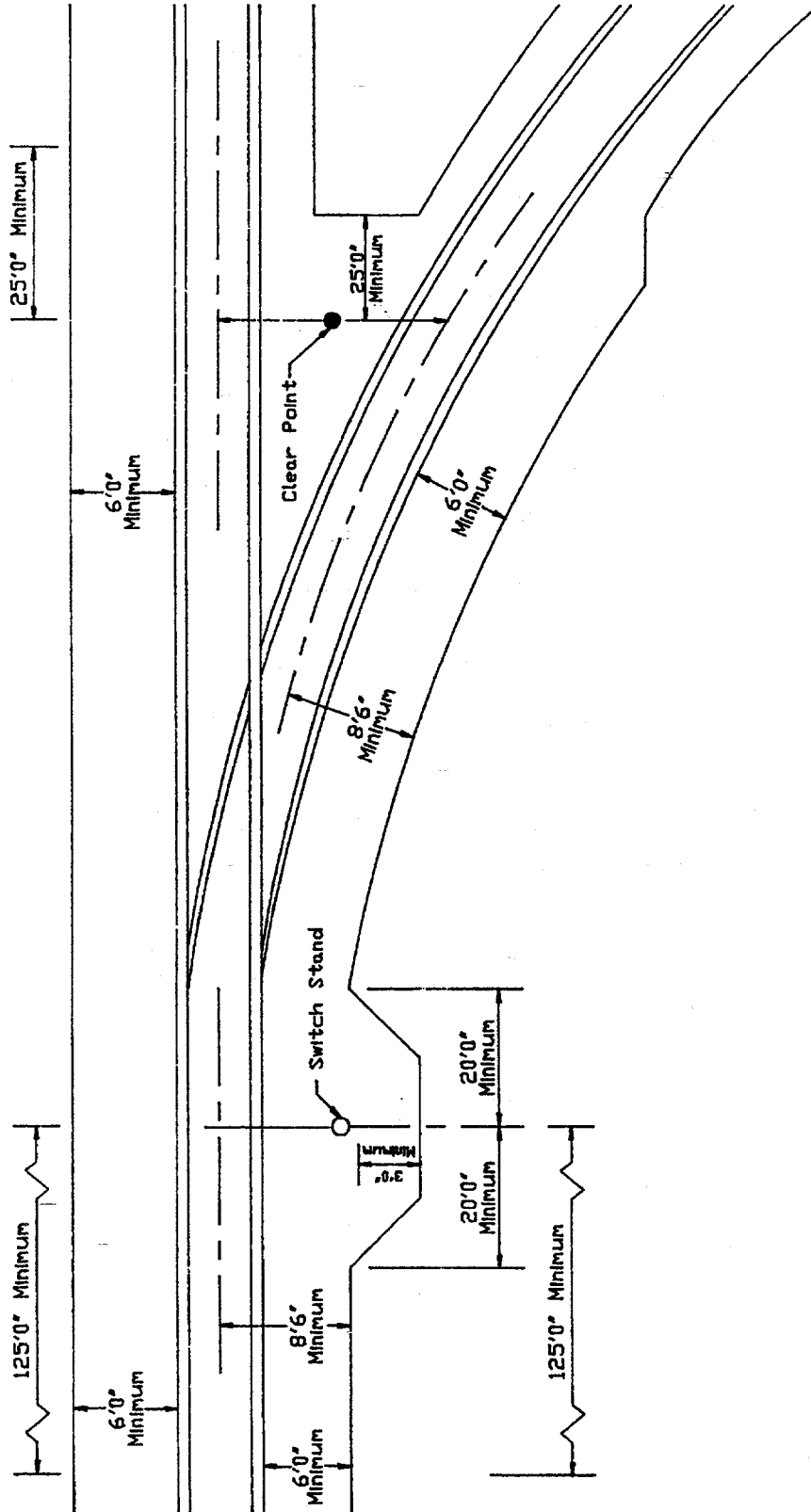


Walkways Along Main Tracks
Along Short Line & Branch Line

Historical Note

Adopted effective May 28, 1992 (Supp. 92-2).

Appendix 3. Walkways at Main Line Switches Entering Yards and Serving Industry Tracks Except as Provided in Standard No. 4 - Walkways to be Level with Ties

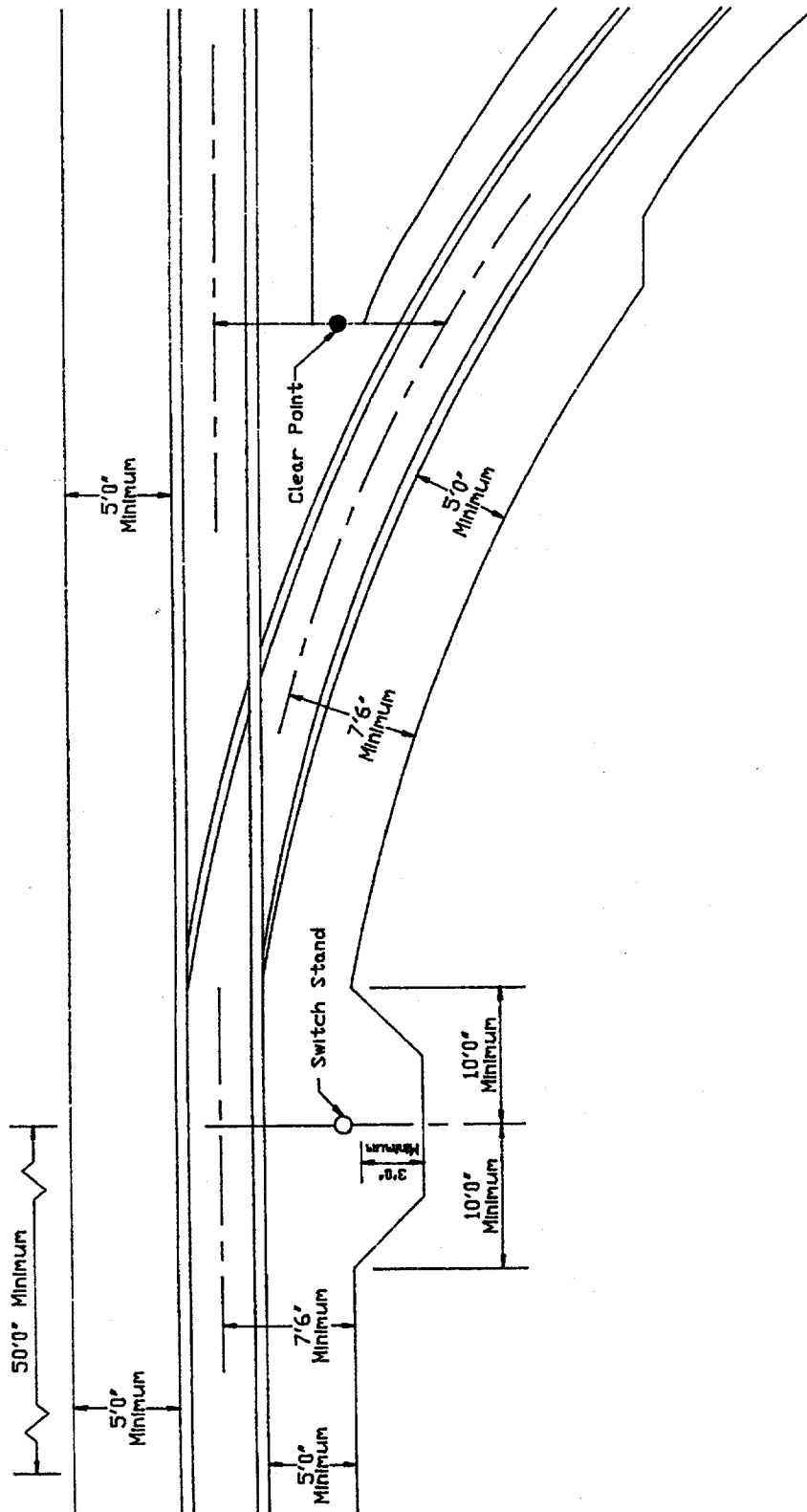


Walkways at Main Line Switches Entering Yards and Serving Industry Tracks Except as Provided in Standard No. 4 - Walkways to be Level with Ties

Historical Note

Adopted effective May 28, 1992 (Supp. 92-2).

Appendix 4. Walkways Where Switches are Power Operated

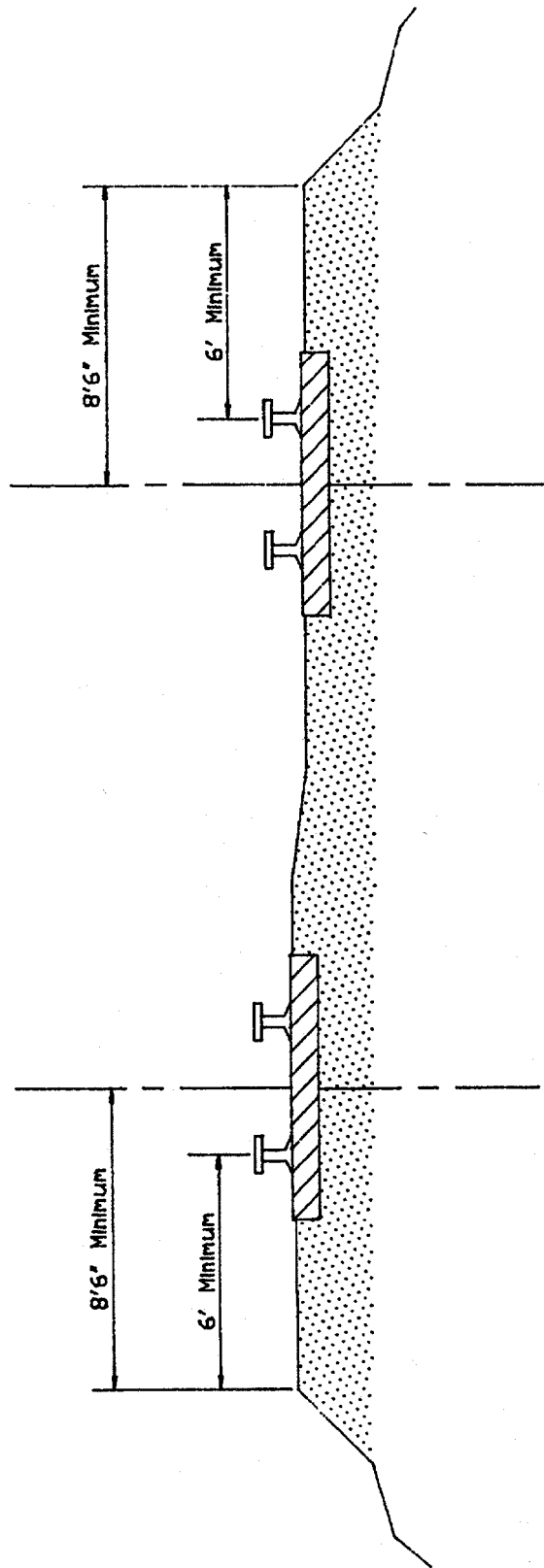


Walkways Where Switches are Power Operated

Historical Note

Adopted effective May 28, 1992 (Supp. 92-2).

Appendix 5. Walkways in Yards and Points Where Industrial Switching is Performed But Not Less Than 50 Feet in Advance of Switch

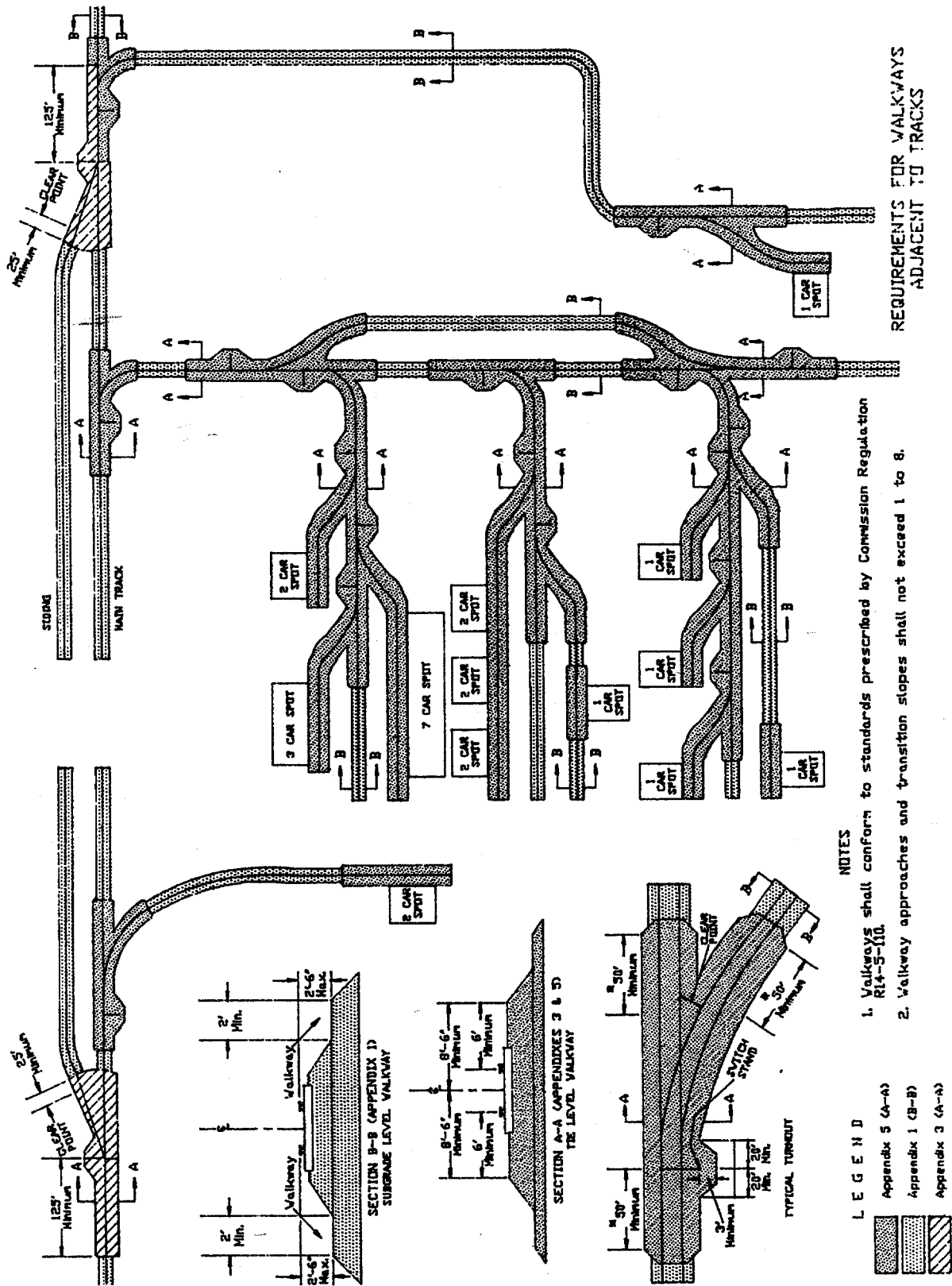


Walkways in Yards and Points Where Industrial Switching is Performed, But Not Less Than 50 Feet in Advance of Switch

Historical Note

Adopted effective May 28, 1992 (Supp. 92-2).

Appendix 6. Requirements for Walkways Adjacent to Tracks



REQUIREMENTS FOR WALKWAYS ADJACENT TO TRACKS

NOTES
 1. Walkways shall conform to standards prescribed by Commission Regulation R14-5-110.
 2. Walkway approaches and transition slopes shall not exceed 1 to 8.

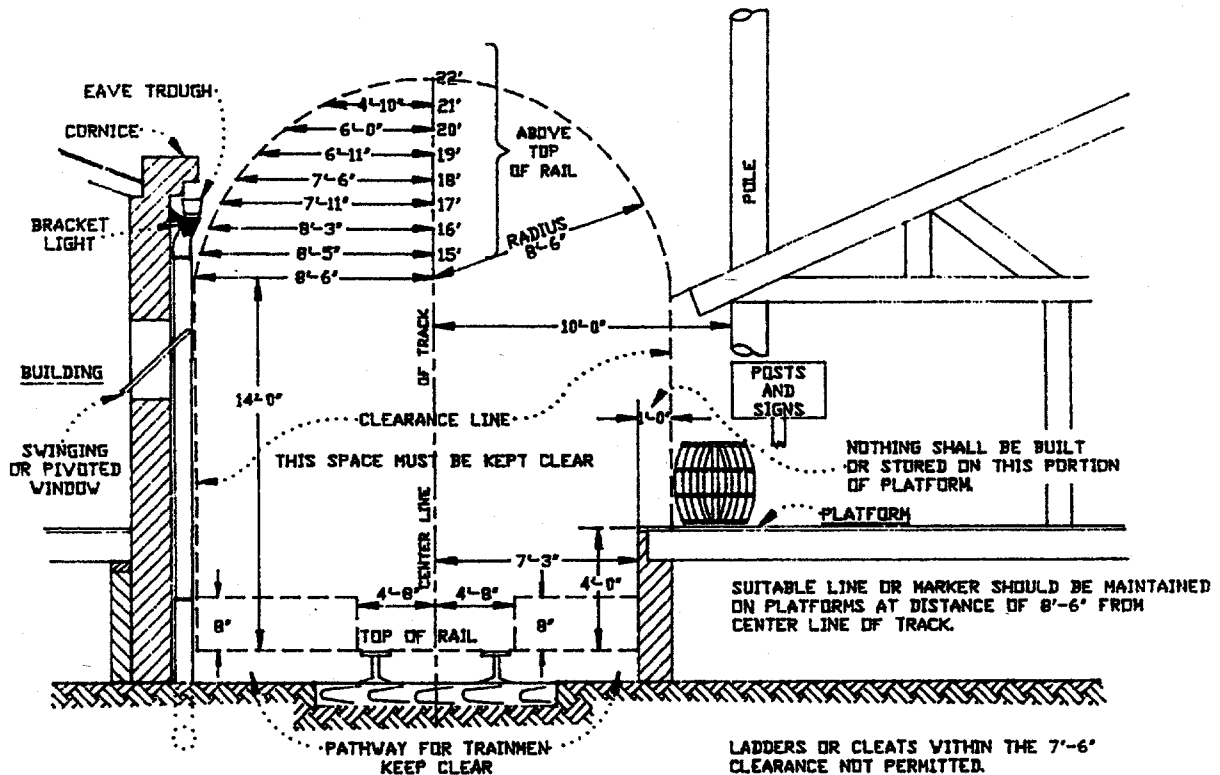
- L E G E N D
- Appendix 5 (A-A)
 - Appendix 1 (B-B)
 - Appendix 3 (A-A)

Historical Note

Adopted effective May 28, 1992 (Supp. 92-2).

Appendix 7. Typical Clearance of Structures from Railroad Tracks

**TYPICAL
CLEARANCE OF STRUCTURES FROM RAILROAD TRACKS
AS PRESCRIBED BY
ARIZONA CORPORATION COMMISSION
ADMINISTRATIVE REGULATION R14-5-110
FOR NEW WORK AND RECONSTRUCTION OF EXISTING FACILITIES ADJACENT
TO STANDARD GAUGE RAILROAD TRACKS TRANSPORTING FREIGHT CARS.**



NOTES

OVERHEAD WIRE CLEARANCES SHALL CONFORM TO COMMISSION'S REGULATION R14-5-110.

POSTS, POLES, SIGNS AND SIMILAR FACILITIES MAY HAVE MINIMUM CLEARANCE OF 8'-6" BUT CLEARANCE OF 10'-0" IS RECOMMENDED WHERE PRACTICABLE.

ALL SIDE CLEARANCE DIMENSIONS ARE FOR TANGENT TRACK. IN GENERAL, SIDE CLEARANCE FOR CURVE-TRACK TO BE 1'-0" GREATER THAN THAT FOR TANGENT TRACK.

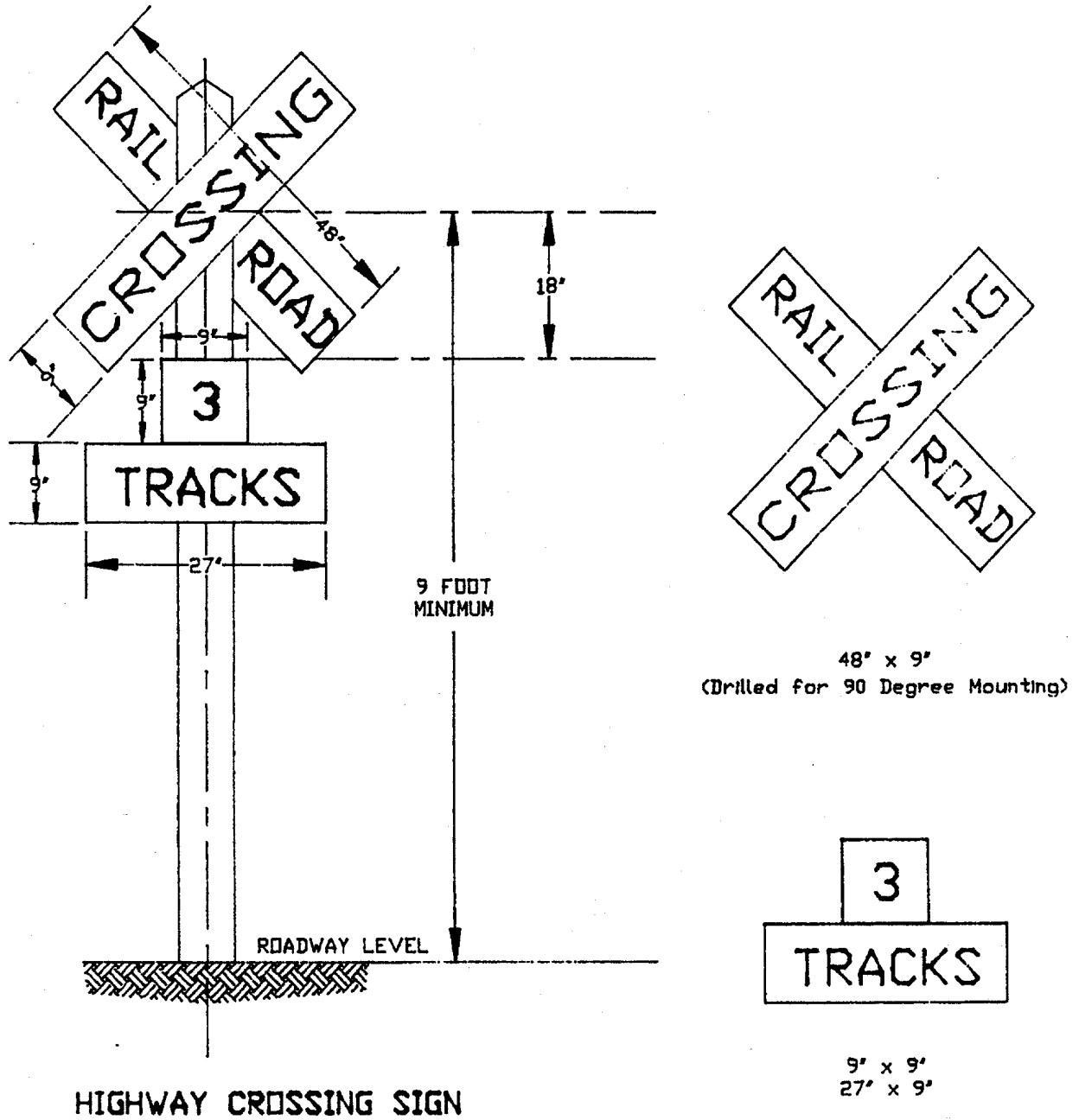
WHEN TRACK IS USED PRINCIPALLY FOR LOADING OR UNLOADING REFRIGERATOR CARS, PLATFORM HEIGHT OF 4'-6" ABOVE TOP OF RAIL MAY BE MAINTAINED PROVIDED THAT MINIMUM SIDE CLEARANCE TO CENTER LINE OF TRACK SHALL BE 8'-0".

PLATFORMS 4'-0" OR LESS IN HEIGHT WITH MINIMUM CLEARANCE OF 7'-3" MAY BE EXTENDED AT EXISTING CLEARANCES IF SUCH EXTENSION IS NOT IN CONNECTION WITH RECONSTRUCTION OF ORIGINAL PLATFORM.

Historical Note

Adopted effective May 28, 1992 (Supp. 92-2).

Appendix 8. Highway Crossing Sign



Historical Note

Adopted effective May 28, 1992 (Supp. 92-2).

ARTICLE 2. PIPELINE SAFETY**R14-5-201. Definitions**

As used in this Article:

1. "Abandon" means disconnecting the pipeline from all sources and supplies of gas, or hazardous liquids, purging the gas or hazardous liquids from the pipeline being disconnected and capping all ends.
2. "Building" means any structure intended for supporting or sheltering any occupancy.
3. "Business District" means an area where the public congregate for economic, industrial, religious, education, health or recreational purposes and two or more buildings used for these purposes are located within 100 yards of each other.
4. "Commission" means the Arizona Corporation Commission.
5. "Intrastate pipeline" means all pipeline facilities, included in the definition of "pipeline system" that are used by public service corporations to transport natural gas, Liquefied Natural Gas ("LNG"), other gas or hazardous liquids within Arizona, that are not used to transport gas or hazardous liquids in interstate or foreign commerce. This includes, without limitation, any equipment, facility, building or other property used or intended for use in transporting gas, LNG or hazardous liquids.
6. "Master meter system" means physical facilities for distributing gas within a definable area where the operator purchases metered gas from a public service corporation to provide gas service to two or more buildings other than at a single family residence.
7. "Operator" means a person that owns or operates a pipeline system or master meter system.
8. "Person" means any individual, firm, joint venture, partnership, corporation, association, cooperative association, joint stock association, trustee, receiver, assignee, personal representative, the state or any political subdivision thereof.
9. "Pipeline system" means all parts of those physical facilities that are used by public service corporations through which natural gas, LNG, other gases or hazardous liquids move in transportation including, but not limited to, pipes, compressor units, metering stations, regulator stations, delivery stations, holders and fabricated assemblies.
10. "Office of Pipeline Safety" means the Pipeline Safety personnel for the Commission.
11. "Sandy type soil" means sand no larger than "coarse" as defined by ASTM D-2487-83 (1983 Edition), incorporated by reference (and no future amendments) and on file with the Office of the Secretary of State and copies available from the Commission Office of Pipeline Safety, 1200 West Washington, Phoenix, Arizona 85007.
12. "State" means the state of Arizona and all lands within its boundaries.
13. "Structure" means that which is built or constructed, an edifice or building of any kind or any piece of work artificially built or composed of parts joined together in some definite manner.
14. "Transport" or "transportation" of gas, LNG or hazardous liquids means the gathering, transmission, distribution or storage of gas, LNG or hazardous liquids by pipeline within the state.

Historical Note

Adopted effective October 23, 1987 (Supp. 87-4).
Amended Paragraph (5) effective February 3, 1989

(Supp. 89-1). Amended effective July 25, 1994, under a court-ordered exemption as determined by the Arizona Corporation Commission (Supp. 94-3). Amended by exempt rulemaking at 5 A.A.R. 3693, effective September 17, 1999 (Supp. 99-3). Amended by final rulemaking at 8 A.A.R. 2382, effective May 10, 2002 (Supp. 02-2).

R14-5-202. Construction and Safety Standards

- A.** Applicability: This rule applies to the construction, reconstruction, repair, operation and maintenance of all intrastate natural gas, other gas, LNG and hazardous liquid pipeline systems, as described in A.R.S. § 40-441.
- B.** Subject to the definitional changes in R14-5-201 and the revisions noted in subsection (C), the Commission adopts, incorporates, and approves as its own 49 CFR 40, 191, 192 except I (2) and (3) of Appendix D to Part 192, 193, 195, except 195.1(b)(2) and (3), and 199, revised as of August 1, 2006 (and no future amendments), incorporated by reference and copies available from the Office of Pipeline Safety, 2200 N. Central Ave., Ste. 300, Phoenix, AZ 85004 and the United States Government Printing Office, P.O. Box 371954, Pittsburgh, PA 15250-7954.
- C.** The above mentioned incorporated Parts of 49 CFR, except Parts 191, 193 Subpart A and 195 Subpart A and B, are revised as follows:
 1. Substitute "Commission" where "Administrator of the Research and Special Programs Administration" or "Office of Pipeline Safety" (OPS) appear.
 2. Substitute "Office of Pipeline Safety, Arizona Corporation Commission, at its office in Phoenix, Arizona" where the address for the Information Resources Manager, Office of Pipeline Safety, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation appears.
- D.** Operators of an intrastate pipeline will file with the Commission an Operation and Maintenance Plan (O & M), including an emergency plan, 30 days prior to placing a pipeline system into operation. Any changes in existing plans will be filed within 30 days of the effective date of the change.
- E.** Operators of an intrastate pipeline transporting sour gas or oil are subject to industry standards addressing facilities handling hydrogen sulfide (H₂S). Standards adopted are:
 1. NACE Standard MR-0175-99 (1999 Revision); (and no future revisions), Standard Materials Requirements-Sulfide Stress Cracking Resistant Metallic Material for Oil-field Equipment, incorporated by reference and no future amendments. Copies are available from the Office of Pipeline Safety, 2200 N. Central Ave., Ste. 300, Phoenix, AZ 85004 and the NACE International, 1440 S. Creek Dr., Houston, TX 77084-4906.
 2. API RP55 (1995 Edition); (and no future amendments), API recommended practice for conducting oil and gas production operations involving hydrogen sulfide, incorporated by reference and no future amendments. Copies are available from the Office of Pipeline Safety, 2200 N. Central Ave., Ste. 300, Phoenix, AZ 85004 and Techstreet, 777 E. Eisenhower Pkwy., Ann Arbor, MI 48108.
- F.** Operators of an intrastate pipeline transporting LNG, hazardous liquid, natural gas or other gas will not construct any part of a hazardous liquid, LNG, natural gas or other gas pipeline system under a building. For building encroachments over a pipeline system, the operator may require the property owner to remove the building from over the pipeline or reimburse the operator the cost associated with relocating the pipeline system. The encroachment shall be resolved within 180 days of discovery, or the operator shall discontinue service to the pipeline system. When the encroachment cannot be resolved

within the 180 days the operator shall submit to the Office of Pipeline Safety within 90 days of discovery a written plan to resolve the encroachment. The Office of Pipeline Safety may then extend the 180-day requirement in order to allow the ratepayer and the operator to implement the written plan to resolve the encroachment.

- G.** Operators of an intrastate distribution pipeline transporting natural gas or other gas will not construct any part of a pipeline system closer than 8 inches to any other underground structure. If the 8-inch clearance cannot be maintained from other underground structures, a sleeve, casing, or shielding shall be used.
- H.** Operators of an intrastate pipeline transporting natural gas or other gas that have regulators, meters, or regulation meter sets that have been out of service for 36 months will abandon those lines and cap all ends. The Operator's steps to accomplish the abandonment shall not exceed six months beyond the 36 months out service status.
- I.** Operators of an intrastate pipeline shall not install or operate a gas regulator that might release gas in its operation closer than three feet to a source of ignition, opening into a building, air intake into a building or to any electrical source not intrinsically safe. The three foot clearance from a source of ignition will be measured from the vent or source of release (discharge port), not from the physical location of the meter set assembly. This subsection shall not be effective with respect to building permits which are issued and subdivisions which are platted prior to October 1, 2000. For encroachment within the required three foot clearance caused by an action of the property owner, occupant or a service provider, after the effective date of this rule the operator may require the property owner to resolve the encroachment or reimburse the operator the cost associated with relocating the pipeline system. The encroachment shall be resolved within 180 days of discovery or the operator shall discontinue service to the effected pipeline system. When the encroachment cannot be resolved within the 180 days the operator shall submit to the Office of Pipeline Safety within 90 days of discovery a written plan to resolve the encroachment. The Office of Pipeline Safety may then extend the 180-day requirement in order to allow the ratepayer and the operator to implement the written plan to resolve the encroachment.
- J.** Operators of an intrastate pipeline transporting LNG, natural gas, other gases or hazardous liquid will utilize a cathodic protection system designed to protect the metallic pipeline in its entirety, in accordance with 49 CFR 192, Subpart I, August 1, 2006 (and no future amendments), incorporated by reference, and copies available from the Office of Pipeline Safety, 2200 N. Central Ave., Ste. 300, Phoenix, AZ 85004, and the United States Government Printing Office, P.O. Box 371954, Pittsburgh, PA 15250-7954, except I (2) and (3) of Appendix D to Part 192 shall not be utilized.
- K.** Operators of an intrastate pipeline transporting natural gas or other gas will not use solvent cement to join together plastic pipe manufactured from different materials unless the operator utilizes a joining procedure in accordance with the specifications of 49 CFR 192, Subpart F, August 1, 2006 (and no future amendments), incorporated by reference, and copies available from the Office of Pipeline Safety, 2200 N. Central Ave., Ste. 300, Phoenix, AZ 85004, and the United States Government Printing Office, P.O. Box 371954, Pittsburgh, PA 15250-7954.
- L.** Operators of an intrastate pipeline transporting hazardous liquid, natural gas or other gas will not install Acrylonitrile-Butadiene-Styrene (ABS) or aluminum pipe in their pipeline systems.
- M.** Operators of an intrastate pipeline transporting hazardous liquid, natural gas or other gas will not install plastic pipe aboveground unless the plastic pipeline is protected by a metal casing, or equivalent, and approved by the Office of Pipeline Safety. Temporary aboveground plastic pipeline bypasses are permitted for up to 60 days, provided that the plastic pipeline is protected and is under the direct supervision of the operator at all times.
- N.** Operators of an intrastate pipeline transporting hazardous liquid, natural gas or other gas that construct a pipeline system or any portion thereof using plastic pipe, will install, at a minimum, a 14-gauge coated or corrosion resistant, electrically conductive wire as a means of locating the pipe while it is underground. Tracer wire shall not be wrapped around the plastic pipe, tracer wire may be taped, or attached in some manner to the pipe provided that the adhesive or the attachment is not detrimental to the integrity of the pipe wall.
- O.** Operators of an intrastate pipeline transporting natural gas, other gas or hazardous liquid, that construct an underground pipeline system using plastic pipe, will bury the installed pipe with a minimum of 6 inches of sandy type soil surrounding the pipe for bedding and shading, free of any rock or debris, unless otherwise protected and approved by the Office of Pipeline Safety. Steel pipe shall be installed with bedding and shading, free of any debris or materials injurious to the pipe coating, unless otherwise protected and approved by the Office of Pipeline Safety.
- P.** Operators of an intrastate pipeline transporting natural gas or other gas that construct an underground pipeline system using plastic pipe will install the pipe with sufficient slack to allow for thermal expansion and contraction. In addition, all plastic pipe and fittings shall be marked CD, CE, CF or CG as required by ASTM D2513 (1995c Edition and no future editions), incorporated by reference, and copies available from the Office of Pipeline Safety, 2200 N. Central Ave., Ste. 300, Phoenix, AZ 85004 and ASTM International, 100 Barr Harbor Dr., P.O. Box C700, W. Conshohocken, PA 19428-2959, for areas where the service temperature is above 100° F.
- Q.** Operators of an intrastate pipeline system transporting hazardous liquid, natural gas or other gases shall qualify welding procedures and shall perform welding of steel pipelines in accordance with API Standard 1104. Each welder must be qualified in accordance with API Standard 1104, 49 CFR 192, appendix A. The qualification of welders delineated in 49 CFR 192, appendix C may be used for low stress level pipe.
- R.** Operators of an intrastate pipeline transporting natural gas or other gas pipeline system shall survey and grade all detected leakage by the following guide: ASME Guide for Gas Transmission and Distribution Pipeline System, Guide Material, Appendix G-11-1983 except 4.4(c) (1983 Revision and no future revisions), incorporated by reference and copies available from the Office of Pipeline Safety, 2200 N. Central Ave., Ste. 300, Phoenix, AZ 85004 and the ASME, United Engineering Center, 345 E. 47th St., New York, NY 10017. ("Should" as referenced in the Guide will be interpreted to mean "shall"). Leakage survey records shall identify in some manner each pipeline surveyed. Records shall be maintained to demonstrate that the required leakage survey has been conducted.
- S.** Laboratory testing of intrastate pipelines shall be conducted in accordance with the following:
1. If an operator of an intrastate natural gas, other gas, or hazardous liquid pipeline removes a portion of a failed pipeline, where the cause of the failure is unknown, as the result of an incident that requires a telephonic or written incident report under R14-5-203(B) or (C), the operator shall retain the portion that was removed and shall tele-

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- phonically notify the Office of Pipeline Safety of the removal within two hours after the removal is completed. A notice made pursuant to this subsection shall include all of the following:
- a. Identity of the failed pipeline,
 - b. Description and location of the failure,
 - c. Date and time of the removal,
 - d. Length or quantity of the removed portion,
 - e. Storage location of the removed portion,
 - f. Any additional information about the failure or the removal of the portion of the pipeline that failed that is requested by the Office of Pipeline Safety. An unknown failure is any failure where the cause of the failure is not observable external corrosion, third-party damage, natural or other outside forces, construction or material defect, equipment malfunction or incorrect operations; or is any failure where the Office of Pipeline Safety and the operator do not agree as to the cause of the failure.
2. Within 48 hours after telephonic notification pursuant to subsection (1), the Office of Pipeline Safety shall notify the operator that either:
 - a. The Office of Pipeline Safety is directing the operator to have the portion of the pipeline that was removed tested by a laboratory to determine the cause or causes of the failure; or
 - b. The Office of Pipeline Safety is not directing laboratory testing and the operator may discard the portion of the pipeline that was removed. The Office of Pipeline Safety shall confirm its notification in writing.
 3. If the Office of Pipeline Safety directs laboratory testing pursuant to subsection (2)(a):
 - a. The Office of Pipeline Safety shall:
 - i. Determine the laboratory that will do the testing pursuant to subsection (4) and the period of time within which the testing is to be completed.
 - ii. Approve the number and types of tests to be performed.
 - iii. Notify the operator of its determinations pursuant to subsections (3)(a)(i) and (ii).
 - b. The operator shall:
 - i. Notify the Office of Pipeline Safety of the number and types of tests proposed by the operator.
 - ii. Notify the Office of Pipeline Safety of the date and time of any laboratory tests at least 20 days before the tests are done.
 - iii. At the request of the Office of Pipeline Safety, ensure that a representative of the Office of Pipeline Safety is permitted to observe any or all of the tests.
 - iv. Ensure that the original laboratory test results are provided to the Office of Pipeline Safety within 30 days of the completion of the tests.
 - v. Pay for the laboratory testing.
 4. In determining a laboratory pursuant to subsection (3)(a)(i), the Office of Pipeline Safety shall:
 - a. Submit a written request to at least three different laboratories for bids to conduct the testing.
 - b. Consider the qualifications of the respondent laboratories to perform the testing, including:
 - i. Past experience in performing the required test or tests according to ASTM International standards.
 - ii. Any recognition that the laboratory may demonstrate with national or international laboratory accreditation bodies.
 - c. Select the laboratory that offers the optimum balance between cost and demonstrated ability to perform the required test or tests.
 - d. The Office of Pipeline Safety shall not select a laboratory pursuant to this subsection before either of the following, whichever occurs first:
 - i. The Office of Pipeline Safety has received written bids from at least three different laboratories.
 - ii. Thirty days from the date of the request for bids has passed.
- T. All repair work performed on an existing intrastate pipeline transporting LNG, hazardous liquids, natural gas or other gas will comply with the provisions of this Article.
 - U. The Commission may waive compliance with any of the aforementioned parts upon a finding that such a waiver is in the interest of public and pipeline safety.
 - V. To ensure compliance with provisions of this rule the Commission or an authorized representative thereof may enter the premises of an operator of an intrastate pipeline to inspect and investigate the property, books, papers, business methods, and affairs that pertain to the pipeline system operation.
 - W. All other Commission administrative rules are superseded to the extent they are in conflict with the pipeline safety provisions of this Article.

Historical Note

Adopted effective October 23, 1987 (Supp. 87-4). Amended subsections (B), (I) and (J) effective February 3, 1989 (Supp. 89-1). Amended effective December 18, 1991 (Supp. 91-4). Amended effective July 25, 1994, under a court-ordered exemption as determined by the Arizona Corporation Commission (Supp. 94-3). Amended effective August 30, 1996, under a court-ordered exemption as determined by the Arizona Corporation Commission (Supp. 96-3). Amended effective September 26, 1997, under a court-ordered exemption as determined by the Arizona Corporation Commission (Supp. 97-3). Amended by exempt rulemaking at 5 A.A.R. 3693, effective September 17, 1999 (Supp. 99-3). Amended by final rulemaking at 8 A.A.R. 2382, effective May 10, 2002 (Supp. 02-2). Amended by final rulemaking at 9 A.A.R. 3496, effective September 15, 2003 (Supp. 03-3). Amended by final rulemaking at 11 A.A.R. 1253, effective March 3, 2005 (Supp. 05-1). Amended by final rulemaking at 13 A.A.R. 4533, effective January 25, 2008 (Supp. 07-4).

R14-5-203. Pipeline Incident Reports and Investigations

- A. Applicability. This rule applies to all intrastate pipeline systems.
- B. Required incident reports by telephone:
 1. Operators of an intrastate pipeline transporting LNG, natural gas or other gas will notify by telephone the Office of Pipeline Safety immediately upon discovery of the occurrence of any of the following:
 - a. The release of natural gas, other gas or liquefied natural gas (LNG) from a pipeline or LNG facility, when any of the following results:
 - i. Death or personal injury requiring hospitalization.
 - ii. An explosion or fire not intentionally set by the operator.

- iii. Property damage, including the value of the gas lost, estimated in excess of \$5,000.
 - b. Emergency transmission pipeline shutdown.
 - c. News media inquiry.
 - d. Overpressure of a pipeline system where a pipeline operating at less than 12 PSIG exceeds MAOP by 50%, where a pipeline operating between 12 PSIG and 60 PSIG exceeds MAOP by 6 PSIG or where a pipeline operating over 60 PSIG exceeds MAOP plus 10%.
 - e. Permanent or temporary discontinuance of gas service to a master meter system or when assisting with the isolation of any portion of a gas master meter system due to a failure of a leak test.
 - f. Emergency shutdown of a LNG process or storage facility.
 - 2. Operators of an intrastate pipeline transporting hazardous liquid will notify by telephone the Office of Pipeline Safety immediately upon discovery of the occurrence of any of the following:
 - a. Death or personal injury requiring hospitalization.
 - b. An explosion or fire not intentionally set by the operator.
 - c. Property damage estimated in excess of \$5,000.
 - d. Pollution of any land, stream, river, lake, reservoir, or other body of water that violates applicable environmental quality, water quality standards, causes a discoloration of the surface of the water or adjoining shoreline, or deposits sludge or emulsion beneath the surface of the water or upon adjoining shorelines.
 - e. News media inquiry.
 - f. Release of 5 gallons (19 liters) or more of hazardous liquid or carbon dioxide, except that no report is required for a release of less than 5 barrels (0.8 cubic meters) resulting from a pipeline maintenance activity if the release is:
 - i. Not otherwise reportable under this Section;
 - ii. Not one described in 49 CFR 195.52(a)(4) (1994 revision and no future revisions), incorporated by reference and copies available from the Office of Pipeline Safety, 2200 N. Central Ave., Ste. 300, Phoenix, AZ 85004;
 - iii. Confined to company property or pipeline right-of-way; and
 - iv. Cleaned up promptly.
 - g. Any release of hazardous liquid or carbon dioxide, that was significant in the judgment of the operator even though it did not meet the criteria of this subsection.
 - 3. Telephone incident reports will include the following information:
 - a. Name of the pipeline system operator,
 - b. Name of the reporting party,
 - c. Job title of the reporting party,
 - d. The reporting party's telephone number,
 - e. Location of the incident,
 - f. Time of the incident, and
 - g. Fatalities and injuries, if any.
- C. Require written incident report:
1. Operators of an intrastate pipeline transporting natural gas, LNG or other gases will file a written incident report when an incident occurs involving a natural gas or other gas pipeline that results in any of the following:
 - a. An explosion or fire not intentionally set by the operator.
 - b. Injury to a person that results in one or more of the following:
 - i. Death.
 - ii. Loss of consciousness.
 - iii. Need for medical treatment requiring hospitalization.
 - c. Property damage, including the value of the lost gas, estimated in excess of \$5,000.
 - d. Emergency transmission pipeline shutdown.
 - e. Overpressure of a pipeline system where a pipeline operating at less than 12 PSIG exceeds MAOP by 50%, where a pipeline operating between 12 PSIG and 60 PSIG exceeds MAOP by 6 PSIG or where a pipeline operating over 60 PSIG exceeds MAOP plus 10%.
 - f. Emergency shutdown of a LNG process or storage facility.
 2. Written incident reports concerning natural gas or other gas pipeline systems will be in the following form:
 - a. PHMSA F7100.1 - Distribution System: Incident Report, (March, 2004 Revision and no future revisions) incorporated by reference and copies available from the Office of Pipeline Safety, 2200 N. Central Ave., Ste. 300, Phoenix, AZ 85004.
 - b. PHMSA F7100.2 - Transmission and Gathering System: Incident Report, (January, 2002 Revision and no future revisions) incorporated by reference and copies available from the Office of Pipeline Safety, 2200 N. Central Ave., Ste. 300, Phoenix, AZ 85004.
 - c. Written incident reports with respect to LNG facilities will be in an investigative form defining the incident and corrective action taken to prevent a reoccurrence.
 3. Operators of an intrastate pipeline transporting hazardous liquid will make a written incident report on PHMSA F 7000-1, (January 2001 Revision and no future revisions), incorporated by reference, and copies available from the Office of Pipeline Safety, 2200 N. Central Ave., Ste. 300, Phoenix, AZ 85004, when there is a release of hazardous liquid which results in any of the following:
 - a. An explosion or fire not intentionally set by the operator.
 - b. Injury to a person that results in one or more of the following:
 - i. Death.
 - ii. Loss of consciousness.
 - iii. Inability to leave the scene of the incident unassisted.
 - iv. Need for medical treatment.
 - v. Disability which interferes with a person's normal daily activities beyond the date of the incident.
 - c. Release of 5 gallons (19 liters) or more of hazardous liquid or carbon dioxide, except that no report is required for a release of less than 5 barrels (0.8 cubic meters) resulting from a pipeline maintenance activity if the release is:
 - i. Not otherwise reportable under this Section;
 - ii. Not one described in 49 CFR 195.52(a)(4); (1994 revision and no future revisions), incorporated by reference and copies available from the Office of Pipeline Safety, 2200 N. Central Ave., Ste. 300, Phoenix, AZ 85004;
 - iii. Confined to company property or pipeline right-of-way; and
 - iv. Cleaned up promptly.

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- d. Estimated property damage, including cost of clean-up and recovery, value of lost product, and damage to the property of the operator or others, or both, exceeding \$5,000.
 - e. News media inquiry.
 4. Written incident reports as required in this Section will be filed with the Office of Pipeline Safety, within the time specified below:
 - a. Natural gas, LNG or other gas - within 20 days after detection.
 - b. Hazardous liquids - within 15 days after detection.
 5. The Operators shall also file a copy of all DOT required written incident reports with the Information Resources Manager, Office of Pipeline Safety, Pipeline and Hazardous Materials Safety Administration, Rm. 7128, 400 Seventh St., S.W., U.S. Department of Transportation, Washington, DC 20590.
 6. Operators of a natural gas or other gas pipeline system will request a clearance from the Office of Pipeline Safety prior to turning on or reinstating service to a master meter operator.
- D. Investigations by the Commission:**
1. The Office of Pipeline Safety will investigate the cause of incidents resulting in death or serious injury.
 2. Pursuant to an investigation under this rule, the Commission, or an authorized agent thereof, may:
 - a. Inspect all plant and facilities of a pipeline system.
 - b. Inspect all other property, books, papers, business methods, and affairs of a pipeline system.
 - c. Make inquiries and interview persons having knowledge of facts surrounding an incident.
 - d. Attend, as an observer, hearings and formal investigations concerning pipeline system operators.
 - e. Schedule and conduct a public hearing into an incident.
 3. The Commission may issue subpoenas to compel the production of records and the taking of testimony.
 4. Incidents not reported in accordance with the provisions of this rule will be investigated by the Office of Pipeline Safety.
 5. Incidents referred to in incomplete or inaccurate reports will be investigated by the Office of Pipeline Safety.
 6. Late filed incident reports will be accompanied by a letter of explanation. Incidents referred to in late filed reports may be investigated by the Office of Pipeline Safety.

Historical Note

Adopted effective October 23, 1987 (Supp. 87-4).
 Amended effective December 18, 1991 (Supp. 91-4).
 Amended effective September 26, 1997, under a court-ordered exemption as determined by the Arizona Corporation Commission (Supp. 97-3). Amended by exempt rulemaking at 5 A.A.R. 3693, effective September 17, 1999 (Supp. 99-3). Amended by final rulemaking at 8 A.A.R. 2382, effective May 10, 2002 (Supp. 02-2).
 Amended by final rulemaking at 9 A.A.R. 3496, effective September 15, 2003 (Supp. 03-3). Amended by final rulemaking at 11 A.A.R. 1253, effective March 3, 2005 (Supp. 05-1). Amended by final rulemaking at 13 A.A.R. 4533, effective January 25, 2008 (Supp. 07-4).

R14-5-204. Annual Reports

- A.** Except for operators of an intrastate pipeline transporting LNG, all other intrastate pipeline operators will file with the Office of Pipeline Safety, not later than March 15, for the preceding calendar year, the following appropriate report(s):

1. PHMSA F 7000-1.1 (April 2006 Edition and no future editions) – “Annual Report for calendar year 20___, hazardous liquid or carbon dioxide systems” and “Instructions for completing PHMSA F 7000-1.1 (Rev. 04-2006), Annual Report for calendar year 20___ hazardous liquid or carbon dioxide systems,” incorporated by reference, and copies available from the Office of Pipeline Safety, 2200 N. Central Ave., Ste. 300, Phoenix, AZ 85004 and the Information Resources Manager, Office of Pipeline Safety, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, Rm. 7128 400 Seventh St., S.W., Washington, DC 20590.
 2. PHMSA F7100.1-1 (December 2005 Edition and no future editions) - “Annual Report for Calendar Year 20___, Gas Distribution System” and “Instructions for Completing PHMSA Form F7100.1-1, Annual Report for Calendar Year 20___, Gas Distribution System,” incorporated by reference, and copies available from the Office of Pipeline Safety, 2200 N. Central Ave., Ste. 300, Phoenix, AZ 85004 and the Information Resources Manager, Office of Pipeline Safety, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, Rm. 7128, 400 Seventh St., S.W., Washington, D.C. 20590.
 3. PHMSA F7100.2-1 (December 2005 Edition and no future editions) - “Annual Report for Calendar Year 20___, Gas Transmission and Gathering Systems” and “Instructions for Completing Form PHMSA F7100.2-1 (Rev. 12-2005), Annual Report for Calendar Year 20___, Gas Transmission and Gathering Systems,” incorporated by reference, and copies available from the Office of Pipeline Safety, 2200 N. Central Ave., Ste. 300, Phoenix, AZ 85004 and the Information Resources Manager, Office of Pipeline Safety, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, Rm. 7128, 400 Seventh St., S.W., Washington, D.C. 20590.
- B.** The operator will also file a copy of all required annual reports by March 15 to the Information Resources Manager, Office of Pipeline Safety, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, Rm. 7128, 400 Seventh St., S.W., Washington, D.C. 20590-0001.

Historical Note

Adopted effective October 23, 1987 (Supp. 87-4).
 Amended effective December 18, 1991 (Supp. 91-4).
 Amended by exempt rulemaking at 5 A.A.R. 3693, effective September 17, 1999 (Supp. 99-3). Amended by final rulemaking at 8 A.A.R. 2382, effective May 10, 2002 (Supp. 02-2). Amended by final rulemaking at 9 A.A.R. 3496, effective September 15, 2003 (Supp. 03-3).
 Amended by final rulemaking at 11 A.A.R. 1253, effective March 3, 2005 (Supp. 05-1). Amended by final rulemaking at 13 A.A.R. 4533, effective January 25, 2008 (Supp. 07-4).

R14-5-205. Master Meter System Operators

- A.** Applicability. This rule applies to the construction, reconstruction, repair, emergency procedures, operation and maintenance of all master meter systems, as a condition of receiving service from public service corporations. Noncompliance with this rule by operators of a master meter system shall constitute grounds for termination of service. by the public service corporation when informed in writing by the Office of Pipeline Safety. In case of an emergency, the Office of Pipeline Safety may give the public service corporation oral instructions to ter-

- minate service, with written confirmation to be furnished within 24 hours.
- B.** Subject to the definitional changes in R14-5-201 and the revisions noted in subsection (C), the Commission adopts, incorporates, and approves as its own 49 CFR 191 and 192, revised as of August 1, 2006 (and no future amendments), incorporated by reference, and copies available from the Office of Pipeline Safety, 2200 N. Central Ave., Ste. 300, Phoenix, AZ 85004 and the United States Government Printing Office, P.O. Box 371954, Pittsburgh, PA 15250-7954.
- C.** The above mentioned incorporated parts of 49 CFR, except Part 191, are revised as follows:
1. Substitute "Commission" where "Administrator of the Research and Special Programs Administration," or "Office of Pipeline Safety" (OPS) appear.
 2. Substitute Office of "Pipeline Safety, Arizona Corporation Commission, at its office in Phoenix, Arizona" where the address for the Information Resources Manager, Office of Pipeline Safety, Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation appears.
- D.** Operators of a master meter system will establish an Operation and Maintenance Plan (O & M) including an emergency plan. The plans must be maintained at the master meter system location.
- E.** Operators of a master meter system will not construct any part of a natural gas or other gas system under a building or permit a building to be placed over a pipeline. Within 180 days of discovery of a building being located over a pipeline, the operator shall remove the building from over the pipeline, relocate the pipeline or discontinue the service to the pipeline located under the building.
- F.** Operators of a master meter system will not install Acrylonitrile-Butadiene-Styrene (ABS) or aluminum pipe in their systems.
- G.** Operators of a master meter system will not use solvent cement to join together plastic pipe manufactured from different materials unless the operator utilizes a joining procedure in accordance with the specifications of 49 CFR 192, Subpart F, August 1, 2006 (and no future amendments), incorporated by reference, and copies available from the Office of Pipeline Safety, 2200 N. Central Ave., Ste. 300, Phoenix, AZ 85004 and the United States Government Printing Office, P.O. Box 371954, Pittsburgh, PA 15250-7954.
- H.** Operators of a master meter system that construct a pipeline or any portion thereof using plastic pipe will install, at a minimum, a 14-gauge coated or corrosion resistant, electrically conductive wire as a means of locating the pipe while it is underground. Tracer wire shall not be wrapped around the plastic pipe, tracer wire may be taped, or attached in some manner to the pipe provided that the adhesive or the attachment is not detrimental to the integrity of the pipe wall.
- I.** Operators of a master meter system that construct an underground pipeline using plastic pipe, will bury the installed pipe with a minimum of 6 inches of sandy type soil surrounding the pipe for bedding and shading, free of any rock or debris, unless otherwise protected and approved by the Office of Pipeline Safety. Steel pipe shall be installed with bedding and shading, free of any debris or materials injurious to the pipe coating, unless otherwise protected and approved by the Office of Pipeline Safety.
- J.** Operators of a master meter system that construct an underground pipeline using plastic pipe will install the pipe with sufficient slack to allow for thermal expansion and contraction. In addition, all plastic pipe and fittings shall be marked CD, CE, CF or CG as required by ASTM D2513 (1995c Edition and no future editions), incorporated by reference, and copies available from the Office of Pipeline Safety, 2200 N. Central Ave., Ste. 300, Phoenix, AZ 85004 and ASTM International, 100 Barr Harbor Dr., P.O. Box C700, W. Conshohocken, PA 19428-2959, for areas where the service temperature is above 100° F.
- K.** Operators of a master meter gas system shall qualify welding procedures and shall perform welding of steel pipelines in accordance with API Standard 1104. Each welder must be qualified in accordance with API Standard 1104, 49 CFR 192, appendix A.
- L.** All repair work performed on existing master meter systems will comply with the provisions of this Article.
- M.** Operators of a master meter system will not construct any part of a natural gas or other gas system closer than 8 inches to any other underground structure.
- N.** Operators of a master meter system will file a Notice of Construction 30 days prior to commencement of the construction of any pipeline. The Notice will contain the following information:
1. The dates of construction,
 2. The size and type of pipe to be used,
 3. The location of construction, and
 4. The Maximum Allowable Operating Pressure (MAOP).
- O.** Operators of a master meter system will perform leakage surveys at intervals not exceeding 15 months but at least once each calendar year and will survey and grade all detected leakage by the following guide -- ASME Guide for Gas Transmission and Distribution Pipeline System, Guide Material, Appendix G-11-1983 (1983 Revision and no future revisions), except 4.4(c), incorporated by reference, and copies available from the Office of Pipeline Safety, 2200 N. Central Ave., Ste. 300, Phoenix, AZ 85004 and the ASME, United Engineering Center, 345 E. 47th St., New York, NY 10017. ("Should" as referenced in the guide will be interpreted to mean "shall".) Leak detection procedures shall be approved by the Office of Pipeline Safety.
- P.** Laboratory testing of master meter systems shall be conducted in accordance with the following:
1. If an operator of a master meter system, other gas or hazardous liquid pipeline removes a portion of a failed pipeline, where the cause of the failure is unknown, as the result of an incident that requires a telephonic or written incident report under R14-5-203(B) or (C), the operator shall retain the portion that was removed and shall telephonically notify the Office of Pipeline Safety of the removal within two hours after the removal is completed. A notice made pursuant to this subsection shall include all of the following:
 - a. Identity of the failed pipeline;
 - b. Description and location of the failure;
 - c. Date and time of the removal;
 - d. Length or quantity of the removed portion;
 - e. Storage location of the removed portion;
 - f. Any additional information about the failure or the removal of the portion of the pipeline that failed that is requested by the Office of Pipeline Safety. An unknown failure is any failure where the cause of the failure is not observable external corrosion, third-party damage, natural or other outside forces, construction or material defect, equipment malfunction or incorrect operations; or is any failure where the Office of Pipeline Safety and the operator do not agree as to the cause of the failure.

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2. Within 48 hours after telephonic notification pursuant to subsection (1), the Office of Pipeline Safety shall notify the operator that either:
 - a. The Office of Pipeline Safety is directing the operator to have the portion of the pipeline that was removed tested by a laboratory to determine the cause or causes of the failure.
 - b. The Office of Pipeline Safety is not directing laboratory testing and the operator may discard the portion of the pipeline that was removed. The Office of Pipeline Safety shall confirm its notification in writing.
 3. If the Office of Pipeline Safety directs laboratory testing pursuant to subsection (2)(a):
 - a. The Office of Pipeline Safety shall:
 - i. Determine the laboratory that will do the testing pursuant to subsection (4) and the period of time within which the testing is to be completed.
 - ii. Approve the number and types of tests to be performed.
 - iii. Notify the operator of its determinations pursuant to subsections (3)(a)(i) and (ii).
 - b. The operator shall:
 - i. Notify the Office of Pipeline Safety of the number and types of tests proposed by the operator.
 - ii. Notify the Office of Pipeline Safety of the date and time of any laboratory tests at least 20 days before the tests are done.
 - iii. At the request of the Office of Pipeline Safety, ensure that a representative of the Office of Pipeline Safety is permitted to observe any or all of the tests.
 - iv. Ensure that the original laboratory test results are provided to the Office of Pipeline Safety within 30 days of the completion of the tests.
 - v. Pay for the laboratory testing.
 4. In determining a laboratory pursuant to subsection (3)(a)(i), the Office of Pipeline Safety shall:
 - a. Submit a written request to at least three different laboratories for bids to conduct the testing.
 - b. Consider the qualifications of the respondent laboratories to perform the testing, including:
 - i. Past experience in performing the required test or tests according to ASTM International standards.
 - ii. Any recognition that the laboratory may demonstrate with national or international laboratory accreditation bodies.
 - c. Select the laboratory that offers the optimum balance between cost and demonstrated ability to perform the required test or tests.
 - d. The Office of Pipeline Safety shall not select a laboratory pursuant to this subsection before either of the following, whichever occurs first:
 - i. The Office of Pipeline Safety has received written bids from at least three different laboratories.
 - ii. Thirty days from the date of the request for bids has passed.
- Q.** Operators of a master meter system will file an annual report with the Commission on Commission Form 1-90/15M (1990 Edition and no future editions), "Annual Report for Calendar Year 20___, Small Operators of Gas Distribution System," incorporated by reference, and copies available from the Office of Pipeline Safety, 2200 N. Central Ave., Ste. 300, Phoenix, AZ 85004. This report will be filed with the Office of Pipeline Safety not later than April 15 for the preceding calendar year.
- R.** The Commission may waive compliance with any of the aforementioned parts upon a finding that such a waiver is in the interest of public safety.
- S.** To ensure compliance with provisions of this rule, the Commission or an authorized representative thereof, may enter the premises of an operator of a master meter system to inspect and investigate the property, books, papers, business methods, and affairs that pertain to the operation of the master meter system.
- T.** All other Commission administrative rules are superseded to the extent they are in conflict with the pipeline safety provisions of this Article.

Historical Note

Adopted effective October 23, 1987 (Supp. 87-4).
 Amended subsections (B) and (G) effective February 3, 1989 (Supp. 89-1). Amended effective December 18, 1991 (Supp. 91-4). Amended effective July 25, 1994, under a court-ordered exemption as determined by the Arizona Corporation Commission (Supp. 94-3).
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