



EMPLOYEE OPERATING MANUAL

EFFECTIVE April 2017



Operating Rules



Notice

These rules:

- **Are effective April 1, 2017.**
- Govern conditions and actions on railroads operated by CSX in the United States.
- Supersede all previous versions of *CSX Transportation Operating Rules & Signal Aspects and Indications*.
- Are dedicated to the men and women of CSX, to help us work as a team to provide our customers with the safest, most cost-effective, and environmentally responsible rail transportation services in the industry.

While every effort has been made to create a comprehensive set of operating rules, it is impossible to write a rule book that covers every circumstance. Therefore, where no specific rule applies, rely on good judgment and follow the safest course available.

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ISSUED TO:

NAME:	JOB TITLE:

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Chapter 1 - General Requirements

100 - Application of Rules and Special Instructions

- 100.1** Employees must know and comply with rules, instructions, and procedures that govern their duties. They must also comply with the instructions of supervisors. When there is uncertainty, employees must:
1. Take the safe course, and
 2. Contact a supervisor for clarification.
- 100.2** When rules and special instructions conflict, the following apply:
1. Special instructions supersede rules;
 2. Dispatcher messages supersede special instructions and rules; and
 3. Form EC-1 instructions supersede dispatcher messages, special instructions, and rules.
- 100.3** When on duty, employees must have the rule books and special instructions that are in effect available for use.
- 100.4** Before entering, using, or dispatching controlled tracks; each CSX employee must be in possession of his or her own copy of the documents below. Foreign line employee operating on CSX tracks must have at least one of each of the below documents available for immediate use.
1. Rule books specified by system bulletin,
 2. Applicable timetable instructions,
 3. System bulletins, and
 4. Applicable division bulletins.
- 100.5** CSX employees performing service on foreign line tracks are governed by the foreign line and must carry the rules, timetables, and special instructions of that line.
- 100.6** When a rule book or timetable is reissued or amended, it supersedes all previous versions on the effective date and time. Employees must:
1. Obtain a copy,
 2. Verify the document is complete, and
 3. Have the documents available for use.

101 - System and Division Bulletins and Notices

- 101.1** Before beginning work, employees must determine if any bulletins or notices have been issued since their last tour of duty, and:
1. Read and comply with all of the bulletins that affect their tour of duty, and
 2. Read and comply with the information contained in notices.

101.2 The following applies to bulletins:

1. System bulletins implement changes in rules and system-wide operating practices,
2. Division bulletins implement changes in timetable special instructions, and
3. Procedural instruction manuals implement changes in train dispatching operating practices.

101.3 System and division bulletins and notices will:

1. Be numbered consecutively;
2. Expire at 2359 on the last day of March, June, September, and December; and
3. Be reissued, as necessary, effective 0001 on the first day of January, April, July, and October.

102 - CSX Standard Time**102.1** CSX standard time is equivalent to United States Eastern Time using the 24-hour clock system. CSX standard time can be determined by:

- a. Time displayed by the dispatching system, or
- b. Contacting the control station, or
- c. Calling RNX 388-5000 or Bell 904-381-5000.

102.2 Employees governed by timetables, dispatcher messages, or Form EC-1 must carry a watch that:

1. Indicates hours, minutes, and seconds; and
2. Must not lose or gain more than one minute in a 12-hour period.

102.3 Employees who are required to carry a watch must verify the watch is set to CSX standard time before beginning work activity:

1. The ranking employee of the crew or working group is to set his or her watch to CSX standard time, and
2. Other members of the crew or working group are to set their watches to that of the ranking employee.

103 - CSX Property and Interest**103.1** Employees must keep CSX electronic devices, tools, keys, or other property:

1. In a safe, clean, and working condition;
2. Available for use as required; and
3. Protected against unauthorized use or theft.

103.2 Do not use CSX equipment or communication systems unnecessarily or for unauthorized personal business.

- 103.3** The unauthorized possession, removal, or disposal of any material from CSX property or from the property of customers is prohibited. Any article of value found on CSX property must be protected and turned in to a supervisor.
- 103.4** Employees must return CSX property when leaving service or upon demand by a supervisor.
- 103.5** Employees must notify a supervisor when they have knowledge of:
- Activities proposed by a public or private interest that would affect CSX, or
 - Encroachment on CSX property.
- 103.6** Unless authorized by the proper authority, employees must not:
- Divulge company affairs, or
 - Furnish information detrimental to the interest of the company or its customers, or
 - Permit access to company records, or
 - Provide information of an incident to the public.
- 103.7** Employees must not:
- Restrict or interfere with the intended functions of any device or equipment, or
 - Post unauthorized information on CSX property, or
 - Deface or destroy CSX property, or
 - Place trash or refuse anywhere except in the appropriate receptacle, or
 - Read literature unrelated to work when on duty, or
 - Possess a firearm or other weapon when on duty, on CSX property, or when occupying facilities provided by CSX unless authorized.
- 103.8** An employee who is involved in an on-duty accident or incident must provide all issued documents and Form EC-1 to a supervisor.

104 - Employee Behavior

- 104.1** When on duty, employees must:
- Devote themselves exclusively to the service of CSX,
 - Assist and cooperate with other employees,
 - Perform duties in a safe and efficient manner that prevents unnecessary delay to customers,
 - Promptly report violations of the rules or special instructions to a supervisor, and
 - Take the safe course when conditions are not covered by rule.

104.2 Employee behavior must be respectful and courteous. Employees must not be any of the following:

- a. Dishonest, or
- b. Insubordinate, or
- c. Disloyal, or
- d. Quarrelsome.

104.3 The following behaviors are prohibited while on duty, on CSX property, or when occupying facilities provided by CSX:

- a. Boisterous, profane, or vulgar language; or
- b. Altercations; or
- c. Practical jokes or horseplay; or
- d. Carelessness, incompetence, or willful neglect of duties; or
- e. Behavior that endangers life or property.

104.4 The following behaviors are prohibited at all times:

- a. Concealment of facts under investigation, or
- b. Criminal conduct that may damage CSX's reputation or that endangers CSX property, employees, customers, or the public.

104.5 Employees are responsible for the actions of employees under their instruction. They must verify those employees are:

1. Familiar with their duties, and
2. Provided proper instruction.

104.6 Employees must report for work at the designated time and place. Employees unable to work or who want time off must make the request:

1. To the proper authority, and
2. Sufficiently in advance to allow the vacancy to be filled.

104.7 Employees must have the permission of a supervisor to:

- a. Leave work before designated off-duty time, or
- b. Arrange for a substitute to perform their duties, or
- c. Use a personal vehicle to perform assigned duties, or
- d. Request assistance from a non-employee to perform assigned duties, except in cases of emergency.

104.8 Employees must keep the following information current with CSX:

1. Mailing address, and
2. Phone number.

104.9 Employees subject to be called to perform service must:

1. Provide necessary contact information to the proper authority, and
2. Be available to accept the call.

104.10 Pay must only be claimed:

1. For actual time or work performed,
2. By the employee to be paid or the employee authorized to make claims for the crew or group of workers, and
3. In accordance with agreed upon procedures.

104.11 An employee must not engage in any other type of work or business that:

- a. Interferes with the employee's ability to perform service with CSX, or
- b. Creates a conflict of interest with or is detrimental to CSX.

104.12 An employee must submit a completed Form MD-3 (Attending Physician's Return to Work Report) to the CSX medical department by fax to 904-245-3967 and must not return to work until cleared for duty by the medical department any time the employee:

- a. Has been off work for medical reasons for seven consecutive days or more, or
- b. Has been hospitalized due to a significant illness, or
- c. Has had surgical intervention, or
- d. Has any medical issue that could influence the employee's performance of safety on the job.

105 - Reporting Conditions

105.1 Protect trains and on-track equipment against any known condition that may interfere with safe operations. Immediately report the following conditions to the proper authority:

1. Accidents;
2. Defects in track, bridge, signal, or highway-rail crossing warning devices;
3. Fires on or near the right-of-way;
4. Loss, damage, or theft of CSX or customers' property; and
5. Any condition that may affect safe and efficient operations.

105.2 Any employee who observes a defect in highway-rail crossing warning devices and does not have access to a railroad radio must:

1. Contact the Public Safety Coordination Center (PSCC) via telephone at 1-800-232-0144, and
2. Provide the requested information.

105.3 Employees must provide the following applicable type of defect information to the train dispatcher when reporting defective brakes, hot journals, defective couplers, or other defects:

1. Timetable direction for end of car;
2. A or B end of car;
3. Coupler type (E/F);
4. Possible damage to track, switches, or other structures; and
5. Obstruction to adjacent tracks.

106 - Drugs and Alcohol (Rule G)

106.1 The illegal possession or use of a drug, narcotic, or other substance that affects alertness, coordination, reaction, response, or safety is prohibited both on and off duty.

106.2 An employee shall neither report for duty nor perform service while under the influence of nor use while on duty or on CSX property any drug, medication, prescription medication, or other substance that will in any way adversely affect the employee's alertness, coordination, reaction, response, or safety.

106.3 Employees are prohibited from possessing, using, or being under the influence of alcoholic beverages or intoxicants when:

- a. Reporting for duty, or
- b. On duty, or
- c. On CSX property, or
- d. Operating a company vehicle, or
- e. Occupying facilities provided by CSX.

107 - Use of Tobacco Products

107.1 When on duty, employees must not use any tobacco products, including electronic cigarettes, when:

- a. Serving customers, or
- b. Uniformed employees are in the presence of customers or the public.

107.2 Smoking, including electronic cigarettes, is prohibited in all of the following locations:

- a. CSX buildings except when permitted in large mechanical shop areas, or
- b. Locomotive cabs, or
- c. CSX vehicles or any vehicle used to transport CSX employees, or
- d. Areas designated by No Smoking signs, or
- e. Where prohibited by law.

108 - Certification and Licenses

108.1 Assignments that require a certification or license must only be performed by employees who have:

1. Been issued the required certification or license,
2. Certification or license in their possession, and
3. Maintained required rule and territorial physical characteristics qualifications.

108.2 Employees with a certification or license are subject to the applicable federal or state regulations.

108.3 Employees holding FRA certification must report to their immediate supervisor and the certification center within 48 hours of the conviction or completed state action to cancel, suspend, or deny their motor vehicle driver's license for any of the following motor vehicle incidents:

- a. Operating a motor vehicle while under the influence of or impaired by alcohol or a controlled substance, or
- b. Refusal to undergo testing required by state law when a law enforcement officer seeks to determine whether a person is operating a motor vehicle while under the influence of alcohol or controlled substance.

108.4 Any FRA certified employee that has knowledge that his or her best correctable vision or hearing has deteriorated to the extent that the employee no longer meets the vision and hearing standards required by the federal regulations governing the certification must:

1. Immediately notify his or her supervisor and the CSX medical department, and
2. Not perform service that requires certification until cleared to do so by the CSX medical department.

108.5 The FRA vision and hearing requirements for certification are as follows:

1. Distant binocular acuity of at least 20/40 (Snellen) in both eyes with or without corrective lenses,
2. Distance viewing acuity of at least 20/40 (Snellen) in each eye without corrective lenses or separately corrected to at least 20/40 (Snellen) with corrective lenses,
3. Field vision of at least 70 degrees in the horizon meridian in each eye,
4. Ability to recognize and distinguish between colors of railroad signals, and
5. Not have an average hearing loss in the better ear greater than 40 decibels at 500Hz, 1000Hz, and 2000Hz with or without use of a hearing aid.

109 - Hours of Service Act Requirements

109.1 Employees whose work activities subject them to the Hours of Service Act must:

1. Have the required mandatory rest,
2. Inform the proper authority before accepting any call to work that requires reporting for duty before the completion of mandatory rest period,
3. Report to the proper authority any occurrence in which the maximum limits of the Hours of Service Act are exceeded, and
4. Accurately complete Hours of Service documentation with the required information in the prescribed format.

109.2 Employees whose activities place them under the requirements of train and engine Hours of Service must:

1. Report to the proper authority any interruption of mandatory undisturbed rest periods, including time rest was interrupted, name of person interrupting the rest, and circumstances of the interruption;
2. When going on duty, notify the train dispatcher if 264 total hours on duty or 25 total hours of qualifying limbo time for the calendar month have been reached; and
3. Notify the train dispatcher three hours prior to the expiration of their hours of service limits. This notification must include whether or not the train is a Key train.

110 - Trains and On-Track Equipment

110.1 Locomotives and on-track equipment must only be operated by authorized employees.

- 110.2** Employees must be qualified on the physical characteristics of the territories on which they are subject to work. Employees must pass a rules exam as required, and:
- a. Locomotive operators must:
 - 1. Pass a physical characteristics test as required, and
 - 2. Traverse the territory once every 12 months.
 - b. Conductors must:
 - 1. Pass a physical characteristics test as required, and
 - 2. Traverse the territory once every 24 months.
 - c. Employees qualified as an engineering department employee-in-charge (EIC) must traverse the territory once every 36 months.
- 110.3** The following people are authorized to ride on locomotives or on-track equipment:
- a. Employees and supervisors performing assigned duties, including those assigned for qualification or training purposes, or
 - b. Federal and state inspectors who are carrying and present proper credentials, or
 - c. Other persons who present proper authorization and identification.
- 110.4** Employees must ride in the operating cab of the lead locomotive of freight trains unless duties require otherwise. When sufficient seating is not available for all crewmembers in the operating cab of the lead locomotive, employees must contact a supervisor for instructions.
- 110.5** When a geometry car is operated with a locomotive, a crewmember must ride in the geometry car when instructed to do so by an engineering department supervisor.

111 - Sleeping and Napping While on Duty

- 111.1** Employees must not sleep while on duty, except train and engine service employees who are allowed to nap. An employee lying down or in a reclined position with eyes closed, covered, or concealed is considered to be sleeping or napping.

111.2 Napping by train and engine service employees is prohibited when:

- a. It interferes with safety or an employee's performance of required duties; or
- b. Train or locomotive is moving; or
- c. Any member of the crew is on the ground during switching operations; or
- d. Any employee is assisting in the preparation of a train; or
- e. It causes a train to be delayed; or
- f. In passenger, commuter, yard, or single person assignments; or
- g. On trains handling Alert cars, high value, or other shipments that require rail inspection service, as indicated on the CSX train documentation; or
- h. Handling special automotive trains for shutdown.

111.3 When on a train, napping by train and engine service employees is allowed after all of the following conditions have been met:

1. It does not interfere with safety,
2. Train or locomotive is stopped and nap will not delay the train,
3. Train air brakes have been conditioned,
4. Inspection of passing trains is not required,
5. No other employee is on the ground assisting in the preparation of the train,
6. At least one crewmember who will not nap must remain inside the cab of the controlling locomotive,
7. Only one crewmember naps at any given time,
8. All crewmembers agree it is safe to do so, and
9. Nap does not exceed 45 minutes.

111.4 When on duty and not on a train, train and engine service employees may nap when all of the following conditions have been met:

1. All required documents have been received and reviewed,
2. Train or performance of required duties is not delayed,
3. All crewmembers agree it is safe to do so,
4. If all crewmembers will nap, arrangements are made with a third party to wake the crew, and
5. Nap does not exceed 45 minutes.

111.5 Other employees are responsible for immediately waking the napping employee as soon as one of the following events occurs:

- a. The employee is required to perform duties, or
- b. Train delay ends, or
- c. Expiration of 45 minutes.

111.6 Before beginning any work activities after an employee has napped, all crewmembers must hold a job briefing to review:

1. Dispatcher bulletins,
2. Form EC-1 instructions, if applicable,
3. Authority for movement, and
4. Work to be performed.

112 - Train and Engine Service Employees

112.1 Each crewmember is equally responsible for all of the following:

1. Complying with all rules,
2. Ensuring cars and locomotives receive the required inspections and brake tests,
3. Providing safe and efficient operation of trains,
4. Keeping the operating cab of the locomotive clean and free of hazards, and
5. Ensuring the train or locomotive is equipped with the required supplies.

112.2 Notify the train dispatcher of any of the following conditions:

- a. Defects in cars or locomotives, or
- b. Scheduled stops to perform work, or
- c. Any condition that delays train movement.

112.3 On trains and yard assignments with more than one employee, the conductor or yard foreman is the ranking crewmember.

112.4 The ranking crewmember is responsible for the following:

1. Complying with instructions for switching cars or serving customers,
2. Informing other crewmembers and train dispatcher of cars that restrict train movement or require special handling,
3. Accurately reporting work, using electronic reporting tools when assigned, and
4. Ensuring proper documentation for the train is obtained and is accurate.

112.5 Locomotive operators assigned to a Key train must have in their possession or obtain a reverser prior to departing their on-duty location.

112.6 When locomotives are stopped or will be left standing on a track, considerations for noise and fumes must be taken into account for:

- a. Highway bridges, or
- b. Offices, or
- c. Occupied passenger cars.

113 - Yardmasters

113.1 Yardmasters are responsible for the safe and efficient operation of the yard. They must:

1. Understand the rules and duties of employees under their supervision;
2. Provide clear and concise instructions and confirm the instructions are understood;
3. Make certain cars and locomotives receive required inspections;
4. Promptly move defective equipment for repair;
5. Direct and record the movement of on-track equipment within their jurisdiction;
6. Provide information related to yard movements only to authorized personnel;
7. Report to the trainmaster if train documents are not received;
8. Prepare, update, file, and transmit records and reports in accordance with instructions; and
9. Immediately notify a supervisor of inspections performed by federal, state, and public agencies.

113.2 Yardmasters must understand and comply with the rules, laws, and instructions governing the:

1. Handling of hazardous materials and perishables;
2. Weighing, switching, and interchanging of cars;
3. Loading and clearance requirements for various types of lading and cars; and
4. Special handling of lading and cars to prevent damage.

113.3 Yardmasters must notify the chief train dispatcher no less than 12 hours in advance of planned movement of cars:

- a. Requiring clearance bureau instructions, or
- b. Restricting train movement, or
- c. Requiring special handling.

113.4 Yardmasters must make certain that employees under their supervision have received a job briefing and are:

1. Ready for duty at the appointed time, and
2. Furnished with the necessary documents.

113.5 Before releasing a train, yardmasters must make certain:

1. Car standing order is correct,
2. Train is properly classified,
3. Hazardous materials cars and cars requiring special handling are properly placed,
4. Air brake tests and inspections are performed,
5. Proper notification and documentation is provided to the crew and train dispatcher,
6. Cars are not delayed, and
7. Trains have proper tonnage.

114 - Operators

114.1 When coming on duty, an operator must:

1. Read and understand the transfer from the previous operator, and
2. Verify the transfer with the dispatcher when the operator being relieved is not present.

114.2 Properly record the following information and report to the train dispatcher:

1. Arrival and departure times,
2. Direction of train movement, and
3. Other information as directed by the train dispatcher.

114.3 Operate the following devices as directed by the train dispatcher:

1. Switches,
2. Bridges,
3. Control boards, and
4. Other devices as required.

114.4 Operators must:

1. Inspect passing trains when duties permit,
2. Give preference to train movements,
3. Inform the train dispatcher of approaching trains when signals are operator controlled,
4. Report weather as required,
5. Regard communications as confidential,
6. Accept messages only relating to company business or signed by an officer, and
7. Promptly and accurately deliver messages.

114.5 Operators must not:

- a. Close the office at the end of their tour of duty without permission from the train dispatcher, or
- b. Permit unauthorized persons in the office, or
- c. Allow student operators to handle any business without supervision.

114.6 Before going off duty, the operator must create a transfer that is typed or written in ink that contains the following:

1. Dispatcher messages and authorities in effect,
2. Blocked signals and switches,
3. Messages to be delivered, and
4. Other pertinent information, including any unfinished business.

114.7 When an operator station is closed:

1. Line switches and switch levers and apply blocking so routes do not conflict,
2. Place signal levers in position so that signals display an aspect permitting movement, and
3. Lock the station.

115 - Duties When Providing Flag Protection at Work Locations**115.1** Employees assigned to provide flag protection for work locations on main tracks, signaled tracks, or sidings must:

1. Obtain a copy of the appropriate dispatcher messages,
2. Inform the train dispatcher of what equipment is being protected and the location of the work, and
3. Communicate with the train dispatcher as necessary, but at least every two hours, to obtain train location information.

115.2 Employees providing flag protection at work locations must:

1. Have required flagging equipment, and
2. Not engage in any unrelated tasks.

- 115.3** Prior to performing any work, conduct a job briefing with the contractor. The job briefing must confirm:
1. Tracks that are to be fouled,
 2. Time work is to begin and end,
 3. Understanding that work must be stopped sufficiently in advance to prevent delay to rail movements, and
 4. Understanding that work must not be performed outside the established limits.
- 115.4** The employee must remain in visual or verbal contact with the contractor equipment, or in verbal contact with the contractor's employee-in-charge to keep him or her fully advised of pending rail movements.
- 115.5** When workers request permission to obstruct a track, the employee assigned to provide flag protection for the location must not permit rail movements to enter the limits until the track is verified as clear.
- 115.6** If workers fail to comply with instructions of the employee providing flag protection, the incident must immediately be reported to the train dispatcher, yardmaster, or proper authority.
- 115.7** Before granting permission for rail movements within the limits, the employee must:
1. Determine on which track the approaching movement is located, and
 2. Verify that all contractor equipment and personnel are clear of that track.
- 115.8** If an event occurs that might interfere with safe rail operations, the employee must:
1. Take immediate action through radio communication to stop all movements approaching or moving within the limits,
 2. Provide warning for approaching trains in the event of radio failure, and
 3. Notify the proper authority.
- 115.9** Employees must notify the proper authority when work has been completed for that day. Employees must not absent themselves from the work area until:
- a. Relieved by another assigned employee, or
 - b. Permission is received from a supervisor, or
 - c. Confirmation is received from the contractor that all work has been completed for that day and the employee is relieved by the proper authority.

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Chapter 2 - Signals and Their Use

200 - Flagging Appliances for Providing Warning

200.1 At the beginning of the tour of duty, there must be a minimum of six red fusees and one red flag on each of the following:

1. Lead locomotive of every train,
2. Rear car of passenger trains,
3. Shoving platforms, and
4. Occupied caboose.

200.2 Employees required to provide warning signals must have the proper appliances:

1. Available,
2. In good order, and
3. Ready for immediate use.

200.3 When providing warning signals, employees must use:

- a. Red flag or fusees during the day, or
- b. White light or red fusees at night or during the day when signals cannot be plainly seen.

200.4 Do not place burning fusees on:

- a. Platforms, or
- b. Bridges, or
- c. Buildings, or
- d. Composition-rubber surfaces of road crossings, or
- e. Other fire-prone locations.

201 - Providing Warning Against Approaching Trains

201.1 When required to provide warning against approaching trains, crewmembers must not engage in any unrelated tasks.

- 201.2** Employees required to provide warning against approaching trains must provide protection the minimum distance as follows:

Authorized Track Speed	Minimum Warning Distance
20 MPH or less	1/4 mile
21 MPH to 30 MPH	1/2 mile
31 MPH to 40 MPH	1 mile
41 MPH to 90 MPH	1 1/2 miles
91 MPH or greater	2 miles

- 201.3** When required to provide warning for the head end of the train against approaching trains, the employee providing protection must:

1. Be equipped with flagging equipment,
2. Immediately go the minimum warning distance ahead of the train,
3. Display one lighted fusee, and
4. Remain at that location until warning is no longer required.

- 201.4** When required to provide warning against approaching trains on adjacent tracks, the employee providing protection must:

1. Be equipped with flagging equipment,
2. Immediately place a lighted fusee on any adjacent track at the head of the train,
3. Go the minimum warning distance in the direction of an approaching train, and
4. Remain at that location until warning is no longer required.

- 201.5** When a train fouls a controlled track without authority:

1. Immediately notify the train dispatcher, and
2. Provide protection against trains on that track for the minimum required warning distances in both directions.

- 201.6** Warning against approaching trains is not required when:

- a. Relieved by the train dispatcher, or
- b. Communication is established with all affected movements.

202 - Hand, Flag, and Lantern Signals

202.1 Hand, flag, or lantern signals must:

1. Be given sufficiently in advance to permit compliance,
2. Be used when continuous visual contact exists between the locomotive operator and the employee directing the movement, and
3. Not be used simultaneously with radio communication, except when a stop is required.

202.2 Give hand, flag, or lantern signals as follows:

Motion	Indication
(a) Swing at right angle to the track.	Stop
(b) Slight horizontal movement at arm's length at right angle to the track.	Reduce Speed
(c) Raise and lower vertically.	Proceed
(d) Swing vertically in circle at right angle to the track.	Back
(e) Swing horizontally above the head at right angle to the track, when equipment is standing.	Apply air brakes
(f) Hold at arm's length above the head, when equipment is standing.	Release air brakes
(g) Any object waved violently by anyone on or near the track.	Stop

202.3 Employees giving hand, flag, or lantern signals must remain in a position to be clearly seen and give signals that:

1. Prevent misunderstanding, and
2. Correspond to the direction the locomotive is headed.

202.4 Employees receiving hand, flag, or lantern signals must keep a constant lookout for signals. If there is any doubt as to the meaning of the instructions or for whom the instructions are intended, the movement must:

1. Stop immediately, and
2. Not resume until the instructions are understood.

202.5 A hand, flag, or lantern signal to proceed does not relieve employees from compliance with rules or fixed signals that restrict movement or require a stop.

202.6 Before changing from hand, flag, or lantern signaling to radio signaling or from radio signaling to hand, flag, or lantern signaling, all crewmembers must:

1. Be notified, and
2. Acknowledge their understanding.

203 - Locomotive Bell and Horn

203.1 Ring the locomotive bell before moving a locomotive that has been stopped one minute or more, and while:

1. Approaching and passing passenger stations,
2. Approaching and passing over public crossings at grade,
3. Moving through tunnels,
4. Approaching persons on or around the track structure, and
5. Approaching and passing roadway workers identified by white or orange hard hats.

203.2 Sound the horn signals as follows:

0 = Short Sound - = Long Sound	When Required
(a) - - 0 -	Approaching public highway grade crossings. Sound the horn for at least 15 seconds, but no more than 20 seconds, before the lead locomotive enters the crossing. Trains or locomotives traveling at speeds greater than 45 MPH shall begin sounding the horn at or about, but not more than, one-quarter mile in advance of the nearest public crossing, even if the advance warning provided by the horn will be less than 15 seconds in duration. This signal is to be prolonged or repeated until the train or locomotive occupies the crossing or, where multiple crossings are involved, until the last crossing is occupied.
(b) - - 0 -	Approaching and passing: a. Roadway workers identified by white or orange hard hats, or b. Roadway maintenance machines or high-rail equipment on an adjacent track.
(c) - - 0 -	Approaching tunnels, yards, or other points where railroad workers may be present.
(d) - - 0 -	Meeting and passing standing trains.
(e) 0	Approaching passenger stations.
(f) Succession of sounds	Warning to people and/or animals on or near the track.
(g) - -	Proceeding or reversing after being stopped for one minute or more. (Does not apply to switching movements.)
(h) 0 0	Acknowledging any signal not otherwise provided for.
(i) - 0	When running against the current of traffic: 1. Approaching stations, curves, or other points where view may be obscured; and 2. Approaching and passing passenger or freight trains.

203.3 The locomotive horn must:

1. Be sounded with intensity and duration to convey the intended warning, and
2. Not be used unnecessarily.

203.4 When the lead locomotive horn fails en route, notify train dispatcher or yardmaster, and:

- a. Move another locomotive with a working horn to the lead, or
- b. Stop and protect all highway-rail crossings at grade.

204 - Locomotive Lights

204.1 Locomotive number lights must only be illuminated on the locomotive identifying the train.

204.2 Leading end of trains must display headlight on bright unless otherwise specified by rule.

204.3 The headlight on the leading end of a train must be dimmed when:

- a. Required to provide for the safety of employees, or
- b. At yards where switching is being done, or
- c. Approaching passenger stations where stops are to be made, or
- d. Standing behind a stopped train, or
- e. Standing on a main track in non-signaled territory, or
- f. Approaching and passing a locomotive consist on the head end and rear end of a train on an adjacent track, or
- g. Using hand signals.

204.4 Headlight may be turned off when:

- a. Standing on a controlled track in signaled territory, or
- b. Standing on a track other than a main track, or
- c. On the end of the locomotive coupled to cars.

204.5 If the headlight on leading end of a train fails en route, notify train dispatcher or yardmaster, and:

- a. Provided the lead locomotive has two working auxiliary lights, the train may continue unrestricted to the next point where headlight can be repaired, or
- b. If lead locomotive does not have two working auxiliary lights, the train must operate under the following conditions:
 1. Display a white light on the leading end at night,
 2. Ring bell continuously when moving,
 3. Sound the horn frequently,
 4. Reduce train speed when necessary to ensure safety, and
 5. Continue to the next point where it can be repaired.

204.6 When the leading end of the lead locomotive of a train is equipped with auxiliary lights, both auxiliary lights must operate properly before departing the initial terminal. The auxiliary lights must be on when headlight is required to be on bright.

204.7 Auxiliary lights:

- a. Must be turned off when stopped, or
- b. May be turned off when vision is impaired by reflection from smoke, fog, or other condition and the train is not approaching or passing over a highway-rail crossing at grade.

204.8 Do not exceed 20 MPH over Highway-rail crossings at grade when the leading end of the lead locomotive is not equipped with ditch lights

204.9 If auxiliary lights fail en route, contact the train dispatcher or yardmaster, and:

- a. If one light fails, continue unrestricted until the next calendar day inspection, or
- b. If both lights fail do not exceed 20 MPH over highway-rail crossings at grade and continue to the next location where repairs can be made.

205 - End-of-Train Marker

205.1 A marker must be displayed on the rear car of a train when occupying a controlled track except where the authority for movement is or includes:

- a. Main track yard limits non-signaled (YL), or
- b. Main track yard limits signaled (YL-S).

- 205.2** From one hour before sunset until one hour after sunrise, or when conditions restrict visibility to one-half mile or less on tangent track, the marker must be:
- An illuminated red or orange-amber light, or
 - A red or orange-amber light equipped with automatic activation, or
 - A red flag only when moving no further than the next repair point if a defective car prevents the placement of an illuminated marker.
- 205.3** From one hour after sunrise until one hour before sunset the marker may be:
- A red flag, or
 - A non-illuminated end-of-train device (EOT) or red (orange-amber) marker light.
- 205.4** The rear locomotive headlight on dim may be used as a marker for:
- A locomotive consist without cars, or
 - A single locomotive, or
 - A locomotive on the rear of the train.
- 205.5** If a marker is required to be illuminated, it must be inspected before departing the initial terminal or crew change point by:
- Crewmember or another qualified employee, or
 - Information displayed by the head-of-train device (HTD).
- 205.6** If the inspection of a marker is to be performed by an employee who is not a member of the train crew, protection must be provided before the employee fouls the equipment. The protection must be:
- Blue signal protection when the train is standing on other than a main track, or
 - Obtained by the employee when the train is standing on a main track. Prior to fouling the equipment to perform the inspection, the employee must confirm three-step protection has been applied by the locomotive operator.
- 205.7** When performing an inspection of a marker that is required to be illuminated, the employee performing the inspection must:
- Verify the marker is illuminated or will illuminate by pressing the activation switch or covering the photoelectric cell, and
 - Communicate the results to the locomotive operator.
- 205.8** Employees must observe passing trains for markers. If the marker is not properly displayed, notify the crew of the passing train. If unable to contact the passing train, notify the train dispatcher.

205.9 If a marker fails en route:

1. Report the occurrence to the train dispatcher, and
2. Proceed to the next location where the marker light can be repaired or replaced.

206 - Two-Way Telemetry**206.1** Freight trains must be equipped with armed and working two-way telemetry unless one of the following conditions is met:

- a. Train is light locomotives only, or
- b. A crewmember has the ability to initiate an emergency brake application from the rear third of the train, or
- c. Train has 4,000 trailing tons or less and will not exceed 30 MPH or operate on a section of track where grade is 2% or more, or
- d. Train has more than 4,000 trailing tons and will not exceed 30 MPH or operate on a section of track where grade is 1% or more.

206.2 Passenger trains must be equipped with tested, armed, and operable two-way telemetry unless one of the following conditions is met:

- a. All cars are equipped with accessible emergency brake valves, or
- b. The rear car is equipped with an accessible emergency brake valve and is occupied by a radio-equipped crewmember, or
- c. The train has 24 cars or less and:
 1. Equipped as described in the table below:

Number of Cars	Emergency Brake Valve Must Be In or In a Car Behind
4	2nd car
5 or 6	3rd car
7 or 8	4th car
9 or 10	5th car
11 or 12	6th car
13	9th car
14 or 15	10th car
16	11th car
17 or 18	12th car
19	13th car
20 or 21	14th car
22	15th car
23 or 24	16th car

2. Operating on a 2% grade or more:
 1. Prior to descending, the locomotive operator must confirm through the conductor that a radio-equipped crewmember is stationed in the rearmost emergency-brake-valve equipped car, and
 2. While descending, the crewmember located at the rearmost emergency brake valve must maintain constant radio communication with the locomotive operator until the train has descended the grade.

206.3 Inspection trains operating with passenger equipment do not require two-way telemetry.

206.4 Perform the following procedure to arm two-way telemetry:

1. Enter the ID code of the EOT into the head-of-train device,
2. Press the TEST button on the EOT,
3. Press the appropriate ARM NOW button on the HTD, and
4. Make certain that emergency capability is established as indicated by an EMERG ENABLED or ARMED message.

- 206.5** When notified by the mechanical department that the emergency capability of telemetry passed a bench test, no further test is required. When telemetry is not bench tested, perform the following test:
1. Charge the brake pipe to the required pressure for the train,
 2. Close the angle cock between the rear car and the EOT,
 3. Activate the emergency feature on the HTD,
 4. Make certain the air pressure immediately exhausts from the EOT and the readouts on the EOT and HTD indicate zero pressure, and
 5. Open the angle cock between the rear car and the EOT and verify that air pressure is restored.
- 206.6** Two-way telemetry must be disarmed when the locomotive is cut off and will no longer be the controlling locomotive on the train. To disarm emergency capability:
1. Change the code in the HTD to 00000, and
 2. Press the appropriate button to disarm.
- 206.7** Telemetry can be used to perform air brake tests and meet two-way equipped requirements when the following conditions are met:
1. The controlling locomotive has an operative HTD,
 2. The rear car is equipped with an operative EOT capable of two-way communication, and
 3. The readouts displayed by the EOT and HTD do not differ by more than three PSI.
- 206.8** When a helper locomotive is coupled ahead of the controlling locomotive of the train, the helper locomotive is not required to be equipped with an HTD capable of two-way telemetry or to be armed to the EOT as long as all of the following conditions are met:
1. Two-way radio communication is established and maintained between the locomotive operators of the helper locomotive and the locomotive of the train,
 2. The locomotive operators of the helper locomotive and the train must confirm radio communication before the train resumes operation and before reaching the crest of the grade, and
 3. The train must be stopped when radio communication is lost.
- 206.9** Two-way telemetry must be regarded as failed en route when it cannot be armed at a location other than the originating terminal or when messages indicating the following are displayed on the HTD:
- a. Dead battery, or
 - b. Replace battery, or
 - c. Valve failure, or
 - d. Disarmed, or
 - e. Front-to-rear no communication.
- NOTE: Rear-to-front no communication is not a failure message.

- 206.10** A freight train that has an en route failure of two-way telemetry must not exceed 30 MPH and must not traverse a 2% grade unless one of the following conditions are met:
- a. An occupied helper locomotive or an occupied caboose or shoving platform equipped to initiate an emergency brake application is coupled to the rear of the train. The employees on the head and rear must:
 1. Ensure radio communication is established and maintained,
 2. Verify communication just prior to cresting the grade,
 3. Stop the train if safe to do so if communication fails before cresting the grade, and
 4. Initiate an emergency application of the air brakes if train speed exceeds authorized speed by 5 MPH or more.
 - b. A radio-controlled locomotive capable of initiating an emergency brake application from a command from the controlling locomotive is in the rear one-third of the train and under the control of the locomotive operator on the head end.
- 206.11** A passenger train that has an en route failure of two-way telemetry must not move on 2% grades and must correct the condition at the first location where repairs can be made or when an air brake test is required unless a radio-equipped crewmember is positioned in the rearmost car containing an accessible emergency brake valve. Periodic Passenger Train Running Air Brake tests must be performed until the failure is corrected.
- 206.12** Immediately report the EOT or HTD defect to the train dispatcher, yardmaster, or mechanical desk when any of the following below occur. Record HTD defects on the locomotive work report.
- a. Low or failed battery; or
 - b. Loss of communication; or
 - c. Failure to establish or loss of emergency capability; or
 - d. Defective or inoperative marker, motion detector, or air pressure sensing equipment.

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Chapter 3 - Movement of Trains

300 - Authorized Train Speed

300.1 Train speeds are authorized by:

- a. Rules, or
- b. Special instructions, or
- c. Train documents, or
- d. Dispatcher messages, or
- e. Form EC-1, or
- f. Signal indications.

300.2 Authorized train speed:

1. Must not be exceeded,
2. Applies to the entire train unless otherwise specified,
3. Must be observed even if wayside signs are not displayed, and
4. Must be the lowest of the specified speeds if a conflict exists between authorized speeds.

300.3 The following terms apply when used to authorize train speed:

- a. Limited Speed: A speed not exceeding 45 MPH.
- b. Medium Speed: A speed not exceeding 30 MPH.
- c. Slow Speed: A speed not exceeding 15 MPH.
- d. Restricted Speed: A speed that permits stopping within one-half the range of vision. It also permits stopping short of a train, a car, on-track equipment, an obstruction, a Stop signal, a derail, or an improperly lined switch. It permits looking out for broken rail. It is not to exceed 15 MPH.

300.4 Trains using other than main or signaled tracks must move at a speed that permits stopping within one-half the range of vision, short of a train, a car, on-track equipment, an obstruction, a Stop signal, a derail, or an improperly lined switch and must not exceed:

- a. 25 MPH on non-sigaled sidings; or
- b. 15 MPH when moving to and from the main track, operating through hand-operated switches not equipped with a signal; or
- c. 10 MPH when not moving to or from the main track, operating through hand-operated switches; or
- d. 10 MPH on other than main tracks or signaled tracks; or
- e. 5 MPH within designated locomotive service track or car shop repair track areas.

300.5 The following speeds must not be exceeded:

- a. 70 MPH for passenger trains with multi-level auto-racks or auto frame equipment, or
- b. 59 MPH for passenger trains operating within the limits of a signal suspension or against the current of traffic, or
- c. 49 MPH for freight trains operating within the limits of a signal suspension or against the current of traffic, or
- d. 10 MPH for trains operating on excepted track, or
- e. Restricted speed for 15 minutes for trains that encounter an unattended burning fusee near the track, unless the fusee is beyond the first rail of an adjacent track.

301 - Control of Train Speed**301.1** Crewmembers must notify the locomotive operator of any condition that requires the train to reduce speed or stop not more than five miles, but not less than two miles, before reaching the condition.**301.2** If the locomotive operator fails to control the train in accordance with authorized speed, other crewmembers must take action to ensure the safety of the train. When train speed exceeds authorized speed by:

- a. Less than 5 MPH, other crewmembers must direct the locomotive operator to slow the train to authorized speed, or
- b. 5 MPH or more, other crewmembers must direct the locomotive operator to stop the train and immediately report the occurrence to the proper authority. The train must not proceed until released.

301.3 Make an emergency air brake application to stop the train if the:

- a. Automatic braking system fails to respond as expected, or
- b. Locomotive operator fails to take action when the train is required to stop, or
- c. Locomotive operator becomes incapacitated.

301.4 On a descending grade designated in special instructions as steep grade, trains reaching 5 MPH above the authorized speed must be stopped using an emergency brake application. After the train stops, the following actions must be taken:

1. Report the occurrence to the train dispatcher,
2. Apply sufficient hand brakes to secure the train,
3. Fully recharge the air brakes and make a minimum reduction,
4. Visually inspect each car to determine that the brake shoes are against each wheel, and
5. Wait for authorization from a supervisor before resuming train movement.

301.5 Reduce train speed to allow compliance when conditions obstruct or affect the visibility of signal indications and wayside signs. When unusually heavy rains or high water are encountered:

1. Operate at restricted speed approaching tunnels, culverts, bridges, or other affected locations; and
2. Report the condition to the train dispatcher.

301.6 When a Heat Warning is issued, it:

1. Does not apply to equipment speed restrictions,
2. Is in effect between the hours of 1300 and 1900,
3. Applies to permanent and temporary track speeds and speeds authorized by signal indication,
4. Requires freight trains to reduce speed by 10 MPH, but not below 30 MPH, and
5. Requires passenger trains to reduce speed by 20 MPH, but not below 40 MPH.

301.7 When a Flash Flood Warning is issued:

1. Trains must operate through the limits not exceeding 40 MPH until the leading end reaches the far limits;
2. If unusually heavy rain or high water is encountered within the limits, approach bridges, culverts, and other points likely to be affected at restricted speed; and
3. Promptly notify the train dispatcher of conditions that affect the safe movement of trains or on-track equipment.

301.8 Trains must comply with verbal speed restrictions from:

- a. Engineering department employees concerning track conditions, or
- b. Mechanical department employees concerning equipment conditions.

302 - Locations That Must Be Approached Prepared to Stop

302.1 Unless the location is equipped with signals, trains must approach the end of two or more main tracks, junctions, drawbridges, and railroad crossings at grade prepared to stop until it has been visually determined that:

1. Switches, if equipped, are properly lined, and
2. Track is clear.

303 - Permanent and Temporary Track Speeds

303.1 Permanent track speeds are designated in special instructions that specify:

1. Authorized speed, and
2. Milepost limits of the speed.

303.2 Temporary track speed restrictions are designated by dispatcher message or Form EC-1 that specifies:

1. Authorized speed,
2. Limits of the restriction, and
3. If wayside signs are displayed.

304 - Wayside Signs

304.1 Wayside signs are only to be displayed next to the affected track. Signs located beyond the first rail of an adjacent track do not apply to the track on which the train is moving unless otherwise specified by rule, special instruction, dispatcher message, or Form EC-1.

304.2 Unless stated otherwise in a dispatcher message or Form EC-1, wayside signs are located at the beginning and end of the restriction as indicated by the chart below:

Number of Tracks	Sign Location
One controlled track	Next to the affected track.
Two controlled tracks	On the field side (outside) of the affected track.
Three or more controlled tracks	To the field side of the affected track for the outside track(s) and next to the affected track for middle track(s).

304.3 Warning signs for temporary track speed restrictions and working limits are located at least two miles, but not more than two and one-half miles, from the beginning of the restriction.

304.4 When working limits and the limits of a temporary speed restriction are the same, only one set of warning signs will be displayed.

304.5 Permanent Reduce Speed signs are not required for the following:

- a. City ordinances, or
- b. Permanent speeds on other than main tracks.

304.6 Notify the train dispatcher if a Conditional Stop sign is not located at the point designated by dispatcher message or Form EC-1. Signs for working limits may be placed up to 30 minutes before the limits become effective as long as the employee-in-charge can communicate with any train or equipment that is approaching the limits.

- 304.7** Trains encountering wayside signs not covered by a dispatcher message or Form EC-1 instruction that are displayed next to the track on which the train is operating must:
- a. Warning Sign: Proceed prepared to stop in two miles and promptly report the occurrence to the train dispatcher. If no Conditional Stop sign or Temporary Reduce Speed sign is encountered in two miles, train must operate at restricted speed for an additional mile, or
 - b. Conditional Stop Sign: Stop the train immediately, contact the train dispatcher and be governed by his or her instructions, or
 - c. Temporary Reduce Speed Sign: As soon as sign is visible, reduce train to a speed not exceeding 10 MPH, report the occurrence to the train dispatcher. Unless released by the train dispatcher, do not exceed 10 MPH until:
 - a. Two miles after the leading end of the train passes the Temporary Reduce Speed sign, or
 - b. The rear of the train passes a Temporary End Restriction sign.

305 - Working Limits on Controlled Tracks

- 305.1** Working limits are designated by dispatcher message or Form EC-1 that specifies:

1. Date and times in effect,
2. Milepost of both ends of the working limits,
3. Employee-in-charge, and
4. Tracks on which the working limits are in effect.

- 305.2** Trains must not enter or move inside working limits within 30 minutes prior to the effective time unless:

- a. The head end of the train can clear limits prior to the effective time, or
- b. The locomotive operator receives permission from the employee-in-charge to enter the limits.

- 305.3** When working limits are in effect, the locomotive operator must receive permission from the employee-in-charge before a train:

- a. Proceeds past the point designated, or
- b. Makes an initial movement within the limits, or
- c. Proceeds from a location within the limits where the train stopped, or
- d. Makes a reverse movement within the limits.

- 305.4** The employee-in-charge may grant permission for a train to proceed to one intermediate milepost location within the working limits and stop. Permission to proceed beyond the intermediate milepost location must be through the remaining limits.

305.5 Permission from the employee-in-charge must include:

1. Locomotive number,
2. Name of employee-in-charge,
3. Milepost location of the working limits,
4. Limits the train may occupy or pass,
5. In multiple track territory, the track on which the train may operate, and
6. The speed permitted within the limits that must be one of the following:
 - a. Restricted speed, or
 - b. A specific speed, or
 - c. Authorized speed.

305.6 When working limits include multiple controlled tracks in signal territory, the permission of the employee-in-charge does not provide information about train routing.**305.7** Speed granted by the employee-in-charge does not relieve employees from complying with speeds authorized by:

- a. Signal indication, or
- b. Special instructions, or
- c. Dispatcher message, or
- d. Form EC-1 instruction.

305.8 A train that stops within working limits must:

1. Notify the employee-in-charge that the train has stopped and the location of the head end, and
2. Not make further movement until granted permission by the employee-in-charge.

305.9 A work train assigned to perform work for the employee-in-charge within working limits is considered as part of the work force. A work train working within the limits must:

1. Make all movements at restricted speed and only as directed by the employee-in-charge,
2. Not proceed outside of the working limits without authority from the train dispatcher,
3. Comply with fixed signal indications,
4. Not operate switches on a controlled track without the permission of the train dispatcher and employee-in-charge,
5. In TWC territory, release Form EC-1 authority while operating within the working limits. The on-track authority of the employee-in-charge applies to the work train, and
6. Not occupy sidings or wye tracks without the permission of the train dispatcher.

306 - Train Coordination

306.1 To establish protection under train coordination, the roadway worker must:

1. Visually confirm the train is stopped,
2. Confirm with the train crew that the train holds exclusive authority on the segment of track and will not release the authority until notified by the roadway worker that it is safe to do so,
3. Instruct the train crew to only make movements as directed by the roadway worker, and
4. Notify the train crew when train coordination is no longer required.

306.2 After being notified by the roadway worker that train coordination protection has been established, the train crew must:

1. Only make train movements as directed by the roadway worker, and
2. Not release authority on the segment of track until notified by the roadway worker that it is safe to do so.

307 - Out-of-Service Limits

307.1 Tracks may only be removed from service when:

- a. Rendered inoperative by storm or flood, or
- b. Unsafe for rail movement and cannot be promptly restored to service, or
- c. Required for construction work.

307.2 Each end of the out-of-service limits must be defined by:

- a. Whole milepost, or
- b. Station name, or
- c. Other point defined in the dispatching system.

307.3 The train dispatcher must not issue Form EC-1 authority until:

1. Track to be used is clear of opposing and conflicting movements not part of the work group,
2. It is verified that no opposing or conflicting movements have been authorized,
3. Controlled signals granting access to the affected track are in Stop position, and
4. Blocking devices have been applied to switches and signals that grant access to the affected track, if required.

307.4 Train dispatcher must not display signals to proceed nor grant authority for movement into out-of-service limits until a dispatcher message or Form EC-1 instruction has been issued.

307.5 When out-of-service limits are in effect, the locomotive operator must receive permission from the employee-in-charge before a train:

- a. Proceeds past the point designated, or
- b. Makes an initial movement within the limits, or
- c. Makes a reverse movement within the limits.

307.6 Movements within the out-of-service limits must:

1. Be made only as directed by the employee-in-charge and not exceed restricted speed,
2. Not proceed outside of the limits without authority from the train dispatcher,
3. Comply with fixed signal indications and not operate switches without the permission of the train dispatcher and employee-in-charge, and
4. In TWC territory, release Form EC-1 authority while operating within the limits. The on-track authority of the employee-in-charge applies to the train within the limits.

308 - Train in Emergency

308.1 When a train moving on a controlled track or adjacent to a controlled track has an emergency application of the air brakes, the train crew must:

1. Immediately initiate an emergency radio transmission on the proper operating channel,
2. Notify the train dispatcher using the emergency tone,
3. Provide protection to other trains, if required,
4. Perform the required inspections, and
5. When permitted to proceed, operate at a train speed not to exceed 10 MPH for one train length.

308.2 The crew of a train stopped by an emergency application of the air brakes must give the following information to the train dispatcher:

1. Train identification,
2. Location of the head and rear of the train after the train is stopped,
3. Milepost one mile behind the rear of the train when the emergency application began,
4. The presence of hazardous materials or status as a Key train,
5. Situation as it is known (such as injuries, damage, or other pertinent information), and
6. Presence of adjacent controlled tracks.

308.3 A crewmember of a train stopped in emergency must provide warning for any adjacent controlled track the train dispatcher cannot protect. Maintain warning until:

- a. It has been determined that the adjacent controlled tracks are not obstructed, or
- b. Relieved by the train dispatcher.

308.4 When notified that a train has stopped by an emergency application of the air brakes, the train dispatcher must:

1. Inform the train crew of any adjacent controlled tracks that cannot be protected by the train dispatcher,
2. Not authorize trains on adjacent controlled tracks to pass until it is determined the train in emergency:
 - a. Does not contain hazardous materials cars, or
 - b. All hazardous materials cars have been inspected and found to be safe.
3. Advise the crew of the train stopped in emergency when other movements have been authorized to pass on adjacent controlled tracks, and
4. Grant permission for a train on adjacent controlled tracks to pass a train in emergency by issuing a Form EC-1 instructing the passing train crew to operate at restricted speed.

308.5 Key trains may proceed after:

1. A walking inspection of the entire train is performed. If stopped at a location where it is not possible to inspect the train safely, if safe to do so, the train may be moved not exceeding 5 MPH to the nearest place the inspection can be performed, and
2. The inspection reveals it is safe to proceed.

308.6 When there are adjacent tracks, the train may proceed after:

- a. A walking inspection of the entire train is performed to ensure there are no conditions that would endanger the train or train movements on adjacent track(s), or
- b. A roll-by inspection not exceeding 10 MPH may be performed by a crewmember or other qualified employee located on the ground provided all of the following conditions are met:
 1. Train is not a Key train,
 2. Train brakes release,
 3. Brake pipe pressure is restored at the rear of the train, and
 4. A visual inspection from the head end does not indicate any unsafe condition.
 5. Track adjacent to the train in emergency is not occupied,

308.7 When there are no adjacent tracks, a train stopped by an emergency application of the air brakes must not proceed until a walking inspection of the entire train is performed unless all of the following conditions are met:

1. Train is not a Key train,
2. Train brakes release,
3. Brake pipe pressure is restored at the rear of the train, and
4. A visual inspection from the head end does not indicate any unsafe conditions.

308.8 When performing an inspection of a train that was stopped by an emergency application of the air brakes, verify:

1. No cars are derailed,
2. No load has shifted,
3. Track structure appears to be undamaged,
4. No other conditions exist to prevent safe movement, and
5. Train dispatcher is informed of the results of the inspection.

308.9 When a walking inspection reveals a defect that can be repaired by the employee making the inspection, a roll-by inspection not exceeding 10 MPH may be performed on the remaining portion of the train by an employee on the ground after all of the following conditions are met:

1. Train is not a Key train,
2. Track adjacent to the train in emergency is not occupied,
3. Train brakes release,
4. Brake pipe pressure is restored at the rear of the train, and
5. A visual inspection does not indicate any unsafe condition.

308.10 If an inspection reveals a derailment, damage, or any condition that affects the safe movement of the train:

1. Stop the movement, if performing a roll-by inspection,
2. Inform the train dispatcher, and
3. Perform a walking inspection of the remaining portion of train, if safe to do so.

308.11 All trains operating on a controlled track that receive notification that a train is in emergency on an adjacent track must comply with the following:

- a. A train moving in the same direction as a train in emergency must:
 1. Reduce to restricted speed before reaching the reported location,
 2. Stop before passing the rear of the train in emergency, and
 3. Not proceed past the train in emergency until permission is received from the train dispatcher.
- b. A train moving in the opposite direction of a train in emergency must:
 1. Stop before passing the head end of the train in emergency using good train handling unless conditions require an emergency brake application, and
 2. Not proceed past the train in emergency until permission is received from the train dispatcher.

- 308.12** Trains that have the permission of the train dispatcher to pass a train stopped in emergency on an adjacent track must proceed at restricted speed until the leading end has passed the furthest end of the stopped train.

309 - Protecting Passenger Train Station Stops

- 309.1** Trains operating on main or signaled tracks must not pass between the station platform and a passenger train discharging or receiving passengers at the station platform.
- 309.2** When it is known that a main track or signaled track is between the passenger train and the station platform, the passenger train must not enter the station unless:
- Confirmation is received from the train dispatcher that protection for passengers has been provided, or
 - The adjacent track is out of service.
- 309.3** The train dispatcher must not provide confirmation that protection has been provided until:
- It has been determined that all trains approaching the station have been contacted and advised how to proceed to ensure passenger safety, and
 - Signals governing entrance to the track are placed in Stop position and blocking devices applied.

310 - Flagged Work Locations

- 310.1** Trains and on-track equipment must approach a work location prepared to comply with the instructions of the flagman when required by:
- Special instruction, or
 - Dispatcher message, or
 - Form EC-1.
- 310.2** When the crew of a train or the operator of on-track equipment is unable to establish communication with the designated flagman:
- Stop short of the designated limits and inform the train dispatcher of the occurrence,
 - Provide warning to any workers present before proceeding,
 - Sound horn two longs before proceeding, and
 - Proceed at restricted speed until the head end of the train reaches the far limits.

311 - Railroad Crossings at Grade

311.1 At railroad crossings at grade equipped with Stop signs, a train must not pass the Stop sign and must remain clear of the crossing until:

- a. Special instructions governing the use of the crossing have been met, or
- b. Given a proceed signal by a flagman, if present, or
- c. There is no conflicting movement and it is safe to do so.

311.2 Do not leave equipment standing and unattended between:

- a. Opposing signals of a railroad crossing at grade, or
- b. Derails that protect a railroad crossing at grade.

312 - Highway-Rail Crossings at Grade

312.1 If equipment is standing or will be left at a highway-rail crossing at grade, or it is necessary to separate a train to open a highway-rail crossing at grade, protection must be provided for vehicular and pedestrian traffic unless the equipment is left a minimum of 200 feet from the crossing.

312.2 Unnecessary operation of automatic grade crossing warning devices is prohibited. Unless required by operating conditions, a stopped train or standing equipment must remain clear of the crossing island circuit until:

1. Train dispatcher is notified and has provided information concerning approaching trains, and
2. Crewmember provides protection for adjacent tracks.

312.3 At highway-rail crossings equipped with constant warning time detectors, trains:

1. Must not increase speed between the beginning of the approach circuit and the crossing, and
2. That have stopped or are operating at 3 MPH or less must not occupy the crossing until the warning devices have been activated for at least 20 seconds and, if equipped with crossing gates, the gates are in the fully lowered position.

312.4 When operating conditions require manual stopping of automatic grade crossing warning devices, employees must:

1. Notify the train dispatcher and obtain information concerning approaching trains prior to operating the manual stop devices,
2. Comply with special instructions or instructions posted at the device,
3. Not operate the manual stop if a train is occupying or approaching the crossing,
4. Immediately notify the train dispatcher if the manual stop does not function properly,
5. Provide protection for affected adjacent tracks or comply with posted instructions governing adjacent tracks, and
6. Not make movement over the crossing unless protection is provided or devices are re-activated and gates, if equipped, are in the fully lowered position.

312.5 If an accident occurs at a highway-rail crossing at grade, employees must:

1. Immediately report the incident to the train dispatcher using the emergency channel, and
2. Observe and report the condition of the highway-rail crossing warning devices.

312.6 When motorists fail to comply with crossing warnings:

1. Record vehicle identification numbers or other identifying information,
2. Promptly report school buses and vehicles carrying dangerous or hazardous materials to the train dispatcher, and
3. When safe to do so, report the motorists to the Public Safety Coordination Center (PSCC) center at 1-800-232-0144.

313 - Malfunction of Highway-Rail Crossings Warning Systems

313.1 The designated employee who receives a report of the malfunction of highway-rail crossing at grade warning systems must immediately take action to:

1. Determine the type of malfunction,
2. Provide for the appropriate alternate warning for the crossing,
3. Notify all trains, including those of other railroads, of the location and type of malfunction before any trains reach the location, and
4. Notify the local law enforcement agency having jurisdiction over the crossing.

313.2 The CSX Signal Department is responsible for maintaining records of malfunctions of highway-rail crossing at grade warning systems. The following information is required and must be included in the record:

1. Location of crossing to include highway name and DOT/AAR crossing inventory number,
2. Time and date of receipt of the reported malfunction,
3. Actions taken by CSX prior to the crossing being repaired, and
4. Time and date of repair.

314 - Providing Protection at Highway-Rail Crossings at Grade

314.1 A train that has a dispatcher message or Form EC-1 instruction indicating the malfunction of the automatic warning devices at a highway-rail crossing at grade must comply with the chart below. Speeds listed in the below chart are headend only.

Special Instruction, Dispatcher Message, or Form EC-1 Indicates:	Activation Failure	False or Partial Activation
No flaggers/No police officer or communication cannot be established with flaggers or police officer.	STOP and PROTECT crossing from the ground.	Proceed with caution not to exceed 15 MPH.
Flagger for only one direction of traffic and communication is established confirming that protection has been provided.	Proceed with caution not to exceed 15 MPH.	Proceed with caution not to exceed 15 MPH.
Flaggers for each direction or police officer present and communication is established confirming that protection has been provided.	Authorized Speed.	Authorized Speed.

314.2 When protection by a crewmember from the ground is required at highway-rail crossings at grade:

1. Stop the movement before fouling the crossing,
2. Position a crewmember or appropriately equipped flagman on the ground to stop vehicular and pedestrian traffic,
3. Place a burning fusee on each side of the crossing when the automatic warning devices are not functioning properly or when notified by the dispatcher message or Form EC-1 of an activation failure,
4. Only make movements as directed by the person providing the protection,
5. Sound the required locomotive horn and bell signals even if the crossing is located inside a quiet zone, and
6. Maintain protection until the leading end of the movement covers the crossing.

314.3 The employee responsible for providing protection from the ground at a highway-rail crossing at grade must not give:

1. A signal to proceed to pedestrian or vehicular traffic unless train movements are stopped or there is no train movement approaching the crossing,
2. A signal to proceed to a train unless all vehicular and pedestrian traffic is stopped, and
3. Hand signals instructing the train to proceed in a manner that could be misunderstood to apply to vehicular and pedestrian traffic.

314.4 Automatic warning devices of a highway-rail crossing at grade are not functioning properly when:

- a. Flashing lights are not actuated at least 20 seconds prior to the leading end of the movement reaching the crossing, or
- b. Crossing gates, if equipped, are not in the fully lowered position before the leading end of movement reaches the crossing.

314.5 Do not shove equipment, kick equipment, or back a locomotive consist over a highway-rail or pedestrian-rail crossing at grade unless the crossing is:

- a. Protected by a qualified employee on the ground, or
- b. Equipped with properly functioning gates that are in the fully lowered position before the equipment or locomotive consist fouls the crossing.

314.6 If a locomotive engaged in switching is operated in the lead over a public highway-rail crossing at grade, protection by a crewmember from the ground is required unless one of the following conditions is met:

- a. Crossing has been made inaccessible to pedestrian and vehicular traffic, or
- b. Crossing is equipped with properly functioning automatic warning device that has been activated for at least 20 seconds, or
- c. A crewmember has an unobstructed view of approaching pedestrian and vehicular traffic, or
- d. Movement over the crossing does not exceed 10 MPH.

314.7 A train operating at restricted speed on a controlled track must approach highway-rail crossings at grade equipped with automatic warning devices:

1. Prepared to stop until it is determined that the devices are functioning, and
2. Not proceed until a crewmember provides protection to vehicular and pedestrian traffic from the ground, if the devices are not functioning.

314.8 If a train stops or is delayed within 4,000 feet of a highway-rail crossing at grade equipped with automatic warning devices the train must:

1. Approach the crossing prepared to stop until it is determined that the devices are functioning and sufficient time is provided to allow vehicular and pedestrian traffic to stop; and
2. Not proceed until a crewmember provides protection to vehicular and pedestrian traffic from the ground, if the devices are not functioning.

314.9 When two or more tracks cross a highway-rail crossing at grade protected by only one set of automatic warning devices, a train approaching the crossing on a track not equipped with circuits to activate the warning devices must:

1. Stop before the leading end fouls the crossing, and
2. Not proceed over the crossing until a crewmember has provided protection from the ground.

Chapter 4 - Utility Employee, Switches, Switching, Shoving, and Securement

400 - Utility Employee

- 400.1** Any employee who is not a member of the train or yard crew may only foul equipment to perform work if:
- Assigned as a utility employee who has been attached to the train or yard crew, or
 - Blue signal protection is established.
- 400.2** A utility employee may only be assigned to one train or yard crew at any one time. No more than three utility employees may be assigned to work with a single train or yard crew.
- 400.3** A utility employee may work as a member of a train or yard crew after the following steps have been taken to attach to the crew:
- The train or yard crew is assigned a controlling locomotive that is under the actual control of the locomotive operator;
 - The locomotive operator is in the cab of the controlling locomotive, a remote control locomotive in remote control mode is under the control of a locomotive operator assigned to that crew, or a member of the same crew is in the locomotive cab while the locomotive is stationary;
 - The utility employee establishes communication with the crew by contacting the ranking crewmember of the train;
 - The ranking crewmember provides notice to each crewmember of the presence and identity of the utility employee;
 - All crewmembers acknowledge their understanding; and
 - The ranking crewmember advises the utility employee that he or she is authorized to work as part of the crew.
- 400.4** After a utility employee has been attached to a crew, communication must be maintained in such a manner that each member of the train or yard crew understands the duties to be performed and whether those duties will cause any crewmember to go on, under, or between the rolling equipment.
- 400.5** A utility employee who has been attached to a crew may only foul the equipment without blue signal protection to perform the following tasks:
- Set or release hand brakes; or
 - Prepare rail cars for coupling; or
 - Couple or uncouple air hoses and other connections; or
 - Conduct air brake tests to include cutting air brake components in or out or position retaining valves; or
 - Inspect, test, install, remove, or replace an end-of-train marker.

400.6 When the utility employee has ceased all work in connection with that train and is no longer on, under, or between the equipment, the utility employee must notify the ranking crewmember. To release a utility employee from a train or yard crew, the following steps must be taken:

1. The utility employee must inform the ranking crewmember that he or she is no longer fouling the equipment,
2. The ranking employee must notify each crewmember that the utility employee is being released from the crew,
3. All crewmembers must acknowledge their understanding, and
4. The ranking employee must inform the utility employee that he or she has been released.

401 - Operating Switches and Derails by Hand

401.1 Employees are individually responsible for the switch in use and must not operate a switch or derail until qualified on operating and safety rules related to the operation of the device.

401.2 Before lining a switch or derail, the employee must ensure:

1. There are no conflicting movements;
2. Any preceding movement has passed the clearance point;
3. The device is not locked, clamped, spiked, or tagged out of service; and
4. No obstructions will interfere with normal movement of the switch points or the handle.

401.3 Rolling equipment must not foul a track until it can be visually determined that:

1. Switches and derails connected with the movement are properly lined, and
2. The intended route is clear.

401.4 Do not unlock or operate a switch or derail that provides access to a controlled track unless authorized by:

- a. Verbal authority from the train dispatcher, or
- b. Signal indication.

401.5 Do not line a switch for a diverging movement for another train until contacting the approaching train and confirming the:

1. Train intends to make a diverging movement,
2. Crew understands the switch will be lined for the diverging movement, and
3. Train will approach the switch prepared to stop.

401.6 If a lock is determined to be defective or missing on a switch or derail that requires a lock, replace the lock. If a lock is not readily available:

1. Report the device to the proper authority, and
2. Attend and protect the device until relieved by the proper authority.

401.7 When an employee determines a switch or derail is defective, the employee must:

1. Not operate the device,
2. Report the device to the proper authority, and
3. Tag the device as defective.

401.8 After operating a switch or derail, the employee must make certain the:

1. Device is properly lined,
2. Switch points fit properly,
3. Target, if equipped, corresponds to the position of the device,
4. Lever is latched, and
5. Device is locked, if equipped with a lock.

401.9 On main track, signaled track, or sidings:

1. The normal position for hand-operated switches is for movement on those tracks, and
2. The normal position for hand-operated crossover switches is for straight away movement.

401.10 On other than main track, signaled track, or siding tracks:

1. Hand-operated crossover switches must be in a corresponding position with both switches lined for the crossover movement or both switches lined for straight away movement,
2. The normal position for hand-operated scale track switches is for movement away from scales, and
3. Other hand-operated switches have no normal position.

401.11 On all tracks, the normal position for derails is derailing position.

401.12 Line switches and derails for their designated normal position except when:

- a. Changed for immediate movement, or
- b. Being used during continuous switching operations, or
- c. Attended by a qualified employee, or
- d. Authorized by the train dispatcher.

401.13 Restore switches and derails on controlled tracks to their normal position before:

- a. The movement is reported clear to the train dispatcher, or
- b. A signal to proceed is given to another train.

401.14 Before departing a location where main track switches have been operated by hand, each crewmember must verbally confirm the position of the switches and that they have been locked.

401.15 Properly line both switches of a crossover for the movement before a train fouls the crossover. If the switch at one end of a crossover is changed, properly line the switch at the other end of the crossover to avoid a conflicting route except when necessary for an employee to establish blue signal protection.

401.16 Complete the movement through a crossover before either switch is changed from a corresponding position, except when one crew is using both tracks connected by the crossover during continuous switching operations.

402 - Spring Switches

402.1 Special instructions designate the location and normal position of spring switches. Spring switches are identified by the letter S or letters SS on signs located on or near the switch.

402.2 Special instructions may designate aspect indications for spring switch signals. When not contained in special instructions, the following apply:

Color Position Light	Two lunar lights - switch is lined normal.
	Two red lights with a white marker light - switch is lined reversed.
	Two red lights without a white marker light - switch is not properly lined.
Color Light	Green - switch is lined normal.
	Red - switch is not properly lined.

402.3 A spring switch must not be spiked or blocked until protection for trailing movements has been provided.

402.4 Trailing movements that will spring the switch may only be made through a spring switch that is lined in the normal position.

- 402.5** When a buildup of snow or ice covers the rail and track conditions cannot be clearly observed:
- Trailing movements must not be made through a spring switch until the switch has been lined by hand for the movement, or
 - Facing point movements must stop and visually determine that the switch points fit properly before proceeding.
- 402.6** Equipment that stops while making a trailing movement through a spring switch must not make a reverse movement or allow equipment to roll back until the switch has been lined by hand into the proper position.
- 402.7** In non-signaled territory, spring switch signals govern facing point movements; approach these locations prepared to be governed by the aspect displayed.
- 402.8** When a signal governing the use of a spring switch indicates the switch is not properly lined, facing point movements must not be made until the:
- Switch is tested by completely lining the switch to the opposite position and then completely back to the original position,
 - Switch is properly lined for the intended route, and
 - Switch points fit properly.

403 - Electrically Locked Switches

- 403.1** Permission from the train dispatcher is required before operating an electrically locked switch or derail to:
- Enter a signaled track, or
 - Cross from one signaled track to another.
- 403.2** A train standing on the signaled track does not need permission from the train dispatcher to unlock and operate an electrically locked switch or derail to move from the signaled track to a non-signaled track. The train must be standing within 100 feet of the switch to permit the switch to unlock.
- 403.3** If an electrically locked switch or derail cannot be unlocked through normal procedures, the train dispatcher can permit the crew to break the seal and operate the emergency release feature, if equipped. The train dispatcher must notify the signal department of the occurrence.

404 - Releasing Hand Brakes

- 404.1** Do not release hand brake on:
- Cars - until coupled to locomotive. On grades where the independent brake will not hold the equipment, charge air brakes and make a sufficient brake pipe reduction, or
 - Locomotives - until the main reservoir is fully charged and independent brake is cut in and fully applied.

405 - Switching Equipment

405.1 Two or more crews must not simultaneously perform work in the same track or adjacent tracks until:

1. A job briefing has been held, and
2. All crewmembers confirm their understanding of the work to be performed.

405.2 When at industries:

1. Movements must only be made when gates, doors, or other such devices are fully opened and fastened;
2. Visually determine that switches and derails occupied by standing equipment are properly lined and latched (if equipped with a latch) for the movement;
3. Do not move partially loaded cars unless the lading is secure;
4. Return cars to their original locations unless instructed otherwise;
5. Do not make movements on a portion of track when dirt, sand, gravel, or other debris covers the rail or obstructs the flange way of vehicular or pedestrian crossings and notify the proper authority of the condition; and
6. Initial movements must be made by a locomotive when track conditions cannot be clearly observed due to a buildup of snow or ice covering the rail or obstructing the flange way of vehicular or pedestrian crossings.

405.3 Stop the movement at least 50 feet, but not more than 250 feet (Safety Stop), before coupling to equipment. Before coupling, make certain:

1. Employee directing the coupling is located on the ground and visually determines the couplers are aligned and at least one knuckle is open;
2. Any person riding the equipment and not seated in the locomotive dismounts until the coupling is made;
3. Persons in, on, or around the equipment are notified to remain clear; and
4. Employee directing the coupling makes a visual determination that connections and devices used for loading, unloading, or fueling equipment are removed.

405.4 When initiating the movement to couple equipment:

- a. Do not select a position greater than COUPLE when operating remote control equipment, or
- b. Do not exceed 4 MPH when operating equipment other than remote control.

405.5 After making a coupling, stretch the slack to ensure couplers are locked then connect:

- a. Hoses, or
- b. Electrical connections, or
- c. Locomotive crosswalk chains.

405.6 When switching, cars must only be cut off in motion (kicked) when being pushed by a locomotive; do not cut cars off in motion when being pulled by a locomotive. When kicking cars:

1. Ensure you are clear of the equipment before giving the signal to move;
2. When the slack is bunched, pull the uncoupling lever, but do not attempt to hold the lever at a speed of more than walking speed (4 MPH);
3. When the desired speed is reached, give the signal to stop; and
4. Do not cut off a car routed to an adjacent track until it is known that the preceding car is clear and will remain clear of adjacent tracks.

405.7 Do not uncouple equipment in curves or turnouts where the curvature would prevent safe coupling to the equipment.

405.8 Equipment must not be moved by static drop unless provided in special instructions.

405.9 When switching passenger equipment, camp cars, or other equipment designed to carry riders:

1. Notify any occupants prior to making any switching movements,
2. Do not cut the equipment off in motion or allow it to be struck by equipment that was cut off in motion, and
3. Use air brakes when switching.

406 - Shoving or Pushing Equipment

406.1 Employees involved in shoving or pushing movements must not:

- a. Engage in unrelated tasks, or
- b. Provide protection while occupying an automobile or similar motorized vehicle.

406.2 Unless protected by shove lights or other technological means as provided in special instructions, shoving or pushing movements must be protected by a crewmember or other qualified employee.

406.3 After ensuring all couplings are made by stretching the slack, the employee directing the movement must know the track is clear by providing point protection from a place of safety or being in a place of safety to make a positive visual determination. Track is clear means:

1. There are no conflicting movements,
2. All intervening switches and derails are properly lined for the intended movement,
3. There are no intervening highway-rail or pedestrian crossings at grade or such crossings have been made inaccessible, and
4. There is sufficient room in the track to hold the equipment being shoved.

406.4 The employee directing the move must give instructions sufficiently in advance to permit compliance. If there is any doubt as to the meaning of the instructions, or for whom such instructions are intended, the movement must:

1. Be stopped immediately, and
2. Not resume until the instructions are understood.

406.5 The employee directing the movement and/or the primary remote control operator of remote control movements must:

1. Remain at the designated place of safety until the movement is stopped except in case of emergency, and
2. Maintain visual contact with a portion of the equipment while movement is occurring.

406.6 When using radios during a shoving or pushing movement, the employee directing the movement must communicate the following to the employee receiving the instructions:

1. The employee is in a place of safety and if riding the equipment,
2. The position of each switch or derail the employee changed for the intended route,
3. Distance of the movement to be made or the sight distance available, whichever is less, in 50-foot car lengths, and
4. When movement begins, confirmation movement started.

406.7 When radios are being used to provide instructions to direct a shoving or pushing movement, the employee receiving the instructions must:

1. Not move the equipment until the employee directing the movement states:
 1. They are in a place of safety, and
 2. Distance of the movement to be made in 50-foot car lengths.
2. Stop in one-half the last specified distance received unless additional distance to go instructions are provided by the directing employee.

406.8 When shoving or pushing equipment for purposes other than coupling:

1. The movement must stop 50 feet short of:
 - A. A blue signal, or
 - B. A derail, or
 - C. An improperly lined switch, or
 - D. On-track equipment, or
 - E. An obstruction, or
 - F. End of the track.
2. If necessary to make any further movement to place equipment, allow the slack to adjust before moving.

407 - Leaving Equipment in the Clear**407.1** Standing equipment must not foul connecting tracks. Where clearance points are not identified or visible, determine the clearance point by:

1. Standing outside the rail of the connecting track,
2. Extending arm toward the equipment,
3. Identifying the location where the equipment can no longer be touched, and
4. Positioning equipment an additional 50-foot car length into the track from the location identified in Step 3.

407.2 When the track length is insufficient to permit leaving equipment clear of connecting tracks and it is necessary to leave equipment beyond the clearance point, the equipment must completely occupy the switch of the connecting track.**408 - General Securement Requirements****408.1** Conduct a job briefing when required to secure any train or equipment that will be left unattended.**408.2** Prior to leaving trains and equipment unattended, secure with tested hand brakes or by an alternative method specified in special instructions.

409 - Securement of Cars

409.1 Complete the following steps before applying hand brakes to cars that will be left unattended:

1. Bunch slack when applying hand brakes on the low end of a grade and stretch slack when applying on the high end,
2. Fully apply the independent brake, and
3. Make a full service application of the automatic brake.

409.2 Apply and test hand brakes on the required number of cars to be left unattended as follows:

- a. The number specified in special instructions, or
- b. On each car when one or two cars are to be left unattended, or
- c. On a minimum of two cars if three or more cars are to be left unattended.

409.3 After applying the required number of hand brakes to the cars:

1. Verify hand brake chains are tight,
2. Instruct the locomotive operator to release the independent and automatic brakes, and
3. Verify the brake shoes on the B end of cars are against the wheels of cars with hand brakes applied.

409.4 To test that hand brakes are sufficient to hold the equipment, observe equipment for one minute with air brakes released:

- a. Hand brakes are sufficient if no movement occurs after one minute, or
- b. Hand brakes are not sufficient if movement occurs. Stop the movement by applying the independent brake and making a full service application of the automatic brake then apply additional hand brakes and repeat the test for sufficient hand brakes until no movement occurs during the one-minute observation.

409.5 To test that a hand brake on a single car is sufficient to hold the equipment, push against the car with the locomotive:

- a. The hand brake is sufficient when a retarding effect is observed, or
- b. The hand brake is not sufficient if no retarding effect is observed. Do not leave a single car that fails the test for sufficient hand brake unattended unless a minimum of two additional cars with tested hand brakes are coupled to the car.

409.6 Before cutting away from cars connected to air:

1. Make a full service brake pipe reduction,
2. Verify that the brake pipe exhaust stops before closing the angle cock, and
3. Ensure the angle cock is open on the equipment to be left unattended.

410 - Securement of Locomotives

- 410.1** When a single locomotive or a locomotive consist is not attached to cars and will be left unattended, fully apply the independent brake before applying hand brakes.
- 410.2** Apply and test hand brakes on the required number of locomotives to be left unattended as follows:
- On each locomotive equipped with a hand brake, when left unattended outside a locomotive service facility, or
 - On a minimum of one locomotive, when left unattended inside a locomotive service facility.
- 410.3** After applying the required number of hand brakes to a single locomotive or locomotive consist without cars attached:
- Release the independent and automatic brakes allowing four seconds per locomotive to ensure a complete release of the air brakes, and
 - Observe the locomotive or locomotive consist for one additional minute with the air brakes released. If:
 - No movement occurs, hand brakes are sufficient, or
 - Movement occurs, hand brakes are not sufficient.
- 410.5** If the hand brake on a single locomotive, or hand brakes on a locomotive consist, to be left unattended without cars is not sufficient or if a single locomotive is not equipped with a hand brake, secure as follows:
- Apply an approved chock or chain, provided by a mechanical department employee, behind the R2 wheel, and
 - Verify the chock or chain will hold the equipment by releasing the independent and automatic brakes, waiting four seconds to allow the air brakes to fully release. If the locomotive does not move, the chock or chain is sufficient.
- 410.6** If the hand brake on a locomotive consist located within a locomotive service facility is not sufficient, apply additional hand brakes and repeat the test for sufficient hand brakes.

- 410.7** When left unattended, the switches and levers on a single locomotive or the controlling locomotive of a locomotive consist must be positioned as directed in the table below:

Switch/Lever	Position
Independent Brake	Cut in and fully applied.
Automatic brake	No cars attached - Cut in and in the release position. With cars attached - Cut in and full service application applied.
Reverser	Key train - Removed from the locomotive and in the possession of the locomotive operator. Not a Key train - Removed and stored.
Control/Fuel Pump	Engine left running - On position. Engine manually shut down - Off Position.
Generator Field	Off position.
Engine Run	Engine left running - On position. Engine manually shut down - Off position.
Isolation Switch	Start/Stop/Isolate position.
Battery Knife Switch	Engine left running - Closed position. Engine manually shut down and no mechanical system restart is planned - Open position.

- 410.8** Before leaving locomotives unattended, the cab doors must be locked on all locomotives in the consist in a manner that prevents unauthorized entry except when:

- A. Not equipped with locks, or
- B. Lock is defective, or
- C. Left inside a locomotive servicing track area.

- 410.9** If a cab door is not equipped with a lock or if a lock is defective, the locomotive operator must:

1. Report a defective lock to the condition to the train dispatcher or yardmaster and the CSX Mechanical desk,
2. Record the condition on the locomotive work report, and
3. Remove the reverser from the locomotive and
 - a. Place it in the cab of a locomotive that will be locked, or
 - b. Keep in his or her possession. Return the reverser to the proper storage location at the off-duty point if hours of service permit.

411 - Securement of Trains

411.1 If necessary to leave a train unattended with cars and locomotive(s) attached:

1. Secure cars in accordance with rules governing the application and testing of hand brakes on cars to be left unattended,
2. Position the switches and levers of the controlling locomotive as directed by the rules governing leaving a locomotive unattended, and
3. Apply the hand brake on each locomotive in the consist equipped with a hand brake.

411.2 When leaving a train or portion of a train unattended with one or more distributed power (DP) locomotives:

- a. If DP locomotives are located within the body of the train or at the rear of the train, the DP locomotives must be in "SET OUT" mode. It is not necessary to secure the locomotive hand brakes on the DP locomotives, or
- b. If DP locomotives are part of the lead consist of locomotives, DP locomotives must be secured in accordance with locomotive securement rules.

412 - Securement of Key Trains

412.1 Do not leave Key trains or cuts of cars that meet the Key train definition unattended on a controlled track outside of a yard or terminal unless the location is authorized in special instructions or permission is received from the train dispatcher. This does not apply when the assigned or attached crew is performing normal railroad operations in connection with their train:

- a. Picking up, setting off, or repositioning cars at an industry; or
- b. Assembling cars from tracks adjacent to the main track; or
- c. Adding, removing, or changing locomotives; or
- d. Moving part of a train when doubling hills or cutting crossings; or
- e. Assisting a disabled train.

412.2 If permitted to leave a Key train, or cut of cars that meets the Key train definition, unattended on a controlled track outside of a yard or terminal, secure it with tested hand brakes in accordance with all rules and special instructions.

412.3 Except when the assigned or attached crew is performing normal railroad operations in connection with their own train, prior to leaving a secured Key train, or cut of cars that meets the definition of a Key train, unattended on a controlled track outside of a yard or terminal, the train crew must provide the following information to the train dispatcher:

1. Milepost location of both ends of the train;
2. Length of train, tonnage, type of train (mixed freight, intermodal, unit train), number of cars, and number of locomotives;
3. Number of hand brakes applied and tested on cars and applied on locomotives;
4. Track features (curve or tangent) and grade (ascending, descending, flat, or undulating);
5. Current weather conditions; and
6. Name of employee reporting the securement information.

412.4 When cutting away from a cut of cars that meets the Key train definition to be left unattended on a controlled track with locomotive detached, allow the cut to go into emergency.

412.5 When leaving a Key train with locomotives attached on any controlled track, the locomotive operator must:

1. Remove the reverser from the controlling locomotive,
2. Keep the reverser in his or her possession, and
3. Return the reverser to the proper storage location at the off-duty location, if hours of service permit.

413 - Defective Hand Brakes

413.1 Report equipment determined to have a defective hand brake to the proper authority and:

1. Couple a car with defective hand brakes to a minimum of two additional cars with tested hand brakes before leaving it unattended, and
2. Record locomotive hand brake defects on the locomotive work report.

414 - Fouling Equipment

414.1 The rules in this section apply only when Blue Signal Protection is not required.

414.2 Do not foul equipment not coupled to a locomotive or coupled to a locomotive that is not under the control of a locomotive operator until known the equipment:

1. Is secured, and
2. Will not be coupled to.

- 414.3** When necessary to secure equipment that is not coupled to a locomotive or is coupled to a locomotive that is not under the control of a locomotive operator, make certain:
1. Equipment is stationary, and
 2. No other train or job is located on the same track or intends to couple to the equipment.
- 414.4** Do not foul equipment coupled to a locomotive or locomotive consist that is under the direct control of a locomotive operator until 3-Step protection has been verbally:
1. Requested by the employee that requires the protection, and
 2. Verified that it has been established by the locomotive operator.
- 414.5** After verbal confirmation that 3-Step protection has been established, other employees may foul the equipment after a job briefing is held with the employee who requested the protection.
- 414.6** To provide 3-Step protection on conventional equipment, the locomotive operator must:
1. Fully apply the independent brake, and if necessary, make an automatic brake pipe reduction sufficient to prevent movement;
 2. Center the reverser;
 3. Place the generator field in the OFF position;
 4. Remain in a position to ensure the switches and levers are not changed; and
 5. Maintain the protection until verbally notified by the employee who requested the protection that it may be released.
- 414.7** To provide 3-Step protection on remote control equipment, the locomotive operator must:
1. Place the speed selector to STOP,
 2. Place the Direction Selection toggle switch to NEUTRAL
 3. If necessary to prevent movement, make a full service brake pipe application,
 4. Keep the OCU properly attached and worn on the OCU vest, and
 5. Maintain the protection until verbally notified by the employee who requested the protection that it may be released.
- 414.8** Only the employee who request 3-Step protection can release the protection, to release 3-Step protection, the employee must:
1. Verify the other employees that were protected are clear of the equipment and confirm such employees understand the protection will be released, and
 2. Verbally notify the locomotive operator that 3-Step protection may be released.

414.9 Locomotive Operator in conventional service may foul the locomotive(s) in his/her charge when all of the following conditions are met:

1. Independent brake is fully applied, and if necessary, sufficient automatic brake pipe reduction is made to prevent movement;
2. Generator field is in the OFF position; and
3. Reverser is removed and kept in the possession of the locomotive operator.

Note: Other members of the same crew may foul the locomotive or locomotive consist to assist the locomotive operator after a job briefing is held to confirm steps 1 through 3 have been met.

Chapter 5 - Centralized Train Dispatching and Authorities for Movement

500 - Dispatcher Bulletins, Dispatcher Messages, and Release Forms

500.1 Before occupying a controlled track, the locomotive operator and conductor, if assigned, must:

1. Obtain a legible dispatcher bulletin and release form that contains the correct names, employee IDs, and train ID;
2. Determine that all documents correspond with each other;
3. Confirm that all crewmembers read and understand the requirements; and
4. Retain and observe the dispatcher bulletins on all trips during a tour of duty.

500.2 Contact the train dispatcher when the release form:

- a. Is not available when reporting for duty, or
- b. Time shows that more than four hours have elapsed since the crew went on duty.

500.3 Do not occupy a subdivision that is not listed on the dispatcher bulletin until the locomotive operator or conductor contacts the train dispatcher and obtains:

- a. A dispatcher bulletin containing dispatcher messages for the subdivision, or
- b. Form EC-1 instructions for the subdivision.

500.4 When the train dispatcher transmits a release form verbally, the conductor or locomotive operator must:

1. Repeat the dispatcher bulletin number and total number of messages to the train dispatcher; and
2. Record the train dispatcher's OK, effective time, and initials on the dispatcher bulletin.

500.5 Each dispatcher message is in effect until fulfilled or canceled, only a dispatcher message specifying the name of an employee-in-charge or a particular locomotive number may be superseded. Each dispatcher message must be in the prescribed format that includes:

1. Sequential item number,
2. Dispatcher message number, and
3. Total number of lines in the dispatcher message.

500.6 When a dispatcher bulletin does not contain the correct conductor and locomotive operator names and employee IDs, the train dispatcher must be notified to confirm the dispatcher bulletin number. Yard assignments are not required to notify the train dispatcher.

500.7 If a dispatcher bulletin has any irregularities, other than incorrect conductor and locomotive operator names and employee IDs, the conductor or locomotive operator must contact the train dispatcher to:

- a. Obtain corrected copies, or
- b. Confirm the entire contents of the dispatcher bulletin, and:
 1. Make corrections on the dispatcher bulletin;
 2. Repeat corrections to the train dispatcher;
 3. Obtain train dispatcher OK, effective time, and initials; and
 4. Record this information on the release line.

500.8 If a dispatcher bulletin is sent by means other than a dedicated bulletin printer or CSX Technofax, the conductor or locomotive operator must contact the train dispatcher, and:

1. Confirm the entire contents of the dispatcher bulletin;
2. Obtain the train dispatcher's OK, effective time, initials; and
3. Record this information on the release line.

500.9 A new dispatcher bulletin may be sent after the conductor or locomotive operator has notified the train dispatcher the original bulletin has been destroyed. The new dispatcher bulletin number must be confirmed.

500.10 When trains are re-crewed at other than a crew change point or for the purpose of yarding a train, the train crew must contact the train dispatcher to obtain any necessary instructions before proceeding.

501 - Form EC-1

501.1 Form EC-1 must:

1. Only be copied by those who are required to execute the requirement, and
2. Be read and understood by all employees affected.

501.2 Instructions on Form EC-1 must:

1. Be legible and in the correct format,
2. Have a circle around the number of the applicable line,
3. Be without erasure or alteration except as directed by the train dispatcher, and
4. Contain only authorized abbreviations.

501.3 The following abbreviations are approved for use on Form EC-1:

Abbreviation	Explanation	Abbreviation	Explanation
&	And	MW	Maintenance of Way
AVE	Avenue	NAS	Northward Absolute Signal
BTW	Between	NE	North End
C&E	Conductor and Engineer	NEDT	North End Double Track
CAN	Cancel	NO	Number
CONDR	Conductor	OHB	Overhead Bridge
CP	Control Point	OOS	Out-of-Service
CSS	Cab Signal System	OPR	Operator
DD	Defect Detector	PSGR	Passenger
DIR	Direction	SAS	Southward Absolute Signal
DISPR	Train Dispatcher	SD	Subdivision
DIV	Division	SDG	Siding
EAS	Eastward Absolute Signal	SEDT	South End Double Track
EEDT	East End Double Track	SIG	Signal
ENG	Engine	ST	Street
ENGR	Engineer	TRK	Track
HRS	Hours	TTSI	Timetable Special Instructions
INT	Interlocking	WAS	Westward Absolute Signal
JCT	Junction	WE	West End
MINS	Minutes	WEDT	West End Double Track
MP	Milepost	WF	Work Force
MPH	Miles Per Hour	YL	Yard Limits

501.4 If an error is discovered on Form EC-1:

- Before the train dispatcher gives the OK, effective time, and initials, the train dispatcher must direct the employee to make the necessary corrections or destroy all copies; or
- After the train dispatcher gives the OK, effective time, and initials, Form EC-1 must be released and a new Form EC-1 issued.

501.5 Once the train dispatcher has given his or her OK, effective time, and initials, only the following updates may be made, as directed by the train dispatcher.

- Cancellation of a specific line item or cancellation of other instructions using line 11, or
- Modification of direction on lines 1A through 1D, or
- Extension of time on line 4, or
- Report by location with train or on-track authority, or
- Change of the identifying locomotive number, or
- Modification of other instructions on line 11, or
- Release of entire Form EC-1.

501.6 Once issued, Form EC-1 is in effect until fulfilled or released and must be retained and observed on all trips during a tour of duty.

501.7 A Form EC-1 is released in its entirety on the same form, as follows:

1. The employee must state his or her intent to release Form EC-1;
2. The employee must state the Form EC-1 number and date;
3. The employee must copy the release time, date, and initials given by the train dispatcher; and
4. The receiving employee must ensure that all employees affected receive the information and mark their Form EC-1 accordingly.

502 - Other than Main, Signaled, or Siding Tracks

502.1 Tracks other than main, signaled, or sidings may be used without permission or authority from the train dispatcher or control station.

502.2 When a remote control zone is active, permission from the remote control operator foreman must be received and repeated before:

- a. Fouling tracks within the zone with any equipment, or
- b. Crossing at a highway-rail or pedestrian crossing within the zone, or
- c. Roadway worker or blue signal protection is established within the zone.

503 - Main, Signaled, and Siding Tracks

503.1 Any crewmember may obtain permission or copy authorities from the train dispatcher when under the direct supervision of the conductor or locomotive operator.

503.2 Controlled tracks and the authority for movement on those tracks is designated in special instructions. The train dispatcher supervises and grants authority for movement for trains and on-track equipment on controlled tracks. The following track types are controlled tracks:

1. Main tracks,
2. Signaled tracks, and
3. Sidings.

503.3 Sidings are designated in special instructions and are used for the purpose of meeting and passing trains. The following siding designations apply:

- a. **Controlled Siding:** A track designated in special instructions as a controlled siding. In signal territory, signals do not govern movement on the siding. Entrance and exit signals only authorize trains to enter or leave the siding, or
- b. **Signaled Siding:** A track designated in special instructions as a signaled siding where movement on the siding is authorized by block signals and signal rules apply to movement on the siding.

- 503.4** Trains must not enter a siding unless authorized by:
- Signal indication, or
 - The train dispatcher.
- 503.5** Trains instructed to take siding must enter sidings at the first switch unless directed otherwise by the train dispatcher. Movement must not be made beyond the first switch unless:
- Protection has been provided by the train dispatcher, or
 - The train has authority to occupy the main track beyond the first switch.
- 503.6** A train instructed to take siding in TWC-D or TWC-ABS territory must report clear to the train dispatcher once the train has cleared the main track and switches have been restored for movement on the main track.
- 503.7** Inform the train dispatcher of any condition that affects the use of a siding. Do not leave equipment unattended on a siding without permission of the train dispatcher.
- 503.8** Employees in the operating cab of the lead locomotive must communicate to each other the following conditions that govern the movement of their train when seen and confirm the actions to be taken by the locomotive operator when passing:
- Signal aspect names, or
 - Yard limit signs, or
 - Warning signs, or
 - Temporary speed restrictions, or
 - Conditional Stop signs, or
 - Burning fusees.
- 503.9** A crewmember located in the operating cab of the lead locomotive must announce by radio the following conditions or occurrences. The announcement must include the direction of travel and in multiple track territory, the track name or number.
- Signal aspect name and location, or
 - Entry into TWC authority, or
 - Departure from TWC authority after reported clear to the train dispatcher, or
 - Passenger train arrival and departure at stations, or
 - The presence of cars loaded with pulpwood or poles in the train when approaching trains and equipment on adjacent tracks, or
 - Entry into a siding.

503.10 The employee at the controls of the equipment must announce by radio the following conditions or occurrences. The announcement must include the direction of travel, and in multiple track territory, the track name or number.

- a. Signal aspect name and location of any signal that requires the train to approach the next signal prepared to stop, or
- b. Signal aspect name and location of any signal that requires operating at restricted speed, or
- c. Entry into work limits.

503.11 If a train stops on a controlled track, a crewmember must announce by radio:

1. Train has stopped,
2. Reason for the stop,
3. Location of the head end, and
4. The above information every 15 minutes.

503.12 Other crewmembers not in the operating cab of the lead locomotive:

- a. Must acknowledge the announcement of:
 - a. Entry into working limits on controlled track.
 - b. Signal aspect name and location, or
 - c. Entry into TWC authority, or
 - d. Departure from TWC authority, or
- b. If other crewmembers fail to acknowledge these announcements, a job briefing must be conducted at the next stop.

503.13 A train that is required to stop on a main track, signaled track, or siding to be met or passed must:

1. Stop a minimum of 500 feet from the clearance point, and
2. After stopping, if additional room is required to clear, the train may move past the 500 foot location but must not foul the clearance point.

503.14 A sterile cab must be established when:

- a. Obtaining Form EC-1 instructions, or
- b. Receiving permission to pass a Stop signal, or
- c. Required to operate at Restricted speed, or
- d. Operating on a signal indication or by rule that requires approaching the next signal prepared to stop, or
- e. A minimum of two miles from the end limits of an authority designated on a Form EC-1, or
- f. A minimum of two miles from and maintained until the movement has cleared the following:
 1. A 25 MPH or less temporary speed restriction, or
 2. Working limits, or
 3. Location of a reported malfunction of a Highway-Rail crossing at grade.

504 - General Signal Rules**504.1** General signal rules apply where special instructions, dispatcher message, or Form EC-1 designate the following Authorities for Movement are in effect:

- a. Track Warrant Control with Automatic Block Signals (TWC-ABS), or
- b. Main Track Yard Limits Signaled (YL-S), or
- c. Current of Traffic (COT) - Track Signaled in One Direction, or
- d. Traffic Control (TC), or
- e. Control Point (CP) Signals.

504.2 Trains must approach the beginning of signaled territory prepared to comply with the first signal in service.**504.3** Movements not governed by fixed signal indication must receive authorization from the train dispatcher then proceed at restricted speed to the:

- a. Next signal, or
- b. End of signaled territory if the movement is to enter non-signal territory, or
- c. In cab signal territory, trains may proceed in accordance with cab signal indication after clearing limits.

504.4 Trains may operate according to the indication of the next fixed signal governing the movement when:

1. The next governing signal can be plainly seen,
2. The rear of the movement has passed through all crossovers and turnouts, and
3. The train is not required to operate at restricted speed.

504.5 A signal indication requiring restricted speed applies until the leading end of the train reaches the next governing signal. When a signal aspect requiring restricted speed is displayed by a signal governing movements into non-signalized territory, it will apply until:

1. The entire movement clears turnouts and crossovers, and
2. Leading end of the train reaches the end of signalized territory.

504.6 Employees must observe block signals. When a train fails to actuate a signal properly:

1. Stop the train immediately,
2. Attempt to stop other trains affected, and
3. Notify the train dispatcher.

504.7 When the leading end of a train stops less than one locomotive length on either side of an Absolute signal, the train must not proceed again without receiving permission from the train dispatcher.

504.8 If a train enters a block on a signal indication that does not require restricted speed then stops, the train must:

- a. In COT, TC, and CP Territory - Proceed prepared to stop at the next signal, and not exceed 40 MPH unless governed by a slower speed. The train must not exceed 40 MPH until the next signal is visible, that signal displays a proceed indication, and the track to that signal is clear.
- b. In YL-S and TWC-ABS Territory - Trains must proceed at a speed that permits stopping within one-half the range of vision, stopping short of a train, a car, an obstruction, on-track equipment or a Stop signal and not exceed 40 MPH unless governed by a slower speed to the next signal. The train must not exceed 40 MPH until the next signal is visible, that signal displays a proceed indication, and the track to that signal is clear.
- c. In Cab Signal Territory - The train may proceed in accordance with cab signal indication.

504.9 If a train enters a block on a signal indication that does not require restricted speed, and the train:

- a. Reduces speed to 15 MPH or less after passing a distant signal governing either the approach to a railroad crossing at grade or the beginning of signaled territory, the train must approach the home signal prepared to stop until:
 1. The leading end of the movement reaches the home signal, and
 2. It can be seen that the indication of the home signal permits the train to proceed.
- b. Passes a distant signal and reduces speed to 10 MPH or less approaching a home signal not at a railroad crossing at grade:
 1. In other than cab signal territory, the train must:
 1. Approach the home signal prepared to stop,
 2. Not exceed 40 MPH unless governed by a slower speed, and
 3. Resume the speed authorized by the distant signal when the home signal is seen to display a proceed indication.
 2. In cab signal territory, the train may proceed in accordance with cab signal indication.

504.10 When switching at a point where signal indication governs the movement, provide sufficient room, when feasible, for the locomotive to recouple to the train behind the leaving signal. The train must not proceed except by signal indication or as authorized by the train dispatcher.

504.11 A train may occupy a specific track segment and move in both directions when authorized by the train dispatcher under the following conditions:

1. The train must be clear of the track segment before the time limit expires and the train dispatcher must be advised,
2. The authority to work does not relieve the crew of complying with block signal indications, and
3. A train that has reported clear must not occupy the track segment again without receiving a new authority.

504.12 Trains or equipment on sidings and other tracks must be left standing clear of the insulated joints at the clearance point.

504.13 Do not open a switch that provides access to a signaled track unless authorized by signal indication or permission of the train dispatcher. Permission of the train dispatcher is required to:

- a. Unlock an electrically locked switch, or
- b. Break the seal to operate the emergency release of an electrically locked switch, or
- c. Place a dual-controlled power-operated switch in hand position or operate in hand position, or
- d. Spike a non-dual-controlled power-operated switch.

504.14 When necessary to place a dual-controlled power-operated switch in hand position:

1. Unlock the switch lock,
2. Place selector lever in hand position,
3. On pneumatic power-operated switches, unlock the small lever at the end of the machine and pull out a full stroke,
4. Operate the hand-throw lever until the switch points are completely lined to the opposite position and then back to ensure the points are controlled by the operation of the hand-throw lever. This must be done whether or not the switch points appear to be lined for the desired route,
5. Line the switch for the route to be used and lock the switch lever,
6. When making a facing point movement, the entire movement must clear the switch points before the selector lever may be restored to motor/power position,
7. When making a trailing point movement, restore the selector lever to motor/power position after the leading wheels of the movement have moved onto the switch points,
8. The same employee who places a dual-controlled switch in hand position must restore the switch to motor/power position unless other arrangements are made,
9. When restored to motor/power, lock the selector lever in motor/power, and
10. Notify the train dispatcher and the locomotive operator when the switch has been restored to motor/power position.

504.15 During the time a dual-controlled switch is in hand position, switching movements may pass signals that govern the switch indicating Stop at restricted speed without permission of the train dispatcher. After restoring the switches to motor or power position, a train may proceed on signal indication or permission of the train dispatcher.

504.16 If a train has the permission of the train dispatcher to make a reverse movement within the limits of the same block, the movement must be made at restricted speed with a crewmember located on the rear of the movement unless all of the following conditions are met:

1. Move will not exit the block,
2. Move will not exceed 10 MPH,
3. Move will not exceed one train length up to one mile,
4. Move will not occur in or enter main track yard limits,
5. Move will not occur on or enter a drawbridge,
6. Move will not occur in or enter working limits, and
7. There are no intervening highway-rail or pedestrian crossings at grade.

- 504.17** A train may make a reverse movement within the limits of the same block without the permission of the train dispatcher, if all of the following conditions are met:
1. The movement must be made at restricted speed, and
 2. A crewmember or other qualified employee is positioned on the ground ahead of the leading end prepared to stop any opposing movement.
- 504.18** Permission of the train dispatcher is required for a train to make a reverse movement outside the limits of the block. Before granting permission, the train dispatcher must determine that the designated track is clear and there are no authorized opposing movements. The train must move at restricted speed until the leading end reaches a more favorable signal.
- 504.19** Promptly notify the train dispatcher when a signal displays a Stop aspect unless the reason for such aspect is apparent.
- 504.20** A train approaching a fixed signal requiring a stop must stop before any part of the movement passes the signal. If a train passes a Stop signal without permission:
1. Notify the train dispatcher, and
 2. Provide warning against approaching trains.
- 504.21** To pass a Stop signal, a train must have permission of the train dispatcher. The conductor or locomotive operator must contact the train dispatcher and follow his or her instructions. A Stop signal may be passed at restricted speed without permission of the train dispatcher when necessary to recouple to own train located immediately beyond the signal and no power operated switches are involved.
- 504.22** After permission has been confirmed, the train must operate at restricted speed until the entire train has cleared all controlled point switches or spring switches and the leading wheels have:
- a. Passed a more favorable fixed signal, or
 - b. Entered non-signaled territory, or
 - c. If in cab signal territory, trains with operative cab signals must not increase their speed until they have run one train length or 500 feet (whichever distance is greater) past a location where a more favorable cab signal was received.
- 504.23** When a train is stopped at a Stop signal at a remotely controlled railroad crossing at grade and the train dispatcher has control of the intersecting line, the train must receive permission to pass the Stop indication.

504.24 When a train is stopped at remotely controlled railroad crossing at grade in which train dispatcher does NOT have control over the intersecting line and no immediate conflicting movement is evident, comply with special instructions. If there are no special instructions:

a. If equipped with a time release:

1. The leading end of train must not be more than 250 feet from signal and remain at that location during the time-release interval,
2. Operate time release,
3. If signal changes; proceed, and
4. If signal does not change by the expiration of the time-release interval, receive permission from the train dispatcher to pass the Stop signal. Then, pull by signal at least 30 feet, stopping clear of the intersecting line. After waiting a period of time equal to the time-release interval, the train may proceed at restricted speed to the next signal, or if no next signal, until the entire train clears turnouts and crossovers and leading end of train reaches the opposing Absolute signal.

b. If not equipped with a time release:

1. Receive permission from the train dispatcher to pass the Stop signal,
2. Pull by Stop signal at least 30 feet, stopping clear of the intersecting line,
3. Wait 10 minutes, and
4. If no conflicting movement, then proceed at restricted speed to the next signal, or if there is no next signal, until the entire train clears turnouts and crossovers and leading end of train reaches the opposing Absolute signal.

504.25 When a train is stopped at an automatic railroad crossing at grade and no conflicting movement is evident, comply with special instructions. If no special instructions:

1. The leading end of train must be stopped not more than 250 feet from the Stop signal and it must remain at that location during the time-release interval,
2. Operate the time release in accordance with instructions posted at the location or found in timetable special instructions,
3. If signal changes; proceed, and
4. If the signal does not change at the expiration of the time-release interval:
 1. Receive permission from the train dispatcher to pass the Stop signal,
 2. If no conflicting movement is evident, the train must pull by the Stop signal at least 30 feet, stopping clear of the intersecting line,
 3. Train must wait a period of time equal to the time-release interval, and
 4. If no conflicting movement is evident, the train may then proceed at restricted speed to the next signal or, if there is no next signal, to a point in which the entire train is through turnouts and crossovers and until the leading end of the movement reaches the opposing Absolute signal.

- 504.26** Trains may use return to train indicators to return to a train left standing immediately beyond a railroad crossing at grade. The indicator conveys no information as to the position of power-operated switches; however, when indicator light displays a white light, the movement may pass the signal displaying Stop and return to the train provided:
- Permission is received from the train dispatcher to operate in hand position any power switches that are not lined for the desired route, or
 - The movement may be made over power switches in motor or power position when the switches are lined for the desired route, or
 - A release located on the side of a signal at the railroad crossing at grade, if so equipped, is operated and a signal for a reverse movement over the crossing is received.
- 504.27** If a train operating on a signal indication more favorable than Approach encounters a Stop signal or a signal requiring restricted speed, the train must:
- Comply with the signal indication consistent with good train handling unless conditions require an emergency brake application, and
 - Report the incident to the train dispatcher.
- 504.28** Promptly report a signal imperfectly displayed to the train dispatcher and regard the signal as the most restrictive indication that can be conveyed by that signal, with the following exceptions:
- If only one indication is possible, that indication governs, or
 - When the arms of a semaphore signal can be seen, they govern, or
 - When one colored light is displayed in the cluster of lights of a color position light signal, it means the same as two lights in the cluster, or
 - When one or more lower units of a color light signal aspect is dark, the aspect is to be observed as though the lights that should be displayed were displaying red. This does not apply to Rule C-1290(a).
- 504.29** When a fixed signal is absent from the place where it is usually displayed, the most restrictive indication that can be given by that signal governs the movement. Immediately report the absence of the signal to the train dispatcher.
- 504.30** Train crews observing an improper signal aspect permitting a train to proceed must:
- Bring train to a safe and normal stop before passing the signal,
 - Notify the train dispatcher and be governed by his or her instructions, and
 - Provide warning for approaching trains until relieved by the train dispatcher.

- 504.31** Obtain permission from the train dispatcher to assist a standing train. After receiving permission from the train dispatcher, a locomotive may be permitted in the same block to assist a standing train provided:
1. Train dispatcher is informed that a clear understanding exists between all crewmembers as to the location of the standing train,
 2. A crewmember of the standing train provides warning against the assisting locomotive, and
 3. The crew of the assisting locomotive perform the following:
 1. Stop one-quarter mile from the standing train,
 2. Approach the location at restricted speed,
 3. Stop prior to coupling,
 4. Conduct a job briefing with a crewmember of the standing train,
 5. Couple to the standing train and provide needed assistance,
 6. Contact the train dispatcher and provide location of detachment,
 7. Obtain permission from the train dispatcher to detach, and
 8. Detach from the train and stop. Remain stopped until obtaining permission from the train dispatcher to proceed, even when operating with the current of traffic in COT territory.
- 504.32** Obtain permission from the train dispatcher before leaving equipment unattended on a controlled track and provide the following information to the train dispatcher for the dispatcher record:
1. Specific locations of both ends of the equipment,
 2. Identifying initials and number of the locomotive or the car at each end of the equipment,
 3. Total number of locomotives and cars, and
 4. The information provided is confirmed to be correct by all crewmembers.
- 504.33** The train dispatcher may grant authority to a train to remove unattended equipment from a controlled track once the train dispatcher verifies that a clear understanding exists among crewmembers as to the location of the standing equipment. The train must:
1. Stop one-quarter mile from the standing equipment, and
 2. Approach the location of the standing equipment at restricted speed.
- 504.34** When removing unattended equipment from a controlled track, advise the train dispatcher of:
1. The number of locomotives or cars moved, and
 2. The identifying initials and number of the locomotive or car at each end of such equipment.

- 504.35** Remove signals from service only when authorized by the proper authority and in the following circumstances:
- Storm or flood renders signal system inoperative, or
 - Prompt restoration of signal system disruption for other cause(s) cannot be effected, or
 - Construction work necessitates the signals' temporary removal from service.
- 504.36** Special instructions, dispatcher message, or Form EC-1 may temporarily remove block signals and signal rules from service. When signal system is suspended, establish an alternate method of operation and notify all trains affected.
- 504.37** Unless otherwise specified, when signals are temporarily removed from service, trains must:
- Approach all Absolute signals prepared to stop and not pass these signals without permission of the train dispatcher,
 - Stop at drawbridges and railroad crossings at grade and be governed by rules or special instructions in effect for that particular location,
 - Approach all public crossings at grade that are equipped with automatic grade crossing warning devices prepared to stop and provide protection,
 - Examine switch points of spring switches to confirm they are lined and switch is locked before making a facing point movement, and
 - Operate switches and derails in accordance with rules governing operating switches and derails by hand.
- 504.38** Under certain conditions, a single car or a single light locomotive unit may fail to activate the block signals or the highway-rail crossing at grade warning devices. These movements must not be stopped on sand. If it is necessary to use sand to stop, the locomotive or car must be moved clear of the sanded portion of the rails immediately after stopping.
- 504.39** Trains occupying rusty rails, or rails covered with sand, oil, or other matter may also fail to shunt the track circuits. Employees must be especially vigilant to detect and report such conditions and, unless otherwise instructed by the train dispatcher, they must provide proper protection.
- 504.40** If rails are rusted or cars have been left standing and wheels are rusted, crewmembers must confer with the train dispatcher. If rails are rusted, signal maintainers must notify train dispatchers.

505 - Track Warrant Control Non-Signaled (TWC-D)

- 505.1** When the authority for movement on a controlled track is designated in special instructions, dispatcher message, or Form EC-1 as TWC-D, trains will be governed by verbal authority from the train dispatcher.
- 505.2** Trains must not enter controlled track in TWC-D territory unless authorized to do so by the train dispatcher, or as a work train working as part of the engineering work group within designated working limits.

505.3 Copy the authorities from the train dispatcher on the Form EC-1 in the prescribed format. Where more than one main track is in service, the track number or name will be designated in the authority.

505.4 The limits of the authority must be designated on Form EC-1 by:

- a. Station names, or
- b. Mileposts, or
- c. Switch, or
- d. Signal, or
- e. Control point.

505.5 The following table describes the limit of the authority:

When the Location Is:	The End of the Authority Is:
A controlled point	The home signal or controlled point signal
A passenger station	The point specified by the train dispatcher on Form EC-1
A hand-operated switch	The fouling point of the switch
Multiple hand-operated switches	The fouling point of the first switch unless otherwise specified by the train dispatcher on Form EC-1
Other stations	The station sign

505.6 The train dispatcher may authorize a train to enter TWC-D territory at a hand-operated switch in order to clear the switch and proceed in the opposite direction.

505.7 When a train is authorized to operate in both directions:

1. It may operate in either direction,
2. Switches within the designated limits may be left as instructed by the train dispatcher during the time the authority is in effect,
3. The authority remains in effect until canceled,
4. Before the authority is released, a crewmember must ensure that all switches are locked in normal position, and
5. The train dispatcher must not authorize other movements within the limits of the authority.

505.8 To make a reverse movement, trains authorized to move in one direction:

1. Must obtain authorization of the train dispatcher,
2. Before authorizing, the train dispatcher must determine that the track to be used is clear and no opposing movements have been authorized, and
3. Once authorized, the train may make a reverse movement within the limits.

- 505.9** A train must report by specific locations when directed by the train dispatcher. Once a train has reported by a specific location, the train must not re-enter that section of track unless a new authority is obtained.
- 505.10** A track warrant authority is fulfilled when a train operating in a specified direction clears the limits. After a train clears the limits of its track warrant authority, the conductor or the locomotive operator must promptly release the authority unless otherwise directed by the train dispatcher.
- 505.11** A train must not release an authority or report by a specific location until:
- a. A crewmember or other employee observes the rear end marker or verifies the rear car's initials and number, or
 - b. The train passes a defect detector that gives an axle count that agrees with the count of a previous defect detector or an actual count made by a crewmember, or
 - c. The train clears the controlled track at a hand-operated switch and the switch (and derail, if equipped) has been restored and locked in normal position, or
 - d. A train equipped with properly functioning telemetry:
 1. Indicates the rear of the train is intact,
 2. The display indicating air pressure on the rear of the train gives the expected reading, and
 3. The distance traveled by the leading end of the train is:
 - a. The train's length, as determined by the use of the odometer on the HTD, or
 - b. Three miles beyond the clearing point.
- 505.12** When hand-operated switches are used, before releasing an authority or reporting by a specific location:
1. Complete the Switch Position Awareness Form (SPAF) in ink,
 2. Report the following to the train dispatcher:
 1. Location of the switch operated,
 2. Switch(es) restored and locked in normal position,
 3. Time switch was initially reversed,
 4. Time switch was restored and locked in normal position, and
 5. Name of employee who operated the switch.
 3. Retain the Switch Position Awareness Form (SPAF) until the next tour of duty.

505.13 Obtain permission from the train dispatcher to assist a standing train. After receiving permission from the train dispatcher, a locomotive may assist a standing train provided:

1. Train dispatcher is informed that a clear understanding exists between all crewmembers of the location of the standing train,
2. A crewmember of the standing train provides warning against the assisting locomotive, and
3. The crew of the assisting locomotive perform the following:
 1. Stop one-quarter mile from the standing train,
 2. Approach the location at restricted speed,
 3. Stop prior to coupling,
 4. Conduct a job briefing with crewmember of the standing train,
 5. Couple to the standing train and provide needed assistance,
 6. Contact the train dispatcher and provide location of detachment,
 7. Obtain permission from the dispatcher to detach from the train, and
 8. Detach from the standing train then remain stopped until obtaining a new authority from the train dispatcher.

505.14 Obtain permission from the train dispatcher before leaving equipment unattended on a controlled track and provide the following information to the train dispatcher:

1. Specific locations of both ends of the equipment,
2. The identifying initials and number of the locomotive or car at each end of the equipment,
3. Total number of locomotives and cars, and
4. The information provided is confirmed to be correct by all crewmembers.

505.15 The train dispatcher may grant authority to a train to remove unattended equipment from a controlled track once the train dispatcher verifies that a clear understanding exists among crewmembers as to the location of the standing equipment. The train must:

1. Stop one-quarter mile from the standing equipment, and
2. Approach the location of the standing equipment at restricted speed.

505.16 Advise the train dispatcher of the following when unattended equipment is removed from a controlled track:

1. The identifying initials and number of the locomotive or car at each end of the equipment, and
2. The total number of locomotives and cars removed.

505.17 If a train overruns an authority:

1. Notify the train dispatcher, and
2. Provide warning against approaching trains.

506 - Track Warrant Control with Automatic Block Signals (TWC-ABS)

506.1 When the authority for movement on a controlled track is designated in special instructions, dispatcher message, or Form EC-1 as TWC-ABS:

1. Trains are authorized to occupy controlled tracks by verbal authority from the train dispatcher,
2. Train movements are governed by signal indication, and
3. General signal rules are also in effect.

506.2 Trains must not enter or make an initial movement on controlled tracks in TWC-ABS limits unless authorized by verbal authority from the train dispatcher or as a work train working as part of the engineering work group within designated working limits.

506.3 Copy authorities from the train dispatcher on the Form EC-1 in the prescribed format. Where more than one main track is in service, the track number or name will be designated in the authority.

506.4 The limits of the track warrant authority must be designated on Form EC-1 by:

- a. Station names, or
- b. Mileposts, or
- c. Switch, or
- d. Signal, or
- e. Control point.

506.5 The following table describes the limit of the authority:

When the Location Is:	The End of the Authority Is:
A controlled point	The home signal or controlled point signal
A passenger station	The point specified by the train dispatcher on Form EC-1
A hand-operated switch	The fouling point of the switch
Multiple hand-operated switches	The fouling point of the first switch unless otherwise specified by the train dispatcher on Form EC-1
Other stations	Station sign

506.6 To enter TWC-ABS territory at a hand-operated switch, the conductor or locomotive operator must receive authorization from the train dispatcher. After authority has been granted, crewmembers must take action to ensure adequate signal protection by complying with the following:

- a. At switch(es) not equipped with a bolt lock or an electric lock:
 1. A crewmember must promptly operate the switch(es) and remain at the switch(es),
 2. Wait five minutes before starting train movement, if a train is seen or heard approaching on the track to be occupied before the five minutes has elapsed, switch(es) must be locked in normal position, and
 3. Before operating the switch again, permission must be obtained from the train dispatcher to occupy the controlled track.
- b. At switch(es) equipped with a bolt lock:
 1. A crewmember must promptly operate the bolt lock and remain at the switch, and
 2. Wait five minutes before operating the switch(es).
- c. At switch(es) equipped with an electric lock, train movement may begin as soon as the switch(es) have been properly lined.

506.7 The train dispatcher may relieve crewmembers from the five minute waiting period after it has been determined that no train is moving or has been authorized to move in the direction of the switch(es) from the last controlled point. Once the switch(es) have been lined for movement, a crewmember must immediately notify the train dispatcher, who must not authorize the movement of a train from the last controlled point until this notification has been received.

506.8 When a train is authorized to operate in both directions:

1. It may operate in either direction,
2. Switches within the designated limits may be left as instructed by the train dispatcher during the time the authority is in effect,
3. The authority remains in effect until canceled,
4. Before the authority is released, a crewmember must ensure that all switches are locked in normal position, and
5. The train dispatcher must not authorize other movements within the limits of the authority.

506.9 A train must report by specific locations when directed by the train dispatcher. Once a train has reported by a specific location, the train must not re-enter that section of track unless a new authority is obtained.

506.10 A track warrant authority is fulfilled when a train operating in a specified direction clears the limits. After a train clears the limits of its track warrant authority, the conductor or the locomotive operator, must promptly release the authority to the train dispatcher.

506.11 A train must not release an authority or report by a specific location until:

- a. A crewmember or other employee observes the rear end marker or verifies the rear car's initials and number, or
- b. The train passes a defect detector that gives an axle count that agrees with the count of a previous defect detector or an actual count made by a crewmember, or
- c. The train clears the controlled track at a hand-operated switch and the switch (and derail, if equipped) has been restored and locked in normal position, or
- d. A train equipped with properly functioning telemetry:
 1. Indicates the rear of the train is intact,
 2. The display indicating air pressure on the rear of the train gives the expected reading, and
 3. The distance traveled by the leading end of the train is:
 - a. The train's length, as determined by the use of the odometer on the HTD, or
 - b. Three miles beyond the clearing point.

506.12 If a train overruns an authority:

1. Notify the train dispatcher, and
2. Provide warning against approaching trains.

507 - Main Track Yard Limits Non-Signaled (YL)

507.1 When the authority for movement on a controlled track is designated in special instructions, dispatcher message, or Form EC-1 as YL, verbal authority from the train dispatcher governs trains.

507.2 Trains must not enter a controlled track in YL territory unless authorized to do so by the train dispatcher or as a work train working as part of the engineering work group within designated working limits.

507.3 Copy authorities from the train dispatcher on the Form EC-1 in the prescribed format. Where more than one main track is in service, the track number or name will be designated in the authority.

507.4 All movements must be made at a speed that permits stopping within one-half the range of vision, stopping short of a train, a car, an obstruction, on-track equipment, an improperly lined switch, or a Stop signal, not exceeding 20 MPH until the leading end reaches the far limits.

507.5 When a train completes the use of main track yard limits, the conductor or locomotive operator must contact the train dispatcher and state:

- a. If main track is clear of equipment, or
- b. If unattended equipment is left within the limits.

508 - Main Track Yard Limits Signaled (YL-S)

- 508.1** When the authority for movement on a controlled track is designated in special instructions, dispatcher message, or Form EC-1 as YL-S, general signal rules are also in effect.
- 508.2** Trains must not enter or make an initial movement on controlled tracks in YL-S territory unless authorized to do so by signal indication or verbal authority from the train dispatcher.
- 508.3** Trains operating on any signal indication that requires approaching the next signal prepared to stop, must operate at a speed that permits stopping within one-half the range of vision, stopping short of a train, a car, an obstruction, on-track equipment, an improperly lined switch, or a Stop signal, not exceeding 20 MPH, until:
1. Leading end of the train passes a more favorable signal or reaches the far end of the yard limits, and
 2. The entire train has cleared all turnouts and crossovers.
- 508.4** The conductor or locomotive operator must receive authorization from the train dispatcher to enter YL-S territory at a hand-operated switch. When granted authority, crewmembers must ensure adequate signal protection by complying with the following:
- a. At switch(es) not equipped with a bolt lock or an electric lock:
 1. Before operating the switch again, permission must be obtained from the train dispatcher to occupy the controlled track.
 2. A crewmember must promptly operate the switch(es) and remain at the switch(es),
 3. Wait five minutes before starting train movement, if a train is seen or heard approaching on the track to be occupied before the five minutes has elapsed, switch(es) must be locked in normal position, and
 - b. At switch(es) equipped with a bolt lock:
 1. A crewmember must promptly operate the bolt lock and remain at the switch, and
 2. Wait five minutes before operating the switch(es).
 - c. At switch(es) equipped with an electric lock, train movement may begin as soon as the switch(es) have been properly lined.
- 508.5** The train dispatcher may relieve crewmembers from the five minute waiting period after the train dispatcher determines that no train is moving or has been authorized to move in the direction of the switch(es) from the last controlled point. Once the switch(es) have been lined for movement, a crewmember must immediately notify the train dispatcher, who must not authorize the movement of a train from the last controlled point until this notification has been received.

509 - Current of Traffic (COT) - Track Signaled in One Direction

- 509.1** When the authority for movement on a controlled track is designated in special instructions, dispatcher message, or Form EC-1 as COT:
1. General signal rules are in effect when moving with the current of traffic, and
 2. TWC-D rules are in effect when moving against the current of traffic except for a work train working as part of the engineering work group within designated working limits.
- 509.2** Trains that will move with the current of traffic must not enter or make an initial movement in COT territory unless authorized by signal indication or verbal authority from the train dispatcher.
- 509.3** The conductor or locomotive operator must receive authorization from the train dispatcher to enter COT territory at a hand-operated switch. When granted authority, crewmembers must ensure adequate signal protection by complying with the following:
- a. At switch(es) not equipped with a bolt lock or an electric lock:
 1. A crewmember must promptly operate the switch(es),
 2. Wait five minutes before starting train movement, if a train is seen or heard approaching on the track to be occupied before the five minutes has elapsed, switch(es) must be locked in normal position, and
 3. Before operating the switch again, obtain permission from the train dispatcher to occupy the controlled track.
 - b. At switch(es) equipped with a bolt lock:
 1. A crewmember must promptly operate the bolt lock, and
 2. Wait five minutes before operating the switch(es).
 - c. At switch(es) equipped with an electric lock, train movement may begin as soon as the switch(es) have been properly lined.
- 509.4** When a train enters COT territory at a hand-operated switch, the train dispatcher may relieve crewmembers from the five minute waiting period after determining that no train is moving or has been authorized to move in the direction of the switch(es) from the last controlled point. When switch(es) have been lined for movement, a crewmember must immediately notify the train dispatcher, who must not authorize the movement of a train from the last controlled point until this notification has been received.
- 509.5** When a train clears the track at a hand-operated switch and the switch(es) have been restored to normal position:
1. The conductor or locomotive operator must report clear to the train dispatcher, and
 2. The train must not re-enter that block without authorization of the train dispatcher.

509.6 Trains moving against the current of traffic must:

1. Approach fixed signals at a speed that permits compliance with the most restrictive aspect that such signals can display. Signal indications do not authorize movement against the current of traffic, and
2. Not change direction to move with the current of traffic unless authorized by the train dispatcher.

509.7 A train operating against the current of traffic must not make a reverse movement until the train receives verbal permission of the train dispatcher and:

1. The train dispatcher ensures the track to be used is clear of opposing movements, and
2. Form EC-1 authority to operate against the current of traffic is released.

510 - Traffic Control (TC)**510.1** When the authority for movement on controlled tracks is designated in special instructions, dispatcher message, or Form EC-1 as TC, general signal rules are also in effect and signal indication authorizes and governs train movements in either direction.**510.2** Trains must not enter or make an initial movement on controlled tracks in TC territory unless authorized by signal indication or verbal authority from the train dispatcher.**510.3** The conductor or locomotive operator must have authority from the train dispatcher to enter a controlled track at a hand-operated switch and must promptly operate the switch(es) once authorized to do so.**510.4** A train must not clear at a hand-operated switch unless:

- a. Equipped with a signal or electric lock, or
- b. Permanent authorized speed over the switch does not exceed 20 MPH, or
- c. On a signaled siding with no intermediate signals and authorized speed does not exceed 30 MPH.

510.5 A train, using a track on which it is not permitted to clear, must leave part of the train on the connecting signaled track or leave the switch open until the work is completed.**510.6** When a train clears the track at a hand-operated switch and the switch(es) have been restored to normal position:

1. The conductor or locomotive operator must report clear to the train dispatcher, and
2. The train must not re-enter that block without authorization of the train dispatcher.

511 - Controlled Point (CP) Signals

- 511.1** When the authority for movement on controlled tracks is designated in special instructions, dispatcher message, or Form EC-1 as CP, general signal rules are also in effect and signal indication authorizes and governs train movements in either direction.
- 511.2** Trains must not enter or make an initial movement on controlled tracks in CP territory unless authorized by signal indication or verbal authority from the train dispatcher.
- 511.3** When the rear of the movement is stopped between the home signals of a controlled point or railroad crossing at grade, signal indication or permission of the train dispatcher is required to:
- Make a reverse movement, or
 - To make a forward movement after making a reverse movement.
- 511.4** If a signal aspect permitting a train to proceed changes to a Stop signal before it is reached, the train crew must:
- Stop using safe train handling techniques unless conditions require an emergency brake application, and
 - Report the signal change to the train dispatcher.
- 511.5** If the train dispatcher stops a train while it is moving through a control point, the train must not move in either direction until receiving:
- A proper signal, or
 - Authorization from the train dispatcher.
- 511.6** When the leading end of a train stops less than one locomotive length on either side of a signal associated with a control point, the train must not proceed again without receiving permission from the train dispatcher.

512 - Cab Signal System (CSS) - General

- 512.1** Cab Signal System (CSS) rules apply where designated in special instructions, dispatcher message, or Form EC-1.
- 512.2** The movement of a train not equipped with cab signal apparatus is prohibited, except when authorized in special instructions or Form EC-1 as follows:
- Movement is governed by fixed signal indication, and
 - Movement is made at restricted speed unless the train dispatcher authorizes an alternate method of operation.

- 512.3** The cab signal apparatus on the leading end of the first locomotive or control car must be tested and found to be operational within 24 hours before the locomotive or control car leaves its initial terminal. If test equipment is not available at a point where another unit will be required to become a lead unit, this unit must also be tested at the initial terminal.
- 512.4** The employee performing the test must:
1. Post a signed copy of the test results in the cab of the locomotive, and
 2. Leave a signed copy of the test results at the test location.
- 512.5** If the cab signal apparatus is de-energized after the departure test has been made, it must be tested again before entering CSS territory. The test may be done where test racks are in service or when the locomotive(s) are equipped with self-testing features.
- 512.6** Locomotives dispatched from points in CSS territory to points where test racks are not provided must have the cab signal apparatus energized for the entire trip unless locomotive(s) are equipped with self-testing feature.
- 512.7** After taking charge of a locomotive, the locomotive operator must ensure that the cab signal apparatus is energized and that the train stop alarm will sound when the acknowledging device is operated. If the train stop alarm fails to sound, the locomotive operator must:
1. Not enter equipped territory,
 2. Contact the train dispatcher, and
 3. Record the occurrence on the prescribed form.
- 512.8** If necessary en route to operate from an equipped unit or end that did not undergo a departure test, the cab signals must be considered inoperative unless the Train Control System can be tested using the locomotive's self-testing feature, when equipped.
- 512.9** Under the following conditions, a train that has experienced a cab signal, automatic train stop, or train control failure may be dispatched from a turnaround point, governed by the rules that apply to an en route failure:
1. The equipment is used in turnaround service between its originating terminal and the turnaround point,
 2. The equipment received a satisfactory cab signal test within the previous 24 hours,
 3. No mechanical forces are on duty at the turnaround point to repair the equipment,
 4. The crew advises the train dispatcher of the failure before leaving the turnaround point,
 5. The equipment must be repaired or replaced at the next forward point that will not cause undue delay to the train, and
 6. The locomotive operator records the occurrence on the prescribed form.

- 512.10** The movement of a train equipped with cab signals train control, or automatic train stop not in operative condition for the direction of movement, is prohibited in CSS territory, except when the failure occurs after the locomotive leaves initial terminal.
- 512.11** Once advised of a cab signal, train control, or automatic train stop failure, the train dispatcher must:
1. Inform the train dispatcher of the connecting dispatching district, division, or railroad; and
 2. Not grant permission for the train to pass a Stop, Restricted Proceed, or Restricting signal, until it is determined that the block to be entered is not occupied. In an emergency, the train dispatcher may authorize movement into an occupied block.
- 512.12** The train dispatcher must make a record for train movements when trains are authorized to operate under the following conditions:
- a. Inoperable cab signals, or
 - b. Train control, or
 - c. Automatic train stop, or
 - d. Not equipped with cab signals.
- 512.13** When cab signal aspect flips, momentarily changing aspect and then returning to the original aspect, the locomotive operator must notify the train dispatcher as soon as possible, record the occurrence on the prescribed form, and give the following information:
1. Signal name to signal name,
 2. Track designation,
 3. Milepost location, and
 4. If the flip required, an acknowledgement of the cab signal.
- 512.14** Locomotive operators are required to verbally report to the proper authority and record on the prescribed form any of the following CSS apparatus issues:
- a. Flips, or
 - b. Failures, or
 - c. Non-conformities, or
 - d. Other unusual occurrences.
- 512.15** Cab signals will not indicate conditions ahead when the locomotive is:
- a. Moving against the current of traffic, or
 - b. Pushing cars, or
 - c. Running backward, not equipped with cab signal apparatus for backward movement.

512.16 Reverse movement must not be made without verbal permission of the train dispatcher and must be made at restricted speed. Before granting permission, the train dispatcher must:

1. Determine that the track to be used is clear of opposing movements, and
2. Ensure that blocking devices are applied to protect against opposing movements.

513 - Cab Signal System with Wayside Intermediate

513.1 The cab signal should conform to each fixed signal within six seconds after a train enters a block. If the cab signal and fixed signal do not conform:

1. The more restrictive signal indication will govern movement,
2. The locomotive operator must notify the train dispatcher as soon as possible, giving location and track on which nonconformity occurred, and
3. The locomotive operator must record the occurrence on the prescribed form.

513.2 If the cab signal conforms to the fixed signal upon entering the block, the fixed signal will govern.

513.3 If conformity cannot be determined due to an absent or imperfectly displayed fixed signal, the Cab Signal will govern movement after the train has run one entire train length or 500 feet, whichever distance is greater, and has cleared the control point or interlocking, if applicable.

513.4 If the cab signal changes between fixed signals, the cab signal will govern, subject to the following restrictions:

- a. When the cab signal aspect changes to Restricting between fixed signals, the locomotive operator must take action at once to reduce to restricted speed, or
- b. If a controlled point signal requires medium or limited speed and the cab signal changes to a more favorable aspect, the speed must not be increased until the train has run its length, or
- c. If the cab signal aspect changes from Restricting to a more favorable aspect, the speed must not be increased until the train has run its length or 500 feet, whichever distance is greater, or
- d. If the cab signal changes from Clear to Approach Medium between fixed signals, trains must immediately begin reduction to limited speed, and must further reduce to medium speed unless the next signal is seen to display a more favorable aspect.

513.5 If the cab signal does not conform to the fixed signal at the entrance to the block, and the fixed signal is more restrictive than the cab signal, the fixed signal will govern movement through the entire block.

- 513.6** Where fixed automatic block signals are used, if the cab signal, train control, or automatic train stop fails en route, the locomotive operator will initiate an alternate method of operation and must:
1. Operate the train according to fixed signal indication and cab signal indication, if operable, at a speed not to exceed 40 MPH unless the train dispatcher authorizes alternate movement;
 2. Pass no signal displaying Restricted Proceed or Restricting unless authorized by the train dispatcher;
 3. Notify the train dispatcher and crewmembers of the reason and location of the failure as soon as possible;
 4. Consider the failed apparatus as inoperative until the locomotive has been repaired, tested, and found to be functioning properly; and
 5. Record the occurrence on the prescribed form.
- 513.7** Consider the cab signal apparatus as failed if the fixed signal is correctly displayed and any of the following conditions occur:
- a. The train stop alarm fails to sound when the cab signal changes to a more restrictive aspect, or
 - b. The train stop alarm continues to sound even though the cab signal change was acknowledged and the speed of the train was reduced to the speed required by the cab signal indication, or
 - c. The cab signal fails to conform at two consecutive fixed signal locations, or
 - d. Damage or fault occurs to any part of the cab signal apparatus, or
 - e. When approaching a fixed signal displaying Approach or more favorable aspect in CSS territory without fixed automatic block signals, the cab signal displays Restricting and fails to conform after passing the fixed signal, or
 - f. When approaching a fixed signal displaying Slow Clear, Slow Approach, Restricted Proceed, Restricting, or Stop signal and the cab signal displays an aspect more favorable than Approach.
- 513.8** Train dispatchers may authorize an alternate method of operation for movements in CSS territory where fixed automatic block signals are used under the following conditions:
- a. Train is not equipped with cab signal apparatus; or
 - b. Movement is with inoperative cab signals, train control, or automatic train stop; or
 - c. Cab signal portion of wayside signaling equipment is not operative.
- 513.9** Alternate method of operation for movements authorized by the train dispatcher:
1. May proceed at authorized speed, not exceeding 79 MPH;
 2. Be governed by fixed signal indication and cab signal indication, if operable; and
 3. Not pass a signal displaying a Restricting or Restricted Proceed unless authorized by the train dispatcher.

513.10 When alternate methods of operation are authorized, the train dispatcher must not grant permission for movements to pass a Stop, Restricted Proceed, or Restricting signal, until it is determined that the block to be entered is not occupied. In an emergency, the train dispatcher may authorize movement into an occupied block.

513.11 If the cab signal portion of the wayside signaling equipment is inoperative, the train dispatcher must issue Form EC-1 indicating the limits of the area affected and the locomotive operator must:

1. Cut out the train control system of the locomotive,
2. Cut in the cab signal apparatus, and
3. Make movement within the limits of the affected area as governed by the dispatcher's authorization using an alternate method of operation for movement.

514 - Cab Signal Without Wayside Intermediate

514.1 The following requirements apply in territory designated in special instructions or Form EC-1 where cab signals are used without intermediate fixed automatic block signals.

1. Controlled point signal indications will govern movement within controlled point limits or through controlled points only;
2. Distant signals, where in service, will govern approach to home signals; and
3. Between fixed signals, movement will be governed by cab signals.

514.2 If the cab signal and fixed signal do not conform when a train passes a controlled point signal governing movement into or within cab signal territory without intermediate fixed automatic block signals, the more restrictive signal indication will govern movement through the controlled point. Once the train clears the controlled point, movement will be governed solely by the cab signal.

514.3 If the cab signal fails en route, the locomotive operator must take the following actions:

1. Notify the train dispatcher and crewmember of the reason and location of the failure as soon as possible,
2. Operate at restricted speed unless governed by a Clear to Next Interlocking signal or Form EC-1, and
3. Consider the failed apparatus as inoperative until the locomotive has been repaired, tested, and found to be functioning properly.

514.4 Crewmembers of trains approaching cab signal territory without fixed automatic block signals with inoperative cab signals must remind their locomotive operator of the requirements of reverse movements:

- a. When the train is two miles from the cab signal territory without fixed intermediate automatic block signals, or
- b. At the last station stop prior to the cab signal territory without fixed automatic block signals.

- 514.5** If the train control or automatic train stop fails en route but the Cab Signal remains operative, the locomotive operator must take the following actions:
1. Notify the train dispatcher and crewmembers of the reason and location as soon as possible,
 2. Not exceed 40 MPH unless governed by a Clear to Next Interlocking signal or Form EC-1, and
 3. Consider the failed apparatus as inoperative until the locomotive has been repaired, tested, and found to be functioning properly.
- 514.6** A train operating with the locomotive operator on other than the leading end of the movement must operate at restricted speed unless governed by a Clear to Next Interlocking signal or Form EC-1.
- 514.7** When the field part of the CSS is removed from service by the signal department, the train dispatcher:
1. May authorize trains with operative cab signals to operate according to Clear to Next Interlocking indication, and
 2. Must inform trains of the limits of the CSS outage and the controlled point(s) where Clear to Next Interlocking indication will be displayed.
- 514.8** Trains must approach the controlled point(s) where Clear to Next Interlocking indication is to be displayed prepared to stop:
- a. If Clear to Next Interlocking indication is not displayed, trains must stop and contact the train dispatcher for instructions, or
 - b. If Clear to Next Interlocking indication cannot be displayed, trains must receive Form EC-1 substituting TWC-D Rules or Form EC-1 to operate at restricted speed to the next interlocking.
- 514.9** The train dispatcher may issue a Form EC-1 to authorize train movement in cab signal territory without intermediate fixed automatic block signals when a train experiences the following:
- a. Cab signal failure, or
 - b. Train control failure, or
 - c. Automatic train stop failure, or
 - d. Operating with the locomotive operator on other than the leading end of the movement.
- 514.10** The train dispatcher must ensure that the track to be used is clear before issuing Form EC-1.

514.11 Trains receiving Form EC-1 in cab signal territory without fixed intermediate automatic block signals must not exceed 70 MPH within the designated limits. In addition, trains with inoperative cab signals or with the locomotive operator on other than the leading end must:

1. Approach home signals prepared to stop,
2. Determine that all non-interlocked facing point switches are properly lined before passing over them unless otherwise instructed on Form EC-1, and
3. Determine that warning devices have been operating at least 20 seconds or gates (if equipped) are horizontal before occupying highway crossings equipped with automatic warning devices unless otherwise instructed on Form EC-1.

Chapter 6 - Train Dispatching

600 - General Train Dispatcher Rules

600.1 The following positions report to the chief train dispatcher and must also comply with instructions of other company officers:

1. Train dispatchers, and
2. Assistant chief train dispatchers.

600.2 The assistant chief train dispatcher has the authority of the chief train dispatcher when the chief train dispatcher is absent.

600.3 Train dispatchers and assistant chief train dispatchers are accountable for the following:

1. Directing the movement of trains and on-track equipment in a safe and efficient manner in accordance with rules and special instructions,
2. Preventing any trains from going on the hours of service on single main track,
3. The accuracy of instructions and information repeated by employees,
4. The proper operation of signals and appliances,
5. Recording their hours of service properly,
6. Employees assigned under their direction, and
7. The management of the office and dispatching console.

600.4 Train dispatchers must:

1. Give clear and direct instructions,
2. Take prompt action to provide protection against any known condition that could affect safety,
3. Maintain information and records as required,
4. Keep a record of trains and on-track equipment, and
5. Record and report to the chief train dispatcher:
 - a. Unsafe conditions; or
 - b. Defects in locomotives, cars, track, signals, wayside detectors, and related equipment; or
 - c. Delays, including trains that cannot operate at normal speed; or
 - d. Other unusual occurrences.

600.5 When instructions are misunderstood or questions develop, the train dispatcher is to provide a clear explanation. If there is a failure to reach mutual understanding, notify the chief train dispatcher for definitive instructions.

600.6 When notified of an injury or illness to an employee or the public, an emergency, an unsafe condition, or a situation that compromises the security of a freight train, passenger train, or on-track equipment, the train dispatcher must:

1. Determine the nature of the emergency and identify the necessary support personnel required,
2. Use available information and determine the:
 1. Geographical area, including state and county;
 2. Specific location, including street or highway name and milepost location; and
 3. Rail lines within the area.
3. When necessary, protect and apply blocking, and
4. Notify:
 1. Trains and employees affected,
 2. Chief train dispatcher, and
 3. PSCC.

601 - Train Dispatching System

601.1 During the transfer of dispatching duties, train dispatchers must:

1. Review the CSX Procedural Instruction Manual (PIM), System Bulletins, Division Bulletins, Dispatcher Transfer Report and the reading file for updates;
2. Understand all blocking protection, the movement of trains, on-track equipment, and work forces;
3. Use the Dispatcher Transfer to sign on to the Computer Aided Dispatch (CAD) system; and when applicable, in the presence of the train dispatcher being relieved.

601.2 It is the responsibility of the train dispatcher to ensure blocking is properly applied to all routes and devices and maintained until no longer needed.

601.3 When a problem exists with the communication system or CADS, the train dispatcher must:

1. Report the problem to the:
 1. Chief dispatcher, and
 2. Electronic Signal Specialist (ESS), and
2. Record the problem in dispatcher remarks, and
3. Make it a part of the dispatcher transfer until the problem is resolved.

601.4 When applying blocking protection a detailed description of the affected area must be included in the remarks section and updated accordingly.

602 - Managing Dispatcher Bulletins, Dispatcher Messages, and Form EC-1

- 602.1** When creating an EC-1 track authority or if the editable wording on the read back of a Form EC-1 line 1 is changed:
1. Ensure proper blocking is applied, and
 2. Maintain the blocking until no longer needed.
- 602.2** To ensure accuracy of the Form EC-1 read back, the train dispatcher must:
1. Ensure that the blocking preview matches the limits being communicated,
 2. Tab through, in sequential order, the yellow highlighted data fields on the readback screen. This must be done simultaneously while the employee provides a repeat of the readback information, and
 3. Not engage in unrelated tasks.
- 602.3** Train dispatchers will give the dispatcher message number to the employee requesting a dispatcher message for the following:
- a. Temporary speed restrictions, or
 - b. Malfunction of automatic grade crossing warning devices.
- 602.4** Any dispatcher message with an effective time must be issued 14 hours prior to the requested time unless authorized by the proper authority or in the case of an emergency.
- 602.5** Only send one dispatcher bulletin and release form, consisting of two copies, to a train at any one station. If a bulletin is requested you must ensure a previous bulletin has not been sent. If necessary to send an additional set of bulletins, a release form must not be sent.
- 602.6** Send a corrected dispatcher bulletin only after the conductor or locomotive operator notifies the train dispatcher that the original dispatcher bulletin has been destroyed.
- 602.7** When a new dispatcher bulletin is created for the same designated train with the same origin and destination at any one station, take the following steps to activate the dispatcher bulletin:
1. Confirm the new dispatcher bulletin number with the train crew,
 2. Do not activate the new dispatcher bulletin until the train crew is on the train, and
 3. Verify the new dispatcher bulletin is properly activated.
- 602.8** When necessary to use one train crew to move more than one train with one dispatcher bulletin, the train dispatcher must apply the dispatcher bulletin to each train to be moved.

603 - Managing Signals and Signal Appliances

- 603.1** When a requested signal does not clear, the train dispatcher must not request the signal to Stop until it is recalled and the indication is observed on the overview.
- 603.2** Do not operate or clear signals and signal appliances for opposing or conflicting movements, except in an emergency. When necessary to change a signal or route for which signals are cleared, the affected train must be stopped unless it is confirmed the train can comply.
- 603.3** When using signals and signal appliances to protect against conflicting movements, the train dispatcher must:
1. Ensure the track segment is clear of other movements. The CAD may be used to determine the track segment is clear if the movement is continuously observed and there is no other practical way of identifying the location of the movement; and
 2. Apply blocking after properly lining, coding, and ensuring the indication in the field corresponds with controlled Absolute signal(s) and/or switch(es).
- 603.4** When signals and signal appliances controlled by another employee are used to protect against conflicting movements, the train dispatcher will:
1. Instruct the employee to provide the proper blocking to prevent conflicting movements, and
 2. Record the following in the remarks portion of the track block form:
 1. Initials of the employee providing the blocking,
 2. Location, and
 3. Date and time blocking was applied and removed.
- 603.5** Do not operate signals or control point appliances that are occupied by a train. Restore switches, derails, and movable-point frogs to the normal position only after the movement has cleared the appliances.

604 - Controlled Point (CP) Signals

- 604.1** Controlled point signals govern the use of the routes of a controlled point. They must be operated sufficiently in advance of approaching trains to avoid unnecessary delay.
- 604.2** Keep controlled absolute block signals in Stop position, except when displayed for a movement.

605 - Controlled Point Appliances

- 605.1** Observe indications from the field to ensure the controlled point appliances and the controlled point functions agree.
- 605.2** Do not use controlled point functions to provide protection if indications from the field are not observed.

605.3 When the position of controlled point appliances are unknown:

1. Apply blocking, and
2. Notify the employee in the field to properly line and secure the appliance as follows:
 - a. For dual-controlled appliances, lock in hand position, or
 - b. For non-dual-controlled appliances, physically secure against unintentional movement.

605.4 Before authorizing an employee to place a dual-controlled power-operated switch in hand position, the train dispatcher must ensure that:

1. Proper blocking has been applied, and
2. There are no conflicting movements, and
3. None have been authorized.

606 - Permission to Pass a Stop Signal**606.1** Before giving permission to pass the Stop signal, the train dispatcher must:

1. Determine the specified track is clear of conflicting movements and no conflicting movements have been authorized;
2. Properly position affected appliances and if any show as Out-of-Correspondence, Code Failure, or Low Air Activated, movement over the appliance must be made by;
 - a. Instructing the crew to place the switch in the "hand" position, or
 - b. Ensure affected appliance is physically secured against unintentional movement
3. When conditions allow, request the signal the same as if it could be displayed to proceed;
4. Apply blocking devices;
5. After implementing the above procedures and issuing instructions concerning any power-operated switches, the train dispatcher will instruct the train:
 1. "After stopping, proceed by Stop signal at _____ (location) from track _____ to _____ track in the _____ direction, switches in motor or hand," and
 2. When permission is given to pass a Stop signal in order to couple to cars or to move to location short of a block signal, include this information in the instructions.
6. Confirm instructions to receiving employee when the employee repeats authorization correctly.

607 - Managing Train Movements**607.1** Train dispatchers must furnish information relating to the movement of trains to company officers and those authorized by the chief train dispatcher.

607.2 If a train passes a Stop signal without permission, the train dispatcher must immediately:

1. Stop that train and other trains affected, and
2. Report the incident to the chief train dispatcher and Network Operations.

607.3 When the train dispatcher is electronically or verbally notified of information related to a train that is no longer on his or her territory, inform the chief train dispatcher and appropriate train dispatcher.

607.4 When notified of an alert that does not contain any information, the train dispatcher must notify the chief train dispatcher of this occurrence.

608 - Train Authorities

608.1 Before granting an authority, the train dispatcher must ensure the specified track:

- a. Where main track yard limits non-signaled (YL) is in effect the portion of yard limits being authorized is clear of track authorities, or
- b. Where TWC-D is in effect, is clear and no movements have been authorized.

608.2 The train dispatcher may grant a single direction authority to enter non-signal territory in order to shove out on to the main track to clear the switch and proceed in the opposite direction of the shove movement. For PTC active subdivisions the authority must match the direction of each movement or a bi-directional authority must be used.

608.3 Before authorizing a train to enter or to foul a signaled track or controlled siding or to cross from one such track to another, the train dispatcher must ascertain that:

1. The track section is clear of any conflicting movements and no conflicting movements have been authorized, and
2. The signals or the switches or both are blocked and coded in position to prevent any conflicting movements into such track sections and remain so until the train occupies the track.

608.4 The train dispatcher may grant permission for movement against the current of traffic at a control point. Before authorizing such movement on Form EC-1, the train dispatcher must determine that:

1. The specified track is clear of conflicting, or
 - a. Conflicting movements are controlled by Form EC-1
2. Signals governing conflicting movements are in Stop position at the point of restriction and 1 signal proceeding the point of restriction.
3. Blocking is applied to protect against opposing movements, and
4. Blocking devices remain applied until the movement against the current of traffic is complete.

608.6 When a siding is occupied, the train dispatcher must notify the train or on-track equipment entering the siding that the siding is occupied.

608.7 To change or cancel an authority, the train dispatcher must first:

1. Contact the train,
2. Determine the train has not entered the limits of the authority before canceling the authority, and
3. Receive acknowledgment that the locomotive operator understands the authority will change or be canceled.

608.8 Before permitting a locomotive to enter the block or authority of a standing train to assist the standing train, the train dispatcher must:

1. Issue a Form EC-1 instruction to prevent the standing train from moving, and
2. Receive confirmation that a clear understanding as to the location of the standing train exists between both crews.

608.9 When hand-operated switches are used in Track Warrant Control non-signal territory (TWC-D), the train dispatcher must use the train dispatcher radio to confirm:

1. Location of the switch(es) operated,
2. Switch(es) were restored and locked in normal position,
3. Time switch(es) were initially reversed,
4. Time switch(es) were restored and locked in normal position,
5. Name of the employee who operated the switch(es), and
6. The Switch Position Awareness Form (SPAF) was initialed by both the conductor and locomotive operator.

609 - Permission to Make a Reverse Movement

609.1 Before authorizing a reverse movement train dispatcher must ensure:

1. The track is clear or conflicting movements are controlled by:
 - a. Absolute signal, or
 - b. Dispatcher message, or
 - c. Form EC-1, or
 - d. Withholding authority.
2. Proper blocking is applied, and
3. Train will remain within the authorized limits.

610 - Protecting a Train Within Track Segment Limits

610.1 Before authorizing a train to work in both directions, the train dispatcher must determine:

1. The track segment is clear,
2. No other trains are authorized to use the limits, and
3. Signals or switches or both are blocked and coded in position to prevent any conflicting movements into the protected limits.

610.2 When authorizing multiple trains to work in both directions within established track segment limits, the authorization must require each train to operate at restricted speed and protect against each other.

610.3 Do not remove blocking until the locomotive operator or conductor of the train reports clear.

611 - Blocked Sidings and Main Tracks

611.1 When sidings or main tracks are blocked:

1. Apply track block to the affected track, including all applicable information in the track block, and
2. Include the location and the reason in the dispatcher transfer, and
3. Ensure devices controlling switches and signals are blocked and coded in proper position, and
4. Issue a Form EC-1 or dispatcher message to affected trains when controlled switches or signals or both are not available.

612 - Train Stopped by Emergency Brake Application

612.1 When notified that a train moving on a controlled track or adjacent to a controlled track has had an emergency application of the air brakes, the train dispatcher must inform the train crew of any adjacent tracks that cannot be protected by the train dispatcher.

612.2 When a train has an emergency brake application, the train dispatcher must notify the assistant chief dispatcher with the following information:

1. Train ID,
2. Subdivision,
3. Location, including track number,
4. Milepost location of the head end of the train after stopping,
5. Milepost one mile behind the rear of train when the emergency application began, and
6. The results of the train crew inspection.

612.3 The chief train dispatcher will notify the engineering department to inspect the track if the train is in emergency as a result of one of the following;

- a. A road crossing accident, or
- b. Drawhead failure, or
- c. Train crew indicated possible track damage.

612.4 Grant permission to pass a train stopped by an emergency brake application only after:

1. Determining the train stopped due to the emergency brake application:
 - a. Does not contain hazardous materials cars, or
 - b. All hazardous materials cars have been inspected and found to be safe.
2. Advising the crew of the stopped train due to the emergency brake application when other movements will pass on the adjacent track, and
3. Issuing a Form EC-1 instructing the passing train to operate at restricted speed.

612.5 If necessary to move the next train over the affected track prior to the engineering department inspecting the track:

1. Issue a Form EC-1 instructing the train crew to operate at restricted speed until the leading end has reached the furthest end of the location designated,
2. Report any irregularity to the train dispatcher, and
3. Normal operations may resume if no irregularities are reported.

613 - Managing Engineering Work

613.1 When controlled point signals and appliances are undergoing repair:

1. Code controlled Absolute signals to Stop,
2. Apply blocking to signals and appliances, and
3. Keep signals in Stop position with blocking applied until the employee granted the authority reports the repairs are completed.

613.2 The train dispatcher must provide protection before granting permission to place a control point in local control, maintenance lock-out, or no-check. Provide protection by:

1. Identifying the specific control point that is being requested,
2. Identifying the control points located on each side of the requested location,
3. Ensuring that the segment of track between the control points is clear of movements and authorities not connected with the employee requesting the permission and that no additional movements or authorities are authorized to proceed into the track segment,
4. Applying blocking devices at the control points located on each side of the requested location, and
5. Protecting train movements by issuing a Form EC-1 instruction if a control point located on each side of the requested location(s) cannot be verified by receiving indications from the field.

613.3 The train dispatcher must confirm the following information with the employee-in-charge before authorizing the work authority:

1. In signal territory, whether signal system will be affected,
2. When control points are within the work limits, how trains will move through the control point,
3. In multiple track territory, which track will be occupied by work forces and which track will be used to pass trains, and
4. The use and position of switches.

614 - Track Authorities

614.1 To issue and protect a track authority, the train dispatcher must:

- a. Obtain the requested limits, and
 - a. The specific milepost location of initial occupancy, or
 - b. Current milepost if making a continuous movement into a new authority, and
- b. Confirm milepost location is protected by the new or existing track authority, and
- c. Ascertain the segment of track to be used is clear of conflicting movements and authorities, and
- d. Ensure proper blocking is applied, and
- e. Maintain the authority until the employee granted the authority reports clear, even if the time has expired.

614.2 Prior to authorizing a Form EC-1 track authority at a train dispatcher boundary, the train dispatcher must contact the adjoining train dispatcher to request and confirm the controlled Absolute signals at the dispatcher boundary are coded to the Stop position and necessary blocking is applied and maintained until the protection is no longer required.

614.3 If the track segment to be used for a track authority is not clear and is occupied by a preceding train,

1. Notify the crew and state the intention of issuing a track authority behind the train,
2. Confirm the entire train has passed the milepost of initial occupancy,
3. Request the train's lead engine and current milepost,
4. Identify the train on Form EC-1 in the following manner:
 1. Train ID,
 2. Lead locomotive number,
 3. Direction, and
 4. Ahead at milepost.

614.4 If the segment of track to be used for a track authority is not clear and is occupied by a conflicting train, the train dispatcher must:

1. Control conflicting movements by:
 - a. Applying proper blocking, or
 - b. Issuing Form EC-1 "Do not move",
2. Confirm a clear understanding of the move to be made exists between the employee requesting the authority and the locomotive operator and other crew members, and
3. Identify the train on Form EC-1 in the following manner:
 1. Train ID,
 2. Locomotive number, and
 3. Stopped at milepost location.

614.5 The train dispatcher must determine the requested limits for local control, maintenance lock-out, or no-check functions are connected with the employee granted these functions.

614.6 If unable to contact the employee granted authority after the expiration time of that authority, the train dispatcher may issue an EC-1 track authority or EC-1 instruction to a train to enter the limits after:

1. Stating on Form EC-1 train is to move at restricted speed due to track occupancy by _____ (employee name) between _____ (controlled location) and _____ (controlled location), and
2. Instructing the employee with current authority to report any contact by employee with expired authority.

614.8 The employee with track authority must release that authority for the track to be considered clear.

615 - Permission for Non-Insulated On-Track Equipment to Pass a Stop Signal at a Remotely Controlled Railroad Crossing at Grade

615.1 The train dispatcher may grant permission to pass a Stop signal when the:

- a. Train dispatcher has control of the intersecting lines, by coding controlled Absolute signals on the intersecting line to Stop, or when it is not possible to code the signals to Stop, after determining:
 - a. There are no conflicting movements, or
 - b. Conflicting movements are under train dispatcher control.
- b. Train dispatcher does not have control of the intersecting lines, by informing the on-track equipment operator that we do not control the intersecting line and to proceed as prescribed by on-track worker rules.

616 - Controlled Track Removed from Service

616.1 A controlled track can only be removed from service, after notifying the train dispatcher under one of the following conditions:

- a. Track is rendered inoperative by act of nature, or
- b. Track is disrupted for other cause and prompt restoration cannot be made, or
- c. Construction work necessitates temporary removal from service.

616.2 A track authority may be granted for out of service conditions when:

1. The track segment is clear of all authorities,
2. Trains within the track segment are protected,
3. Signals and power-operated switches within the work limits are under control of the train dispatcher unless other arrangements are made,
4. Blocking is applied to switches and signals leading to the affected track,
5. A job briefing is completed with the EIC concerning how movements will enter the work limits and be made over power-operated switches, and
6. The protection will be maintained until the employee-in-charge advises it is no longer necessary.

616.3 Prior to removing controlled track from service, the train dispatcher must receive the defined limits from the employee making the request. The train dispatcher must issue the authority on Form EC-1 using line 11 and define the limits on the authority to the requesting employee as follows:

- a. Control point to control point in signal territory, or
- b. Whole milepost to whole milepost in non-signal territory, or
- c. Other physical characteristic.

616.4 Do not return track to service until the employee who received the authority notifies the train dispatcher of the following:

1. Any restrictions necessary to ensure safe passage of trains or on-track equipment, and
2. That track is clear of all trains and on-track equipment.

616.5 In an emergency situation where track is removed from service due to an act of nature or track is disrupted for other cause and prompt restoration cannot be made, or construction work necessitates temporary removal from service, a qualified employee may be issued a 707 to take control of the out of service limits.

617 - Highway-Rail Crossings at Grade

617.1 When notified of an accident or malfunction at a highway-rail crossing at grade, the train dispatcher must:

1. Provide necessary protection and apply blocking that will prevent trains from occupying the crossing,
2. Notify the chief train dispatcher who must notify the engineering department in the event of an accident, and
3. Create an activation failure message, unless advised otherwise by the signal department to create a false/partial activation message, and
4. Provide the message type and number to the electronic signal specialist (ESS), and
5. Issue message to affected trains.

617.2 The DOT number must be added to the DOT data field on Activation or False/Partial Activation dispatcher messages. The DOT number will populate the milepost field, this prepopulated milepost must not be changed.

617.4 When notified of a malfunction of a highway-rail crossing at grade automatic warning device on non-controlled track:

1. Notify the appropriate transportation officer of an activation failure unless the signal department provides another type of failure;
2. When the appropriate officer is not available, notify the division superintendent of train operations;
3. Record the date, time, and name of the officer notified in the division log and maintain until no longer needed; and
4. Notify the PSCC and ESS of the malfunction.

617.5 Modification to an activation failure message may be made as directed by the signal department provided notification is made to the ESS of the modification; however, a modification to use police or other non-railroad individuals as flaggers is prohibited.

618 - Defect Detectors Verification Process

618.1 When notified by a signal employee that a defect detector needs conditioning, the train dispatcher will restrict train speeds to 30 MPH over the defect detector by issuing a:

1. Dispatcher message and providing the number to the requesting signal employee, and
2. Form EC-1 instruction to affected trains.

618.2 Upon receiving confirmation of a hot axle, hot wheel or any unsafe condition in which the equipment must be set off, the dispatcher must:

1. Ascertain from the crew whether the equipment is safe to move, and
2. Apply necessary protection, and
3. Report to the chief dispatcher all required information.

619 - Removing Defect Detectors from Service

619.1 When a signal employee contacts the train dispatcher to remove a defect detector from service and turn off all audible and visual indication equipment, the train dispatcher will issue a:

1. Dispatcher message and provide the number to the employee removing detector, and
2. Form EC-1 instruction to affected trains.

620 - Restoring Defect Detectors to Service

620.1 When a signal employee contacts the train dispatcher to restore a defect detector to service, the train dispatcher will:

1. Annul dispatcher message and provide the number to the employee restoring detector, and
2. Cancel the Form EC-1 instruction issued to take the defect detector out of service.

621 - Managing Unusual Situations

621.1 When managing the movement of equipment that may not shunt, control point signals may be cleared for movement to occupy the control point. After the movement enters the control point:

1. Code control point signals to Stop,
2. Maintain control point signals in Stop until the movement has cleared the opposing control point signal, and
3. Maintain a clear block behind the movement.

621.2 When managing rusty rail or other track conditions that could interfere with shunting the track:

1. Control point signals must be coded and maintained in Stop,
2. Movements must be granted permission to pass the Stop to occupy the affected track, and
3. A clear block must be maintained behind the movement.

621.3 When damage to track or appliances occurs, the train dispatcher must:

1. Code signals to Stop,
2. Apply blocking devices, and
3. Not permit any train movement until reported safe by the engineering department.

621.4 The train dispatcher must provide protection for a switch or derail left in other than the normal position by:

- a. Issuing a dispatcher message or Form EC-1 instruction describing the condition, or
- b. Applying blocking.

622 - Report of Track Irregularities or Rough Track

622.1 When notified of track irregularities, rough track, track damage or drawhead failure:

1. Prevent movements from occupying the affected track by applying blocking devices or withholding authority which must be maintained until the engineering department reports the track is safe for movement,
2. Notify the chief train dispatcher and the engineering department, and
3. If necessary to move a train over the reported track prior to the engineering department inspecting the track, issue Form EC-1 or dispatcher message to instruct the train crew to operate at restricted speed and report any irregularity to the train dispatcher.

623 - Signals Not Functioning Properly and Unexplained Occupancy Lights

623.1 When informed of an improper signal, the train dispatcher must:

1. Stop all train movements;
2. Notify the signal specialist of the location and the aspect observed by the train;
3. Not attempt to move trains beyond the location, change the signal aspect, or change signal appliances until a signal specialist arrives; and
4. Be governed by the instructions of the signal specialist.

623.2 A signal aspect that changes from one indication to another more than once is considered as functioning erratically and the train dispatcher must:

1. Discontinue operation of the signal,
2. Block control point signal, and
3. Promptly report the condition to the signal specialist.

623.3 Promptly report to the signal specialist when track occupancy lights:

- a. Are unexplained, or
- b. Remain on behind a train, or
- c. Remain on after track or signal work.

623.4 When a train leaves two or more track occupancy lights on or the last track occupancy light on when leaving signal territory, the train dispatcher must:

1. Stop the train, and
2. Instruct the crew to make a complete inspection of both sides of the train and report the results of the inspection to the train dispatcher. Instruct the crew to inspect the train by:
 - a. Walking inspection, or
 - b. Roll-by inspection not to exceed 5 MPH.

623.5 When the employee responsible for inspecting or repairing the reported problem gives notification of arrival at the location, the train dispatcher must promptly issue a track authority to the employee.

624 - Weather

624.1 The train dispatcher must contact the engineering department when conditions caused by weather may interfere with switches, derails, or movable-point frogs.

624.2 When an authorized employee provides notification that he or she is ready to perform heat inspections or flash flood warning inspections, the train dispatcher must promptly issue a track authority.

Chapter 7 - Roadway Worker and On-Track Safety

Introduction

This sections defines procedures to prevent cars, locomotives, on-track equipment, or other equipment from striking roadway workers (including contractors) performing their duties. The rules in this section comply with the relevant regulations contained in the Code of Federal Regulations (CFR) Title 49, Part 214.

700 - General Requirements of Engineering Department Employees

- 700.1** CSX has overall responsibility for ensuring employees understand and comply with the rules governing on-track safety. The following are the responsibility of each roadway worker:
1. Compliance with operating rules,
 2. Remaining clear of tracks until required by job task, and
 3. Determining that the appropriate on-track safety has been established before fouling a track.
- 700.2** Only one qualified roadway worker, referred to as the employee-in-charge, establishes and controls working limits for the purpose of on-track safety.
- 700.3** Do not perform any work that:
- a. Interferes with the safe passage of trains, or
 - b. Is not properly protected, or
 - c. Is not in accordance with operating rules, or
 - d. Interferes with the proper functioning of switch machines or code apparatus, or
 - e. Interferes with the proper functioning of signal control machines or code apparatus.
- 700.4** Do not operate any switch or derail on a controlled track without the permission of the train dispatcher.
- 700.5** An employee must obtain the required permission from the train dispatcher before taking a controlled location off line and maintain communication with the train dispatcher after receiving permission.
- 700.6** When no designated supervisor is on site and in cases of emergency, comply with the instructions of the chief train dispatcher.
- 700.7** Upon discovery of damage to a facility, make the necessary repairs then report the occurrence to the designated supervisor and the chief train dispatcher.

- 700.8** When applying or removing temporary speed restrictions, make certain to pronounce all numbers digit by digit and comply with the following:

Step	Responsible Party	Action
1	Engineering	Make the request directly to the train dispatcher.
2	Train Dispatcher	Repeat the entire request and issue the restriction.
3	Engineering	Make certain that the proper signs are displayed.

- 700.9** When handling gasoline or other flammables, make certain to keep material away from the following:

- a. Operating internal combustion engines, or
- b. Smoking, or
- c. Open flames.

- 700.10** All parked or secured equipment and vehicles must remain a minimum of seven feet from the nearest rail of any track unless protected by the appropriate track protection.

- 700.11** A train list or train line up provided by the train dispatcher must be recorded in writing by the receiving employee. It is for informational purposes only and does not authorize any employee to foul a track.

- 700.12** Work performed by contractors must be monitored to ensure:

1. No work, activity, or equipment interferes with the safe passage of trains, and
2. Neither contractors nor their equipment fouls a track unless protection has been provided.

- 700.13** Employees operating switches or derails are responsible for the position of the devices and must:

1. Visually determine switches and derails are properly lined for the intended route, and
2. Obtain permission from the train dispatcher, yardmaster, or other designated employee before switches and derails are spiked.

700.14 When hand-operated main track switches are used, before releasing an authority or reporting by a specific location, the employee holding the authority or the employee-in-charge of a work group must:

1. Complete the Switch Position Awareness Form (SPAF) in ink,
2. Report the following to the train dispatcher:
 1. Location of the switch operated,
 2. Switch restored and locked in normal position,
 3. Time switch was initially reversed,
 4. Time switch was restored and locked in normal position, and
 5. Name of employee who operated the switch.
3. Retain the SPAF until the next tour of duty.

701 - On-Track Safety and Job Briefing Requirements

701.1 A Roadway Work Group is any group of workers, regardless of class or craft, working on a common task that involves fouling a track. One designated roadway worker in each group, referred to as the employee-in-charge, provides on-track safety for all members of the group. The employee-in-charge is responsible for ensuring the working group receives a job briefing on the type of on-track safety to be established.

701.2 Prior to starting work that will require an employee to foul a track, the employee-in-charge or other designated employee must perform a job briefing with the group to discuss:

1. Tasks to be performed,
2. Sequence of basic job steps,
3. Potential hazards,
4. Requirement to inspect tools and equipment before use,
5. Personal protective equipment required, including fall protection,
6. Type of on-track safety provided,
7. Roadway maintenance machine(s) that will foul any adjacent track,
8. Adjacent track or adjacent controlled track to include the type of on-track safety for those tracks if deemed necessary by the employee-in-charge,
9. Pre-determined Place of Safety (PPS) when required,
10. Track or tracks protected,
11. Time limits of protection,
12. Rules governing on-track safety being provided, and
13. Confirmation that all members of the group understand the job briefing.

701.3 Before any member of a Roadway Work Group fouls a track, the employee-in-charge must inform each roadway worker:

1. Of the on-track safety protection established at the work location, and
2. That there will be no change in the type of on-track safety protection without notification of the change to each roadway worker.

701.4 At the beginning of each tour of duty, or when communications are not immediately available, a lone worker must conduct a job briefing and communicate his or her work plan and intended procedures for on-track safety as soon as possible with:

- a. His or her designated supervisor, or
- b. An employee designated by the supervisor.

702 - Reserved

703 - Adjacent Controlled Track On-Track Safety

703.1 On-track safety is required for each adjacent track by establishing working limits or train approach warning when:

- a. Deemed necessary by the employee-in-charge, consistent with adjacent controlled track on-track safety rules,
- b. A roadway work group is on an occupied track and one or more roadway workers are on the ground engaged in a common task with on-track self-propelled or coupled equipment.

Note: Self-propelled equipment does not include automated inspection cars, Hi-rail vehicles, or Rail-bound vehicles engaged in a common task for inspection or minor correction purposes, provided that no vehicle is coupled to one or more rail cars.

703.2 When multiple Hi-rail or Rail-bound vehicles are engaged in a common task for inspection or minor repairs, the on-track safety job briefing must include discussion of addressing the nature of the work that will be performed to determine if adjacent controlled track on-track safety is required.

703.3 The employee-in-charge with adjacent controlled track protection may permit other on-track equipment movements not associated with the roadway work group onto the occupied track within the working limits after:

1. Conducting on-track safety job briefing with the employee-in-charge of the requesting on-track equipment, and
2. Recording onto the proper form the name of the employee-in-charge of the other roadway work group and the nature of work to be performed.

- 703.4** When notified that trains or on-track equipment are authorized to move on an adjacent controlled track at speeds greater than 25 MPH for freight trains and on-track equipment or greater than 40 MPH for passenger trains and passenger on-track equipment movements, each roadway worker must:
1. Ensure all work is stopped on the occupied track, including equipment movements, and between occupied track and the adjacent controlled track that movement is authorized, and
 2. Move to the predetermined place of safety (PPS)
- 703.5** When notified that trains or on-track equipment are authorized to move on an adjacent controlled track at 25 MPH or less for freight trains and on-track equipment or 40 MPH or less for passenger trains and passenger on-track equipment movements, each roadway worker must move to a predetermined place of safety (PPS). Work may only continue:
- A. On the side of the occupied track with no adjacent track, or
 - B. On the side nearest an adjacent controlled track with established on-track safety and no authorized movement, or
 - C. Between the rails of the occupied track when all of the following conditions are met:
 1. On-track equipment on the occupied track will not foul the adjacent controlled track movement is authorized,
 2. Roadway workers performing on-ground work exclusively between the rails of the occupied track, do not break the plane of the rail nearest the adjacent controlled track movement is authorized, and
 3. No on-ground work is performed within 25 feet in front of or behind any on-track self-propelled equipment or coupled equipment permitted to move on the occupied track.
- 703.6** In territories with an occupied track between two adjacent controlled tracks, each roadway worker must ensure all work is stopped and move to the predetermined place of safety (PPS) when either adjacent controlled track has one or more trains permitted for speeds greater than 25 MPH for freight trains or on-track equipment or greater than 40 MPH for passenger trains and passenger on-track equipment movements.
- 703.7** Roadway workers required to stop work must not resume work and equipment movements until the trailing end of all trains or other on-track equipment moving on the adjacent controlled track has passed and remains ahead of that roadway worker.
- 703.8** When a train or on-track equipment stops on an adjacent controlled track before its trailing end has passed all of the affected roadway workers, work must not be performed ahead of the trailing end of the train or on-track equipment until:
- A. On-track safety through train approach warning has been established on the adjacent controlled track, or
 - B. The employee-in-charge has directed the locomotive or on-track equipment operator that no further movements will be made until authorized by the employee-in-charge.

703.9 Adjacent controlled track on-track safety is not required when all of the on-ground roadway workers are performing work while exclusively positioned on a side of the occupied track as follows:

- A. Side with no adjacent track, or
- B. Side with one or more adjacent tracks provided that it has an inter-track barrier between the occupied track and the closest adjacent track on that side.

703.10 Adjacent controlled track on-track safety is not required when one or more roadway workers are performing maintenance or repairs alongside a roadway maintenance machine or coupled equipment when:

- A. The machine or equipment would effectively prevent the worker from fouling the adjacent controlled track on the other side of such equipment, or
- B. The maintenance or repairs are performed while positioned on the side of the occupied track as follows:
 - a. Side with no adjacent track, or
 - b. Side with one or more adjacent tracks when it has an inter-track barrier between the occupied track and the closest adjacent track on that side.

703.11 Adjacent controlled track on-track safety is not required when one or more roadway workers are performing maintenance or repairs requiring the employee to go on or under a roadway maintenance machine or coupled equipment, provided that no part of the employee breaks the plane of the rail of the occupied track towards the adjacent controlled track.

704 - EC-1/EC-1e Line 1 Authority

704.1 Before occupying or fouling a controlled track to perform short-term work or move on-track equipment, the employee-in-charge must:

- 1. Have a copy of the current day dispatcher bulletin for the territory involved, and
- 2. Receive authority to occupy or foul track and copy the authority onto line 1 of Form EC-1/EC-1e.

704.2 Use radio communication, if possible, when requesting Form EC-1/EC-1e line 1 authority and provide the following to the control station:

- 1. Your name and ID number,
- 2. Specific location and milepost of initial occupancy,
- 3. Specific track name or number,
- 4. Beginning and ending limits of the request,
- 5. Direction of travel needed, and
- 6. Length of time necessary to complete work and clear the track.

704.3 Copy Form EC-1/EC-1e line 1 authorities onto the prescribed form in the prescribed format.

704.4 A Form EC-1/EC-1e line 1 authority may be issued in cases of emergency when a conflicting train is stopped within the required limits provided the train dispatcher confirms that the train is stopped. The employee requesting authority must:

1. Hold a job briefing with the crewmembers of the stopped train, and
2. Identify the train ID, locomotive number, and location and record that information on Form EC-1/EC-1e.

704.5 When receiving and copying Form EC-1/EC-1e line 1 authority, copy the following into the remarks section:

1. Required information not contained in dispatcher bulletin, and
2. The following required information on any preceding train:
 1. Locomotive number,
 2. Train number,
 3. Direction of travel, and
 4. Location.

704.6 After receiving and copying Form EC-1/EC-1e line 1 authority:

1. Conduct a job briefing with all employees who will operate or work under the authority,
2. In multiple track territory, ensure all employees covered by the protection acknowledge the specific track to be occupied or fouled,
3. Ensure all occupants of on-track equipment initial the copied Form EC-1/EC-1e, and
4. If it has been 30 minutes or more between the initial job briefing and time the track will be occupied or fouled, read Form EC-1/EC-1e aloud and conduct another job briefing.

704.7 When issued a Form EC-1/EC-1e line 1 authority to follow a preceding train, do not foul or occupy the track until confirming the preceding train has passed the initial point of occupancy by:

- a. Visually identifying the train by locomotive number, or
- b. Verbal confirmation from the train crew or train dispatcher.

704.8 The employee who received EC-1/EC-1e line 1 authority may permit on-track equipment movements not associated with the working group within the limits of the authority after:

1. Establishing on-track safety for the employees, and
2. Recording onto the proper form the name of the employee-in-charge of the other work group and the nature of the work to be performed.

704.9 Do not operate into any authority issued to another employee until that employee gives permission to occupy the track within the authority. If granted permission of opposing limits within the authority, operators of opposing equipment must:

1. Announce passing all mileposts, and
2. Confirm understanding of any do not pass limit.

704.10 When operating within the limits of an EC-1/EC-1e line 1 authority, employees must:

1. Stop at each control point and conduct a job briefing to verify authority extends beyond the control point before proceeding,
2. Not pass a preceding train without the permission and protection of the train dispatcher,
3. Not occupy or foul any track not covered by the authority,
4. Not move in a direction other than the one authorized, and
5. Not occupy a section of track after that section has been released or reported by.

704.11 Employees operating within the limits of EC-1/EC-1e line 1 authority must make radio announcements:

1. Stating initial occupancy location prior to fouling or occupying the track,
2. Prior to passing a control point, and
3. In non-signal territory, prior to passing each end of siding locations.

704.12 When making required radio announcements, employees must use positive identification and state:

1. Track name or number,
2. Direction of travel, and
3. Name and milepost of location.

704.13 When instructed by the train dispatcher to report by specific locations, make sure:

1. The entire movement is clear of the location in the specified direction before reporting by the location, and
2. To receive a new authority for those limits prior to occupying any portion of track reported by.

- 704.14** Promptly release EC-1/EC-1e line 1 authorities to the train dispatcher after the entire movement clears the limits of the authority. Make every effort to clear the limits before the expiration of the time authorized and do not consider the authority clear until the train dispatcher acknowledges his or her understanding.
- 704.15** If unable to clear the limits of an authority before the time limit expires, contact the train dispatcher and request a time extension. If unable to contact the train dispatcher or if the train dispatcher does not grant a time extension, do not exceed restricted speed until the authority is cleared.

705 - Individual Train Detection, Train Approach Warning, and Train Coordination

705.1 A lone worker may use Individual Train Detection for on-track safety when he or she:

1. Knows the required sight distance and has completed a Statement of On-Track Safety (SOTS1) before fouling the track;
2. Has access to a working radio;
3. Is performing routine maintenance or minor repairs that will not affect the safe passage of trains or on-track equipment;
4. Has completed a required job briefing, when communication is available;
5. Is not performing work in an interlocking, control point, or remotely controlled hump yard;
6. Has established a place of safety;
7. Has the ability to see and hear the approach of a train or on-track equipment and that ability is not impaired by noise, lights, weather conditions, passing equipment on adjacent tracks, or any other condition;
8. Is not prevented from hearing the approach of a train or on-track equipment and no power-operated tools or roadway maintenance machinery is in use; and
9. Maintains the required sight distance and has the unrestricted ability to reach the predetermined place of safety at least 15 seconds before a train moving at the maximum authorized track speed reaches his or her location.

705.2 When using Individual Train Detection:

1. Do not perform any work that interferes with the ability to see or hear the approach of a train or on-track equipment,
2. Maintain a constant lookout for approaching trains and on-track equipment,
3. Keep the completed SOTS1 form in your possession at all times when fouling the track, and
4. When a train or on-track equipment approaches, move to the designated place of safety at least 15 seconds before the train or on-track equipment reaches the location.

705.3 Use Train Approach Warning for on-track safety only if:

1. At least two qualified roadway workers are working together and one of the employees is designated as the watchman,
2. All employees can reach an established place of safety at least 15 seconds before a train or on-track equipment reaches the location,
3. A method of communicating the approach of a train is established,
4. Employees hold a job briefing and all confirm their understanding and responsibilities,
5. Employees are performing routine maintenance or minor repairs that will not affect the safe passage of trains or on-track equipment,
6. Watchman/lookout knows and maintains required sight distance,
7. Watchman/lookout has unrestricted ability to see and hear approaching trains or on-track equipment, and
8. Watchman/lookout has access to a working radio.

705.4 The employee protected by Train Approach Warning must:

1. Remain in a position that allows receiving a train approach warning from the watchman, and
2. Immediately move to the predetermined place of safety when a warning is received.

705.5 When Train Approach Warning is used to protect more than one employee, the watchman must be equipped with and use the following devices to provide warning:

1. Whistle or air horn,
2. White disc or flag when visibility is good, and
3. White light or red fusee when visibility is poor.

705.6 When Train Approach Warning is used to protect only one employee, audible and visual warnings are not required when:

1. Advanced watchman is not required, and
2. Watchman can physically touch the employee being protected.

705.7 The employee providing watchman duties for Train Approach Warning must:

1. Not foul any track unless necessary to provide warning,
2. Not perform any tasks unrelated to providing warning or that interfere with providing warning to the employee being protected,
3. Provide warning as if every train or on-track equipment movement is approaching at the maximum authorized speed allowed, and
4. Provide warning sufficiently in advance to allow all workers and watchman to reach the predetermined place of safety at least 15 seconds before the train or on-track equipment reaches the location.

705.8 When necessary to establish on-track safety on controlled tracks with Train Coordination, the employee-in-charge must:

1. Visually determine the train is stopped,
2. Conduct a job briefing with the crew of the train,
3. Determine the limits of the train's authority,
4. Determine which method of operation and related rules are in effect,
5. Instruct the train crew not to move unless directed by the employee-in-charge, and
6. Instruct the train crew not to release any authority until notified by the employee-in-charge that it is safe to do so.

705.9 Once Train Coordination is established, the employee-in-charge must ensure no members of the working group foul any track outside of the train's authority.

705.10 When Train Coordination on-track safety is no longer required:

1. Ensure all roadway workers are clear of the track, and
2. Inform the train crew that protection is no longer required and the instructions of the train dispatcher will govern their movements.

706 - Working Limits on Non-Controlled Tracks

706.1 To establish working limits on non-controlled tracks:

1. Make prior arrangements with the employee responsible for the track or tracks involved,
2. Ensure the tracks are not occupied by any equipment not under the control of the employee-in-charge, and
3. Make the tracks inaccessible to all trains, locomotives, and on-track equipment.

706.2 Make non-controlled tracks inaccessible to all trains, locomotives, and on-track equipment by one of the following methods:

- a. A flagman posted with instructions and the capability to hold all movements clear of the limits, or
- b. Lining and locking switches with an effective locking device in a position that prevents movement into the tracks, or
- c. Applying a derail that is locked with an effective locking device at a location that prevents movement into the working limits, or
- d. Discontinuity of the rail to prevent movement into the working limits.

706.3 When remotely controlled switches provide access to non-controlled tracks, the employee-in-charge must verify all of the following with the employee responsible for operating the remotely controlled switches:

1. Switches are lined in a position that prevents access into the tracks,
2. Locking devices or blocking has been applied to the switches to prevent operation, and
3. Locking or blocking will not be removed until permission has been granted by the employee-in-charge.

706.4 Working limits are not required on non-controlled tracks when moving on-track equipment from the clearing location to the work site or back. When moving equipment on non-controlled tracks:

1. Make prior arrangements with the employee who is responsible for movement on the tracks, and
2. Make all movements prepared to stop within one-half the range of vision, not exceeding 10 MPH.

707 - Working Limits on Controlled Tracks (Conditional Stop)

707.1 When long-term working limits will be necessary, the employee-in-charge must request a dispatcher message to be issued. The request must be made at least 14 hours in advance and include:

1. Subdivision;
2. Date;
3. Time limits;
4. Name and initials of the employee-in-charge;
5. Specific track limits of either milepost, control point, or main track yard limits; and
6. Any instructions related to the posting of signs.

707.2 Before any member of the working group fouls or occupies the track within the working limits, the employee-in-charge must:

1. Obtain a current dispatcher bulletin that contains the dispatcher message governing the working limits for that day;
2. Contact the train dispatcher and confirm the dispatcher bulletin date and dispatcher message number for the working limits;
3. Inform the train dispatcher if the signal system will be affected;
4. When control points are within the work limits, confirm with the train dispatcher how trains will move through the control point;
5. In multiple track territory, confirm with the train dispatcher which track will be occupied by work forces and which track will be used to pass trains;
6. Confirm with the train dispatcher the use and position of switches within the work limits;
7. Receive from the train dispatcher and copy on the dispatcher bulletin an authority number, train dispatcher OK and initials, and time authorized; and
8. Ensure signs are properly posted.

707.3 Signs are required in conjunction with long-term working limits and must be:

1. Clean and easily recognizable, and
2. Posted no more than 30 minutes in advance of the effective time, as long as the employee-in-charge has the ability to communicate with any train or equipment that approaches the working limits.

707.4 If permanent conditions prevent the display of wayside signs as directed by rule:

1. Train dispatcher must be notified, and
2. A dispatcher message must be issued stating how signs are displayed.

707.5 Unless stated otherwise in a dispatcher message or Form EC-1, wayside signs will be placed at the beginning and end of the restriction as indicated by the chart below:

Number of Tracks	Sign Placement
One	Place signs next to the affected track.
Two	Place signs on the field side (outside) of the affected track.
Three or more	Place signs to the field side of the affected track for the outside track(s) and next to the affected track for middle track(s).

707.6 Place Warning signs at least two miles, but not more than two and one-half miles, from the beginning of the working limits on each end.

707.7 Place Conditional Stop signs in the following locations:

1. The beginning of the limits on each end,
2. Each junction point, and
3. Other locations as specified in dispatcher message.

707.8 The employee-in-charge is responsible for all train and on-track equipment movements within the working limits and must make a written record on the prescribed form of all movements permitted to enter and move within the working limits.

707.9 Before granting permission for movements not part of the working group to enter or move within the working limits, the employee-in-charge must:

1. Ascertain that all roadway workers and equipment of the working group are clear of the limits or that portion of the limits on which the movement will be authorized to operate,
2. Notify affected roadway work group the speed at which trains or on-track equipment will be authorized to operate through the working limits, and
3. Determine the track or portion of track is safe for movement.

707.10 The employee-in-charge must communicate the following information when granting permission for a train or on-track equipment to enter long-term working limits using the following verbiage:

1. Locomotive number of a train or name of on-track equipment operator,
2. Name of the employee-in-charge of the working limits,
3. Milepost location of the working limits or specific portion of the working limits the train or on-track equipment may occupy, and
4. Permitted operating speed of the train or on-track equipment that must be one of the following:
 - a. A specific speed, or
 - b. Restricted speed, or
 - c. Authorized speed.

707.11 The employee-in-charge may permit a train or on-track equipment to proceed to one intermediate location within the working limits and stop. When safe to do so, the employee-in-charge must clear the movement through the entire remaining limits.

707.12 After granting permission to a train or on-track equipment that is not part of the working group to enter and move in the working limits, the employee-in-charge must not allow roadway workers and equipment in the working group to foul the affected track until the trailing end of all trains or other on-track equipment has passed and remains ahead of the affected roadway workers.

707.13 The employee-in-charge must plan to have all roadway workers and equipment clear of the working limits before the expiration time. Before clearing the authority, make certain:

1. All roadway workers and equipment of the working group are clear of the limits,
2. The track is safe for normal operation or the train dispatcher has been advised of any necessary restrictions for movement,
3. All trains and on-track equipment that were cleared to enter and move within the limits have cleared the limits, and
4. Promptly remove signs after the work authority expires or is canceled.

707.14 When employee-in-charge determines the track cannot be cleared before the expiration time, he or she must take one of the following actions at least five minutes before the expiration:

- a. Obtain a new authority from the train dispatcher, or
- b. Post a flagman at each Warning sign.

708 - Flag Protection to Establish Emergency Working Limits

708.1 If unable to contact the train dispatcher to establish working limits, use flag protection in the following circumstances:

- a. In emergency situations; or
- b. To protect defects in track, bridge, culvert, or other track structure; or
- c. In unusual situations such as being unable to clear an authority before it expires.

708.2 Do not use flag protection when weather conditions obstruct or affect visibility, except in an emergency.

708.3 When using flag protection, maintain it in both directions until:

- a. The condition is corrected, or
- b. Notified by the train dispatcher that protection has been provided and all affected trains have been notified.

708.4 Do not allow trains and on-track equipment to proceed beyond the point flagged until:

1. The employee-in-charge provides the flagman with written instructions, and
2. The flagman shows the instructions to the locomotive operator or equipment operator.

709 - Maintenance Lock-Out, No-Check Functions, and Local Control

709.1 The electronic signal specialist (ESS) must give permission to place a control point in maintenance lock-out or no-check functions. Provide the following information to the ESS who must then provide the information to the train dispatcher:

1. Title and name of employee receiving the permission,
2. Track designation,
3. Track limits, and
4. Time limits.

709.2 Before testing and inspecting the control point in maintenance lock-out or no-check functions:

1. The receiving employee must repeat the permission to the ESS,
2. The ESS must confirm the repeated information is correct, and
3. Proper on-track safety must be provided before fouling the track.

709.3 Once provided, maintain protection for maintenance lock-out or no-check functions until the employee who received the protection releases it to the ESS. Before removing blocking devices:

1. The ESS must communicate the following to the train dispatcher:
 1. Employee title and name,
 2. Track designation, and
 3. Limits being released.
2. The information must be repeated by the ESS and confirmed by the employee releasing the protection.

709.4 The train dispatcher must give permission to place a control point in local control. When making the request for permission, provide the following information:

1. Title and name of employee requesting the permission,
2. Track designation,
3. Track limits, and
4. Time limits.

709.5 Before testing and inspecting the control point in local control:

1. The receiving employee must repeat the permission to the train dispatcher,
2. The train dispatcher must confirm the repeated information is correct, and
3. Proper on-track safety must be provided before fouling the track.

709.6 Once provided, maintain protection for local control until the employee who received the protection releases it to the train dispatcher. Before removing blocking devices:

1. The employee must communicate the following to the train dispatcher:
 1. Employee title and name,
 2. Track designation, and
 3. Limits being released.
2. The train dispatcher must repeat the information and the employee releasing the protection must confirm it.

710 - Removing a Controlled Track from Service

710.1 Remove a controlled track from service only after receiving an authority from the train dispatcher under the following conditions:

- a. Track is rendered inoperative by act of nature, or
- b. Track is disrupted for other cause and prompt restoration cannot be made, or
- c. Construction work necessitates temporary removal from service.

- 710.2** If necessary to take a controlled track out of service, a qualified employee must request from the train dispatcher an authority with defined limits. The employee must copy the authority onto Form EC-1/EC-1e line 11.
- 710.3** All train and on-track equipment movements must obtain permission from the employee-in-charge of the out-of-service limits before fouling or occupying the limits.
- 710.4** The employee-in-charge of the out-of-service limits directs all train and on-track equipment movements within the limits. When granting permission for trains or equipment to enter and move within the limits, the employee-in-charge must make a written record of the following:
1. Name of employee operating the locomotive or the employee in charge of the equipment,
 2. Time permission was granted, and
 3. Time train or equipment cleared the limits.
- 710.5** Prior to returning track to service, the employee-in-charge must:
1. Notify the train dispatcher of any restrictions necessary to ensure safe passage of trains or on-track equipment,
 2. Ensure track is clear of all trains and on-track equipment, and
 3. If track is not clear of trains or on-track equipment, be governed by the train dispatcher's instructions before returning the track to service.

711 - Railroad Crossings at Grade and Drawbridges

- 711.1** At automatic and remotely controlled railroad crossings at grade, insulated on-track equipment that does not shunt the track circuit must:
1. Stop before fouling the railroad crossing at grade, and
 2. Not proceed after stopping until the way is seen to be clear and it is safe to proceed.

711.2 Non-insulated on-track equipment that does shunt the track circuit will proceed on signal indication at automatic and remotely controlled railroad crossings at grade. If the signal governing movement over the railroad crossing at grade is STOP and no conflicting move is evident, stop before fouling the crossing and contact the train dispatcher.

- a. If the train dispatcher has control of the intersecting line:
 1. Receive permission from the train dispatcher to make the desired movement,
 2. Provide the specific amount of equipment that will make the movement to the train dispatcher, and
 3. Report clear to the train dispatcher only after all of the equipment has cleared the crossing.
- b. If the train dispatcher does not have control of the intersecting line and the signal is equipped with a time release and no immediate conflicting movement is evident:
 1. The on-track equipment operator or employee-in-charge must operate the time release in accordance with instructions,
 2. The leading unit of the equipment must be stopped before reaching, but not more than 250 feet from, the Stop signal and remain at that location during the time-release interval,
 3. If the signal does not change its indication at the expiration of the time-release interval, the lead unit of on-track equipment will pull by the Stop signal at least 30 feet, stopping clear of the intersecting line, and
 4. The on-track equipment will wait a period of time equal to the time-release interval and, if no immediate conflicting movement is evident, the on-track equipment may proceed.
- c. If the train dispatcher does not have control of the intersecting line and the signal is not equipped with a time release and no immediate conflicting movement is evident:
 1. The lead unit of on-track equipment will pull by the Stop signal at least 30 feet, stopping clear of the intersecting line,
 2. Wait 10 minutes, and
 3. If after the 10 minute wait, no immediate conflicting movement is evident and it is safe to do so, the on-track equipment may proceed.

711.3 At railroad crossings at grade that are not automatic or remotely controlled, on-track equipment must:

1. Stop before fouling the crossing;
2. Properly line gates, switches, or derails in accordance with special instructions;
3. Proceed after the way is seen to be clear and it is safe to do so; and
4. Restore gates, switches, or derails to normal position or in accordance with special instructions.

711.4 On-track equipment must not stand between the opposing signals governing movement over a railroad crossing at grade unless protection has been established.

711.5 Obtain permission of the drawbridge tender before:

- a. Passing the home signal of a signaled drawbridge, or
- b. Fouling the movable span of a non-signaled drawbridge.

712 - Operating Machines and On-Track Equipment

712.1 Employees who operate roadway maintenance machines must:

1. Pass a test certifying the employee understands how to apply proper on-track safety procedures for roadway maintenance machines,
2. Receive training, and
3. Be qualified as a roadway maintenance machine operator or as an employee-in-charge. Anyone not meeting this requirement must only operate the machine under the direct supervision of a qualified operator.

712.2 On-track equipment must be inspected before it is operated to make certain it is safe and in compliance with CSX standards and federal regulations.

712.3 Each on-track roadway maintenance machine and hi-rail vehicle must:

1. Be inspected each calendar day before use, and
2. Have the operator's manual located on the equipment.

712.4 When inspecting on-track roadway maintenance machines and hi-rail vehicles, make certain each is equipped with the following:

1. Effective brakes;
2. Operable horns/audible devices and change-of-direction alarms;
3. Operable headlights and strobe lights;
4. Fire extinguisher, first aid kit, and flagging kit;
5. Safety glass and operable windshield wipers;
6. Locking pins, if it is equipped with turntables; and
7. Operable heater and ventilation system.

712.5 When inspecting on-track equipment that is not a roadway maintenance machine or a hi-rail vehicle, make certain it is equipped with the following:

1. Effective brakes,
2. Lock-up devices that are in place, and
3. Audible warning device unless operator is equipped with a whistle.

712.6 The following roadway maintenance machines must have a pressurized cab:

1. Tampers,
2. Ballast regulators,
3. Tie bed scarifiers, and
4. Undercutters.

712.7 If a component listed as an FRA safety required component is defective and the condition will not make the equipment unsafe to operate, then:

1. Complete and attach an FRA safety exception tag to the defective machine or hi-rail vehicle at or near the operator's control panel,
2. Report the condition to the employee-in-charge, and
3. Document the defect on the Machine Failure Report Form.

712.8 If a defective condition makes the machine unsafe to operate:

1. Do not operate the equipment until repaired,
2. Affix an out-of-service tag to the ignition switch or similar device, if the equipment cannot be repaired, and
3. Report the condition to the employee-in-charge and document on the daily inspection report.

712.9 If a defective condition does not make the machine unsafe to operate, the machine may be operated for up to seven days with the defect.

712.10 When machine repairs are completed:

1. Document repairs in the machine's logbook, and
2. Remove the pre-addressed FRA safety exception tag and mail to Bryant Park Shop at 1 CSX Road, Richmond, VA 23286-5055.

712.11 Any piece of equipment or vehicle large enough to carry its instructional manual must have the document(s) on the equipment or vehicle.

712.12 Before occupying a controlled track, the leading and trailing pieces of on-track equipment working or traveling together as a group must have the flagging devices listed below. A single piece of on-track equipment operating independently, including hi-rail vehicles, must also have these flagging devices:

1. Four red fusees,
2. Two red flags, and
3. One white light.

712.13 On-track equipment required to have operable lights must have those lights on when the equipment is moving.

712.14 On-track equipment not equipped with lights must have a white light to the front and a red light on the rear when operating:

- a. At night, or
- b. In tunnels, or
- c. In fog or other weather conditions that limit visibility.

712.15 When operating on-track equipment, employees must:

1. Ensure all occupants are seated in permanently installed seats,
2. Instruct occupants to look out in both directions,
3. Specify each employee's duties when the equipment must be removed from the track,
4. Apply brakes gradually unless a condition requires stopping in the shortest possible distance,
5. Communicate to workers on or about tracks before getting closer than 15 feet to them, and
6. Perform required maintenance, tests, and other adjustments in accordance with the manufacturer's recommendations.

712.16 When operating on-track equipment, employees MUST NOT:

- a. Use the equipment for any purpose other than company business, or
- b. Permit tools or materials to obstruct the operation of the brakes or warning devices, or
- c. Restrict or interfere with the intended function of any device or equipment, or
- d. Permit employees to ride in or on the equipment unless authorized to do so by the proper authority and the employees are riding as part of their assigned duties, or
- e. Apply any device to any on-track equipment unless approved by the Director Work Equipment, or
- f. Tow equipment if doing so exceeds the braking capacity of the towing machine, or
- g. Operate equipment that is loaded beyond its maximum capacity.

- 712.17** When operating on-track equipment, operate at a speed that permits stopping within one-half the range of vision. Do not exceed the speed authorized for trains on the same track or listed in the table below, whichever is less.

Type of Equipment or Operation	Must Not Exceed
Rail Detector Car	40 MPH
Rail-Highway vehicle less than 10,001 GVW	Forward – 40 MPH
	Reverse – 20 MPH
Rail-Highway vehicle more than 10,000 GVW	Forward – 30 MPH
	Reverse – 10 MPH
Type of Equipment or Operation	Must Not Exceed
Rail Grinders	50 MPH
Ballast shoulder cleaner and Loram Ditcher	40 MPH
Tampers, ballast regulators, and other self-propelled on-track equipment not previously designated	30 MPH
Burro Cranes	20 MPH
When pulling a push car	30 MPH
When pushing a push car	Straight Track – 10 MPH
	Curves – 5 MPH
All on-track equipment moving over self-guarded frogs or through the spring rail side of the frog	1 MPH
Type of Equipment or Operation	Must Not Exceed
Operating through the limits of long-term working limits or when more than one vehicle is operating within the limits of a single EC-1/EC-1e line 1 authority	20 MPH unless a higher speed is authorized by the employee-in-charge
Operating through turnouts, over facing point hand-operated switches or facing point frogs, over power-operated switches, over RR crossings at grade, passing people working around the tracks, passing passengers waiting for trains at passenger stops	5 MPH

- 712.18** When using pushcarts:

1. Do not load beyond rated capacity, and
2. Unload before ramping on or off flat cars.

- 712.19** Transport heavy materials only on push cars or trailer cars coupled behind self-propelled on-track equipment. Do not permit riders on push cars loaded with heavy materials except in cases of emergency and only after taking the necessary safeguards.

712.20 When using personnel carriers:

1. Comply with all instructions of the safety decals,
2. When pulling a personnel carrier, do not pull other pushcarts with the same equipment,
3. Position them in gang consists to enable pulling the carrier in either direction, and
4. If they must be pushed, place the carrier in the trailing position at the first opportunity.

712.21 Maintain the following minimum distances between the machine you are operating and the machine ahead for the described activity, when:

- a. Working: 40 feet unless a different distance is specified. Ballast regulators must maintain 200 feet, or
- b. Traveling: 200 feet. Ballast regulators must maintain 400 feet, or
- c. Bunching: 40 feet unless speed is 5 MPH or less, then maintain sufficient distance to prevent an accident.

712.22 The Red Zone for on-track equipment that does not have extendible parts is as follows:

1. From 15 feet in front of the equipment to 15 feet behind the equipment, and
2. From the sides of the equipment as defined in the job briefing.

712.23 Red Zone for on-track equipment that has extendible parts is as follows:

- a. From 15 feet in front of the equipment to 15 feet behind the equipment, or
- b. A minimum of 15 feet beyond the maximum reach of the extendible parts of the equipment on all sides.

712.24 Employees must not enter the Red Zone of other equipment until the operator:

1. Notifies employees that it is safe to enter the Red Zone,
2. Establishes eye contact, and
3. Receives verbal notification that employees wish to enter the Red Zone.

712.25 Operators of on-track equipment must not resume work when employees are located within the Red Zone of the equipment until holding a job briefing to establish safe work procedures.

712.26 Employees and backhoe operators must take the following actions before employees enter the Red Zone of the backhoe:

1. The operator and the employee(s) must establish eye contact,
2. The backhoe operator must receive verbal communication from the employee(s) stating that the employee(s) wish to enter the Red Zone,
3. The backhoe operator must notify the employee(s) when it is safe to enter the Red Zone and employee(s) must not enter until it is safe to do so,
4. The backhoe operator must stop all movement of the equipment and place the backhoe in neutral, and
5. Backhoe operator must remove and raise hands from controls of the boom and bucket.

712.27 When operating on-track equipment and it is necessary to inspect a switch:

1. Stop before reaching the switch,
2. Inspect the switch,
3. Restore the switch to the normal position,
4. Make certain switch points fit properly,
5. Lock the switch, and
6. Then proceed over the switch.

712.28 When a main track switch has been lined for movement of on-track equipment or for other reasons, the switch must be:

1. Restored to the normal position,
2. Locked and the lock tested, and
3. Spring switches must be hand lined before operating through them.

712.29 When approaching a highway-rail crossing at grade:

1. Be prepared to stop short of the crossing,
2. Do not operate on-track equipment over the crossing unless the way is known to be clear, and
3. If necessary, use a flagman wearing a lime yellow or orange vest to stop highway traffic.

712.30 Do not operate on-track equipment between a passenger train that is receiving or discharging passengers and the station or station platform.

712.31 When operating behind a train, employees must not:

- a. Follow a moving train closer than 600 feet, or
- b. Approach a standing train closer than 200 feet unless necessary to clear the track.

712.32 When operating equipment or hi-rail vehicles on a track that will be passed by a train on an adjacent track:

- a. If safe to do so, stop and exit the vehicle, or
- b. If it is not safe or practical to stop and exit the vehicle, reduce speed to 10 MPH and maintain a lookout for objects falling or swinging from the train.

712.33 When a train is approaching a work location on an adjacent track:

1. Ensure all employees and equipment are clear of the adjacent track,
2. Secure rotating machinery to prevent it from fouling the adjacent track, and
3. Lower all buckets and boom attachments to rest with the boom parallel to the track and load line tightened.

712.34 When being passed by a train on an adjacent track, inspect the passing train for defects as follows:

1. Stand at least 30 feet from the passing train when possible,
2. If two or more employees are present, position at least one employee on each side of the train, and
3. Promptly notify the train crew of the results of the inspection.

712.35 When handling rail cars, make certain to:

1. Only handle two cars at a time unless using a Brandt-type vehicle or car mover, and
2. Test the rail car air brakes when required as specified by CSXT Air Brake and Train Handling Rules.

712.36 A qualified CSX employee must directly supervise and instruct any non-CSX person operating equipment on CSX track. The CSX employee is responsible for establishing on-track safety, obtaining required authorities, and complying with all rules.

712.37 A component of a roadway maintenance machine must not foul an adjacent controlled track unless:

1. Working limits have been established on the adjacent controlled track, and
2. No movements are permitted within the working limits on the adjacent controlled track.

712.38 When two or more operators are traveling within the same work limits and the same piece of equipment stops within those limits, equipment operators must:

1. Notify the trailing equipment operator by radio that the equipment has stopped and the mile post location, and
2. If no positive communication is made with the trailing equipment, be prepared to exit the vehicle.

713 - Operating Cranes

713.1 When operating cranes, employees must not:

- a. Operate a crane the employee is not qualified to operate unless under the direct supervision of a qualified operator, or
- b. Move a load over people, or
- c. Permit anyone to be under a load or between a load and a magnet attachment.

713.2 The following signals must be given before a crane is moved:

- a. Two short blasts of the whistle before making a forward move, or
- b. Three short blasts of the whistle before making a reverse move.

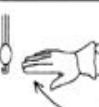
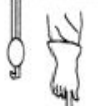
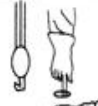
713.3 Do not allow any part of the boom, cable, or equipment to come within 12 feet of any power line or other overhead aerial cables until all of the following safety precautions have been taken. Signal, communications, and cable lines may remain in operation at the discretion of the responsible and qualified person on-site after precautions have been taken to protect the lines from physical damage.

1. The owner of the power lines is present on-site and:
 1. Determines the voltage and required procedure to de-energize and ground the lines,
 2. De-energizes and grounds the lines, and
 3. Verifies the power lines are de-energized and it is safe to work.
2. After the power lines are de-energized, grounded, and verified to be safe by the qualified person on-site, the work may continue provided all other safety aspects are covered, and
3. After the work has been completed, make certain all booms, cables, and equipment are at least 12 feet clear of power lines before power is restored to the lines.

713.4 Only the designated employee is allowed to give signals to the crane operator. When giving signals:

1. Use standard crane and derrick signals,
2. Have a clear understanding with the crane operator regarding the meaning of signals to be used, and
3. Remain in position that is in clear view of the crane operator.

713.5 Use the following hand signals when directing crane movements:

				
Main Hoist	Auxiliary Hoist	Hoist Load	Hoist Load Slowly	Stop
				
Raise Boom	Raise Boom & Lower Load	Lower Load	Lower Load Slowly	Emergency Stop
				
Lower Boom	Lower Boom & Raise Load	Swing Boom	Swing Boom Slowly	Travel (mobile eqpt)
				
Retract Boom 2 hands	Retract Boom 1 hand	Extend Boom 2 hands	Extend Boom 1 hand	Dog Everything

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Chapter 8 - On-Track Worker Qualifications

800 - Prerequisites for Engineering Employee Qualification

800.1 Prior to seeking qualification, engineering employees must:

1. Have a valid driver's license appropriate for the vehicle to be operated, and
2. Attend an engineering department operating rules class and successfully complete all requirements.

801 - Responsibilities of Employee Seeking Qualification

801.1 Employees must be qualified on the physical characteristics of the territory. To become qualified, the employee must make two trips on two separate days:

1. With an employee who is qualified on the territory, and
2. Over the entire territory on which employee is to be qualified. If qualifying on the complete subdivision, the trip must be over the complete subdivision. If qualifying on a portion of a subdivision, the trip must include a minimum of four control points.

801.2 When making a qualifying trip, the employee must:

1. For practice purposes only, copy the movement authority onto the prescribed form. The authority received and copied by the employee-in-charge will be the document used to occupy and move,
2. Observe the job briefing between the train dispatcher and the employee-in-charge,
3. Conduct job briefings during the trip,
4. Demonstrate the ability to operate the on-track equipment throughout the trip, and
5. Observe and receive instruction from the employee-in-charge on the physical characteristics.

801.3 The employee seeking qualification must demonstrate knowledge and ability on the following procedures:

1. Basic operation of hi-rail equipment and on-track equipment,
2. Electronically requesting an authority for long-term working limits,
3. Obtaining the authority using a dispatcher bulletin and 707 forms,
4. Conducting a job briefing with the train dispatcher,
5. Placing signs,
6. Conducting a job briefing with the working group,
7. Complying with operating rules governing the operation of switches on controlled tracks,
8. Managing others using long-term working limit protection, and
9. Clearing trains and on-track equipment movements through working limits.

- 801.4** During the qualification trips, the employee must demonstrate proficiency and knowledge of timetable and special instructions and physical characteristics of the territory.

802 - Responsibilities of Examining Employee

- 802.1** The examining employee must obtain an Initial Operating Rules Qualification Form and Territory Qualification Form before beginning a qualification trip. He or she must also make certain the qualifying employee demonstrates proficiency on:

1. Electronically requesting an authority for long-term working limits, and
2. Properly requesting and copying an authority from the train dispatcher.

- 802.2** The examining employee must verbally test the qualifying employee on his or her knowledge of the:

1. Timetable and method of operation on the territory,
2. Operating rules, and
3. On-track worker rules.

- 802.3** During the qualification trip, the examining employee must:

1. Permit the employee to operate the on-track equipment, and
2. Record the employee's performance against the criteria contained on the Initial Operating Rules Qualification Form.

- 802.4** During the qualification trip, the examining employee must confirm the employee's ability to:

1. Properly apply the operating and on-track worker rules,
2. Communicate effectively with the train dispatcher,
3. Apply understanding of the applicable rules and procedures for obtaining authorities,
4. Conduct a job briefing with the team regarding the method of on-track safety, and
5. Describe the sign placement requirements.

803 - Responsibilities of Supervisor

- 803.1** Only a non-contract supervisor may determine if an employee is qualified on a territory. The manager must accompany the employee on a trip over the territory and supervise the employee's performance of the following:

1. Identifying the specific method(s) of operation for the territory,
2. Obtaining the movement authority from the train dispatcher,
3. Operating the on-track equipment, and
4. Demonstrating knowledge of the physical characteristics of the territory.

- 803.2** An engineering department manager qualified on rules and the territory must verbally test the qualifying employee on timetable special instructions and physical characteristics for the desired territory. After the employee has successfully demonstrated knowledge of the territory and proficiency in the application of the appropriate operating and on-track worker rules, the manager must complete the Territory Qualification Form, file it with the employee's supervisor, and provide a copy to the employee.
- 803.3** If the qualifying employee successfully completes all the requirements, the manager will complete the Initial Operating Rules Qualification Form and enter the qualification into the appropriate computer system.

804 - Qualification As Employee-in-Charge

- 804.1** Do not perform service as an employee-in-charge unless all of the following conditions are met:
1. Employee has attended an engineering department operating rules class and successfully completed all requirements,
 2. Employee has been qualified as an employee-in-charge, and
 3. Employee has completed a trip over the territory in the previous 36 months. If the employee has not completed a trip over the territory in the previous 36 months, the employee must be re-qualified.

805 - Short-Term Project Procedure

- 805.1** If necessary to provide short-term qualification for an employee-in-charge, the designated supervisor is responsible for:
1. Qualifying the employee-in-charge on the required portion of the territory,
 2. Entering the qualification of the employee in the appropriate system, and
 3. Removing the qualification when the project ends.
- 805.2** The employee-in-charge of a short-term project must be qualified on:
1. The physical characteristics of the specific work location to include a minimum of two additional control points or, in TWC-D territory, a minimum of two additional miles on each side of the project limits; and
 2. CSX operating rules and on-track safety rules.
- 805.3** The employee-in-charge is responsible for the following:
1. Contacting the responsible signal supervisor to obtain current timetable and dispatcher bulletins for the territory,
 2. Placing signs for establishing long-term working limits, and
 3. Conducting a job briefing with the maintainer responsible for the territory that includes addressing the physical characteristics of the territory.

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Chapter 9 - Remote Control Operations

900 - General Requirements

900.1 Operator control units must be:

1. Operated by an employee wearing an approved remote control harness,
2. Attached to the approved harness at all four corners, and
3. Worn in the approved harness so that the tilt feature activates as intended.

900.2 Do not alter remote control equipment and if any equipment is found to be damaged or defective, it must be:

1. Immediately removed from service, and
2. Reported to a supervisor.

900.3 Locomotive operators must not:

- a. Control more than one remote consist at a time, or
- b. Operate any other equipment while operating remote control equipment, or
- c. Control a remote control consist while riding in any other equipment or vehicle.

900.4 Immediately contact a supervisor or the yardmaster on duty for instructions concerning any operator control unit found unattended.

900.5 Do not leave operator control units unattended; when not in use, turn them off, and:

- a. Leave in the possession of a locomotive operator working in remote control service, or
- b. Store in a secure location as directed in special instructions.

901 - Required Safety Tests

901.1 Safety tests are required when:

- a. Operator control unit is linked to a remote control locomotive or platform, or
- b. Beginning a tour of duty.

901.2 Perform a separate safety test for each operator control unit linked to a remote control locomotive or platform.

901.3 When transferring an OCU to another remote control operator and safety tests are not required, employees must:

1. Conduct a job briefing to confirm the linked locomotive number, direction of the locomotive, location of the equipment, number of cars, and status of RCZ, if applicable;
2. The receiving employee must activate the status switch and confirm the locomotive number to be used; and
3. The transferring employee must confirm the correct locomotive number.

901.4 To perform the Tilt Test:

1. Confirm the appropriate radios are on and set to the proper channel,
2. Use positive identification to announce by radio that a tilt test will be performed,
3. Ensure the operator control unit being tested is properly attached to the harness and the harness is properly worn,
4. Test only one operator control unit at a time by tilting the operator control unit more than 45 degrees,
5. Confirm a steady alarm is sounded by the operator control unit,
6. Confirm an emergency brake application is initiated by the remote control locomotive or platform,
7. Confirm the man-down emergency radio message is broadcast,
8. Confirm with another railroad employee that the man-down emergency radio message was received on the proper channel,
9. Repeat the test for each operator control unit linked to the remote control locomotive or platform, and
10. Use positive identification to announce by radio that the tilt test(s) is completed.

901.5 To perform the Vigilance/Reset Test:

1. Select forward or reverse,
2. Press vigilance/reset switch,
3. Select Coast B,
4. Confirm vigilance alarm sounds after 50 seconds,
5. Confirm a full service penalty application occurs after 60 seconds,
6. Recover full service penalty application, and
7. Repeat test for each operator control unit linked to the remote control locomotive or platform.

901.6 If remote control equipment fails a safety test:

1. Do not use the equipment in remote control service, and
2. Report the failure to the proper authority.

- 901.7** When required to perform air brake or hand brake tests, follow the procedures in the Remote Control Operation Instructions Manuals.

902 - Remote Control Zones

- 902.1** Special instructions identify remote control zones and must include:

1. Location of zone(s),
2. Limits of zone(s),
3. Whether remote control zone signs are used and how they must be displayed,
4. Requirements of any switches or derails that must be locked, and
5. Method used to make highway-rail and pedestrian crossings at grade inaccessible, if applicable.

- 902.2** When a yardmaster is on-duty, the remote control operator foreman must receive permission from the yardmaster to activate a remote control zone.

- 902.3** Prior to activating a remote control zone, a member of the crew that will utilize the zone must visually determine:

1. Tracks are clear,
2. No roadway worker protection or blue signal protection is active on the tracks,
3. Switches and derails are properly lined and locked, if required,
4. All highway-rail and pedestrian crossings are made inaccessible, and
5. Remote control zone signs are displayed, if used.

- 902.4** Once activated, a remote control zone is under the control of the remote control operator foreman. The remote control crew who activated the zone may make movements within the limits of the zone without providing protection.

- 902.5** In active remote control zones, only the remote control operator foreman can grant permission for other employees or equipment to:

- a. Foul or occupy tracks, or
- b. Cross a road or pedestrian crossing.

902.6 After the remote control operator foreman grants permission for a movement to enter an active remote control zone, all remote control movements must be protected until the zone is clear and the employee who was granted permission reports clear of the zone. A remote control crew may resume utilizing the zone after the following:

- a. If permission was granted to a train or locomotive crew, direct communication from the ranking employee of the crew granted permission verifying the:
 1. Tracks are clear, and
 2. Switches and derails are lined as directed by the remote control operator foreman.
- b. If permission was granted to an engineering or mechanical department employee, visual inspection by a member of the remote control crew to determine:
 1. Tracks are clear,
 2. Portable derails or blue flags have been removed, and
 3. Switches and derails are properly lined and locked, if required.
- c. If permission was granted to cross a road or pedestrian crossing within the remote control zone, visual inspection by a member of the remote control crew to determine the crossing has been made inaccessible.

902.7 The remote control operator foreman must deactivate the remote control zone when going off duty unless the zone is directly transferred to another remote control foreman by:

1. Performing a face-to-face job briefing, and
2. If applicable, notifying the yardmaster that the remote control zone has been transferred.

902.8 If a remote control operator foreman fails to deactivate a remote control zone, a yardmaster or supervisor can de-activate the zone after all of the following have been verified:

1. Remote control operator foreman who last controlled the zone is off duty,
2. Remote control locomotive used by the crew is in manual mode, and
3. The remote control zone was not transferred to another remote control crew.

903 - Positive Stop Protection (PSP)

903.1 When using Positive Stop Protection (PSP), the remote control locomotive must:

1. Be equipped with PSP, and
2. Be the leading end of each movement.

903.2 Test PSP before initial use:

- a. On each shift, or
- b. Of a PSP locomotive.

903.3 To perform a PSP test, the locomotive operator must:

1. Be in position to visually verify when the lead locomotive reaches the first and second track transponders (pucks),
2. Operate the locomotive towards the track transponders (pucks), and
3. Verify the operator control unit provides an audible alert and displays the expected message when the locomotive reaches the first and second transponders (pucks).

903.4 If PSP equipment fails to respond properly when performing a PSP test, do not use the PSP system.

903.5 When using PSP, the locomotive operator must:

1. Match transponder (puck) speed commands, or use a lower speed, on the operator control unit;
2. Not use Coast or Coast B; and
3. Protect the leading end, if necessary to override PSP.

904 - Operating Remote Control Equipment

904.1 Procedures and instructions contained in Remote Control Operation Instruction Manuals are mandatory when operating remote control equipment.

904.2 The leading end of remote control movements must be protected by a crewmember or other qualified employee except when the remote control locomotive or locomotive platform is the leading end and located within an active remote control zone controlled by the remote control foreman.

904.3 When initiating a movement, the primary locomotive operator or other crewmember must visually determine movement occurs in the desired direction and must:

1. Not rely on the visual determination of any other employee who is not a member of the crew,
2. Note LED screen on the RCL II Units displays speed, and
3. Immediately place the Speed Select to STOP if movement is not visually determined.

904.4 While movement is occurring, at least one member of the crew must maintain visual contact with a portion of the equipment.

904.5 Before transferring (pitching) primary control of remote control equipment to another locomotive operator:

1. Primary operator must verbally inform the secondary operator that control will be transferred, and
2. The secondary operator must verbally confirm he or she is ready to receive control.

904.6 Unless performing a direct handoff of remote control equipment, when going off duty remote control locomotives or platforms must be:

1. Secured, and
2. Placed in manual mode.

904.7 Remote control locomotive or platform with or without cars attached is not considered unattended if:

1. In remote mode,
2. At least one crewmember maintains visual contact with the equipment, and
3. Operator control unit is powered on and properly worn by the person attending the equipment.

Chapter 10 - Electronic Devices and Radio Communication

1000 - Use of Electronic and Electrical Devices, General Rules

- 1000.1** No individual shall use a personal or railroad supplied electronic or electrical device if the use would interfere with the employee's or any other employee's safety or performance of safety related duties.
- 1000.2** Personal electronic and electrical devices and all accessories must be powered off and stored out of sight except as authorized by other rule when:
- a. Within Yardmaster, Train Dispatcher, or Operator offices; or
 - b. Within the operating cab of a moving locomotive; or
 - c. Within the operating cab of a locomotive and any person is engaged in the fueling, repair, or other preparation of the train or locomotive for movement; or
 - d. At the controls of moving on-track equipment except a Hi-Rail truck less than 10,001 GVW; or
 - e. Operating mechanized equipment; or
 - f. A member of the crew or work group is on the ground or riding on equipment during a switching operation; or
 - g. Located within the defined red zone of on-track or mechanized equipment; or
 - h. Located within four feet of the nearest rail; or
 - i. When designated by rule, signage or special instructions.
- 1000.3** When a personal electronic or electrical device is required by other rule to be turned off, the digital storage and viewing functions of the device may be used to view rules, timetable special instructions, or other railroad directives when all of the following conditions are met:
1. Not at the controls of a moving locomotive or on-track equipment,
 2. Not operating mechanized equipment,
 3. All cellular and internet functionality has been disabled on the device (airplane mode), and
 4. All members of the crew or work group conduct a job briefing and all agree the use is safe and will not distract or interfere with the performance of safety related duties.
- 1000.4** Personal or railroad supplied electronic and electrical devices may be used to communicate or respond during an emergency.
- 1000.5** If railroad radio communication failure occurs, railroad supplied or personal electronic and electrical devices may be used for railroad communication after a job briefing is conducted confirming:
1. All crewmembers understand how the devices will be used, and
 2. Use will be in compliance with operating rules governing the use of railroad radios.

1000.6 The use of the following electrical and electronic devices is not restricted:

- a. A medical device that has been prescribed by a medical professional and approved for use by the csx medical department; or
- b. A digital watch whose only purpose is as a timepiece; or
- c. A stand-alone calculator; or
- d. Electronic control systems and information displays, either fixed or portable, within the cab of equipment; or
- e. Remote control transmitter necessary to operate a train or conduct switching operations; or
- f. Railroad issued radios; or
- g. Railroad approved electronic devices to monitor air quality, noise, or other environmental conditions.

1001 - Use of Electronic and Electrical Devices on Locomotives

1001.1 Personal cameras or the camera feature of a personal electronic or electrical device may only be used on a locomotive by authorized personnel when the use is necessary to document a condition or for the analysis of a locomotive system. Authorized personnel are:

- a. Supervisors, or
- b. Mechanical department employees, or
- c. Contractors assigned to perform work for CSX.

1001.2 Personal electronic and electrical devices may be used on a locomotive for minimal use when all of the following conditions are met:

1. Locomotive is stopped;
2. No crewmember is riding on equipment or on the ground during a switching operation;
3. No person is engaged in the repair, fueling, or other preparation of the train or locomotive for movement; and
4. All crewmembers conduct a job briefing and all agree the use is safe and will not distract or interfere with the performance of safety related duties.

1001.3 The employee at the controls of a locomotive may use a railroad supplied electronic or electrical device for business purposes after all of the following conditions are met:

1. Locomotive is stopped;
2. No crewmember is riding on equipment or on the ground during a switching operation;
3. No person is engaged in repair, fueling, or other preparation of the train or locomotive for movement; and
4. All crewmembers conduct a job briefing and all agree the use is safe and will not distract or interfere with the performance of safety related duties.

1001.4 Employees in the cab of a controlling locomotive and not at the controls may use a railroad supplied electronic or electrical device for business purposes after the following conditions are met:

1. Sterile Cab is not required, and
2. All crewmembers conduct a job briefing and all agree the use is safe and will not distract or interfere with the performance of safety related duties.

1001.5 Electronic and electrical devices may be used for the following business purposes on a locomotive:

- a. Receiving, reporting, or documenting railroad work; or
- b. Communicating with a customer, supervisor, or train dispatcher related to company business; or
- c. Using the digital storage and viewing functions to access railroad rules, special instructions, or other directives.

1002 - Use of Electronic and Electrical Devices On or About Tracks

1002.1 Personal cameras or the camera feature of a personal electronic or electrical device may only be used for business purposes on or about tracks and only by the following authorized personnel:

- a. Supervisors, or
- b. Mechanical department employees, or
- c. Engineering department employees, or
- d. Contractors assigned to perform work for CSX.

1002.2 Engineering and Mechanical department employees may use personal electronic and electrical devices for business purposes when all of the following conditions are met:

1. Employee is not at the controls of moving equipment or working mechanized equipment,
2. Employee is not located within the defined "red zone" of operating mechanized equipment,
3. Employee is not fouling a track unless the appropriate protection for the type of worker has been established, and
4. Use will not distract or interfere with the performance of safety related duties.

1002.3 Transportation employees may use electronic and electrical devices for business purposes when on or about tracks after the following conditions are met:

1. Employee is not fouling a track or otherwise within four feet of the nearest rail, and
2. A job briefing is held and all agree the use is safe and will not distract or interfere with the performance of safety related duties.

1002.4 Personal electronic and electrical devices may be used for minimal personal use when on or about tracks or within the operating cab of on-track or mechanized equipment after all of the following conditions are met:

1. Not at the controls of moving on-track equipment or working mechanized equipment;
2. No member of the crew or work group is riding on equipment or involved in a switching operation;
3. No employee is engaged in repair, fueling, or preparation of the equipment including cars or locomotives;
4. The employee is not located within the defined "red zone" of operating mechanized equipment;
5. The employee is not fouling a track or otherwise located within four feet of the nearest rail; and
6. A job briefing is held and all agree the use is safe and will not distract or interfere with the performance of safety related duties.

1002.5 Railroad supplied electronic and electrical devices may be used in the operating cab of on-track or mechanized equipment for business purposes after a job briefing is held and all agree the use is safe and will not distract or interfere with the performance of safety related duties.

1003 - General Radio Rules

1003.1 Use radios only:

- a. To perform company business, or
- b. To contribute to safety.

1003.2 Employees must not knowingly transmit any:

- a. False emergency communications; or
- b. Obscene, indecent, or profane remark; or
- c. Unnecessary, irrelevant, or unidentified communication.

1003.3 Do not use radio communications to convey instructions that would have the effect of overriding the indication of a fixed signal, except in the case of a train dispatcher providing permission to pass a Stop indication in accordance with the operating rules.

1003.4 Only a member of the same crew may transmit information about the position or aspect displayed by a fixed signal to train and engine employees.

1003.5 Employees must keep radios:

1. In the ON position with volume adjusted to receive communications, and
2. Set for the proper channel.

1003.6 Special instructions designate:

1. Location of base and wayside stations,
2. Hours of operation, and
3. Channels assigned to stations.

1003.7 If non-railroad communication interferes with radio or other wireless communications, the employee must attempt to determine the origin or identity of the interference and report the occurrence to the proper authority. The report must include:

1. Exact date and time,
2. Nature of the interference, and
3. Origin or identification of the interference.

1003.8 Only persons authorized by the Federal Communications Commission (FCC) can make internal adjustments to a radio.

1003.9 Employees must permit FCC representatives to inspect radio equipment and required FCC documents.

1004 - Radio Requirements for Trains and On-Track Equipment

1004.1 Before departing an originating terminal, each train must be equipped with the following:

1. A working radio in the occupied controlling locomotive, and
2. One of the following:
 - a. Working radio on another locomotive in the consist, or
 - b. Other means of wireless communications.

1004.2 When roadway workers are present and trains have access to work locations or adjacent tracks, the following apply:

- a. Each employee-in-charge and lone worker must:
 1. Have immediate access to or be equipped with a working radio, and
 2. Monitor transmissions from train movements in the vicinity.
- b. Maintenance of way equipment traveling together under the same authority without locomotive assistance must have:
 1. A working radio on at least one piece of equipment,
 2. Capability to communicate between the equipment traveling together, and
 3. Intra-group communications capability upon reaching the work site.

1005 - Testing Radio Equipment

1005.1 Test each radio and wireless voice communication device prior to beginning a work assignment by:

1. Initiating a voice transmission with another radio, and
2. Receiving a confirmation of clarity.

1005.2 When a radio or wireless voice communication device fails a required test, the employee must:

1. Remove the device from service,
2. Report the failure to the dispatcher or yardmaster, and
3. Establish other means of communication to ensure safety and reduce delay.

1005.3 If a working radio on an occupied, controlling locomotive fails en route, the train can continue until the earlier of the following:

- a. Next calendar day inspection is performed, or
- b. Reaching the next forward location where facilities are available to repair or replace the radio.

1006 - Positive Identification

1006.1 When required to provide positive identification, the employee must provide the name or initials of the railroad and:

- a. Name and location of base or wayside station, yard office, or unique designation, or
- b. Mobile radio unit by:
 1. Words that identify the precise mobile unit,
 2. Individual's title and name, and
 3. If applicable, the location of the equipment, including track.
- c. Train by:
 1. Train number,
 2. The word locomotive followed by its initials and number, and
 3. Location of the equipment, including track.
- d. On-track equipment by:
 1. The letters OTE,
 2. Initials and number, and
 3. Location of the equipment, including track.

1006.2 Employees may use short identification, including the locomotive number, in switching, classification, and similar operations when wholly within a yard and after establishing positive identification.

1006.3 If an exchange of communications using short identification continues without interruption, positive identification must be repeated every 15 minutes.

1007 - Transmitting by Radio

1007.1 Before transmitting by radio:

1. Listen to ensure the channel is not being used,
2. Use positive identification procedures to identify the station calling from and to, and
3. Receive acknowledgment before proceeding with the transmission.

1007.2 To clarify pronunciation, use the appropriate procedure below:

a. Words:

1. Pronounce then spell, and
2. If needed, spell again using the phonetic alphabet table.

b. Initials:

1. Pronounce, and
2. If needed, use phonetic alphabet.

Letter	Phonetic Word	Letter	Phonetic Word	Letter	Phonetic Word	Letter	Phonetic Word
A	Alpha	H	Hotel	O	Oscar	V	Victor
B	Bravo	I	India	P	Papa	W	Whiskey
C	Charlie	J	Juliet	Q	Quebec	X	X-ray
D	Delta	K	Kilo	R	Romeo	Y	Yankee
E	Echo	L	Lima	S	Sierra	Z	Zulu
F	Foxtrot	M	Mike	T	Tango		
G	Golf	N	November	U	Uniform		

1007.3 State numbers by:

1. Digit,
2. Decimal point by the word point or dot, and
3. Exact multiples of hundreds and thousands.

1008 - Receiving, Acting Upon, and Ending Radio Transmissions

1008.1 Do not act on a radio communication if:

- a. Misunderstood, or
- b. Not completed, or
- c. Not in compliance with operating rules.

- 1008.2** Promptly acknowledge radio transmissions by using positive identification unless doing so would interfere with safety. Repeat the transmission, except when it:
- a. Relates to yard switching operations, or
 - b. Is a recorded message from an automatic alarm device, or
 - c. Is general in nature and does not contain any information, instructions, or advice affecting railroad safety or train movement.
- 1008.3** Repeat radio communications from the train dispatcher that govern the movement of trains or on-track equipment on controlled tracks. Before acting upon any instructions, both parties must:
1. Confirm their mutual understanding of the communication, and
 2. Give their initials to the other party.
- 1008.4** End all radio transmissions not related to yard switching with the following:
- a. The word OVER when a response is required, or
 - b. Positive identification followed by the word OUT when a response is not required.

1009 - Information That Must Be Copied

- 1009.1** Employees operating moving trains or equipment must not copy or repeat copied information.
- 1009.2** Information that is required to be copied must only be transmitted to moving equipment when:
1. It can be received and copied without impairing safety,
 2. Receiving employee is not operating the controls of the equipment, and
 3. Restriction is not within 3 miles unless:
 1. Movement has been stopped, and
 2. Employee operating the controls of the equipment has been advised of the situation and can comply.

1009.3 Follow the procedure below for transmitting and repeating mandatory directives:

Step	Responsible Party	Action
1	Train Dispatcher	Call the employee or train addressed and state the intention to transmit a mandatory directive.
2	Receiving Employee	State title, name, and location. Confirm being prepared to receive mandatory directive.
3	Train Dispatcher	State name of person copying mandatory directive. Transmit the mandatory directive.
4	Receiving Employee	Copy the mandatory directive in writing on the prescribed form and in the prescribed format. Read back to the train dispatcher what has been written.
5	Train Dispatcher	Ensure accuracy of repeated directive. State time and initials of employee authorized to issue mandatory directives.
6	Receiving Employee	Record the time and initials given. Acknowledge the train dispatcher by repeating that information. State receiving employee's initials.

1009.4 Only those addressed by mandatory directives may act on them. Before acting on a mandatory directive, the employees affected must:

1. Each have a written copy, and
2. Make certain all members of the crew or work group read and understand it.

1009.5 When mandatory directives have been fulfilled, annulled, or canceled, employees must:

1. Clearly mark the directive with an X, and
2. Retain Form EC-1 for a period of 7 days.

1010 - Emergency Transmissions**1010.1** Emergency transmissions have priority over all other transmissions. Employees not involved in transmitting or responding to emergency transmissions must keep the channel clear for the duration of the emergency communications.

1010.2 When making an emergency transmission:

1. Transmit the words EMERGENCY, EMERGENCY, EMERGENCY,
2. Describe the situation and location, and
3. If no response is received, take necessary actions to ensure safety.

1010.3 Use emergency transmissions to report:

1. Accidents;
2. Emergency applications of the air brakes;
3. Storms, washouts, or flooding that affect safe rail operations;
4. Fires on the right-of-way, bridges, or track structure;
5. Obstructions to the track; and
6. Any other conditions that could cause:
 - a. Injury to employees or the public, or
 - b. Derailment or damage to property.

1010.4 The station transmitting the emergency message must broadcast the words EMERGENCY MESSAGE TERMINATED when normal radio communications can resume.

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Chapter 11 - Protection in Bowls and Blue Signal Protection

1100 - Required Protection in Bowl Tracks

1100.1 Request protection in bowl tracks of a hump yard before:

- a. Entering a bowl track with equipment, or
- b. Fouling equipment located in a bowl track, or
- c. Traversing a road crossing within the bowl in a motorized vehicle of any type.

1100.2 The employee requesting the protection must contact the operator of remotely controlled switches and:

1. State the type of work to be done,
2. State the track or tracks on which protection is needed, and
3. Receive confirmation that the protection is provided.

1100.3 The employee controlling remotely controlled switches must:

1. Line each switch against movement into the track or tracks being protected,
2. Apply blocking devices to the switches,
3. Notify the requesting employee that the protection is provided, and
4. Not remove the protection until informed by the requesting employee that protection is no longer needed and it is safe to do so.

1100.4 Maintain a written record for 15 days for each occurrence when protection is provided. The record must contain:

1. Name and craft of employee requesting protection,
2. Name and craft of employee providing the protection,
3. Track or tracks involved,
4. Date and time employee was notified that protection was provided, and
5. Date and time operator of the switches was informed that work was completed and employees were clear of affected tracks.

1101 - Blue Signal Protection General Rules

1101.1 When using the following terms in reference to blue signal protection, the associated definitions below apply:

- a. **Blue Signal:** A clearly distinguishable blue flag or blue light by day and blue light at night. When attached to the operating controls of a locomotive, it need not be lighted if the inside of the locomotive cab area is sufficiently lighted so as to make the blue signal clearly distinguishable.
- b. **Car Shop Repair Track Area:** One or more tracks within an area in which the testing, servicing, repair, inspection, or rebuilding of railroad rolling equipment is under the exclusive control of mechanical department personnel.
- c. **Effective Locking Device:** When used in relation to a manually operated switch or a derail, means one that is vandal resistant, tamper resistant, and capable of being locked and unlocked only by the class, craft, or group of employees for whom the protection is being provided. When used in relation to a remotely controlled switch, means a blocking device that effectively prevents the lever or button controlling the switch from being operated.
- d. **Group of Workmen:** Two or more workmen of the same or different crafts assigned to work together as a unit under a common authority and who are in communication with each other while the work is being done.
- e. **Locomotive:** A self-propelled unit of equipment designed for moving other equipment in revenue service, including a self-propelled unit designed to carry freight or passenger traffic or both, and may consist of one or more units operated from a single control.
- f. **Locomotive Servicing Track Area:** One or more tracks within an area in which the testing, servicing, repair, inspection, or rebuilding of locomotives is under the exclusive control of mechanical department personnel.
- g. **Rolling Equipment:** Locomotives, railroad cars, and one or more locomotives coupled to one or more cars.
- h. **Switch Providing Access:** A switch which if traversed by rolling equipment could permit that rolling equipment to couple to the equipment being protected.
- i. **Workmen:** Railroad employees assigned to inspect, test, repair, or service railroad rolling equipment or their components, including brake systems. Train and yard crews are excluded except when assigned to do such work on railroad rolling equipment that is not part of the train or yard movement they have been called to operate.

Note: Testing does not include visual observations made by an employee positioned inside or alongside a locomotive or passenger car, or marker inspection when the rear of the train is on a main track and the employee making the inspection has personally contacted the employee at the controls of the locomotive to verify that the train is and will remain secure against movement until the inspection has been completed.

Note: Servicing does not include supplying locomotives or passenger cars with items such as ice, drinking water, tools, sanitary supplies, stationery, or flagging equipment.

1101.2 Establish blue signal protection before workmen go on, under, or between rolling equipment except in the case of train and yard crews assigned to the equipment.

1101.3 Blue signals indicate that workmen are on, under, or between rolling equipment. When blue signals are displayed:

1. They may only be removed by an employee of the same craft or group that displayed them,
2. Equipment must not pass a blue signal,
3. Do not couple to or move equipment protected by blue signals, except as provided for in the rules that govern designated locomotive servicing track areas and car shop repair track areas, and
4. Do not place other rolling equipment on the same track if doing so reduces or blocks the visibility of blue signals, except as provided for in the rules that govern designated locomotive servicing track areas and car shop repair track areas.

1102 - Establishing Blue Signal Protection

1102.1 To establish blue signal protection on a main track, display blue signals:

1. At each end of the equipment, and
2. On the controlling locomotive in a location readily visible to the locomotive operator, if a locomotive is attached.

1102.2 To establish blue signal protection on other than a main track:

1. Display a blue signal at or near each manually operated switch that provides access to the track;
2. Line each switch that provides access to the track against movement and lock with an effective locking device or place a derail capable of restricting access to that portion of the track, provided that the derail is positioned no less than 150 feet from the end of the equipment and is locked in a derailing position with an effective locking device and a blue signal is displayed;
3. If remotely controlled switches are involved, the employee in charge of the workmen must notify the operator of remotely controlled switch(es) that work is scheduled and receive confirmation from the switch operator that each remotely controlled switch that provides access into the track on which the equipment is located has been lined against movement to that track and locked;
4. If rolling equipment is on a track equipped with one or more crossovers, line both switches of each crossover against movement through the crossover toward that rolling equipment and line the switch of each crossover that provides coupling access to the rolling equipment against movement to that track and lock with an effective locking device; and
5. Attach a blue signal to the controlling locomotive, if any, in a location readily visible to the locomotive operator at the controls of that locomotive.

1102.3 When emergency repair work must be performed and blue signals are not available, the locomotive operator must be notified and effective measures taken to protect the workmen. This does not apply within designated locomotive servicing track areas or car shop repair track areas.

1103 - Remotely Controlled Switches

1103.1 When notified that blue signal protection is required for workmen on tracks equipped with remotely controlled switches, the operator of the switches must take the following actions:

1. Line each switch connected to the affected track(s) against movement and apply an effective locking device,
2. Inform the employee in charge of the workmen that protection has been provided only after the switches have been lined and locked, and
3. Remove the locking device only when informed by the employee in charge of the workmen that it is safe to do so and all employees are clear of affected tracks.

1103.2 The operator of remotely controlled switches must record the following information and retain the information for 15 days:

1. Name and craft of employee requesting protection,
2. Number or name of track(s) involved,
3. Date and time the employee in charge of the workmen was notified that protection was established,
4. Date and time the operator of the switch(es) was informed that protection was no longer required, and
5. Name and craft of employee who notified the operator that protection was no longer required.

1104 - Locomotive Servicing Track Area

1104.1 To establish blue signal protection in a designated locomotive servicing track area:

1. Display a blue signal at or near each switch that provides entrance to or departure from the area;
2. Line each switch that provides entrance to or departure from the area against movement and lock with an effective locking device, or if the authorized speed within the area is not more than 5 MPH, a derail capable of restricting access to that portion of a track, provided it is positioned at least 50 feet from the end of the equipment to be protected by the blue signal, is locked in a derailing position with an effective locking device, and displays a blue signal; and
3. Attach a blue signal to each controlling locomotive in a location readily visible to the locomotive operator at the controls of that locomotive.

1104.2 To move a locomotive onto a locomotive servicing track displaying blue signal protection, remove the blue signal from the entrance switch to the area before granting permission to the employee controlling the locomotive, and then restore blue signal protection immediately after the locomotive clears the switch.

1104.3 To move a locomotive off a locomotive servicing track displaying blue signal protection, remove the blue signal from the controlling locomotive and the switch of the track the locomotive will exit before granting permission to the employee operating the locomotive. Restore blue signal protection immediately after the locomotive clears the switch.

1104.4 When operated by an authorized employee under the direction of the person in charge of the workmen, a locomotive protected by blue signals may be repositioned within a locomotive servicing track area only after the blue signal has been removed from the locomotive to be repositioned and the workmen on the affected track have been notified of the movement.

1104.5 Train or yard crews may couple locomotives inside a locomotive servicing track area only after:

1. Blue signal has been removed from the entrance switch to the area; and
2. The employee responsible for the workmen has informed the locomotive operator that no workman is on, under, or between equipment on the affected track(s) and blue signals have been removed from the affected locomotives.

1105 - Car Shop Repair Track Area

1105.1 To establish blue signal protection in a designated car shop repair track area:

1. Display a blue signal at or near each switch providing entrance to or departure from the area; and
2. Line each switch providing entrance to or departure from the area against movement to the area and lock with an effective locking device, or if the authorized speed within the area is not more than 5 MPH, a derail capable of restricting access to that portion of a track, provided it is positioned at least 50 feet from the end of the equipment to be protected by the blue signal, is locked in a derailing position with an effective locking device, and displays a blue signal.

1105.2 When operated by an authorized employee under the direction of the employee in charge of the workmen, a car mover may be used to reposition rolling equipment within a car shop repair track area after workmen on the affected track have been notified of the movement.

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Chapter 12 - Signal Aspects and Indications

1280 to 1298 - Standard

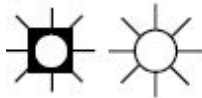
1280 Rules 1281 through 1298 show aspects that are displayed on color light signals, color position light signals, and semaphore signals. The aspects of semaphore signals are displayed by the position of the blade and/or the color of the light. The shape and color of semaphore blades have no significance.

Except as indicated in Rules 1281B(e), 1281C(d), 1291(a)(b)(c)(d)(e)(f)(h)(i)(j), 1293, 1294, and 1295, the presence of a number plate, C marker, P marker, or yellow triangle marker does not change the indications of the signal.

Except as indicated in Rules 1281B, 1282, 1282A, 1284, and 1290, the offset lower units of a signal will not be illuminated.

Note:

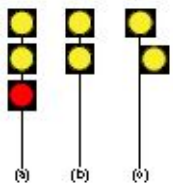
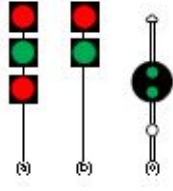
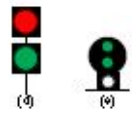
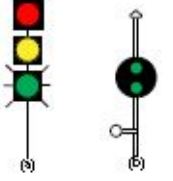
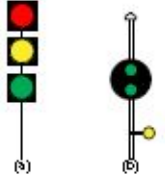
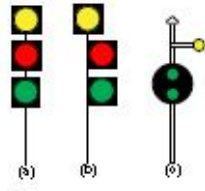
1. Numbers shown on number plates are illustrations only.
2. The following light illustration will indicate the signal is flashing.



1281 through 1282

RULE	HIGH SIGNAL ASPECTS	DWARF SIGNAL ASPECTS	NAME	INDICATION
1281			CLEAR	Proceed.
1281B			APPROACH LIMITED	Proceed, approaching next signal not exceeding Limited Speed.
1281C			LIMITED CLEAR	Limited Speed through turnouts, crossovers, sidings, and over power-operated switches then proceed.
1282			APPROACH MEDIUM	Proceed, approaching next signal not exceeding Medium Speed.
1281D			LIMITED APPROACH	Limited Speed through turnouts, crossovers, sidings, and over power-operated switches then proceed, prepared to stop at next signal.

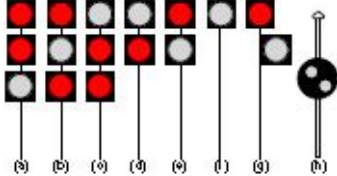
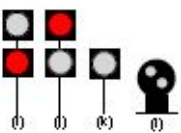
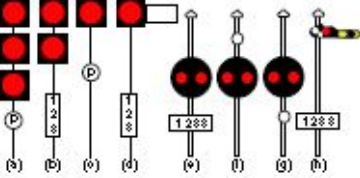
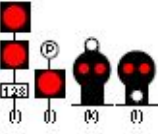
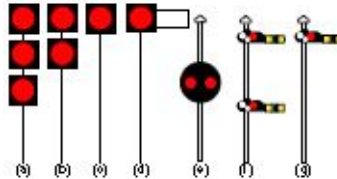
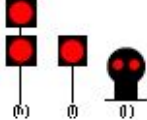
1282A through 1284

RULE	HIGH SIGNAL ASPECTS	DWARF SIGNAL ASPECTS	NAME	INDICATION
1282A	 (a) (b) (c)		ADVANCE APPROACH	Proceed, prepared to stop at second signal.
1283	 (a) (b) (c)	 (d) (e)	MEDIUM CLEAR	Medium Speed through turnouts, crossovers, sidings, and over power-operated switches then proceed.
1283A	 (a) (b)	 (c)	MEDIUM APPROACH MEDIUM	Medium Speed through turnouts, crossovers, sidings, and over power-operated switches then proceed, approaching next signal not exceeding Medium Speed.
1283B	 (a) (b)	 (c)	MEDIUM APPROACH SLOW	Medium Speed through turnouts, crossovers, sidings, and over power-operated switches then proceed, approaching next signal not exceeding Slow Speed.
1283C	 (a)	 (b)	MEDIUM ADVANCE APPROACH	Medium Speed through turnouts, crossovers, sidings, and over power-operated switches then proceed, prepared to stop at second signal.
1284	 (a) (b) (c)	 (d)	APPROACH SLOW	Proceed, approaching next signal not exceeding Slow Speed.

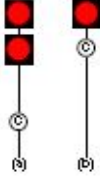
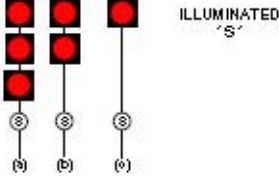
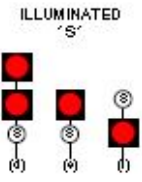
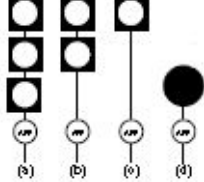
1285 through 1287

RULE	HIGH SIGNAL ASPECTS	DWARF SIGNAL ASPECTS	NAME	INDICATION
1285			APPROACH	Proceed, prepared to stop at the next signal. Trains exceeding Medium Speed must immediately begin reduction to Medium Speed as soon as the locomotive passes the Approach signal.
1285A			DISTANT SIGNAL	Approach next signal prepared to stop. Note: This signal provides information only about the next signal, not conditions of the track ahead.
1286			MEDIUM APPROACH	Medium Speed through turnouts, crossovers, sidings, and over power-operated switches then proceed, prepared to stop at next signal.
1287			SLOW CLEAR	Slow Speed through turnouts, crossovers, sidings, and over power-operated switches then proceed.

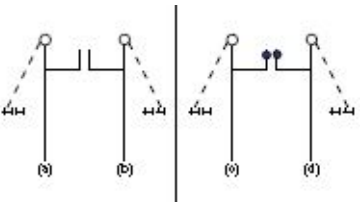
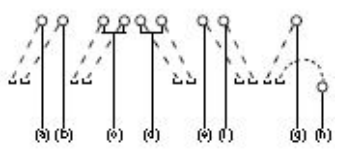
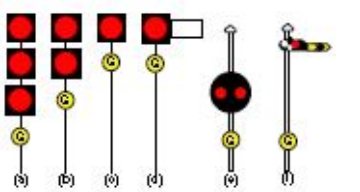
1287A through 1292

RULE	HIGH SIGNAL ASPECTS	DWARF SIGNAL ASPECTS	NAME	INDICATION
1287A			SLOW APPROACH SLOW	Slow Speed through turnouts, crossovers, sidings, and over power-operated switches then proceed, approaching next signal not exceeding Slow Speed.
1288	 	  	SLOW APPROACH	Slow speed through turnouts, crossovers, sidings, and over power-operated switches then proceed, prepared to stop at next signal.
1290			RESTRICTING	Proceed at Restricted Speed.
1291			RESTRICTED PROCEED	Proceed at Restricted Speed.
1292			STOP	Stop.

1293 through 1295

RULE	HIGH SIGNAL ASPECTS	DWARF SIGNAL ASPECTS	NAME	INDICATION
1293			STOP AND CHECK	Stop and check position of drawbridge, spring switch, derails, or gates protecting railroad crossings. If way is clear and drawbridge, spring switch, derails, or gates are in proper position, proceed at Restricted Speed. NOTE: Stop and Check signal is designated by C Marker.
1294			STOP AND OPEN SWITCH	Stop and open hand-operated switch. Note: Stop and Open Switch signal is designated by an illuminated S marker.
1295			APP MARKER	Proceed, approaching next signal or switch position indicator as authorized by the aspect displayed. If the signal is dark, proceed, prepared to stop at the next signal or switch until it can be plainly seen that indication of next signal or switch indicator allows train to proceed. Note: A signal equipped with APP marker provides information only about the next signal, not conditions of the track ahead.

1296 through 1298

RULE	HIGH SIGNAL ASPECTS	DWARF SIGNAL ASPECTS	NAME	INDICATION
1296			DOLL ARM	EXPLANATION: A track intervenes between the signal and the track governed by the signal. When more than one track intervenes, the number of doll arms, with or without blue lights, is correspondingly increased.
1297			ADJACENT OR BRACKETED SIGNALS	EXPLANATION: Right-hand signal governs right-hand track and left-hand signal governs left-hand track.
1298			GRADE	INDICATION: Proceed at Restricted Speed. Note: Grade signal is designated by a G marker.

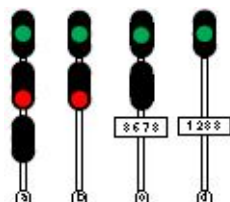
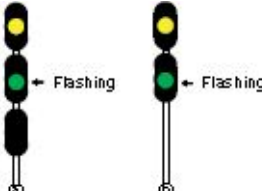
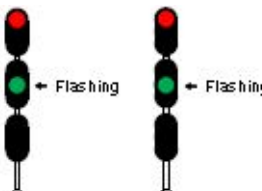
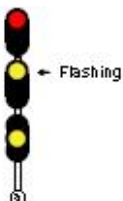
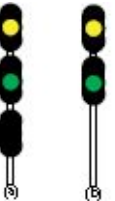
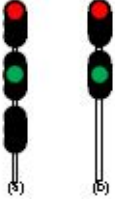
C1280 to C1298 - Chessie

C1280 Rules C1281 Through C1298 show aspects that are displayed on color light signals.

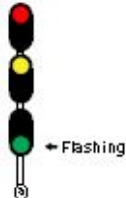
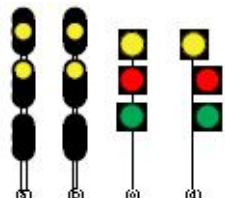
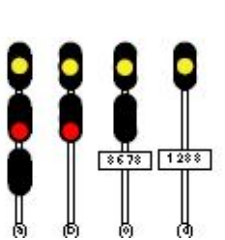
Except as indicated in Rules C1281(e), C1285(e), and C1291(a)(b)(c)(d), the presence of a number plate does not change the indication of the signal.

Note: Numbers shown on number plates are illustrations only.

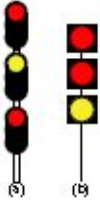
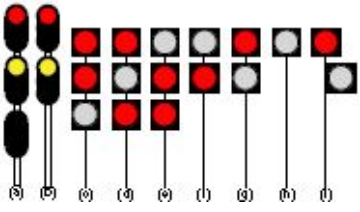
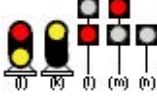
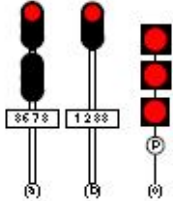
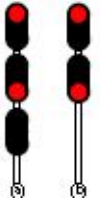
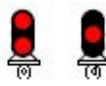
C1281 through C1283

RULE	HIGH SIGNAL ASPECTS	DWARF SIGNAL ASPECTS	NAME	INDICATION
C1281			CLEAR	Proceed.
C1281B			APPROACH LIMITED	Proceed, approaching next signal not exceeding Limited Speed.
C1281C			LIMITED CLEAR	Limited Speed through turnouts, crossovers, sidings, and over power-operated switches then proceed.
C1281D			LIMITED APPROACH	Limited Speed through turnouts, crossovers, sidings, and over power-operated switches then proceed, prepared to stop at next signal.
C1282			APPROACH MEDIUM	Proceed, approaching next signal not exceeding Medium Speed.
C1283			MEDIUM CLEAR	Medium Speed through turnouts, crossovers, sidings, and over power-operated switches then proceed.

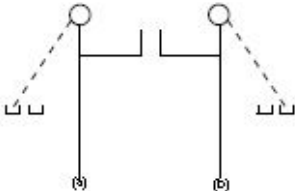
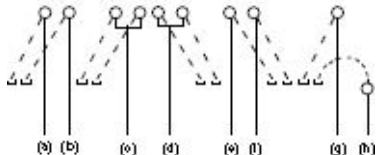
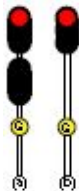
C1283A through C1287

RULE	HIGH SIGNAL ASPECTS	DWARF SIGNAL ASPECTS	NAME	INDICATION
C1283A			MEDIUM APPROACH MEDIUM	Medium Speed through turnouts, crossovers, sidings, and over power-operated switches then proceed, approaching next signal not exceeding Medium Speed.
C1283B			MEDIUM APPROACH SLOW	Medium Speed through turnouts, crossovers, sidings, and over power-operated switches then proceed, approaching next signal not exceeding Slow Speed.
C1284			APPROACH SLOW	Proceed, approaching next signal not exceeding Slow Speed.
C1285			APPROACH	Proceed, prepared to stop at the next signal. Trains exceeding Medium Speed must immediately begin reduction to Medium Speed as soon as the locomotive passes the Approach signal.
C1286			MEDIUM APPROACH	Medium Speed through turnouts, crossovers, sidings, and over power-operated switches then proceed prepared to stop at next signal.
C1287			SLOW CLEAR	Slow Speed through turnouts, crossovers, sidings, and over power-operated switches then proceed.

C1288 through C1292

RULE	HIGH SIGNAL ASPECTS	DWARF SIGNAL ASPECTS	NAME	INDICATION
C1288			SLOW APPROACH	Slow Speed through turnouts, crossovers, sidings, and over power-operated switches then proceed prepared to stop at next signal.
C1290			RESTRICTING	Proceed at Restricted Speed.
C1291			RESTRICTED PROCEED	Proceed at Restricted Speed.
C1292			STOP	Stop.

C1295 through C1298

RULE	HIGH SIGNAL ASPECTS	DWARF SIGNAL ASPECTS	NAME	INDICATION
C1295			APP MARKER	Proceed, approaching next signal or switch position indicator as authorized by the aspect displayed. If the signal is dark, proceed, prepared to stop at the next signal or switch until it can be plainly seen that indication of next signal or switch indicator allows train to proceed. Note: A signal equipped with APP marker provides information only about the next signal, not conditions of the track ahead.
C1296			DOLL ARM	EXPLANATION: A track intervenes between the signal and the track governed by the signal. When more than one track intervenes, the number of doll arms, with or without blue lights, is correspondingly increased.
C1297			ADJACENT OR BRACKETED SIGNALS	EXPLANATION: Right-hand signal governs the right-hand track and left-hand signal governs the left-hand track.
C1298			GRADE	INDICATION: Proceed at Restricted Speed. Note: Grade signal is designated by a G marker.

CR1277 to CR1295 - Conrail

CR1277 General Requirements; Qualifying Features

The signal aspects and indications illustrated in rules CR1279 through CR1295 govern the movement of trains. Other aspects must not be used unless shown in the timetable with location, indication, and name.

Aspects are shown by one or more of the following methods:

- The color lights, or
- The flashing of lights, or
- The position of lights, or
- The position of semaphore arms, or
- The shape of the signal background on a position light dwarf or pedestal signal, or
- The shape, color, or lettering of signs.

The following figure is used with signal aspects to indicate a flashing light.



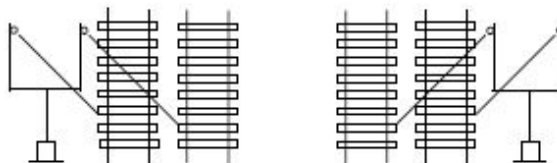
The following figure is used with signal aspects to indicate a number plate.



A number plate attached to a signal's mast or in an adjacent location signifies that the signal's most restrictive indication is more favorable than Stop. Number plates are illustrated in these rules only when they are needed to qualify the signal aspect.

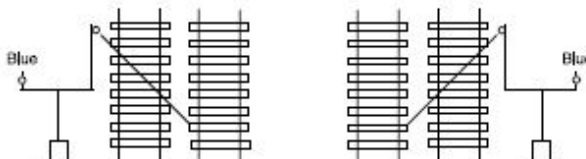
Where signals are located on a bracket post to display aspects for two tracks, the right-hand signal governs the track to the right, and the left-hand signal governs the track to the left.

Example:



Where a track intervenes between the signal and the track governed, a dummy mast, marked by a blue light or reflector, will be placed to the field side of the signal.

Example:



CR1279 Cab Signal Aspects

In accordance with CSX Rules regarding cab signals conforming to fixed signals, the following chart illustrates the cab signal aspect that must conform to the applicable fixed signal.

Name	Aspects	SDU Display
Clear	  	The center speedometer numerals in green.
Cab Speed	  	A green band 0 to 80 MPH.
Approach Limited	     	A green band 0 to 45 MPH.
Approach Medium	     	A green band 0 to 45 MPH.
Approach	  	A green band 0 to 30 MPH.
Restricting	   	A green band 0 to 20 MPH, yellow band at 0.
Stop Signal	  	A green band 0 to 20 MPH, yellow band at 0.
Some locomotives are equipped with a Speed Display Unit (SDU) that displays an authorized speed, rather than an aspect representation of a fixed signal.		

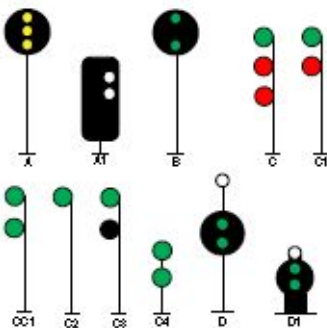
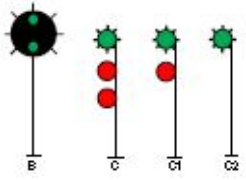
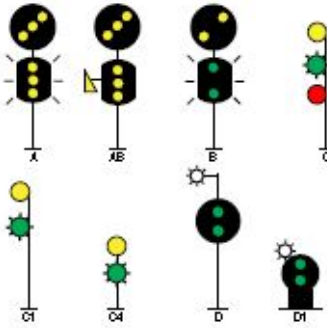
The following chart identifies the cab signal(s) that must be displayed to conform to each fixed signal in accordance with CSX Rules regarding cab signals conforming to fixed signals.

Fixed Signal	Conforming Cab Signal(s)
Clear	Clear
Cab Speed	Clear, Cab Speed, Approach Limited, Approach Medium
Limited Clear	Approach Limited, Approach Medium
Medium Clear	Approach Medium
Approach Limited	Approach Limited, Approach Medium
Approach Medium	Approach Limited, Approach Medium
Advance Approach	Approach Limited, Approach Medium
Medium Approach	Approach
Approach	Approach
Approach Slow	Approach
Slow Clear	Restricting
Slow Approach	Restricting
Restricting	Restricting
Stop & Proceed	Restricting
Stop Signal	Restricting

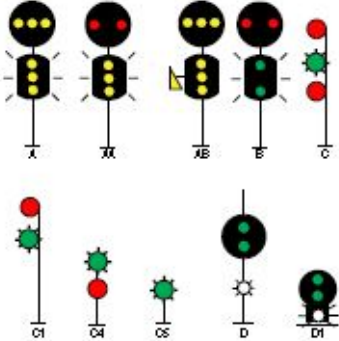
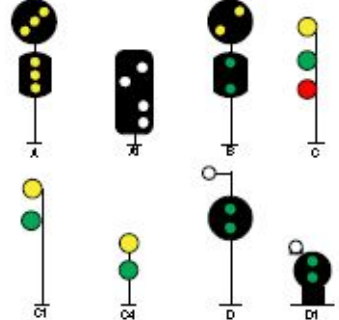
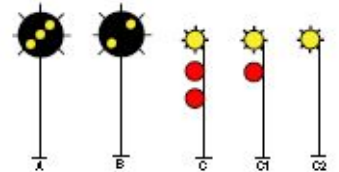
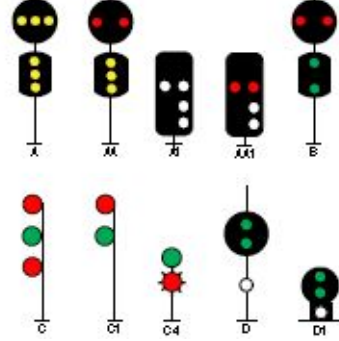
When the movement of a train is governed solely by the cab signal, the indication of the fixed signal with the same indication (i.e. Clear, Cab Speed, Approach Limited, Approach Medium, Approach, or Restricting) will apply. Movements are governed solely by cab signals when:

- The train is operating in territory where cab signals are used without fixed automatic block signals, or
- The cab signal changes between fixed signals, or
- The cab signal is more restrictive than the fixed signal when the train enters a block.

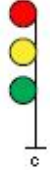
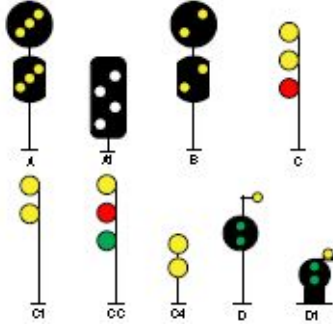
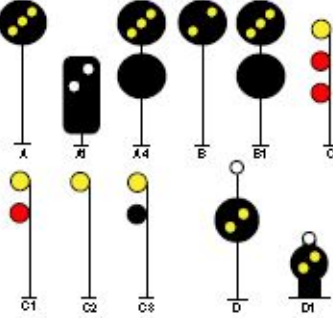
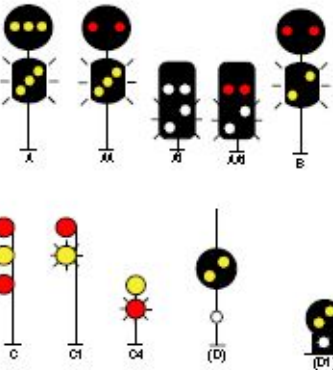
CR1280 to CR1281B

RULE	ASPECTS	NAME	INDICATION
CR1280A		CLEAR TO NEXT INTERLOCKING	Trains without operative cab signals must proceed on fixed signal indications not exceeding 79 MPH, approaching next home signal prepared to stop.
CR1280B		APPROACH NORMAL	Trains without operative cab signals must proceed on fixed signal indications not exceeding 79 MPH.
CR1281		CLEAR	Proceed.
CR1281A		CAB SPEED	Proceed in accordance with cab signal indication. Reduce speed to not exceeding 60 MPH if Cab Speed cab signal is displayed without a signal speed or if cab signals are not operative.
CR1281B		APPROACH LIMITED	Proceed, approaching the next signal at Limited Speed.

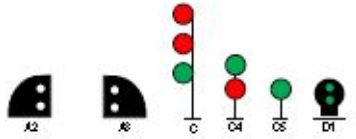
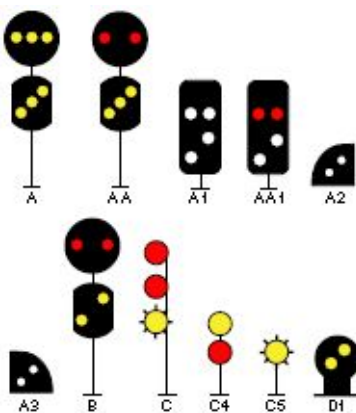
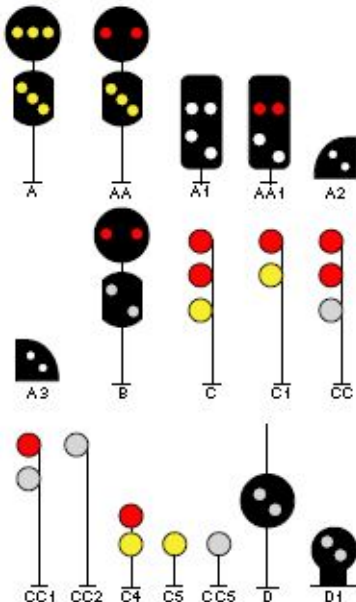
CR1281C to CR1283

RULE	ASPECTS	NAME	INDICATION
CR1281C		LIMITED CLEAR	Proceed at Limited Speed until entire train clears all switches then proceed. In CSS territory with fixed automatic block signals, trains not equipped with operative cab signals must approach the next signal at Limited Speed.
CR1282		APPROACH MEDIUM	Proceed, approaching the next signal at Medium Speed.
CR1282A		ADVANCE APPROACH	Proceed, prepared to stop at the second signal. Trains exceeding Limited Speed must begin reduction to Limited Speed as soon as the locomotive passes the Advance Approach signal.
CR1283		MEDIUM CLEAR	Proceed at Medium Speed until entire train clears all switches then proceed. In CSS territory with fixed automatic block signals, trains not equipped with operative cab signals must approach the next signal at Medium Speed.

CR1283A to CR1286

RULE	ASPECTS	NAME	INDICATION
CR1283A		MEDIUM APPROACH MEDIUM	Proceed at Medium Speed until entire train clears all switches then approach the next signal at Medium Speed. Trains exceeding Medium Speed must begin reduction to Medium Speed as soon as the Medium Approach Medium signal is clearly visible.
CR1284		APPROACH SLOW	Proceed approaching the next signal at Slow Speed. Trains exceeding Medium Speed must begin reduction to Medium Speed as soon as the locomotive passes the Approach Slow signal.
CR1285		APPROACH	Proceed, prepared to stop at the next signal. Trains exceeding Medium Speed must begin reduction to Medium Speed as soon as the locomotive passes the Approach signal.
CR1286		MEDIUM APPROACH	Proceed, prepared to stop at the next signal. Trains exceeding Medium Speed must begin reduction to Medium Speed as soon as the Medium Approach signal is clearly visible.

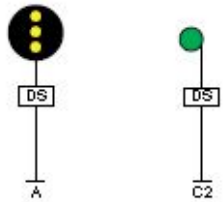
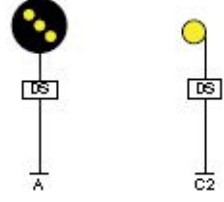
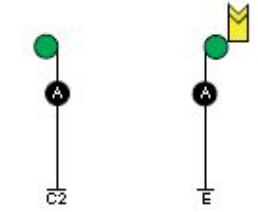
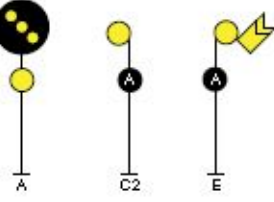
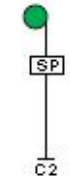
CR1287 to CR1290

RULE	ASPECTS	NAME	INDICATION
CR1287		SLOW CLEAR	Proceed at Slow Speed until entire train clears all switches then proceed. In CSS territory with fixed automatic block signals, trains not equipped with operative cab signals must approach the next signal at Medium Speed once they have left CP limits.
CR1288		SLOW APPROACH	Proceed, prepared to stop at next signal. Slow Speed applies until entire train clears switches then Medium Speed applies.
CR1290		RESTRICTING	Proceed at Restricted Speed until the train has cleared all switches (if signal is CP signal) and the leading wheels have: - Passed a more favorable fixed signal, or - Entered non-signaled DCS territory. In CSS territory, trains with operative cab signals must not increase speed until the train has run one train length or 500 feet (whichever distance is greater) past a location where a more favorable cab signal was received.

CR1291 to CR1292

RULE	ASPECTS	NAME	INDICATION
CR1291		RESTRICTED PROCEED	Proceed at Restricted Speed until the train has cleared all switches (if signal is CP signal) and the leading wheels have: - Passed a more favorable fixed signal, or - Entered non-signaled DCS territory. In CSS territory, trains with operative cab signals must not increase speed until the train has run one train length or 500 feet (whichever distance is greater) past a location where a more favorable cab signal was received. Where a letter G (grade marker) or a letter R (restricting marker) is displayed in addition to a number plate as part of these aspects, they will not change or affect the indication.
CR1292		STOP	Stop.

CR1293 to CR1294A

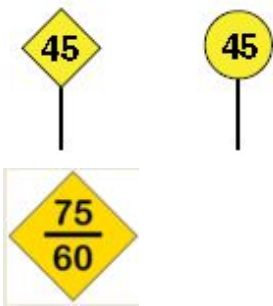
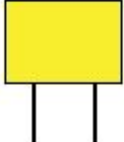
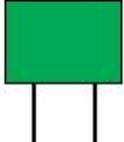
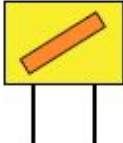
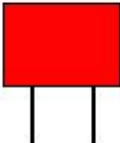
RULE	ASPECTS	NAME	INDICATION
CR1293		SWITCH CLOSED	Proceed.
CR1293A		SWITCH OPEN	Proceed, prepared to stop short of open switches.
CR1293B		APPROACH CLEAR	Proceed. Note: Does not convey block or track information.
CR1293C		APPROACH RESTRICTING	Proceed, prepared to stop at the next signal. Trains exceeding Medium Speed must begin reduction to Medium Speed as soon as the locomotive passes the Approach Restricting signal. Note: Does not convey block or track information.
CR1294		CLEAR SLIDE DETECTOR	Proceed, slide detector not actuated.
CR1294A		SLIDE DETECTOR	Approach actuated slide detector prepared to stop short of obstruction.

CR1295

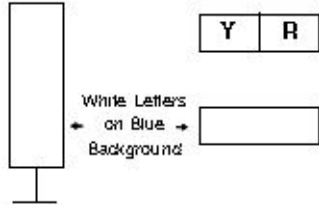
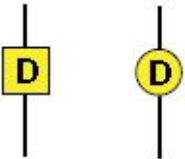
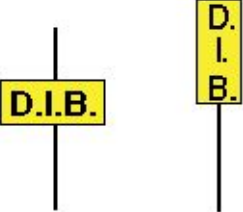
RULE	ASPECTS	NAME	INDICATION
CR1295		APP MARKER	Proceed, approaching next signal or switch position indicator as authorized by the aspect displayed. If the signal is dark, proceed, prepared to stop at the next signal or switch until it can be plainly seen that indication of next signal or switch indicator allows train to proceed. Note: A signal equipped with APP marker provides information only about the next signal, not conditions of the track ahead.

Wayside Signs

Wayside Signs

SIGN	NAME	INDICATION
	PERMANENT REDUCE SPEED SIGN	Reduce speed as required in special instructions. When one speed is shown, it indicates the speed for all trains. When two speeds are shown, the higher speed indicates the speed permitted for passenger trains and the lower speed indicates the speed permitted for other trains. If the same speed restriction applies to all tracks, only one sign may be used.
	PERMANENT END RESTRICTION SIGN	Resume speed after rear of train has passed.
	TEMPORARY REDUCE SPEED SIGN	Reduce speed as required.
	TEMPORARY END RESTRICTION	Resume speed after rear of train has passed.
	WARNING SIGN	Prepare to stop or reduce speed as required.
	CONDITIONAL STOP SIGN	Stop before entering limits unless permission to enter limits is obtained.

Wayside Signs

SIGN	NAME	INDICATION
TWC station sign with station name in blue background with white letters. Note: Yellow portion of sign is next to the track governed. ADDITIONAL SIGNS 	TWC STATION SIGN	Limit of Authority in TWC Territory when designated on Form EC-1. Note: Location of TWC stations are indicated by (D) in Timetable Station page. Note: TWC station signs may be mounted on a post or on a signal house. The presence of yellow and red banner does not change the indication.
	DISTANT SIGNAL MARKER	Visual reminder to push-pull trains. Note: Located on or near the mast of distant signals in territory where push-pull trains operate, cab signals are not in service, and the maximum speed of trains exceeds 30 MPH.
	DELAY IN BLOCK SIGN	Visual reminder to push-pull trains that the rules governing being delayed or stopped in a block apply to station stops made at this station. Note: Located at or near the end of passenger stations in blocks between distant signals and home signals in territory push-pull trains operate, cab signals are not in service, and the maximum speed of trains exceeds 30 MPH.

Appendices and Glossary

Appendix A - Transportation Good Faith Challenge

TR-GFC Transportation Good Faith Challenge

Employees have the right to challenge in good faith any directive which would, in the employee's good faith, violate federal regulations found in 49 CFR, Part 218, Subpart F governing:

- a. Shoving or pushing equipment, or
- b. Leaving equipment in the clear, or
- c. Hand-operated switches and crossovers, or
- d. Hand-operated fixed derails.

Making a Good Faith Challenge

An employee makes a good faith challenge by informing his or her supervisor of the employee's determination that a supervisor's directive would cause the employee to violate federal regulations in 49 CFR, Part 218, Subpart F.

Until the good faith challenge is resolved, the employee is not required to comply with the directive; however, the supervisor may assign the employee to other duties until resolution.

The supervisor may direct another employee to perform the work under challenge before resolution of the challenge provided the other employee:

1. Is informed of the challenge,
2. Is provided a synopsis of the challenge, and
3. Does not make a good faith challenge to the directive.

Resolving a Good Faith Challenge

When an employee makes a good faith challenge, the supervisor works with the employee to resolve the matter promptly and equitably in conformity with the relevant rules and regulations. The challenge is resolved by:

- a. Supervisor acceptance that the directive would cause the employee to violate relevant rules and regulations and agreement of an acceptable alternative that is in compliance with relevant rules and regulations, or
- b. Employee acceptance that the directive does not violate relevant rules and regulations and agreement to perform the task.

When a good faith challenge is not resolved after discussion due to supervisor's determination that challenge was not in good faith or when no reasonable alternative to the directive exists, the supervisor must contact the Manager Safety and Operating Practices (MSOP) or the Senior Road Foreman of Engines (SRFE) for the division for immediate review of the challenge.

The reviewing officer may resolve the challenge by:

- a. Acceptance that the directive would cause the employee to violate relevant rules and regulations and agreement of an acceptable alternative that is in compliance with relevant rules and regulations, or
- b. Employee acceptance that the directive does not violate relevant rules and regulations and agreement to perform the task, or
- c. Determining that the challenge is not valid and, if applicable, directing the employee to perform the challenged task. The reviewing officer must explain to the employee that federal law may protect the employee from retaliation if the employee refuses to do the work and if the employee's refusal is a lawful, good faith act. *Continued on next page*

Transportation Good Faith Challenge *continued*

The reviewing officer's decision is not subject to further immediate review. The supervisor must give the employee the opportunity to fill out and keep a copy of the Good Faith Challenge Form, located in current system notices, before going off duty. The employee uses the form to document any protest to the reviewing officer's decision.

Upon written request of the employee by means of the Good Faith Challenge Form and within 30 days after the expiration of the month of the challenge, the appropriate Division Manager must review the original reviewing officer's decision and issue a written decision to the employee. The decision must verify the proper application of the regulation, procedure, or rule in question and provide enough background information to understand the challenge, cite applicable rules and procedures, and provide an in-depth explanation.

A good faith challenge is not intended to abridge any rights or remedies available to the employee under a collective bargaining agreement or any federal law, including but not limited to the anti-retaliation protections in 29 USC 651 ET SEQ., 6 USC 1142, or 49 USC 20109.405.1

Appendix B - Engineering Department On-Track Safety Good Faith Challenge

EN-GFC Engineering Department On-Track Safety Good Faith Challenge

CSXT employees have the absolute right to challenge, in good faith, whether:

- a. The On-Track Safety procedures applied at the job location comply with CSXT Rules, or
- b. Roadway maintenance machine or hi-rail vehicle in use complies with FRA regulations or has a condition that prevents its safe operation.

Making a Good Faith Challenge

Prior to initiating a challenge, the employee shall discuss the issue at the job location with the employee-in-charge to clarify any misunderstanding that may exist.

When making a good faith challenge:

1. Do not foul the track or operate the equipment until resolution of the challenge,
2. Refuse any directive to violate any on-track worker rule or FRA regulation, and
3. Notify the employee-in-charge (or the employee's immediate supervisor) of the challenge.

Receiving a Good Faith Challenge

When an employee makes a good faith challenge, the employee-in-charge must:

1. Instruct all employees to not foul the track, if on-track protection is the basis for the challenge,
2. Instruct the operator of the equipment not to operate the equipment, if an unsafe roadway maintenance machine or hi-rail vehicle is the basis for the challenge; and
3. Attempt to resolve the challenge.

If the employee-in-charge agrees with the concerns expressed, take the appropriate steps to correct the situation before permitting employee(s) to foul the track or operate the machinery.

If the employee-in-charge does not agree with the concerns expressed, inform the employee that there is no agreement and instruct employee to complete a CSXT Good Faith Challenge Form.

Resolving a Dispute Involving a Good Faith Challenge

In the event the roadway worker maintains the good faith challenge, the employee-in-charge must submit the completed CSXT Good Faith Challenge Form to the appropriate officer and request resolution. Submit challenges concerning:

- a. On-track safety procedures to CSXT's Operation Center, or
- b. Roadway maintenance machine or hi-rail vehicle to the plant manager at the Bryan Park Equipment Shop.

The officer with jurisdiction determines the outcome of the challenge and takes the following action:

- a. If the challenge is valid, instruct the employee-in-charge to make whatever corrections are necessary, inform the employee(s) of the corrections, and instruct the employee(s) to return to work, or
- b. If the challenge is not valid, instruct the employee(s) to return to work.

Glossary

Terms

Absolute Signal - A color light, color position light, or semaphore signal that conveys Stop as its most restrictive aspect and does not have a number plate, P marker, APP marker, C marker, or G marker.

Activation Failure - A condition when the highway-rail crossing at grade automatic warning devices fail to indicate the approach of a train.

Adjacent Controlled Track - When used for the purpose of adjacent controlled track on-track safety, it is a controlled track whose track center is spaced 19 feet or less from the track center of the occupied track.

Adjacent Tracks - Two or more tracks with track centers spaced less than 25 feet apart.

Authority for Movement - The means by which a train or on-track equipment is granted the right to occupy a portion of track and is protected against other movements.

Authorized Speed - The maximum speed a train or on-track equipment is authorized to operate. The speed will be designated by rule, special instruction, train documentation, dispatcher message, Form EC-1, or signal indication.

Automatic Block Signal (ABS) System - A series of consecutive blocks whose use is governed by train-actuated block signals or by certain conditions affecting the use of a block. Unless specified, such signals do not authorize the movement of trains.

Automatic Railroad Crossing - A railroad crossing at grade protected by signals that are actuated automatically by the approach of a train.

Auxiliary Track - A track other than a main track.

Block - A track section of defined limits. In signaled territory, a block is the track section between two consecutive block signals governing movements in the same direction. It is also the track section from a block signal to the end of signaled territory.

Block Signal - A fixed signal displayed to trains at the entrance of a block to govern use of the block.

Blocking Device - A lever, plug, ring, or other method of control that restricts the operation of switch or signal.

Blue Signal - A clearly distinguishable blue flag or blue light by day and blue light at night. When attached to the operating controls of a locomotive, it need not be lighted if the inside of the cab area of the locomotive is sufficiently lighted to make the blue signal clearly distinguishable.

Bolt Lock Switch - A hand-operated switch equipped with a pipe connected locking device designated to shunt the signal system before the switch points are operated.

C&E - The conductor and locomotive operator assigned to a specific train.

Cab Signal System (CSS) - The CSS interconnects with the fixed signal system to provide the locomotive operator with continuous information on the occupancy and/or condition of the track ahead.

Car Shop Repair Track Area - One or more tracks within an area in which the testing, servicing, repair, inspection, or rebuilding of railroad rolling equipment is under the exclusive control of mechanical department personnel.

Centralized Train Dispatching System (CTDS) - A system by which controlled signals or instructions of a train dispatcher from a centralized location or both govern train and on-track equipment movements.

Chock - A wedge or block placed against a wheel to prevent movement.

City Ordinance - A speed restriction enacted by municipal authorities and identified in special instructions that defines the authorized speed and how the speed applies.

Clearance Point - The location near a turnout beyond which it is unsafe for passage on an adjacent track and unsafe for an employee to ride the side of equipment on the adjacent track.

Close Clearance - A permanent or temporary object or structure that prevents the safe passage of an employee riding the side of the equipment.

Color Light Signal - A fixed signal that displays aspects by the color of a light. It may also display aspects by a combination of colored lights.

Color Positions Light (CPL) Signal - A fixed signal that displays aspects by the color or position of two or more lights.

Conductor - An employee who is certified as a conductor and works in a designated conductor position.

Constant Warning Time Devices - Shall be capable of monitoring the speed of an approaching train and predicting the arrival of the train at a crossing to provide a relatively uniform warning time at various speeds. Trains must not accelerate in the approach of a crossing equipped with a grade crossing predictor.

Control Station - A designated office or location from which a designated employee authorizes and directs the movements of trains and on-track equipment by issuing mandatory directives or operating signal and switch appliances.

Controlled Point or Control Point (CP) - A station designated in the timetable where signals are remotely controlled from the control station.

Controlled Point System (CPS) - A signal system consisting of controlled points in which controlled point rules are in effect.

Controlled Siding - A track designated as a controlled siding in special instructions used for the purposes of meeting and passing trains. In signal territory, signals do not govern movement on the siding. Entrance and exit signals only authorize trains to enter or leave the siding.

Controlled Signal - A fixed signal operated from a control station used to govern the movement of trains.

Controlled Track - A track designated in special instructions where a train dispatcher authorizes all movements.

Crossover - A track connection between two adjacent, but not necessarily parallel, tracks consisting of two switches whose primary purpose is to allow crossing from one track to the other.

Crossing Island Circuit - That portion of the highway-rail crossing at grade where the highway directly crosses the railroad tracks. For detection purposes, a train is considered to be occupying the island when it is a minimum of 100 feet from either edge where the highway crosses the tracks. Island may or may not be defined by insulated joints. Crossing will not recover if a train is occupying this circuit.

CSX Procedural Instruction Manual (PIM) - Written instructions issued to train dispatchers by Network Operations concerning the safety or movement of trains and employees.

CSX Train Documentation - A computer-generated or hand-written document consisting of some or all of the following:

- a. Tonnage Graph, or
- b. Restricted and Special Handling List, or
- c. CT-168 Report, or
- d. Clearance Bureau Instructions, or
- e. Train Listing and Hazardous Endorsement, or
- f. Hazardous Special Handling Instructions, or
- g. Hazardous Materials Radio Waybill Form.

Current of Traffic (COT) - The movement of trains on a main track, in one direction, as specified by the rules or special instructions.

Defect Detector - A wayside device used to detect mechanical malfunctions of equipment or equipment that is too high or wide to move safely.

Derail - A track safety device designed to guide equipment off the rails at a selected spot as a means of protection against collisions or other accidents.

Dispatcher Bulletin - A computer-generated form issued by the train dispatcher containing current operating instructions that apply to the train addressed as well as information relating to the most recently issued system and division bulletins.

Dispatcher Message - Part of a dispatcher bulletin containing instructions and mandatory directives issued by the train dispatcher that govern the operations of trains.

Division - That portion of a railroad assigned to the supervision of a division manager.

Division Bulletin - Written or electronically transmitted special instructions issued by a division concerning the safety of employees and the movement of trains.

Division Notice - Written or electronically transmitted notice issued by a division containing information and instructions not affecting the movement of trains.

Drawbridge - A bridge made to be raised up or down or drawn to the side to permit or prevent passage.

Dual-Controlled Switch - A power-operated switch also equipped for hand operation.

Effective Locking Device - Manually Operated Switch or Derail - A device that is:

1. Vandal resistant,
2. Tamper resistant, and
3. Designed to be applied, secured, uniquely tagged, and removed only by the class, craft, or group of employees for whom protection is being provided.

Effective Locking Device - Remotely Controlled Switch - A blocking device that effectively prevents the lever or button controlling the switch from being operated.

Electric Lock - An electrical locking device applied to a hand-operated switch, derail, or gate.

Electric Lock Switch - A hand-operated switch with an electric locking device applied.

Emergency Inspection or Repairs - Inspection or repairs required to ensure the safe movement of trains and on-track equipment due to unforeseen circumstances such as, but not limited to, a derailment or forces of nature.

Employee-In-Charge (EIC) - A designated roadway worker qualified on Operating and On-Track Worker Rules and physical characteristics who is responsible for all movements and on-track safety for a roadway work group within working limits.

End-of-Train Device (EOT) - A portable sensory transmitter unit mounted on the last car of a train.

Engine - A term that is synonymous with locomotive. See *also* Locomotive.

Equipment - When used in the operating rules this refers to locomotives, railroad cars, and any maintenance of way equipment designed to be placed on or operate on the rail.

Excepted Track - A segment of track that is identified in special instructions, where:

- a. No train shall be operated at speeds more than 10 MPH, or
- b. No revenue passenger train shall be operated, or
- c. No freight train shall be operated that contains more than five cars required to be placarded by the Hazardous Materials Regulations (49 CFR).

Exclusive Authority to Move - A condition that exists when a train or on-track equipment is the only movement authorized to occupy and move within a block or within the limits of an EC-1 or EC-1e authority.

Exclusive Track Occupancy - A method of establishing working limits on a controlled track in which movement authority of trains and other equipment is withheld by the train dispatcher or, in case of emergency, restricted by flagman.

False Activation - A condition when the highway-rail crossing at grade automatic warning devices indicate to motorists that it is not safe to cross when, in fact, it is safe to do so.

Field Side of Rail - The face pointing away from the track or the outside face.

Fixed Signal - A permanent signal or sign indicating a condition affecting train movement.

Flagger (Crossing) - A person other than a train crewmember who is equipped with a vest, shirt, or jacket of a color appropriate for daytime flagging such as orange, yellow, strong yellow, green, or fluorescent versions of these colors or other generally accepted high visibility colors. For nighttime flagging, similar outside garments shall be retroreflective. Acceptable hand signal devices for daytime flagging include STOP/SLOW paddles or red flags. For nighttime flagging, a flashlight, lantern, or other lighted signal shall be used.

Flagman - A designated employee whose only responsibility is to direct or restrict the movement of trains at a specific point to provide on-track protection for roadway workers.

Form EC-1 - A form used to record specific instructions or dispatcher messages from the train dispatcher regarding movements on controlled tracks.

Fouling a Connecting Track - When equipment is standing so that the end of the equipment is between the clearance point of the track and the switch points of a connecting track, or when an individual is within four feet of the field side of the nearest rail or between the rails of a track.

Fouling an Improperly Lined Switch - When equipment is standing or proceeds past the clearance point of an improperly lined switch.

Fouling Equipment - To be within 25 feet of the end of equipment or to extend any part of the body between or under equipment to include applying or releasing a hand brake mounted on the end of a car with or without a brake stick. It does not include:

- a. Operating a bleed rod or a cut lever, or
- b. Operating a side mounted hand brake, or
- c. A Transportation employee stationed at an EOT of his or her train for the purpose of performing a brake test.

Frog - A device made of rail section constructed and assembled to permit the wheels on one rail of a track to cross another rail of an intersecting track. When viewed from above, it resembles an X.

Ground Air - A device with associated air lines designed to provide a supply of air to the air brake system of rail equipment located near tracks.

Group of Workmen - Two or more workmen of the same or different crafts assigned to work together as a unit under a common authority and who are in communication with each other while working.

Hand-Operated Switch - Any type of switch when operated by manual manipulation. Push button or radio control operated switches are governed by the rules for hand operated switches if the switches are not equipped with a signal or switch position indicator light.

Head-of-Train Device (HTD) - A device on a locomotive that receives information from and transmits to an end-of-train device.

Highway-Rail Crossing at Grade - A location where a highway, road, street, or pedestrian walkway crosses one or more railroad tracks at grade.

Hi-Rail Vehicle - A roadway maintenance machine that has been:

1. Equipped with retractable, flanged wheels to permit operation on highways or railroad tracks, and
2. Manufactured to meet federal motor vehicle safety standards.

Home Signal - An absolute fixed signal, capable of displaying a Stop indication, governing the entrance to a route, block, or interlocking.

Hump Classification Yard - The area where cars can roll freely into tracks; i.e., the area from the crest of the hump through and including the ladder tracks at the pull-out end of the class yard including the class tracks.

Immediate Access to a Radio - When a radio is sufficiently close to an employee to allow him or her to make and receive radio transmissions.

Improper Signal Aspect - A signal aspect that permits a train to proceed when the condition of the block does not justify such an aspect.

Inaccessible Track - A non-controlled track where entry to the track by trains or on-track equipment has been physically prevented by a method of establishing working limits.

Individual Train Detection - An on-track safety procedure where a lone worker has the ability to see approaching trains and the ability to leave the track before they arrive.

Industry - A customer that is serviced by the railroad.

Inspection - A careful review or examination for conditions that affect safe movement. Inspections may be:

- a. **Visual** - An inspection performed by a qualified employee using sense of sight to look for readily visible defects or damage.
- b. **Roll-by** - An inspection performed by a qualified employee located on the ground in which the train pulls by the employee not exceeding the designated speed.
- c. **Walking** - An inspection of a standing train performed by a qualified employee on the ground who walks the required portion of the train.

Interlocking - An arrangement of interconnected signals and signal appliances that succeed each other in proper sequence and for which interlocking rules are in effect.

Interlocking Limits - The tracks between the opposing home signals of an interlocking.

Interlocking Signals - Fixed signals of an interlocking.

Intermediate Signal - A block signal equipped with a number plate, a G marker, or a P marker that conveys Restricted Proceed as the most restrictive aspect.

Inter-Track Barrier - A continuous barrier of a permanent or semi-permanent nature that spans the entire work area, that is at least four feet in height, and that is of sufficient strength to prevent a roadway worker from fouling the adjacent controlled track.

Key Train - Any train as described in either a, b, or c below:

- a. One or more loads of spent nuclear fuel (SNF) or high level radioactive waste (HLRW) moving under the following Hazardous Materials Response Codes 4929142, 4929143, 4929144, or 4929147, or
- b. One or more loaded tank cars containing materials that require the phrase POISON/TOXIC - INHALATION HAZARD on the shipping papers (Hazard Zone A, B, C, or D), anhydrous ammonia (UN 1005), or ammonia solutions (UN 3318), or
- c. Twenty or more loaded hazardous materials shipments or intermodal portable tank loads having a combination of materials that require the phrase POISON/TOXIC - INHALATION HAZARD on the shipping papers (Hazard Zone A, B, C, or D), anhydrous ammonia (UN 1005), ammonia solutions (UN3318), flammable gas (2.1), Class 1.1 or 1.2 explosives, or environmentally sensitive chemicals (see Table 3 in United States Hazardous Materials Instructions for Rail).

Exception: Do not count box cars, trailers, containers carrying mixed loads of hazardous materials when determining Key train status.

Limited Speed - A speed not exceeding 45 miles per hour.

Locomotive - A self-propelled unit of equipment designed for moving other equipment in revenue service, including a self-propelled unit designed to carry freight or passenger traffic or both, and may consist of one or more units operated from a single control.

Locomotive Consist - A locomotive or combination of locomotives properly coupled for multiple unit operation and operated from a single control.

Locomotive Operator - An employee who is certified as a locomotive engineer or remote control operator and works in a designated locomotive operator, engineer, or remote control operator position.

Locomotive Servicing Track Area - One or more tracks within an area in which the testing, servicing, repair, inspection, or rebuilding of locomotives is under the exclusive control of mechanical department personnel.

Lone Worker - An individual roadway worker who is not:

1. Being afforded on-track protection by another employee,
2. A member of a roadway worker group, and
3. Engaged in a common task with another employee.

Main Track - A controlled track designated in special instructions as a main track. Main tracks extend through yards and between stations.

Mandatory Directive - Any instruction issued by the train dispatcher or control station required to be recorded in writing that grants authority for occupancy of a controlled track or requires a train or on-track equipment to take a defined action.

Medium Speed - A speed not exceeding 30 miles per hour.

Minor Correction - One or more repairs of a minor nature, including but not limited to welding, spiking, anchoring, hand tamping, and joint bolt replacement that is accomplished with handheld, hand supported, or hand guided power tools. The term does not include machine spiking, machine tamping, or similarly distracting repairs.

Motion Detection Equipment - Shall provide sensitivity capable of assuring a warning time of 20 second minimum for constant train speeds of 2 MPH or greater.

Non-Controlled Track - Any track not designated as a controlled track upon which trains are permitted by rule or special instruction to move without receiving authorization from a train dispatcher or control operator.

Occupied Track - A track occupied by authorized or permitted self-propelled or coupled equipment engaged in a common task with a roadway work group and at least one of the roadway workers is on the ground.

On-Track Equipment - Vehicles equipped with hi-rail attachments, rail detector cars, or other engineering equipment.

On-Track Equipment Operator - The operator of on-track equipment or the employee-in-charge of on-track equipment.

On-Track Roadway Maintenance Machine - A self-propelled, rail-mounted maintenance machine whose light weight exceeds 7,500 pounds. An on-track roadway maintenance machine is not designed for highway use or for use in rail inspection.

On-Track Safety - A state of freedom from the danger of being struck by a train or other equipment provided by operating and safety rules that govern track occupancy by personnel, train, and on-track equipment.

Operator - The railroad employee who is not working a designated train dispatcher position but is in charge of a remotely controlled switch, derail, interlocking or controlled point, or a segment of controlled track.

Operator Control Unit (OCU) - A device through which a remotely controlled locomotive or platform is operated.

Operator Control Zone (OCZ) - When activated, a designated portion of track in which a remote control locomotive or remote control platform may operate without protecting the leading end of the movement. Special instructions identify an operator control zone and the control station affording protection.

Partial Activation - A condition when the highway-rail crossing at grade automatic warning devices indicate the approach of a train; however, the full, intended warning is not provided.

Passenger Station - A location identified in special instructions where passengers are loaded and unloaded from passenger trains.

Personal Electronic or Electrical Devices - Any electronic or electrical device not provided to employees by CSX for authorized business purposes.

Pilot - An employee assigned to a train or track car when the locomotive operator, conductor, or track car driver is not qualified on the physical characteristics or the operating rules of the territory to be traversed.

Place of Safety - When on the ground, a location that is clear of all tracks and ensures employee cannot be struck by rolling equipment. When riding on equipment, the employee is properly positioned on the equipment with three points of contact and facing the direction of movement.

Positive Stop Protection (PSP) - An electronic device that uses both GPS and physically located track mounted units that prohibit a remote control locomotive from passing a geographic point on the track.

Power-Operated Switch - A remotely controlled switch operated electrically or electro-pneumatically.

Predetermined Place of Safety (PPS) - A predetermined location identified in the job briefing that roadway workers must occupy when notified of an approaching train or on-track equipment on an adjacent controlled track. If necessary, the PPS can be the occupied track.

Primary Operator - Operator that is controlling locomotive movement. The primary OCU will have the capability to direct all functions of the locomotive.

Private Highway-Rail Crossing at Grade - A highway-rail crossing at grade which does not meet the definition of a public highway-rail crossing.

Public Highway-Rail Crossing at Grade - A highway-rail crossing at grade where the highway, road, street, or pedestrian walkway is maintained on both sides by a public authority.

Push-Pull Train - A passenger train with a multiple unit (MU) or control car on either end.

Qualified Employee - An employee who has successfully completed all required training for, demonstrated proficiency in, and is authorized to perform the duties of a particular position or function.

Quiet Zone - A segment of track identified in special instructions that contains consecutive highway-rail crossings at grade where the locomotive horn is not routinely sounded.

Railroad Bridge Worker - An employee, or employee of a contractor, of a railroad who is responsible for the construction, inspection, or maintenance of a bridge and whose assigned duties, if performed on the bridge, include inspection, testing, maintenance, repair, construction, or reconstruction of the:

- a. Track; or
- b. Bridge structural members; or
- c. Operating mechanisms and water traffic control systems; or
- d. Signal, communication, or train control systems integral to that bridge.

Railroad Operating Employee - Any employee engaged in or connected with the movement of a train, including a hostler or engine mover, or any employee subject to the hours of service requirements governing train service employees.

Railroad Supplied Electronic and Electrical Devices - Any electronic or electrical device provided or reimbursed by CSX for authorized business purposes.

Ranking Employee - The member of the train crew who is responsible for the administration of the train. When more than one employee is assigned to a crew, the ranking employee is the conductor or yard foreman.

Red Zone - The area surrounding working equipment, employees using tools, and lifting operations which, if entered by an individual(s), creates the potential for injury as a result of being struck by equipment, tools, or material. A red zone may be specifically defined by rule.

Release Form - A computer-generated form advising of a dispatcher bulletin number and the number of train messages it must contain. Its address must correspond to the associated dispatcher bulletin.

Release Line - The last line of a dispatcher bulletin containing the:

1. Dispatcher bulletin number,
2. Total number of dispatcher's messages,
3. The train dispatcher's initials, and
4. Date and time released.

Remote Control Locomotive (RCL) - A locomotive equipped and configured to be controlled by a remote control operator utilizing an operator control unit.

Remote Control Operator (RCO) - An employee who has control of remote control locomotive or platform by means of an operator control unit.

Remote Control Operator Foreman (RCOF) - The ranking crewmember of a remote control crew.

Remote Control Platform (RCP) - A car or locomotive body equipped with remote technology and configured to be controlled by a remote control operator utilizing an operator control unit. A remote control platform does not have propelling motors and must be coupled and properly connected to a conventional locomotive to function properly.

Remote Control Zone (RCZ) - When activated, a designated portion of track in which a remote control locomotive or remote control platform may operate without protecting the leading end of the movement. Signs and special instructions identify a remote control zone.

Remotely Controlled Railroad Crossing - A railroad crossing at grade operated by a control station.

Restricted Speed - A speed that permits stopping within one-half the range of vision. It also permits stopping short of a train, a car, on-track equipment, an obstruction, a Stop signal, a derail, or an improperly lined switch. It permits looking out for broken rail. It is not to exceed 15 MPH.

Roadway Maintenance Machine - Powered equipment, other than by hand, in use on or near the track for maintenance, repair, construction, or inspection of track, bridges, roadway, or signal, communication, or electric traction systems. These machines may have road or rail wheels or may be stationary.

Roadway Maintenance Work Train - A train operated within working limits in conjunction with roadway maintenance, construction, or repairs, under the direction of a designated employee-in-charge.

Roadway Work Group - Two or more roadway workers working together on a common task.

Roadway Worker - Any employee of a railroad, or a contractor to a railroad, whose duties include and who is engaged in the inspection, construction, maintenance, or repair of the following:

- a. Railroad track, or
- b. Bridge, or
- c. Roadway, or
- d. Signal and communications systems, or
- e. Electric traction systems, or
- f. Roadway facilities, or
- g. Roadway maintenance machinery on or near the track or with the potential of fouling a track.

Roadway worker also includes any employees responsible for on-track protection, flagmen, and watchmen/lookouts.

Roll-by Inspection - An inspection performed by a qualified employee, located on the ground, where the train pulls by such employee not exceeding the designated speed.

Rolling Equipment - Locomotives, railroad cars, and one or more locomotives coupled to one or more cars.

Rule Book - Operating rule book, Safe Way, Air Brake Train Handling and Equipment Handling Rule Book or the corresponding books of a foreign carrier.

Safety Stop - A stop of at least 50 feet, but not more than 250 feet, made prior to coupling to equipment.

Secondary Operator - Operator not controlling locomotive movement who has the ability to control horn, bell, and emergency brake application and who also has tilt protection.

Shoving Platform - A rail car that has been modified for the purpose of providing employees a means to ride the leading end of equipment on a shoving move.

Siding - An auxiliary track designated in special instructions for meeting or passing trains.

Signal Aspect - The appearance of a fixed signal as viewed from the direction of an approaching train.

Signal Imperfectly Displayed - A block or interlocking signal, displaying lights that are:

- a. Not in conformity with the rules, or
- b. Absence a light where a color light should be, or
- c. Absence a signal at a place where a signal is usually displayed, or
- d. A high color light signal displaying more than one light per signal unit.

Signal Indication - The information conveyed by the aspect of a signal.

Signaled Siding - A siding equipped with block signals that govern train movements on the siding.

Signaled Track - A track equipped with block or interlocking signals that govern train movements.

Single Track - A main track upon which trains operate in both directions.

Slow Speed - A speed not exceeding 15 miles per hour.

Special Instructions - Information contained in timetables, system bulletins, division bulletins, and CSX procedural instruction manuals.

Spring Switch - A switch equipped to restore the switch points to normal position after having been trailed through.

Static Drop - Where gravity provides sufficient energy to move equipment without any assistance from a locomotive or other equipment when hand brakes are released.

Station - A place designated in special instructions by name and milepost location.

Steep Grade - A section of controlled track where the average grade is 1% for three continuous miles or 2% for two continuous miles.

Sterile Cab - The operating cab of the controlling locomotive or other equipment specified by rule when employees have established and maintained an environment where their attention and conversation is restricted exclusively to the actions governing the safe movement of the equipment.

Subdivision - A portion of the railroad designated by timetable.

Switch - A device consisting of necessary rails and connections designed to change the direction of a movement from the track on which it is moving to another track.

Switch Providing Access - A switch which if traversed by rolling equipment could permit that rolling equipment to couple to the equipment being protected.

System Bulletin - Written or electronically transmitted special instructions issued by the Operating Rules Department concerning the safety of employees and the movement of trains.

System Notice - Written or electronically transmitted notice issued by the Operating Rules Department containing information and instructions not affecting the movement of trains.

Tangent Track - Straight track.

Telemetry - The combination of a head-of-train device (HTD) on the controlling locomotive and an end-of-train device (EOT) mounted on the rear car of the train that has the ability to communicate train-related information to and from the controlling locomotive.

Temporary Speed Restriction - A portion of a controlled track with defined limits where the authorized speed has been reduced as specified by dispatcher message, Form EC-1, special instruction, or verbal notification by an engineering department employee.

Three-Step Protection - A procedure using the following steps that provides protection for employees before they foul equipment:

1. Apply the brake,
2. Center the reverser, and
3. Put the generator field switch in the OFF or OPEN position.

Thru Truss Bridge - A bridge span in which the steel framework extends above and over the top of the rail.

Timetable - A publication containing instructions and other essential information relating to the movement of trains or equipment.

Track Barricade - A designated sign or obstruction fastened to a track that prevents access to the track.

Track Centers - The distance from the centerline of one track to the centerline of an adjacent track.

Track Warrant - Authorization to use a controlled track received in writing or copied on the prescribed forms and repeated at the direction of the train dispatcher or control station using radio or other communication.

Track Warrant Control (TWC) - A method of authorizing movements or protecting employees or on-track equipment in signaled or non-signaled territory on controlled track within specified limits. Movement within TWC territory is under the jurisdiction of the train dispatcher.

Train - A locomotive, with or without cars, displaying a marker.

Train Approach Warning - An on-track safety procedure where one or more watchmen/lookouts warn roadway workers performing routine inspections or minor corrections of the approach of trains in ample time to move to a place of safety.

Train Coordination - A method of establishing working limits on tracks where the crew of a train that holds exclusive authority to move yields that authority to a roadway worker to perform materials distribution with a work train, snow duty, or track work at a derailment site.

Turnout - An arrangement of a switch and a frog with closure rails by which equipment can be diverted from one track to another.

Unattended Equipment - Equipment left standing and unmanned in such a manner that a qualified employee cannot readily control the brake system of the equipment.

Unmanned - Locomotives or on-track equipment left standing with no assigned employee located within the operating cab.

Utility Employee - An employee who must be attached to a single crew to perform duties specified by rule or may perform work independently of a train crew when properly protected by blue signal protection when required.

Warning Tag (S-105) - A tag used to indicate that equipment is out of service and should not be operated. The following are examples of warning tags and the information that must be indicated on each, if applicable:

- S 105 Rev 1-93
 - DANGER
- OUT OF SERVICE
 - EQUIPMENT/APPARATUS
 - REASON
 - NAME
 - TIME DATE
- DO NOT OPERATE
- NOTIFY OTHERS
- REVIEW PROCEDURE
- IDENTIFY ENERGY SOURCES
 - ELECTRICAL
 - HYDRAULIC
 - PNEUMATIC
 - GRAVITY OR SPRING
- NEUTRALIZE ALL ENERGY
- LOCK OUT POWER
 - Warning Tag (S-105)

Watchman/Lookout - An employee designated to provide warning to roadway workers of approaching trains or on-track equipment.

Work Train - A train assigned to serve the maintenance-of-way department in track repair and maintenance.

Working Limits - A segment of track with definite boundaries established in accordance with the rules upon which trains, locomotives, and on-track equipment may move only as authorized by the roadway worker having control over that defined segment of track.

Working Radio - A radio that can communicate with the train dispatcher of the railroad, or the host railroad if in joint operations (through repeater stations if necessary), from any location within the rail system, except:

1. In tunnels or other localized places of extreme topography, and
2. During temporary lapses of coverage due to atmospheric or topographic conditions.

Workmen - Railroad employees assigned to inspect, test, repair, or service railroad rolling equipment, or their components, including brake systems. Train and yard crews are excluded except when assigned to do such work on railroad rolling equipment that is not part of the train or yard movement they have been called to operate.

Yard - A system of tracks other than main tracks and sidings. A yard is used for making up trains, for storing cars, and for other purposes.

Yard Engine - A locomotive being used in yard service.

Yard Limits - A portion of main track designated in special instructions and defined by signs.

Safe Way



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Safe Way

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Chapter 1 - General Safety Requirements

2000 - Safety Responsibilities

2000.1 All employees are governed by the rules contained in the Safe Way and must have a copy available for use when on duty. Employees must:

1. Warn co-workers of unsafe acts and hazards;
2. Behave in a civil and courteous manner in the workplace;
3. Keep work areas and CSX property clean, orderly, and protected from hazards; and
4. Observe all local, state, and federal laws and regulations.

2000.2 When performing a task, employees must not:

- a. Use excessive force, or
- b. Place any part of the body where it could be pinched.

2001 - Substance Abuse

2001.1 The illegal use or possession of a drug, narcotic, or other substance that affects alertness, coordination, reaction, response, or safety is prohibited both on and off duty.

2001.2 An employee must not report for duty nor perform service while under the influence of nor use while on duty or on CSX property any drug, medication, prescription medication, or other substance that will in any way adversely affect the employee's alertness, coordination, reaction, response, or safety.

2001.3 Employees must not possess, use, or be under the influence of alcoholic beverages or intoxicants when:

- a. Reporting for duty, or
- b. On duty, or
- c. On CSX property, or
- d. Operating a company vehicle, or
- e. Occupying facilities provided by CSX.

2002 - Job Briefing

2002.1 Effective job briefings at the beginning of and throughout our workday make us more aware of our surroundings and better prepared to recognize and avoid potential hazards. Employees must:

1. Remain alert for anything out of the ordinary that occurs during your shift; and
2. Report any suspicious activity to your immediate supervisor, yardmaster, or dispatcher immediately. If they are not available, report the condition or activity directly to the Public Safety Coordination Center at (800)232-0144.

2002.2 A job briefing must be conducted before beginning a work activity and when:

- a. Work activity or conditions change, or
- b. Another employee joins the crew or workgroup, or
- c. Required to operate a hand operated main track switch in non-signaled territory, or
- d. Required to secure any equipment or train, or
- e. Required to initialize Positive Train Control (PTC) equipment.

2002.3 To conduct a job briefing, employees must:

1. Discuss the sequence of job steps;
2. Identify, eliminate, contain, or communicate all potential hazards related to the task(s);
3. Identify any related close clearance locations;
4. Inspect tools and equipment before use;
5. Identify proper personal protective equipment (PPE) for the job task(s);
6. Ensure understanding of the planned sequence of events; and
7. Follow up to ensure compliance with safe work practices.

2003 - Inside an Office Environment

2003.1 When working inside an office environment, employees must:

1. Keep work areas orderly and free of slip, trip and fall hazards;
2. Use furniture for its intended purpose only;
3. Keep desk drawers, file drawers, and locker doors closed when not in use;
4. Avoid overloading the top drawers of filing cabinets; and
5. Clean up spills immediately or secure and protect the area until it can be cleaned.

2004 - Using Chairs

2004.1 Identify and label as out-of-service any defective chair. Before using a chair, employees must ensure:

1. It is free from obvious hazards and defects,
2. It is stable and supported by all legs, and
3. The seat and seatback are firmly attached to the base of the frame.

2004.2 When using a chair, keep all chair legs or casters on the floor at all times. Do not:

- a. Use as a step, stool, or ladder; or
- b. Put your feet above the level of the seat; or
- c. Lean out beyond the area covered by the legs; or
- d. Leave a chair where it would be a tripping hazard after use.

2005 - Avoiding Human Remains, Blood, and Other Fluids

2005.1 After any accident or incident where human remains, blood, or other fluids are observed on company equipment or property, notify your immediate supervisor, train dispatcher, or yardmaster who will contact the PSCC at (800) 232-0144. Do not attempt to remove or clean blood or Other Potentially Infectious Materials (OPIM).

2005.2 Employees who come in contact with blood or OPIM must immediately wash the contact area, then report to the nearest medical facility for further examination.

2005.3 Employees are responsible for the cleanup of their own bodily fluids and disposal of clean up materials as appropriate and must:

1. Use approved multi-purpose germicidal cleaner and paper towels or disposable wipes; and
2. For cleanup of large quantities of materials, that are not considered Bloodborne Pathogens or OPIM, facilities should contact a local industrial cleaning company (e.g., Serve Pro, Service Master)

2005.4 Employees who utilize needles or sharps are responsible for the safe disposal of those needles or sharps. Employees must:

1. Recap the hypodermic syringe or lancet after use,
2. Store syringes or lancets in a hard, closed casing marked with the word "biohazard" and/or labeled with a biohazard labe, and
3. Dispose of used hypodermic syringe or lancet off CSX property, in an appropriate manner.

2005.5 If needles or sharps are encountered on CSX property, notify your immediate supervisor, train dispatcher, or yardmaster who will contact the PSCC at (800) 232-0144. Do not attempt to dispose of, or otherwise handle needles or sharps.

2006 - Reporting Injuries or Incidents

2006.1 If an injury occurs when the employee is on duty, to ensure prompt medical attention is provided and to comply with federal reporting requirements, the employee must:

1. Report the injury to a supervisor:
 - a. At the time of the occurrence, or
 - b. Prior to leaving CSX property on the day of the occurrence.
2. Complete form PI-1A as soon as medically possible.

2006.2 Employees must immediately report to their supervisor:

- a. The decision to seek medical attention as a result of an on-duty injury, or
- b. Any off-duty injury that affects performance of duties, or
- c. Any knowledge or information concerning an injury or accident involving another employee or non-employee on CSX property at the time of the occurrence.

2007 - Riding In and Operating a Motor Vehicle

2007.1 Before riding in or operating a motor vehicle, employees must:

1. Inspect the vehicle for unsafe conditions;
2. Remove the vehicle from service when any of the vehicle's equipment or safety devices are found unsafe;
3. Confirm a company vehicle is equipped with properly maintained back-up alarm, fire extinguisher, and first-aid kit; and
4. Complete required pre-trip inspection when a CDL is required to operate the vehicle.

2007.2 When riding in or operating a motor vehicle, employees must:

1. Ride in permanently installed seats that are approved by the manufacturer;
2. Wear seat belts correctly when equipped except when in a hi-rail vehicle on the rail; and
3. Remove any tool belt, RCO vest, or other equipment that would prohibit the proper use of seat belts.

2007.3 When operating a company vehicle, employees must:

1. Comply with federal, state, and local laws;
2. Comply with all posted signs;
3. Report any incident or damage to equipment immediately to the proper authority;
4. Keep passenger compartments orderly and free of loose items;
5. Keep truck beds and storage areas clean and orderly;
6. Keep all tools properly secured in the designated storage space;
7. Use hands-free voice communication when an electronic device is required;
8. Apply the parking brake before exiting the vehicle when the engine must be left running; and
9. Keep adequate space between the vehicle in front of you.

2007.4 If using a personal vehicle to perform assigned duties, employees must:

1. Comply with federal, state, and local laws; and
2. Comply with all posted signs.

- 2007.5** Employees parking a CSX company vehicle or parking on CSX property must do so in a way that will not require a backing movement upon exit except in lots designed for diagonal parking.
- 2007.6** When backing a personal motor vehicle, employees must inspect area to the rear to verify no people or obstructions are in the path of the intended movement.
- 2007.7** When backing a CSX company vehicle, a person positioned in a place of safety must be utilized, when available, to guide the backing movement.

2008 - Riding in Equipment Other Than a Motor Vehicle

- 2008.1** When riding in equipment other than a motor vehicle, employees must:
1. Wear seat belts when equipped, and
 2. Remain seated in permanently installed seats that are approved by the manufacturer unless duties require otherwise.
- 2008.2** When riding in equipment other than a motor vehicle and duties require movement within equipment, employees must maintain:
1. Firm hand holds on permanently attached objects,
 2. Braced footing, and
 3. Three points of contact.

2009 - Personal Protective Equipment (PPE), Clothing, Hearing Protection, and Jewelry

- 2009.1** Employee attire must be appropriate for the job classification and work environment. While on duty employees must not wear the following:
- a. Shorts, or
 - b. Loose-fitting clothing or jewelry that could become entangled in equipment or create a hazard, or
 - c. Finger rings outside of an office environment, or
 - d. Jewelry or other metal items when repairing or maintaining electrical equipment, or
 - e. Mouth or tongue jewelry, or
 - f. Any jewelry or ornamental items determined by a supervisor to present a safety hazard.

2009.2 Obtain, be familiar with, and wear unaltered CSX approved PPE and clothing required for the job classification and work environment. Employees must:

1. Wear shirts that have at least one-quarter length sleeves and cover chest, abdomen, and back;
2. Comply with specific PPE requirements of a work area or customer facility; and
3. Comply with additional PPE requirements for specific work activities identified in departmental PPE Charts.

2009.3 Employees must inspect PPE to ensure it is:

1. Properly fitted,
2. Clean and serviceable,
3. Worn as intended,
4. Kept in good working condition, and
5. Available for immediate use.

2009.4 CSX approved high visibility apparel must be worn as the top layer of clothing when:

- a. Within 25 feet of a track, or
- b. Performing road crossing work at grade, or
- c. Performing work within 15 feet of the traveled portion of any highway or grade crossing.

2009.5 Engineering employees providing flag protection at a highway crossing at grade must:

1. Wear a lime yellow or orange vest, and
2. Give precise signals to traffic.

2009.6 CSX approved high visibility apparel is not required to be worn as the top layer of clothing when working:

- a. Inside enclosed equipment or vehicles, or
- b. In a designated shop or locomotive servicing facility and protected by blue flag protection, or
- c. As an engineering employee underneath properly secured and protected roadway equipment, or
- d. At heights that require fall protection PPE, or
- e. In designated passenger loading/unloading areas, or
- f. As a welder performing field welds, or
- g. As a remote control operator wearing an approved remote control harness as a top layer.

- 2009.7** CSX approved flame resistant high visibility apparel must be worn within 25 feet of a track when:
- Engaged in live electrical work, or
 - Cutting, burning, or welding outside of a shop environment except when accompanied by a qualified watchman/lookout who is wearing high visibility apparel.
- 2009.8** CSX provided safety glasses with side shields must be worn except when:
- Located in an office environment, or
 - Located within lunch break areas or locker rooms, or
 - Riding in a company vehicle with the windows closed.
- 2009.9** Employees must not wear tinted safety glasses:
- When sunlight is not adequate to safely perform all job tasks, or
 - From one hour before sunset continuing until one hour after sunrise, or
 - When working in tunnels or places where there is a low level of light.
- 2009.10** When CSX safety glasses must be worn, employees must not wear corrective lenses (contacts) or glasses that change color or tint based on ambient light (transition lenses).
- 2009.11** CSX approved hearing protection must be worn:
- Within 100 feet of a stationary locomotive operating in a throttle position other than idle, or
 - Within 100 feet of active humping or retarder operations, or
 - On an operating locomotive when outside of the locomotive cab, or
 - Inside the cab of a locomotive operating under load except those exempted by rule, or
 - Providing flag protection at a highway crossing at grade, or
 - In areas that require special hearing protection according to special instructions, notices, or posted signs.
- 2009.12** Hearing protection is not required when inside the cab of the following locomotive models when all doors and windows are closed:
- GE Models: CW40-8, CW44-9, CW44AC, CW44AH, CW46AC, CW46AH, CW60AH, ES40DC, ES44AH, ES44DC; or
 - EMD Models: GP38-2s, GP40-2, GP40-3, MP15T, RoadSlug, SD40-3, SD50-2, SD50-3, SD60i, SD60M, SD70M, SD70AC, SD70ACe, SD80AC; or
 - NREC 3GS-21B, 3GS-21C (Genset).

2009.13 Safety boots must be worn when working outside of an office environment and the boots must have:

1. Six inch or more high top with laces,
2. Oil resistant soles,
3. Defined heel not more than one inch high, and
4. Safety toes if working as a mechanical or engineering department employee.

2009.14 Engineering and Mechanical department employees must wear CSX approved hard hats while on duty except when located within:

- a. Work equipment with fully enclosed cab or cab with rollover protection and seatbelts, or
- b. Highway motor vehicle, or
- c. Office environment including lunch room, break area, and locker rooms, or
- d. Designated non-hard hat areas.

2009.15 Transportation Department employees must wear CSX approved hard hats when located within:

- a. Areas designated by special instructions, notices, or signs, or
- b. 50 feet of equipment being re-railed by a wrecker or off-track equipment, or
- c. 50 feet of rail and/or ties being loaded or unloaded, or
- d. 50 feet of Mechanical, Engineering, or outside forces working with mechanized equipment, or
- e. 100 feet of a working pivotal crane.

2009.16 Mechanical department employees may use approved bump caps in lieu of a hardhat in a line of road area or other area that does not require hard hat protection due to heavy overhead exposure or locally posted instructions while involved in the following tasks:

1. Car inspection activity in the yard or on line of road,
2. Lite repairs made during inspection activity in the yard or on line of road, and
3. Traversing through a PPE area to retrieve a part or tool but not performing other work.

2009.17 When using bump caps, mechanical employees must:

1. Regularly inspect the cap for damage, and
2. Wear bump caps with the plastic shell in place and the brim in the forward direction.

2009.18 When using bump caps, mechanical employees must not:

- a. Wear the cap in any shop or servicing track areas; or
- b. Modify the cap in any way; or
- c. Use them during welding, burning, heating, or during other tasks that require a welding hood or face shield.

2009.19 When required to wear a respirator, employees must not have facial hair where the sealing surface of the respirator comes into contact with the face.

2009.20 When using a portable radio while performing train service work activities, employees must wear a CSX approved:

- a. Chest-type radio harness, or
- b. Holster or radio clip and use a lapel microphone.

Safe Way

2010 - Fall Protection

2010.1 Employees must utilize personal fall protection (PFP) systems when required.

2010.2 When using fall protection equipment, fall retrieval equipment and flotation devices, employees must inspect the equipment for defects in strength and functionality before use.

2010.3 The use of fall restraint or fall arrest equipment is required when working 12 feet or more above the ground or water surface except when:

- a. Work is exclusively between, with no weight-bearing portion outside of, the running rails and no closer than six feet from an opening in the deck greater than one foot by one foot; or
- b. Work is outside the running rails on a bridge equipped with walkways and railings of sufficient height, width, and strength to prevent a fall and no closer than six feet from an opening in the deck or walkway greater than one foot by one foot; or
- c. A person qualified to perform bridge inspection has in their possession a valid bridge climbing procedures training card and is engaged solely in moving on or about the bridge or observing, measuring, and recording the dimensions and conditions of the bridge and its components.

2010.4 A written fall retrieval plan is required when work requires use of fall arrest equipment.

2011 - Using Life Vests

2011.1 Use an approved life vest when working over or adjacent to water with a depth of four feet or more, or where the danger of drowning exists except when:

- a. Work is being performed with the use of fall restraint or fall arrest equipment; or
- b. Work is exclusively between, with no weight-bearing portion outside of, the running rails and no closer than six feet from an opening in the deck greater than one foot by one foot; or
- c. Work is outside the running rails on a bridge equipped with walkways and railing of sufficient height, width, and strength to prevent a fall and no closer than six feet from an opening in the deck or walkway greater than one foot by one foot; or
- d. A person qualified to perform bridge inspections has in their possession a valid bridge climbing procedures training card and is engaged solely in moving on or about the bridge or observing, measuring, and recording the dimensions and conditions of the bridge and its components.

2011.2 When life vests are required:

1. Ring buoys are required with at least 90 feet of line and spaced no more than 200 feet between the buoys; and
2. At least one lifesaving skiff, inflatable boat, or equivalent device is required to be available. If environmental conditions, such as weather, water speed, and/or terrain merit additional protection, the skiff or boat shall be crewed.

2012 - Arc Flash and Electrocution Hazard Personal Protective Equipment

2012.1 Employees performing electrical repairs must comply with the arc flash label instructions posted on the electrical panel.

2012.2 Employees working or troubleshooting in energized service panels feeding electrical equipment on or near exposed and energized 120 or 240 volt components or circuits must wear the following CSX approved PPE:

1. Hard hat,
2. Safety glasses with side shields,
3. Safety-toe shoes, and
4. Rubber insulating gloves with 500V Class 00 minimum rating and leather protectors.

2012.3 Employees working or troubleshooting switch heater panels, panelboards, switchboards, disconnect switches, motor control centers, or other panels and within four feet of exposed and energized 480V components or circuits must wear the following CSX approved PPE:

1. Hard hat,
2. Safety glasses with side shields,
3. Safety-toe shoes,
4. Rubber insulating gloves with 500V Class 00 minimum rating and leather protector,
5. Category 2 flame resistant coveralls,
6. Arc Flash rated face shield, and
7. Hearing protection.

2012.4 Employees connecting, disconnecting, inserting, removing, racking-in, or racking-out circuit breakers or motor starters and are within four feet of energized 480V equipment must wear the following CSX approved PPE:

1. Hard hat,
2. Safety glasses with side shields,
3. Safety-toe shoes,
4. Rubber insulating gloves with 500V Class 00 minimum rating and leather protector,
5. Category 4 flame resistant coat and leggings,
6. Arc Flash hood, and
7. Hearing protection.

2012.5 Employees working within 12 feet of high voltage power lines (751V and above) must wear the following CSX approved PPE:

1. Hard hat,
2. Safety glasses with side shields,
3. Safety-toe shoes,
4. Rubber insulating gloves with 17,000V Class 2 minimum rating and leather protector,
5. Category 4 flame resistant coat and leggings,
6. Arc Flash hood, and
7. Hearing protection.

2013 - Flashlights and Lanterns

2013.1 When using CSX approved portable lights, employees must:

1. Comply with departmental PPE charts to ensure the light is appropriate for the job classification and/or work environment, and
2. Always use the light when sunlight is not adequate to safely perform all job tasks.

2013.2 Never place a lantern battery in a grip or other storage device with metal objects. When storing or transporting lantern batteries, employees must protect battery terminal from short-circuiting by:

- a. Using insulating caps over the terminals when available, or
- b. Other means that prevent short-circuits.

2014 - Slip, Trip and Fall Prevention

2014.1 To prevent slips, trips, and falls, employees must:

1. Remain alert and mindful of your surroundings at all times;
2. Use designated walkways, crosswalks, handholds and railings when available;
3. Plan and choose routes that afford the safest walking conditions;
4. Keep clear view of where you are walking;
5. Avoid carrying objects that block your view;
6. Use appropriate PPE during times of poor weather or unusual conditions; and
7. Keep locomotive cab floors clear of obstructions and tripping hazards.
8. Wear CSX approved anti-slip boots with spikes when walking in ice and/or snow.

2015 - Operating Equipment Doors and Windows

2015.1 Employees must not use push poles or similar objects to move locomotives, rail cars, or other on-track equipment.

2015.2 When operating doors and windows by hand, employees must use opening/closing devices such as door handles where provided.

2015.3 Freight car doors must only be operated by employees who are trained and qualified to do so. When opening or closing freight car doors, employees must:

1. Inspect the door for defects,
2. Determine whether the door is properly tracked,
3. Use the approved plug door opening device on a plug door, and
4. Use opening and closing devices such as door handles where provided.

2016 - Adjusting Locomotive Cab Seats

2016.1 The height of a locomotive cab seat that is equipped with a spring-assisted adjustment mechanism may be adjusted by a single person.

2016.2 Two people are required to adjust the height of a locomotive cab seat not equipped with a spring-assisted adjustment mechanism as follows:

1. A job briefing must be conducted by the employees to determine the tasks each person will complete,
2. Both employees must inspect the seat and its components to ensure they are safe to operate,
3. Both employees must determine if a weld exists that would prevent the seat from being adjusted and not attempt to adjust a seat that is welded in this manner,
4. Employee will position self to lift seat to remove the press off the pin,
5. The second person must be in position to remove and insert the seat adjustment pin,
6. Person at the pin must remove the pin,
7. Person holding the seat must adjust to the desired height, and
8. Person at the pin must reinsert the pin.

2016.3 If the seat will not move:

1. Use a smooth moderate lifting effort, do not attempt to adjust it without additional help,
2. And it is in a position that will permit safe operation; report the locomotive for repair on the Locomotive Work Report, and
3. And it is in a position that will not permit safe operation, resolve the problem before the seat is used.

2017 - Lifting and Handling Objects and Materials

2017.1 When moving heavy or bulky loads employees must:

- a. Use a cart or other approved device, or
- b. Reduce the load, or
- c. Get help.

2017.2 When lifting an object, employees must:

1. Inspect the load before lifting/handling for sharp edges or projections that could cause injury or prevent the load from being secured,
2. Assume and maintain a stable and balanced posture,
3. Grasp the load securely,
4. Tighten abdominal muscles and lift and lower with legs,
5. Lift smoothly and do not jerk,
6. Keep upper body erect and lower back bowed in,
7. Keep the load close to the body and control the load during transport, and
8. Avoid twisting the body while lifting, transporting, or lowering the load.

2018 - Handling Track Skates

2018.1 Do not attempt to apply or remove a defective track skate. When handling track skates, employees must:

1. Immediately report a defective track skate to the proper authority,
2. Only foul a track or equipment after it has been determined it is safe to do so and protection is applied if necessary,
3. Identify potential hazards such as end platforms and brake steps,
4. Ensure the equipment is stopped and the slack has adjusted before applying or removing the track skate, and
5. Place track skates in the designated location. If no designated location, place parallel to and against the rail to prevent a tripping hazard.

2019 - Handling Air Hoses

2019.1 When handling air hoses, employees must:

1. Identify potential hazards such as end platforms and brake steps,
2. Take a balanced stance that allows quick exit,
3. Keep one foot outside the gage of the rail whenever possible,
4. Prevent any part of the body from extending over the top of or under a draw head to operate angle cocks,
5. Close both angle cocks before making any adjustments to air hoses,
6. Never kick or strike an air hose, and
7. Turn head away from glad hands when air hoses are uncoupled to protect eyes from debris.

2019.2 To couple air hoses, employees must:

1. Inspect the air to ensure no dust caps are covering the opening and both glad hands have gaskets,
2. Grasp the air hose nearest you firmly behind the glad hand and bend the hose upwards,
3. Grasp the other air hose and pull it to the bent air hose,
4. Match the glad hands into opposite contoured slots and push them downward, and
5. Ensure the glad hands seat against each other.

2019.3 Whenever possible, allow the movement of equipment to uncouple air hoses. If air hoses between equipment must be uncoupled by hand, employees must:

1. Close both angle cocks,
2. Use both hands to firmly grasp the closest air hose immediately behind the glad hand,
3. Brace hands against a leg to prevent uncontrolled movement of the air hose, and
4. Raise the air hose until it separates from the other hose.

2019.4 To uncouple ground air lines from equipment, employees must:

1. Close the angle cock on the equipment that the ground air is connected to,
2. Close the ground air valve,
3. Operate the bleed valve on the ground air to release the pressure if equipped,
4. Use both hands to firmly grasp the closest air hose immediately behind the glad hand,
5. Brace hands against a leg to prevent uncontrolled movement of the air hose,
6. Raise the air hose until it separates from the other hose, and
7. Stretch the ground air line along the rail in a way not to cause a tripping hazard or be damaged by rolling equipment.

2020 - Handling End-Of-Train (EOT) Devices

2020.1 When handling End-of-Train (EOT) devices, employees must:

1. Never lift or carry EOT by external antenna
2. Secure EOT hoses when transporting,
3. Get help from another employee when moving an EOT across a train or cut of cars. One employee must place the EOT onto the coupler and the other employee must remove the EOT to the destination side, and
4. Use EOT racks when available. When not available, do not place an EOT where it would be a tripping hazard.

2021 - Reporting Defects in Highway-Rail Crossings at Grade Warning Devices

2021.1 Employees who observe or have knowledge of a defect in highway-rail crossing at grade warning devices must:

- a. Report the malfunction to the train dispatcher, or
- b. Contact the PSCC via telephone at (800)232-0144 and provide the requested information.

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Chapter 2 - On Track and Equipment Safety , Handbrake Operation

2100 - On or About Track Safety

- 2100.1** Employees must not foul tracks or equipment without the proper protection for the job classification.
- 2100.2** Engineering employees must ensure On-Track Worker Protection is in place when working within four feet of the nearest rail of any track.
- 2100.3** When working on or about tracks, be alert for unsecured or shifted lading and movement of cars, locomotives, or equipment at any time, in either direction, on any track. Employees must not:
1. Stand less than 10 feet from a switch or derail being traversed by equipment during switching operations;
 2. Stand less than 30 feet from a switch or derail associated with the route of a passing train;
 3. Cross within 25 feet of the end of standing equipment unless protection has been provided;
 4. Cross between standing equipment separated by less than 50 feet except a mechanical employee working inside a mechanical facility or track with blue flag protection established; and
 5. Take shelter under any car, equipment, or locomotive.
- 2100.4** Employees must stop and look in both directions before:
- a. Fouling or crossing a track or set of tracks (it is permissible to cross more than one track without stopping at each track if safe to do so),or
 - b. Moving from under or between equipment, or
 - c. Getting on or off equipment, or
 - d. Operating a switch, or
 - e. Operating a derail.
- 2100.5** Except for engineering department employees performing repairs, employees must not step or sit on any part of:
- a. Rail, or
 - b. Switch or switch machine, or
 - c. Interlocking machine or its connections, or
 - d. Derail, or
 - e. Frog, or
 - f. Retarder, or
 - g. Defect detector

2101 - Mounting, Dismounting, and Crossing Over Equipment

2101.1 Employees must not mount or dismount moving equipment except in an emergency.

2101.2 When using a car ladder employees must:

1. Place the defined heel of the boot against the ladder's rungs, and
2. Brace feet against the side rails.

2101.3 When mounting, dismounting or crossing over equipment, employees must:

1. Use locomotive steps and the car side ladders;
2. Scan for hazards;
3. Mount and dismount away from live tracks, main tracks, close clearances, or other hazards;
4. Always face the equipment;
5. Maintain three points of contact;
6. Keep clear of adjacent track; and
7. Stop at bottom step or ladder rung and check for solid footing before dismounting.

2101.4 When mounting, dismounting or crossing over equipment employees must not:

- a. Step from one car to another, or
- b. Cross under equipment, or
- c. Step on or use as a hand hold:
 - a. Any part of the hand brake, or
 - b. Cut lever, or
 - c. Angle cock, or
 - d. Coupler, or
 - e. Component of a cushion underframe system, or
 - f. Sliding center sill.

2101.5 When crossing over equipment, employees must:

1. Apply the appropriate protection;
2. Ensure the equipment is secured against unintentional movement; and
3. Only cross equipment that:
 - a. Has sufficient hand holds to allow three points of contact, or
 - b. The B-end of an intermodal well car (double stack capable):
 1. Maintain three points of contact, and
 2. Use short deliberate steps.

- 2101.6** Only mechanical employees equipped with the required PPE and performing repairs or maintenance may occupy the roof of a rail car or locomotive.

2102 - Riding Equipment

2102.1 When riding on equipment, employees must:

1. Position body to face the equipment and look in the direction of travel,
2. Maintain 3-points of contact, keeping secure hand holds and footing,
3. Be prepared for unexpected movements and slack action at all times,
4. Ride the side of rail cars or the trailing end of a cut of cars equipped with an end platform,
5. Ride the side of a car equipped with a horizontal grab iron at least 12 inches above the floor of the car or two vertical grab irons that allow an employee to stand upright on the step or platform,
6. Ride the steps or front/rear locomotive platforms when positioned on the outside of a moving locomotive,
7. Stop the movement and dismount before passing a close clearance sign or reaching a close clearance.

2102.2 When riding on equipment, employees must not:

- a. Place hands, arms, or legs inside equipment with shiftable loads or near the end gates of a drop end gondola; or
- b. Occupy side locomotive walkways when the locomotive is moving; or
- c. Use bridge plates or container brackets as hand holds on flat cars; or
- d. Ride:
 - a. Platform between coupled cars, or
 - b. End of cars being shoved unless the car is equipped with a riding platform that has a safety rail positioned between the employee and the end of the equipment, or
 - c. Couplers, draw-heads, cut levers, or cushion underframe devices, or
 - d. Bottom step of equipment when traversing highway-rail crossings at grade, or
 - e. The middle ladder of tank cars, or
 - f. The side of equipment that is adjacent to a main track or siding that is occupied with equipment.

2103 - Adjusting a Coupler

2103.1 When necessary to adjust a coupler, employees must:

1. Separate the equipment by a minimum of 50 feet,
2. Secure the equipment,
3. Work from the side and ensure the knuckle is locked in the closed position,
4. Work with your back towards the coupler and one foot against the base of the rail,
5. Grab the coupler with both hands and use your legs to push the coupler towards the center position, and
6. Get assistance or use a knuckle-mate if unable to make the adjustment.

2103.2 When necessary to adjust a coupler, employees must not:

- a. Lift up on a coupler, or
- b. Kick a coupler, or
- c. Use a coupler alignment strap or chains. (note: only mechanical employees can use chains)

2103.3 When using a knuckle-mate, employees must:

1. Separate the equipment by a minimum of 50 feet,
2. Secure equipment,
3. Ensure the knuckle of the coupler to be adjusted is locked in the closed position,
4. Connect the knuckle-mate by placing it over the top of the knuckle with central pin in the hole of the knuckle,
5. Tighten the center pin of the knuckle-mate by using the top lever nut,
6. Assume a balanced position with both hands on the handle, and
7. Pull, not push the knuckle-mate to adjust the coupler into position.

2104 - Brake Sticks and Operating Hand Brakes

2104.1 A CSX approved brake stick must only be used to:

- a. Operate a vertical wheel hand brake, or
- b. Open a knuckle, or
- c. Remove track skates.

2104.2 When using a brake stick, employees must:

1. Inspect the brake stick for defects, damage, and remove from service if defective or damaged;
2. Adjust the brake stick to the proper length for the task;
3. Ensure locking mechanism is engaged;
4. Grip the lower section of the brake stick with both hands when operating a hand brake;
 1. Lower hand should be a minimum of two inches from the end of the handle; and
 2. Upper hand should be at least 12 inches apart from the lower hand.
5. Maintain balanced position from the ground and pull across your body.

2104.3 When using a brake stick, employees must not:

- a. Pull into your body, or
- b. Use on a bent or defective brake wheel, or
- c. Transport on a locomotive unless the locomotive is equipped with a brake stick holder, or
- d. Place a brake stick any place that would create a tripping hazard, or
- e. Hang on any locomotive hand rail, or
- f. Hang on an occupied car ladder, or
- g. Mount, dismount, or ride equipment while carrying a brake stick.

2104.4 Before operating a hand brake, employees must:

1. Observe the type and condition of the hand brake, including the brake wheel, lever and chains;
2. Keep hands, arms, other body parts, and clothing clear of moving parts; and
3. Report any defective hand brake to the proper authority and not attempt to operate.

2104.5 To apply a vertical wheel hand brake using a brake stick, employees must:

1. Position feet parallel with the track,
2. Hook the brake stick to the hand brake wheel in a position that allows the wheel to be turned clockwise,
3. Turn the wheel until there is tension in the brake chain by pulling across the body, and
4. Apply final brake tension by pulling on the brake stick in short quarter turns.

2104.6 To release a vertical wheel hand brake using a brake stick, employees must:

1. If equipped, operate the quick release lever or pawl, and
2. If not equipped:
 1. Position feet parallel with the track;
 2. Hook the brake stick to the hand brake wheel in a position that allows the wheel to be turned counterclockwise;
 3. Use short hammering action to loosen the hand brake if necessary; and
 4. Turn the hand brake wheel until the hand brake is sufficiently released.

2104.7 To operate a vertical wheel hand brake by hand, employees must not:

- a. Attempt to operate from the ground, or
- b. Use any part of the hand brake as a hand hold.

2104.8 To operate a vertical wheel hand brake by hand, employees must:

1. Maintain three points of contact;
2. Properly position hands:
 - a. On cars, hold firmly with one hand to a grab iron, ladder rung or hand hold, or
 - b. On locomotives, place one hand on the handrail or against a flat surface,
3. On cars equipped with a brake platform, place right foot on the brake platform and left foot on the ladder rung firmly braced against the side rail; and
4. On cars not equipped with a brake platform, stand on the sill step.

2104.9 To apply a vertical wheel hand brake by hand, employees must:

1. Place the release lever or pawl in the on position, if equipped,
2. Turn the wheel clockwise with right hand to take up the slack in the chain,
3. After taking up the slack, place right hand at approximately the 7 o'clock position on the wheel and apply lifting pressure with short pulls, and
4. Keep back straight and use legs to push and right hand to pull to apply pressure.

2104.10 To release a vertical wheel hand brake by hand employees must:

1. If equipped, operate the quick release lever or pawl, and
2. If not equipped:
 1. Grasp the brake wheel with right hand at about the 1 o'clock position, and
 2. Turn the brake wheel counterclockwise until the brake is completely released.

2104.11 Before operating a side-mounted ratchet hand brake, ensure the lever stop is operational on the hand brake housing.

2104.12 To apply a side-mounted ratchet hand brake, employees must:

1. Ensure the release lever or pawl weight is in the on position,
2. Maintain secure footing,
3. On locomotives, hold onto walkway railing with one hand and apply with short vertical pumping action, and
4. On cars, face the equipment, place one hand firmly against the car and apply the brake with vertical pumping action.

2104.13 To release a side-mounted ratchet hand brake, employees must operate the release lever or pawl.

2104.14 Employees must not attempt to operate or hold tension on a horizontal staff hand brake on a moving car.

2104.15 To apply a horizontal staff hand brake, employees must:

1. Make certain the hand brake is locked into the raised position,
2. Engage the pawl weight in the ratchet into the on position if equipped,
3. Place both feet securely on the car and assume a stable position,
4. Hold the brake wheel with both hands keeping thumbs on the outside of the brake wheel,
5. Turn the brake wheel clockwise, and
6. Use one foot to keep the foot-operated pawl engaged on the ratchet to obtain necessary tension if equipped.

2104.16 To release a horizontal staff hand brake that is equipped with a pawl, employees must:

1. Place both feet securely on the car and assume a stable position;
2. Hold the brake wheel with both hands keeping thumbs on the outside of the brake wheel;
3. Turn the brake wheel counterclockwise to remove the tension from the pawl;
4. Disengage the pawl with your foot; and
5. Let go of the brake wheel and keep hands, body, and clothing clear as the brake wheel spins counterclockwise.

2104.17 If necessary to lower the staff of a horizontal staff hand brake, employees must:

1. Make certain the car will not be moved,
2. From the ground, lift the hand brake wheel staff far enough to take the weight of the staff support,
3. Hold the weight off the hand brake staff with one hand and use the other hand to move the support from under the staff, and
4. Use both hands to slowly lower the hand brake staff.

2104.18 If unable to release a hand brake, employees must:

1. Charge the car's air brake system to the standard pressure,
2. Place the air brake into emergency, and
3. Attempt to release the hand brake.

Chapter 3 - Switch and Derail Safety

2200 - Operating Switches and Derails

2200.1 Before operating a switch or derail, employees must:

1. Identify the type of device that will be operated;
2. Look in both directions for moving equipment to ensure it is safe to operate the device;
3. Inspect the device for obvious defects;
4. Ensure there is nothing between the switch points or derail that will interfere with its operation;
5. Use a broom, stick, or similar device to remove the material from the switch point area;
6. Never use hands or feet to remove foreign material from switch point area; and
7. Have proper authority if working as an engineering department employee.

2200.2 If a switch or derail is difficult to operate, employees must:

1. Stop operating the device,
2. Apply a switch tag to warn others, and
3. Immediately report the device to the proper authority.

2200.3 When operating a switch or derail employees must keep body, hands, feet, and clothing clear of moving parts. Employee must not:

- a. Attempt to operate a switch or derail that is spiked, clamped, or tagged out of service, or
- b. Use feet for any purpose other than to operate the latch or apply the final downward pressure to the handle.

2200.4 To operate a low stand switch or derail, employees must:

1. Face the device squarely,
2. Firmly grasp the handle with both hands,
3. Be aware that the switch handle may be under tension and be in a position that will prevent the switch handle from striking you when the latch is released,
4. Release the latch, if equipped,
5. Center your feet with the lever's handle and stand as close as possible to the handle,
6. Lift the handle with slow and even pressure to the straight up position,
7. Reposition your feet so that your body will be over the handle on the downward movement,
8. Use steady pressure to push the handle downward to the latched position,
9. Make sure the switch is latched, if equipped, and
10. Make certain switch points are in the proper position.

2200.5 To operate a high stand switch, employees must:

1. Be aware that the switch handle may be under tension and be in a position that will prevent the switch handle from striking you when the latch is released,
2. Firmly grasp the handle with both hands and lift off the keeper,
3. Pull the handle with both hands to the desired position,
4. Place the handle in the appropriate keeper, and
5. Make certain the switch points are in the proper position.

2200.6 To operate a sliding handle derail that is not lift-off, employees must:

1. Face the device squarely;
2. Keep body, hands, and feet clear of pinch points and the area the derail will come to final rest;
3. Be well braced with feet firmly placed;
4. Firmly grasp the handle with both hands; and
5. Move the operating lever using arm and leg muscles.

2200.7 To operate a lift-off type derail, employees must:

1. Place one foot on each side of the rail,
2. Keep hands and feet clear of pinch points and area the derail will come to final rest,
3. Use handhold, if equipped,
4. Lift the derail using arm and leg muscles,
5. Lower the derail into the desired position, and
6. Maintain handhold until derail is seated in desired position.

2200.8 Engineering department employees must leave switches and derails as found in non-signaled yard track.

Chapter 4 - Fusees, Fire Prevention, Hazardous Materials, Explosives, and Electrical Safety

2300 - Procedures of the Storage, Lighting, Handling and Extinguishing of Fusees

2300.1 Fusees must be stored in the designated containers when not in use. When necessary to use a fusee, employees must:

1. Hold the fusee at the base,
2. Pull the tape over the top to expose the scratch surface of the end cap,
3. Twist the cap away from the fusee,
4. Hold the cap stationary, turn face away, then rub the ignitor of the fusee against the scratch surface of the cap in a motion away from the body,
5. If the fusee fails to ignite, continue to point the fusee away from the body and pause before making another attempt to ignite,
6. Always point burning end away from the body and others,
7. Take precautions to prevent falling molten ash from falling on the body or clothing,
8. Use even and easy motions to give hand signals,
9. Frequently remove ash by carefully shaking the fusee downward near the ground, and
10. If necessary to drop a burning fusee from a moving train, hold at arm's length for at least five seconds but not more than 10 seconds.

2300.2 When handling fusees, employees must not:

- a. Ignite a fusee unless required by job duties, or
- b. Look directly at the flame, or
- c. Breathe the smoke produced by the fusee.

2300.3 When extinguishing a fusee, ensure burning compound does not come into contact with any flammable or combustible material. To extinguish a fuse, employees must:

- a. Bury the burning end of the fusee in sand or loose dirt, or
- b. Gently strike the burning end of the fusee over the edge of the rail or a heavy metal object until the burning compound separates from the rest of the fusee.

2301 - Fire Protection and Prevention

2301.1 Employees discovering a fire must turn on the fire alarm immediately, if available, and

- a. In an enclosed space, clear out of the area quickly and safely, or
- b. In an open space, control or extinguish the fire using a fire extinguisher rated for the fire involved only when it can be done safely.

2301.2 When performing welding, cutting and heating work, engineering and mechanical employees must:

1. Have proper fire protection such as a fire extinguisher, water, sand, or dirt within 50 feet of the operation before starting work;
2. Use screens when other people may be affected by the work being performed;
3. Ensure the area is properly ventilated;
4. Use a utility blower when welding or grinding frogs, if not using a respirator;
5. Remove electrodes from holders when not in use;
6. Keep molten metal from contact with any form of moisture when making thermite welds; and
7. Close cylinder valves in the event of a fire.

2301.3 While working in environments where the risk of fire is elevated, do not use flammable or combustible liquids to start or accelerate fires. Employees must:

1. Maintain clear access to all fire-fighting equipment, and
2. Maintain contact between metal containers while gasoline or other highly flammable liquids are being poured from one container to another and use a wire with suitable connectors or clips where direct contact cannot be maintained.

2302 - Handling Hazardous Materials

2302.1 When handling hazardous materials, employees must:

1. Comply with Material Safety Data Sheet (MSDS) instructions;
2. Clear the area and notify the proper authorities in the case of an emergency;
3. Handle, store, and transport all flammable and combustible liquids in metal, CSXT approved containers that are color coded as follows:
 - Red- gasoline
 - Blue- kerosene
 - Green or Yellow- diesel
4. Transport and use compressed gas and oxygen cylinders in a secured, vertical position;
5. Secure cylinders of flammable compressed gas at least 20 feet from cylinders of oxygen, unless separated by a fire-resistant partition at least five feet high;
6. Cap all oxygen and fuel gas tanks when not in use unless protected by an approved non-rotating valve stem protector; and
7. Purge regulators and hoses after use.

2303 - Transporting Compressed Gas Cylinders

2303.1 When transporting compressed gas cylinders on public highways, employees must:

1. Close cylinder valve and release pressure from regulators and hoses if approved non-rotating valve protector is used; and
2. Remove regulators and securely install caps on compressed gas cylinders if the approved non-rotating valve cylinder is not used.

2304 - Explosives

2304.1 Employees performing work with explosives must be qualified and licensed. Radios must not be operated within 500 feet of blasting area.

2305 - Electrical Hazards

2305.1 Electrical work must only be performed by qualified employees. When performing electrical work, employees must:

1. Use lock-out/tag-out procedures when required before performing work,
2. Verify with a meter that the circuit is de-energized before performing work, and
3. Allow no conductive material to come in contact with live power.

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Chapter 5 - Ladders, Tools, and Crane Safety

2400 - Operating Tools

2400.1 When operating tools and equipment, employees must:

1. Inspect all tools, equipment and related safety devices for unsafe conditions before use,
2. Remove from service any defective or unsafe tool or equipment,
3. Only use tools and equipment the employee is trained to use,
4. Use tools and equipment for the designated purpose, and
5. Have chipping protectors on the struck end of all engineering track tools being struck by a hammer.

2400.2 When operating tools and equipment, employees must not:

- a. Make any unauthorized modifications, or
- b. Increase a tool's leverage by applying improvised extensions, or
- c. Use body to brace or support the object being worked on when using power tools.

2400.3 When using power tools, employees must:

1. Shut down or disconnect hydraulic, air, electric, and other mechanical tools from the powersource (bleed off when necessary) before adjusting, repairing, oiling, or cleaning them;
2. Allow sufficient time for cooling and not fuel power tools when hot;
3. Remove tool from area of hot material before fueling; and
4. Fuel an abrasion rail saw and attach it to the rail before using.

2401 - Compressed Air

2401.1 Do not use compressed air to remove dirt and/or dust from clothing or body. When working with compressed air, employees must:

1. Bleed pressure off before disconnecting or connecting air couplings; unless the airline is equipped with a disconnect, and
2. Regulate air pressure not to exceed the PSI rating of the tools and equipment being used.

2402 - Using Abrasive Wheels, Blades, and Grinders

2402.1 Employees using abrasive wheels, blades, and grinders must:

1. Keep wheels and blades dry, and inspect them for damage before use,
2. Use a wheel or blade to grind the material for which it is designed,
3. Before use ensure that equipment is properly maintained and where required that RPMs are checked with a tachometer,
4. Grind only on the face of the wheel, and
5. Never leave a running grinder unattended.

2402.2 Mechanical employees using abrasive wheels, blades, and grinders must not wear gloves when grinding on a pedestal grinder that is equipped with a wheel that is less than 10 inches in diameter.

2402.3 Engineering employees using abrasive wheels, blades, and grinders must:

1. Not store wheels and blades on tools, and
2. Keep loose clothing and gloves away from wire wheels and grinders.

2403 - Using Blocks, Tackles, and Winches

2403.1 When handling blocks, tackles and winches, employees must:

1. Attach cable or wire rope clips with U-bolts bearing on the tail or dead end of wire rope,
2. Comply with the capacity limits of the lowest rated component,
3. Prevent cables on level wind winch drums from becoming crisscrossed, and
4. Wear leather-palmed gloves when handling wire rope.

2404 - Using Ladders, Scaffolds and Platforms

2404.1 When using ladders, scaffolds and platforms, employees must:

1. Use only approved ladders and scaffolds;
2. Use non-conductor type ladders and scaffolds near communication, signal, and electrical wires;
3. Properly secure all ladders, scaffolds, and platforms;
4. Face the ladder at all times and maintain three points of contact when ascending and descending;
5. When available, use a safety carrier rail with a locking sleeve when climbing a structural, stationary, vertical ladder over ten feet tall; and
6. Use a hand line or a lifting device to move tools or materials to a level different from the one on which you are currently working.

2404.2 When using ladders, scaffolds and platforms, employees must not:

- a. Climb higher than the third rung from the top of a straight ladder or the second step from the top of a stepladder, or
- b. Climb a ladder on which someone else is standing, or
- c. Over-extend your reach.

2405 - Cranes and Hoisting Equipment

2405.1 Employees qualified to perform work with cranes and hoisting equipment must:

1. Respond to standard signals from the designated person only,
2. Sound a warning signal before moving in any direction or near people,
3. Keep boom and cables away from all obstructions or power lines,
4. Turn off power before leaving equipment unattended,
5. Lower the load and secure the boom when clearing for a passing train, and
6. Use tag lines when necessary to control loads that are being moved higher than knee level. This does not preclude placing hands on a load for initial or final alignment.

2405.2 Employees qualified to perform work with cranes and hoisting equipment must not:

- a. Use dragging movement, unless performing dragline operations, or
- b. Exceed capacity for the lowest rated component, or
- c. Work under a suspended load or place yourself between a suspended load and an obstruction, or
- d. Leave a suspended load unattended.

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Chapter 6 - Engineering and Mechanical Safety

2500 - Excavations, Pits and Manholes

2500.1 When performing excavations or work around open pits, confined spaces and manholes, employees must:

1. Call utility locators before you dig,
2. Shore vertical excavations of five feet deep or more,
3. Protect all open holes and trenches with adequate barricades,
4. Never use open flames to thaw frozen pits or manhole covers, and
5. Ensure adequate atmospheric testing and ventilation in confined spaces.

2501 - Pole Climbing and Line Safety

2501.1 When performing pole climbing and line safety work, employees must:

1. Inspect poles before climbing,
2. Be secured by safety straps,
3. Never climb an occupied pole,
4. Inspect to see that sharpened gaffs are to the correct profile and the profile is with the proper gauge,
5. Remove gaffs when walking,
6. Be trained prior to climbing poles, and
7. Store climbers with gaff guards in place.

2502 - Operating Hi-Rail Vehicles

2502.1 When operating hi-rail vehicles, employees must:

1. Occupy track only with the proper authority,
2. Stop on-track equipment when the operator's attention cannot be directed exclusively to controlling the movement,
3. Perform roll-by inspections when two or more people are occupying the hi-rail,
4. Set the hi-rail on the track and inspect hi-rail wheels to determine that they are in place when operating alone, and
5. Be aware of the effects of weather on starting and stopping hi-rail equipment.

2503 - Operating Mechanized Equipment

2503.1 Employees operating mechanized equipment must:

1. Use equipment only to its rated capacity;
2. Inspect to see that the equipment you are operating has a properly maintained back up alarm, top mounted flashing amber light, fire, extinguisher and a first aid kit available;
3. Ride and operate equipment only in the manner in which it was designed;
4. Sound a warning and reduce speed when view is restricted;
5. Stop equipment when the operator's attention cannot be directed exclusively to controlling the movement;
6. Transport passengers only in designated, permanently installed seats;
7. Never leave running mechanized equipment unattended;
8. Maintain contact between fuel pipe and tank while fueling; and
9. See that lockout/tagout devices are in place before maintaining or repairing equipment.

2503.2 Engineering employees operating mechanized equipment must:

1. Wear a seat belt when tramming, and
2. Operate equipment at a safe speed following the speed chart provided in Operating Rule 712.17, Maximum Speeds.

2503.3 Mechanical employees operating mechanized equipment must:

1. Wear a seat belt, when equipped, and
2. Operate equipment not to exceed 15 MPH;

2504 - Coupling and Uncoupling Engineering Equipment

2504.1 When coupling and uncoupling engineering equipment, employees must:

1. Make sure work area is properly protected,
2. Assure alignment of couplers,
3. Stay in view of operator,
4. Use knuckle mate to align coupler when possible,
5. Be aware of slack action, and
6. When possible, keep one foot outside of the rail.

2505 - Intermodal Equipment

2505.1 Before performing work on Intermodal equipment in an area where loading and unloading is in progress, employees must communicate directly with the loader operator and loading crew.

2506 - Spotting Cars Within Shop Facilities

2506.1 Mechanical employees spotting cars within shop facilities must:

1. Activate track alarms before moving on-track equipment,
2. Make sure all personnel are clear of movement, and
3. Chock wheels in both directions before uncoupling from cars.

2507 - Air Brake Safety

2507.1 Mechanical employees performing work on air brake systems must:

1. Deplete air from the brake system before repairing brake rigging or removing air brake components, and
2. Make sure all personnel are clear before applying brake.

2508 - Performing Work on Locomotives

2508.1 Mechanical employees performing work on locomotives must:

1. Secure unattended locomotive(s) properly,
2. Ring bell before making any locomotive movement,
3. Relieve pressure before working on any pressurized systems,
4. Shut down power unit to avoid electrical shock when uncoupling power unit from switcher mate or road slug, and
5. Make sure that locomotive cab doors are in place while load testing or openings are barricaded when unattended.

2509 - Jacking or Lifting Cars

2509.1 Mechanical employees jacking or lifting cars must:

1. Make sure car is properly chocked,
2. Make sure blocking under jack is at least as large as the jack base,
3. Use proper jacks with shims and ensure no metal-to-metal contact,
4. Use two jacks at all times except when using a Portec center of car jack or at derailments, and
5. Have approved jack stands or blocking devices in place prior to going under lifted cars.

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Appendices

<u>Transportation Safety Equipment Chart</u>				
X - Authorized O - Optional	Locomotive Operator	Remote Control Operator	Conductor/Utility Employee	Other
Lights				
Darcy LED Engineer Light	X			X
Pelican LED 3610 Light	X	X	X	X
LED Star Lantern	X	X	X	X
Pelican 360 Degree LED	X	X	X	X
Hi-Vis Apparel				
RCO Vest		X		
CSX Approved Hi-Vis	X	O	X	X

Mechanical Operations PPE Chart	Respirator (see chart)	Ear protection	Welders jacket or sleeves	Leather gloves	Hot gloves for high voltage	Appropriate gloves	Spats, leggings	Rubberized apron or smock	Welder helmet assembly	Face shield	Cover type goggles	Burning goggles	Hearing Protection
X - Mandatory equipment <i>Safety glasses, hard hat and safety-toe shoes required for all tasks</i>													
✓ - Recommended additional equipment <i>Back support belt and gloves recommended for all tasks</i>													
Blowing & cleaning with compressed air	✓							✓		✓	X		X
Boring, reaming, drilling							✓			X	✓		X
Breaking, cutting concrete, stone or asphalt						✓	✓			X	✓		X
Electrical hazards					X								
* Electric welding	✓	X	X	X			✓		X				X
* Gas welding, cutting, heating	✓	X	X	X			✓			X ¹		X ²	X
Grinding with abrasive wheels, blades							✓			X	✓		X
Handling acid, chemical solutions, refrigerants	X					X		✓		X	✓		
Handling/servicing storage batteries	✓					X	✓	✓		X	✓		
Machining steel, iron, etc.						X	✓			X	✓		
Operating wood working machines						X	✓			X	✓		X
Sandblasting	X					X							
Spraying/general use of cleaning agents - follow manufacturers instructions	✓					✓		✓		X			

* Car operation employees refer to Safe Job Procedure C-228 for additional PPE requirements when burning/cutting/welding.

¹ Tinted face shield required with safety glasses. ² Clear face shield recommended when worn with welding goggles.

Mechanical Welding Operations

Guide for selection of filter shades that should be used when welding and cutting. This selection may be varied to suit

X - Mandatory

✓ - Recommended additional

Shade number	2	3 or 4	4 or 5	5 or 6	6 or 8	10	11	12	14
Shielded metal-arc welding: 1/16-; 3/32-; 1/8-; 5/32- inch electrodes						X			
Gas-shielded arc welding (nonferrous): 1/16-; 3/32-; 1/8-; 5/32-inch electrodes							X		
Gas-shielded arc welding (ferrous): 1/16-; 3/32-; 1/8-inch electrodes								X	
Shielded metal-arc welding: 3/16-; 7/32-; 1/4-inch electrodes								X	
5/16-; 3/8-inch electrodes									X
Atomic hydrogen welding						X	X	X	X
Carbon arc welding									X
Soldering	X								
Torch brazing		X							
Light cutting, up to 1 inch		X							
Medium cutting, 1 inch to 6 inches			X						
Heavy cutting, 6 inches and over				X					
Gas welding									
Light, up to 1/8 inch			X						
Medium, 1/8 inch to 1/2 inch				X					
Heavy, 1/2 inch and over					X				

Note: In gas welding or oxygen cutting where the torch produces a high yellow light, it is desirable to use a filter or lens that absorbs the yellow or sodium line in the visible light of the operation.

Mechanical Safety Eyewear Chart

Type of safety eyewear to be worn in addition to safety glasses.

(Proper tinted lenses must be used as required)

Specific operations requiring safety eyewear	Mandatory	Optional	Special equipment, requirements, or remarks
a) Chipping, cutting or caulking metal	cover type goggles or faceshield	cover type goggles and faceshield	
b) Breaking or cutting concrete, stone or asphalt	faceshield	cover type goggles and faceshield	
c) Striking, or striking with, hardened tools and fastenings	safety glasses	cover type goggles or faceshield	
d) Cutting rivets, bolts or cotter keys, splitting nuts, etc.	safety glasses	cover type goggles	
e) Using power-activated impact tools	safety glasses	cover type goggles	
f) Using tools powered by explosive charges	cover type goggles and faceshield		
g) Boring, drilling or reaming metal	safety glasses	cover type goggles or faceshield	
h) Operating woodworking machines	faceshield	cover type goggles	cover type goggles must be used under dusty conditions
i) Operating adzing machines	faceshield	cover type goggles and faceshield	
j) Operating rail drill	safety glasses	cover type goggles or faceshield	
k) Operating or dressing grinding wheels, including rail grinders	faceshield	cover type goggles and faceshield	
l) Bench grinders	faceshield	cover type goggles and faceshield	
m) Blowing or cleaning with compressed air	cover type goggles	faceshield	
n) Steam cleaning	faceshield	cover type goggles	
o) Sandblasting	air supplied hood		
p) Spraying paint (gun)	faceshield	cover type goggles	
q) Spraying or general use of cleaning agents	faceshield	cover type goggles	
r) Handling acids or other chemical solutions and servicing/charging refrigeration equipment	faceshield	cover type goggles	
s) Handling or servicing storage batteries	faceshield	cover type goggles	
t) Power rail saws	faceshield	cover type goggles	
u) Electric welding	welding helmet		see welding operation shade chart
v) Gas welding	welding helmet or tinted faceshield		see welding operation shade chart
w) Cutting with a torch	cover type goggles or faceshield		see welding operation shade chart
x) Working in areas where heavy dust conditions exist	cover type goggles		
y) Using cut-off discs, saws or other tools having carbide bits	faceshield	cover type goggles	
z) Working under cars or equipment	faceshield	cover type goggles	

Mechanical Department Required Use Respirator Chart

Employees who perform the job tasks listed at these locations, must wear one of the respirators as marked by an X.

Location	Task	Shop/ Job Position	Potential Hazards	Respirator Types					
				3M Half Face Respirator with HEPA P100 or N100 Cartridges	3M Half Face Respirator with Organic Vapor Cartridges	PAPR, Welding Helmet	Supplied Air Welding Helmet	Supplied Air Abrasive Blasting Helmet	Supplied Air Hood with Collar
FGE Yard; Jacksonville, FL; Locomotive Shop Huntington, WV; Waycross Paint Shop; Waycross, GA	Abrasive Blasting	Paint Shop Carmen	Lead, PNOC					X	
	Painting Surface Preparation (Except Abrasive Blasting)	Paint Shop Carmen	Lead, PNOC	X					
	Spray Painting (Except Aerosol Can Spray Painting)	Paint Shop Carmen	Organic Vapors						X
	Painter Helper	Paint Shop Carmen	Organic Vapors		X				
Tampa Project Shop; Tampa, FL; Winston Project Shop; Lakeland, FL	Burning on Safety Appliances (Unidrive Fasters, > 25 in one day)	Project Line; Carman	Cadmium	X		X	X		

Note: Filtering facepiece (dust mask) may not be used for any of the tasks listed above. Voluntary use of filtering facepiece (dust mask) are allowed for personal comfort use for job tasks not included in this chart.

Safe Way

Engineering Personal Protective Equipment (PPE) Chart		Ear down protection	Chain saw chaps	Leather leggings and foot guards	Rubber apron	*Hearing protection	Face shield with chin guard req.	**Burning goggles or faceshield	Welders helmet	Traffic vest	Aluminum leggings & foot guards	Wire mesh face shield	Long sleeves, cotton	Welder's jacket or sleeves	Lanyards	Safety belt	Leather gloves	Rubber gloves	Hi-voltage gloves	Welder's gloves	Respirator (see chart)
X - Mandatory Equipment <i>Safety glasses, hardhat and steel-toe shoes required for all tasks</i>																					
✓ - Recommended additional equipment <i>Gloves are recommended for all tasks</i>																					
O - If using face shield with chin guard, wire mesh face shield is not required																					
Adze																					
Hand						✓															
Walking					X	X					X						✓				X
Powered with enclosed cab					X	O															
Chain saw		X			X	O					X						✓				✓
Climbing poles																X	X				
Cutting/burning			X		✓		X					X	✓				X				
Cutting/burning, overhead	X						X						X				X				
Flagging traffic crossings					✓				X					X							
Frog welding			✓					X ¹					X	✓						X	✓
Grinders																					
Hand held					X	X					X						✓				✓
Rail maul					X	X											✓				✓
Rail slotter					X	X											✓				✓
Rail surface					X	X					X						✓				✓
Shop bench					X	X											✓				
Handling chemical/caustic				X		X												X			
Handling high voltage																			X		
Metal bridge welding/cutting	X							X				X	✓						X	X	
Metal bridge grinding					X	X											X				X
Rail saw			X		X	X											✓				
Servicing/handling batteries				✓		X												X			
Weed eater			X		X						X						✓				
Welding								X				X	✓							X	✓
Welding, overhead	X							X					X						X		✓
Working outside protected platform (signal work)															X	X					

X¹ Hard hat not required for downhand frog work if there is no overhead work in the area.

* Hearing protection mandatory at placarded location or subject to manufacturer recommendation.

¹ Tinted face shield and safety glasses may be used as alternative to goggles and clear face shield.

Engineering - Welding Operations

Guide for selection of filter shades that should be used when welding and cutting.

This selection may be varied to suit the individual's needs.

Shade number	2	3 or 4	4 or 5	5 or 6	6 or 8	10	11	12	14
Shielded metal-arc welding: 1/16-; 3/32-; 1/8-; 5/32- inch electrodes						X			
Gas-shielded arc welding (nonferrous): 1/16-; 3/32-; 1/8-; 5/32-inch electrodes							X		
Gas-shielded arc welding (ferrous): 1/16-; 3/32-; 1/8-inch electrodes								X	
Shielded metal-arc welding: 3/16-; 7/32-; 1/4-inch electrodes								X	
5/16-; 3/8-inch electrodes									X
Atomic hydrogen welding						X	X	X	X
Carbon arc welding									X
Soldering	X								X
Torch brazing		X							
Light cutting, up to 1 inch		X							
Medium cutting, 1 inch to 6 inches			X						
Heavy cutting, 6 inches and over				X					
Gas welding									
Light, up to 1/8 inch			X						
Medium, 1/8 inch to 1/2 inch				X					
Heavy, 1/2 inch and over					X				

Note: In gas welding or oxygen cutting where the torch produces a high yellow light, it is desirable to use a filter or lens that absorbs the yellow or sodium line in the visible light of the operation.

X - Mandatory equipment
✓ - Recommended additional equipment

Engineering Safety Eyewear Chart

Type of safety eyewear to be worn in addition to safety glasses.
(Proper tinted lenses must be used as required)

Specific operations requiring safety eyewear	Mandatory	Optional	Special equipment, requirements, or remarks
a) Chipping, cutting or caulking metal	cover type goggles and faceshield	cover type goggles and faceshield	
b) Breaking or cutting concrete, stone or asphalt	faceshield	cover type goggles and faceshield	
c) Striking, or striking with, hardened tools and fastenings	safety glasses	cover type goggles and faceshield	
d) Cutting rivets, bolts or cotter keys, splitting nuts, etc.	safety glasses	cover type goggles	
e) Using power-activated impact tools	safety glasses	cover type goggles	
f) Using tools powered by explosive charges	cover type goggles and faceshield		
g) Boring, drilling or reaming metal	safety glasses	cover type goggles and faceshield	
h) Operating woodworking machines	faceshield	cover type goggles	cover type goggles must be used under dusty conditions
i) Operating adzing machines	faceshield	cover type goggles and faceshield	
j) Operating rail drill	safety glasses	cover type goggles and faceshield	
k) Operating or dressing grinding wheels, including rail grinders	faceshield	cover type goggles and faceshield	
l) Bench grinders	faceshield	cover type goggles and faceshield	
m) Blowing or cleaning with compressed air	cover type goggles	faceshield	
n) Steam cleaning	faceshield	cover type goggles	
o) Sandblasting	air supplied hood		
p) Spraying paint (gun)	faceshield	cover type goggles	
q) Spraying or general use of cleaning agents	faceshield	cover type goggles	
r) Handling acids or other chemical solutions and servicing/charging refrigeration	faceshield	cover type goggles	
s) Handling or servicing storage batteries	faceshield	cover type goggles	
t) Power rail saws	faceshield	cover type goggles	
u) Electric welding	welding helmet		see welding operation shade chart
v) Gas welding	welding helmet or tinted faceshield		see welding operation shade chart
w) Cutting with a torch	cover type goggles or tinted faceshield		see welding operation shade chart
x) Working in areas where heavy dust conditions exist	cover type goggles		
y) Using cut-off discs, saws or other tools having carbide bits	faceshield	cover type goggles and faceshield	
z) Working under cars or equipment		cover type goggles and faceshield	

Engineering Department Required Use Respirator Chart

Employees who perform the job tasks listed must wear one of the respirators as marked by an X.

Location	Task	Potential Hazards	Respirator Types							
			3M Half Face Respirator with HEPA P100 or N100 Cartridges	3M Half Face Respirator with Organic Vapor Cartridges	PAPR (Powered Air Purifying Respirator)	PAPR, Welding Helmet	Supplied Air Welding Helmet	Supplied Air Half Face Respirator	Supplied Air Hood with Collar	Supplied Air Abrasive Blasting Helmet
Multiple Locations	Welding, Frog Without a Blower	Manganese, Hexavalent Chromium	X			X	X			
Multiple Locations	Grinding, Frog Without a Blower	Manganese, Hexavalent Chromium PNOC	X			X	X			
Multiple Locations	Manual Dumping of Ballast Rock	Silica	X		X					
Multiple Locations (Bridge Construction or Repair)	Manual Hand Scraping	Lead	X							
Multiple Locations (Bridge Construction or Repair)	Torch Cutting or Burning With Prior Paint Stripping	Lead				X		X		
Multiple Locations (Bridge Construction or Repair)	Torch Cutting or Burning Without Prior Paint Stripping	Lead					X			
Multiple Locations (Bridge Construction or Repair)	Rivet Busting	Lead	X							
Multiple Locations (Bridge Construction or Repair)	Needle Gun Paint Removal	Lead							X	
Barboursville Bridge Shop; Barboursville, West Virginia	Abrasive Blasting	Lead								X
	Painting Surface Preparation (Except Abrasive Blasting)	Lead	X							
	Spray Painting (Except Aerosol Can Spray Painting)	Organic Vapors							X	
	Painter Helper	Organic Vapors		X						
Bryan Park Equipment Shop; Richmond, Virginia	Abrasive Blasting	Lead								X
	Painting Surface Preparation (Except Abrasive Blasting)	Lead	X							
	Spray Painting (Except Aerosol Can Spray Painting)	Organic Vapors							X	
	Painter Helper	Organic Vapors		X						

Note: Filtering facepiece (dust mask) may not be used for any of the tasks listed above. Voluntary use of filtering facepiece (dust mask) are allowed for personal comfort use for job tasks not included in this chart.

Equipment Handling Rules



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Chapter 1 - General Rules

4001 - Inspecting the Loading of Cars When Switching

- 4001.1** When switching industry tracks or other locations where cars are being loaded or unloaded, notify the appropriate personnel, check any overhead or side clearances to make certain that the car will clear, and do not move a car that:
- a. Is loaded heavily on one side or one end, or
 - b. Is overloaded, or
 - c. Has lading projecting over the ends or sides.

4002 - Handling Machinery That Has a Boom Attached

- 4002.1** When handling machinery that has a boom attached, make certain that all booms are in the trailing position, except when:
- a. Moving in work trains or wreck trains over short distances, such as to and from the work location, or
 - b. The Engineering Department employee-in-charge confirms that the lading is tied down properly and that any booms are properly secured, or
 - c. The machinery is a military tank with its gun barrel attached.

4003 - CSXT Train Documentation

- 4003.1** Freight train crews must have appropriate train documentation before the train departs its originating point except when authorized by the chief train dispatcher.
- 4003.2** When relieved before reaching the final destination, leave any train documentation, except Emergency Response Guide, on the controlling locomotive in a location where it can be easily found.

4004 - Reserved

4005 - Required Equipment and Tags

- 4005.1** At the beginning of a tour of duty, at least one crewmember must have in their possession:
1. A 200 degree temperature testing crayon (Tempilstik), and
 2. Six (6) Hot Box / Air Brake Cut-Out tags.

4006 - Setting Out Defective Equipment for Repair

- 4006.1** When setting out defective equipment, when possible, place it where it can be accessed by a vehicle for repair or inspection.

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Chapter 2 - Car Inspection

4050 - Making Certain That Cars Are Inspected

4050.1 The ranking employee must know:

1. All cars in the train or being added to the train have received a proper safety inspection, and
2. Required brake tests have been performed.

4050.2 The ranking employee must accept the results of any inspection performed by the Mechanical Department.

4051 - Performing Car Inspection

4051.1 Before cars are added to a train, both sides of the cars must be inspected from the ground to make certain that:

1. The car body is properly positioned on the trucks and does not:
 - a. Lean or list to the side, or
 - b. Sag downward, or
 - c. Have any object hanging below it, or
 - d. Have any object extending from its side, or
 - e. Have a door insecurely attached, or
 - f. Have any broken or missing appliances.
2. Couplers are not cracked or broken;
3. Bearings are not overheated;
4. Wheels are not overheated, broken, or cracked;
5. The hand brake releases;
6. Retainer valves are placed in the Direct Exhaust position;
7. Cables, chains, straps, and bands are properly applied to loads, or secured if the car is empty; and
8. The car does not have any apparent safety hazards.

4051.2 Do not accept a defective car for movement in a train unless authorized by a supervisor.

4051.3 Unless authorized by the Mechanical Department, do not accept cars equipped with friction bearings for movement in any train.

4052 - Discovering a Car that is Unsafe to Move

4052.1 When a car is unsafe for movement, ask the train dispatcher or a supervisor for instructions.

4053 - Inspecting Re-Railed Cars

4053.1 Unless inspected by the Mechanical Department, inspect re-railed cars and do not move if any of the following conditions exist:

- a. Cracked or broken wheels, or
- b. Bent axles, or
- c. Car body not properly positioned on the trucks, or
- d. Improperly positioned brake shoes, or
- e. Displaced or missing bearing adapter on cars with roller bearings.

4053.2 Re-railed cars must be inspected by Mechanical Department personnel at the first location the inspection can be performed.

Chapter 3 - Hot Bearings

4100 - Receiving a Report of a Hot Bearing or a Hot Wheel

- 4100.1** Make an immediate inspection of all bearings or wheels reported hot and report the results of the inspection to the train dispatcher.

4101 - Inspecting a Roller Bearing Reported Hot

- 4101.1** When testing a bearing for excessive heat, make a visible mark at least three (3) inches long with a Tempilstik. Make the mark at the location indicated in the following chart:

If the bearing is on a	Then apply the mark
Passenger car	Directly on the bearing housing (not on the bearing end cap)
Freight car with trucks having more than one axle	On the outside of the bearing cup (not on the bearing end cap)
Car equipped with single-axle trucks	On the face of the adapter either to the right or left of the bearing
Locomotive	On the side of the bearing, or on the bearing end cap if the side of the bearing cannot be accessed

- 4101.2** When a Tempilstik is not available, carefully pass your hand near the bearing without touching it. If the bearing radiates more heat than other bearings, it is overheated.
- 4101.3** After inspecting a roller bearing reported hot, attach a completed Hot Box Tag to the equipment near the bearing, even if the bearing is not overheated.
- 4101.4** Set out the car if the:
- Tempilstik mark melts when applied, or
 - Bearing is overheated, or
 - Equipment, other than a passenger car, has a hot box tag attached, indicating that the bearing has been previously inspected or reported hot.

4102 - Setting Out a Car with Hot Bearing

- 4102.1** When setting out a car with a hot bearing:
- Do not use fire extinguishers, liquids, or snow to cool hot bearings;
 - Carefully inspect the equipment prior to movement;
 - Cut out the air brakes;
 - Do not exceed 4 MPH; and
 - Place it where it will not endanger flammable commodities.

4103 - Inspecting a Wheel Reported Hot

4103.1 Inspect the equipment to determine the cause of the hot wheel but do not touch the wheel. If the wheel is determined to be hot, correct the cause of the hot wheel by:

- a. Releasing the hand brake(s), or
- b. Cutting out the air brakes, or
- c. Restoring the retainer valve to the EX (direct exhaust) position.

4103.2 Inspect all wheels on both sides of the equipment for tread build up or flat spots and contact the mechanical desk if tread build up is discovered.

4104 - Setting Out a Car with a Hot Wheel

4104.1 Set out the car if the:

- a. Equipment has one or more wheels with flat spots or tread build up, or
- b. Cause of the hot wheel cannot be corrected, or
- c. Brakes do not release, even when the air brakes are cut out and air is bled off.

4104.2 When setting out a car with a hot wheel:

1. Carefully inspect the equipment prior to movement,
2. Cut out the air brakes, and
3. Do not exceed 10 MPH.

Chapter 4 - Flat Spots

4150 - Inspecting for Flat Spots

- 4150.1** If a flat spot develops on a wheel of a locomotive or other equipment, a member of the crew must perform an inspection of the equipment.

4151 - Wheel Impact Detectors

- 4151.1** Maintain the maximum speed permitted for the train when passing over a wheel impact detector.

- 4151.2** After passing a wheel impact detector:

1. Listen for an inspection results message concerning the inspection of the train, and
2. Communicate the contents of the message with other crew members.

- 4151.3** If the wheel impact detector results message indicates high impacts:

1. Stop and inspect the car(s) provided in the results message for the cause of the high impacts, and
2. Report the results of the inspection to the dispatcher.

- 4151.4** If the results message indicated an axle number instead of a car number and the cause of the impact is not found at the reported location, inspect 20 axles before and after the reported axle on both sides of the equipment.

- 4151.5** If the wheel impact detector results message was not clearly received, contact the train dispatcher for instructions.

4152 - Reporting Flat Spots

- 4152.1** Report flat spots exceeding two (2) inches in length to the mechanical desk and train dispatcher.

- 4152.2** On locomotives, record flat spots exceeding two (2) inches in length on the locomotive work report.

4153 - Flat Spots Meeting a Non-Complying Condition for a Locomotive

- 4153.1** A non-complying condition exists when:

- a. One or more flats spots are 2 1/2 inches long or longer, or
- b. Flat spots of at least 2 inches or more are within 1 1/2 inches of each other.

- 4153.2** When flat spot(s) meeting the non-complying condition requirements are discovered during the first movement of the locomotive after performing a calendar day inspection, the non-complying condition will be considered as having been discovered during the calendar day inspection.

4154 - Handling Equipment That Has Flat Spots

4154.1 When handling equipment that has flat spots, comply with the requirements of the chart below, unless further restricted by the train dispatcher.

Instructions Concerning Flat Wheels			
Length of Single Flat Spot	Length of the smallest flat spot when two flat spots are within 1/2 inches of each other	Maximum Speed	Other Restrictions
Locomotives			
2" or less	1" or less	Normal Speed	None
2" to 2 1/4"	1" to 1 1/2"	40 MPH	None
2 1/4" to 2 1/2"	1 1/2" to 2"	25 MPH	None
2 1/2" or more	2" or more	10 MPH	Set out equipment
Equipment other than a Locomotive			
2 1/4" or less	1 1/2" or less	Normal Speed	None
2 1/4" to 2 1/2"	1 1/2" to 2"	50 MPH	None
2 1/2" or more	2" or more	10 MPH	Set out equipment

4154.2 When required to set out equipment that has flat spots:

1. Inspect equipment to ensure it is safe to move, and
2. Do not exceed 10 mph.

Chapter 5 - Observation of Trains

4250 - Observation of Trains

4250.1 Employees must visually inspect passing trains for defects or unsafe conditions such as:

- a. Hot bearings, or
- b. Sticking brakes, or
- c. Sliding wheels, or
- d. Dragging equipment, or
- e. Evidence of fire, or
- f. Shifted or insecure lading.

4250.2 The crewmembers of a stopped train may inspect a passing train from the locomotive cab. When other duties require an employee to be on the ground when being passed by a train, the employee must not be:

- a. Between the rails of any tracks, or
- b. Closer than 30 feet from the passing train.

4250.3 Employees must communicate the results of the inspection to the train that was inspected. If a defect was observed, provide the following information:

1. Specific location, and
2. Nature of the defect.

4250.4 If a defect is observed on a passing train and communication cannot be established with the train, immediately notify the train dispatcher.

4250.5 Trains that receive a report of a defect must stop and notify the train dispatcher. The train must be inspected as follows:

- a. If a specific location of the defect was not provided, inspect the entire train, or
- b. If a specific location was provided, inspect for the reported defect. If a defect is not found at the reported location, inspect twenty (20) axles ahead and behind of the reported location.

4251 - Inspections From Rear of Train

4251.1 When one or more employees are on the rear of a train, those employees must inspect as much of the train, track, signals, and bridges behind the train as can be seen from their normal positions.

4252 - Inspection from Head of Train

4252.1 Make frequent on-board visual inspections of both sides of a train while moving.

- 4252.2** Make a walking inspection of as much of the train as possible when the train is stopped on the line-of-road.

Chapter 6 - Defect Detectors & Clearance Detectors

4300 - General Requirements

- 4300.1** Investigate reported defects or excessive dimensions through a walking inspection of the train. Do not use train documentation to locate defects.
- 4300.2** When a train is equipped with an on-board defect detector system, comply with the instructions for that system.
- 4300.3** Record and report the following information to the train dispatcher:
1. Results of inspections made of reported defects or excessive dimensions, and
 2. Evidence that a detector is not working properly (examples: An axle count malfunction, a hot bearing detector malfunction, or not working message, etc.)

4301 - Approaching a Defect or Clearance Detector

- 4301.1** When approaching a defect detector or clearance detector:
1. Be alert for a greeting from the detector, which may be a voice message or an indicator light, and
 2. Communicate to other crew members the status of the indicator light or contents of the voice message.

4302 - Passing Over a Defect Detector or by a Clearance Detector

- 4302.1** As a train passes over a defect detector or by a clearance detector:
1. Listen for an alarm, which will sound if a defect is detected, and
 2. Maintain the maximum speed permitted.
- 4302.2** If an alarm sounds, immediately reduce the train's speed to a level that will permit the train to be stopped promptly after passing over the defect detector.

4303 - Hot Box and/or Dragging Equipment Defect Detector Results Messages

- 4303.1** After passing over a defect detector, crewmembers must:
1. Listen for the inspection results message, and
 2. Confirm their mutual understanding of the contents of the inspection results message.
- 4303.2** If all crewmembers are unable to agree on the contents of the inspection results message, the message must be treated as not received.

4303.3 A walking inspection of the entire train is required when the train:

- a. Is not inspected by two consecutive defect detectors including defect detectors out of service, or
- b. Passes over two consecutive defect detectors at less than 8 mph.

4303.4 Use the chart below to determine the action(s) required for defect detector results messages.

If the Defect Detector Indicates:	Then:
No Defects	Proceed
One (1) or two (2) defects	1. Stop and inspect for the reported defect(s), and 2. Promptly report inspection results to the train dispatcher.
Three (3) or more defects	1. Stop. Contact the train dispatcher and provide the following information: 1. Defect detector milepost location and name, 2. Track number, in multiple track territory, 3. Total number of axles in the train, including the locomotive consist, and 4. Location of the defects reported by the defect detector. 2. Inspect the reported defects, 3. If: a. The train dispatcher states that there are no additional defects then the train crew is not required to perform additional inspections, or b. The train dispatcher provides the location of additional defects then the train crew must inspect the additional defects, or c. The train dispatcher states that no information is available then the train crew must inspect each axle behind the last defect reported by the defect detector. 4. Promptly report inspection results to the train dispatcher.
No results message is received or the message is not clearly received or not understood	1. Stop. Contact the train dispatcher and provide the following information: 1. Defect detector milepost location and name, 2. Track number, in multiple track territory, 3. Total number of axles in the train, including the locomotive consist, and 4. No results message was received or the message was not clearly received or not understood 2. If:

	1. The train dispatcher states that there are no defects reported then the train may proceed, or 2. The train dispatcher provides the location of reported defects then the train crew must inspect the reported defects, or 3. The train dispatcher states that no information is available then the train crew must inspect the entire train for defects. 3. Promptly report inspection results to the train dispatcher.
No alarm tone is received when passing over the defect detector and results message indicates: a. Integrity failures, or b. It is not working, or c. It has malfunctioned, or d. An axle count malfunction.	a. Key Train: 1. Stop. Contact the train dispatcher and report the occurrence, 2. Inspect the entire train for defects, and 3. Promptly report inspection results to the train dispatcher. b. Other Than a Key Train: 1. Immediately reduce speed to thirty (30) MPH, 2. Report the occurrence to the train dispatcher, and 3. Do not exceed thirty (30) MPH until: a. Passing over another defect detector that inspects for hot bearings and/or dragging equipment, or b. The entire train is inspected by a qualified employee(s).
Alarm tone is received when passing over the defect detector and the results message indicates: a. Integrity failures, or b. It is not working, or c. It has malfunctioned, or d. An axle count malfunction, or e. A defect at an axle location that exceeds the known number of axles for the train.	1. Stop. Contact the train dispatcher and report the occurrence, 2. Inspect the entire train for defects, and 3. Promptly report inspection results to the train dispatcher.

4304 - Inspecting the Train for Reported Defects

4304.1 When a defect is reported by a defect detector, promptly stop the train.

4304.2 Use the chart below to determine the action(s) required when inspecting the train:

Condition	Freight Trains	Passenger Trains
A defect is not found at the location identified and the train's speed was 8 MPH or more.	Inspect 20 axles before and after the reported defect on both sides.	Inspect remaining axles on the both sides of the car and two cars ahead of and behind the suspected car.
A defect is not found at the location identified and the train's speed was less than 8 MPH.	Make a walking inspection of the entire train.	Make a walking inspection of the entire train.
No defect is found during the required inspection.	Proceed at authorized speed.	Proceed at authorized speed.
A "Hot Bearing" is found.	Comply with procedures for inspecting hot bearings.	Comply with procedures for inspecting hot bearings.
A "Hot Bearing" is indicated at a bearing previously tagged with a "Hot Box" tag.	Set the equipment out even if there is no evidence of overheating.	1. Proceed not exceeding thirty (30) MPH for five (5) miles, 2. After five (5) miles, inspect all bearings on the car that actuated the defect detector and the bearings on the two (2) cars ahead of and behind it, 3. If no defect is found, the train may operate at authorized speed to the next authorized passenger equipment repair point where the car can be set out, and, 4. The car with the suspected hot bearing must be examined every 100 miles until the set out location is reached.

4305 - Clearance Detector Results Messages

4305.1 After passing a clearance detector, crewmembers must:

1. Listen for the inspection results message, and
2. Confirm the mutual understanding of the contents of the inspection results message.

4305.2 If all crewmembers are unable to agree on the contents of the inspection results message, the message must be treated as not received.

4306 - Inspecting the Train for Reported Excessive Dimensions

- 4306.1** When an excessive dimension is reported by a clearance detector, promptly stop the train.
- 4306.2** If the location of the excessive dimension is identified, inspect the reported car and two cars or platforms before and after the reported location.
- 4306.3** If the location of the excessive dimension is not identified, inspect the entire train.

4307 - Comparing Axle Count Information

- 4307.1** When a detector provides an axle count, compare the axle count provided to the number of axles known to be in the train.
- 4307.2** When the axle count provided is at least two (2) axles less than the number of axles known to be in the train, report the discrepancy to the train dispatcher and proceed. The train dispatcher must notify the Customer Service Center.
- 4307.3** When the axle count provided is at least two (2) axles more than the number of axles known to be in the train, report the discrepancy to the train dispatcher. The cars must be identified as follows:
 - a. The train dispatcher will notify the Customer Service Center and the Customer Service Center will attempt to identify the cars, or
 - b. If the Customer Service Center is unable to identify the cars:
 - 1. Stop and inspect the train for extra cars, and
 - 2. Report the car initial and number of each extra car found to the train dispatcher.
- 4307.4** If extra cars discovered in the train require hazardous material documentation, the train dispatcher will:
 - a. Notify crew members to obtain new train documentation within 5 miles of the point of inspection, or
 - b. Issue a radio waybill for those cars containing hazardous materials.

NOTE: A radio waybill may be transmitted to a moving train, but it must not be copied or repeated by an employee operating the controls of a moving locomotive.

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Chapter 7 - Locomotive Rules

4350 - Locomotive Speed Restrictions

4350.1 Trains must not exceed:

- a. 30 MPH with a single-unit locomotive consist without cars attached, or
- b. 70 MPH with a locomotive consist containing a road freight locomotive, or
- c. Freight train speed when handling a multiple-unit locomotive consist without cars attached, or
- d. The speed authorized by the passenger railroad or agency when handling an Amtrak and/or a commuter railroad locomotive.

4351 - Locomotive Operational Restrictions

4351.1 Do not operate a locomotive consist:

- a. On the live rails of any scale that is equipped with dead rails, or
- b. With more locomotives than are permitted in the following chart:

Maximum Locomotives	Conditions
15	When moving without cars or with only a shoving platform.
12	When moving cars or cars and a shoving platform.
8	When moving on industrial spurs or industrial tracks.

4352 - Reserved

4353 - Handling Dead Locomotives Not Part of the Locomotive Consist

4353.1 When handling one or more dead locomotives that are not part of your locomotive consist:

1. Make certain that the movement is authorized by the Clearance Bureau, and
2. Inspect the locomotives for the presence of alignment control couplers or coupler limiting blocks.

4354 - Operating a Locomotive Not Equipped with an Event Recorder

4354.1 When operating the following locomotives as a controlling locomotive, do not exceed 30 MPH:

Initials	Numbers
CSXT	1021 through 1241, 2400, 2426, 2450 through 2467, and 8972

4355 - Handling Short Wheel-Base Locomotives

- 4355.1** Do not operate locomotives CSXT 1100 through 1128 over a railroad crossing at grade, unless it is coupled to another locomotive or a car.

4356 - Handling Locomotives Not Equipped with Alignment Control

- 4356.1** When handling locomotives that are not equipped with alignment control couplers or coupler limiting blocks, make certain that:

1. The locomotives are not coupled to a car with a length of more than 55 feet or less than 40 feet, and
2. The trailing tonnage behind the most forward non-alignment control locomotive does not exceed 5,000 tons.

- 4356.2** When the locomotive consist contains locomotives that are not equipped with alignment control couplers or coupler limiting blocks:

1. Do not use dynamic braking,
2. Limit locomotive brake cylinder pressure to 25 PSI, and
3. Make certain that each locomotive that is not equipped with alignment control is separated by an alignment control equipped locomotive.

- 4356.3** When moving locomotives that are not equipped with alignment control couplers or coupler limiting blocks as part of the train:

1. Make certain that the locomotives are within twenty (20) cars from the head end or within the rear twenty (20) cars,
2. Make certain that a car separates each locomotive,
3. If one or more of the locomotives are within the first twenty (20) cars:
 1. Do not use dynamic braking, and
 2. Limit locomotive brake cylinder pressure to 25 PSI.
4. If one or more of the locomotives are within the rear twenty (20) cars of the train, do not permit a helper to assist from the rear of the train.

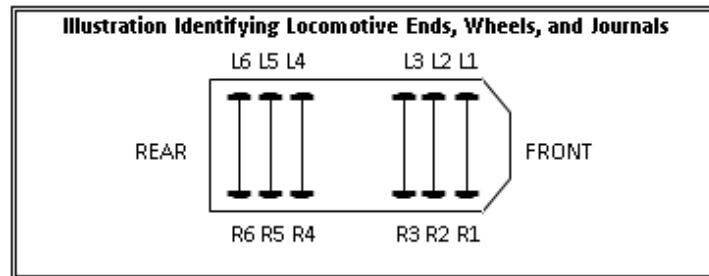
4357 - Identifying the Ends of Locomotives

- 4357.1** Determine the front of a locomotive by locating an "F" stenciled on the side of the locomotive frame at the steps. The opposite end is the rear.

4358 - Identifying Wheels and Journals on Locomotives

4358.1 Identify the wheels and journals on a locomotive by:

1. Determining the side of the locomotive by facing the same direction as the locomotive. The left side "L" of the locomotive corresponds to the left and the right side "R" of the locomotive corresponds to the right, and
2. Counting the axles from the front of the locomotive to the subject axle. Axles are numbered beginning with one at the front "F" end.



4359 - Locomotive Clearance Through Rotary Dumps

4359.1 Locomotives in the following series must not pass through a rotary dump:

1. CSXT 3250-3374,
2. CN 3000-3038,
3. BNSF 3839-3999, and
4. UP 2570-2669.

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Chapter 8 - Train Rules

4400 - Train Speed

4400.1 When handling any of the following trains, do not exceed the speed listed:

Type of Train	Maximum Speed	Remarks
Amtrak passenger trains handling TOW (trailer-on-wheels) equipment	90 MPH	None
Trains handling Amtrak mail handling cars	60 MPH	MHC 1400-1569 series cars
TOW Train	60 MPH	TOW trains may operate at the speed for intermodal trains, but not exceeding 60 MPH.
Trains handling one or more railcars loaded with engineering equipment	50 MPH	None
Trains handling one or more wood rack cars or bulk head flats	50 MPH	None
Circus/Carnival Trains	50 MPH	RBXX 001-999 series cars JESX 001-100 series cars
Freight trains handling one or more empty cars, except solid intermodal trains with empty TOFC/COFC and multilevel autorack cars.	As indicated in remarks	50 MPH - Applies if the train has any empty car that is not included in the 60 MPH category below. 60 MPH - Freight trains whose only empty cars are Tropicana TPIX cars of any series, CSXT 198000- 199999 series cars, ARMN 110000-111449 series cars, CRYX 5800-5899 series cars, TOFC/COFC, or multi-level autorack cars.
Unit Trains	50 MPH	Applies to solid loaded unit trains of coal, coke, grain, or minerals.
Trains handling gondolas loaded with stump wood	50 MPH	None
Trains handling one or more empty cars in the UTLX 83000-83080 series	40 MPH	None
Trains handling one or more loaded coal cars	40 MPH	Applies only if restricted by train documentation due to weight.
Trains handling camp cars	40 MPH	Includes Univan Camp Cars.
Trains handling snow plows or ditcher spreaders	25 MPH	None
Locomotives or cars being shoved	30 MPH	Does not apply to helper operations.

Trains handling ice breaker cars	10 MPH	Applies only when being used to break ice, moving through tunnels.
Trains handling air dump cars	As indicated in remarks	30 MPH when handling 70 ton maintenance of way air side dump cars (220,000 GRL or less). 45 MPH when handling 100 ton maintenance of way air side dump cars (263,000 GRL). 50 MPH when handling all other air dump cars.
Trains handling welded or continuously jointed rail.	As indicated in remarks	40 MPH and further restricted to 10 MPH when crossing thru-truss bridges and going through turnouts, crossovers, or tunnels.
Trains handling wreck cranes or derricks	As indicated in remarks	35 MPH, when pulling. 20 MPH, when shoving.
Trains handling Type SF1A, SF1B, and/or SF2A flangers	As indicated in remarks	50 MPH when secured for movement in a train. 30 MPH when flanging and pulling. 5 MPH when flanging and shoving, and 5 MPH when flanging and passing station platforms, highway crossings at grade, and equipment on adjacent tracks.
Trains handling loaded box cars	60 MPH	None
Loaded TIH/PIH Cars	50 MPH	None
Trains handling gondolas with initials NYC, CR, or PRC	40 MPH	Only applies when restriction is listed in train documents.
Trains handling cars with initials CWP	45 MPH	Only applies when restriction is listed in train documents.
Trains handling cars with initials DRGW	As indicated in remarks	40 MPH - when empty and restriction is listed in train documents. 50 MPH when loaded and restriction is listed in train documents.
Trains handling CSXT and CR track geometry cars	As indicated in remarks	60 MPH when testing Passenger speed when not testing
Trains handling NS track geometry and research/test cars	60 MPH	None

Trains handling CSXT and CR research/ test cars	As indicated in remarks	CSXT cars - 70 MPH when testing CR cars - 60 MPH when testing Passenger speed when not testing
GMS/TSAV Equipment (Geometry Measurement System)	35 MPH	None

4401 - Handling Circus Trains or Carnival Trains

- 4401.1** CSXT Operations Planning must authorize and issue instructions prior to movement of Circus or Carnival Trains.

4402 - Limiting the Size of Intermodal Trains

- 4402.1** Do not operate an intermodal train that exceeds 14,000 feet.

4403 - Intermodal Train Placement Requirements

- 4403.1** Before operating an intermodal train, make certain that the following cars do not have more than 6,000 trailing tons:

1. COFC/TOFC cars, or
2. Empty spine cars, or
3. Empty double stack cars.

- 4403.2** When operating an intermodal train on other than the Water Level route and the train is more than 9,000 feet long and exceeds 7,500 tons:

1. The first ten (10) platforms or wells must be loaded with at least one trailer or container, and
2. Loaded multi-platform double stack cars must be placed ahead of COFC/TOFC cars, empty spine cars, and empty double stack cars.

4404 - Reserved

4405 - Reserved

4406 - Handling a Coal or Ballast Train Equipped with an Air Dump System

- 4406.1** When handling a coal or ballast train that is equipped with an air dump system, make certain that:

1. The air dump system is not charged, except when preparing to unload,
2. All cars and air hoses are coupled and the associated angle cocks are properly positioned, and
3. The charging hose remains with the train when the train's power is changed, except for cars with SMEX initials.

4407 - Handling Passenger Trains

- 4407.1** A passenger train may consist of a combination of all types of passenger equipment if the cars are cleared to operate at passenger train speeds.
- 4407.2** Do not operate a passenger train, other than an Auto Train®, that contains more than thirty (30) cars.
- 4407.3** Do not operate an Auto-Train® that contains more than fifty (50) cars.

4408 - Handling Trailers-on-Wheels

- 4408.1** Unless the following TOW equipment is equipped with a blue, 3-inch diameter, round sticker located on the nose of the trailer immediately above the vehicle identification number, do not operate the equipment on CSXT.
1. AMTZ 460000 - 460253 series cars,
 2. AMTZ 462000 - 462039 series cars,
 3. AMTZ 462997 - 462999 series cars,
 4. ECOZ 533000 - 533199 series cars,
 5. SWFZ 465001 - 465100 series cars,
 6. All cars with initials TCSZ, except those moving on Norfolk Southern trains NS251, NS261, NS262, NS263, or NS264, and
 7. All TOW equipment owned by Schneider.
- 4408.2** Do not operate TOW equipment with other freight cars, except intermodal trains.
- 4408.3** When handling TOW equipment in intermodal trains, make certain that the TOW equipment is on the rear of the train and the train's total tonnage is 5,000 tons or less.
- 4408.4** When handling TOW equipment in passenger trains, make certain that the TOW equipment is on the rear of the train.
- 4408.5** When handling TOW equipment:
1. Do not operate a TOW train that has more than 125 trailers or exceeds 5,000 tons,
 2. Do not hump the equipment,
 3. Do not couple with or to TOW equipment at more than two (2) MPH,
 4. Do not leave a single TOW trailer on a track in signaled territory, unless the train dispatcher is notified and provides protection,
 5. Do not exceed 10 MPH when shoving TOW equipment, and
 6. Do not exceed 9 powered axles when shoving TOW train equipment and limit the locomotive's output to the minimum required to move the equipment.

4408.6 Employees riding TOW Train equipment must only ride a coupler mate bogie designed to be ridden.

4408.7 When performing a brake test on TOW equipment, make certain that the piston travel is between 1-1/4 and 3-1/2 inches.

4408.8 When leaving TOW equipment on a grade of 1% or more, inspect at least 50 percent, but not less than 10 units, of the equipment's brakes to ensure that they are applied.

4408.9 When detaching locomotives from or separating TOW equipment:

1. Do not detach the locomotive from TOW equipment, unless under the direction of the Mechanical Department,
2. Leave at least one locomotive, with its hand brake fully applied, coupled to unattended TOW equipment,
3. Before making a cut on TOW equipment, make certain that the landing gear of the trailer behind the cut is down to ensure the nose of the trailer is fully supported,
4. Before detaching from TOW equipment, place the automatic brake in the EMERGENCY position to reduce the brake pipe pressure to zero, and
5. After cutting away from the equipment, leave the angle cock in the open position.

4408.10 When mechanical problems are encountered:

1. If a run-around hose is applied to any TOW equipment, set out the equipment at the next forward terminal where the TOW equipment can be repaired,
2. If a bogie spring brake is disabled, set the equipment out at the first available location, and
3. If the highway wheels are on the rail and the condition cannot be corrected, set out the TOW equipment.

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Chapter 9 - Car Rules

4450 - Rail Car Doors

4450.1 The following car doors must be closed and latched before departing a customer facility or adding the cars to a train:

1. Box car doors, and
2. Doors and bottom discharge outlets of hopper cars.

4450.2 The following car doors must be closed and latched before the car is moved:

1. Plug doors, and
2. End doors of auto racks.

4451 - Handling Overweight Cars

4451.1 Do not move any car that is flagged as being overweight on train documentation, unless the Customer Service Center or the Clearance Bureau authorizes the movement.

4451.2 Do not move cars with a gross weight exceeding 220,000 pounds on track scales with a capacity of less than 200 tons.

4452 - Handling "No Hump" Cars

4452.1 When handling, or coupling to, one or more cars identified by train or yard documents as "Do Not Hump", do not:

- a. Hump or kick the cars, or
- b. Switch with the cars, or
- c. Switch into the cars, or
- d. Couple into the cars with more force than is necessary to complete the coupling.

4453 - Handling Cars that are Prone to Rocking

4453.1 When handling one or more Plate F box cars, high-sided gondolas, open top hoppers, or covered hoppers with a capacity of at least 4,000 cubic feet that are loaded with more than 95 tons and identified by tonnage graph, comply with the following:

1. Observe these cars for excessive rocking,
2. Take immediate action to reduce speed if you see excessive rocking motion, and
3. Avoid operation between 14 and 21 MPH in locations designated by special instructions. If the train's speed cannot be maintained at or above 22 MPH, the speed of the train must be reduced to below 14 MPH.

4454 - Handling Heavy Bad Order Cars

4454.1 When handling one or more heavy bad ordered cars, comply with Mechanical Department instructions.

4455 - Identifying the Ends of Cars

4455.1 Identify the ends of a car as follows:

- If the car has only one hand brake, the B-end of the car is the end with the hand brake. The other end is the A-end, or
- If the car has more than one hand brake, the letters "A" and "B" are stenciled on the appropriate ends of the car.

4456 - Identifying Wheels and Journals on Cars

4456.1 Identify the wheels and journals on a car by:

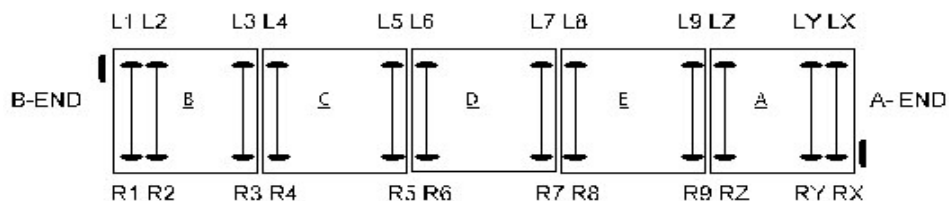
- Determining the side of the car by facing the car from the B-end. The left side "L" of the car corresponds to your left and the right side "R" of the car corresponds to your right, and
- Counting the axles from the B-end of the car to the subject axle. Axles are numbered one through nine beginning at the B-end. After nine, the axles are lettered beginning with "Z" and continuing toward "A" until the last axle on the A-unit.

4457 - Identifying Units on Articulated Cars

4457.1 Identify the units of an articulated car as follows:

- The B-unit of the car is the unit that is stenciled "B end",
- The A-unit is the end unit opposite the B-unit and stenciled "A end", and
- Intermediate units are stenciled consecutively and alphabetically beginning with "C" from the B-unit toward the A-unit.

Illustration Identifying Car Ends, Wheels, Axles, and Units on Articulated Cars



4458 - Moving Defective or Damaged Cars

4458.1 Before moving a defective or damaged car:

1. Obtain instructions from the Mechanical and Transportation Departments, and
2. Inform the train dispatcher of the movement.

4459 - Reporting Defective, Damaged, or Improperly Loaded Cars at an Interchange Location Where There is No Car Inspector On-Duty

4459.1 When a defective, damaged, or improperly loaded car is offered for delivery to CSXT, inform the train dispatcher of the following items:

1. The car's initials and number,
2. The nature of the defect(s),
3. The identification of the contents, and
4. The destination of the car, if known.

4460 - Spotting TOFC or COFC Cars for Drive-On Loading or Unloading

4460.1 When spotting TOFC or COFC cars for drive-on loading or unloading, make certain that:

1. All the cars are coupled,
2. The slack is adjusted to permit the proper positioning of bridge plates, and
3. The hand brake is applied on each car.

4461 - Spotting Auto Rack Cars for Loading or Unloading

4461.1 When spotting autorack cars for loading or unloading, make certain that:

1. All the cars are coupled,
2. The slack is not bunched so as to permit proper placement of portable bridge plates, and
3. The hand brake is applied on the first, last, and every fourth car in the group of cars.

4462 - Handling Loaded Auto Rack Cars

4462.1 Do not place loaded autorack cars directly behind an open top car loaded with sand, gravel, coal, or similar commodity.

4462.2 Do not place loaded autorack cars directly in front of or behind flat cars or open top cars loaded with a shiftable commodity that protrudes or may protrude beyond the car ends.

4463 - Handling Double-Stack Cars other than EPIX, MERX, or MHFX Cars

4463.1 Make certain that the double-stack cars are not:

- a. Humped, or
- b. Cut off in motion with the intent of coupling into another car, or
- c. Struck by any car moving under its own momentum, or
- d. Coupled into with more force than is necessary to complete the coupling.

4463.2 When handled in a mixed freight train with 6,000 tons or more, make certain that the double-stack cars with containers on them (loaded or empty) are placed ahead of cars without containers on them.

4463.3 When handled in a unit train, make certain that the double-stack cars with containers on them (loaded or empty) are placed ahead of cars without containers on them.

4464 - Handling Single-Axle Cars - (TTOX and TTFX)

4464.1 When handling one or more single axle cars, make certain that the maximum tonnage behind these cars does not exceed:

1. 3,000 tons, if the cars are empty,
2. 5,000 tons, if the cars are empty and operating on the Water Level Route, and
3. 6,000 tons, when the cars are loaded.

4464.2 When handling one or more single-axle cars make certain that:

1. The dynamic brake axle value is 18 axles or less,
2. None of the cars are the rear car of the train,
3. The single-axle cars are at least five (5) cars or platforms ahead of a helper that is on the rear of the train, and
4. If it is necessary to cut a helper into the train and the single-axle cars are ahead of the helper, the single-axle cars are at least five (5) cars or platforms ahead of the helper.

4464.3 When a train handling one or more TTOX or TTFX single-axle cars requires a helper locomotive on the rear, limit the helper as follows:

1. When using an AC locomotive:
 1. Use only one (1) locomotive,
 2. Limit the locomotive's output to 100 Kilopounds, and
 3. Isolate and, weather permitting, shutdown all other locomotives in the helper locomotive consist.
2. When using one or more DC locomotives:
 1. Limit horsepower to 6,000,
 2. Limit the number of powered axles to twelve (12),
 3. Isolate and, weather permitting, shutdown all other locomotives in the helper locomotive consist, and
 4. Limit tractive effort as follows:
 1. 1,000 amps, when the helper has less than 4,000 total horsepower,
 2. 900 amps, when the helper has between 4,000 and 5,000 total horsepower, and
 3. 800 amps, when the helper has over 5,000 horsepower.

4465 - Handling Blocks of 30 or more "Heavy" Loads

4465.1 Blocks of thirty (30) or more heavy loaded cars, or commodities of similar weight, must be on the head end of the train directly behind the locomotive consist.

4466 - Placing Empty Cars in Trains

4466.1 Blocks of thirty (30) or more empty cars must not have more than five (5) loaded cars trailing the rear car in the block.

4466.2 When handling light empty flat cars in other than an intermodal train, comply with the following:

1. When the train's tonnage exceeds 6,000, do not place one or more light empty flat cars over 80 feet long within the first five (5) cars,
2. In unit trains, place the cars on the rear of the train, and
3. When picking up cars on line-of-road, determine the length of the car(s) being picked up by adding five (5) feet to the inside length stenciled on the side of the car.

4466.3 Light empty flat cars of type F126 or F226 with initials GTTX, TILX, TINX or NKCR, must be placed on the rear of the train.

4467 - Reserved

4468 - Reserved

4469 - Reserved

4470 - Handling Wood Rack and Bulk Head Flat Cars

4470.1 Except for switching, do not handle a partly loaded wood rack car, unless the movement is:

- a. In a work train, or
- b. Authorized by a supervisor.

4471 - Handling Cars Loaded with a Shiftable Commodity

4471.1 When handling one or more flat cars or open top cars loaded with a shiftable commodity that protrudes beyond the car ends or extends above the car ends and is liable to protrude beyond the car ends, make certain that the cars are not positioned next to a:

- a. Hazardous material shipment, as defined in United States Hazardous Materials Instruction for Rail, or
- b. Loaded auto-rack car, or
- c. Locomotive, or
- d. Caboose/shoving platform.

4472 - Handling Heavy Duty Flat, Schnabel, and Span-Bolstered Cars

4472.1 When handling any loaded heavy duty flat cars, schnabel cars, and span-bolstered cars listed in the table below:

1. Obtain authorization from Clearance Bureau prior to moving the shipment, and
2. Place the cars at or near the head end of the train.

4472.2 When handling any empty heavy duty flat cars, schnabel cars, and span-bolstered cars listed in the table below:

1. Do not exceed 40 MPH, and
2. Place the cars at or near the end of the train.

Car Number	Axles	Car Number	Axles	Car Number	Axles	Car Number	Axles
APWX 1004	12	CWEX 1016	12	GEX 40010	20	PTDX 201	14
BBCX 1000	20	DODX 38870-85	8	GEX 80000	16	PTDX 202	20
CAPX 1001	20	DODX 39898-99	8	GEX 80002	16	PTDX 203	14
CEBX 100	12	EL 7600	8	GEX 80003	20	PTDX 204	12
CEBX 101	12	EL 7601	8	GPUX 100	12	TETX 20002	12
CEBX 800	36	GEX 40013	12	HEPX 200	20	WECX 101	20
CPOX 820	20	GEX 40017-18	12	KWUX 10	10	WECX 102	22
CR 766078	8	GEGX 21154-55	16	PTDX 200	12	WECX 301	22
ETMX 1001	18	KRL 16450	16	KRL 163200	16		

4473 - Handling Cabooses, Shoving Platforms, Push Cars or Remote Control Platform Cars (RCPC)

4473.1 When handling a caboose, shoving platform, push cars, or remote control platform cars (not in RCO service):

1. Place the cars at the rear of the train,
2. Place the cars behind helper service locomotives, and
3. Do not hump remote control platform cars.

4474 - Handling Rapid Transit Cars

4474.1 When handling rapid transit cars on their own wheels, move the cars in:

- a. Special train service, or
- b. Dimensional train service, or
- c. Local freight train service.

4474.2 When rapid transit cars move in local freight train service, make certain that the train's length does not exceed 1,200 feet.

4475 - Handling Passenger Equipment

4475.1 When handling passenger equipment in a freight train:

1. Place the equipment on the rear of the train, unless otherwise authorized by CSX Clearance Bureau, and
2. Do not shove the train when passenger equipment is placed on the rear of the train.

4475.2 When switching passenger equipment:

1. Do not hump or flat switch the equipment with the locomotive detached,
2. Do not couple the equipment to any car with a top shelf-type coupler, and
3. Handle the equipment separately when it is being switched and/or spotted in yards.

4475.3 When handling commuter cars, make certain that the cars have appropriate couplers and/or heavy duty knuckle adapters.

4476 - Reserved

4477 - Reserved

4478 - Reserved

4479 - Slowing or Stopping TTEX Solid Draw Bar Cars

4479.1 When slowing or stopping one or more TTEX solid draw bar cars in turnouts and crossovers in a terminal, keep the train's slack stretched.

4480 - Handling Scale Test Cars

4480.1 Do not hump scale test cars.

4480.2 Place scale test cars at the rear of the train, ahead of one car with operative air brakes.

4480.3 When a helper or distributed power is required, the helper locomotive or distributed power must be positioned ahead of scale test cars.

4480.4 Obtain authority from the Clearance Bureau prior to adding a foreign railroad or private industry scale test car to a train.

4480.5 Single axle scale test cars, listed in the chart below are restricted to 30 MPH.

Initials	Car Number
BO	914220 - 914227
CO	914201
CR	80004, 80012, 80015, and 80070
CSXT	914203, 914228, 914229, and 214240
NYC	80062, 80063, and 80067

Chapter 10 - Clearance Implicated Shipment Rules

4500 - Ensuring Authorization to Move Shipment

- 4500.1** Except in yards and terminals, movement of any clearance implicated shipment must be authorized by the Clearance Bureau.
- 4500.2** Any train that is detoured or has its route extended must have new train documents issued for the new territory prior to departure.
- 4500.3** Any train that is detoured or has its route extended must have new train documents issued for the new territory prior to departure.

4501 - Moving Clearance-Implicated Shipments in Yards or Terminals

- 4501.1** Do not move a clearance-implicated shipment within a yard or terminal without Clearance Bureau authorization, unless the shipment is being placed for measurement.
- 4501.2** When moving a clearance-implicated shipment for measurement make certain that it is:
1. Protected by the train dispatcher or supervisor controlling the movement,
 2. Positioned so that the crew can observe it, and
 3. Placed in a track with sufficient clearance for the shipment.

4502 - Picking Up or Setting Off on Line-Of-Road

- 4502.1** Before picking up a clearance-implicated shipment on the line-of-road, make certain that instructions are received from the Clearance Bureau.
- 4502.2** When handling a train containing a dimensional or valuable clearance-implicated shipment, obtain permission from the appropriate Transportation Department supervisor before making any pick-up or set-off.

4503 - Verifying Inspection

- 4503.1** Before moving a clearance-implicated shipment from its point of origination or an interchange point, make certain that the shipment has been inspected by Mechanical Department personnel.

4504 - Notifying Necessary Personnel about Clearance-Implicated Shipments

4504.1 Superintendents, or their designee must notify the:

1. Mechanical Department supervisor on-duty when tendering a clearance-implicated shipment requiring inspection at origin or interchange,
2. Chief train dispatcher for authority to add the shipment to a particular train after the Clearance Bureau has authorized and protected a clearance-implicated shipment, and
3. Appropriate representative of the foreign line whenever one or more clearance-implicated shipments are being interchanged with that railroad.

4504.2 After authorizing the movement of a clearance-implicated shipment, chief train dispatchers must issue a qualifier number to the crew handling the shipment, advising them to have the proper clearance protect message in their possession.

4505 - Confirming Written Instructions

4505.1 When handling a train containing one or more clearance-implicated shipments, make certain that Clearance Bureau instructions are a part of the CSXT train documentation for each shipment that has not been authorized verbally.

4506 - Placing Clearance-Implicated Shipments in a Train

4506.1 When a clearance-implicated shipment is placed in a train at its originating terminal, either a supervisor or train dispatcher must make certain that the shipment is placed:

1. On a train moving over the correct route as outlined in the Clearance Bureau's authorization, and
2. Properly within the train.

4507 - Handling Dimensional or Valuable Clearance-Implicated Shipments

4507.1 When handling dimensional or valuable clearance-implicated shipments, do not:

- a. Hump or flat switch the shipment, or
- b. Flat switch with or against the equipment, or
- c. Move in a train if it will be necessary to switch against the equipment.

4508 - Controlling the Safe Movement of Clearance-Implicated Shipments

4508.1 The chief train dispatcher must:

1. Control the safe movement of clearance-implicated shipment(s) over main tracks, sidings, or other segments of track under his or her jurisdiction, and
2. Notify other chief train dispatchers along the route of the movement to protect trains handling clearance-implicated shipments over adjoining territories.

4509 - Notifying Yardmaster of Clearance-Implicated Shipments

- 4509.1** When handling one or more clearance-implicated shipments in a train, do not enter a yard or terminal where a yardmaster is on-duty until the yardmaster is informed of the shipment.

4510 - Securing Permission Before Loading a Clearance-Implicated Shipment

- 4510.1** Before loading a clearance-implicated shipment onto a car on a track adjacent to a main track, obtain permission from the chief train dispatcher.
- 4510.2** Before loading a clearance-implicated shipment onto a car on a track in a yard or terminal, obtain permission from a Transportation Department supervisor.

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Chapter 11 - Engineering Department Work Equipment Rules

4550 - Requirements of the Employee-in-Charge

- 4550.1** The employee-in-charge is responsible for movements of Engineering Department work equipment that is:
- a. Loaded in or on cars, or
 - b. Moving under its own power, or
 - c. Being moved in a train on its own wheels.
- 4550.2** The employee-in-charge must determine whether the shipment is clearance-implicated, based on the:
1. Type of equipment being moved,
 2. Type of train service, and
 3. Lading dimensions.
- 4550.3** The employee-in-charge must give the appropriate Transportation Department employee or Customer Service Center shipping instructions and lading information.

4551 - Moving Large Engineering Equipment

- 4551.1** When moving large engineering equipment, comply with the following:
1. Unless being moved in work train service or to or from the work location and the move does not require a crew change, consider the equipment a clearance-implicated shipment,
 2. Do not exceed 25 MPH, unless specifically cleared for a higher speed,
 3. Unless being moved in work train service, place the equipment on the head end of the train with no more than 3,500 tons trailing the equipment or at the rear of the train immediately ahead of an occupied caboose/shoving platform,
 4. If the equipment has a counter balance, make certain that the counter balance end is positioned toward the leading end of the train,
 5. Do not hump or flat switch the equipment, and
 6. Do not permit the equipment to be shoved from the rear.

4552 - Handling Rail Cars Loaded with Engineering Equipment

- 4552.1** The Engineering Department employee-in-charge must make certain that the lading and any booms are properly secured.
- 4552.2** A qualified Engineering Department or Mechanical Department employee must inspect the car to confirm that the dimensions are within Plate C. If not within Plate C, handle the car as a clearance-implicated shipment.

- 4552.3** When placing the equipment in regular freight service, make certain that railcars loaded with engineering equipment are placed within five (5) cars of the locomotive or within five (5) cars of an occupied caboose/shoving platform.

4553 - Handling Material Handlers

- 4553.1** The employee-in-charge must determine if a material handler is loaded on a “home” car.
- 4553.2** If a material handler is not loaded on a “home” car, the employee-in-charge must inform the Transportation Department and the Clearance Bureau to handle the shipment as a clearance-implicated shipment.
- 4553.3** When handling CSXT 999130, make certain that it is handled as a clearance-implicated shipment.

4554 - Handling Welded Rail Equipment

- 4554.1** When handling a train containing welded rail equipment, make certain that there is a means of preventing any rail movement beyond the end of the equipment by:
- a. Bulkhead doors, which must be closed and locked before movement, or
 - b. Designated buffer cars, or
 - c. Loaded hopper cars.
- 4554.2** When the number of loaded welded rail equipment cars, including the cars preventing rail movement, exceeds twelve (12), make certain that no other equipment is moved in the train except for cars relating to the rail, such as: loading and unloading cars and buffer cars.
- 4554.3** Do not move more than twelve (12) loaded welded rail equipment cars in a freight train. When loaded welded rail equipment is moved in regular freight service, make certain that the rail equipment is next to the locomotive consist.
- 4554.4** When empty welded rail equipment is moved in regular freight service, make certain that the empty welded rail equipment is handled on the rear of the train.
- 4554.5** Do not handle more than two rail trains in the same train. When one train is loaded and one is empty, make certain that the empty train is on the rear.

4555 - Handling Equipment with Air Activated Systems

- 4555.1** Before moving equipment with air activated systems (such as air dump cars, spreaders, etc.) in a train other than a work train, make certain that:
- 1. All moveable components are secured,
 - 2. The dumping line hoses on each end of the car are disconnected, and
 - 3. The cut-off valves in the dumping line are closed.

- 4555.2** Before charging the equipment's dump reservoir system, make certain that both dump valve handles (one on each side of the car) are in the OFF position.

4556 - Reserved

4557 - Handling Camp Cars (including Univan Camp Car)

- 4557.1** When handling camp cars:

1. Make certain that the cars are placed at the rear of the train only trailed by a caboose/shoving platform, unless authorized by the superintendent, and
2. Make certain helper locomotives are placed ahead of the camp cars.

4558 - Handling Type SFIA, SFIB, and/or SF2A Flangers

- 4558.1** When handling Type SFIA, SFIB, or SF2A flangers in a train, make certain that the flanger is secured for movement.

4559 - Moving Engineering Department Specialized Equipment

- 4559.1** When operating other than GRMS equipment, a representative of the Engineering Department must inform the chief train dispatcher how the equipment will be operated, either as on-track equipment or as a train.
- 4559.2** When called to pilot the movement of this equipment, the pilot must monitor the equipment operator and ensure compliance with speeds, signals indications, operating rules, and special instructions.

4560 - Handling Research/Test Cars

- 4560.1** Railroad research/test cars may move in freight trains positioned as follows:

- a. When not testing place the research/test car on the head end of the train, or
- b. When testing, the equipment may be placed anywhere in the train.

- 4560.2** When handling railroad research/test cars:

1. Do not exceed 20 powered axles on the head end of train,
2. Do not hump or flat switch the equipment with the locomotive detached,
3. Do not couple the equipment to any car with a top shelf coupler,
4. CSXT-designated riders are permitted to occupy these cars when the cars are in a freight train, and
5. Handle the equipment separately when it is being switched and/or spotted in yards.

4561 - Handling Measurement Cars

4561.1 When handling GMS equipment in:

- a. Other than cab signal territory, operate the equipment as a train, or
- b. Cab signal territory, operate the equipment as on-track equipment.

4562 - Requirements of Moving Specialized Equipment

4562.1 When moving Specialized Equipment, comply with the following table:

Equipment	Activity	Speed	Pilot
GMS in non-cab signal territory	Working or traveling as a train	35	Locomotive Operator
GMS in cab signal territory	Working or traveling as on-track equipment	35	MofW
Sperry Car	Working	40	MofW
	Traveling as:		
	A Train	35	Locomotive Operator
	On-track Equipment	40	MofW
Rail Grinders	Working	30	MofW
	Traveling as:		
	A Train	50	Locomotive Operator
	On-track Equipment	30	MofW
Undercutter	Working	30	MofW
	Traveling as:		
	A Train	40	Locomotive Operator
	On-track Equipment	30	MofW
Ballast Cleaner	Working	30	MofW
	Traveling as:		
	A Train	40	Locomotive Operator
	On-track Equipment	30	MofW
Ditch Cleaner	Working	30	MofW
	Traveling as:		
	A Train	40	Locomotive Operator
	On-track Equipment	30	MofW

4563 - Handling Autonomous Geometry Cars

4563.1 The autonomous geometry cars listed in the below table must:

1. Not be humped,
2. Not exceed 70 MPH, and
3. Be the first car behind the locomotive consist.

Initial	Number
CSXT	994370

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Chapter 12 - Surveillance Service

4600 - Handling Shipments Requiring Rail Inspection Service

4600.1 When handling one or more cars requiring Rail Inspection Service, notify the train dispatcher:

1. When taking charge of the train,
2. When the cars are picked up,
3. When stopped between terminals, and
4. Every thirty (30) minutes while stopped.

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Glossary

Glossary

Terms These definitions are in addition to those found in the Safety Rules, Operating Rules, Air Brake and Train Handling Rules, and Hazardous Material Rules. Where the definitions differ, the definition in the individual books apply.

Articulated Car - A multi-car bodied car whose adjacent car bodies share a common truck.

Bogie - A freight car truck equipped with an adapter to accommodate TOW equipment on top of the bolster/adapter plate with holes in sides to permit trailer locking. A brake control valve mounted on the bogie brake cylinder incorporates a spring brake that automatically applies when no brake pipe pressure is present.

Caging - A means of mechanically releasing the spring parking brake on a bogie. The caging tool compresses the parking brake spring and releases the brake.

Car Type - A code used on CSX train documents that can be used to identify the type of rail car. The first character of the car type is a letter and is used to indicate the type of car as follows.

A or B = Box car
 C = Covered hopper
 D = Locomotive
 E, G, or J = Gondola
 F = Flat car
 H or K = Hopper
 L = Specialty
 M = Maintenance of way, scale, passenger, caboose, or EOT
 P or Q = Intermodal
 R = Refrigerated box
 S = Intermodal stack
 T = Tank
 U = Container
 V = Vehicular flat car (auto rack)
 Z = Trailer or chassis

Clearance-Implicated Shipment - Any shipment that exceeds a published clearance limitation for the specified route of movement and/or requires specific operating handling procedures for safe movement, including:

- Load on a flat car, or in a gondola that extends beyond the car's sides or end sills in height, width, or length, including all overhanging and bolstered load shipments.
- Dead locomotive moving on waybill authority and on its own wheels.
- Maintenance-of-way work equipment moving on its own wheels (e.g. wreck cranes, bridge department cranes, pile drivers, snow plows, undercutters, and ditcher spreaders).
- Shipments requiring a movement restriction (e.g. radioactive material, damaged equipment).
- Intermodal shipment, including loaded double-stack container cars.
- Multi-level auto rack shipment measuring at least 20 feet 2 inches above the top of the rail.
- Shipments of restricted span-bolstered heavy-duty cars covered by AAR Circular #0t-2B.
- Free movement for nonprofit agencies.
- Open load exceeding \$1 million dollars in value.
- Railcars loaded with engineering equipment exceeding Plate C.
- CSXT 999130 material handler.

Circus/Carnival Train - A train consisting entirely of cars belonging to a circus or carnival.

COFC - This is an acronym for a Container On a Flat Car.

Coupler Mate Bogie - A freight car truck that permits the locomotive to couple to the head end of a TOW train. The coupler mate freight car truck has a coupler/socket on one end to connect to a trailer and a railroad coupler on other end to connect to a locomotive. Each coupler mate bogie shall be equipped with a tool box containing appropriate instructions, job aids, and the necessary tools and equipment required to address problems that may be encountered en route.

CSX Train Documentation - A computer-generated document consisting of some or all of the following:

- Tonnage Graph
- Restricted and Special Handling List
- CT-168 Report
- Clearance Bureau Instructions
- Train Listing and Hazardous Material Descriptions
- Hazardous Special Handling Instructions
- Hazardous Materials Radio Waybill Form

Double Stack Car (DS) - A car designed to carry a trailer or container(s). When carrying containers, one container may be placed on top of another.

Engineering Department Specialized Equipment - Sperry Cars, geometry measurement system (GMS) cars, rail grinders, undercutters, ballast cleaners, and/or ditchers.

Track geometry cars include:

- CSXT 999302 (TGC2)
- CSXT 994366 (TGC3)
- CR 21 and CR 22.
- NS 31, NS 33, and NS 34.

Research cars include:

- CSXT 994501.
- CR 19.
- NS 32 and NS 49
- GECX 90
- BNSF 82 and BNSF 83.

GMS/TSBV equipment includes:

- GMS 1
- GMS 2

Flanger - A piece of equipment used to clear flangeways of snow.

Heavy Duty Flat Car - A flat car with eight or more axles.

Heavy Load - Car loads containing the following commodities are considered "heavy" loads:

- Coal,
- Coke,
- Grain,
- Ore,
- Phosphates,
- Limerock,
- Sand,
- Salt,
- Minerals,
- Aggregates, or
- Steel or lead ingots

Hump - A method of switching cars by pushing them over a hill and letting gravity propel them into classification tracks.

Intermodal (Trailer Van – TV) Train - A freight train consisting entirely of equipment designed to carry trailers, containers, motor vehicles, automotive frames and/or loaded box cars.

Large Engineering Equipment - Burro cranes, undercutters, ditchers, Jordan spreaders, and snow plows.

Light empty flat car - A flat car weighing less than 50 tons, gross weight,

- A flat car with a single loaded trailer or container,
- A flat car, loaded with empty trailers or containers, or
- TOFC or COFC cars without any lading, trailers, or containers.

Locomotive Consist - A locomotive or combination of locomotives properly coupled for multiple-unit operation and operated from a single control.

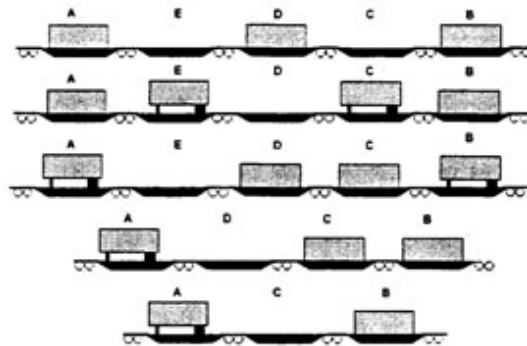
Multi-Platform Car - A double-stack or spine car with three or more platforms.

Loaded – each end platform is occupied and no two adjoining platforms are unoccupied.

Empty – either end or any adjoining platforms unoccupied.

Examples of Loaded Multi-Platform Stack/Spine Car Configurations

Shown below are examples of container/trailer loading configurations that would be considered a loaded car. This applies to both stack and spine cars, and to both articulated (shown below) and solid drawbar connected equipment. The containers/trailers can be loaded or empty. (The configurations shown below are in addition to all platforms being loaded.)



Passenger Equipment - Passenger equipment includes:

- Amtrak-owned or operated passenger and m/express cars,
- Trailer-On-Wheels (TOW) equipment mounted on Amtrak bogies and coupler mates,
- Office cars, and
- Commuter cars

Rail Train - A freight train consisting of more than 12 cars designed to transport, load, or unload welded or continuously jointed rail.

Scale Test Car - A compact car equipped with weights for the testing of track scales.

Composite - A non-self-propelled car with either two (2) or four (4) axles and a wheelbase of seven (7) feet or less used to test scale accuracy.

Non-Composite - A self-propelled car with either two (2) or four (4) axles and truck centers not exceeding fifty (50) feet used to test scale accuracy.

Schnabel Car - A car having two separable interlocking units that form a car body. Units may be separated and load interposed between and locked in place to form a complete unit.

Shiftable commodity - A commodity with a tendency to shift such as pipe, lumber, logs, or poles.

Short Car - A single car that is 40 feet or shorter over the pulling faces of the couplers.

Span Bolster - A beam-like structure with each end resting on a conventional truck bolster and arranged to support a car body through a center plate at or near its mid-point. Span bolsters can also be used with two six-wheel trucks to provide 24-wheel (12-axle) support under extremely heavy cars.

Spine Car - A car with only a center sill structure designed to carry containers or trailers. When a spine car has multiple platforms, see definition for Multi-Platform car. (VTTX 30XXXX series cars are not considered spine cars).

TOFC - This is an acronym for a Trailer on a Flat Car.

Trailer-on-Wheels (TOW) Train - A freight train consisting entirely of highway trailers/container on chassis equipped with railroad wheels, such as RoadRailer® and similar type equipment.

Thru-Truss Bridge - A bridge span in which the steel framework extends above and over the top of rail.

Unit Train - A train having thirty (30) or more cars designed to carry grain or minerals.

Water Level Route - A section of CSXT trackage extending between:

- Chicago, IL and Greenwich, OH,
- Greenwich and Buffalo, NY, and
- Buffalo and North Bergen, NJ

Work Train - A freight train handling maintenance-of-way work equipment and working on the roadway.

Wreck Crane - A locomotive derrick used primarily in clearing train accidents.

Air Brake Train Handling



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Chapter 1 - Air Brakes, General

5001 - Preventing Air Line Contamination

- 5001.1** Prior to coupling yard air or locomotive(s) to a train, employees must partially open the shut off valve or angle cock to allow for condensation and/or debris to blow from the yard air-line or brake pipe.

5002 - Maintaining Required Minimum Percentage of Operating Brakes While Enroute

- 5002.1** Each train must have:

1. Operative air brakes on 85% of the cars in the train, and
2. Operating air brake on the rear car except when the rear car air brake is cut out.

- 5002.2** To ensure safe movement of the train when the last car in the train has its air brake cut out and there are no operative control valves, ensure:

1. The car has an operative hand brake,
2. Air hoses are coupled and the angle cocks are positioned to have brake pipe pressure in the car, or in the hoses between the cars if the rear car has a broken brake pipe,
3. The car is secured from separation from the train or if the car is a passenger car that a qualified employee is in position to operate a hand brake, and
4. At the first opportunity the car is switched ahead of at least one car with operative brakes, or set out.

- 5002.3** When brake cylinder piston travel exceeds 10.5 inches, air brakes on cars must be considered inoperative.

- 5002.4** When calculating the number of operative air brakes, count each:

- a. Locomotive as a car, or
- b. Control valve on articulated equipment as a car.

- 5002.5** When necessary to cut out air brakes, do not cut out two consecutive control valves.

5003 - Working on Brake Equipment

- 5003.1** Cut out airbrakes on a car:

- a. If the brake does not release when it should, or
- b. When the car must be moved with an overheated bearing, or
- c. Prior to repairing or adjusting the brake equipment on a car.

5003.2 To cut out an air brake on a car:

1. Close the cut-out cock in the brake pipe branch pipe by placing the handle in line with the pipe,
2. Release all air pressure from reservoirs by holding the brake cylinder release rod to its fullest travel until the air has exhausted,
3. Verify that the brake cylinder piston retracts into the brake cylinder, and
4. Verify that the brake shoes are away from the wheels.

5003.3 After cutting out the air brakes on a car, or when picking up a car that has been tagged due to inoperative air brakes:

1. Notify the locomotive operator and the train dispatcher,
2. Apply a completed Air Brake Cut-Out Tag to the brake pipe branch pipe cut-out cock,
3. Check for the presence of a completed defective equipment tag on both sides of the freight car when picking up a car known to have inoperative brakes, and
4. Provide information regarding the location of a freight car(s) having inoperative air brakes in Section 6 of the brake test certificate and on CSXT train documentation.

5003.4 When the car's air brakes have been cut out while enroute:

1. Set the car out at the next point where it can be repaired, and
2. If the next point is beyond the end of your run, notify the train dispatcher about the car.

5004 - Standard Brake Pipe Pressure

5004.1 Standard Brake Pipe Pressure must be adjusted to:

- a. 110 PSI on Passenger Trains, including Amtrak's "Auto Trains", or
- b. 90 PSI on all other trains including trains with freight and passenger cars.

5005 - Avoiding an Overcharge Condition

5005.1 When doubling cars or coupling cars to a train, make a full service brake pipe reduction after coupling is made and before the angle cock is opened.

5005.2 When charging a train from other than the head end, adjust the brake pipe pressure to 15 PSI below the standard pressure for that train.

5005.3 When attaching cars to the rear of a train:

1. Prior to cutting air into cars, adjust the brake pipe pressure to 15 PSI below the standard pressure for the train being coupled to, and
2. Make a full service brake pipe reduction after coupling to but before the angle cock is opened to the main body of the train.

5006 - Reducing an Overcharge Condition

5006.1 To Reduce an Overcharge Condition, follow these steps:

1. Charge the brake pipe to the standard pressure for at least three minutes,
2. Place the automatic brake in the EMERGENCY position,
3. Wait 90 seconds and place the automatic brake in the RELEASE position,
4. When 20 PSI of brake pipe pressure develops, place the automatic brake in the HANDLE OFF position for 90 seconds, and
5. Place the automatic brake in the RELEASE position.

5007 - Adjusting Air Brake Controls

- 5007.1** Do not adjust the regulating valve or cut out a brake valve on the controlling locomotive while the train or locomotive is moving.

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Chapter 2 - Locomotive Air Brake Equipment

5051 - Monitoring Brakes

- 5051.1** When applying train brakes, monitor equalizing reservoir pressure because the brake pipe pressure will reduce at a slower rate.
- 5051.2** Monitor all locomotive air pressure gauges and indications to detect changes that may affect the operation of the locomotive or train.

5052 - Adjusting Brake Equipment

- 5052.1** When adjusting equalizing reservoir pressure the automatic brake handle must be placed in the RELEASE position with the automatic brake valve cut OUT.
- 5052.2** When cutting in the automatic brake:
1. The automatic brake handle must be placed in the RELEASE position, and
 2. Note equalizing reservoir pressure is not increasing before placing the automatic brake cut-out valve to the IN position.

5053 - Ensuring Proper Brake Cylinder Pressure

- 5053.1** Excessive Locomotive Brake Cylinder Piston Travel must be reported when the actual piston travel is within 2 inches of the maximum piston travel shown in block 10 on Form FRA-F6180-49A.
- 5053.2** If the locomotive brake cylinder pressure reading differs by 3 PSI or more from posted plate or decal inside the cab when brake is fully applied, report the condition on the Locomotive Work Report.
- 5053.3** The locomotive brake cylinder pressure adjustment must not be altered.
- 5053.4** Do not block the independent brake so that it actuates the air brakes continuously.

5054 - PASS Position

- 5054.1** Do not use the "PASS" position on a 3-position automatic brake cut-out valve in freight service.
- 5054.2** The "PASS" position on a 3-position brake cut-out valve may only be used when:
1. In passenger service, and
 2. Each car's control valve is set for graduated release.

5055 - Managing Main Reservoir Air Pressure

- 5055.1** Main reservoir pressure should be maintained between 130 PSI and 145 PSI. Note on the Locomotive Work Report instances when pressure is outside that range for extended periods of time.
- 5055.2** Monitor main reservoir air pressure and:
- a. If the locomotive is stopped, do not move when pressure is within 15 PSI of brake pipe pressure, or
 - b. If the locomotive is moving and pressure falls to within 10 PSI of regulating valve setting:
 1. Stop the movement,
 2. Secure the equipment,
 3. Report the condition to the train dispatcher, and
 4. Note condition on the Locomotive Work Report
- 5055.3** When increasing air compressor output ensure that main reservoir pressure is within 15 PSI of the regulating valve setting.
- 5055.4** When increasing air compressor output on a locomotive consist containing at least one electrically driven air compressor, center the reverser and place the throttle in position 1.
- 5055.5** When increasing air compressor output on a locomotive consist that does not contain at least one electrically driven air compressor:
1. Center the reverse lever,
 2. Use sufficient throttle not exceeding position #4 to maintain at least a 15 PSI differential between main reservoir pressure and the regulating valve setting, and
 3. Reduce throttle if excessive vibration occurs.
- 5055.6** When supplying air to main reservoirs on dead locomotives, condition the locomotives as follows:
- a. For Dead-in-Tow, dead engine feature has been cut in to provide main reservoir air pressure. Note, only Mechanical Department personnel can operate the dead engine feature, or
 - b. For Dead-in-Consist, condition in the same manner as locomotives in service.

Chapter 3 - Air Brake Test, General Requirements

5101 - Performing Air Brake Tests

- 5101.1** Only qualified personnel may operate air brake controls on a locomotive for the purpose of performing air brake tests.
- 5101.2** When performing air brake tests, air pressure must be determined at the rear of the train or cut of cars by:
- a. Telemetry that has been qualified, or
 - b. An air gauge on a locomotive coupled to the rear of the train or cut of cars, or
 - c. An air gauge in the EOT or marker unit, or
 - d. An accurate hand-held air gauge.
- 5101.3** When performing air brake tests, it must be determined that air brakes on the rear of the train or cut of cars have applied and released by:
- a. Qualified Telemetry, or
 - b. Observing that the brake cylinder piston properly responds to air brake operation, or
 - c. Observing that a brake pipe gauge at the rear of the train responds to air brake operation.
- Note: When an air brake test is performed, a 5 PSI brake pipe reduction indicates application and a 5 PSI brake pipe increase after an application is made indicates a release.*
- 5101.4** After an air brake test, make certain brake pipe pressure is being restored at the rear of the train before proceeding.

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Chapter 4 - Performing Locomotive Air Brake Tests

5151 - Locomotive Consist Air Brake Test

5151.1 Perform a Locomotive Consist Air Brake Test when a locomotive consist is made up or added to.

5151.2 To perform a Locomotive Consist Air Brake Test, follow the steps below:

Step	Action
1.	Secure locomotive consist against movement
Testing Independent Brake	
2.	Place independent and automatic brakes in RELEASE position,
3.	Confirm that the air brake are released on all locomotives,
4.	Place the independent brake in the FULL APPLICATION position,
5.	Confirm that the air brakes are applied on all locomotives, and
6.	Place the independent brake in the RELEASE position.
Testing Automatic Brake	
7.	Confirm that the air brakes are applied on all locomotives,
8.	Make a 10 PSI air brake pipe reduction and cut out the automatic brake after exhaust stops, and
9.	Measure brake pipe leakage, making certain that it does not exceed 5 PSI per minute.
Testing Air Brake Actuation	
10.	Confirm that air brakes are applied on all locomotives, and then actuate brake cylinder pressure,
11.	Confirm that the air brakes are released on all locomotives, and
12.	Properly position air brake controls as required.

5151.3 If air brakes do not respond properly, or if brake pipe leakage exceeds 5 PSI per minute:

1. Stop the test and make corrections, and
2. Re-test the locomotive consist.

5151.4 Review or document information in Section 1 of the brake test certificate to verify that a qualified employee has performed a brake test on the locomotive consist that is:

- a. Added to a train consist, or
- b. Operating as a light locomotive consist movement.

5152 - Standing Locomotive Air Brake Test

5152.1 Perform a Standing Locomotive Air Brake Test on a light locomotive consist:

- a. When initially taking charge, or
- b. After changing ends or controlling units, or
- c. Before making an initial movement when cutting away from a train.

5152.2 When conducting a standing locomotive air brake test on conventional equipment, make certain the locomotive remains stationary with the:

1. Independent brake in the FULL APPLICATION position,
2. Reverse lever in the FORWARD or REVERSE position,
3. Generator field switch in the ON position, and
4. Throttle in position # 1.

5152.3 If the locomotive moves:

1. Place throttle in the IDLE position, and
2. If necessary, stop movement by:
 - a. Using a hand brakes if conditions permit, or
 - b. Place the reverse lever in the position opposite the direction of movement and place throttle in position 1.

5153 - Running Locomotive Air Brake Test

5153.1 Perform a Running Locomotive Air Brake Test on conventional light locomotives as soon as operating conditions permit, when:

- a. Making initial movement, or
- b. Making any change to a consist, or
- c. Changing ends.

5153.2 To perform a Running Locomotive Air Brake Test, follow the steps below:

Step	Action
1.	Begin moving the consist,
2.	Place the independent brake to a point in the application zone that creates a retarding effect,
3.	Verify brake cylinder pressure and retarding effect,
4.	Release the independent brake verifying brake cylinder pressure is at zero and the retarding effect is eliminated,
5.	Make a 15 PSI brake pipe reduction and verify brake cylinder pressure and retarding of the locomotive,
6.	Actuate the brake cylinder pressure verifying that brake cylinder pressure returns to zero and retarding of the locomotive is eliminated, and
7.	Properly position air brake controls as required.

5153.3 If air brakes do not respond properly or the retarding effect is not eliminated after actuating brake cylinder pressure to zero, stop the movement and make sure MU connections are made properly.

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Chapter 5 - Performing Train Air Brake Inspections and Tests

5201 - Inspection of Brake Equipment

5201.1 Prior to performing a brake test, make certain that:

1. Air hoses are in serviceable condition and properly coupled,
2. The regulating valve is adjusted to the standard pressure for the train being tested,
3. Angle cocks, end cocks, and cutout cocks are properly positioned, and
4. If the train is equipped with electro-pneumatic brakes, brake circuit cables are properly connected.

5202 - Methods for Testing Brake Pipe Leakage

5202.1 When equipped with an air flow indicator use the Air Flow Method (AFM) to test brake pipe leakage by:

1. Charging the brake pipe pressure at the rear car to 75 PSI for freight train and 95 PSI for passenger trains,
2. Verifying that the airflow indicator shows 60 CFM or less,
3. Obtaining the required signal to begin test,
4. Making a 20 PSI brake pipe reduction and allow brake pipe exhaust to stop, and
5. Receiving the required signal before releasing the air brakes.

5202.2 If your train is not equipped to permit an AFM test, make a Brake Pipe Leakage Test by:

1. Charging the brake pipe pressure at the rear car to 75 PSI for freight train and 95 PSI for passenger trains,
2. Obtaining the required signal to begin the test,
3. Making a 20 PSI brake pipe reduction and allow brake pipe exhaust to stop,
4. Cutting out the automatic brake and wait one minute,
5. Noting the brake pipe pressure and measure brake pipe leakage one additional minute, and
6. Receiving the required signal before releasing the air brakes.

5202.3 If leakage test reveals air flow is greater than 60 CFM or exceeds 5 PSI per minute:

1. Notify employee inspecting cars,
2. Inspect the brake pipe for leaks,
3. Make necessary repairs, and
4. Retest.

- 5202.4** Verify or enter brake pipe leakage information on the brake test certificate. Information must be recorded as “AFM” when the airflow method has been used or the amount of leakage per minute when the brake pipe leakage method has been used.

5203 - Class I Brake Test

- 5203.1** A Class I brake test must be performed on the entire train:

- a. Where the train is originally assembled, or
- b. At the train’s point of origin (initial terminal) regardless of where the cars were assembled except trains received at interchange, or
- c. When the train has been off of air more than four hours, or
- d. When adding or removing more than one solid block of cars, or
- e. When a unit or cycle train designated in special instructions, has traveled 3,000 miles since its last Class I test, or
- f. By a qualified mechanical inspector at destination, when an extended haul train is designated in special instructions and has traveled 1,500 miles.

- 5203.2** A Class I brake test is not required on the entire train:

- a. When removing a single car or one solid block of cars, or
- b. When adding a previously tested car or one previously tested solid block of cars, or
- c. Removing defective cars regardless of the number or location of defective cars, or
- d. Change in locomotive consist or EOT, or
- e. Any combination of the above.

- 5203.3** Before being added to a train at an intermediate location, cars must receive a Class I brake test.

- 5203.4** A solid block of cars can be added to a through train without performing a Class I brake test on the entire train as long as the cars being added are:

1. Assembled into one block and receive a Class I brake test as one block, and
2. Not off air for more than four hours before being added to the train.

- 5203.5** A solid block of cars that receive a Class I brake test as one solid block may be placed in multiple tracks prior to being added to a through train so long as the cars are:

1. Reassembled in the same standing order before being added to a through train, and
2. Not off air more than four hours before being added to a through train.

5203.6 When a train is split at a location, only one section of the train may be designated as the continuing train. The continuing train must retain the original train ID. The other sections of the train:

- a. May be added as a solid block of cars to another through train, or
- b. Must have a Class I brake test if the section becomes an originating train or part of an originating train.

5204 - Class III Brake Test

5204.1 Perform a Class III brake test when cars have not been off air for more than 4 hours:

- a. Class III Train Line Continuity test when the train has been separated and recoupled without any change to the train's consist, or
- b. Train Consist Change test when:
 - a. A locomotive or caboose is changed, or
 - b. A car or solid block of cars is removed from the train, or
 - c. At locations other than the train's initial terminal, and cars added from a previous train have remained coupled in same order with the train line remaining connected unless:
 - a) Removing defective equipment from the solid block, or
 - b) Separated into multiple blocks due to track constraints and the cars will be re-coupled in the same order as removed.

5205 - Transfer Brake Test

5205.1 Perform a Transfer Train brake test on cars not previously tested when making a transfer train movement that will not exceed 20 miles.

5206 - Helper Brake Test

5206.1 Perform a Helper Service brake test anytime a helper locomotive is added to a train.

5207 - Class 1A Air Brake Test

5207.1 Perform a Class 1A brake test at points designated in Special Instructions.

5208 - Additional Inspections

5208.1 In addition to the inspections required when adding cars to a train, the following must be inspected when performing a brake test:

1. Air brake cylinder piston travel is correct when determined to be:
 - a. 6-9 inches on body mounted brakes, or
 - b. A maximum of 6 inches on truck-mounted brakes, or
 - c. As specified by the badge plate of the car.
2. Brake rigging does not bind or foul,
3. Brake equipment is properly secured,
4. Retaining valves are in the EXHAUST position,
5. Retaining valve pipes are in serviceable condition, and
6. Both sides of the car are examined during the inspection process to observe the functioning of all moving parts of the brake system.

5209 - Air Brake test Procedures

5209.1 Comply with the following chart when performing required brake test:

Action	Class I	Class IA	Class III Train Line Continuity	Class III Train Consist Change	Transfer	Helper
Pre-Test & Start of Test						
Safety Inspection	X	X		X	X	
Charge brake pipe to within 15 PSI of regulating valve setting	X, X ⁵	X		X	X	
Obtain required signal to begin test	X, X ⁵	X				
Leakage Test	X	X				
20 PSI Brake Pipe Reduction	X, X ⁵	X		X	X	X, ¹
Brake Application and Inspection on Rear Car						
All Cars	X	X			X	
Rear Car	X ⁵			X		X ²
Release Brakes						
All Cars	X, X ⁴					
Rear Car	X ⁵			X		X ³
Brake pipe restored on rear as indicated by gauge	X	X	X	X		

X ¹	If train brake is already applied, make additional 10 PSI brake pipe reduction.
X ²	Rear car or Helper locomotive(s) with visual inspection on each helper locomotive that brake system operates from a 20 PSI reduction initiated from controlling locomotive.
X ³	Rear car or Helper locomotive at the rear of the train.
X ⁴	Roll-by inspection permitted at speeds not exceeding 10 MPH and results must be communicated to the locomotive operator.
X ⁵	When test has been made using air source other than outbound locomotive.

5210 - Back-up Hose/Back-up Valve Air Brake Test

5210.1 Perform a Back-up Hose / Back-up Valve Air Brake Test when:

- a. A back-up hose or back-up valve will be used to control movement, or
- b. The consist of a train using a back-up hose or back-up valve is changed.

5210.2 To perform a Back-up Hose / Back-up Valve Air Brake Test, comply with the steps below:

Step	Who Does it	Action
1.	Trainman	Verifies that the air hoses are coupled from the locomotive to the back-up valve,
2.	Trainman	Informs the locomotive operator that a brake test will be made from the back-up valve,
3.	Locomotive Operator	Charges the air brake system and then cuts out the automatic brake,
4.	Trainman	Opens the back-up valve to exhaust air pressure at a service rate,
5.	Locomotive Operator	Observes brake pipe and brake cylinder gauges and verifies that brake pipe pressure reduces and air brake applies on the locomotive,
6.	Locomotive Operator	Communicates the results of the test to the trainman,
7.	Trainman	Closes the back-up valve, and
8.	Locomotive Operator	Restores air brake equipment to normal operating position.
Additional Steps for Back-up		
9.	Locomotive Operator	Begins movement and authorizes test,
10.	Trainman	Opens the back-up valve to reduce brake pipe pressure at a service rate and verifies that air pressure is exhausting freely, and
11.	Crew	Verifies that a retarding effect is created.

5211 - Passenger Train Running Air Brake Test

5211.1 Perform a Passenger Train Running Air Brake Test when:

- a. Departing the train's initial terminal, or
- b. Locomotive, engine crew, or train crew has been changed, or
- c. A brake pipe angle cock has been turned, except for cutting cars from the rear of the train, or
- d. Electro-pneumatic brake circuit cables between power units and/or cars are disconnected, or
- e. The train has struck debris on the track, or
- f. An en route failure of two-way telemetry occurs unless the train has a radio-equipped crewmember positioned in the rearmost car containing an accessible emergency brake valve.

5211.2 To perform a Passenger Train Running Air Brake Test, comply with the steps below:

1. Begin the test as soon as the train speed is high enough to prevent stalling,
2. Keep the locomotive brake released during the test,
3. While using enough power to keep the train stretched, apply the train air brakes with sufficient force to ensure they are operating properly,
4. If the train brakes create a noticeable retarding force, release the brakes and proceed, and
5. If the train brakes do not create a noticeable retarding force:
 1. Stop the train and inspect the brakes,
 2. Correct any problems, and
 3. Perform the test again.

5212 - Retesting Air Brakes

5212.1 When air brakes need to be retested:

1. Charge the brake pipe pressure at the rear car to within 15 PSI of the regulating valve setting,
2. Make a 20 PSI brake pipe reduction,
3. Measure the time the air brake is applied,
4. If the air brake remains applied for 3 minutes, consider the air brake as operating, and
5. When the air brake fails the retest:
 - a. At the trains originating location, set the car out, or
 - b. At an intermediate location, once tagged and brakes have been cut-out, may be moved to the next point where it can be repaired.

5213 - Brake Test Certificate

5213.1 Notification of Class I or Class IA brake tests must be made to the locomotive operator. The notification must include:

1. That the air brake test has been satisfactorily performed,
2. Date and time the inspection was made,
3. Number of freight cars inspected,
4. Name or ID number of the qualified person performing the test, and
5. Location where the test was performed.

Note: If the notification is provided verbally, the locomotive operator must record the required information on the brake test certificate.

5213.2 When taking charge of locomotive(s) and/or train, the locomotive operator must review information on certificate for:

1. Locomotive brake test,
2. Head end train device test,
3. Dynamic brake status including the total number of dynamic brake axles and locomotives tagged defective,
4. Train brake test,
5. Rear end train device test,
6. Train air brake test information including number of cars with air brakes inoperative or cut out, repair location for these cars, and position of such cars in train, and
7. Power brake related problems with explanation.

5213.3 Locomotive Operators are responsible for:

1. Updating the brake test certificate with pertinent information,
2. Placing the brake test certificate on any new locomotive added to a previously Class I tested train when that locomotive is the controlling locomotive, and
3. Leaving any written brake test documentation on the control stand of the controlling locomotive for the relieving locomotive operator or until the train reaches its destination.

5213.4 When setting out cars, leave written documentation in the knuckle of the car or block of cars, or verbally notify the supervisor or train dispatcher that the cars have received a brake test and will be kept charged. Documentation must include:

1. Date and time the inspection was made,
2. Number of cars inspected, and
3. Name or ID number of qualified employee who performed test.

5213.5 If the original Class I brake test certificate cannot be located, contact a supervisor or train dispatcher. The originating Class I brake test information can be retrieved from the CSX Mechanical Department. Be governed by instructions from the supervisor or train dispatcher for replacing the brake test certificate.

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Chapter 6 - Locomotive Calendar Day and Work Reports

5301 - Locomotive Operator Responsibilities

5301.1 Locomotive Operators must ensure that each locomotive in their charge, including any locomotive picked up en route, is inspected each day the locomotive is in service.

5301.2 Other responsibilities include:

1. Verify that the locomotive consist has received the required Calendar Day Inspections,
2. Accept the results of any inspection performed by the Mechanical Department,
3. Keep all doors on the locomotive(s) closed when not being used,
4. Keep cab windows and doors of unoccupied and trailing locomotives closed, and
5. When a locomotive is due a Calendar Day Inspection but will not be used in service, complete and place a non-compliance tag on the locomotive(s) isolation switch.

5302 - Required Calendar Day Inspections

5302.1 Perform a Calendar Day Inspection on a locomotive used in service when the:

- a. Last Calendar Day Inspection was not performed on the current day including locomotives set out enroute, or
- b. Tour of duty extends into the next calendar day, or
- c. Calendar Day Inspection report cannot be found.

5302.2 Secure authorization to perform a Calendar Day Inspection when your tour of duty began:

- a. At 1200 hours or later, contact the Supervisor, or Train Dispatcher to determine where to complete the inspection, or
- b. Before 1200 hours make the inspection before leaving the locomotive(s) unless:
 - a. Doing so would cause a violation of the Hours of Service Act, or
 - b. Instructed by a proper authority that another employee will make the inspection before 2359 hours.

5302.3 if unable to perform a required Calendar Day Inspection because doing so would violate the Hours of Service Act, the Locomotive Operator is required to notify a supervisor or train dispatcher.

5303 - Tagging Locomotives Due Calendar Day Inspection

5303.1 When any locomotive in the consist is due an inspection before the lead locomotive is due:

1. Complete a Calendar Day Inspection tag, and
2. Attach the tag to the isolation switch of the lead locomotive.

5304 - Performing a Calendar Day Inspection

5304.1 When a Calendar Day Inspection is required, inspect the locomotive for non-complying conditions. The locomotive must be considered as having a non-complying condition when any of the conditions below are not met:

- a. Inspections from the operating cab:
 1. Floors and passageway must be free of slip and/or trip hazards,
 2. Fusees must be in the container provided,
 3. Cab seats must be secure,
 4. Traction motors on DC-powered locomotives must be cut in,
 5. Windows on the lead locomotive must permit a clear view,
 6. At least one bulb on front headlight is operational,
 7. At least one bulb on the rear headlight is operational in yard service or road service if required to regularly run backward for any portion of the trip other than to pick up a portion of its train or make terminal movements,
 8. Horn and crossing bell must operate,
 9. Gauge lights must permit accurate readings, and
 10. Light on Locomotive Operator side must provide sufficient illumination for reading documents.
- b. Inspections from the walkway and engine compartment:
 1. Walkways free of slip and/or trip hazards,
 2. Handrails, hand holds, steps, ladders, and guards must be secured and ready for service,
 3. Guards and electrical and rotating equipment must be in place, and
 4. Safety chains must provide a continuous barrier between locomotives, across the front and rear of the locomotive consist and be connected high enough to permit safe passage.
- c. Inspections from the ground:
 1. Sanders must deposit sand on the rails in front of the consists lead wheels in the direction of movement,
 2. Fuel tank must be free of any leaks,
 3. Brake cylinder piston travel must be sufficient to permit the brake shoes to clear the wheels when the brakes are released,
 4. Brake cylinder piston travel must not exceed 1 ½ inches less than the total possible piston travel displayed in block 10 of Form F6180-49A when brakes are applied,
 5. Brake shoes must be secured and aligned with the wheel,
 6. Brake rigging must not bind or foul,
 7. There must be no cracks, broken or missing parts on:
 - a. Locomotive truck or wheel, or
 - b. Gear case, or
 - c. Draft Gear, or
 - d. Coupler or coupler carrier.

8. Jumper cables must be:

1. Free of fraying or damage,
2. Stowed if unused, and
3. Connected to a working receptacle or dummy receptacle.

9. Remote Control Locomotives or Platforms working in Remote Control Service must have:

1. Operational strobe lights,
2. Emergency Stop buttons in place and pulled out, and
3. Mobile Control Cabinet (MCC) or Locomotive Control Unit (LCU) toggle switches, pushbuttons and levers are free of damage that would prevent use or operation of device.

5304.2 When performing Calendar Day Inspections, Locomotive Operators must complete the report and leave it on the locomotive inspected.

5304.3 When a non-complying condition is discovered, the Locomotive Operator must promptly report the details of the condition, including any restrictions placed on the locomotive to:

1. Train Dispatcher or Supervisor,
2. Mechanical Desk, and
3. All other crew members.

5304.4 When a non-complying condition exists on a locomotive, the locomotive operator must:

1. Complete a Non-Compliance tag indicating the non-complying condition,
2. Attach the appropriate part of the tag to the isolation switch of the non-complying locomotive,
3. Attach the other part of the non-complying tag to the isolation switch of the controlling locomotive, and
4. Leave the non-compliance tag(s) on the affected locomotives to provide notification to other employees until the condition is corrected.

5305 - Moving Locomotives with Non-Complying Conditions

5305.1 Non-complying conditions are:

- a. Items discovered during Calendar Day Inspection, or
- b. Locomotives restricted due to the absence of ditch lights or the failure of both ditch lights, or
- c. Flat spots on locomotive wheels that:
 - a. Measure 2 ½ inches or longer, or
 - b. Multiple flat spots of at least 2 inches or more and are within 1 ½ inches of each other.

5305.2 When a non-complying condition is discovered:

- a. If possible, bring the locomotive into compliance by switching the consist or correcting the condition, or
- b. If the condition was discovered during a Calendar Day Inspection and cannot be corrected, the Locomotive Operator or other qualified employee must determine whether the locomotive is safe to move. If safe to move, it must only be moved:
 - a. Light or dead in tow within a yard, not exceeding 10 MPH, or
 - b. In a locomotive consist not attached to cars, or
 - c. Isolated or shut down when attached to cars.
- c. If the condition was discovered en route and cannot be corrected, the Locomotive Operator or other qualified employee must determine whether the locomotive is safe to move. If safe to move, it must only be operated until the earlier of:
 - a. The performance of the next Calendar Day, or
 - b. Reaching the next forward point where the necessary repairs can be made.
- d. If the condition cannot be corrected and is not safe to move, notify the train dispatcher or supervisor.

5305.3 When a locomotive is isolated or shutdown en route due to a non-complying condition, the locomotive must not remain in the controlling or lead position after the performance of the next Calendar Day Inspection.

5306 - Reserved

5307 - Reserved

5308 - Reserved

5309 - Locomotive Work Reports

5309.1 Complete a Locomotive Work Report on the locomotive consist for each trip. Locomotive(s) set out en route must have a separate Locomotive Work Report completed. Locomotive Work Reports must include:

1. Any unusual occurrences,
2. Non-complying conditions discovered en route,
3. All locomotive(s) initials and numbers,
4. Information on lines 1 through 4, and
5. Any locomotive problems or defects.

Note: The Locomotive Work Report may be used by more than one locomotive operator, if space permits.

5309.2 Promptly report locomotive defects, using the three-letter code with the accompanying color code as listed on the cover of the Locomotive Work Report, to:

1. Train dispatcher or supervisor,
2. Mechanical Desk (RNX 388-5540 or RNX 388-5555 or Bell 1-800-624-8385), and
3. All other crew members.

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Chapter 7 - Locomotive Conditioning

5351 - Starting Diesel Engine

5351.1 Do not attempt to start a diesel engine when:

- a. Hot engine and low lube oil indications are displayed at the same time, or
- b. Crankcase over pressure device is tripped, or
- c. An indication of a governor shutdown (low lube oil) occurs two consecutive times.

5351.2 When starting a diesel engine without instructions posted on a decal inside the cab comply with the steps below:

Step	Action
Locomotive Cab	
1.	Place the isolation switch in the START position,
2.	Make certain the battery knife switch is closed,
3.	Reset any tripped circuit breakers and place the control/fuel pump switch to the ON position,
4.	Make certain that the throttle or the MU shutdown button is not in the STOP position,
Engine Room	
5.	Reset engine protective devices that are tripped, except for Crankcase over pressure device,
6.	Check the engine cooling water sight glass,
7.	If the level is at or below the LOW level, do not start and contact the Mechanical Desk,
8.	If the level is above the LOW level, start the engine,
Starting Engine	
9.	Prime the fuel system unless: a. Sight glass is full of fuel, or b. Pressure gauge (if equipped) indicates at least 30 PSI, or c. System has been primed continuously for 30 seconds.
10.	Crank the diesel engine until it starts, but not longer than 30 seconds, and
11.	If the diesel engine fails to start, repeat procedure. If it does not start on second attempt, contact the Mechanical Department.

5352 - Shutting Down Diesel Engine

5352.1 Shut down the diesel engine as soon as possible in an emergency situation.

5352.2 When shutting down the entire consist during emergency situations:

- a. Place the throttle in the STOP position on upright control stands, or
- b. On locomotives with a desk top control stand, depress the STOP button on the overhead console.

5352.3 When shutting down an individual locomotive due to an emergency situation, depress any emergency fuel cut-off switch.

5352.4 When performing a normal shutdown, ensure the diesel engine has not been in throttle position 8 for at least 30 minutes.

5352.5 When shutting down a diesel engine without instructions posted on a decal inside the cab comply with the steps below:

Step	Action
All Locomotives except CW46AC	
1.	Place the isolation switch in the START position,
2.	Stop the engine by pressing the engine stop button,
3.	Open the radio circuit breaker, and
4.	Open the battery knife switch.
CW46AC Locomotives	
1.	Place the isolation switch in the START position,
2.	Stop the engine by pressing the stop button,
3.	Press and hold the computer reset off button at least 2 seconds verifying 1. The computer screen displays "Please wait. Computer shutdown in progress.", and 2. After 15 seconds the computer screen displays "No external video."
4.	Open the radio circuit breaker, and
5.	Open the battery knife switch.

5353 - Coupling and Uncoupling Locomotives

5353.1 When coupling locomotives, ensure that couplers are locked by stretching the coupling, then:

1. Position the controls, switches, and air brake valves on the controlling locomotive,
2. Position the walkways and safety chains providing safe movement from one locomotive to another,
3. Position the controls, switches, and air brake valves on trailing locomotives,
4. Install jumper cables,
5. Connect the Brake Pipe hose, Main Reservoir Equalizing hose, Actuating hose and Independent Application and Release hose, and
6. Open angle cocks and end cocks for the coupled air hoses.

5353.2 When uncoupling locomotives:

1. Secure the locomotive to be left standing,
2. Disconnect and reposition the safety chains,
3. Position the walkways,
4. Close the angle cocks and end cocks when necessary,
5. Disconnect and store the jumper cable(s),
6. Position the controls, switches and air brake valves on the locomotives to be left standing, and
7. Allow air hoses to disconnect naturally by separating the locomotives.

5354 - Changing Ends

5354.1 When required to operate from a different locomotive in the consist, change ends as follows:

Step	Action
Cutting Out	
1.	Fully apply the Independent brake,
2.	Remove and properly store the reverser,
3.	Make a full service brake pipe reduction ensuring the brake pipe exhaust stops,
4.	Cut out the Automatic brake and put in in the HANDLE OFF position,
5.	Cut out the Independent brake and place in the RELEASE position,
6.	Configure switches and controls for trailing position, and
7.	Proceed promptly to the locomotive to be cut in.
Cutting In	
1.	Place the Independent brake in the FULL APPLICATION position and cut in,
2.	Position the switches and controls for lead unit operation,
3.	Place the Automatic brake in the RELEASE position and adjust the equalizing reservoir pressure if necessary, and
4.	Cut in the Automatic brake.

5355 - Leaving Locomotives Unattended

5355.1 When leaving locomotive consist unattended, position the controls as follows:

Note: Locomotive Shutdown Instructions do not apply to locomotives actively engaged in Distributed Power Operations unless otherwise instructed by the supervisor or train dispatcher.

Step	Component	When engine is to continue idling	When engine is manually shut down
Controlling Unit			
1.	Independent Brake	Cut in and fully applied	Cut in and fully applied
2.	Automatic Brake	Full Service – When coupled to cars Release – Not coupled to cars	Full Service – When coupled to cars Release – Not coupled to cars
3.	Throttle	Idle	Idle
4.	Reverser	Centered & Removed	Centered & Removed
5.	Local Control Switches	Engine Run – ON Generator Field – OFF Control Fuel Pump - ON	Engine Run – OFF Generator Field – OFF Control Fuel Pump - OFF
6.	Isolation Switch	START/STOP/ISOLATE or as directed	START/STOP/ISOLATE or as directed
7.	Battery Knife Switch	Closed	Opened
7 a.	AESS OR APU	Closed	N/A
Trailing Unit(s)			
1.	Independent Brake	Cut out and released	Cut out and released
2.	Automatic Brake	Cut out and HANDLE OFF	Cut out and HANDLE OFF
3.	Throttle	Idle	Idle
4.	Reverser	Centered & Removed	Centered & Removed

5.	Local Control Switches	Engine Run – OFF Generator Field – OFF Control Fuel Pump – OFF	Engine Run – OFF Generator Field – OFF Control Fuel Pump - OFF
6.	Isolation Switch	START/STOP/ISOLATE or as directed	START/STOP/ISOLATE or as directed
7.	Battery Knife Switch	Closed	Opened
7 a.	AESS OR APU	Battery knife – Closed, and MU'ed to a controlling locomotive that has both Control Fuel Pump and Engine Run turned ON.	N/A

5355.2 When operating a locomotive handbrake, operate the mechanism until all slack is removed from the chain and the brake shoes to which the hand brake is connected are tight against the wheels.

5355.3 On locomotives with underslung brake cylinders equipped with brake cylinder release valves, make certain that the brake cylinder between the L1 and L2 wheels is IN (released).

Chapter 8 - Locomotive Operations

5401 - Fuel Conservation

5401.1 Fuel conservation methods must be followed at all times.

5401.2 On locomotives being left unattended and temperature permits, shut down a locomotive's diesel engine, unless instructed otherwise by a train dispatcher, supervisor, or other proper authority.

Unattended Locomotive Shutdown Decision Chart		
Temperature is:	Actual or forecast of 35 degrees F or below	Above 35 Degrees F
Action:	Permit idling and when equipped have AESS or APU enabled shut down	Shut down.

5401.3 When locomotives are in the care of the locomotive operator, comply with the following chart:

Locomotive Handling Decision Chart		
Operation		Action
A.	Locomotive Service Center	Use one locomotive for transporting locomotive consist to a train or first track to be coupled to.
B.	Locomotives are part of a train enroute	Shut down or isolate trailing locomotives not needed to handle tonnage or safe movement including train size reductions.
C.	When delayed enroute	1. Permit one locomotive to idle for air supply to train brake system.
		2. Center the reverser and manually shut down or isolate locomotives without fuel saving systems such as AESS, APU, Smart HPT etc.
		3. Allow separate Distributive Power locomotive consist to idle
		4. When work trains, transfer trains, yard assignments, or helper locomotives will be delayed more than 30 minutes must shut down or isolate after proper securement.
D.	Yarding a train	1. Shut down or isolate trailing locomotives not needed to handle tonnage or safe movement including train size reductions.
		2. When train is to be held an extended period of time in a terminal or yard, permit one locomotive to idle or substitute yard ground air to keep train brake system charged.
E.	Leaving locomotive(s) unattended	1. If personnel, transportation or mechanical are not taking charge of the locomotive consist, shut down or isolate locomotives.
		2. Isolate locomotives equipped with an air starter or AESS and permit the AESS to function as intended.

5401.4 When a locomotive has a fuel level less than 1,000 gallons, promptly report to the dispatcher or the Mechanical Desk at 1-800-624-8385.

5402 - Trip Optimizer (T.O.) Utilization

- 5402.1** Locomotive Operators must initialize and use T.O. on territories that have been approved for T.O. operation when the lead locomotive is equipped with T.O.
- 5402.2** T.O. Auto mode must not be used during conventional helper service operations.
- 5402.3** Locomotive Operators must initialize T.O. prior to departing the terminal or when relieving a train along the line of road, and report any initialization problems to the General Electric Trip Optimizer Help Desk at 1-321-435-7456.
- 5402.4** During initialization, verify that the train and locomotive consist are setup properly and the max train speed reflects any equipment speed restrictions for the train.
- 5402.5** Locomotive Operators must permit T.O. to function in Auto mode when operating conditions permit. Trip Optimizer 'Smart HPT' must not be manually disabled.
- 5402.6** While in Auto mode, the Locomotive Operator must resume manual control of the train when:
1. T.O. directs the operator to move from auto to manual control,
 2. Operating conditions change which will require the Locomotive Operator to reduce the train speed below the T.O. trip plan,
 3. The T.O. System functions in a manner inconsistent with good train handling, and
 4. Operating on signals that require the train to approach the next signal prepared to stop.
- 5402.7** T.O. reports are to be completed with specific details when:
- a. T.O. fails to control the train consistent with good train handling, or
 - b. The T.O. system fails to initialize, or
 - c. Inconsistencies are discovered when comparing dispatcher messages with restrictions presented by T.O.

5403 - Safety Control Devices

- 5403.1** Unauthorized annulment of a safety control device is prohibited.
- 5403.2** If a safety control device becomes defective and prohibits normal train movement, the Locomotive Operator must request permission from the train dispatcher to cut out a safety control device and report doing so on the Locomotive Work Report.

5403.3 To reset air brake equipment after a safety control device operates:

1. Stop train movement,
2. Place the throttle in the IDLE position or the dynamic brake lever in the OFF position,
3. Place the automatic brake in the SUPPRESSION position,
4. Make certain that the brake pipe exhaust has stopped for 20 seconds, and
5. Place the automatic brake in the RELEASE position.

5404 - Reserved for PTC/Safety Devices/Cut-Out

5405 - Speed Indicators

5405.1 Check the accuracy of the speed indicator on the controlling locomotive at locations designated in Special Instructions and record the results on the Locomotive Work Report.

5405.2 A locomotive used as a controlling locomotive at speeds above 20 MPH must be equipped with an operative speed indicator, which must be accurate within:

- a. 3 MPH at speeds of 10 to 30 MPH, or
- b. 5 MPH at speeds above 30 MPH.

5405.3 If a speed indicator on a controlling locomotive fails en route, the locomotive may continue as a controlling locomotive at normal track speed to the next repair facility.

5406 - Complying with Short-Time Ratings

5406.1 Short-time ratings do not apply to SD60, SD70, Dash 8, Dash 9, AC or AH locomotives.

5406.2 Avoid continuous operation at speeds lower than the minimum continuous speed for the locomotive consist. The minimum continuous speed for the locomotive consist must be figured by the highest minimum continuous speed of any of the online locomotives in the consist.

5406.3 Do not exceed the available time in short time ratings. Operation outside the short-time rating zone for 20 minutes or more restores the maximum allowable time.

5407 - Crew Responsibilities

5407.1 All crew members are equally responsible for the care of the locomotives being used.

5407.2 Crew members must:

1. Deposit trash in litterbags,
2. Keep tools in their proper location,
3. Make certain that all doors and windows are closed, and
4. Make certain that all cab lights are turned off on trailing locomotives when not in use.

5407.3 Crew members must not:

- a. Place their feet on any wall, window, or equipment; or
- b. Write on, mar, or deface any wall, window or equipment; or
- c. Damage the operating cab.

5408 - Protecting the Diesel Engine from Freezing

5408.1 To prevent damage to unattended locomotives, when the temperature reaches or is expected to reach 15 degrees Fahrenheit or less:

1. Fully apply the independent brake and leave cut in,
2. Make a FULL SERVICE application on the automatic brake, with or without cars and leave CUT IN,
3. Leave the reverser:
 - a. Cab doors will be locked - CENTERED, or
 - b. Cab doors cannot be locked - removed and placed in a locomotive cab that will be locked or in the possession of the locomotive operator
4. Position the Control/Fuel Pump switch in the ON position,
5. Position the Generator Field switch in the OFF position,
6. Position the Engine Run switch in the ON position,
7. Place the Isolation switch in RUN position,
8. Leave the Battery Knife switch in the CLOSED position,
9. Leave cab doors:
 - a. Locked, Reverser CENTERED, and Throttle in number 3 position, or
 - b. Not locked, Reverser removed, and Throttle in IDLE,
10. Leave other doors closed & locked and windows closed, and
11. Cab heaters set to highest position.

5408.2 When the locomotive consist contains more locomotives than can be used under fuel conservation rules and the ambient temperature is below 35 degrees Fahrenheit, isolate the excess locomotives, leaving the diesel engine running.

5408.3 When the temperature is below 35 degrees Fahrenheit and the engine will not run contact the Mechanical Desk at 1-800-624-8385 for assistance.

5409 - Unusual Operating Conditions

5409.1 Make inspections to verify that locomotive wheels are turning freely anytime excessive tripping of the ground protective relay causes:

- a. Locomotive(s) to be isolated, or
- b. Traction motors to be cut out.

5409.2 When a traction motor support bearing is suspected of being hot:

1. Stop movement,
2. Report the bearing to the train dispatcher and the Mechanical Desk, and
3. Comply with instructions received from the train dispatcher and Mechanical Desk.

5409.3 Do not operate a locomotive over track submerged in water. If the train's momentum prevents stopping short of the submerged area, prior to reaching the water, place the:

1. Reverse lever in the CENTER position,
2. Generator field switch to the OFF position, and
3. Throttle position in #8.

5410 - Discovering a Low Water Condition

5410.1 Only qualified Mechanical Department employees are authorized to add cooling water to the diesel engine of a locomotive.

5410.2 When a low water condition is discovered, contact the Mechanical Desk and record the incident on the locomotive work report.

5411 - Locomotive Movements

5411.1 Movements of a locomotive(s) must only be made as follows:

- a. As a single locomotive, or
- b. A multi-unit connected consist of locomotives or other equipment, or
- c. Dead-in tow within the train consist, or
- d. A "remote" distributed power unit within the train or on the rear of the train, or
- e. Manned helper locomotive within the train or on the rear of the train.

5411.2 For the brake system on locomotives to function, main reservoir air must be supplied to each locomotive by:

- a. The air compressor supplying air on a single locomotive or multiple air compressors of a consist of locomotives, or
- b. Air compressor supplying air on a remote distributed power locomotive(s), or
- c. Brake pipe supplied air to the locomotive reservoir when the dead-in-tow feature has been cut in by the Mechanical Department.

5411.3 Locomotive operator must be able to confirm functioning of the air brakes by:

- a. Operation of a locomotive or a consist of multiple locomotives, or
- b. Remote monitoring of locomotives such as distributed power and remote control locomotives.

Chapter 9 - Fundamentals of Trainhandling

5501 - General Train Handling Requirements

5501.1 Train Handling requires proper planning and use of the safest and most efficient train handling procedures, Locomotive Operators must not make rapid or severe slack changes.

5501.2 When planning and executing train handling procedures, the following must be considered:

1. Locomotive consist capabilities, including:
 - a. Distributive Power, or
 - b. Helper Locomotive
2. Train speed, weight, and length,
3. Number and position of loaded and empty cars,
4. Amount of brake pipe leakage,
5. Physical characteristics such as grade, curves, turnouts and fixed signals,
6. Authorized speed, and
7. Weather conditions.

5502 - Tractive Effort

5502.1 Maximum trailing tonnage for a train handled with head-end power only, will not exceed the tonnage rating for two (2) CW44ACs and one (1) C40-8 or CW40-8 locomotives.

5502.2 On grades where the tonnage limitation will be exceeded, trains must:

- a. Have a rear-end helper, or
- b. Have an appropriately positioned in-train helper, or
- c. Reduce tonnage.

5502.3 The number of powered axles in use must not exceed 27 when pulling a train or cut of cars.

5502.4 Helper locomotive consist must not exceed the equivalent axle value of the head end consist. When more axles than permitted are needed to move a train, the helper locomotive must be placed into the train with approximately 70% of the helper locomotive tonnage rating behind the helper locomotive.

5502.5 When calculating powered axles the locomotive operator must:

1. Count AC locomotives as 9 axles, and
2. When necessary to reduce powered axles, isolate locomotives from the rear of the consist forward.

5502.6 When making shoving movements:

- a. On consists with alignment control devices:
 - 1. Avoid using excessive power when:
 - a. Starting movements, or
 - b. Moving through sharp curves, turnouts and crossing bridges;
 - 2. Closely monitor the locomotive load indicator and avoid excessive loading, and
 - 3. Reduce throttle as the locomotive load increases and speed decreases when slowing or stopping.
- b. On consists that contains at least one unit not equipped with alignment control device:
 - 1. Limit use to one locomotive under power, and
 - 2. Limit tractive effort to 100,000 pounds on an AC locomotive.

5502.7 When shoving with head end power only, exercise caution when exceeding 18 powered axles.

5503 - Sanding

5503.1 Use sand when:

- a. Necessary to improve traction, which includes “sanding the rail”, or
- b. Stopping the train and conditions require use of sand to avoid wheel slip with restart of the train.

5503.2 Use train-line sand only when the front or lead truck sand proves insufficient.

5504 - Throttle Handling

5504.1 When increasing throttle positions Locomotive Operators:

- a. Must make changes one position at a time with sufficient time between changes to:
 - 1. Allow adjustment of in-train forces, and
 - 2. Avoid development of excessive tractive effort.
- b. Must not make changes to accelerate when having long cars in the head one-third of the train while those cars are passing through sharp curves, crossovers or turnouts.

5504.2 When reducing throttle positions and operating conditions permit, make throttle reductions one position at a time allowing sufficient time for in-train forces to adjust.

5504.3 When handling locomotive consist with 20 or more powered axles, use extreme care when changing throttle positions at speeds below 20 MPH.

5504.4 When starting and accelerating a train with more than 24 powered axles:

1. When initiating movement, use only the power necessary to start the train moving at a slow uniform speed under 2 mph, and
2. When operating at speeds between 2 and 17 mph, advance the throttle one position at a time allowing for in train forces to adjust before increasing to the next throttle position.

5504.5 When the locomotive consist contains one or more DC-powered locomotives and is approaching a railroad crossings at grade (diamonds) or drawbridge at speeds above 25 MPH,

1. Locomotive Operators must:
 1. Make throttle adjustments at least 8 seconds prior to reaching the diamond or the lift rails of a drawbridge, and
 2. Reduce throttle position:
 - a. To throttle position #4 if current position is higher, or
 - b. To the next lower position if the current position is #4 or lower.
2. Locomotive Operators must not advance the throttle until after the locomotive consist clears the diamond or drawbridge.

5505 - Train Braking with Independent Brake

5505.1 When using the independent brake, Locomotive Operators must:

- a. Fully apply the independent brake any time the locomotive is standing, or
- b. When operating locomotive consists that have 20 or more axles must:
 1. Keep brake cylinder pressure below 25 PSI when controlling speed or stopping,
 2. Use extreme caution at speeds below 15 MPH, and
 3. Where possible, use the independent brake in conjunction with the automatic brake.

5505.2 When using the independent brake, Locomotive Operators must not:

1. Use the independent brake when the same results can be obtained with the dynamic and/or train air brakes,
2. Use in conjunction with the dynamic brake unless doing so momentarily while transferring from one form of braking to the other,
3. Use at speeds above 15 MPH to control or retard the movement of a locomotive consist with cars attached, and
4. Engage in prolonged use of locomotive air brakes or allow excessive brake cylinder pressure.

5505.3 Actuate the independent brake:

- a. 4 seconds for each locomotive in the consist to ensure brakes are released on trailing locomotives, or
- b. Frequently when using the dynamic brakes and the train brakes at the same time, or
- c. In the position that will develop the required locomotive brake cylinder pressure when using the automatic brake and locomotive brake cylinder pressure is desired.

5506 - Train Braking with Automatic Brake

5506.1 When using the automatic brake, stop the train if and when you feel the train brake is not holding or slowing the trains speed properly. If necessary, stop the train using an emergency brake application and if equipped, using two-way telemetry.

5506.2 Initial brake pipe reductions must be:

- a. 6 to 8 pounds when the train brake system is fully charged, or
- b. At least 3 pounds greater than the total previous reduction when the train brake system is not fully recharged.

5506.3 When operating conditions permit, wait at least 20 seconds after the initial brake pipe reduction before making additional 2 to 3 pound intermediate brake pipe reductions.

5506.4 Locomotive Operators must not place the automatic brake beyond the suppression position to apply train brakes, except for placing train brakes in emergency.

5506.5 When making a final brake pipe reduction:

- a. Just prior to stopping, make sufficient brake pipe reduction that results in an exhaust from the brake pipe as stop is completed, or
- b. On passenger trains, the graduated release feature may be used.

5506.6 Except for emergency applications, or when required by rule, brake pipe reductions must not be made after brake pipe pressure reaches the point of equalization.

Brake Pipe Equalization Chart

Regulating Valve Setting	Reduction Required for Equalization (Full Service)	Pressure in Brake Pipe and Brake Cylinder
70 PSI	20 PSI	50 PSI
80 PSI	23 PSI	57 PSI
90 PSI	26 PSI	64 PSI
100 PSI	29 PSI	71 PSI
110 PSI	32 PSI	78 PSI

5507 - Dynamic Brake Operations - General

- 5507.1** In order for the dynamic brake to operate, the following switches and circuit breakers must be positioned as indicated:

Dynamic brake control circuit breaker, controlling locomotive	ON
Dynamic brake cut out switch	IN
Brake transfer circuit breaker	ON

- 5507.2** Locomotive Operators must determine the operational status of the dynamic brakes on all locomotives in the consist at:

- a. The initial terminal for a train, or
- b. Other locations where a Locomotive Operator first begins operation of a train.

- 5507.3** If status of the dynamic brakes cannot be determined, the Locomotive Operator must test the dynamic brakes at the first opportunity.

- 5507.4** Locomotive Operators must note any problem on the locomotive work report relating to the dynamic brake and provide information pertaining to the dynamic brake operation on the brake test certificate including:

1. Locomotive number,
2. Dynamic brake cut-out position,
3. Total number of dynamic brake axles, and
4. The total number of locomotives with inoperative dynamic brakes.

- 5507.5** When a locomotive is discovered as having an inoperative dynamic brake, a tag labeled Inoperative Dynamic Brake must be placed on the isolation switch. Once tagged the locomotive may continue in service for up to 30 days. The tag must contain the following:

1. Locomotive number,
2. Name of discovering carrier,
3. Location and date where condition was discovered, and
4. Signature of the person discovering the condition.

5507.6 Do not exceed the following maximum dynamic brake axle value for the locomotive consist:

- a. 27 – when all units have alignment control couplers, or
- b. 20 – when any unit has coupler limiting blocks, or
- c. Do not use dynamic braking when any locomotive in the consist is not equipped with alignment control couplers or coupler limiting blocks.

Dynamic Brake Axle Value

Locomotive Class	Axle Value	Locomotive Class	Axle Value
All 4-axle units except B40-8	4	SD70AC, SD70M	8
B40-8	5	CW44AC, CW44AH, ES44AC, ES44AH, ET44AC, ET44AH	9
All 6 axle units except SD60/M/I, SD70M, C/CW40-8, CW44-9, and ACs	6	SD70ACE	10
SD60/M/I, C/CW40-8, CW44-9, ES44DC, ES40DC, ES44C4, ET44C4	7	CW46AC, CW46AH	11

5507.7 When restricting the dynamic brake axle value, the locomotive operator must:

1. Place the dynamic brake cut-out switch in the OUT position,
2. Leave the dynamic brake on the controlling locomotive cut in, and
3. Report the status of the dynamic brake cut-out switch position in section 3 of the brake test certificate.

5507.8 When using dynamic brake through turnouts and crossovers and the dynamic brake axle value exceeds 12, do not exceed #4 position until the head one-third of the train clears turnouts or crossovers.**5507.9** If the dynamic brake warning light comes on, gradually reduce dynamic brake output until the light goes out.

Chapter 10 - Conventional Train Handling

5551 - Starting a Train

5551.1 When starting a train:

1. Allow sufficient time for the train air brakes to release,
2. When possible, start movement one car at a time using the lowest throttle position needed,
3. Do not exceed 2 MPH until the entire train is moving, and
4. Avoid using excessive tractive effort.

5551.2 Locomotive operators must handle the train in a safe and fuel-efficient manner and take full advantage of throttle adjustments and dynamic braking when conditions permit.

5552 - Dynamic Braking

5552.1 If in doubt that the train speed is slowing, stopping or controlled properly, supplement dynamic brakes with train brakes.

5552.2 Plan the use of dynamic brakes to avoid maximum braking through heavy curvature, crossovers, and turnouts.

5552.3 When applying dynamic brakes:

1. Make certain that the throttle is in IDLE for at least 10 seconds before transition to dynamic brake SETUP,
2. Allow time for the train's slack to adjust,
3. Apply the dynamic brake gradually allowing for slack to adjust, and
4. Make incremental adjustments to maintain or achieve the desired speed.

5552.4 When releasing dynamic brake:

1. Do so gradually, allowing for slack to adjust, and
2. When releasing the dynamic brake and automatic brake, keep the dynamic brake applied until the train's air brakes have released.

5552.5 Just prior to stopping, gradually apply the independent brake while moving the dynamic brake lever to the SETUP or OFF position.

5553 - Use of Automatic Brake

5553.1 When braking:

1. Begin far enough in advance to allow for a split service application, except when stopping with the slack bunched, and
2. Actuate the independent brake frequently to release locomotive brake cylinder pressure.

5553.2 When braking **Without Power**:

1. Reduce the throttle to IDLE allowing the slack to adjust, and
2. If necessary, use the dynamic brake or independent brake, if the dynamic brake is not available to adjust the slack prior to making the initial brake pipe reduction.

5553.3 When braking **With Power**:

1. Advance throttle, if necessary, using only enough power to adjust slack,
2. Observe locomotive output when making the initial brake pipe reduction , and
3. Make additional brake pipe reductions as necessary.

5553.4 When making a running release:

- a. After the desired braking has been accomplished, brakes may be released if:
 1. Brake pipe air is not exhausting,
 2. At least a 10 PSI brake pipe reduction has been made, and
 3. Brakes on the entire train will be released before the speed has reached:
 - a. 10 MPH for trains 120 cars or less, or
 - b. 15 MPH for trains over 120 cars.
- b. When slack is bunched, do not allow a run out of slack until the brakes have released, or
- c. Do not increase locomotive throttle while the brakes are releasing.

5553.5 When making a standing release and operating conditions permit:

1. Make a full service brake pipe reduction,
2. Make certain that brake pipe exhaust has stopped for at least 20 seconds before releasing the train brake, and
3. In locations where the independent brake will not hold the train, apply sufficient handbrakes to secure the train during recharge time.

5554 - Stopping

5554.1 When stopping with **Slack Bunched**:

1. Reduce the throttle to IDLE, allowing slack to bunch gradually,
2. Apply the dynamic brake or the independent brake if the dynamic brake is not available, to complete bunching of slack,
3. Increase the dynamic brake to the desired level, and
4. Use the automatic brake, if necessary, to complete the stop with a:
 - a. Continuous service application at speeds below 10 MPH, or
 - b. Split service application at speeds above 10 MPH.

5554.2 When stopping with **Slack Stretched**:

1. Advance the throttle if necessary, make an initial brake pipe reduction, and actuate,
2. As speed decreases:
 1. Make additional brake pipe reductions as necessary and actuate, and
 2. Gradually reduce the throttle to prevent developing excessive locomotive output.
3. As the movement stops:
 1. Make sure air is exhausting from the brake pipe,
 2. Place the independent brake to the FULL APPLICATION position, and
 3. Place the throttle to IDLE.

5554.3 When stopping a shove movement with **Slack Bunched**:

1. Advance the throttle if necessary, make an initial brake pipe reduction, and actuate,
2. As the speed decreases:
 1. Make additional brake pipe reductions as necessary and actuate, and
 2. Carefully control locomotive throttle, using only sufficient throttle to keep the slack bunched.
3. As the movement stops:
 1. Maintain a throttle position sufficient to keep slack bunched,
 2. Place the independent brake in FULL APPLICATION when the movement stops, and
 3. Place the throttle in IDLE.

5554.4 Stopping a shove movement with the **Slack Stretched**:

1. Reduce the throttle to IDLE, allowing the slack to stretch gradually,
2. Apply the dynamic brake, or the independent brake if the dynamic brake is not available to complete the stretching of slack,
3. Increase braking to the desired level,
4. Use the train brake if it is necessary to complete the stop, complying with the following:
 1. Make an initial reduction,
 2. Make an additional brake pipe reductions of 2 to 3 PSI, as necessary, and
 3. Keep the dynamic brake or the independent brake applied.

5555 - Conditioning Brakes

5555.1 When the train is stopped, a brake pipe reduction of at least 10 PSI, but not more than full service must be made and maintained until the train is required to move.

5555.2 When leaving a train unattended, apply the automatic brake with a full service application.

5555.3 When cutting away from locomotives or cars:

1. Make a full service brake pipe reduction,
2. Verify that the brake pipe exhaust stops before closing the angle cock,
3. Close the angle cock on the last locomotive or car to be detached,
4. Ensure the angle cock is open on the equipment to be left unattended, and
5. If equipped, place the train in EMERGENCY with two-way telemetry verifying brake pipe pressure drops to 0 PSI.

5555.4 When cutting away from a train that is due an inbound inspection of air brakes place the automatic brake handle into the over reduction zone, reducing brake pipe pressure to 20 PSI.

5556 - Switching

5556.1 When starting or stopping movements, adjust slack gradually to limit buff and draft forces.

5556.2 When locomotive brakes are not sufficient to control movement:

1. Couple brake pipe air hoses on a sufficient amount of cars, and
2. Charge the air brakes.

5556.3 Do not change the position of the reverser lever unless the movement is stopped.

5557 - Approaching and Operating Through Areas with Temporary Speed Restrictions

5557.1 When conditions permit, Locomotive Operators must:

1. Release the train air brakes before entering the restriction,
2. Minimize changes in train speed or slack condition, and
3. Limit dynamic brake position to #4.

5558 - Steep Grade (1% or more) Train Handling

5558.1 When approaching and descending steep grades, Locomotive Operators must:

1. Ensure the air brake system is charged to the required pressure before starting the descent,
2. Know the severity of the grade the train is on,
3. Take appropriate action to control train speed, and
4. When conditions warrant, apply train brakes and dynamic brakes before the movement begins.

5558.2 If necessary to reduce the brake pipe pressure by 18 PSI or more, do not:

1. Pull the train for more than 2 miles, and
2. Exceed 20 MPH.

5558.3 If the speed of the train cannot be maintained at or below authorized speed, immediately place the train in EMERGENCY.

5558.4 Apply train brakes using at least a 6 to 8 PSI brake pipe reduction in conjunction with dynamic braking when:

1. Operating in territories where both dynamic braking and pressure maintaining are required in lieu of retainer valves being set, and
2. Train speed is between 20 and 35 MPH.

5558.5 Use steep grade charts in the Time Table Special Instructions to identify steep grade locations and operating instructions.

5558.6 When calculating Effective Dynamic Brake Axles (EDBA) consider:

1. Helper or DP locomotives with working dynamic brakes as added EDBA value, and
2. Total trailing tonnage will include the weight of any locomotives not operating in dynamic brake mode.

5558.7 When controlling train speed on descending grade, use dynamic braking and if necessary, supplement with the automatic brake.

5558.8 Trains not meeting the minimum effective dynamic brake requirements must meet one of the following:

- a. Before proceeding, train must obtain additional locomotives, including helper locomotives to meet the EDBA value, or
- b. Train speed will not exceed 15 MPH and the automatic brake pipe reduction does not attain 18 PSI or higher for a distance of 2 miles or more.

5558.9 Utilize the TTSI charts to define the minimum EDBA for the type of train and tonnage to be able to operate at a particular speed.

5558.10 If the train experiences any loss of dynamic braking resulting in fewer EDBA than required, the train must be stopped immediately with the automatic brake using emergency.

5558.11 When a train requires an 18 PSI or greater brake pipe reduction to control speed, the train must:

1. Be stopped immediately with the train brakes using emergency if necessary,
2. Have an additional 6 PSI brake pipe reduction made,
3. Have each car inspected to determine that brakes are operating properly,
4. Have all retainers set in:
 1. High pressure position before continuing, and
 2. Direct Exhaust position when the train reaches the bottom of the grade.

Note: Trains using retainers may need to be stopped on grade to allow wheels to cool depending on length of grade.

5558.12 If a train is stopped on a steep grade using an 18 PSI or greater brake pipe reduction, the train must be secured and air brake system recharged before proceeding.

5558.13 Trains stopped for the purpose or recharging train air brakes must be secured with sufficient hand brakes to hold the train. After the train air brake system is recharged, and retainers are set, if needed make at least a minimum reduction to hold the train while hand brakes are released.

5558.14 When ascending steep grades at speeds below 15 MPH with head-end power only:

1. Gradually reduce throttle to at least position #6 just before the locomotive crest the grade, and
2. Refrain from increasing throttle position until train has crested the grade and the speed increases.

Chapter 11 - Helper Service

5601 - Responsibilities

- 5601.1** Locomotive operators must maintain radio communication with each other at all times while handling the train and from the leading locomotive consist:
1. Operate the train brakes, and
 2. Make certain that all other Locomotive Operators are informed of planned speed changes, signal indications, and any other condition which may affect train movement.
- 5601.2** The helper operator must comply with instructions from the leading locomotive operator.
- 5601.3** Ensure that the helper locomotive is properly positioned and all crew members have a clear understanding of:
1. Loads, empties, tonnage and any restrictions for the train, and
 2. Number of cars and tons that the helper locomotive is cut in ahead of.
- 5601.4** During all shoving operations, the helper crew will ride in the lead locomotive of helper consist facing the direction of travel while the train is being shoved.

5602 - Restrictions

- 5602.1** Helper locomotives must be equipped with alignment control couplers.
- 5602.2** When reverse movement exceeds one mile, the locomotive operator on the helper locomotive coupled to the rear of a train must control the train air brakes.
- 5602.3** Passenger trains carrying passengers must not be assisted by pushing from the rear of the train.
- 5602.4** Helper crews must uncouple from their own train, if coupled to a train prior to coupling to the train being assisted.

5603 - Adding Helper

5603.1 When adding a helper locomotive to a train without helper link, the helper crew must:

1. Make certain the assisted train has stopped,
2. After coupling, stretch slack to ensure coupling has been made,
3. Apply a Full Service brake pipe application and wait for the brake pipe exhaust to stop,
4. Cut out the Automatic Brake, and place the handle in HANDLE OFF,
5. Couple the brake pipe hoses and open the angle cocks,
6. Place the Independent Brake valve handle in the RELEASE position, actuating to fully release the helper locomotive consists brakes, and
7. Notify the lead locomotive operator that the helper is coupled.

5604 - Operating a Helper Equipped Train

5604.1 The Locomotive Operator on the leading end will direct the starting movement of the train.

5604.2 When accelerating the locomotive, throttle should be increased gradually. Do not place the helper locomotive throttle in # 8 until the entire train is clear of turnouts or crossovers.

5604.3 When slowing or stopping the train, the locomotive operator on the helper unit must:

1. Make throttle adjustments that prevents an increase in locomotive output, and
2. Actuate locomotive brake cylinder pressure when the train brakes are applied.

5604.4 During an emergency stop, the locomotive operator on the helper unit must control brake cylinder pressure to 25 PSI to minimize in-train-forces.

5604.5 During train movement, if it is necessary for the helper locomotive operator to initiate an emergency brake application, the automatic brake must be placed in emergency position.

5605 - Detaching Helper

5605.1 Train movement must be stopped to detach the helper locomotive, unless equipped with a "Helper Link" or similar device.

5606 - Helper Link

5606.1 After installing the Helper Link or taking charge of a locomotive equipped with a Helper Link, a visual inspection and test must be made to ensure that all hoses and jumper cables will not interfere with the operation of the lift chain which is connected to the coupler.

5606.2 Helper Link must be inspected and tested as follows:

1. Knuckle on the locomotive end with helper link box must be closed;
2. The trainline power-reduction feature on the helper locomotive must be positioned to full power;
3. Turn on the Engine Run, Generator Field and Control Fuel Pump switches;
4. Reverser must be placed in either Forward or Reverse;
5. Position the Power Reduction switch to “trainline power reduction” (all units);
6. Inspect to verify that the knuckle has been operated by the coupler-lift mechanism, and
7. Turn the trainline power reduction switch to the OFF position.

Note: If the coupler pin did not lift, verify the main reservoir equalizing hose, the end cock and jumper cable connections are connected from the helper locomotive to the helper link and repeat steps 2 through 6.

5607 - Operating a Helper Link

5607.1 Prior to coupling to the rear of a train, the helper crew must verify that the knuckle on the helper locomotive is open on the end to be attached to the train.

5607.2 After coupling to the rear of the train:

1. Stretch slack to ensure the coupling has been made,
2. Apply a full service brake pipe application and wait for the brake pipe exhaust to stop,
3. Cut out the automatic brake, and place the handle in HANDLE OFF, and
4. Make a visual inspection from the walkway of the helper unit ensuring that telemetry device is still in place and none of the hoses will be affected by the coupler once movement begins.

5607.3 To arm, open the helper link box lid and:

1. Verify the thumbwheel switch assembly numbers are the same as the ID code number on the end of train device,
2. Press the comm/check pushbutton to test communications between the helper link and the end of train telemetry device,
3. Press the enable button to start the electronic signal,
4. Note that the “enable” light is illuminated and close the helper link box lid,
5. Return to the cab and note brake pipe pressure reading,
6. Release the independent brake,
7. Notify the Locomotive Operator on the lead locomotive that the helper is ready for a Helper Service brake test, and
8. Verify that brakes apply and release on the helper unit when the Locomotive Operator performs the brake test from the lead locomotive.

5607.4 If the EOT or helper link box malfunctions, the alarm bell will ring in the helper locomotive cab indicating a problem. If this occurs and the trouble cannot be corrected, the train must be stopped and the brake pipe hose connected for conventional operations.

5607.5 To detach while the train is moving the helper Locomotive Operator must:

1. Communicate to the Locomotive Operator on the leading end that the helper crew is planning to detach,
 - a. On AC locomotives equipped with power reduction:
 1. From the IFC screen, select "speed control",
 2. Select "power reduction" and set power to 100%,
 3. Push the key under the switch on the screen to set to "MU",
 4. Adjust throttle to #2 position or higher, and
 5. Locate the key under the on-off switch and push to "on".
 - b. On AC Locomotives equipped with Hump Control:
 1. From the IFC screen, access the speed control menu,
 2. Access the "hump control" and set to 100%,
 3. Set to "MU" mode,
 4. Adjust throttle to #1 or higher, and
 5. Push the "on" key.
 - c. AC Locomotive equipped with Slow Speed:
 1. From the IFC screen, access the speed control menu,
 2. Go to "Slow Screen",
 3. Select any setting, light, med or heavy,
 4. Set speed to any setting between 0-10,
 5. Adjust throttle to #1 or higher, and
 6. Push the "on" key.
Note: For helper link to work in slow speed screen, train speed must be 10 MPH or less.
 - d. On all other locomotives:
 1. Turn the power reduction knob to full power, and
 2. Position the switch to "trainline power reduction".
2. After receiving an audible alarm, gradually reduce power allowing time for slack to stretch and helper locomotive to detach,
3. Gradually apply the independent brake, controlling brake cylinder pressure to prevent sliding of locomotive wheels,
4. After stopping, place the automatic brake valve handle in RELEASE and cut in the brake valve cutout valve, and
5. Notify the Locomotive Operator on the leading end of the train that you have successfully detached.

5607.6 If the Helper Link fails to lift the coupler pin and detach properly:

1. Notify the locomotive operator on the head end, instructing to stop the train in a safe manner,
2. Once all movement has stopped, manually detach the helper locomotive from the standing train, and
3. Notify the standing train that the helper locomotive has properly detached.

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Chapter 12 - Special Train Handling Procedures

Introduction

This section contains rules and procedures for locomotives equipped with remote control systems known as Distributed Power (DP).

5650 - Gathering Slack and Starting Trains on Grades

5650.1 When on operating on grades that prohibit gathering slack without using train brakes, follow the steps below:

Step	Action
1.	Make a brake pipe reduction sufficient to hold the train with the independent brake released and actuated.
2.	Gently apply power to adjust the slack.
3.	When the slack is adjusted on the whole train: 1. Stop movement by making brake pipe reductions of 2 to 3 PSI and actuate. 2. Make sure the throttle is in at least position #2. 3. Place the independent brake in FULL APPLICATION position when the movement stops. 4. Place the throttle in the IDLE position.
4.	Increase brake pipe reduction until the brake pipe pressure is 10 PSI below the point of equalization and wait for the brake pipe exhaust to stop.
5.	Start the train by releasing train brakes and using enough power to start the cars one at a time as the train brakes release.

5651 - Loss of Dynamic Brakes

5651.1 To prevent harsh slack action and rapid increase in train speed if the dynamic brake fails while in use follow the steps below:

1. Apply the independent brake immediately to avoid rapid run-out of slack, and
2. If necessary, make brake pipe reduction (s) sufficient to control the speed and compensate for the loss of dynamic braking force.

5652 - Emergency Brake Applications

5652.1 Use emergency brake applications in situations when a stop must be made in the shortest possible distance, or when required by rule.

5652.2 When initiating an emergency air brake application immediately place the automatic brake in the emergency position and stop the train when:

- a. Operating conditions require, or
- b. Brake pipe pressure at the rear of a moving train drops to 45 PSI or below, or
- c. Brake pipe pressure is reduced 18 PSI or more from the standard brake pipe pressure while descending any grade and the train cannot be controlled at the authorized speed.

5652.3 When an emergency application is initiated from the automatic brake on the controlling locomotive, leave the brake valve in the EMERGENCY position, and:

1. Promptly place the throttle in IDLE, and
2. Control the locomotive brake cylinder pressure to provide the maximum retarding force without sliding the locomotive wheels or creating excessive buff forces.

5652.4 When an emergency application is initiated by other than the automatic brake, keep the train slack in the same condition as it was before the emergency happened as follows:

5652.5 With slack stretched:

1. Actuate locomotive brake cylinder pressure, continuing until the train stops,
2. Maintain throttle position until the train speed begins to reduce, and
3. Adjust the throttle to prevent an increase in locomotive output.

5652.6 With slack bunched:

1. Maintain the dynamic brake position if available,
2. Actuate locomotive brake cylinder pressure, continuing until the train stops, and
3. If required to use the independent brake, control the locomotive brake cylinder pressure to provide retarding effect while preventing sliding the locomotive wheels or excessive buff forces.

5652.7 Locomotive Operators must reduce the throttle to IDLE when operating from a locomotive not equipped with the "Power Knockdown" feature.

Note: Some former Conrail locomotives are not equipped with the "Power Knockdown Feature".

5652.8 Operating an In-train or Rear-end Helper, immediately place the throttle in the IDLE position.

5652.9 When an undesired emergency occurs, or when an emergency situation arises and it becomes necessary to place train air brakes in emergency, operate the two-way EOT emergency toggle switch as quickly as possible.

5653 - Service Applications from an Unknown Cause

5653.1 When a service application occurs from an unknown cause, the train shall be stopped and inspected for leaks. When stopping, keep the train slack in the same condition as it was before the air brake application occurred.

Note: Undesired service application are indicated by:

- a. An increase in the indication of the air flow indicator, or
- b. The sound of excessive regulating valve operation, or
- c. A drop in brake pipe pressure, or
- d. A decrease in train speed or increase in locomotive output without a known cause.

5653.2 With slack stretched:

1. Place the automatic brake in the MINIMUM REDUCTION position,
2. Actuate locomotive brake cylinder pressure, continuing until the train stops,
3. Maintain throttle position until the train speed begins to slow, and
4. As the train speed slows, make additional 2 to 3 PSI brake pipe reductions and adjust the throttle to prevent an increase in locomotive output.

5653.3 With slack bunched:

1. Maintain or increase dynamic brake position if available,
2. Place the automatic brake in the MINIMUM REDUCTION position, and
3. Make additional 2 to 3 PSI brake pipe reductions as the train speed slows, and
4. If required to use the independent brake, control the locomotive brake cylinder pressure to provide retarding effect while preventing sliding the locomotive wheels or excessive buff forces.

5654 - Inclement Weather Train Braking

5654.1 During inclement weather conditions such as ice or snow, follow the steps below to ensure the brake shoes are not frozen or iced over:

1. When using train brakes, apply the train brakes sooner than you normally would for the given circumstance, and
2. Perform running test to make sure proper braking effort is being provided.

5654.2 Perform brake effectiveness test:

1. Periodically, as operating conditions permit, and
2. Before descending steep grades.

5654.3 If the train does not brake properly:

1. Stop the train, using the EMERGENCY position if necessary,
2. Determine and correct the cause of the failure, and
3. Repeat the test.

5654.4 When setting cars off:

1. Apply air brakes on cars while moving to remove ice and snow buildup, and
2. Ensure that no ice or snow is between brake shoes and wheels after handbrakes are applied.

5655 - Reporting Train Separations or Stalls

5655.1 Locomotive Operators must have a blank copy of the Train Separation Report and the Train Stall Report before beginning a trip or tour of duty.

5655.2 When a train that you are operating has a separation or stalls, complete and forward the appropriate report to the road foreman of engines as soon as possible.

Chapter 13 - Distributed Power Operations

5701 - Setting Up and Linking Distributed Power (DP) Locomotives

5701.1 When conditioning locomotives for distributed power, do so in the following order:

1. Set up the remote units,
2. Set up the lead unit,
3. Link to remote(s) from the lead unit,
4. Perform a brake pipe test, and
5. Select Run FTE from mode function.

5701.2 From the controlling remote unit in each consist, verify that the PCS and all air brake faults are reset and then condition as follows:

1. Switch and Handle Positions:

DP & MTB breakers	CLOSED/ON
Isolation Switch	RUN
Dynamic Brake breaker	CLOSED/ON
Control & Fuel Pump	CLOSED/ON
Engine Run	CLOSED/ON
Generator Field	OPEN/OFF
Reverser	Center or Removed
Automatic Brake	CUT IN & Handle Off
Independent Brake	LEAD & Fully Applied

2. Setup procedure on locomotive operator display screen:
 1. Select the DIST POWER key from menu options,
 2. Select the REMOTE SETUP key,
 3. Enter the controlling lead locomotive number,
 4. Designate the direction of the remote unit as either SAME as or OPPOSITE of the lead unit,
 5. Select DONE,
 6. Ensure the independent brake valve handle is in RELEASE,
 7. Ensure the automatic brake handle is in the HANDLE OFF position, and
 8. Allow PCS to stay open as the penalty application will be recovered from the lead unit.

5701.3 From the controlling lead locomotive condition as follows:

1. Switch and Handle Positions:

DP & MTB breakers	CLOSED/ON
Isolation Switch	RUN
Dynamic Brake breaker	CLOSED/ON
Control & Fuel Pump	CLOSED/ON
Engine Run	CLOSED/ON
Generator Field	OPEN/OFF (until ready to move)
Reverser	Center or Removed
Automatic Brake	CUT IN
Independent Brake	LEAD & Fully Applied

2. Setup procedure on locomotive operator display screen:
 1. Select the DIST POWER key from menu options,
 2. Select the Lead Setup key,
 3. Enter the RR initials and road numbers for each of the controlling remote locomotives, and
 4. Select the Link key:
 - a. This must be done for each controlling remote locomotive individually.
3. Verify that the equalizing reservoir is adjusted to the required pressure and all air brake faults are reset.

5702 - Distributed Power Brake Pipe Test

5702.1 A successful brake pipe test is required before the DP system will allow the operator to place the system in Run. To initiate a brake pipe test:

1. Recover air brake system from the power-up penalty,
2. Place the automatic brake handle in the release position,
3. Fully apply the independent brake,
4. After air flow reaches 30 CFM or lower, select the BP Test key,
5. Select the Execute key,
6. When prompted, make a minimum reduction of the automatic brake,
7. After successful completion of the brake pipe test, select the Mode key, and
8. Select the Run FTE, then execute to place the DP equipment to Run.

5703 - Unlinking and Ending Distributed Power

5703.1 When necessary to unlink, do so from the Lead unit first by selecting:

1. DP Main Menu key,
2. System key,
3. Unlink key, and
4. Execute key.

5703.2 Ending Distributed Power can be done on both the lead and the remote locomotives by selecting:

1. DP Main Menu key,
2. End Dist. Power key,
3. Execute key, and
4. Restore locomotive air brakes to proper position.

5704 - Train Check

5704.1 The Train Check operating feature verifies the brake pipe is open and unrestricted between the lead consist and the remote consist. Perform the Train Check operation for the following conditions:

- a. When securing a train that will be left unattended, except when temperature is below zero degrees F, or
- b. When temperature is below zero degrees F, initiate Train Check just prior to departure, or
- c. Just prior to train movement anytime the train has been stopped or the train's brake pipe may have been compromised.

5704.2 The following conditions must be satisfied before a Train Check can be initiated:

1. Train stopped,
2. Reverser centered,
3. Throttle in idle,
4. Independent brake fully applied,
5. Automatic brake properly conditioned, and
6. Good DP radio communication.

5704.3 To initiate the Train Check function, the operator must:

1. Make an Automatic Brake Pipe reduction of not less than 10 PSI,
2. Allow the brake pipe exhaust to stop,
3. Select the DP Main Menu key,
4. Select the System key,
5. Select the Train Check key,
6. Select the Execute key,
7. Once prompted, release the Automatic Brake, and
8. Verify "Train Check OK" message before proceeding.

Note: If "Train Check Fail" message is displayed, repeat test or perform a BPToD. If these are unsuccessful, visually inspect train for issues such as closed angle cocks.

5704.4 Train Check is not required when:

- a. On descending grades that require automatic air brakes to remain applied, or
- b. After building, conditioning and performing air brake test on train at origin, followed by immediate brake release and movement to depart, or
- c. When required to stop and line switches such as, entering or departing yard track or siding, followed by an immediate movement.

5705 - Brake Pipe Test on Demand (BPToD)

5705.1 A Train Brake Continuity Integrity Test is required any time a change is made to the trains consist. This test can be done using the BPToD or Train Check.

5705.2 The following conditions must be met before a BPToD can be initiated:

1. Train stopped,
2. Reverser centered,
3. Throttle in IDLE,
4. Independent brake fully applied,
5. Automatic brake released, and
6. Good DP radio communication.

5705.3 To initiate a BPToD the operator must select:

1. DP Main Menu key,
2. System key,
3. Brake Pipe Test key, and
4. Execute key and when prompted make a minimum reduction of the automatic brake.

Note: After successful completion of the brake pipe test, the operator must increase the automatic brake pipe reduction to 10lbs prior to releasing the automatic brake.

5705.4 In the event of a failure of the Brake Pipe Test, the system will not automatically return the system mode to Run. The Locomotive Operator must manually place the system back to Run mode.

5706 - Brake Pipe Leakage Test

5706.1 The following conditions must be met prior to initiating a DP Brake Pipe Leakage Test:

1. Train stopped,
2. Reverser centered,
3. Throttle in idle,
4. Independent brake fully applied,
5. Automatic brake released, and
6. Good DP radio communication

5706.2 To initiate the DP Brake Pipe Leakage Test:

1. Select DP Main Menu key,
2. Select the System key,
3. Upon receiving proper signal from inspector, select the Leakage Test key,
4. Select Execute key,
5. Observe display to verify that test is running,
6. When prompted, make a Full Service application of the automatic brake,
7. When prompted, release the automatic brake, and
8. At completion of test, verify leakage shown on display.

5707 - Remote Mode Set Out

5707.1 The SET OUT mode is used to condition and help secure a remote consist left standing uncoupled or separated from the front portion of a train operating in DP. A change to this mode must only be made with the train stopped.

5707.2 Remote locomotives left unattended in the train must be left in SET OUT mode and are not required to be secured with hand brakes provided a sufficient number of hand brakes are applied and tested to that equipment left standing.

5707.3 Upon initial movement of the lead locomotive consists in SET OUT mode, the operator must confirm that the brake cylinder pressure remains fully applied on all remote locomotives and that the controlling remote locomotive(s) are not:

- a. Responding to the brake release of the lead locomotive consists, or
- b. Developing tractive effort in response to throttle commands.

5707.4 To initiate SET OUT Mode:

1. Make a Full Service brake pipe reduction to the automatic brake and allow brake pipe pressure to stabilize,
2. Select the DP Main Menu key,
3. Use the arrow key to highlight the controlling remote to be placed in Set Out Mode,
4. Select Set Out key,
5. Select Execute key, and
6. Verify the display shows the brake valve is cut out on the controlling remote placed in Set Out Mode.

5707.5 To return a remote consist to NORMAL after re-coupling train:

1. Select DP Main Menu key,
2. Use the arrow key to highlight the controlling remote to normalize,
3. Select Normal key,
4. Select Execute key, and
5. Verify brake valve is cut in on DP controlling remote after release.

5708 - Distributed Power Operating Instructions and Restrictions**5708.1** When operating with DP, the total number of powered axles must not exceed:

1. 18 more on the head end than the DP/helper consist , and
2. 9 more on the DP/helper consist, than the head end.

5708.2 The number of powered axles in use must not exceed:

Train Type	Cut-in DP/Helper	Rear end DP/Helper
Manifest	24	18
Intermodal	18	12
Loaded Bulk Unit	24	18
Empty Bulk Unit	9	9

5708.3 DP remote consist(s) must be placed as follows:

Train Type	Maximum length allowed, excluding locomotive
Manifest or bulk commodity trains operating with a single DP remote consist, cut in or on rear of train	9,000 feet between lead consist and remote DP consist
Solid intermodal train operating with a single DP remote consist, cut in or on rear of train	10,000 feet between lead consist and remote DP consist
Any train with 2 DP remote consist	8,000 feet between each consist

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Chapter 14 - Remote Control Operations (RCO)

5901 - Transferring Operational Control Manual to Remote

5901.1 From the controlling locomotive:

1. On Remote Control Locomotive (RCL) position as follows:

RCO Breaker	CLOSED/ON
Isolation Switch	RUN
Engine Run	CLOSED/ON
Generator Field	CLOSED/ON
Control & Fuel Pump	CLOSED/ON
Headlight Controls	OFF
Locomotive Radio	Man-Down Channel
RCO Tag	ON Throttle

2. Verify that the automatic brake is properly set up in manual mode by observing that:
 1. Both equalizing reservoir and brake pipe gauges register 90 PSI, and
 2. PC light is extinguished or extinguishes when the PC reset is pushed.

3. On RCL position air brakes in the following manner:

Automatic Brake Handle	FULL SERVICE & wait for exhaust to stop
Automatic Brake Cutout Valve	OUT
Automatic Brake Handle	HANDLE OFF
Independent Brake	FULLY APPLIED
Independent Brake Cutout	CLOSED/TRAIL
Independent Brake	RELEASED
On RCL II, place the manual air brake transfer valve	REMOTE and insert pin

4. On Remote Control Platform (RCP) position brakes & switches in the following manner:

Independent Brake on RCP-Locomotives	CLOSED/TRAIL
Independent Brake	RELEASED
Circuit Breakers	CLOSED/ON
Radio	Man-Down channel

5902 - Testing Requirements

5902.1 The locomotive handbrake must be applied before making required safety test.

5902.2 Operator Control Units (OCU) must be tested before:

1. Performing a Standing Locomotive Brake Test, and
2. Initial movement of the locomotive.

5902.3 To perform a standing locomotive air brake test:

1. Release the handbrake,
2. Place the Independent Brake Override lever in FULL,
3. Place the Direction Toggle switch in either forward or reverse,
4. Press either vigilance switch and place the Speed Select lever in COUPLE position,
5. Observe that locomotive does not move when electrical output is produced, and
6. Place Speed Select lever in the STOP position.

5902.4 If the RCL fails to stop, stop movement by:

- a. Using a hand brakes if conditions permit, or
- b. Place the Direction Toggle switch in the position opposite the direction of movement and place Speed Select lever in COUPLE position.

5902.5 A locomotive handbrake test is required when leaving equipment unattended, and prior to transferring to manual mode.

5902.6 To perform a locomotive handbrake test:

1. Apply handbrake on all units in consist,
2. Release both the independent and automatic brake overrides,
3. Place the direction select toggle switch in forward or reverse,
4. Press either vigilance switch and place speed select lever in COAST, and
5. Observe for one minute with air brakes released:
 - a. The hand brake is sufficient if no movement occurs after one minute, or
 - b. Hand brakes are not sufficient if movement occurs. Stop the movement by moving the speed select lever to Stop

5903 - Transferring Operational Control From Remote to Manual

5903.1 Locomotives must be configured for manual operation at the end of a tour of duty except when performing a direct handoff.

5903.2 When transferring from Remote Control to Manual Mode:

1. Apply and test the locomotive handbrake,
2. Turn off OCU(s),
3. Place in Manual Mode:
 - a. On RCL II by:
 1. Placing the RMS switch to manual position, and
 2. Moving the Manual Air Brake Transfer valve to manual position,
 - b. On Beltpack by:
 1. Placing changeover switch to manual position,
 2. Waiting one minute and turning off Radio, Lights, Headlight and Generator Field breakers, and
 3. Leaving the Control, Remote, Air Dryer and AUX breakers turned on.
4. Place the independent brake in the FULL APPLICATION position and cut in,
5. Place the automatic brake handle in the RELEASE position,
6. Cut in the automatic brake, recovering from emergency application if necessary, and
7. If the locomotive is attached to a train or cut of cars with the brake pipe connected make a FULL SERVICE reduction.

5904 - Remote Control Operations

5904.1 When initiating a movement from stop, the Locomotive Operator must:

- a. Normal movements:
 1. Select the COUPLE speed setting,
 2. Allow slack to adjust, and
 3. Wait for the entire train to move before selecting 4 MPH.
- b. Kicking cars:
 1. Select the COUPLE speed setting to adjust slack, and
 2. Select either 7 or 10 MPH to obtain necessary momentum to complete the action.

5904.2 When wheel slip occurs:

- a. Stop movement and then restart, or
- b. If wheel slip reoccurs, stop movement and check for:
 - a. Failed wheel slip protection system or other locomotive problems, or
 - b. Derailed equipment, or
 - c. Poor track conditions, or
 - d. Excessive tonnage.

5904.3 To prevent a rollback use the Independent Brake Override by:

1. Applying the Independent Brake Override to a position that prevents the equipment from moving,
2. Select the desired Speed Select position, and
3. Release the Independent Brake Override when:
 - a. Cars start to move, or
 - b. The locomotive is loading sufficiently.

5904.4 The following steps must be taken to handle a brakes dragging alert:

- a. For an automatic brakes dragging alert:
 - a. Decrease the selected automatic brake override to RELEASE, or
 - b. Decrease the speed selection to COUPLE or a lower position.
- b. For an independent brakes dragging alert:
 - a. Decrease the independent brake override to LOW or RELEASE, or
 - b. Decrease the speed selection to COUPLE or a lower position.

5904.5 When an emergency situation occurs, immediately stop the movement by making an emergency application of the air brakes. Initiate an emergency application by:

- a. Place the Independent Brake Override in Emergency from any linked OCU, or
- b. Activate either E-Stop button located on either side of the RCL or RCP, or
- c. Place the locomotive's automatic brake valve in EMERGENCY.

5904.6 If movement is not responding to commands during an emergency situation:

1. Place the Independent Brake Override lever in EMERGENCY,
2. Turn off the OCU, and
3. Remove the battery from the OCU.

5904.7 When leaving locomotives unattended for a period of time not to exceed 30 minutes:

1. Apply and test locomotive handbrakes,
2. Turn off OCU(s) and
 - a. On RCL II, place the RMS switch to Manual position and turn off radio circuit breaker, or
 - b. On Beltpack, turn off MCC and radio circuit breakers.
3. Configure Locomotives:
 - a. Left running:
 1. Place the Isolation switch in ISOLATE, and
 2. Open or turn off the Generator Field switch, or
 - c. Shut down:
 1. Stop engine using the engine stop button,
 2. Open or turn off the Control Fuel Pump, Generator Field, and Engine Run switch, and
 3. Open the battery knife switch.

5904.8 When leaving locomotives unattended for periods of time exceeding 30 minutes:

1. Apply and test locomotive handbrakes,
2. Configure the locomotive for manual operation,
3. Remove batteries from OCU(s), and
4. Secure OCU(s).

5904.9 When an OCU failure occurs:

- a. A single person operation may continue when a replacement OCU becomes available, or
- b. A two-person operation may continue after relinking as a single operator for the remainder of the tour of duty or until a replacement OCU becomes available.

5905 - Humping Operations

5905.1 To activate Hump Mode with one operator, the Locomotive Operator must:

1. Verify the Tower OCU is on,
2. Speed Select lever in STOP, and
3. Press Hump pushbutton and verify;
 1. OCU LEDs turn red,
 2. OCU LEDs turn green when communications is re-established,
 3. Tower OCU "communicating with locomotive LED" flashes green, and
 4. "HUMP MODE ACTIVE" displayed for 10 seconds.

5905.2 To activate Hump Mode with two operators:

1. OCU "A" must be primary operator,
2. Tower OCU must be turned on,
3. Speed select lever in STOP,
4. Press Hump pushbutton and verify:
 1. Primary OCU LEDs turn red,
 2. LEDs turn green when communications is re-established,
 3. Tower OCU "communicating with locomotive LED" flashes green, and
 4. "HUMP MODE ACTIVE" is displayed for 10 seconds.
5. Turn off secondary OCU (OCU "B").

5905.3 To deactivate Hump Mode with one operator, the Locomotive Operator must:

1. Place Speed Select lever in STOP,
2. Press Hump pushbutton, and
3. Verify "HUMP MODE CANCELLED" is displayed.

5905.4 To deactivate Hump Mode with two operators:

1. Place Speed Select lever in STOP,
2. Turn on secondary OCU (OCU "B"),
3. Press Hump pushbutton and verify that "HUMP MODE CANCELLED" message is displayed, and
4. Recover from Full Service Penalty Brake on both OCU(s).

5905.5 When required to retrieve cars from a bowl track or to re-hump a cut of cars, the Locomotive Operator must transfer the RCL from hump operation to standard remote control operation.

5905.6 If the locomotive operator is required to stop humping and reverse movement, the operator must make a speed selection appropriate for conditions using a speed selection other than H1.

5906 - Positive Stop Protection (PSP)

5906.1 When using PSP, cut air into cars when required by special instructions or conditions require train brakes in addition to the remote control locomotive brakes and do not exceed:

- a. Pullback entry speed which is defined by local instructions, or
- b. Tonnage restrictions.

Appendices

Appendix A

1 Automatic Brake Positions

26/30 and Electronic Air Brake (EAB) Valves

Release - Charges equalizing reservoir to the setting of the regulating valve, which also releases the train's air brakes. Locomotive air brakes will release unless applied by independent brake.

Minimum Reduction - Reduces equalizing reservoir pressure – and thereby brake pipe pressure - by 6 to 8 PSI.

Service Zone - The smooth area of the brake valve between the MINIMUM REDUCTION position and the FULL SERVICE position used to reduce equalizing reservoir pressure in measurable increments by moving the handle toward the FULL SERVICE position. Reversing the handle toward the MINIMUM REDUCTION position while in this zone will not increase equalizing reservoir pressure, unless the brake cut-out valve is in the PASS position.

Full Service - Reduces equalizing reservoir pressure to the level required for a full service brake application.

Suppression - Used to reset penalty brake applications.

Handle Off (Continuous Service) - Reduces equalizing reservoir pressure to zero at a service rate. The brake valve must be in this position when it is cut out.

Emergency - Used to create and reset emergency applications. An emergency application can be made using this position with the brake valve cut out.

2 Independent Brake Positions

Release - Releases locomotive brakes, except when the brake application is a result of a reduction of brake pipe pressure. This position must be used when the independent brake is cut out.

Actuate - Releases any brake cylinder pressure resulting from a reduction of brake pipe pressure.

Full Application - Applies locomotive brakes fully.

Application Zone - This zone extends from the RELEASE position to the FULL APPLICATION position and is used to increase or decrease locomotive brake cylinder pressure as needed.

3 Positioning and Setting Up Air Brake Equipment

A. Positioning 26/30 Equipment:

Mode Of Operation	Automatic Brake		Independent Brake		
	Handle	Cut-Out Cock	Handle	Mu-2-A Valve	Dual-Ported Cock
Lead Or Single	Release	In (Open)	Full Application	Lead Or Dead	In (Open)
Trailing	Handle Off	Out (Closed)	Release	Trail 24 Or 6 (See Note)	Out (Closed)
Helper (Lead)	Handle Off	Out (Closed)	Full Application	Lead Or Dead	In (Open)

NOTE: Place valve in "Trail 24" when two pipes are trainlined through to the locomotive (Application & Release and Actuating Pipes). Place valve in "Trail 6" when one pipe is trainlined through to locomotive (Application & Release).

B. Setting up 26/30 Equipment:

Step	Action
Cutting In	
1	Place the independent brake in the FULL APPLICATION position
2	Place the MU-2-A valve in the LEAD or DEAD position or the double-ported cut-out cock to the IN or OPEN position
3	Place the automatic brake in the RELEASE position
4	Allow the equalizing reservoir to charge to the setting of the regulating valve adjust the regulating valve setting, if necessary, and place the brake cut-out valve to the IN position
Cutting Out	
1	Place the independent brake in the FULL APPLICATION position
2	Make a full service reduction and ensure that the brake pipe exhaust stops
3	Place the MU-2-A Valve in proper TRAIL position (See NOTE above) or the double-ported cut-out cock to the OUT or CLOSED position
4	Place the brake cut-out valve to the OUT position
5	Place the automatic brake in the HANDLE OFF position and pin when available
6	Place the independent brake in the RELEASE position

C. Positioning EPIC & Knorr Electronic Air Brake Equipment:

Mode Of Operation	Automatic Brake		Independent Brake	
	Handle	Set-Up	Handle	Set-Up
Lead Or Single	Release	Cut In	Full Application	Lead
Trailing	Handle Off	Cut Out	Release	Trail
Helper (Lead)	Handle Off	Cut Out	Full Application	Lead

D. Setting up EPIC Electronic Air Brake Equipment On EMD Locomotives:

Step	Action
Cutting In	
1	Place the independent brake in the FULL APPLICATION position
2	Place the automatic brake in the RELEASE position
3	Press AIR BRAKE SET-UP
4	Press LEAD / TRAIL for LEAD (Cuts in independent brake)
5	Press ACCEPT NEW twice (equalizing reservoir pressure increases)
6	Press AIR BRAKE SETUP
7	Press CUT IN / CUT OUT for CUT IN (cuts in automatic brake)
8	Press ACCEPT NEW twice.
9	If the equalizing reservoir pressure requires adjustment, press AIR BRAKE SETUP
10	Press EQ RES SETUP
11	Use the preset key for 80, 90, 100 or 110 PSI setting
12	Press ENTER
13	Press ACCEPT NEW twice
Cutting Out	
1	Place the independent brake in the FULL APPLICATION position
2	Make a full service reduction and ensure that the brake pipe exhaust stops
3	Press AIR BRAKE SETUP
4	Press LEAD/TRAIL for TRAIL (cuts out both automatic and independent brakes)
5	Press ACCEPT NEW twice
6	Position the brake valve handles
7	Press EXIT

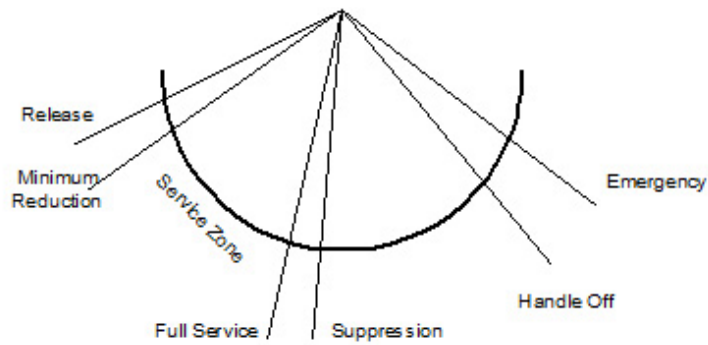
E. Setting up EPIC Air Brake Equipment on GE Locomotives & Knorr Air Brake Equipment:

Step	Action
Cutting In	
1	Place the independent brake in the FULL APPLICATION position
2	Place the automatic brake in the RELEASE position
3	Press AIR BRAKE SETUP
4	Press CHANGE SETUP
5	Press LEAD/TRAIL for LEAD (cuts in the independent brake)
6	Press SAVE SETUP
7	Press DO IT (equalizing reservoir pressure increases)
8	Press CHANGE SETUP
9	Press CUT IN/CUT OUT for CUT IN (cuts in the automatic brake)
10	Press SAVE SETUP.
11	Press DO IT
12	If the equalizing reservoir pressure requires adjustment, press CHANGE SETUP
13	Press FEED VALVE SET
14	Use UP or DOWN arrow keys to adjust the pressure setting
15	Press SAVE SETUP
16	Press DO IT
Cutting Out	
1	Place the independent brake in the FULL APPLICATION position
2	Make a full service reduction and ensure the brake pipe exhaust stops
3	Press AIR BRAKE SETUP
4	Press CHANGE SETUP
5	Press LEAD/TRAIL for TRAIL (cuts out both the automatic and the independent brakes)
6	Press SAVE SETUP
7	Press DO IT
8	Position the automatic brake valve handle in Handle Off and pin when available
9	Position the independent brake valve handle in Release
10	Press EXIT

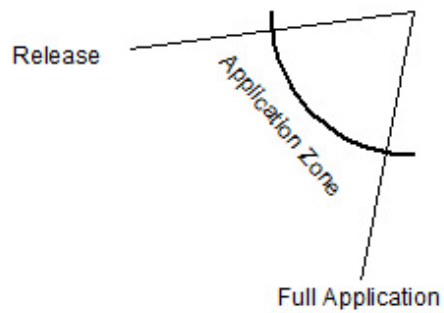
Appendix B

1 Illustrations of Brake Valve Handle Positions

26/30



Independent Brake



Appendix C

1

Class	Horsepower	Weight X000	Min. Cont. Speed (MPH)	Dynamic Brake Type	Dynamic Brake Value
CW44AC	4400	412	N/A	E	9
CW44AH	4400	432	N/A	E	9
CW46AC	4400	432	N/A	E	11
CW46AH	4400	420	N/A	E	11
ES44AH	4400	432	N/A	E	9
ET44AH	4400	432	N/A	E	9
MT6	None	376	3	N/A	N/A
SWMT	None	268	6	N/A(B)	N/A
SW1500	1500	253	11	N/A(B)	N/A
SW1001	1000	233	7	N/A	N/A
MP15AC	1500	258	10	N/A	N/A
MP15	1500	258	11	N/A	N/A
MP15T	1500	253	10	N/A	N/A
3GS21B	2100	268	10	N/A	N/A
3GS21C	2100	420	10	E	6
2GS14B	1400	279	10	N/A	N/A
RP20BD	2000	279	10	E	4
RP20CD	2000	420	10	E	6
GP15T	1500	244	9	S	4
GP15	1500	246	10	N/A	N/A
GP38-3	2000	264	11	E	4
GP38-2S	2200	277	11	S	4
RDSLUG	0	262	9	E	N/A
GP39	2300	278	11	S	4
GP39-2	2300	278	11	S	4
GP40	3000	278	11	S	4
GP40-2	3000	278	11	S	4
GP40-3	3000	278	11	S	4
GP60	3800	400	12	E	4
SD38	2000	388	7	N/A	N/A
SD38-2	2000	380	7	E	6
SD38-2S	2200	378	11	E	6
SD40	3000	396	11	S	6
SD40-2	3000	378	11	E	6
SD40-3	3000	378	11	E	6
SD50	3500	389	10	E	6
SD50-2	3000	390	10	E	6
SD50-3	3000	389	10	E	6
SD60	3800	390	N/A	E	7
SD60I	3800	395	N/A	E	7
SD60M	3800	395	N/A	E	7
SD70AC	4000	428	N/A	E	8
SD70M	4000	400	12	E	8
SD70ACE	4300	428	N/A	E	10
ES40DC	4000	432	11	E	7
B20-8	2000	287	N/A	E	4
B40-8	4000	288	NA	E	5

Class	Horsepower	Weight X000	Min. Cont. Speed (MPH)	Dynamic Brake Type	Dynamic Brake Value
CW40-8	4000	393	N/A	E	7
C40-8	4000	390	N/A	E	6
CW40-9	4000	412	N/A	E	7
GP40WH	3000	279	19	E	4
F40PH2	3000	256	17	E	4
Dynamic Brake Code – E = extended range, S = standard range, (B) = coupler limiting blocks					
AC AND AH locomotives are equipped with steerable trucks with exception of units 1-173, 602, and 4831-4850. These units are equipped with non-steerable trucks.					

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Glossary

Glossary

- Terms** **Actuate:** To release locomotive brake cylinder pressure that was developed as the result of a brake pipe reduction while leaving the train's air brakes applied.
- Air Flow Indicator:** The device that measures the rate of air flow through the automatic brake into the brake pipe.
- Alignment Control Couplers:** Couplers installed on some locomotives that will allow limited lateral movement.
- Alternating Current (AC) Locomotive:** A locomotive equipped with alternating current (AC) traction motors.
- Ampere (Amperage, Amps):** The standard unit for measuring electric current.
- Angle Cock:** A valve located at each end of a locomotive or car used to open or close the brake pipe.
- Articulated Car:** A car whose adjacent platforms (car bodies) are connected by sharing a common truck.
- Automatic Brake:** A manually operated valve on the engineer's control stand that controls the flow of air into and out of the brake pipe.
- Automatic Brake Cut-Out Valve:** A device used to cut in or cut out the automatic brake valve. This device is either located on the automatic brake or accessed through onboard computer screens.
- Back-Up Hose:** A portable hose and valve assembly that when properly connected to the brake pipe can be used to apply air brakes.
- Back-Up Valve:** A valve on the caboose/shoving platforms and some types of passenger cars that is connected to the brake pipe and used to apply brakes.
- Battery Knife Switch:** The electrical switch which opens or closes the circuit from the batteries to other electrical equipment.
- Brake Cylinder:** A device on cars and locomotives which converts the force of compressed air into a mechanical force to move brake shoes against the wheels.
- Brake Cylinder Pipe:** The pipe on a car which extends from the car's control valve to the car's brake cylinder.
- Brake Pipe:** The pipe extending the length of a car, locomotive, or train through which air brakes are charged, applied, and released.
- Brake Pipe Branch Pipe:** The pipe on a car which extends from the brake pipe to the control valve. The branch pipe cut-out cock is located on this pipe.
- Brake Pipe Exhaust:** The sound made as the air pressure is leaving the brake pipe through the automatic brake.
- Brake Pipe Leakage:** The amount of air pressure, as expressed in pounds per minute, that leaks from the brake pipe.
- Brake Pipe Pressure:** The air pressure contained in the brake pipe.
- Branch Pipe Cut-Out Cock:** A device used for cutting in and cutting out the control valve on a locomotive or car.
- CFM:** Cubic feet per minute.

Continuous Service Application: An air brake application made to stop a train moving at speeds below 10 MPH. Brake pipe exhaust must occur from the time the air brake is initially applied until the train stops.

Controlling Locomotive: The locomotive from which the train or locomotive consist is being operated.

Coupler Limiting Blocks: Devices located inside the coupler pocket on each side of the drawbar of a locomotive which are designed to limit the lateral travel of the coupler.

Crankcase Over Pressure Device: A device that shuts down the diesel engine when excessive positive pressure is detected in the crankcase.

Calendar Day Inspection: The FRA-required inspection a locomotive must undergo each day it is in service.

DC Locomotive: Equipped with DC traction motors and are affected by maximum continuous current ratings or short time operating ratings.

Dead Engine Feature: A device on a locomotive for charging main reservoirs from the brake pipe when a locomotive is hauled dead-in-tow.

Dead-in-Consist: A dead locomotive that has its main reservoir being charged from another locomotive.

Dead-in-Tow: A dead locomotive that does not have its main reservoir being charged from another locomotive.

Dead Locomotive: A locomotive whose diesel engine is not running.

Distributed Power: One or more locomotive consist that are remotely controlled from the lead, locomotive.

Dynamic Brake: An electrical device that converts some of the energy developed by a moving locomotive into an effective retarding force.

Dynamic Brake Axle Value: A value used to indicate the relative retarding force a locomotive's dynamic brake may develop. The value is obtained by dividing the locomotive's total dynamic brake retarding force by 10,000.

Dynamic Brake Warning Light: A lamp on the engineer's control stand which when lit indicates the dynamic brake is automatically protecting itself by reducing output.

Dynamic Braking: A method of retarding locomotive and train speed by using the locomotive's traction motors as generators.

Electric Parking Brake: An electrically-operated mechanical brake on a locomotive used to secure the locomotive against movement.

Electronic Air Brake (EAB): Air brake equipment mounted on the engineer's control stand that provides microprocessor electro-pneumatic control of the air brakes.

Emergency Brake Application: A rapid, uncontrolled reduction of brake pipe pressure, which produces 15% to 20% more braking effort than a full service application.

Emergency Fuel Cut-Off Switch: An electrical switch that when activated causes the diesel engine to shut down and stops the fuel pump motor from operating.

Engine Protective Device: Any device that protects a diesel engine from the damage that would occur if the diesel engine was permitted to continue operation.

Equalizing Reservoir: A small reservoir to hold compressed air. The air pressure in it is controlled by the setting of the regulating valve and is used to control brake pipe pressure.

Event Recorder: A device on a locomotive that records pertinent information about the operation of the locomotive.

Fuel Sight Glass: A device in the fuel system of a diesel engine through which fuel can be seen as it flows from the diesel engine back to the fuel tank.

Full Service Application: The term used to describe an application of the automatic brake to the point that the auxiliary reservoir and brake cylinder pressures are equalized.

Generator Field Switch: A switch on the engineer's control stand that must be turned on to permit the locomotive to develop output.

Ground Protective Relay: A device on a locomotive which causes the diesel engine to go to IDLE speed and prevents locomotive output when it detects an electrical ground.

Hand Brake: A mechanical device on a locomotive or car used to secure the locomotive or car against movement. A hand brake is also used to slow or stop the movement of a locomotive or car as necessary.

Helper: Distributed power or manned helper added to a train to assist movement.

Helper Link: A device designed to permit helper locomotives to be attached and detached from trains without making brake pipe connections between the rear car and the helper consist. This also enables the helper consist to detach from the train while still moving.

Independent Brake: A manually-operated device on the engineer's control stand used to apply and release the air brakes on the locomotive independently of the train's brakes.

Initial Brake Pipe Reduction: The first brake pipe reduction made when applying the train brakes. This brake pipe reduction must be at least 6 PSI.

Initial Terminal: The location where a train originates.

Isolation Switch (Engine Control Switch on GE locomotives): A generic term that refers to the electric switch normally located on the engine control panel and labeled Isolation Switch on certain EMD and Gen Set Locomotives or Engine Control Switch on GE Locomotives. The selective positioning of this switch, may limit the diesel engine's ability to respond to throttle or dynamic brake commands resulting in elimination of tractive effort, braking effort or both. For simplicity the term Isolation Switch will refer to both switch names.

Layshaft: A hand-operated device that can be used to stop or control the revolutions per minute of the diesel engine.

Light Locomotive: A locomotive consist without cars attached to it.

Local Train: (This definition applies to two-way telemetry requirements only) A train assigned to perform switching en route which operates with 4,000 trailing tons or less and travels between a point of origin and point of final destination for a distance that is no greater than that which can normally be operated by a single crew in a single tour-of-duty.

Locomotive Consist: A locomotive, or combination of locomotives properly coupled for multiple unit operation and operated from a single control.

Locomotive Operator Reading File: A computer-based library (found in the CCBB screen on the CSXT mainframe and on the CSX Gateway via My Work/Division/Locomotive Operator Reading File) of important information relative to locomotive operator responsibilities. Locomotive Operators must read and understand topics contained in their Division and System Locomotive Operator Reading Files.

Locomotive Output: The effort being developed by the locomotive, as expressed in amperes or kilopounds.

Main Reservoirs: Storage volumes on a locomotive for holding compressed air directly from the air compressor.

Mechanical Desk: An office located at the CSXT Operations Center in Jacksonville, Florida, through which advice and/or instructions relative to locomotives and locomotive conditions can or must be obtained.

Minimum Continuous Speed (MCS): The minimum speed at which a locomotive may operate continuously under heavy load conditions without damaging the traction motors; or, if the locomotive is self-protecting, without derating its output.

Minimum Reduction (First Service): The first position of the automatic brake valve that initiates a service application of 6 to 8 PSI.

MU Connections: The necessary air hose and electrical connections needed to permit a group of locomotives to be operated from a single control.

MU Shut Down Button: An electrical button-type switch located on the overhead console in locomotives with the “wide-body” cab configuration. The switch has two positions: RUN and STOP.

Off Air: When the air brake system on a car or cars is/are not being supplied with air pressurized to 60 PSI or more.

Overcharge: The term used to describe a situation in which the air brake equipment is charged to a higher pressure than is maintained by the brake pipe pressure.

PSI (Pounds per Square Inch): The measurement of air pressure within a reservoir, pipe, etc.

Penalty Application: An application of train brakes caused by the operation of a safety control device

Piston Travel: The distance, measured in inches that a brake cylinder piston moves when the air brake is applied.

Pneumatic Control Switch (PCS): An air-operated switch, activated by an emergency or penalty brake application, that drops the engine speed to idle on EMD locomotive or throttle notch 1 on GE locomotives.

Point of Equalization: When during air brake usage the air pressures in the brake pipe, brake cylinder, and auxiliary reservoir are equal. When the point of equalization is reached, additional brake cylinder pressure cannot be developed unless the air brakes are put into EMERGENCY.

Powered Axle: An axle of a locomotive through which output developed by the locomotive is transferred to the rail.

Power Knockdown Feature: A feature that automatically reduces the locomotive to ILDE after 20 seconds due to a penalty application of the brakes, operator initiated emergency, or train line initiated emergency application of the brakes.

Pressure Maintaining: A feature of the automatic brake that maintains brake pipe pressure against brake pipe leakage during a service application. It will not compensate for a leak in the equalizing reservoir.

Proper Authority: A train dispatcher, yardmaster, or company official in the Transportation Department.

Regulating Valve (Feed Valve): The valve through which equalizing reservoir pressure is adjusted.

Reverse Lever: A removable three-position lever (forward, center, reverse) on the engineer's control stand used to select the direction of travel of the locomotive. Placing the reverse lever in CENTER position prevents movement of the locomotive and conserves fuel.

Run-through Power: A locomotive consist that is not changed from the time it arrives at a terminal until it departs the same terminal. The consist may or may not remain attached to the same train.

Sanding the Rail: A term used to describe the act of putting sand on a rail in advance of an anticipated train movement to ensure greater adhesion when movement begins.

Selector Lever: The device on some control stands that the operator uses to change locomotive operation between power and dynamic braking.

Service Application: An application of air brakes through brake pipe reductions made at a service rate.

Shoving Platform: A rail car used to provide a means for employees to safely ride during shoving movements.

Solid Block (of cars): Two or more freight cars coupled together and added to, or removed from a train as a single unit.

Split Service Application: A split service application consists of making an initial brake pipe reduction and following it with further reductions as required.

Stretch Braking: The act of applying the train's brake while using the locomotive to pull the train.

Stringlining: Excessive lateral forces resulting in wheels lifting over the low rail or the rail rolling over.

Telemetry: The combination of a head-of-train device (HTD) on the controlling locomotive and an end-of-train device (EOT) mounted on the rear car of a train. Telemetry communicates train-related information to and from the controlling locomotive.

Throttle Modulation: The action of adjusting the throttle on notch at a time between idle and position 8 to control train speed without the application of air brakes.

Tractive Effort: The force exerted by the locomotive wheels to the rail for the movement of a train.

Transfer Train: A train with an engine and one or more cars that may pickup or setoff at an intermediate location(s) between a point of origin and destination not exceeding 20 miles.

Two-Way Telemetry: Telemetry whereby the locomotive engineer has the capability to cause an emergency air brake application at the rear car of the train.

Work Train: (This definition applies to two-way telemetry requirements only) A non-revenue service train of 4,000 trailing tons or less used for the administration and upkeep of the railroad.

Yard Line: An air supply line used in yards and other areas to charge car air brake systems for testing purposes. A yard line may also be used to supply air to a train or block of cars that have already been tested.

United States Hazardous Materials Instructions for Rail



CSX HM-1 Effective December 1, 2015
Public Safety Coordination Center
1-800-232-0144

The ***United States Hazardous Materials Instructions for Rail*** should be interpreted and used as general guidelines. For further information, appropriate regulations must be consulted.

The Association of American Railroads (AAR), the Bureau of Explosives (BOE), and the AAR Hazardous Materials Committee are not responsible for any omissions or errors found in the ***United States Hazardous Materials Instructions for Rail***.

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SECTION 1

6000 INTRODUCTION

6001 Purpose

One of the rail industry's primary focuses continues to be the safe transportation of hazardous materials. Rail employees interact regularly with employees of other railroads. If subscribing railroads implement and consistently apply a standard set of rules and regulations, we will significantly enhance both our employees' safety and the safety of the communities through which we operate. Those railroads involved in developing the ***United States Hazardous Materials Instructions for Rail*** therefore worked together to create these instructions for employees who transport hazardous materials.

Note: These general guidelines may be appropriately modified by an individual railroad to be consistent with its unique operating rules and practices.

6002 Policy

To handle hazardous material shipments or incidents safely and efficiently, without delay, and in accord with local, state, and federal regulations, it is imperative that you familiarize yourself with the ***United States Hazardous Materials Instructions for Rail***, in addition to other operating rules. These instructions provide guidance on how to perform your duties so that both you and the company will comply with Department of Transportation (DOT) regulations.

Transportation employees who inspect or transport hazardous material by rail must have a copy of and comply with the ***United States Hazardous Materials Instructions for Rail***.

Employees who transport hazardous materials must also have a copy of the current ***Emergency Response Guidebook*** (ERG) readily accessible while on duty.

The company will provide appropriate training and testing to each employee who directly affects hazardous material transportation safety.

Always keep in mind that the company requires you to comply fully with the law. Compliance with the letter and spirit of our obligations is good corporate citizenship and is basic to achieving quality in all areas of our operations. Each of us has a duty to see that the railroad's actions are consistent with the highest legal and ethical standards.

6003 Questions

For questions about the ***United States Hazardous Materials Instructions for Rail***, contact your immediate supervisor.

6004 Print Date/Version

Effective July 01, 2015

6005 Regulatory Updates, Additions and Corrections

Requests should be submitted to the Association of American Railroads Hazardous Materials Committee for review. If approved, changes will occur in the next publication of the ***United States Hazardous Materials Instructions for Rail***.

6050 GENERAL INFORMATION

6051 Definition of Hazardous Materials

- a. Hazardous materials are defined as "a substance or material which the Secretary of Transportation has determined to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce."
- b. Hazardous materials are classified according to their chemical and/or physical properties. There are nine numeric hazard classes, some of which are divided into divisions, and two worded

hazard classes. A hazardous material is assigned to only one hazard class, even if it meets the definition of more than one hazard class. Table 1 lists the hazard classes and divisions.

- c. The term “hazardous material” includes hazardous substances, hazardous wastes, elevated temperature materials (HOT or MOLTEN), and marine pollutants.

Table 1. Hazard Classes and Divisions

Numbered Hazard Classes and Divisions	
1 - Explosives	
1.1 – Explosive with mass explosion hazard	
1.2 – Explosive with projection hazard	
1.3 – Explosive with predominantly fire hazard	
1.4 – Explosive with no significant blast hazard	
1.5 – Very insensitive explosive; blasting agent	
1.6 – Extremely insensitive detonating substance	
2 - Gases	
2.1 – Flammable gas	
2.2 – Nonflammable, nonpoisonous (nontoxic) compressed gas	
2.3 – Gas poisonous (toxic) by inhalation	
3 Flammable Liquids	
4 - Flammable Solids and Reactive Solids/Liquids	
4.1 – Flammable solid	
4.2 – Spontaneously combustible material	
4.3 – Dangerous when wet material	
5 - Oxidizers and Organic Peroxides	
5.1 – Oxidizer	
5.2 – Organic peroxide	
6 Poisonous (Toxic) Materials and Infectious Substances	
6.1 – Poisonous (toxic) material	
6.2 – Infectious substance	
7 Radioactive Materials	
8 - Corrosive Materials	
9 - Miscellaneous Hazardous Materials	
Worded Hazard Classes	
Combustible Liquids	<i>(regulated in bulk packaging; also regulated in non-bulk packaging if a hazardous substance, hazardous waste or marine pollutant)</i>
ORM-D (Other Regulated Materials – D)	<i>– (exempt from placarding and labeling in rail transportation, but subject to packaging, marking, and possibly shipping paper requirements)</i>

6052 General DOT Requirement

- a. No person may offer, accept, or transport a hazardous material in commerce unless that material is properly classed, described, packaged, marked, labeled, and placarded and is in proper condition for transportation according to DOT and International regulations.
- b. No person may transport a hazardous material in commerce unless the hazardous material is handled and transported according to DOT regulations.

Note: Railroads publish information on restrictions which they impose against the acceptance, delivery, or transportation of hazardous materials. Refer to Restriction of Individual Parties and Intermodal Restrictions for Hazardous Materials found in the current issue of Tariff No. BOE-6000.

6053 Expediting Hazardous Material Shipments

Loaded hazardous material shipments and both loaded and residue/empty time-sensitive shipments (see Table 2) must be forwarded either:

- a. Within 48 hours (excluding Saturdays, Sundays, and holidays) after accepting them at the shipper's facility or receiving them in any yard, intermediate (transfer) station, or interchange point,
or
- b. When only bi-weekly or weekly service is performed, on the first available train toward the destination.

Exception: The 48-hour requirement does not apply to shipments that are constructively placed or set out for repairs.

Table 2. Time-Sensitive Shipments

20 Day
(1) Ethylene, refrigerated liquid – UN 1038
(2) Hydrogen, refrigerated liquid – UN 1966
(3) Chloroprene, stabilized – UN 1991
(4) Flammable Liquid, N.O.S. (Methyl Methacrylate Monomer, uninhibited) – UN 1993
(5) Hydrogen Chloride, refrigerated liquid – UN 2186
(6) Vinyl Fluoride, stabilized – UN 1860
30 Day
(1) Styrene Monomer, stabilized – UN 2055

6054 Exceptions for U.S. Government Material

- a. Department of Energy (DOE) and Department of Defense (DOD) shipments made for the purpose of national security and accompanied by escorts (personnel specifically designated by or under the authority of DOD or DOE) are not subject to DOT regulations or to the instructions in this book.
- b. Escorts must travel in a separate transport vehicle from the rail car carrying the hazardous materials.
- c. The escorts must have, in their possession, a document certifying that the shipment is for the purpose of national security.

6055 International Shipments

International shipments of hazardous materials (including shipments to and from Mexico and Canada), moving with proper International documents and International placards, may be transported in the United States (U.S.):

- a. From a U.S. port of entry to their U.S. destination,
- b. When moving through the U.S. to a foreign destination,
- c. From a U.S. point of origin to the International port of entry, when the cars are either:
 - (1) Returning residue shipments,
or
 - (2) Regulated Internationally but not in the U.S.

SECTION 2

6100 REQUIRED DOCUMENTATION

6101 General Requirements

No person may accept a hazardous material for shipment by rail transportation or transport a hazardous material in a train unless a member of the crew has each of the following documents:

- a. Acceptable shipping papers,
- b. Acceptable emergency response information,
- c. A paper document showing the current position of the hazardous material shipment in the train.

Note: The purpose of this documentation is to provide railroad personnel and emergency response personnel with accurate information about the hazardous materials.

Therefore, keep all current hazardous material documents neat and orderly and ensure that they are available in case of an emergency or for inspection. Properly discard superseded documents to eliminate the possibility of confusing or inconsistent information.

6102 Acceptable Shipping Papers

Any one of the following documents is an acceptable shipping paper for hazardous material shipments, as long as it includes the required shipping description entries (see Rule 6106 of this section), is legible, and is printed (manually or mechanically in English).

- a. **Railroad-produced documents** – for example, train consists, train lists, wheel reports, waybills, industry work orders, or other similar documents.
- b. **Customer-produced documents** – for example, bills of lading, or switch lists.
- c. **A connecting carrier's documents.**
- d. **A hand-printed document** (printed, not cursive letters) – for example, radio waybills.
- e. **A hazardous waste manifest.**

6103 Acceptable Emergency Response Information

The **Emergency Response Guidebook** (ERG) contains acceptable emergency response information. The ERG may be supplemented by emergency response information printed as part of the train list/consist or provided by the customer – for example, a Safety Data Sheet (SDS).

6104 Document Indicating Position in Train

Before moving hazardous material shipments in a train, a member of the crew must have a paper document that shows the current position in the train of each hazardous material shipment (loaded and residue/empty).

When making pickups or setouts, update the document before proceeding. The train crew must update the document by handwriting on it or by appending or attaching another document to it.

6105 Checking for Shipping Papers

Make sure that a member of the crew has a paper copy of acceptable shipping papers, with the required entries, for each hazardous material when:

- a. Accepting hazardous material shipments at a customer's facility, interchange point, or other location,
- b. Moving hazardous material shipments in a train,
- c. Delivering hazardous material shipments to a customer's facility, interchange point, or other setout point,

- d. Switching hazardous material shipments outside a yard.

Note: Shipping papers are not required in the switch crew's possession when moving hazardous material shipments within a yard or at a customer's facility.

Exception: Although they may remain placarded and marked, residue/empty packages of "Elevated Temperature Material" and Class 9 hazardous substances that are not hazardous wastes or marine pollutants do not require hazardous material shipping papers and emergency response information.

6106 Reviewing Shipping Paper Entries

Review the shipping description entries for each hazardous material on the shipping papers and make sure that the following entries (a-g under this item) are present. (Figure 1 shows two formats for displaying the shipping description entries.)

Vertical Format

GATX 12345

^(a) 1T/C ^(b)

UN1830 ^(c)

SULFURIC ACID ^(d)

8 ^(e)

PG II ^(f)

RQ (SULFURIC ACID) ^(h3)

EMERGENCY CONTACT: 800-424-9300 ^(g)

HAZMAT STCC = 4930040 ^(h11)

Horizontal Format

UTLX 12345 ^(a)

1T/C ^(b) // UN1017 ^(c) // CHLORINE ^(d) // 2.3 (5.1, 8) ^(e) // RQ (CHLORINE) ^(h3) // POISON-INHALATION HAZARD ^(h6) // ZONE B ^(h7) // MARINE POLLUTANT (CHLORINE) ^(h4) // EMERGENCY CONTACT: 800-424-9300 ^(g) // HAZMAT STCC = 4920523 ^(h11)

Items ^(a) through ^(g) are required entries, and items ^(c) through ^(f) are referred to as the basic description. Item ^(h) refers to additional entries that may appear. Typically, items ^(b) through ^(f) are in the sequences shown; however, certain items (technical name and subsidiary hazard class) may appear in parentheses between items ^(b) through ^(f).

Figure 1. Shipping Description Entries

a. Reporting marks (initials) and number

The shipping paper for a rail car, freight container, transport vehicle, or portable tank must include the reporting mark and number **only** when the reporting mark and number are displayed on the rail car, freight container, transport vehicle, or portable tank.

b. Total Quantity Notation

- (1) For empty packaging, bulk packaging, or cylinders of Class 2 materials, some indication of the total quantity must be shown (certain abbreviations are acceptable). For example, "1 T/C" (1 tank car), "1 C/L" (1 car load), or "10 CYL" (10 cylinders).
- (2) For **non-bulk packaging**, the total quantity is given by both:
 - (a) Weight or volume (including the unit of measure); for example, "100 LBS", "55 GAL", "5 KG", or "208 L"; and
 - (b) Number and type of packages; for example "12 DRUMS", "12 UN 1A1", "15 4G", or "2 UN 3H1JERRICAN".
- (3) For Class 1 materials, the quantity must be the net explosive mass.

c. Identification Number

A 4-digit number preceded by "UN", "NA," or "ID" assigned to a hazardous material.

d. Proper Shipping Name

- (1) The proper shipping name of the hazardous material may be one or more words, such as "CHLORINE" or "SULFURIC ACID." The proper shipping name may include a number that indicates the concentration of the material.
- (2) When a N.O.S. (Not Otherwise Specified) shipping name appears, the technical name of the product may appear in parentheses immediately after the N.O.S. shipping name, such as "CORROSIVE LIQUID, N.O.S. (CAPRYL CHLORIDE)."
- (3) Residue/empty shipments in tank cars must include the phrase "RESIDUE: LAST CONTAINED..." in association with the basic description, including the proper shipping name.
- (4) For waste shipments, the word "WASTE" will precede or be part of the proper shipping name of the material.

e. Hazard Class/Division – Numeric or Worded

Reference: For further information on hazard classes/divisions, see the definition in the Glossary and the list of hazard classes/divisions in Rule 6051 Table 1.

- (1) For certain hazardous materials, the subsidiary hazard class(es), will appear in parenthesis after the primary hazard class. For example, Ethylene Oxide is listed as "2.3 (2.1)", and Chlorine is listed as "2.3 (5.1, 8)".
- (2) The hazard class need not be repeated for "COMBUSTIBLE LIQUID, N.O.S." shipments.
- (3) Classes 1.1, 1.2, 1.3, 1.4, 1.5, and 1.6 may show a compatibility group letter after the hazard class (for example, "1.1A"). The letter has no significance in rail transportation.

f. Packing Group

The packing group must appear on the shipping papers in Roman numerals ("I", "II", or "III"). The packing group may be preceded by the letters "PG" ("PG I", "PG II", or "PG III").

Exceptions:

Hazard Classes 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.1, 2.2, 2.3, 4.1 (self-reactive liquids or solids, types B-F), 5.2, 6.2, 7, and ORM-D do not require the packing group notation.

In addition, the following identification numbers from Classes 3, 4.2, 4.3, 5.1, 8, and 9 do not require the packing group notation:

NA1365	UN3121	UN3269	UN3343	UN3477
UN2426	UN3127	UN3316	UN3363	
UN2990	UN3166	UN3334	UN3473	
UN3072	UN3171	UN3335	UN3476	

g. Emergency Response Telephone Number

Shipping papers for hazardous materials must show a 24-hour emergency response telephone number, including the area code, for use in the event of an emergency involving the hazardous materials. For telephone numbers outside the United States, the international access code or the “+” (plus) sign, country code, and city code, as appropriate, must be included.

Note: In some cases, a shipper name or contract number may be shown before or after the emergency response telephone number.

Exceptions: Emergency response telephone numbers are not required when the hazardous material is shown as “LIMITED QUANTITY”, “LTD QTY”, or its proper shipping name is:

- (1) Battery powered – equipment or vehicle
- (2) Carbon dioxide, solid or dry ice
- (3) Castor – bean, meal, flake, or pomace
- (4) Consumer commodity
- (5) Engines, internal combustion
- (6) Fish – meal or scrap, stabilized
- (7) Fumigated unit
- (8) Krill meal, PG III
- (9) Refrigerating machine
- (10) Vehicle, flammable gas powered or vehicle, flammable liquid powered.
- (11) Wheelchair, electric

h. Additional Entries

Some hazardous material shipping descriptions may contain one or more of these entries:

- (1) “RESIDUE: LAST CONTAINED ...” (for packages emptied to the maximum extent possible)
- (2) “HOT” notation added before a proper shipping name for elevated temperature materials
- (3) “RQ” for Reportable Quantity notation of a hazardous substance
- (4) “MARINE POLLUTANT” notation
- (5) “POISON” or “TOXIC” notation
- (6) “POISON (TOXIC)-INHALATION HAZARD (PIH or TIH)” or “INHALATION HAZARD (IH)” notation
- (7) Hazard Zone notation (“ZONE A,” “ZONE B,” “ZONE C,” or “ZONE D”)
- (8) “LIMITED QUANTITY” or “LTD QTY” notation

- (9) FRA Movement Approval (for example, "FRA 0109123"), DOT Special Permit (for example, "DOT- SP 9271"), Special Approval Number (for example, "SA 920403"), or Competent Authority Number (for example, "CA 9701001")
- (10) DOT-113 notation ("DOT-113, DO NOT HUMP OR CUT OFF IN MOTION")
- (11) Hazardous Materials Response Code (Hazmat STCC "48xxxxx" or "49xxxxx")
- (12) Certain shipments described using Canadian regulations may contain both an Emergency Response Assistance Plan number and its activation telephone number (e.g., "ERP-2-1008 (800-555- 5555) // SPECIAL COMMODITY")
- (13) Box of asterisks with or without wording (not required by DOT, but may appear on railroad-produced documents)
- (14) Shipper's Certification
- (15) "OIL" notation
- (16) Additional radioactive material entries
- (17) Name and address of the place of business in Canada of the consignor
- (18) Additional hazardous waste shipping description entries (see Section 2, Rule 6111,a)
- (19) EX number for air bag modules classified as Class 9.
Note: Recycled air bag modules do not require the EX number entry, but must have the word "recycled" after the basic description.
- (20) For International shipments, the notation "DANGEROUS GOODS IN EXCEPTED QUANTITIES" as appropriate
- (21) "NON-ODORIZED" or "NOT-ODORIZED" notation for non-odorized liquefied petroleum gas

6107 Handling Situations when Shipping Papers or Required Entries Are Not Available

When the appropriate shipping paper is not present or when all required entries on the shipping paper provided are not present:

- a. Do not move the car until the appropriate shipping paper or the required entries on the shipping paper are present.
- b. Take one of these three actions:
 - (1) Correct the existing document. Contact the customer or your supervisor, request the entries required to complete the shipping description, and legibly print those entries in the appropriate sequence (see Section 2, Rule 6106),
or
 - (2) Obtain the appropriate shipping paper from the shipper, your supervisor, or other appropriate person,
or
 - (3) Use a radio waybill:
 - (a) Contact your supervisor or dispatcher and request the appropriate entries for a radio waybill (see Figure 2, Example of Radio Waybill). The supervisor or dispatcher will provide the requested entries via radio or telephone to you.
 - (b) Complete the radio waybill using the information the supervisor or dispatcher provided.

Note: If a radio waybill form is not available, legibly print the required hazardous material information on a sheet of paper, including the car's initials and number (see Section 2, Rule 6106).

- (c) Keep the radio waybill with the other shipping documents until either reaching the final destination or receiving another shipping paper with the appropriate entries.
- (d) For each radio waybill issued, add the car initial and number and its position on the position-in-train document.

6108 Checking for Emergency Response Information

- a. When accepting and transporting hazardous material shipments, make sure a copy of the emergency response information for each shipment (see Section 2, Rule 6103) is available.
- b. If emergency response information is **not** available, do **not** accept or transport the car.

6109 Checking for Position-in-Train Document

- a. When transporting hazardous material shipments in a train, make sure a member of the crew has a paper document indicating the current position in train of each hazardous material shipment.
- b. If the paper document indicating the current position in train of each hazardous material is **not** available:
 - (1) Update the paper documents already in your possession,
or
 - (2) Create a hand-printed list showing the position in train of each hazardous material shipment.

Note: The list must show the reporting marks and number for each hazardous material shipment in the train and its actual position in the train.

Hazardous Material Radio Waybill
NOTE: Print legibly
HAZARDOUS MATERIAL

1. Train Number _____
2. Number of Cars from Head End _____
3. Car Initial & No. _____
4. Total Quantity Notation (Circle One)
Tank Car or Car Load or Residue: Last Contained or Other
If Other, specify weight or volume _____
5. Number of Packages or Car(s) _____
*** Description of Articles ***
6. Identification No. (UN/NA) _____
7. Proper Shipping Name _____

8. Technical Name (_____)
9. Primary Hazard Class _____
Subsidiary Hazard Class(es) (_____)
10. Packing Group (PG): I II III (Circle One)
11. Reportable Quantity (RQ): (_____)
***Additional Information ***
12. Poison/Toxic Inhalation Hazard :
Zone A Zone B Zone C Zone D (Circle One)
13. Marine Pollutant (_____)
14. DOT Special Permit Number(s) :

15. Additional Information _____

16. ERP Plan No. _____
17. ERP Telephone No (_____)
(Canadian Shipments Only)
18. Emergency Contact (_____)
() _____

Completed Date: ____/____/____ Time: ____:____
 MO/DAY/YR 24-HR MIN

Figure 2. Example of Radio Waybill

6110 Handling Shipping Papers Received from a Customer

When picking up a hazardous material shipment from the customer and the customer provides the original shipping papers:

- a. Check for appropriate hazardous material entries.
- b. For loaded shipments, make sure that the shipper's certification and signature (signature by hand or mechanical means) are on the shipping papers received from the customer.

6111 Handling Hazardous Waste Shipping Papers and Manifests

- a. The shipping paper for a hazardous waste shipment must have the following entries in addition to the entries required for other hazardous material shipments:
 - (1) Proper shipping description,
 - (2) Name, address, and telephone number of the hazardous waste generator,
 - (3) Name and address of the hazardous waste disposal facility,
 - (4) Name of transporter,
 - (5) Waste manifest number,
 - (6) Special handling instructions.
- b. When accepting a hazardous waste shipment **with** railroad generated shipping papers for the shipment which contains the hazardous waste manifest entries [(a) above], pick up the car containing hazardous waste without a copy of the hazardous waste manifest:
- c. When accepting a hazardous waste shipment **without** railroad shipping papers for the shipment, check to see that the hazardous waste manifest contains both the hazardous materials shipping description entries (see Section 2, Rule 6106) and the hazardous waste manifest entries [(a) above].

If all entries are present on the hazardous waste manifest, pick up the car containing hazardous waste with the copy of the hazardous waste manifest.

6112 Handling Requests for Shipping Papers or Emergency Response Information

When receiving a request for shipping papers or emergency response information from a railroad employee, regulatory enforcement officer, or emergency response personnel in an emergency:

- a. Immediately provide the information on the shipping papers for the shipment and provide an extra copy of the train list/consist, when available,

Note: Retain any waybills and a copy of the train list/consist until you can deliver them to the first railroad manager on the scene.

and

- b. Immediately provide a copy of the emergency response information provided with the shipment.

SECTION 3

6150 INSPECTION

6151 General Requirements

- a. To determine that they are secure and in acceptable condition for transportation, all loaded and residue/empty hazardous material shipments must be inspected at these points:
 - (1) Before accepting them from the shipper,
 - (2) When receiving them in interchange,
Note: Run-through trains received in interchange may continue to the next inspection point before being inspected.
 - (3) When placing them in a train,
 - (4) At other points where an inspection is required (e.g., 1000 mile inspection).
- b. Accept or transport only those hazardous material shipments that conform to these instructions.

6152 Inspection Procedures

In addition to inspecting rail cars for compliance with train make up, adequate buffer cars, shiftable loads and temperature control equipment (see Figure 13, Position In Train Chart, Rule 6350) as well as mechanical requirements, visually inspect each loaded or residue/empty hazardous material shipment (including flat cars transporting placarded or marked trailers or containers) and adjacent rail cars, **from ground level** (do not climb on or go under the car) and check for:

- Leakage,
- Required placards and markings, including stenciling, car certificates, and qualification dates (See Rule 6200 for details),
- Secure fastening of closures,
- Signs of tampering, such as suspicious items or items that do not belong, the presence of an "Improvised Explosive Device" (IED), and other signs that the security of the car may have been compromised.

Note: Where an indication of tampering or a foreign object is found, take the following actions:

- (1) Do not accept or move the rail car.
- (2) Immediately move yourself and others to a safe location away from the rail car before using radios and cell phones to make notifications.
- (3) For cars at a customer's facility, immediately contact local plant personnel. If local plant personnel are not available or cannot explain what you see, immediately contact the train dispatcher (follow your specific railroad instructions).
- (4) For cars on interchange tracks or in the yard, immediately contact the yardmaster or train dispatcher (follow your specific railroad instructions).

a. Inspecting All Car Types (**from ground level**)

- (1) Without climbing on the car, make sure that the hazardous material shipment is not leaking.
 - (a) Look for leaking contents – drips, wetness, or material on the car or on the ground.
 - (b) Look for a vapor cloud.
 - (c) Listen for hissing sounds of the contents escaping.

Note: If you find a hazardous material shipment leaking, follow the instructions in Rule 6153 of this section and in Rule 6505 (Emergency Response), item 5.

- (2) Make sure placards and markings are appropriate for the shipment and displayed correctly (see Rule 6200, Placards and Markings).
- (3) Before accepting a hazardous material shipment from the shipper, make sure that:
 - (a) All customer loading and unloading lines are disconnected,
 - (b) Derails, chocks, and blue flags are removed,
 - (c) All platforms are raised or in the clear.

b. Inspecting Placarded/Marked Tank Cars (from ground level)

Check placarded tank cars or tank cars marked with an identification number to see that:

- (1) Protective housing covers are closed,
- (2) Manway cover swing bolts are up and in place,
- (3) All valves and fittings appear to be closed and secure,
- (4) Visible plugs or caps (including bottom outlet caps) or other fittings are securely in place,
Note: When heater coil caps are provided, they must be applied.
- (5) “Double shelf couplers” and roller bearings are present.

c. Inspecting Placarded/Marked Gondola Cars (from ground level)

- (1) Look for loosely fastened gondola covers.
- (2) Make sure the cover or tie downs do not foul any safety appliances.

d. Inspecting Placarded/Marked Hopper Cars (from ground level)

Check that discharge gates are closed and secured.

e. Inspecting Shipments Placarded EXPLOSIVES 1.1 or 1.2 (from ground level)

- (1) In addition to the other inspection requirements in this section, for shipments placarded EXPLOSIVES 1.1 and 1.2:
 - (d) Look for indications of damage to the contents.
 - (e) Make sure that completed “car certificates” (see Figure 3, Car Certificates) are displayed on both sides of the rail car:
 - (i) Car certificates must be removed after the rail car, trailer, or container is unloaded.
 - (ii) Car certificates are either 18 cm (7.1 in) by 18 cm (7.1 in) or 15 cm (5.9 in) by 20 cm (7.9 in) in size.
- (2) Do not accept or transport the car until all damage has been corrected and car certificates are in place.

Railroad
No 1 Station 20 _____ hereby certify that I have this day personally examined Car Number _____ and that the car is in condition for service and complies with the FRA Freight Car Safety Standards (49 CFR Part 215) and with the requirements for freight cars used to transport explosives prescribed by the DOT Hazardous Materials Regulations (49 CFR Part 174). _____ Qualified Person Designated Under 49 CFR 215.11 No 2 Station 20 I have this day personally examined the above car and hereby certify that the explosives in or on this car, or in or on vehicles or in containers have been loaded and braced; that placards have been applied, according to the regulations prescribed by the Department of Transportation; and that the doors of cars so equipped fit or have been stripped so that sparks cannot enter. _____ Shipper or his authorized agent _____ Qualified Person Designated Under 49 CFR 215.11 No 3 Station 20 _____ I hereby certify that I have this day personally supervised the loading of the vehicles or containers on and their securement to the above car. _____ Shipper or railway employee inspecting loading and securement Note 1: A shipper must decline to use a car not in proper condition. Note 2: All certificates, where applicable, must be signed.

Figure 3. Car Certificates

f. Inspecting Placarded/Marked Intermodal Shipments (from ground level)

In addition to completing other inspection requirements in this section:

- (1) Make sure that an intermodal tank container of hazardous material is not transported with a container above or below the tank.
- (2) Make sure that placards are fully visible when containers are loaded in a well car.
- (3) Make sure that intermodal tank containers are placed so that the bottom outlet valves are pointed toward the ends of the well or platform.

6153 Handling Defects

When a hazardous material shipment does not appear to be prepared for transportation:

- a. Do not accept or pull the hazardous material shipment or allow it to continue in transportation.
- b. Notify the customer, train dispatcher, yardmaster, or your immediate supervisor, as appropriate, and explain the problem.

6200 PLACARDS AND MARKINGS

6201 General Requirement

Hazardous material shipments, whether loaded or containing a residue, must **not** be accepted for transportation or transported unless they are properly placarded and marked. Not all hazardous material shipments require placards.

6202 Placard Requirements

Each bulk packaging, freight container, transport vehicle, or rail car containing hazardous material must be placarded on each side and each end in accordance with the instructions below.

Note: Unless the shipping papers indicate that the shipment is a limited quantity, most international shipments (including Canada and Mexico) of hazardous materials require placards.

Placard - a sign measuring at least 250 mm (9.8 in) by 250 mm (9.8 in) square-on-point, communicating a hazard by symbol, color, hazard class/division number and possibly text (see Figure 4 for pictures of placards). Text indicating the hazard is not required on placards other than the Class 7 and DANGEROUS placards; however, for shipments originating internationally, text may not appear on a Class 7 placard. The hazard class text does not have to be in English, except for the DANGEROUS placard, as long as the size, color, hazard class, and symbol are correct.

- a. Placards are required when transporting **any quantity** (bulk or non-bulk) of these hazard classes:
 - 1.1 Explosive with mass explosion hazard
 - 1.2 Explosive with projection hazard
 - 1.3 Explosive with predominantly fire hazard
 - 2.3 Gas poisonous (toxic) by inhalation
 - 4.3 Dangerous when wet material
 - 5.2 Organic peroxide, Type B, liquid or solid, temperature controlled
 - 6.1 Material poisonous (toxic) by inhalation
 7. Radioactive Yellow III label or exclusive use shipments of low specific activity (LSA) materials and surface contaminated objects
- b. Placards are required when transporting total weight of **1001 lbs (454 kg) or more** (bulk or non-bulk) of these hazard classes:

Note: Placards may be displayed for a total weight less than 1001 lbs of these materials, as long as they are appropriate for the shipment.

- 1.4 Explosive with no significant blast hazard

Note: Placards are not required for Class 1.4S materials.

- 1.5 Very insensitive explosive; blasting agents
- 1.6 Extremely insensitive detonating substances
- 2.1 Flammable gas
- 2.2 Nonflammable, nonpoisonous (nontoxic) compressed gas
3. Flammable liquid
- 4.1 Flammable solid

4.2 Spontaneously combustible material

5.1 Oxidizer

5.2 Organic peroxide, other than “organic peroxide, Type B, liquid or solid, temperature controlled” in 2a above

6.1 Poisonous (toxic) material, (other than material poisonous (toxic) by inhalation)

Note: For U.S. transportation of Class 6.1 PG III materials, a PG III placard may be used in place of a POISON (TOXIC) placard.

8 Corrosive material

9 Miscellaneous hazardous material

Exception: For U.S. transportation only, Class 9 placards are not required. However, bulk shipments of Class 9 materials transported in the US must be marked with the identification number (see Rule 6204).

Combustible Liquids [see item c (7) below for handling combustible liquids in non-bulk packages]

Mixed hazardous materials in this item (see item f below)

c. Placards are not required for:

- (1) Hazardous material shipments with less than 1001 lbs (454 kg) total weight, provided the hazard classes are included in item b above
- (2) ORM-D (Other Regulated Materials – D)
- (3) Class 6.2 (Infectious Substances)
- (4) Class 9 (US/Canadian transportation) materials that display the identification number
- (5) Limited Quantity (LTD QTY) shipments when identified as such on shipping papers
- (6) Cryogenic atmospheric gases, other than Oxygen (for example, Argon)
- (7) Combustible liquids in non-bulk packaging (i.e., drums), usually found in intermodal shipments, unless the material is a hazardous substance or hazardous waste
- (8) Rail cars and intermodal tank containers of hazardous materials which have been cleaned and purged
- (9) Shipments listed as Radioactive White I and Radioactive Yellow II on shipping papers
- (10) Class 1.4S
- (11) Shipments of molten sulfur moving to or from Canada provided the letters and numerals “UN2448”, or the numerals “2448” and the words “MOLTEN SULFUR” (or “MOLTEN SULPHUR”) appear on each side of the tank car

d. Placards may be displayed for hazardous materials, even when not required, as long as the placard is appropriate for the contents of the shipment. If displayed, then all instructions for that placard apply.

e. Certain hazard classes require the display of the primary placard on a white square background, including (see Figure 4, Placard Chart): *(When required to be affixed to the rail car.)*

- (1) Class 1.1 or 1.2 explosives
- (2) Class 2.3 or 6.1 poison/toxic inhalation hazard zone A material
- (3) Class 2.1 flammable gases loaded in DOT-113 tank cars, including tank cars containing only a residue of the material.

- f. The DANGEROUS placard may be used instead of separate placards for each hazard class when a rail car, trailer, or container is loaded with non-bulk packages of two or more hazard classes from Rule 6202, b.

Note: When 2,205 lbs (1,000 kg) or more of one hazard class is loaded at one loading facility, the placards for that hazard class as specified in Rule 6202, b of this section must also be applied.

- g. Some shipments of hazardous materials require subsidiary placards that represent secondary hazards. Subsidiary placards must not display a 4-digit identification number, but will display the hazard class or division number.

Note: Subsidiary placards must be displayed when the subsidiary hazard class is 2.3, 4.3, or 6.1 with the notation "POISON-INHALATION HAZARD" or "TOXIC-INHALATION HAZARD" present on the shipping papers.

- h. For residue/empty hazardous materials shipments, the rail car, trailer, or container must remain placarded in the same manner as the loaded shipment, unless the packaging:
- (1) Has been cleaned of residue, or
 - (2) Has been purged of vapor to remove any hazard, or
 - (3) Has been refilled, with a material requiring different placards or no placards, to such an extent that any residue remaining in the packaging is no longer hazardous,
 - (4) Contains a residue of an elevated temperature material. These shipments may remain placarded in the same manner as when it contained a greater quantity of the material even though the material no longer meets the definition for an elevated temperature material.
 - (5) Contains a residue of a hazardous substance, Class 9 that does not meet the definition of another hazard class and is not a hazardous waste or marine pollutant. These shipments may remain marked, labeled, and/or placarded in the same manner as when it contained a greater quantity of the material even though the material no longer meets the definition for a hazardous substance.

6203 Inspecting for Placards

- a. Make sure that all required placards are:
- (1) Consistent with the shipping paper information,
 - (2) On both sides and both ends of the shipment,
 - (3) In placard holders or securely attached to the rail car, trailer, or container,
 - (4) Not damaged, faded - color should be similar to the color printed in this document (see Figure 4, Placard Chart), or obscured by dirt or car part,
 - (5) Oriented horizontally, so you can read them from left to right,
 - (6) Readily visible from the direction they face, except for placards on the ends of trailers and containers in or on a rail car.

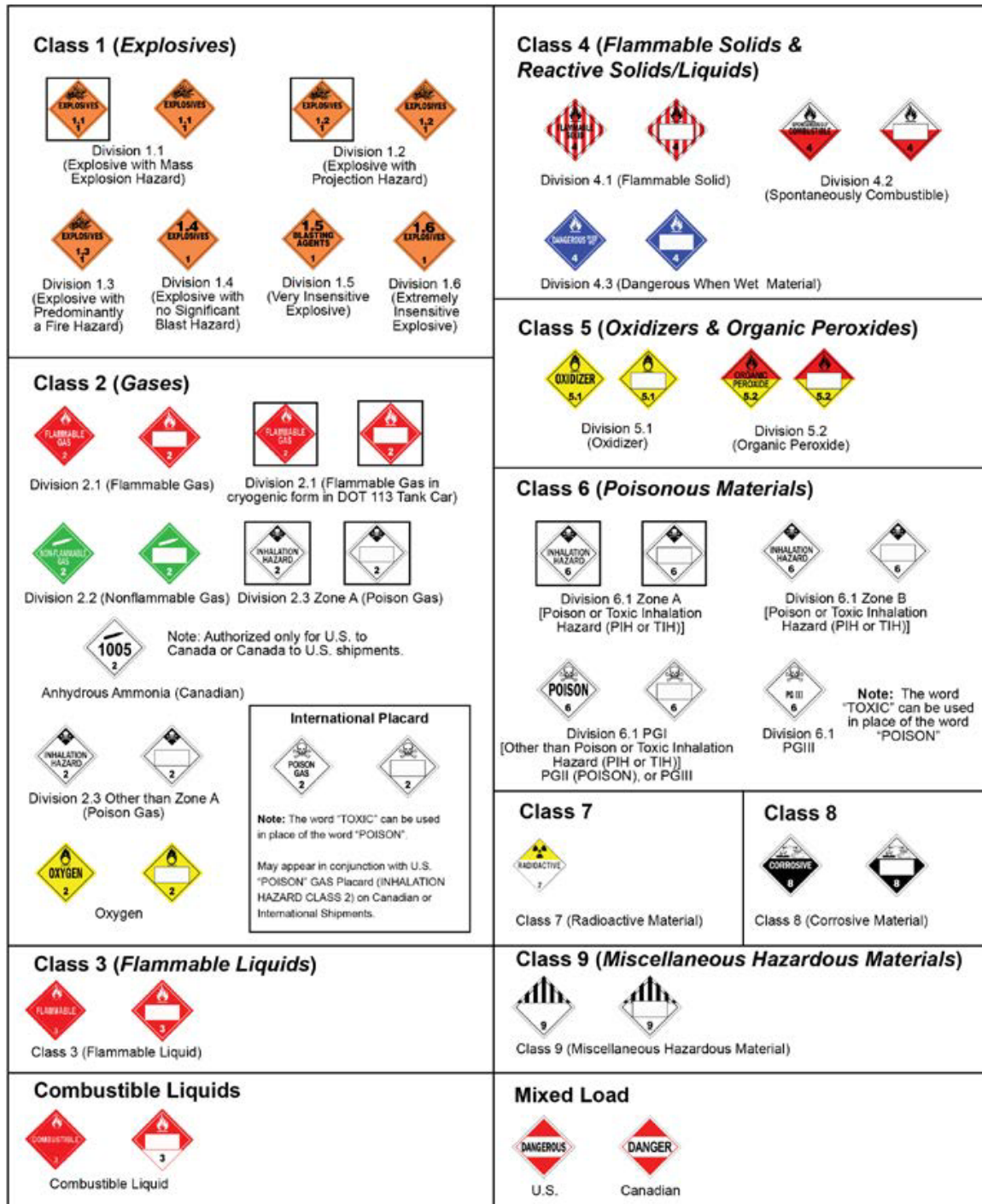


Figure 4. Placards for Hazardous Materials by Hazard Class

Text indicating the hazard is not required on placards other than the Class 7 and DANGEROUS placards; however, for shipments originating internationally, text may not appear on a Class 7 placard. The hazard class text does not have to be in English, except for the DANGEROUS placard, as long as the size, color, hazard class, and symbol are correct.

- b. When **picking up** a hazardous material shipment at the customer's facility or siding, and a placard is not correct, does not meet the standards above, or is missing:
 - (1) Notify the customer, train dispatcher, yardmaster, or your supervisor, as appropriate.
 - (2) Do not accept the hazardous material shipment until corrections have been made.
- c. When a placard does not meet the standards above or is discovered missing **en route**, notify the train dispatcher, yardmaster, or your supervisor, as appropriate. Corrections must be made at the next inspection point.

6204 Marking Requirements and Inspecting for Markings

Marking - a descriptive commodity name, identification number, caution (such as inhalation hazard, elevated temperature material, marine pollutant, fumigant, non-odorized, sour crude oil), or tank car specification and qualification dates stencils displayed on hazardous material shipments.

Make sure the markings above are displayed on bulk packages as follows:

6205 Identification Number Markings

- (1) Identification number markings must appear on both sides and both ends either on the placard or in close proximity to the placard, when a placard is required:
 - (a) Bulk packages of hazardous materials (including Class 9 when no placard is required).

Note: Identification number markings are not required on the ends of multi-compartmented tank cars transporting more than one hazardous material having different identification numbers.

 - (b) Rail cars, trailers, and containers when 8,820 lbs (4000 kg) or more of non-bulk packages of hazardous materials, with the same proper shipping name and identification number, are loaded at one location and the transport vehicle does not contain any other hazardous or non- hazardous materials.

Exception: For shipments of molten sulfur from Canada, the identification number marking must appear only on both sides of the tank car.
- (2) Identification numbers can be displayed in one of three ways, as Figure 5 shows:

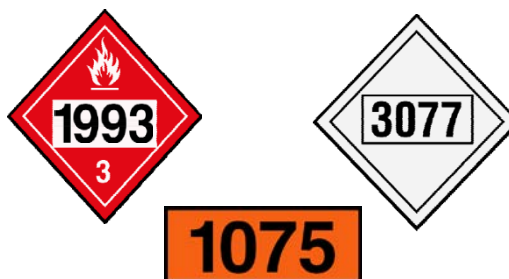


Figure 5. Identification Numbers

- (3) Identification numbers must not be displayed on:
- (a) EXPLOSIVES 1.1, 1.2, 1.3, 1.4, 1.5, or 1.6 placards,
 - (b) RADIOACTIVE placards,
 - (c) DANGEROUS placards,
 - (d) Subsidiary placards,
- (4) Make sure the identification numbers appear as required above and agree with the shipping paper entries.
- (5) When **picking up** a hazardous material shipment at the customer's facility, a siding or an interchange point and the identification number is not correct, is not legible, or is missing:
- (a) Notify the customer, train dispatcher, yardmaster, or your supervisor, as appropriate.
 - (b) Do not accept the hazardous material shipment until corrections have been made.
- (6) When an identification number is not correct, is not legible, or is missing **en route**, notify the train dispatcher, yardmaster, or your supervisor, as appropriate. They will arrange to correct the problem at the next inspection point.

Note: Missing identification numbers must be replaced and may be entered on the appropriate placard, orange panel, or white square-on-point configuration by hand using a **black indelible** marker.

6206 MARINE POLLUTANT Mark

- (1) For a material described on the shipping papers as a "MARINE POLLUTANT" and the shipment does not require a placard, make sure that the MARINE POLLUTANT mark (see Figure 6) appears on both sides and both ends of bulk packaging.



Figure 6. MARINE POLLUTANT Mark

Note: MARINE POLLUTANT marks are not required when the bulk packaging displays a placard.

- (2) When **picking up** a hazardous material shipment at the customer's facility or siding or at an interchange point, and a required MARINE POLLUTANT mark is not legible or is missing:
- (a) Notify the customer, train dispatcher, yardmaster, or your supervisor, as appropriate.
 - (b) Do **not** accept the hazardous material shipment until corrections have been made.
- (3) When a required MARINE POLLUTANT mark is not legible or is missing **en route**, notify the train dispatcher, yardmaster, or your supervisor, as appropriate. They will arrange to correct the problem at the next inspection point.

6207 Elevated Temperature Material Mark

- (1) For a material described on the shipping papers with the words "HOT," "ELEVATED TEMPERATURE," or "MOLTEN" and transported in a bulk packaging, the elevated temperature

material mark must be displayed on two opposing sides of the bulk packaging, in one of the following valid formats:

- (a) The word HOT stenciled on the packaging itself,
- (b) The words MOLTEN SULFUR (or MOLTEN SULPHUR) or MOLTEN ALUMINUM (or MOLTEN ALUMINUM), as appropriate, stenciled on the packaging itself,
- (c) The international elevated temperature material symbol (see Figure 7),
- (d) The word HOT displayed on a plain white-square-on-point configuration having the same outside dimensions as a placard (see Figure 7).

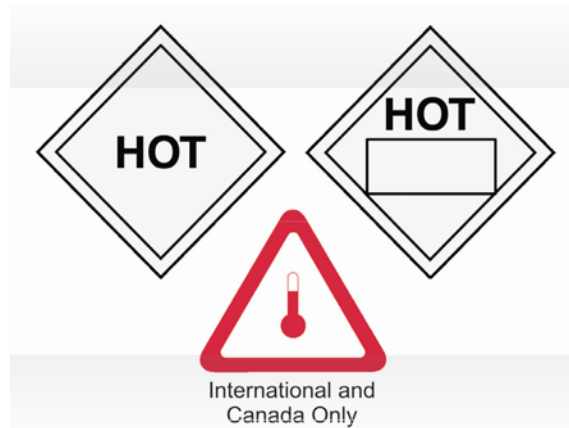


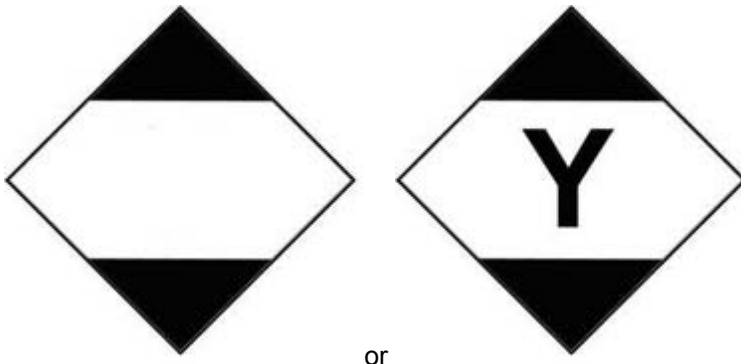
Figure 7. Elevated Temperature Material Mark

Note: Residue/empty shipments that last contained an elevated temperature material, such as asphalt, are not considered hazardous materials and do not require hazardous material shipping description entries on the shipping paper. When the shipping paper indicates empty, the shipment may be accepted and moved in rail transportation without the hazardous material shipping description entries, even though the elevated temperature material mark and identification number are displayed.

- (2) When **picking up** a hazardous material shipment at a customer's facility or siding or at an interchange point and an elevated temperature material mark is not legible or is missing:
 - (a) Notify the customer, train dispatcher, yardmaster, or your supervisor, as appropriate,
 - (b) Do **not** accept the hazardous material shipment until corrections have been made.
- (3) When an elevated temperature material mark is not legible or is missing **en route**, notify the train dispatcher, yardmaster, or your supervisor, as appropriate. They will arrange to correct the problem at the next inspection point.

6208 LIMITED QUANTITIES Mark

- (1) For a material listed on the shipping papers as "LIMITED QUANTITY" or "LTD QTY", the LIMITED QUANTITIES mark (see Figure 8) must be displayed on at least one side or end of trailers/containers as explained below.



or

Figure 8. LIMITED QUANTITIES Mark

- (a) The LIMITED QUANTITIES mark is required:
 - (i) When the entire load of hazardous materials is limited quantities.
 - (ii) For a mix of non-hazardous materials and hazardous materials in limited quantity.
- (b) The LIMITED QUANTITIES mark is not required when there are limited quantities and other hazardous materials NOT in limited quantities, but you would placard for the regular hazardous materials.

A package displaying the LIMITED QUANTITIES mark is not subject to additional marking requirements for non-bulk packages (e.g. proper shipping name or identification number marking) unless it contains a hazardous substance or a hazardous waste

6209 INHALATION HAZARD Mark

- (1) For a material described on the shipping papers as "POISON (TOXIC) – INHALATION HAZARD" or "INHALATION HAZARD," the words INHALATION HAZARD must appear (at least 3.9 inches in height for tank cars and at least 2 inches in height for intermodal tank containers) on both sides of the rail car, trailer, or container, near the placards.

Note: When the words INHALATION HAZARD appear on the placards, the INHALATION HAZARD mark is not required on the bulk packaging.

- (2) When **picking up** a hazardous material shipment at the customer's facility or siding or at an interchange point and the words INHALATION HAZARD are illegible or missing:
 - (a) Notify the customer, train dispatcher, yardmaster, or your supervisor, as appropriate.
 - (b) Do **not** accept the shipment until corrections have been made.
- (3) When the INHALATION HAZARD marking is illegible or missing **en route**, notify the train dispatcher, yardmaster, or your supervisor, as appropriate. They will arrange to correct the problem at the next inspection point.

6210 Commodity Name

- (1) For intermodal tank containers transporting any hazardous materials and for tank cars transporting certain hazardous materials, the commodity name must appear on two opposing sides of the intermodal tank container or tank car. The commodity name (at least 3.9 inches in height for tank cars and at least 2 inches in height for intermodal tank containers) must match the proper shipping name on the shipping papers and may include the technical name, although it is not specifically required.

- (2) When **accepting** an intermodal tank container or tank car of hazardous materials from the shipper or in interchange and the commodity name is illegible or missing:
 - (a) Notify the customer, train dispatcher, yardmaster, or your supervisor, as appropriate.
 - (b) Do **not** accept the shipment until corrections have been made.
- (3) When the commodity name on a tank car is discovered illegible or missing **en route**, notify the train dispatcher, yardmaster, or your supervisor, as appropriate. They will arrange to correct the problem at the next inspection point.

Note: See Appendix A for list of materials that require the commodity name on tank cars

6211 Tank Car Specification and Qualification Dates Stencils

- (1) Make sure the stencils describing the tank car specification (e.g. DOT 111A100W1) and qualification dates are legible (see Figure 9). These stencils will appear on both sides of the tank car toward the end on the right as you face the car.
- (2) Make sure the tank car qualification dates for pressure relief devices (PRD), tank, and interior heater coils are current (a car is currently within the qualification date until the last day of the year shown) (see Figure 9).

Note 1: When the car is loaded before the end of the year, it may be transported for unloading purposes but must be requalified before reloading.

Note 2: A tank car containing the residue of a hazardous material that is overdue its periodic qualification date may move and not be in violation of DOT regulations. The regulations only address loading a tank car overdue for its periodic qualification.

DOT 111A100W1

		STATION STENCIL	QUALIFIED	DUE
TANK QUALIFICATION		ABC-1	2014	2024
THICKNESS TEST		ABC-1	2014	2024
SERVICE EQUIPMENT		ABC-1	2014	2024
PRD:	75 PSI	DEF-1	2014	2024
INT HTR		FGL-1	2014	2024
LINING		ABC-1	2014	2019
88.B.2 INSPECTION		ABC-1	2014	2024
STUB SILL		ABC-1	2014	2024

Figure 9. Tank Car Specification and Qualification Dates Stencils

- (3) When the qualification date is overdue, do not accept loaded tank cars from the shipper.
- (4) When found en route, car may proceed to destination after contacting your supervisor.

6212 FUMIGANT Mark

- (1) As information, the purpose of the FUMIGANT mark (see Figure 10) is to warn persons unloading the rail car, trailer, or container that it has been fumigated and that they must take appropriate precautions before unloading the car. The (*) on the mark will be replaced by the name of the fumigant.
- (2) The FUMIGANT mark must be in English. However, EPA regulations allow another language in addition to the English version on the same FUMIGANT mark or an additional one.

Note: The FUMIGANT mark is required on each point of entry to a trailer/or container.

- (3) Shipping Description Entries
 - (a) For U.S. shipments that are fumigated, information on the shipping papers is not required.
 - (b) For International (Canadian and IMDG) shipments verify that the information for the shipment on the shipping papers includes the following entries - UN3359, Fumigated Unit, class 9, name of the fumigant, amount of fumigant, date of fumigation, and any disposal information.

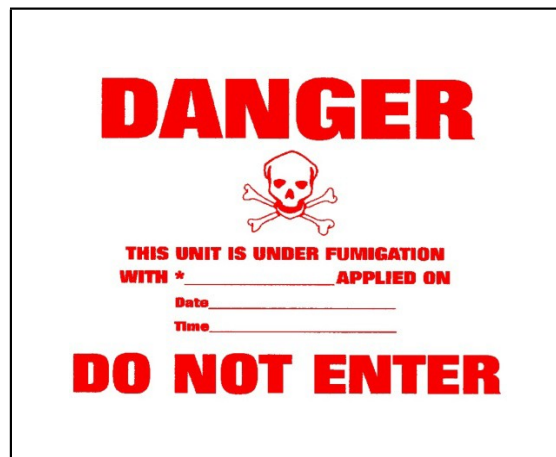


Figure 10. FUMIGANT Mark

6213 NON-ODORIZED Mark

A tank car or intermodal tank container transporting non-odorized liquefied petroleum gas (LPG) must be legibly marked NON-ODORIZED or NOT ODORIZED on two opposing sides, either near the commodity name or the placard(s).

The NON-ODORIZED or NOT ODORIZED marks may appear on a tank car used for both non-odorized and odorized LPG.

Shippers must include on shipping papers information that a shipment is not odorized (i.e. provide "NON-ODORIZED" or "NOT-ODORIZED" notation).

6214 SOUR CRUDE OIL Mark

A bulk packaging transporting petroleum crude oil containing hydrogen sulfide (i.e. sour crude oil) in sufficient concentration that its vapors may present an inhalation hazard must include a marking to warn of the toxic hazard (see Figure 11), which must be displayed at each location (e.g. manway) where exposure to hydrogen sulfide vapors may occur. The square-on-point must be black or red on a white or other contrasting background, and the skull and crossbones symbol must be black, located in the center of the square-on-point, and clearly visible.



Figure 11. SOUR CRUDE OIL Mark

6300 SWITCHING

6301 General Requirement

Switch placarded hazardous material shipments only in compliance with the restrictions on the Switching Chart (see Figure 12).

Switching is defined as "the operation of moving rail cars within a yard in order to place them in a train or on a classification, repair, or storage track." Switching also includes making pickups and setouts at a customer's facility or interchange points. Switching does **not** include moving rail cars to or from a shipper's facility or industry track into or out of the yard.

Reminder: When moving rail cars to or from a shipper's facility or on an industrial lead into or out of the yard, comply with both the train placement restrictions in Section VI and the required documentation requirements in Section II.

WHEN RAIL CARS ARE CUT OFF IN MOTION, THE COUPLING SPEED MUST NOT EXCEED 4 MILES PER HOUR.

6302 Safety

Before coupling, position yourself toward the end of a tank car, if possible, away from the manway and valves. Contents of tank cars may splash during or immediately following coupling, due to either improperly secured closures or the impact of coupling.

6303 When to Use the Switching Chart

Refer to the Switching Chart:

- a. When moving placarded hazardous material shipments in a yard to place them in a train or on a classification.
- b. When making pickups or setouts of placarded hazardous material shipments at a customer's facility, interchange point, or other setout point.

6304 How to Use the Switching Chart

- a. Select the applicable column and row of the Switching Chart. To do so:
 - (1) Identify the placards and/or markings applied to the car, either from information on the shipping papers or from observation.

Note: When placards are displayed but are not required by regulation permissive placarding), the rail car must be switched as required or the placard displayed.
 - (2) Determine whether the car is loaded or residue/empty.

Note: Residue/empty tank cars are identified on switch lists, track lists, and track inquiries with an "E" or "DE" in the appropriate field. The notation "RESIDUE: LAST CONTAINED..." on the shipping papers indicates a residue/empty shipment.
 - (3) Identify the car type involved by observation
- b. Find the applicable section on the chart, based on the placard or marking applied, the load/empty status, and the car type.
- c. Follow the restrictions associated with the placard or marking as the "X"s in the columns indicate.

SWITCHING CHART

HOW TO USE THIS CHART

- Select the applicable column and row of the Switching Chart.
- To do so:
 - Identify the placards and/or markings applied to the car, either from information on the shipping papers or from observation.
 - When placards are displayed but are not required by regulation (permissive placarding), the rail car must be switched as required for the placard displayed.
 - Determine whether a car is loaded or residue/empty.
 - Note: Residue/empty tank cars are identified on switch lists, track lists, and track inquiries with an "E" or "DE" in the appropriate field. The notation "RESIDUE: LAST CONTAINED" on the shipping papers indicates a residue/empty shipment.
 - Identify the car type involved by observation (e.g. tank car, hopper car, gondola, etc.)
 - Find the applicable section on the chart, based on the placard or marking applied, the load/empty status, and the car type.
 - Follow the instructions associated with the placard or marking as the "X"s in the columns indicate.

EQUIVALENT PLACARDS

Cars with placards displaying 4-digit identification numbers will be handled the same as cars with word description placards.

INSTRUCTIONS

- Separate these cars from an engine by at least one non-placarded car or by one Group F placarded or marked car.
Do not place where there is any probable danger of fire (ex. switch heaters).
Do not place under bridges, under overpasses or along passenger stations.
- These cars must not be:
 - Cut off in motion.
 - Struck by any free rolling car; or
 - Coupled into with more force than needed to make the coupling.
- These cars must not be cut off in more than two car cuts.
No more than two car cuts can couple into these cars.
- When a person must ride a rail car to operate the hand brake:
 - Verify the hand brake is working properly.
 - Do not cut cars off until all preceding cars are clear of the lead.
 - Do not cut off any cars to follow until the lead is clear.

GROUP A	GROUP B	GROUP C	GROUP D	GROUP E	GROUP F

6350 TRAIN PLACEMENT

6351 General Requirement

Place placarded hazardous material shipments in a train so as to comply with the instructions on the Position-in-Train Chart (Figure 13). **Note:** Correct hazardous materials train placement errors at the first location that allows switching, once the error is identified.

A **Train** is one or more engines coupled, with or without rail cars, displaying a marker, and requiring an appropriate air brake test.

6352 When to Use the Position-in-Train Chart

Use the chart to make sure placement position in train is correct:

- a. before a train departs the initial terminal
- b. before a train departs an intermediate station where pickups and setouts were made en route
- c. when delivering cars to or picking cars up at interchange tracks that are owned and operated by another railroad.

6353 How to Use the Position-in-Train Chart

- a. Select the applicable column of the Position-in-Train Chart. To do so:

- (1) Identify the placards and/or markings applied to the car, either from the shipping papers or from observation.

Note 1: When placards are displayed but are not required by regulation (permissive placarding), the rail car must be switched as required for the placard displayed.

Note 2: Molten sulfur identified on the shipping paper as a 4.1, moving to or from Canada and displaying the letters and numerals "UN2448" or the numerals "2448" and the words "MOLTEN SULFUR" (or "MOLTEN SULPHUR") is exempt from placarding and will be treated the same as Group E on the Position-in-Train Chart.

- (2) Determine whether the car is loaded or residue/empty.

Note: The notation "RESIDUE: LAST CONTAINED ..." on the shipping papers indicates a residue/empty shipment.

- (3) Identify the car type involved by observation (e.g. tank car, hopper car, gondola, etc.).

- b. Find the applicable section on the chart, based on the placard or marking applied, the load or residue/empty status, and the car type.
- c. Follow the instructions associated with the placard or marking, as the "X"'s in the columns indicate.

6354 General Information

- a. For train placement purposes, each platform or well of an intermodal rail car counts as one car.
- b. A buffer car is a:
 - (1) Non-placarded rail car
 - (2) Rail car with a placard or marking shown in Group E
 - (3) Residue/empty tank car, as long as it complies with Instruction # 2 on the Position-in-Train Chart
 - (4) Placarded rail car, other than a tank car, as long as it complies with Instruction # 6 on the Position-in-Train Chart
- c. The word TOXIC can appear in place of the word POISON on placards.

- d. A business car train is not a passenger train.
- e. An engine, working or not working and regardless of placement in train, is always considered as an engine for train placement of hazardous materials.

POSITION-IN-TRAIN CHART						
GROUP A	GROUP B	GROUP C	GROUP D	GROUP E	HOW TO USE THIS CHART	
 	May be placed next to Explosives 1.1 or 1.2 (Special Permit DOT SP-3271) 	 		 	HOW TO USE THIS CHART a. Select the applicable column of the Position-in-Train chart, To do so: (1) Identify the placards and/or markings applied to the car, either from the shipping papers or from observation. Note: When placards are displayed but are not required by regulation (permissive placarding), the car must be switched as required for the placard displayed. (2) Determine whether car is loaded or residue/empty. Note: The notation: "RESIDUE: LAST CONTAINED" on the shipping papers indicates a residue/empty shipment. (3) Identify the car type involved by observation (e.g. tank car, hopper car, gondola, etc). b. Find the applicable section on the chart, based on the placard or marking applied, the load/empty status, and the car type. c. Follow the instructions associated with the placard or marking as the "X"s in the columns indicate.	
EQUIVALENT PLACARDS 					INSTRUCTIONS Cars with placards displaying 4-digit identification numbers will be handled the same as cars with word description placards.	
MUST NOT BE NEXT TO					1) A placarded car must not be nearer than the 6th car from an engine (working or not working and regardless of placement in train) or occupied caboose/business car. If the train does not have at least five buffer cars, then all available buffer cars must be placed between the placarded car and the engine (working or not working and regardless of placement in train). When an occupied caboose/business car is in the train, the available buffer cars must be equally divided to protect both the engine (working or not working and regardless of placement in train) and occupied caboose/business car from the hazardous material shipment. 2) Engine (working or not working and regardless of placement in train), occupied caboose, or business car. 3) Open top cars (including bulkhead flats), when any of the contents protrude beyond the car ends or, if shifted, would protrude beyond the car ends. 4) Loaded flat cars, except closed TOFC/COFC equipment, multi-levels, and other specially-equipped cars with tie-down devices for handling vehicles. Railroad wheels loaded on wheel car flats, in gondolas with no ends, or loaded with the axles above the top of the car. 5) Any rail cars, transport vehicles, or freight containers with temperature control equipment or internal combustion engine whether running or not. Note: Does not apply to cryogenic refrigerated equipment. 6) Any placarded car in another placarding Group, except it may be next to any residue placarded car or any car placarded or marked as in Group E.	

* Authorized only for U.S. to Canada or Canada to U.S. shipments.
 NOTE: The word "toxic" can be used in place of the word "poison" on placards displayed in GROUP B and GROUP E.

Figure 13. Position-in-Train Chart

6400 KEY TRAINS

6401 General Requirement

Trains carrying specified numbers of loaded rail cars, trailers, or containers of hazardous materials must be operated as "Key Trains."

6402 Key Train Definition

A "Key Train" is any train as described in either a, b, or c below:

- a. one (1) or more loads of spent nuclear fuel (SNF) or high level radioactive waste (HLRW) moving under the following Hazardous Materials Response Codes - 4929142, 4929143, 4929144, or 4929147

or

- b. one (1) or more loaded tank cars containing materials that require the phrase "POISON/TOXIC- INHALATION HAZARD" on the shipping papers (Hazard Zone A, B, C, or D), anhydrous ammonia (UN1005), or ammonia solutions (UN3318)

or

- c. twenty (20) or more loaded hazardous materials shipments or intermodal portable tank loads having any combination of hazardous materials.

Exception: Do not count box cars, trailers, or containers carrying mixed loads of hazardous materials when determining key train status.

6403 Identifying Key Trains

- a. A computer-generated train consist/train list will identify Key Train status in the header block on the first page.
- b. When a computer-generated train consist/train list is not available or hazardous material cars are added to a train, the conductor must review the shipping papers for all hazardous material cars and determine Key Train status.
- c. After picking up or setting out hazardous material shipments **en route**, the Key Train status may change. The conductor must determine whether or not Key Train status has changed and, if so, promptly notify the train dispatcher.

6404 Instructions for Operating Key Trains

- a. The maximum authorized speed for Key Trains is 50 MPH, unless further restricted.
Note: Where lower speed restrictions are in effect, or when the train is restricted to a lower speed for other reasons, the lower speed governs.
- b. A key train will hold the main track, when practicable, unless a speed of greater than 10 MPH is authorized for the siding or auxiliary track.
- c. Only cars equipped with roller bearings will be allowed in a Key Train.
- d. When a defect in a Key Train is reported by a wayside/trackside warning detector but a visual inspection fails to confirm evidence of a defect, the train must not exceed 30 MPH until it has passed over the next wayside detector or is delivered to a terminal for a mechanical inspection. If the same car sets off the next detector or is found to be defective, it must be set out from the train.
- e. Unless relieved of the requirement to do so by the operating railroad's train dispatcher, the crew operating a Key Train on a foreign railroad must, at the earliest opportunity, notify the foreign railroad's train dispatcher that the train is a Key Train as defined by the operating railroad.

6405 When operating on a controlled track, all key trains must be equipped with armed and working two-way telemetry or distributive power coupled to the rear of the train. If two-way telemetry or distributive power fails en route, key trains:

1. **Must not exceed 30 MPH, and**
2. **Must not operate over a section of track with a grade of 1% or more for two continuous miles. These areas are identified in special instructions as steep grade.**

6406 CSX train documents will identify specific key trains that must not exceed 40 MPH within the limits of a high threat urban area (HTUA). Special instructions identify the location and limits of HTUAs. The restriction applies to trains carrying at least 20 tank car loads of Class 3 Flammable Liquids identified on the tonnage graph with restriction code 6008.

6407 A train that picks up loaded Class 3 Flammable Liquid cars en route must not exceed 40 MPH within the limits of an HTUA when the train has 20 or more total loads of Class 3 Flammable Liquids following the pickup.

6500 EMERGENCY RESPONSE

6501 General Requirement

When an emergency occurs, SAFETY IS OF FIRST IMPORTANCE.

- a. Make an emergency call as radio rules require.
- b. Look for a fire or vapor cloud.
- c. Determine the status of crewmembers in the area.
- d. Warn and keep everyone at a safe distance.

6502 When a Fire or Vapor Cloud is Visible

- a. Take the shipping papers (including the emergency response information) and the Emergency Response Guidebook and move yourself and other crewmembers uphill and upwind the evacuation distance recommended in the Emergency Response Guidebook. Stay out of ditches and low areas.
- b. Do not smoke or use fuses.
- c. Provide the train dispatcher or yardmaster with as much of the following information as is available:
 - (1) Specific location of the emergency (station, mile post location, nearest street or crossing),
 - (2) Type of emergency,
 - (3) Status of crewmembers,
 - (4) Cars involved, including each car's initials and numbers and their extent of involvement (for example, leaking, derailed, or on fire),
 - (5) Surroundings (e.g., proximity to populated areas, local bodies of water, or nearby drainage ditches or storm sewers; description of terrain; location of access roads; weather conditions),
 - (6) Resources necessary to handle the situation (for example, fire, ambulance, and law enforcement agencies),
 - (7) Location where a crewmember with shipping papers will meet arriving emergency response personnel.
- d. Once you are in a safe location:
 - (1) Identify yourself and cooperate with the local emergency response personnel as described in Rule 6504,
 - (2) Review your shipping papers and emergency response information,
 - (3) If necessary, move to the farthest distance recommended in:
 - (a) Information from the ***Emergency Response Guidebook***,

or

 - (b) Other supplementary emergency response information printed as part of the train list/consist or provided by the customer – for example, a Safety Data Sheet (SDS).

6503 When No Fire or Vapor Cloud is Visible

- a. Review the shipping papers for hazardous material shipments.
- b. Take the shipping papers (including the emergency response information) and the Emergency Response Guidebook and inspect the train to identify the rail cars, trailers, or containers involved, and look for indications of the release of hazardous materials.
- c. When you encounter a hazardous material release, unusual smells, or noises during this inspection:
 - (1) Avoid contact with the material and its vapors.
 - (2) Move yourself and other crewmembers uphill and upwind the evacuation distance recommended in the Emergency Response Guidebook. Stay out of ditches and low areas.
 - (3) Eliminate any ignition sources (no smoking, no fusees).
 - (4) Warn all bystanders to stay away.
- d. After completing the inspection, notify the train dispatcher or yardmaster with as much of this

information as is available:

- (1) Status of crewmembers
 - (2) Cars involved, including each car's initials and numbers and their extent of involvement (for example, leaking, derailed, or on fire)
 - (3) Surroundings (e.g., proximity to populated areas, local bodies of water, or nearby drainage ditches or storm sewers; description of terrain; location of access roads; weather conditions)
 - (4) Resources necessary to handle the situation (for example, fire, ambulance, and law enforcement agencies)
 - (5) Location where a crewmember with shipping papers will meet arriving emergency response personnel.
- e. Once you are in a safe location:
- (1) Identify yourself and cooperate with the local emergency response personnel as described in Rule 6504.
 - (2) Review your shipping papers and emergency response information.
 - (3) If necessary, move to the farthest distance recommended in:
 - (a) information from the ***Emergency Response Guidebook***
 - or
 - (b) other supplementary emergency response information printed as part of the train list/consist.

6504 Cooperating with Local Emergency Responders

- a. Immediately share any requested information from the shipping papers with emergency response personnel.
 - (1) Provide an extra copy of the train list/consist, when available.

Note: Retain any waybills and a copy of the train list/consist, until you can deliver them to the first railroad manager on the scene.
 - (2) Immediately provide a copy of the emergency response information provided with the shipment.
- b. Help emergency response personnel identify cars and the commodities involved. Use shipping papers or observations from a safe location to accomplish this task.
- c. Give the first railroad manager on the scene an oral description of the incident and indicate any assistance you provided emergency responders.
- d. Remain at the scene, at a safe distance, until a railroad manager relieves you.
- e. A railroad spokesperson will handle discussing the incident with the media or other non-emergency response personnel.

6505 Handling Leaking Hazardous Material Shipments

Take these actions when there is any sign of leakage:

- a. Do **not** allow the hazardous material shipment to continue in transportation until the leak is controlled.

Note: Leaking hazardous material shipments may be moved, with proper railroad authority, only as far as necessary to reduce or eliminate the immediate threat of harm to human health, the environment, or railroad operations. Movement of leaking hazardous material shipments may require government approval.
- b. When it is necessary to move a leaking hazardous material shipment, use an adequate number

of buffer cars between the locomotive and the leaking car, to prevent chemical exposure.

6600 RAIL SECURITY AWARENESS

This section applies to United States hazardous materials instructions for rail (CSX HM-1) rules.

Definitions

A. Alert Car

- A rail car containing more than 5,000 lbs. of a division 1.1, 1.2, or 1.3 (explosive) material.
- A tank car containing a poison inhalation hazard (PIH) including
 - * A tank car containing a poison inhalation hazard (PiH), including Division 2.2 anhydrous ammonia, division 2.3 gases, and division 6.1 liquids.
- A rail car containing a highway-route controlled quantity of class 7 (radioactive) material.

- B. Improvised explosive device (IED)** – An improvised explosive device is a device fabricated in an improvised manner incorporating explosives or destructive, lethal, noxious, pyrotechnic, or incendiary chemicals in its design and generally includes a power supply, switch or timer, and a detonator or initiator.

- C. Positive Control – an employee or authorized representative attending the rail car by:
- Being physically located on site.
 - Being capable of promptly responding to unauthorized access or activity at a near the rail car.
- D. Rail Secure Area – A secure location's) identified by a railroad or industry of the purpose of handling an alert car.
- E. Security Inspection – Inspect placarded cars for the following.
- Signs of tampering
 - Suspicious items or items that do not belong
 - Other signs for the security of the car may have been compromised, including the presence of an improvised explosive device (IED).

6601 Reporting Requirements

The security of hazardous materials in transportation is the responsibility of all railroad employees. All employees are required to be aware of their surroundings and work environment. Particular attention should be paid to sensitive areas such as tunnels, bridges, passenger stations and platforms and yards with hazardous materials cars.

- Immediately report, to the proper authorities, any information regarding incidents, suspicious activities, threats, suspicious persons (including trespassers), activities or object encountered.
- Immediately report the theft or loss of company issued or owned equipment. When reporting, provide as much detail as possible about where the incident occurred, when incident occurred, who was involved, other witness, and descriptions of the suspicious individuals.

6602 Securement of Company Property and Equipment

Company property and equipment, including but not limited to, vehicles, tools, computers, documents, and protective equipment must be secured so as to prevent loss or theft.

Employees shall employ the following measures to enhance physical security as appropriate:

- a. Ensure that doors and gates to restricted areas are properly locked and secured.
- b. Verify that all vehicles and moveable equipment is secured against movement and locked down.
- c. Secure computer equipment when not in use, including using proper log-off procedures.
- d. Protect company documents, including train documents and other shipping papers.
- e. Protect all company issued equipment from loss or theft. This includes, but is not limited to, company issued identification, portable radios, keys and company issued clothing.
- f. Ensure that all signal housings, bungalows, cases and containers are locked and properly secured.
- g. Ensure that derails are in place and main track switches are locked when work is completed.
- h. Secure and limit access to company owned hazardous materials. In vehicles, ensure this material is in a locked container or chained and locked to the vehicle.
- i. Fully comply with additional security directives or instruction issued by the company.

6603 Transfer of custody form and positive requirements for loaded alert cars.

The proper transfer of custody form must be completed when:

- Receiving or delivering alert car(s) at interchange
- Picking up alert car(s) at industry, both inside and outside a high threat urban area.
- Setting off alert car(s) at industry inside a high threat urban area.

NOTE: High threat urban areas are listed in Timetable Special Instructions.

Any employee completing a transfer of custody form must transmit the completed transfer of custody form per instructions on the form. The employee responsible for completing an electronic transfer of custody form via the on board work order device must logon to the device using their own unique 6-digit CSX identification number.

6604 Protection of Company Information

All employees are required to protect company information, including but not limited to, computer access and procedures, information concerning the movement of trains, and company security measures.

- a. Do not share computer logon ID or passwords. Employees are responsible and will be held accountable for any activity that occurs under their computer ID.
- b. Do not discuss or share detailed information on trains, direction of movement, schedule, and consists, including hazardous materials, business car and military movements with unauthorized persons.
- c. Ensure sensitive documents are properly stored and secured. Destroy all sensitive documents no longer needed by shredding or other appropriate method.

Inspection, Placards and Markings, Switching, Train Placement, Key Trains, Emergency Response, and
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WORK ORDER # _____

THE CSX REPRESENTATIVE MUST LIST THE ALERT CARS (S) TO BE DELIVERED TO OR RECEIVED FROM THE CONNECTING CARRIER IN THE DESIGNATED AREA PROVIDED BELOW. THE CSX REPRESENTATIVE MUST PRINT THEIR NAME AND THE NAME OF THE CONNECTING CARRIER REPRESENTATIVE ACCEPTING FROM OR DELIVERING TO THE ALERT CARS (S) AT THE BOTTOM OF THE FORM.

WORK INSTRUCTIONS: DELIVERED INTERCHANGE = DI
RECEIVED INTERCHANGE = PK

STATION: _____

CONNECTING CARRIER: _____

[illegible]

PRINT CONNECTING CARRIER REPRESENTATIVE NAME: _____
PRINT POSITION/TITLE OF REPRESENTATIVE: _____

PRINT CSX REPRESENTATIVE NAME:

DATE/TIME OF EXCHANGE: _____

THE CSX REPRESENTATIVE MUST FAX A COPY OF THIS DOCUMENT TO 866-963-3516.

Figure 14. Chain of Custody Form

When picking up cars at interchange locations:

- When picking up alert car(s) at interchange from a foreign carrier and no representative is present to document the transfer of custody, the CSXT crew may pick up the alert car provided:
 - o The control station, yardmaster, or supervisor has authorized the pickup and is aware the car was left unattended.
 - o A hazardous material and security inspection is performed.
 - o The transfer of custody form is completed and the notation “unattended” is entered in the space provided for the foreign carrier.

When setting off at interchange locations:

- When delivering (setting off) alert cars at interchanges, if the foreign line does not have a representative present to document the transfer of custody, the car(s) must not be interchanged.

When picking up car(s) for industry location:

- A hazardous material and security inspection must be performed.
- A representative of the customer must be present.
- The transfer of custody form must be completed.
- If representative of customer is not present, the car(s) must not be picked up.

When delivering (setting off) to industry location:

- Determine if customer is in a high threat urban area (HTUA). (See timetable special instructions)
- If customer is located outside a HTUA;
 - o The transfer of custody from and positive control over the alert car(s) is not required.
- If the customer is located in a HTUA:
 - o The customer representative must be present at the car(s) when delivered.
 - o The transfer of custody from must be completed.

If there is no customer representative present to accept the shipment and to complete the transfer of custody form, the car(s) must not be placed at the customer's facility.

APPENDICES

Appendix A – List of Materials that Require the Commodity Name on Tank Cars

Division 2.1 materials

Division 2.3 materials

Acrolein, stabilized

Ammonia, anhydrous, liquefied

Ammonia solutions (more than 50% ammonia)

Bromine or Bromine solutions

Bromine chloride

Chloroprene, stabilized

Dispersant gas or Refrigerant gas

Formic acid

Hydrocyanic acid, aqueous solutions

Hydrofluoric acid, solution

Hydrogen cyanide, stabilized (less than 3% water)

Hydrogen fluoride, anhydrous

Hydrogen peroxide, aqueous solutions (greater than 20% hydrogen peroxide)

Hydrogen peroxide, stabilized

Hydrogen peroxide and peroxyacetic acid mixtures

Nitric acid (other than red fuming)

Phosphorus, amorphous

Phosphorus, white dry or Phosphorus, white, under water or

Phosphorus White, in solution, or Phosphorus, yellow dry or

Phosphorus, yellow, Under water or Phosphorus, yellow, in solution

Phosphorus white, molten

Potassium nitrate and sodium nitrate mixtures

Potassium permanganate

Sulfur trioxide, stabilized

Sulfur trioxide, uninhibited

Appendix B – Glossary

Basic description – the identification number, proper shipping name, hazard class/ division number, and packing group (if assigned) prescribed for a hazardous material.

Buffer car – a non-placarded rail car, a rail car with a placard or marking shown in Group F on the Switching Chart or Group E on the Position-in-Train Chart, a residue/empty tank with no other restrictions, or a placarded rail car with no other restrictions.

Bulk packaging - packaging with capacity greater than (450 liters) for liquids, 882 pounds (400 kilograms) for solids, or a water capacity of greater than 1000 pounds (454 kilograms) for gases. For example, bulk bags, intermodal (IM) portable tanks, portable tanks, portable bins, gondola cars, hopper cars, or tank cars.

Carrier – a person (individual, corporation, company, etc.) who transports property in commerce by rail car, aircraft, motor vehicle, or vessel.

Commodity name – the proper shipping name or an authorized common name of a hazardous material.

Consumer commodity – a hazardous material that is packaged and distributed in a form intended or suitable for sale through retail sales agencies for consumption by individuals for personal care or household use. Consumer commodities are assigned to hazard class “ORM-D”, and are, typically, excepted from labeling, placarding and shipping paper requirements.

Container – any freight container (box) or intermodal tank container (intermodal (IM) portable tank, portable tank, UN portable tank, or portable bin).

Dangerous goods – term used for “hazardous materials” in countries other than the United States.

Division – a subdivision of a hazard class; typically two numerals separated by a decimal point (2.1, 2.2, 2.3, 5.1, 5.2, etc.). For Class 1 (explosive materials), a “compatibility group letter” will be shown after the second numeral (1.1A, 1.4G, etc.).

Documentation – includes complete shipping papers with the appropriate shipping description entries and acceptable emergency response information.

Elevated temperature material – a material which, when offered for transportation or when transported as a bulk package, is:

- a liquid at a temperature at or above 212°F (100°C);
- a liquid with a flash point at or above 100°F (38°C) that is intentionally heated and offered for transportation or transported at or above its flash point; or,
- a solid at a temperature at or above 464°F (240°C).

Contact with an elevated temperature material may result in thermal burns, in addition to other hazards associated with the material.

Emergency – an unforeseen combination of circumstances or the resulting state that calls for immediate action (for example, derailment and leaks).

Emergency response information - hazard and response information for each hazardous material, contained in the **Emergency Response Guidebook (ERG)** and other supplementary train documentation, to assist response personnel at hazardous material incidents.

Emergency response telephone number – the telephone number of an entity who is either knowledgeable of a hazardous material being shipped and has comprehensive emergency response and incident mitigation information for that material, or has immediate access to an entity who possesses such knowledge and information.

Engine - means a locomotive propelled by any form of energy and used by a railroad.

Freight container – a reusable container having a volume of 64 cubic feet or more, designed and constructed to permit being lifted with its contents intact and intended primarily for containment of packages (in unit form) during transportation.

Fumigant – a poisonous/toxic agent in vapor form intended to destroy insects and vermin.

Hazard class - the category of hazard assigned to a material. A hazard class may be subdivided into divisions. When talking about hazard classes/divisions, the hazard class/division can be expressed as a number or with words (for example: Class 3 (three) or Flammable Liquid; Division 2.1 (two-point-one) or Flammable Gas). A material will have a primary hazard class/division and may have one or more subsidiary hazard classes/divisions which represent additional hazards associated with the material.

Hazardous material - a substance or material which the Secretary of Transportation has determined to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce. The term “hazardous material” includes hazardous substances, hazardous wastes, elevated temperature materials and marine pollutants.

Hazardous material shipment - a hazardous material in rail cars, trailers, or containers in rail transportation. All hazardous material shipments require shipping papers. When moved in rail cars, trailers, or containers, hazardous material shipments may or may not be placarded or marked with an identification number.

Hazardous substance – a hazardous material that, as determined by the U.S. Environmental Protection Agency, has a detrimental effect on the environment. To be regulated in transportation, the quantity in one package must equal or exceed the material’s “Reportable Quantity” (“RQ”).

Hazardous waste – a material subject to the Hazardous Waste Manifest Requirements of the U.S. Environmental Protection Agency due to its potential threat to public health or the environment.

Hazardous waste manifest - a document specifically for tracking hazardous wastes in transportation. It contains the shipping description and identifies the waste generator, each transporter, and the designated (disposal) facility.

Hazard zone - one of four levels of inhalation hazard (Hazard Zones A through D) assigned to gases, and one of two levels of hazard (Hazard Zones A and B) assigned to liquids that are poisonous/toxic by inhalation. For example, when the hazard zone is “A,” it is shown on the shipping paper as “Zone A.” Zone A is the most hazardous, and Zone D is the least hazardous.

Identification number – a 4-digit number preceded by “UN”, “NA” or “ID” assigned to a hazardous material.

Improvised Explosive Device (IED) – is a device fabricated in an improvised manner incorporating explosives or destructive, lethal, noxious, pyrotechnic, or incendiary chemicals in its design. This device generally includes a power supply, a switch or timer, and a detonator or initiator.

Inhalation Hazard – term used to identify certain gases and liquids that may cause health problems if breathed in very low concentrations for short periods of time.

Interchange - the process of transferring rail cars to or from another railroad.

Intermodal tank container – an intermodal (IM) portable tank, portable tank, UN portable tank, or portable bin

International shipment – a shipment being made between two or more countries or between places in one country through another country.

Limited quantity (LTD QTY) – a term used to indicate a hazardous material shipment which is allowed an exception to certain regulatory requirements because of the small amount of the material in a package.

Marine pollutant – a hazardous material that has a detrimental effect on marine/aquatic life.

Marking - – a descriptive commodity name, identification number, instructions, cautions (such as marine pollutant, inhalation hazard, elevated temperature material, limited quantities, fumigant, non-odorized, sour crude oil), weight, tank car specification and qualification dates stencils, or UN marks, or combinations thereof, required for display on hazardous material shipments.

Movement Approval – a onetime authorization to move a non-conforming package not meeting the applicable hazardous material regulations. This provides no relief of any regulations other than specifically stated in the approval.

N.O.S. - initials, found on shipping papers, which mean "Not Otherwise Specified."

Non-bulk packaging - packaging with a capacity equal to or less than 119 gallons (450 liters) for liquids, 882 pounds (400 kilograms) for solids, or a water capacity of equal to or less than 1000 pounds (454 kilograms) for gases.. For example, bags, bottles, boxes, cylinders, or drums.

ORM-D (Other Regulated Material - D) - a material such as a consumer commodity that, due to its form, quantity, and packaging, presents such a limited hazard that it may not be subject to the hazardous material regulations when transported by rail.

Package – the packaging plus its contents. Packaging is the receptacle and any other components or materials necessary for the receptacle to perform its containment function.

Packing group - a grouping of hazardous materials according to the degree of danger: Packing Group I (shown as "PG I" or "I" on the shipping papers) indicates great danger. Packing Group II (shown as "PG II" or "II" on the shipping papers) indicates medium danger. Packing Group III (shown as "PG III" or "III" on the shipping papers) indicates minor danger.

Placard – a sign measuring at least 250 mm (9.8 in) by 250 mm (9.8 in) square-on-point, communicating a hazard by symbol, color, hazard class/division number and possibly text. Some placards must be displayed on a square background which is white with a black border

Placarded car - a rail car displaying placards in accordance with DOT regulations.

Poison Inhalation Hazard (PIH) - term used to identify certain gases and liquids that may cause health problems if breathed in very low concentrations for short periods of time.

Position-in-Train document – a paper document showing the current position of all hazardous material shipments within the train. This document could be the train list/consist or a separate document specifically for this purpose.

Primary hazard – see definition of "hazard class".

Proper shipping name – the name of a hazardous material as specified by the regulations.

Radio waybill – a form used to record shipping description entries provided orally.

Rail car – equipment used in rail transportation. For example, box car, flat car, gondola car, hopper car, tank car, or caboose, but not an engine.

Reportable quantity (RQ) – the minimum quantity (in pounds or kilograms) in one package, required for a hazardous material to meet the definition of a “hazardous substance”.

Residue – the hazardous material remaining in a packaging, including a tank car, after its contents have been unloaded to the maximum extent possible. It may be indicated on the shipping papers by the phrases “RESIDUE: LAST CONTAINED . . .”, “EMPTY . . .”, or “MTY . . .” in association with the basic description.

Special Car Handling Instructions (SCHI) Code (specific to BNSF operations) – Two-letter code used to identify the primary placard required for a hazardous material shipment.

Special Permit – Special permit means a document issued by the Associate Administrator under the authority of 49 U.S.C. 5117 permitting a person to perform a function that is not otherwise permitted under Subchapter A or C of Title 49 Subtitle B Chapter I of the U.S. Code of Federal Regulations, or other regulations issued under 49 U.S.C. 5101 et seq. (e.g., Federal Motor Carrier Safety routing requirements). The terms “special permit” and “exemption” have the same meaning for purposes of Subchapter A or C of Title 49 Subtitle B Chapter I of the U.S. Code of Federal Regulations or other regulations issued under 49

U.S.C. 5101 through 5127. An exemption issued prior to October 1, 2005 remains valid until it is past its expiration date, terminated by the Associate Administrator, or issued as a special permit, whichever occurs first.

Shipper's Certification - a signed (or electronically printed) declaration on the shipping paper provided by the shipper to the first transporter for a loaded hazardous material shipment. It indicates compliance with the DOT regulations. The certification must be signed by hand or mechanically. It may read either:

"This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation."

or

"I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name, and are classified, packaged, marked, and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations."

Note: A shipper's certification is required on any shipping paper that the customer provides to the crew for loaded hazardous material cars.

Shipping description entries – the specific information required on a shipping paper, including the “basic description”, number and type of packages, total quantity; and additional entries that may be applicable to the shipment (such as “RQ”, “Limited Quantity”/“LTD QTY”, “Marine Pollutant”, “Poison/Toxic Inhalation Hazard Zone A (or B, C or D)”, etc.). **Shipping paper** – any document providing the required entries for a hazardous material shipment

Subsidiary hazard – see definition of “hazard class”.

Subsidiary placard – a placard that identifies a specific material's subsidiary hazard(s).

Switching - the operation of moving rail cars within a yard, at a customer's facility, or at an interchange point, in order to place them in a train or on a classification, repair, or storage track. It does **not** include moving rail cars to or from a shipper's facility or industry track into or out of the yard.

Technical name - a recognized chemical name or microbiological name used in scientific and technical handbooks, journals, and texts to further identify a hazardous material.

Total quantity notation – the total weight or volume, including the unit of measurement, of the hazardous material contained in a package, such as “100 LBS”, “55 GAL”, “5 KG”, or “208 L”. For bulk packages and cylinders, merely an indication of the total quantity is required, such as “1 IM Tank” or “2 IBCs”; or, “10 cylinders” or “10 cyl.” For non-bulk packages, number and type of packages are also required, such as “12 DRUMS (UN 1A1)” or “15 BOXES”. An indication of total quantity is not required for packages containing only residue.

Toxic Inhalation Hazard (TIH) - term used to identify certain gases and liquids that may cause health problems if breathed in very low concentrations for short periods of time.

Trailer – a cargo carrying body with permanent wheels on the rear end (also called a van or semitrailer).

Train - one or more engines coupled, with or without rail cars, displaying a marker, and requiring an appropriate air brake test.

Yard - a system of tracks, other than main tracks and sidings, used for making and breaking up trains and for other purposes, such as repair or storage of cars.

