



SGCR

**SAFETY
AND
GENERAL
CONDUCT
RULES**

EFFECTIVE JANUARY 1, 2015

NORFOLK SOUTHERN CORPORATION

Further instructions may be issued by proper authority.

**CHARLES W. MOORMAN
MARK D. MANION**

**EFFECTIVE:
JANUARY 1, 2015**

SAFETY AND GENERAL CONDUCT RULES

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NORFOLK SOUTHERN

AND ITS RAILROAD SUBSIDIARIES

ISSUED TO

NAME

EMPLOYED AS

who must return it to the proper officer when called for,
or when leaving the service.

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GENERAL NOTICE

Safety is of the first importance in the discharge of duty.

Obedience to the rules is essential to safety.

Willingness to obey the rules is necessary in order to enter or remain in the service. Past practices not in conformity with the rules are unacceptable as an excuse for noncompliance.

The service demands the honest, intelligent, and courteous discharge of duty.

To obtain promotion, ability must be shown for greater responsibility.

Safety and General Conduct Rules have evolved from the experience of many people on many railroads over many years. This process will be continuing, and constructive suggestions to improve these rules should be submitted to officers of the Company.

GENERAL CONDUCT REGULATIONS

900. Employee Conduct

Employees are to conduct themselves in a professional manner and not engage in behavior or display material that would be considered offensive or inappropriate by co-workers, customers, or the public. Offensive or inappropriate behavior includes making disparaging remarks, telling jokes or using slurs concerning race, religion, color, national origin, gender, age, veteran status, sexual orientation, disability or any other legally protected status. Offensive or inappropriate material includes that which is sexually explicit or insulting to individuals because of race, religion, color, national origin, gender, age, veteran status, sexual orientation, disability or any other legally protected status.

Upon discovery, offensive or inappropriate material must be removed immediately from Company property by its owner, or if the owner is unknown or fails to remove it, must be destroyed.

901. Employee Subpoena

An employee subpoenaed as a witness in a lawsuit or served with a summons or other law process involving the Company must notify the Casualty Claim Department by the quickest available method and, if possible, inform the General Manager Casualty Claims of the nature of the suit or law process. An employee served with a summons or other law process will:

- endorse upon the process the date and time served
- immediately send all of the papers to the General Manager Casualty Claims
- notify his/her immediate supervisor
- complete form entitled “Norfolk Southern Corporation and Subsidiaries Notice of Suit” and distribute in accordance with instructions on the face of the form

902. Employee Statement of Facts

Upon request, an employee who witnesses or has knowledge concerning an accident involving the Company must give the Casualty Claim Department a signed written or recorded statement of the facts.

Train and engine crewmembers, yard crewmembers, and employees on On-Track equipment involved in an impact with a vehicle or a pedestrian at a railway-highway grade crossing must complete a Form CT25A which is to be forwarded to the Division Superintendent's office.

903. Accident Information

An employee must not give any written, oral, or other information about an accident to anyone but Company officers, government investigators, or law-enforcement officers, unless directed by court order.

Others seeking information must be referred to the General Manager Casualty Claims. This rule does not prohibit an employee from giving information about injury or death of a Company employee to that employee or his/her legal representative.

904. Conflict of Interest

An employee having a financial interest, either directly or indirectly through any member of the employee's family, in any sale or purchase by the railway of salvage material, or acting in any capacity as, or as the representative of, a buyer, seller, or commission agent dealing in railroad salvage, without written approval of the department head, will be disciplined.

905. Communication Facilities

The Company's communication facilities and office equipment must not be used unnecessarily.

906. Notification of Address Change

Each employee must notify the proper officer of any change in his/her current mailing address or telephone number. Notification shall be submitted in writing no later than 15 days following change unless otherwise specified in applicable schedule agreements.

GENERAL SAFETY RULES

910. Working Safely

Employees must not do any work in a manner that will jeopardize their own safety or the safety of others. They must know that appliances, tools, supplies, and facilities used in performing their duties are in proper condition. If not, they must have them repaired or replaced before using them. It is the duty of every employee to examine them to determine their condition.

Employees must not make repeated attempts to operate tools, equipment, or appliances (e.g. switches, derails, handbrakes, cut levers, bleed rods, doors, brake sticks, etc.) that cannot be operated with a normal level of exertion or otherwise are not in proper working order. Such repeated attempts must be avoided.

911. Care of Property

- [1] In case of danger to, loss of, or damage to railroad property by fire, theft, or other causes, employees must immediately notify the proper authority and join forces to protect the Company's interest.
- [2] Unauthorized possession, removal, or disposal of any material from railroad property or property served by the railroad is prohibited.
- [3] All articles of value found on railroad property must be cared for and promptly reported to the proper authority.
- [4] Employees are prohibited from disposing of non-railroad/home generated trash or garbage in company containers.

912. Reporting Employee Injuries and/or Illness

- [1] When any person is injured, emergency medical assistance must be called if needed.
- [2] Every accident resulting in injury, death or damage to property must be reported to the proper authority by the quickest communication available.
- [3] An employee who sustains a personal injury while on duty or on Company property or equipment must, before leaving Company premises, report it to his/her immediate supervisor and complete and sign a written report of the incident using the prescribed form. If the injury to the employee is of such a nature that the employee

is unable to complete the written report, then the injured employee's immediate supervisor will complete the form. The written report and facts of the incident will be promptly progressed through prescribed channels.

- [4] An employee who sustains an off-duty personal injury or illness adversely affecting his/her ability to perform his/her regularly assigned duties must inform his/her supervisor of the injury/illness before reporting for his/her next shift or tour of duty.
- [5] If an employee at any time obtains medical attention or marks off for an on-duty injury or occupational illness, he must promptly notify his/her supervisor.

913. Reporting Non-Employee Injuries and/or Accidents

- [1] When injuries or death to other than railroad employees and damage to property occurs, a written report on the prescribed form must be submitted promptly. The report must include the name and address of each injured person and describe the extent of injury. Names and addresses of all persons at the scene are required, whether or not they admit knowledge of the accident.
- [2] At a crossing accident, the Conductor or employee in charge must try to locate witnesses who can testify about engine whistle or bell signals and about the functioning of any crossing gates or flashing light signals. License tag numbers of vehicles observed near the crossing must also be reported.
- [3] After any accident or incident where remains or blood are observed on company equipment, employees are not to attempt to remove or clean these particles. The Train Dispatcher or Yardmaster should be notified so that a qualified contractor can perform any necessary cleaning of equipment as soon as possible.

914. Injuries — Tools, Equipment, and Appliances

When equipment, tools, or appliances are involved in any way in an injury or death, a report must be made promptly to the proper officer. The involved equipment must be marked or otherwise identified, set aside for full inspection if practicable, and released only on authority of the Casualty Claim Department. Cars, engines, and other rolling stock will be identified by initial and number.

All inspection reports must be forwarded promptly to the District Claim Agent.

915. Protecting Company Interests

- [1] Employees must not permit anyone but authorized persons to have access to information concerning shipments of freight, or furnish copies of railroad records or divulge any of the affairs of the railroad or of its patrons to unauthorized persons. A shipper or consignee may be furnished information concerning his/her shipments only.
- [2] Photography on Company property without proper authority is prohibited.
- [3] Anything affecting the interest of the Company must be reported to the proper authority.

916. Environmental Rules and Instructions

All employees must comply with environmental rules and instructions issued by Norfolk Southern and/or their employing departments, including:

- [1] Don't dump, bury, or burn any waste. Properly dispose of all waste.
- [2] Minimize waste.
- [3] Report and manage all spills.
- [4] When in doubt, call for help.

917. Employees' Safe Work Responsibilities regarding their Medical Condition(s) and Medication

(a) All employees:

1. Must report to work fit to safely perform their duties.
2. Are prohibited from reporting for duty or remaining at work if their ability to safely perform those duties is adversely impacted by their medical condition(s) or medication.
3. Are responsible for knowing what prescription medication, over-the-counter medication, and dietary supplements they are

taking, and understanding how any such medication could impact their ability to safely perform their duties.

(b) Safety-related employees, yardmasters, crew haulers and NS Police Officers:

1. Must notify the NS Medical Department promptly of a “reportable” medical condition or medical event.
2. Must notify their treating healthcare providers about the full extent of their duties.
3. Must notify at least one of their healthcare providers of all prescription medication, over-the-counter medication and dietary supplements taken to help ensure that the use of any medication and dietary supplement is consistent with the safe performance of those duties.
4. Must present Form RX Med to all prescribing health care providers and follow the medication guidance contained on that form (including any guidelines for a medication’s use at work or within a time period prior to work), unless the Norfolk Southern Medical Department determines otherwise following a fitness-for-duty evaluation. If you cannot meet the medication guidance you must promptly contact the NSMD for a fitness-for-duty evaluation.

A link is available on the Operations Web Portal (OWP) at owp.nscorp.com to NSMD **Medical Condition and Medication Guidance** that provides information regarding employees’ safe work responsibilities related to their medical condition(s), medication and dietary supplements, and notification requirements for “reportable” medical conditions and events. A link is also available on the OWP to the **Form RX Med** that provides NSMD prescription medication guidance for some major medication categories with examples of commonly prescribed medication in each category that may cause unsafe impairment. The guidance on the Form RX Med Guide is not a comprehensive list, as there are many other medication categories and specific medications not listed that also might cause unsafe

impairment. Finally, the form and its guidance will be updated periodically as needed.

- (c) The above requirements are in addition to any current NSMD or regulatory requirements regarding medical conditions and/or medication.

Revised 2/9/16

918. Proper Rest

An employee must not engage in any outside activity that interferes with proper rest or performance of railroad duties, or that is detrimental to or in competition with the Company. An employee must not, without permission, do work of a personal nature for anyone while on duty or on Company property.

919. Reporting for Duty

Employees must report for duty properly rested at the designated time and place. They must be alert and attentive and devote themselves exclusively to the Company's service while on duty. They must not absent themselves from duty, exchange duties, or substitute others in their places without proper authority.

920. Subject to Call

Employees subject to call for duty must be at their usual calling places or furnish information as to where they can be located.

921. Hours of Service

Employees subject to the Hours of Service Act must give the proper office sufficient advance notice if it becomes apparent that the trip or tour of duty cannot be completed within the lawful period.

An employee called to report for service, who will not have legal rest at the indicated time to go on duty, must inform the caller before accepting the call.

Employees approaching the 276 maximum hours on duty or the maximum allowable limbo time per calendar month, must provide the Train Dispatcher/Control Operator, or other proper authority, sufficient advance notice when it becomes apparent that they cannot complete their tour of duty without violating the Hours of Service Law.

922. Property Cleanliness

- [1] Employees must keep premises subject to their control neat and clean. Buildings, facilities and equipment must not be defaced.
- [2] Only authorized material may be posted.

923. Fire Hazards

- [1] Employees must exercise care to prevent loss by fires. Frequent inspections must be made of the premises, and fire hazards found must be promptly corrected or reported to the proper officer.
- [2] Except for lighted fuses, no burning material should be dropped or thrown from moving trains, engines, or other equipment.

924. Company Property

Employees must exercise care and economy in the use of railroad property, and when leaving the service, or upon demand by proper authority, must return in good order all property assigned them or entrusted to their care.

Switch and signal keys will be issued only to employees whose duties require their use and they are to be used by employees only in the performance of those duties. An employee issued a switch or signal key must sign a receipt for it. This receipt, which will include the serial number of the key issued, will be retained on the employee's personal record. If a switch or signal key is lost, the fact must be reported to the appropriate Division or Terminal officer.

Employees must not in any way alter switch or signal keys.

925. Firearms

Employees are prohibited from having loaded or unloaded firearms in their possession while on duty or on Company property or occupying facilities provided by the Company, except security and forestry officers authorized to do so in the performance of their duties or those given special permission in writing by the head of the Police Department.

SAFETY RULES

1001. Proper Work Apparel

[1] Employees are prohibited from working:

[1.1] In shorts;

[1.2] In oily, greasy, torn, loose, or frayed clothing;

[1.3] Without shirts or working in shirts that do not cover shoulders, upper arms, back, and abdomen;

[1.4] While wearing finger rings, earrings, facial rings, or other articles of adornment or clothing that may be snagged when the employee handles material/ equipment or works around machinery, cars, or other equipment.

[2] Employees must wear protective footwear when working on/around moving equipment, machinery, shop tracks, electrical hazards, uneven terrain/surfaces, or other areas designated by bulletin or special instructions.

[3] Protective footwear:

[3.1] Upper portion must be constructed of leather or leather-like material that provides firm ankle support and fits snugly about the foot, ankle, and leg. Footwear must be 6" minimum in height as measured from the bottom of the heel to the top of the uppers. Sole and heels must be sturdy, non-leather and in good condition.

[3.2] Must have a 90 degree defined heel to the walking surface with a minimum height of 3/8" as measured between the bottom of the heel and the bottom of the sole.

[4] Prohibited footwear:

[4.1] Tennis or jogging shoes, sandals, canvas shoes, footwear with flat-bottom or wedge soles and heels, boots with high heels in excess of 1¼" in height as measured between the bottom of the heel and the bottom of the sole, cowboy, and other slip-on boots that do not provide firm ankle support.

[5] Winter footwear:

- [5.1]** Winter overshoes and galoshes when worn over other approved protective footwear may be used;
- [5.2]** Winter overshoes and galoshes must fit snugly on the protective footwear that they cover;
- [5.3]** Winter pac(k) boots that provide firm ankle support, fit snugly, and have a defined heel may be used;
- [5.4]** Winter traction footwear may only be used when weather conditions warrant its use.

[6] Hair must be worn so as not to present a safety hazard.

1002. Operating Motor Vehicles, Utility Vehicles and Machinery

- (a)** Operators of highway motor vehicles and off-road utility vehicles are responsible for the safety of the occupants. They must see that all occupants are seated and that when operating off track, seat belts are used on vehicles so equipped while the vehicle is in motion. All occupants must properly apply seat belts.

Vent windows (if so equipped) on highway motor vehicles must not be opened to a position greater than 90 degrees to the side of the vehicle. Care must be exercised in adjusting vent windows to ensure that debris does not blow into the vehicle and strike the occupants.

Employees who operate Company-owned highway motor vehicles and off-road utility vehicles must have current vehicle manual and be governed by its regulations.

- (b)** Seatbelts, where provided, must be worn when operating machinery. This requirement does not apply when operating on-track or when performing work in the foul of the track.

1003. Getting on or off moving turntables, elevators, and drawbridges is prohibited. Caution must be used when getting on or off moving transfer tables.

1004. Compressed air or gas must not be used to blow dust or other substances off a person's body or clothing. Compressed gas must not be used to blow dust or other substances off work.

EXCEPTION: Thermite rail welding molds may be blown out with oxygen.

- 1005.** Employees must not go under locomotives or cars without the protection prescribed in **Operating Rules 650-662**.
- 1006.** Employees are prohibited from using the angle cock to control the movement of locomotives and cars.
- 1007.** Hand signals must be given from a place where they may be plainly seen and in such a way that they cannot be misunderstood. If there is doubt as to the meaning of a hand signal or for whom it is intended, it must be regarded as a stop signal.
- When a movement is being made on hand signals, the unexpected disappearance from view of the employee giving signals or the light by which signals are given must be regarded as a stop signal.
- 1008.** The use of equipment, machinery, power tools, or appliances of any kind by unauthorized or unqualified persons is prohibited.
- 1009.** Employees performing work on or near energized electrical equipment must not use, carry, hold or wear any conductive tools or objects, including crowbars, metal-cased flashlights or lanterns, rings, wristwatches or other metal apparel.
- 1010.** Before uncoupling a connection or removing valves, caps, plugs, or other parts from steam boilers, reservoirs, tanks, or other pressure vessels, the relief valve must be opened and the pressure completely exhausted.
- 1011.** Standing on boxes, barrels, chairs, or other improvised supports is prohibited. Only equipment approved for this purpose may be used.
- 1012.** Standing near or in line with a cable, rope, or chain under tension when a pull is being made or standing under a load, bucket, or magnet handled by hoisting equipment, is prohibited.
- 1013.** When practicable, employees should warn unauthorized persons not to trespass on railway property.
- 1014.** Before coupling to or moving cars that are being loaded or unloaded, plug doors and end doors must be closed and latched, dock boards, tank car couplings and similar connections must be removed and in the clear. Persons in or about cars must be warned and must be requested to vacate

cars, if practicable, before the cars are switched. Cars must be left at their proper places.

- 1015.** Camp trailers must be grounded in compliance with applicable electrical code before making electrical connections.
- 1016.** Running is prohibited in shop areas, buildings, or on structures.
- 1017.** Use of handrails on stairs where provided is required.
- 1018.** Opened gates must be secured before passage of equipment.
Gates across tracks must be equipped with proper fasteners (hooks, latches, or chains). Gates that cannot be properly secured in the open position must be reported immediately, and cars or engines will not enter until repairs are made.
- 1019.** When practicable, equipment or material that would obstruct the view of the track must be left at least 300 feet from crossings.
- 1020.** Climbing or jumping over obstructions or across openings is prohibited. Use authorized paths or routes where provided.
- 1021.** Employees are prohibited from passing over or under safety valves or automatic blow down valves on stationary boilers or steam generators under pressure.
- 1022.** Operating any type of internal combustion engine in an enclosed space without adequate ventilation is prohibited.
- 1023.** No tape line of any kind, wire, wet rope, or other conductive material will be used to measure the height of any wire or the distance between wires or other electrical conductors.
- 1024.** When using portable telephones, exercise caution to make connections to communication lines and not to power or signal lines that may be located on the same pole.
- 1025.** No open-flame torch, blowtorch, fusee, nor any burning material will be used to thaw frozen pipes around combustible material.
- 1026.** Smoking and open flames are prohibited:
 - [1]** In engine rooms except when use of a torch is required and then only after precautions to prevent fire.
 - [2]** While servicing or inspecting batteries.

1027. Scuffling, horseplay, practical jokes, and conduct of a similar nature while on duty or on Company property are prohibited.

1028. Do not throw anything from locomotives, cars, docks, scaffolding, or any elevation without first making sure that nobody is in position to be injured. Anyone throwing material from a high level must avoid becoming entangled and pulled off.

1029. When opening and closing car doors, employees must:

[1] Keep hands clear of door facings and latches.

[2] Watch for shifted lading or unexpected movement of door and protect against door falling off.

[3] Check to see that door operating mechanisms are properly engaged before moving the door.

[4] Protect against sudden movement of plug door operating handles.

1030. Moving under a vertically operated door while it is in motion is prohibited except when properly locked out during maintenance operations.

1031. Sealed Containers

Sealed containers containing drinking water, coffee, foods, or other fluids or materials can explode when subjected to temperatures that will produce pressure in the container. Plastic containers may melt when placed on heat sources. *Severe burn may result.*

[1] Employees must not place sealed containers that contain fluids, foods, or other materials in or on ovens, hot plates, stoves, or other heat sources in fixed facilities, locomotives, cabooses, passenger cars, or work equipment.

[2] Employees will adequately vent containers of any type before heating the container.

[3] Employees will use only appliances and utensils intended for food preparation for cooking, heating, or reheating beverages and foods.

1032. Lantern Battery Safety

[1] Batteries must be stored and transported in a manner that will prevent the battery terminals from being short-circuited.

Insulators, if available, must be placed over battery terminals when the batteries are not in a lantern or other device. If insulators are not available, battery terminals should be protected to prevent shorts. A battery must not be placed in a bag or case with another battery or with metallic objects that may short circuit the terminals.

- [2] Do not puncture, crush, overheat, or mutilate batteries. Batteries should be protected from physical impact.
- [3] Defective or spent batteries should be disposed of in accordance with instructions for the specific battery type.
- [4] Batteries must be charged only by the charger designed for the specific model battery. The label on a charger should be carefully matched to the label on the battery for compatibility before the two are interconnected. Other objects should never be placed on top of charging batteries.

1033. Yard Air Supply Line

Employees disconnecting a yard air supply line from a car must use the following procedure:

- [1] Close the angle cock on the equipment.
- [2] Close the supply line air cock.
- [3] Bleed the air from the yard air supply line.
 - [3.1] If equipped with a self-venting valve, the air will be vented from the hose after the valve is closed. If valve does not vent, allow 2 minutes for pressure equalization.
 - [3.2] If equipped with a manual bleed valve on the hose glad-hand, the valve must be used to relieve the air pressure from the hose after turning the angle cocks.
- [4] Uncouple the air hoses and carefully place the yard air supply line to prevent a tripping hazard.

NOTE: Do not uncouple air hoses before bleeding the air pressure. Report any supply line without a bleeding device to the proper authority.

- 1034. Employees must not attempt to move cars with push pole or similar device between cars or between engine and car.

PERSONAL PROTECTIVE EQUIPMENT

- 1040.** Personal protective equipment such as hard hats, eye and hearing protection, protective footwear, steel insoles, winter footwear, belts, lanyards, protective clothing, gloves, spats, guards, full body harness, masks, and respirators prescribed by instructions from employing departments must be worn in specified areas, jobs, or conditions.
- 1041.** Employees are responsible for seeing that all protective equipment issued to them is kept in good order, properly fitted, and available for their use when needed. Mutilation or alteration of personal protective equipment is prohibited.
- 1042. Hearing Protection**
- [1]** Employees must use approved hearing protection equipment when on duty or on Company property and engaged in any of the following:
- [1.1]** In any area or engaged in any activities designated by signs or instructions as requiring hearing protection.
 - [1.2]** Using or working next to tools or operating equipment identified by signs or instructions as requiring hearing protection.
 - [1.3]** Using air lances or nozzles to blow compressed air.
 - [1.4]** Operating gasoline or diesel powered fork trucks, utility tractors, or cranes.
 - [1.5]** In grit or sand blast areas during operations.
 - [1.6]** Riding on the steps, the platform or in the cab of an operating locomotive, or in locomotive load test areas during operations. **NOTE:** Where authorized by bulletin or special instruction, hearing protection will not be required in specified locomotive cabs. Hearing protection is not required in any locomotive cab when the diesel engine is idling.
 - [1.7]** Operating or working within 10 feet of operating pneumatic, hydraulic, electric, or combustion powered hand tools.
 - [1.8]** Working on or within 10 feet of operating hydraulic,

pneumatic, or combustion powered maintenance of way equipment.

[1.9] Working within 10 feet of an operating air compressor or air arc welding/cutting equipment during operations.

[1.10] Working within 20 feet of steel bending, sawing, shearing, punching, or hammering operations.

[1.11] Working within 20 feet of an operating derrick or locomotive crane.

[1.12] Working within 150 feet of operating jet snow blowers or pile drivers. NOTE: Dual protection (ear plugs and ear muffs) is required for operators of this equipment.

[1.13] Working in an open area within 150 feet of operating retarders. When working within 25 feet of operating master retarders, dual protection (ear plugs and ear muffs) is required.

[1.14] Police Department personnel when on a firing range.

[2] Employees must wear approved hearing protection when exposed to loud noise in situations not specifically listed in **[1.1]–[1.14]**. “Loud Noise” is that which would require a person to speak above a normal level in order to be understood by another at a distance of 3 feet.

[3] Employees will wear only NS approved hearing protection devices.

[4] Employees must properly use and care for hearing protection devices.

[5] Employees are not required to wear hearing protection when occupying WIDE body locomotives with all exterior doors and windows closed and latched. **EXCEPTION:** Approved hearing protection must be worn when the inside of the locomotive is being cleaned, maintained or repaired.

1043. Eye Protection

[1] All employees are required to either: (a) wear approved safety eye protection of a type listed in the NS Safety & Health Equipment Catalog; (b) use approved prescription safety glasses with factory installed permanent side shields; or (c) use approved over-the-glasses (OTG) safety eye protection with

any other prescription glasses, while on duty or on Company property in any area known to have or expected to have airborne particles that could get in eyes and where specifically required, except in the following areas:

- [1.1] Enclosed lunch and locker rooms, reporting locations, ready rooms;
- [1.2] Highway vehicles and equipment with enclosed compartments as specified by departmental instructions;
- [1.3] Enclosed offices;
- [1.4] En route to and from offices and personal or company vehicles in parking lots;
- [1.5] During recreational periods at Company facilities unless specifically required.

While in a work area, safety eye protection must not be removed unless absolutely necessary to de-fog, clean, or change. Care must be taken to keep interior surfaces of safety eye protection free of particles and debris.

- [2] When performing operations that require a face shield or welding shield, including the chipping of welding slag, concrete, or masonry, approved safety eye protection must also be worn to include safety glasses and/or goggles. Goggles must be worn under face shields when performing operations such as handling corrosive chemicals or other tasks where debris may rebound. Employees engaged in sawing rail or grinding are required to wear approved safety glasses and a full face shield with chin attachment. **EXCEPTION:** Mechanical Department employees are not required to wear chin attachments while grinding.

[3] Contact Lenses

- [3.1] Employees wearing contact lenses must wear approved eye protection where required.
- [3.2] Employees wearing contact lenses while performing vision critical jobs such as locomotive engineers, motor vehicle operators, and pilots, must have a pair of current prescription glasses or approved prescription safety glasses in required areas with them while on duty.

[4] Transportation employees are not required to wear eye protection when occupying wide body locomotives with all exterior doors and windows closed and latched. **EXCEPTION:** Approved eye protection must be worn when exiting the locomotive, when turning on or restarting the air conditioning/heating unit, and when the inside of the locomotive is being cleaned, maintained, or repaired.

1044. High-Visibility Safety Garments

Revised 9/18/17

[1] While on duty:

[1.1] All employees must wear an NS approved high-visibility safety vest when duties require them to be on foot within the right-of-way of a public highway.

[1.2] Engineering, Mechanical, and Train and Engine service employees must wear an NS approved high-visibility safety vest when required to be on any railroad tracks or right-of-way.

[1.3] Mechanical employees must wear an NS approved high-visibility safety vest when required to be:

- on any railroad tracks or right-of-way outside of Mechanical limits,
- within Mechanical limits when performing switching operations or working in locomotive service and dispatch facilities, inbound, outbound, receiving or forwarding tracks.

[2] Other high-visibility garments such as jackets, shirts, sweatshirts, or rain suits may be worn in lieu of the company issued vest provided the garment is labeled certified as meeting the American National Standards Institute (ANSI) Class II or Class III standards for garment size, reflectivity material and performance, and are of a FLUORESCENT YELLOW-GREEN COLOR.

[3] Safety garments, when required, must be worn as the top layer of clothing and must not be removed except in an emergency.

[4] Conductor trainees must wear an NS approved high visibility safety vest of FLUORESCENT ORANGE COLOR.

[5] NS approved safety vests designed to handle an Operator Control Unit (OCU) must only be worn by employees performing service as a Remote Control Operator (RCO).

EXCEPTIONS:

1. Safety vests are not required when riding in enclosed equipment or vehicles.
2. Engineering Department - Safety vests are not required:
 - when burning, welding, or grinding
 - when using fall protection
 - when working on, or working in (repairing), close proximity to standing equipment
 - at the Charlotte Roadway Shop, Roanoke Material Yard, or H.L. Rose Fabrication plant
3. Mechanical Department:
 - while inside of a Mechanical shop building,
 - when burning, welding, or grinding.

1045. Use of Lanterns

[1] Train and Engine Service employees must use an NS approved lantern when working on or about the tracks at night. The lantern must be turned on before sunset until after sunrise, and at any other time or location where low lighting conditions exist.

[2] An NS-approved headlamp, or other suitable lighting source, may be used in lieu of the lantern under the following conditions:

[2.1] At locations authorized by Special Instructions.

[2.2] By Engineers when working on or about their locomotives.

[3] Except in an emergency, the headlamp must not be used to give hand signals.

WORKING ON OR ABOUT TRACKS

1050. Employees must not walk or stand between the rails of a track or foul a live track unless necessary in performance of their duties.

(a) When walking, employees must:

[1] Remain aware of their surroundings.

[2] Not engage in an activity, which will distract their attention.

[3] Be alert for slipping and tripping hazards.

[4] Walk around obstructions, open holes, and excavations.

[5] Use designated walkways where provided and choose routes that afford the safest walking conditions.

[6] Use extra caution while walking on ballast and ballast shoulders, on uneven ground, in icy and snowy conditions, when visibility is reduced, or when stepping on crossties.

1052. Before reversing direction of MW&S equipment, the operator must give a warning signal and know the way is clear.

GETTING ON OR OFF EQUIPMENT

1070. Getting on or off equipment is prohibited unless required in the performance of duty. Employees must not attempt to get on or off equipment when ground clearance conditions will compromise their personal safety.

When getting on or off equipment, employees must:

- [1]** Ensure hands are free of hand-held objects.
- [2]** Select a location that is free of obstructions such as switches, derails and any other underfoot condition that could cause tripping or stumbling.
- [3]** Be alert to avoid equipment approaching on adjacent track, close clearances, and irregularities or openings in the ground.
- [4]** Get on or off the side away from any adjacent track when conditions permit.
- [5]** Use side ladders, sill steps, and grab irons.
- [6]** Face the equipment and maintain a secure handhold using “Three Points of Contact (2 hands and 1 foot OR 1 hand and 2 feet).

1071. Mounting and Dismounting Moving Equipment

- [1]** Except in an emergency, employees must not mount or dismount:
 - [1.1]** Moving equipment unless they have been trained and demonstrated proficiency at the McDonough Training Center or to their supervisor.
 - [1.2]** Equipment moving in excess of a safe walking speed (approximately 2-3 MPH). Employees must ensure conditions are safe prior to mounting or dismounting moving equipment. If conditions warrant, the speed must be reduced, or the move stopped, prior to mounting or dismounting.

Revised 11/18/15

[1.3] A moving car, unless equipped with a horizontal grab iron at least waist high, or two vertical grab irons, so located that the employee can stand upright on the step.

[2] Employees must not mount or dismount moving equipment:

[2.1] Located on a main track or siding, outside of a yard or terminal.

[2.2] At the point of coupling.

[2.3] From the trailing end of the equipment.

EXCEPTIONS: Employees may mount or dismount the trailing side ladder or sill step:

(a) From the trailing end of a locomotive with or without cars.

(b) From the trailing end of a single car or the rear car of coupled cars.

EXCEPTION: These restrictions do not apply to Engineering Department employees while engaged in unloading ballast cars.

[3] Prior to mounting or dismounting moving equipment:

[3.1] The Engineer/RCO must be notified of the mounting or dismounting location.

[3.2] When notified, the Engineer/RCO must ensure speed is 3 MPH or less at the mounting or dismounting location.

[3.3] The Engineer must be notified after mounting or dismounting moving equipment. The notification should be stated as follows:

Employee mounting/dismounting: "NS H33 Conductor mounting in 5 cars, over."

Engineer/RCO: "Conductor is mounting in 5 cars, out."

Employee mounting/dismounting: "NS H33 Conductor is on, over."

Engineer/RCO: "Conductor is on, out."

Revised 6/27/16

1072. Mounting or Dismounting Locomotives

Mounting or dismounting locomotives with travel bags, grips, coolers, or similar items is permissible only when it can be done safely. If more than one crewmember is available, the Buddy System must be used when necessary to safely load or unload the items.

BUDDY SYSTEM

[1] Prior to mounting or dismounting, crewmembers must discuss how to safely load or unload the items. Consideration must be given to the size and weight of the items, weather conditions, position of each employee, and any other condition that would restrict the safe loading or unloading of the items.

[2] Each item must be handed to a co-worker with 1 employee located on the platform and the other employee located on the ground. Each item received must be placed in a location where it will not present a safety or tripping hazard.

Any items that cannot be safely handled or properly stored because of size, shape or weight are prohibited.

1073. Employees must not attempt to mount or dismount Triple Crown Service Road-Railer trailers account this equipment is not equipped with the safety appliances shown below:

- Handbrake
- End Platforms
- Sill Steps
- End Ladders
- Side Handholds
- End Handholds
- Horizontal End-Platform Handholds
- Uncoupling Levers

Employees must take special precautions when handling.

1074. Train or engine service employees are prohibited from ascending or descending end ladders of cars. (**EXCEPTION:** if car is equipped with short side ladder and high hand brake, use end ladder as necessary to reach brake platform, but only when car is standing.) Other employees whose duties require them to use end ladders may do so only when equipment is standing.

WORKING ON OR ABOUT LOCOMOTIVES, CARS, OR TRAINS

Revised 5/2/17

1080. Riding Equipment

- [1] Employees must exercise care to avoid injury from slack action or from sudden start or stop. Employees in a moving locomotive or caboose must remain seated and braced for slack action when duties and conditions permit.
 - [2] Riding rail cars, shoving platforms, or outside the cab of a locomotive or caboose, is prohibited unless required in the performance of duty.
 - [3] When riding or positioned on rail equipment, employees must maintain “Three Points of Contact” (2 hands and 1 foot OR 1 hand and 2 feet).
 - [4] Employees must not ride rail cars at speeds greater than 20 MPH.
 - [4.1] When riding on rail cars, the Engineer/RCO must be notified prior to movement. The Engineer/RCO must use caution in starting and stopping to control slack action and ensure maximum speed is not exceeded.
- EXCEPTION:** Engineering Department employees may ride rail train equipment at speeds not exceeding 35 MPH when seated in designated areas.
- [5] Employees must not ride or position themselves on equipment during a coupling except while positioned on a locomotive.

1081. A shop card on a car indicates a defect that may involve safety appliances, such as hand brakes, uncoupling levers, or grab irons. Employees handling such cars must expect to find one or more safety appliances defective. Shop card must not be removed except by authorized Mechanical Department personnel.

1082. Employees must not:

- [1] Occupy the roof of a locomotive except when servicing or making repairs.

- [2] Ride or walk on tank car running board near dome when movement may cause contents to splash.
1083. When opening, closing, or moving through locomotive or caboose doors, employees must maintain a firm hold on the knob or handle and keep their hands off the door edges and facing.
1084. When protective window screens are provided, employees must keep them closed except when necessary to open them briefly for operating purposes.
1085. Both angle cocks must be closed before attempting to stop air hose leaks.
1086. **Air-Dump Cars**
- [1] Employees must be clear of the discharge openings and all moving parts on MW&S side dump cars, rapid discharge hopper cars, or hydraulic ballast cars before coupling air from brake pipe, auxiliary line, or any external source to the brake pipe or dump line connection.
- [2] **MW&S Side Dump Cars**
- [2.1] Prior to side dump cars being handled in other than work train service, a responsible employee must:
- (a) Disconnect dumping line hoses on each end of the car.
 - (b) Close cut-off valves in dumping line.
- [2.2] Before charging dump reservoir systems, check the dump handle on both sides of the car to ensure that both handles are pushed inward or in the “OFF” position.
1087. Employees must not operate valves, controls, or switches to energize power circuits or to cause equipment or machinery to move until they know that no one is in position to be injured.

1088. Employees must not move from one unit to another unless necessary while the locomotive is moving; then, they must have safety chains and platforms positioned between units and must maintain secure handhold. Due to locomotive design differences, employees crossing over from one locomotive to another must be alert to the possibility of a height differential between adjoining M/U walkway platforms. Caution must be exercised to avoid tripping or stumbling when this condition is encountered.

1089. Closing Angle Cocks

Employees must close both angle cocks before uncoupling air hoses by hand. When opening angle cock where air hose is already uncoupled, lower end of hose must be held firmly.

1090. Drawbar Alignment Strap

Drawbar alignment straps may be used only at locations authorized and only by employees who have been qualified on its use by a division or terminal officer.

1091. Riding Shove Moves over Highway-Rail Crossings

Employees are prohibited from riding the leading car of shove movements over public or private crossings, or at locations where the ground surface is even with the top of the rail, anytime significant amounts of snow, ice, mud, or any other debris has accumulated in the flangeway.

Particular caution should be taken at crossings. When these conditions are present, employees should dismount and stand clear of the movement until the leading end has passed over the crossing.

Revised 3/23/2015

OPERATING HAND BRAKES

Vertical-Wheel, End-Mounted Hand Brakes

- 1100.** Unless an approved telescoping brake stick is used, mount the side ladder, climb to the level of the hand brake, and move on same level to end ladder. **EXCEPTION:** See **Rule 1074**.
- (a) Stand with left foot on end ladder rung, right foot on brake platform, left hand on end ladder rung or top grab iron. With right hand grasping only the outer rim, rotate the brake wheel clockwise until slack is taken up, then give short pulls by using the legs until the necessary braking force is obtained. When applying final pressure, the outer rim should be gripped at the junction of the rim to spoke such that the spoke is on the side of the hand in the direction of pull to prevent hand slippage. To release a hand brake, assume the same position and operate the brake wheel or release lever.
 - (b) To dismount, reverse the mounting procedure.
 - (c) Operation of end-mounted hand brake from the ground is permitted on SPINE cars, single-axle flat cars, and similar equipment not suitably equipped with brake platform, and on low-side gondolas but only when car is standing and:
 - [1] Protection prescribed by **Operating Rule 22** has been provided for trainmen.
 - [2] Blue signal protection has been provided for Mechanical Department employees.Operation of end-mounted hand brake from the ground on other types of equipment is prohibited except when servicing or making repairs and the equipment is protected by blue signal.
 - (d) End-mounted vertical-wheel hand brake on a multi-level or flat car must not be applied or released while car is moving unless the car is equipped with platform and grab iron(s) that allows employee to maintain secure footing and handhold.
 - (e) Telescoping brake sticks are to be used on vertical-wheel, end-mounted hand brakes only. Except when making adjustments to length, brake sticks must be locked into position at all times. When transporting brake sticks, length must be reduced to

minimum and must not be held or hung on moving equipment at a location where employees are riding. Do not push on a hand brake wheel with a brake stick.

(f) Use of the Norfolk Southern Brake Stick

- [1] Only approved BRAKE STICKS authorized by Norfolk Southern may be used.
- [2] Employees must be trained and qualified before using the BRAKE STICK.
- [3] Prior to each use, the BRAKE STICK must be inspected to determine that the:
 - [3.1] Extension shaft is not noticeably bent.
 - [3.2] Extension shaft locking grooves have no visible cracks.
 - [3.3] Extension shaft is held snugly at each of the locking grooves by the locking mechanism.
 - [3.4] Head/extension rod attachment's head is not loose or the extension has no observable cracks.
- [4] The use of modified, damaged, or field repaired BRAKE STICKS is prohibited. Damaged BRAKE STICKS must be turned in or forwarded to the proper authority for replacement.
- [5] When available, or where specified by special instructions, employees must use the brake stick to operate high or low, vertically mounted hand brakes. The brake stick may also be used to:
 - [5.1] Operate retainer valves or open knuckles.
 - [5.2] Operate the EOTD reset button.
 - [5.3] Operate angle cocks when the employee is positioned on the same side of the equipment where the angle cock is located. Employees are prohibited from using the BRAKE STICK to operate angle cocks located on the opposite side of the car from the employee.
- [6] The BRAKE STICK hook should be inserted in the brake wheel from the outside.

- [7] The BRAKE STICK must always be in the LOCKED position except when adjusting length. When transporting the BRAKE STICK, it must be in the collapsed and locked position.
 - [8] The BRAKE STICK must not be stored in an area where it may be an obstruction or may present a tripping hazard. These areas include building and equipment walkways, steps, seats, or in the passenger compartment of automobiles. The BRAKE STICK must not be leaned against any type of support unless it is secured from falling.
 - [9] When on equipment, do not hang the BRAKE STICK on an occupied side ladder or where the BRAKE STICK extends below the car side.
 - [10] Do not use the BRAKE STICK to operate hand brakes on moving equipment. Do not place the Brake Stick on or remove the Brake Stick from moving equipment.
 - [11] Do not use the BRAKE STICK to operate bent or broken brake wheels.
 - [12] Do not use the BRAKE STICK to operate quick release handles.
 - [13] Do not mount or dismount equipment while carrying the BRAKE STICK.
- (g). **Steps for Operating a Hand Brake with the Brake Stick**
- [1] Unlock the second stage of the BRAKE STICK and adjust length (take maximum advantage of available length in order to remain outside the track gauge and away from equipment). Re-lock second stage.
 - [2] Position yourself parallel to the brake wheel to be operated and outside gauge of track and protect against unexpected movement. Determine the type of hand brake to be operated and be alert to quick release, spin type brakes.
 - [2.1] Turn your body so that your shoulders are perpendicular to the rail.

- [2.2] Place feet shoulder width apart and always maintain good balance.
- [2.3] Grip the lower section of the BRAKE STICK with both hands. Your hands should be about 12" apart and the bottom hand about 2–3" from the end of the handle.
- [2.4] Avoid positions where you could strike against other objects while operating a hand brake.

NOTE: When pulling on the BRAKE STICK, position yourself so that the handle travels to the side of your body and not into your body.

- [2.5] BRAKE STICK must not be used while equipment is moving on an adjacent track.

[3] Applying Hand Brake

- [3.1] Brake Side of Car — Hook the wheel in the 3 O’CLOCK to 6 O’CLOCK section.
- [3.2] Opposite Side of Car — Hook the wheel in the 12 O’CLOCK to 3 O’CLOCK section.
- [3.3] If there is no tension, spin the wheel until tension is on the brake chain. This can be done continuously or with short strokes allowing the BRAKE STICK to disengage the wheel with each stroke.
- [3.4] When tension is on the brake chain, apply final braking effort using only short quarter turn pulls. Refrain from hammering or making sudden jerking motions.

[4] Releasing Hand Brake Using the Brake Wheel

- [4.1] Brake Side of Car — Hook the wheel in the 9 O’CLOCK or 10 O’CLOCK section.
- [4.2] Opposite Side of Car — Hook the wheel in the 7 O’CLOCK or 8 O’CLOCK section.
- [4.3] Use a short, firm pull to release the brake. Refrain from hammering or making sudden jerking motions.

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[4.4] When there is no tension on the brake chain, spin the wheel using continuous revolutions or short strokes allowing the BRAKE STICK to disengage the wheel and release the brake.

[5] Releasing the Hand Brake using the Quick Release

[5.1] Make sure the head of the brake stick is firmly in contact with the quick release lever.

[5.2] Use a short, firm push or pull to release the brake. Refrain from hammering or making sudden jerking motions.

[5.3] After releasing the brake using the quick release lever, employees must visually ensure the brake is fully released.

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Horizontal Wheel Geared Hand Brakes

1101. Horizontal wheel brakes should be used to secure cars as a last priority. If there are sufficient cars equipped with end mounted or side mounted brakes to secure the cars left standing, the horizontal wheel brake should not be used.

[1] Before operating a horizontal wheel geared hand brake, employees must:

- [1.1]** Stand where the brake can be operated without interference from lading.
- [1.2]** Inspect the surface of the car for grease or other hazards that would interfere with secure footing.
- [1.3]** Place both feet securely on the car.
- [1.4]** Determine whether the hand brake is (a) pawl type, (b) pawl weight type, or (c) non-spin type.
- [1.5]** Ensure that the shaft and wheel are not bent.
- [1.6]** Ensure that the shaft is in the fully raised position and the shaft support is engaged at the bottom end of the shaft.

NOTE: The shaft rests on a support or stirrup which swings under the bottom of the shaft.

[1.7] Keep clothing and equipment clear of the shaft and wheel in case it spins unexpectedly.

[2] Applying Brakes

- Pawl weight brakes — Ensure that the pawl weight is in the **APPLY (ON)** position, causing the pawl to engage the ratchet.
- Foot operated pawl brakes — Place 1 foot next to the pawl so the side of the foot can push the pawl to engage the ratchet.

[2.1] Use both hands.

[2.2] Rotate the hand wheel clockwise until the necessary braking power is obtained.

[2.3] Push foot operated pawl (if equipped) into engagement with the ratchet when necessary braking power is reached.

[2.4] After tightening brake, remove both hands from the wheel simultaneously in case the ratchet does not engage properly and the wheel spins.

[3] Releasing Brakes

[3.1] Position feet to ensure balance.

[3.2] (a) Pawl weight brakes — Rotate pawl weight to **RELEASE (OFF)** position. Carefully rotate hand wheel clockwise to disengage pawl. Release hand wheel and stand clear.

(b) Foot operated pawl brakes — Place 1 foot next to the pawl so that the pawl can be pushed with the side of the foot to disengage the ratchet. Carefully rotate hand wheel clockwise and push pawl out of engagement with ratchet. Release hand wheel and stand clear.

(c) Non-spin brakes — Turn hand wheel counter-clockwise until the limit has been reached. There is no trip lever to actuate.

[3.3] Remove both hands from the wheel simultaneously. The wheel can spin counter-clockwise.

[4] Employees must not operate horizontal wheel geared hand brakes on moving cars.

LEVER AND SIDE-MOUNTED WHEEL HAND BRAKES

- 1102.** Employees must not operate side-mounted hand brakes on moving cars. When equipment is standing, side-mounted hand brakes may be operated by an employee on the ground.
- (a)** When operating side-mounted lever hand brake, use 1 hand to operate the brake while holding on to the grab iron or the car with the other hand.
 - (b)** When operating release lever on ratchet-type hand brakes, hands or fingers must not be placed between release lever and brake handle.
 - (c)** When applying lever type hand brakes on locomotives, where possible:
 - [1]** Support upper body by grasping hand rail or grab iron while operating brake lever with the other hand, and
 - [2]** Use leg muscles to assist in applying final pressure while using short pulls and keeping upper body as erect as possible.
 - (d)** When operating wheel-type hand brake on locomotive, both feet must be securely positioned to prevent slipping, take up slack using 1 or 2 hands on outer rim of the brake wheel. When applying final pressure, stand upright and face the brake wheel and operate until applied using 2 hands. If the wheel location does not permit standing upright or facing the brake wheel, use 1 hand to hold the handrail or similar object to support the weight of the upper body and brace the body against unexpected changes in force; then, give short pulls by using the legs until the necessary force is obtained.

HAND BRAKES — GENERAL

- 1103.** When necessary to control cars by hand brakes, it must be known, before cars are cut off, that such brakes are in good order. When an engine is to be detached, equipment left standing must be properly secured. Air brakes must not be depended upon to hold cars or an unattended engine standing on a grade.
- 1104.** Hand brakes on moving cars must not be operated unless necessary to control the speed.
- 1105.** When operating hand brakes, keep the wheel or lever as close to the body as safely possible while maintaining firm grip, erect posture, and balance. Minimize twisting and side-to-side bending. Use smooth movements, do not jerk. Position hands and feet to ensure good balance and to take advantage of leg strength.
- 1106. Operating Quick-Release Hand Brakes**

- [1]** Employees operating quick release levers on wheel-type hand brakes must ensure that hands are not in a position where a spinning brake wheel can catch a hand or the employee's clothing.
- [2]** Quick-release hand brakes are designed to fully release the hand brake when the quick release lever is operated. If the hand brake does not release when the quick release lever is operated; then, the hand brake wheel should not be operated until the tension on the hand brake chain and associated mechanisms has been relieved.

Employees must ensure that the tension has been relieved on the hand brake chain and associated mechanisms before operating the brake wheel by the following procedure:

- [2.1]** The air brake system on the car must be fully charged from a locomotive or other source of brake pipe air.
- [2.2]** An emergency brake application must be made on the car and the employee must determine that the brake cylinder piston on the car extends fully. If the piston does not extend fully, then the air brake system must be recharged and another emergency brake application made.

- [2.3]** While the air brake on the car remains applied in an emergency application, the employee will manually release the hand brake by turning the brake wheel in a counterclockwise direction.
- [2.4]** After the hand brake chain becomes slack, the air brake on the car may be released by recharging the brake pipe or operating the brake cylinder release valve on the car.

OPERATING HAND-THROW SWITCHES AND DERAILS

Hand-Throw Switches

- 1110.** Check that no obstruction interferes with operation and that the switch is not spiked, clamped, or tagged.
- (a)** Remove locks, keepers, toggles, or latches before operating switch.
 - (b)** While operating the switch lever or bow handles on switches so equipped, the following techniques are to be used:
 - [1]** Stand close to the lever or bow handle and use both hands.
 - [2]** Use smooth controlled movements. Do not jerk on the switch lever or bow handle.
 - [3]** Face the switch with 1 foot on each side of the switch tie closest to the switch lever, bend your knees, and use your legs with your back in proper position to move the lever to the center position. For bow handle switches, place feet shoulder width apart and bend your knees slightly (if necessary) and use your legs to move the bow handle to the center position.
 - [4]** Shift your feet in the direction of the switch lever movement to straddle opposite tie and use your legs and body weight to complete the lining of the switch. Final pressure may be applied by pushing down with 1 foot on the switch lever when operating low switch stand. For bow handle switches, shift your feet in the direction of the bow handle movement to complete the lining of the switch. Use smooth, controlled movements. Do not jerk on the bow handle. Do not twist or bend your torso. Do not allow your hands to move past the left or right side of the body. Keep your hands between your shoulders.
 - [5]** When operating high switch stand, pull lever toward you instead of pushing it away from you.

NOTE: Certain New Century and Racor switches are equipped with bow handles. The procedure for operating both types is the same.

- (c) Keep feet and hands clear of descending lever or ball.
- (d) After operating switch, check securing devices. Observe switch points for proper fit and alignment. Secure with latch and lock if so equipped.
- (e) If difficulty is experienced, promptly report to proper authority.

Hand-Throw Derails

1111. Remove lock, face the derail, and with knees bent, grasp operating handle with both hands; lift and move handle.

(a) A hinge-type derail not equipped with handle will be lifted and pushed away when removing or applying, keeping hands and feet clear.

(b) Switch point derails are to be handled as hand-throw switches.

NOTE: Rule 1110 (a) through (e).

(c) After use of the track is completed, restore derail and lock.

1112. Operating Derails with Upright Handles

[1] Check for objects or debris that might interfere with the operation of the derail, including the connecting rod and where the connecting rod couples with the derail slide (which the upright handle is bolted to).

[2] Unlock the derail and remove the pin.

[3] Facing the derail use 2 hands to grasp the handle securely making sure that your hands are centered in front of your body. Make sure your feet are shoulder width apart and that your knees are bent slightly (if necessary) with your legs and back in proper position to move the handle in the direction necessary.

[4] Using a slow and controlled motion, move the handle in the desired direction while keeping your hands centered in front of your body and moving your feet as necessary. Use smooth and controlled movements. Do NOT jerk on the handle.

[5] Ensure the derail is in the proper position. Replace and lock the pin.

WORKING ON OR ABOUT POLES, STRUCTURES, LADDERS, AND SCAFFOLDS

1150. Employees must see that ladders are in good condition and of adequate length. Placing ladder on any loose object to increase the reach is prohibited. The use of improvised ladders is prohibited. Employees must face ladders and hold on with both hands when ascending and descending. Ladders must not be used in horizontal position.

Metal ladders must not be used when performing electrical work or where they may contact electrical wires. Do not use a straight ladder when repairing cars or locomotives without proper authority.

(a) Portable straight ladders must be placed on solid footing, secured against slipping by the use of safety feet or spikes as appropriate and supported at the upper end to prevent twisting. If conditions warrant, the ladder must be tied or attended. A ladder must be placed so that the horizontal distance from the base to the support against which it is leaning is about one-fourth (1/4) the length of the ladder. Employees must not climb higher than the fourth rung from the top.

EXCEPTION: This rule is not applicable when portable straight ladders 6 feet or less in length are used inside a locomotive car body.

(b) Employees must not stand on the top cap of any stepladder over 36" in height. On taller stepladders, it is permissible to stand on the top step if it is at least 18" below the top cap.

(c) Only standard extension ladders will be used. They must be properly assembled and carefully raised to assure sufficient overlap is maintained and that guides and hooks are properly engaged.

1151. Employees must see that scaffolds are properly constructed or assembled, are strong enough for the load, and are approved by proper authority before being used.

(a) Scaffold boards used on sectional metal scaffolds must be equipped with cleats on the underside. Where such

scaffolding is equipped with wheels, they must be locked before working from the scaffold.

- (b)** Care must be taken in placing hooks for suspended scaffolding to ensure that they have adequate holding ability and are not in a position where they may be disturbed or dislodged.
- (c)** Temporary wooden scaffolding must be provided with hand railings and toe boards.

1152. Except when a scaffold or ladder is used, a safety harness, belt, net, or guard rope must be used during work:

- [1]** Outside a window above ground level.
- [2]** On a steep pitched roof.
- [3]** On a steep hillside, cliff, or embankment.
- [4]** In dangerous positions on bridges or other structures.

1153. Moving scaffolds or ladders from point to point while employees are on them is prohibited.

Leaning out, or reaching out more than an arm's length from edge of ladder, scaffold, or elevated platform is prohibited.

Employees must maintain adequate clearance between work equipment and energized power lines.

1154. Employees whose duties require them to climb poles must use body belts, safety straps, and climbers where applicable.

1155. Scaffolds and ladders in use at locations where persons or vehicles could collide with them must be protected. Rope barriers or other means must be used to protect persons from falling objects.

1156. Norfolk Southern approved fall protection equipment prescribed by instructions from employing departments must be used for specified jobs and conditions.

- (a)** Fall protection equipment assigned to an individual will be inspected by him before each use. Equipment found defective will not be used.
- (b)** Tie off points will be examined for structural integrity before attaching fall protection. Tie off points must be rated for 5,000 pounds of static load for each person attached.

- (c) The standard lanyard will not exceed 6 feet in length. The point of attachment of the lanyard will be above the waist where possible and out of the way of the work area.
- (d) All fall protection devices must be used in accordance with manufacturers' written instructions.
- (e) Special fall protection equipment will be used only upon permission of the responsible supervisor.
- (f) If a fall occurs, the involved fall protection equipment will be taken out of service and held by the responsible supervisor until written instructions for disposition are received.

1157. All Communications, Signal and Electrical employees will use standard Norfolk Southern approved fall protection equipment when working on structures equipped with fall protection apparatus. Only trained and qualified employees will work on structures not equipped with fall protection apparatus, such as pole lines and yard lighting poles, signal bridges, mast, cantilevers, and communication and light towers, and in all such instances may use lineman body belts and work positioning straps in lieu of fall protection equipment.

HANDLING MATERIAL

- 1160.** To protect against injury while handling material, equipment, supplies, and freight, employees must:
- [1]** Wear gloves when handling rough material.
 - [2]** Keep hands and feet clear when placing or removing gangplanks, transfer plates, or skids and when opening or closing doors.
 - [3]** Be sure door mechanism is in safe condition before opening doors. Protect against being struck by lading that may fall out when car doors are opened. Before entering, be sure that interior bulkheads are properly suspended.
 - [4]** When forklifts are operated in boxcars, opposite doors must be partially closed to prevent accidental exit.
- 1161.** Transfer plates, gangplanks, and skids must be in good condition and securely placed. When removing transfer plates, remove nails, cleats, or other fastening devices.
- 1162.** Placing gangplanks or transfer plates in doorways of cars coupled to a locomotive is prohibited unless protection against movement has been provided.
- 1163.** Material and equipment must be kept a safe distance from tracks, walkways, trucking spaces, edges of platforms, and must be secured against movement.
- 1164.** When unloading poles or similar lading, use caution to prevent lading from becoming dislodged unexpectedly. Tag lines must be used if conditions warrant. When distributing poles from a moving train, speed will not exceed 5 MPH.
- 1165.** Throwing, dropping, or roughly handling loaded or empty oxygen, acetylene, other gas cylinders, or carboys is prohibited. Hoisting gas cylinders without prescribed cradle is prohibited. Gas cylinders must not be handled by a magnet.
- 1166.** Before handling carboys, ascertain that stoppers and tops are secure and that carboys are not damaged or leaking. If the odor of gas or other fumes is detected while handling cylinders or carboys, employees shall immediately vacate the area.

Placing carboys on their sides or turning them over before determining they are empty is prohibited. Storage batteries or carboys, full or empty, must not be stacked.

- 1167.** As appropriate, use rubber gloves, face shields, aprons, protective creams, respirators, and/or other approved safeguards recommended by the manufacturer's material safety data sheet (MSDS) when handling chemicals, materials, or other substances that could cause irritation or illness.
- 1168.** When handling ties or timber, tongs and gloves must be used where practicable. Maintain sharp points on the tie tongs so that a good bite into the ties or timber results when pressure is applied. Do not wipe your face, head, or skin with the gloves or other materials that have been in contact with wood preservatives.
- 1169.** After opening kegs, packing boxes, other containers, protruding nails, staples, wire, and banding must immediately be removed or bent back.
- 1170.** When lifting or moving heavy or cumbersome objects, avoid jerking, sudden movements or twisted positions. Have secure footing, bend knees, keep back erect, maintain a firm grip on the object, and keep load as close to body as possible. When two or more people are lifting or moving a heavy or cumbersome object, 1 person will give signals.
- 1171.** Do not walk in front of heavy objects being rolled or moved on rollers. See that such objects are secured before leaving them.
- 1172.** Employees moving material on trucks or rollers must be prepared to stop it short of obstructions or persons.

USING SHOP TRACTORS, TRUCKS, TRAILERS, AND FORKLIFTS

- 1180.** The number of people riding a forklift will be limited to the seating capacity.
- 1181.** Overloading or unsafe loading of trucks and trailers is prohibited.
Truck and tractor operators must reduce speed and sound alarm when approaching persons, doorways, passageways, corners, or places where persons are likely to step out.
Posted speed restrictions must be observed.
- 1182.** Pushing any truck when the load obstructs the view is prohibited.
- 1183.** Riding on trailer couplings is prohibited.
- 1184.** When handling trucks on elevators, employees must see that truck and load have sufficient clearance and are properly secured before elevators are set in motion.
- 1185.** Employees are prohibited from riding up or down on the tines of lift truck forks.
- 1186.** Employees are prohibited from standing on or working from a platform on a forklift truck or similar device unless the platform is of an approved design and is secured.
- 1187.** Always look in both directions before crossing platforms or trucking spaces. Crossing closely in front of moving trucks or tractors is prohibited.
- 1188.** When trucks and trailers are coupled or uncoupled, hands must be kept clear of the coupling devices.
- 1189.** Place a red flag 12" square (day) or red light visible 500 feet (night) on end of material that extends 3 feet or more beyond end of truck.
- 1190.** A self-propelled truck controlled by an employee on foot should always be moved away from the operator except when necessary to back out or when otherwise advised by the equipment manufacturer's written instructions. In the event such an exception requires an employee to lead a self-propelled truck, that employee must follow the manufacturer's instructions and must stand or walk to the side of the truck's path and out of danger.

- 1191.** Before a tractor or forklift enters a truck, trailer, or railway car, the operator must know that the equipment is secured against movement and that the floor is in safe condition.
- 1192.** Operators of forklift trucks must:
- [1]** Keep the forks centered on the frame and as far apart as possible for the load to be handled.
 - [2]** Insert the forks under the load fully so the load is in contact with the back rest or the vertical part of the forks, and the weight of the load is centered over the forks.
 - [3]** Move with the load tilted back so it will not pitch forward in case of a sudden stop.
 - [4]** Move, either loaded or empty, with the forks as low as possible. Place forks in their lowest position when not in use.
 - [5]** If the load obstructs forward view, travel with the load trailing if on level ground. Move loaded forklift trucks up or down ramps with the load up the grade.
 - [6]** Secure loose material, oddly shaped material, bulky, or loads to prevent shifting or toppling while in motion. Forklift trucks should not be used to handle loads that cannot be properly secured or safely handled.
 - [7]** Avoid obstructions or rough places in floor, pavement, or road.
 - [8]** Never exceed the load rated capacity of a forklift truck.
 - [9]** Never attempt to modify a forklift truck to lift a load that is too heavy or could affect its safety.
 - [10]** Operate forklift trucks at a safe speed in accordance with the environment, conditions, and the load transported.
- 1193.** Before leaving a forklift truck, tractor, or other equipment unattended for any reason, employees must see that controls are neutralized, power is shut off, and brakes are set. If the truck or tractor is parked on an incline, wheels must be blocked. Trucks, tractors, or other equipment must be left clear of tracks.
- 1194.** Employees placing cars on transfer tables or turntables must know that tracks are properly lined for movement, table is secured, and ground personnel are clear.

USING TOOLS, APPLIANCES, AND MACHINES

- 1200.** Employees must not use tools, machinery, or appliances that are improperly assembled, defective, or improvised nor use them for other than their intended purposes.
- 1201.** Tools, machinery, and appliances not in use must be properly protected. Sharp points or edges must not be left exposed. Laying down a power tool with motor running is prohibited.
- 1202.** When using a manual car mover, lever, or bar:
- [1]** Place the tool securely for a firm bearing under or against object to be moved.
 - [2]** Assume a braced position with secure placement of feet.
 - [3]** Maintain balance to have all parts of body in position to avoid being caught between the bar or lever and other objects. Keep the handle out of line with the rail.
 - [4]** Observe base or contact points on car movers and make necessary replacements or adjustments to tool or tool parts.
 - [5]** Use suitable block under bar, lever, or raised object where required to assure secure grip.
- 1203.** The use of lining bars or claw bars for turning rail is prohibited. Rail forks, track wrenches, or bars not exceeding 48" in length are to be used when turning rail by hand. When turning rail, employees are to use extreme caution to avoid positioning themselves where they might be struck about the head or face in the event of unexpected rail turning.
- 1204.** Spike mauls must not be used to strike chisels, rock drills, punches, lining pins, or other spike mauls. Striking a claw bar with any tool is prohibited. When two or more employees are driving spikes by hand, they are prohibited from driving the same spike at the same time.
- 1205.** Drift pins or similar devices must be used for aligning holes.
- 1206.** Jacks must be securely placed. A block of wood or rubber, 1/4" to 1/2" thick, must be inserted between head of the jack and metal parts being jacked except when jacking rail.

NOTE: The thickness of the block/shim does not apply when using in-floor jacks.

A proper jack handle must be used and must be removed when not in use except when jacking traction motors into position.

Track jacks are not to be walked off. Before tripping a jack under load, make certain all employees, tools, and materials are in the clear, and all employees understand what is to happen.

- 1207. Track jacks must be placed on outside of rail when practicable.
- 1208. When 1 employee is holding a chisel bar, punch, or similar tool to be struck with a hammer by another employee, the employees should be opposite each other if possible.
- 1209. Operating machines or appliances without safety guards in proper position is prohibited.
- 1210. Reaching between, going between, or touching moving belts, chains and cables, or shifting them by hand is prohibited.
- 1211. All setscrews or keys in revolving spindles or shafts must be flush, countersunk, or covered by a guard.
- 1212. Only authorized personnel may repair or adjust speed governors.
- 1213. Before using a drill press, the work must be secured against turning by a vise, clamp, or chuck.
- 1214. Before striking a fouled reamer or drilling tool, the motor must be removed from the tool.
- 1215. Before connecting or disconnecting pneumatic tools, close valves at supply lines and relieve all pressure from the hoses.
EXCEPTION: Does not apply when supply lines and hoses are equipped with closed-type, quick-disconnect fittings.
- 1216. A leak in a pressurized line or vessel must not be located with the hand or any other part of the body. Shut off the source of pressure and relieve any pressure in the system before making repairs.

- 1217.** Before cutting off or backing out bolts, nuts, rivets, or other material that may cause flying fragments, such material must be covered by brooms, bagging, canvas or other screen, or the area must be cleared of other people.
- When using jacking device to straighten car ends, employees must use adequate screening around ends.
- 1218.** To remove chips, cuttings, or scale from machine tables or moving tools, use brushes or other devices specifically designed for this purpose.
- 1219.** An employee operating a woodworking machine must not pass hand between saw blade and guide when ripping small material nor pass hand over moving jointer blades. Use pusher blocks to protect fingers.
- The blade of a table saw must not extend higher above the table than the thickness of the material being cut.
- Loose or scrap material must be removed from the saw table immediately after the cut is made.
- 1220.** Repairing or cleaning machinery while it is in motion is prohibited except for adjustments that require the machine to be running. If driven by individual motor, the motor must be stopped and control switch properly tagged before such work is performed. Mechanical locking devices, where provided, must be applied before adjusting or repairing machine. A machine in motion must not be oiled if an employee could contact or be caught by moving parts.
- 1221.** When a drop hammer is not in use, the striker must be left resting on the anvil or on the lower pair of safety supports and power must be shut off.
- Unless authorized, use of drop hammer on draft gear test machine without protective enclosure or in a manner to circumvent same is prohibited. Repair to this machine must not begin until safety stops are in place.
- 1222.** Placing short material on a drop hammer anvil or die with hands instead of tongs is prohibited.
- 1223.** No one will be permitted to work on a crane runway until the employee in charge personally sees that the conductor control switch is locked in the open position. He/she will retain the key

while work is being done, if practicable. If not, the key will be given to the employee who goes on the crane runway to work. There should be only 1 available key to the lock used for this purpose.

- 1224.** Before repair work is performed on a shop crane, the switch or circuit breaker must be opened, all fuses removed, and sign “Men Working On This Crane” must be attached to either the main switch or the circuit breaker in operator’s cab.

No employee will get on a shop crane before notifying the operator. Before examining the crane, employees making repairs must place themselves where they cannot be injured, and the operator must sound the gong before moving the crane. When repairs are completed, before moving any part of the equipment the employee in charge must know that everyone is out of danger.

If a crane must be repaired on a runway where other cranes are operating, a designated person must remain in the cab of the crane undergoing repair to warn operators of the other cranes.

If a crane must be inspected while in operation, the inspector or other designated employee must have a thorough understanding with the crane operator as to movements to be made, and all concerned employees must place themselves out of danger.

- 1225.** Employees working opposite a power wrench must not place themselves in direct line with the bolt being tightened.
- 1226.** When using a wrench, be sure it fits. When possible, apply force by pulling. If the wrench must be pushed, do so with an open palm. Place adjustable wrenches so that the turn will be toward the adjustable side of the jaws. Pipe handle extensions must not be used on wrenches.
- 1227.** Huck tools must be held perpendicular to the surface to which the Huck bolt is being applied.

Huck tools must not be used on Huck pins without Huck collars.

Employees must not position their bodies directly in line with the pulling stroke of a Huck tool.

Hands or fingers must not be placed where they will be caught between the Huck tools and/or parts being fastened as the tool tightens the collar.

- 1228.** Using pneumatic tools that cannot be controlled or stopped with the use of a throttle is prohibited.

Using pneumatic grinding tools not equipped with a speed governor in working and safe order is prohibited.

- 1229.** Pointing pneumatic hammers or other power-actuated tools at a person is prohibited.

- 1230.** Copper, nylon, or other non-spalling soft hammers must be used when repetitive blows are delivered to hardened bolts, pins, bushings, or other hardened objects. Ball peen hammers and doubled faced sledge hammers may be used to strike chisels and punches provided the diameter of the hammer striking face is at least 3/8" larger than the diameter of the face of the chisel or punch.

It is permissible for MW&S employees to use spike mauls and sledge hammers in applying rail anchors and removing track bolts.

- 1231.** Employees must take care that tools or material do not fall from scaffolds, locomotive running boards, end sills, tops of cars, or other elevations.

- 1232.** Using a file as a wedge or a pry bar, striking a file with a hammer, or using a file without a handle is prohibited. To clean a file, a file brush must be used. Files must not be struck against metal for any purpose.

- 1233.** The use of a chisel as a wedge is prohibited.

- 1234.** Do not press a screwdriver or other sharp tool on or into a small object held in the hand.

ABRASIVE SAWS, GRINDING WHEELS, AND SAW BLADES

Handling and Storage

- 1235.** Handle abrasive wheels and saw blades carefully; do not use one that has been dropped. Wheels and blades must not be stored where subject to:
- [1]** Exposure to water, oil, or other solvents.
 - [2]** Any temperature low enough to cause condensation on the wheels when moving them from storage to an area of higher temperature.
 - [3]** High humidity.
 - [4]** Freezing temperatures.

Inspection

- 1236.** Inspect every abrasive wheel and saw blade for possible damage. Before mounting a vitrified wheel, tap the wheel gently with a non-metallic implement such as a wooden screwdriver handle. A sound wheel will produce a clear metallic tone. A cracked wheel has a dead sound, not a clear ring. A chipped or cracked wheel or saw blade must not be used.
- (a)** Make certain that the marked maximum operating speed of the abrasive wheel is greater than the speed of the machine on which it will be mounted. Never run an abrasive wheel or saw blade faster than its marked maximum speed. Internal combustion engines with adjustable governors must be checked at least every 6 months for proper speed.
 - (b)** Check mounting flanges to ensure they are equal in size and have clean flat bearing surfaces. Grinding wheel flange diameters should be at least one-third (1/3) of wheel diameter. Abrasive cut-off wheel flange diameters should be at least one-fourth (1/4) of wheel diameter. Flanges should be relieved around holes.

Mounting

- 1237.** Use mounting blotters (compressible washers) between flanges and wheel for even distribution of flange pressure.
- (a)** Do not force an abrasive wheel onto a machine. Do not alter the size of the mounting hole with anything except standard reducing bushings of proper size. If the wheel will not fit the machine, get one that will.
 - (b)** Do not tighten the mounting nut excessively.

Preparation for Grinding

- 1238.** The work rest must be positioned 1/8" from the grinding wheel and must not contact the wheel. Never try to adjust the rest while the wheel is moving.
- (a)** Always use a guard that covers at least half (1/2) of the grinding wheel. Never start the machine until the wheel guard is in place.
 - (b)** Do not stand directly in front of a grinding wheel or abrasive saw when it is started.
 - (c)** Bench and floor grinders must be equipped with an adjustable top guard or tongue. This guard must be positioned within 1/4" of grinding surface of the wheel.

Grinding

- 1239.** Before grinding with a newly-mounted wheel, run it at operating speed with the guard in place for at least 1 minute.
- (a)** Apply the work gradually to warm a cold grinding wheel. Do not jam work into the wheel. Do not grind on the side of the wheel unless it is specifically designed for such use.
 - (b)** Do not grind material for which the grinding wheel or the machine is not designed.
 - (c)** Keep grinding wheels clean and true by frequent dressing.

USING, WORKING AROUND, OR SERVICING LASER TOOLS AND LASER EQUIPMENT

- 1245.** Laser tools and systems must be used in accordance with the manufacturer's instructions. Employees must be trained and have authorization from their supervisor to use laser tools and systems. Employees using laser pointers must read and follow the manufacturer's instructions.
- 1246.** Laser beams must NEVER be directed at any body part. Persons in the vicinity of lasers should exercise caution in avoiding the laser beam.
- 1247.** Those servicing laser equipment must know the hazard class, must be qualified, authorized, trained, wear the prescribed eye protection, and follow the procedures for servicing and adjusting laser equipment. The hazard class should be noted and understood. Medium power (Class 3a and 3b) and high power (Class 4) lasers present serious potential for eye injury resulting from direct viewing or indirect viewing (reflected or secondary beam) from a mirror or flat surface.
- 1248.** All laser equipment must be used in well-ventilated areas. High power lasers should not be used near or directed at flammable materials. Lasers must not be directed to reflect off mirrors, windows, or other shiny or highly reflective objects unless the lasers are specifically designed for such purposes and proper protection has been provided to prevent exposure.

ELECTRICAL AND LINE WORK

1250. Only qualified employees charged with that duty shall:

- [1]** Work on or within minimum approach boundaries of electric generation, transmission and distribution equipment or systems (e.g. such as electrical wiring, transformers, breaker panels, electrical enclosures, fuse jacks, or disconnects, etc.).
 - [2]** Climb poles or towers, use lineman body belts, and safety straps in lieu of fall protection equipment while working on structures not equipped with fall protection apparatus.
 - [3]** Enter power plants or energized substation enclosures.
- (a)** Employees must generally stay ten (10) feet away from any exposed energized electrical wires, equipment or apparatus. Employees shall not work on or near any energized electrical wires, equipment or apparatus carrying more than 50 AC volts or 100 DC volts potential unless it is impracticable to de-energize it. Care must be taken to avoid coming in contact with water, steel structures, ground wires, guy wires, and all other circuits when working on or around any power circuit regardless of voltage.
- (b)** Only employees and contractors specially trained in “high voltage work” will be allowed to work on any electrical wires, equipment or apparatus that are rated at 600 volts or greater, whether such equipment or systems are energized or de-energized. Other employees may operate (energized or de-energized) high voltage systems using remote operating devices that assure employees remain outside the arc flash boundaries.

NOTE: Only the Northern Region Mechanical Line Gang, the Norfolk, Ashtabula, and Wheelersburg electrical maintenance employees, and the Communications and Signals Line Gang Electricians are specially trained in “high-voltage work.”

EXCEPTION: Rules 1250, 1250(a) and 1250(b) do not apply to work on locomotives or locomotive equipment.

- 1252.** Rubber gloves used in electrical work shall be inspected and tested as prescribed by using department at least every six months or more often if conditions warrant. Gloves shall be air tested each time before being used. Rubber gloves and associated rubber protective equipment must not be used when soiled with dirt, oil, or grease. Such equipment, when not in use, shall be properly stored to prevent damage. Leather protectors shall always be used over rubber gloves. Rubber gloves must extend beyond the cuff of the leather protectors. Other rubber insulating protective equipment shall be inspected and tested in accordance with NS procedures.
- 1253.** When it is necessary to work on or within minimum approach boundaries of exposed energized electrical wires, equipment, or apparatus, such as energized electrical conductors or circuit parts, only qualified employees shall perform this work utilizing specified work practices and procedures and appropriate personal protective equipment (such as runner insulating gloves with leather protectors and flame-resistant clothing).
- 1254.** Do not work around wires or electrical apparatus during electrical storms except in case of emergency.
- 1255.** Before climbing a pole, tower, or other structure, first examine and test it and know that it will support your weight. A defective pole must not be climbed until it has been made safe either by pike poles or lashing it to a new pole in the event of replacement. A defective tower or other structure must be suitably reinforced before it is climbed. When ascending or descending wooden pole, observe the pole surface and avoid setting climbing gaffs where they come in contact with cracks, holes, knots, or any other obstacles that might cause gaffs to cut out. Before commencing work on wooden poles, assure that gaffs have been recently gauged and are in safe condition for climbing.
- 1256.** Do not stand, sit, or lean on a crossarm while working on a pole until you are positive that the arm is strong enough to safely support your weight.
- 1257.** When working on or handling wire, rope, or cable, on curves or at corners, employees must not place themselves in the inside angle of the curve or corner unless they are properly protected.

- 1258.** When cutting wire, employees must take particular care to secure loose ends. Employees must use care to prevent injury when removing insulation or metal sheathing from wire and cable.
- 1259.** Before working on high voltage capacitors, ensure that the capacitors are effectively discharged, de-energized and grounded. Safeguards for working on locomotive capacitors are found in Locomotive Department Instructions.
- 1260.** When applying safety grounds, care must be exercised to make sure that an effective ground is obtained. To ground a conductor, the ground clamp shall be first securely clamped to the effective ground. This ground may be removed only by the person who installed it and must be removed from the conductor first.
- 1261.** Before beginning work on high-voltage lines or equipment, employees shall positively know that the lines or equipment have been isolated and de-energized, by testing for the absence of voltage in accordance with approved procedures, before touching any such lines or equipment. The de-energized lines or equipment shall then be grounded on both sides of the employees who will perform the work.
- 1262.** Employees must not work on live conductors from above when such work can be done from below.
- 1263.** Before making repairs on or near a transformer, ensure that the transformer has been de-energized (e.g. disconnecting switches on both sides must be opened), isolate and prove the absence of voltage to the transformer, and ground the transformer. If the transformer is not equipped with disconnecting switches, the primary and secondary shall be disconnected.
- 1264.** Current or series transformers whose primary winding is energized shall have their secondary winding short-circuited when not in use, if possible. One end of the secondary winding of a current or series transformer shall always be grounded.
- 1265.** Any act that will change the protective action of fuses or circuit breakers is prohibited except when done in emergencies by qualified personnel. When possible, de-energize circuits before replacing fuses.

- 1266.** Use both hands when ascending or descending ladders, poles, or structures. Body belts, shoulder straps, or pockets must be used to carry small tools or material. Hand lines must be used for heavier items.
- 1267.** Do not direct a water stream toward electrical wires or equipment. This also applies to liquids contained in fire extinguishers except when directions on the extinguisher specify that it may be used on electrical fires.
- 1268.** Manholes in utility tunnels must not be entered until primary feeders are de-energized and grounded, and confined space entry procedures have been implemented.
- 1269.** When servicing or performing maintenance on electrical equipment, all energy sources to the equipment shall be locked or blocked and protected by approved tags or devices in accordance with the NS Lockout / Tagout program and approved lockout / tag out procedures. Such protection shall be removed only by the employee who applied it.
- 1270.** All wires and circuits are to be considered energized at all times unless employee has positive knowledge to the contrary. The insulation on tools or wires must not be relied upon for protection.
- 1271.** Two or more employees must not climb up or down the same pole at the same time. An employee to follow another must wait until the preceding employee is either in position on the pole with safety belt fastened around the pole or in the clear at the bottom.
- 1272.** Electrical tools, both portable and stationary, must be grounded before being used, unless manufacturer designed to operate without a ground. Corded electrical tools and extension cords shall only be connected to circuits protected by a “Class A” Ground Fault Circuit Interrupter (GFCI). Extension cords are for temporary use only. Where extension cords are used repeatedly, permanent wiring should be installed.

SERVICING OR MAINTAINING CARS OR LOCOMOTIVES

- 1301.** When a car or other equipment with trucks is jacked and the trucks removed, the jacked equipment must be supported by horses, trestles, or blocking before employees go under such equipment. **EXCEPTION:** Does not apply when in-floor jacking systems equipped with mechanical safety locking devices (lock bars and stop checks) are used.
- Employees must keep their hands off the tops of horses, trestles, blocks, and jacks when placing them under equipment. Where equipment has been jacked without removing the trucks, employees must not place any part of the body between trucks and equipment until sufficient blocking to prevent injury has been inserted.
- 1302.** Before renewing journal brass, adjusting piston travel, working on brake rigging, or doing other work on cars where application of brakes may result in injury, cutout cock in brake pipe branch must be closed and air reservoirs must be drained. When cutout cocks are provided in brake cylinder pipes, these cutout cocks may be closed without draining air reservoirs. Similar work must not be performed on locomotives until brakes have been cut out. **EXCEPTION:** Does not apply if an approved Brake Cylinder Piston Blocking Device has been applied and properly secured to brake cylinder assembly.
- 1303.** Placing hands between truck bolsters and springs or spring planks on cars is prohibited except when blocks have been inserted to support the bolsters in the event the supporting jack slips or falls.
- 1304.** Placing hands in journal boxes while boxes are jacked up is prohibited. Tools provided for applying and removing parts and feeling journals must be used.
- 1305.** Loosening or tightening steam or air pipe connections on locomotives, cars, or boilers while the part to be loosened or tightened is under pressure is prohibited. Employees must keep clear of safety valves or automatic blow-down valves on steam vessels under pressure. Manual valves must not be opened at points where persons may be injured.

- 1306.** Only approved cleaning agents will be used according to the manufacturers' instructions.
- 1307.** Standing on studs or improvised brackets is prohibited.
- 1308.** Guiding center pin with hands when lowering car body onto trucks is prohibited. Tool for changing center pin must be used.
- 1309.** Cars and locomotives must be secured to prevent movement while undergoing repairs.
- 1310.** Before jacking up one end of a locomotive, car, or other rolling equipment, the wheels on the other end must be blocked.
- This does not apply if in-floor jacking equipment is used. Employees must block the wheels on the other end of such equipment after the lift has been made. Remove the blocking before lowering the equipment.
- 1311.** Employees who apply or remove parts of cars, locomotives, or other equipment must not leave such parts unless secured.
- 1312.** When equipment is undergoing repairs, grab irons, ladders, uncoupling levers, and similar parts must be considered **“hot”** and due care exercised.
- 1313.** Before working on cushion-underframe cars or standing in front of couplers of such cars, be sure cushioning devices are centered and not extended nor compressed to result in unexpected movement. When dismantling automatic slack adjusters, protect against possible stresses in the equipment.
- 1314.** Employees must observe the condition of boxcar doors, bulk heads, and related operating mechanisms prior to opening, closing, or repairing same. When doors or bulkheads are removed or applied, only the prescribed device is to be used.
- 1315.** Before starting a locomotive, all tools and equipment must be removed and in the clear, and ample warning must be given to other employees.
- 1316.** All safety guards, equipment covers, and ceiling hatch covers must be in place and secured while locomotive is in service except as may be necessary for servicing, testing, or repairing by maintenance forces.

- 1317.** Employees must not allow their hands, other parts of their bodies, or their clothing to come in contact with fans, radiator shutters, automatic valves, or other equipment that operates automatically without first protecting against automatic operation.
- 1318.** Doors leading from the locomotive cab to the engine room must be kept closed. Provide protection before removing steps from cab to engine room or opening hatch cover in cab floor. Keep locomotive side and end doors closed when the locomotive is in service.
- 1319.** Do not stand in front of open cylinder test valve while engine is being rotated.
- 1320.** Air box and crankcase covers should not be removed or tightened while the engine is running. Keep in the clear when taking off the first air box or crankcase cover. All air box and crankcase covers must be in position and tight before the engine is started.
- 1321.** Only qualified employees are authorized to perform electrical load and high potential testing. When making such tests, suitable warning signs must be displayed to keep uninvolved persons away from the circuits being tested.
Immediately after completing these tests and before disconnecting test equipment, circuits that have been under test must be effectively grounded for a sufficient length of time to completely eliminate static charges.
- 1322.** The isolation switch must be in **Start** position and generator field switch in **Off** position while employees are working on or inspecting main generator, traction motors, or power circuits except when the nature of the work requires that these circuits be energized.
When it is required that these circuits be energized, the employee closing the switches must know that all concerned employees have been notified and are in a safe position before the switches are closed.
After tests or repairs with these circuits energized have been completed, the isolation switch must be returned to **Start** and the generator field switch to **Off** if other work on or inspection of the equipment listed above has not been completed.

Employees must not connect, disconnect, or hold electrical test equipment to check locomotive power circuits while power is applied. Test instruments must be set for proper function, scales securely positioned, and connections made with throttle and dynamic brake in **Off** position or with unit isolated.

- 1323.** In engine room or radiator compartment with engine running, employees must keep clear of fans, shafts, belt drives, or other moving parts.
- 1324.** Before manually rotating (“Barring-Over”) the diesel engine, employees must:
- [1]** Open the “Control Breaker” (EMD) or “Local Control Circuit Breaker” (GE) to ensure that the fuel pump and control circuits will not allow engine starting.
 - [2]** Remove the starting fuse or open the starting circuit breaker on locomotives so equipped.
 - [3]** Tag the Engine Start Button or Fuel Prime/Engine Start Switch with a “DO NOT START” tag.
- NOTE:** Certain GE locomotives are equipped with a switch under the diesel engine barring-over access cover. This switch is designed to prevent the engine from being cranked while the engine barring-over procedure is in progress. Employees must not attempt to bypass its function.
- 1325.** Care must be exercised in handling fiberglass car body filters. Protective gloves must be worn.
- 1326.** Employees should avoid contact with diesel engine cooling water or cooling water treatment. Locomotive cooling water systems should be considered hot and under pressure. Engine cooling water or cooling water treatment is not safe to drink and should never be ingested. If any part of the body contacts engine cooling water or cooling water treatment, the affected areas should be washed thoroughly with soap and water as soon as possible. Remove clothing wet with cooling water or cooling water treatment as soon as possible and wash clothing before reuse. If engine cooling water or cooling water treatment is splashed into the eyes, flush eyes immediately and thoroughly with water. Consult a physician if necessary.

NOTE: Draining of engine cooling water does not pose a hazard provided employees wear prescribed eye protection, exercise reasonable caution, and stand to the side when opening drain valves.

- 1327.** On locomotives with pressurized cooling systems, the pressure must be relieved before attempting to remove pressure cap or water tank plugs. Employees who handle or add cooling water treatment to engine cooling water systems should wear, in addition to prescribed eye protection, a full face shield, rubberized apron, and prescribed rubber gloves.

COMPRESSED GASES — WELDING AND CUTTING

- 1340.** Only employees qualified by authorized supervisors or instructors are permitted to do welding or use an oxy-fuel torch.
- 1341.** Employees performing heating, welding, or cutting must wear clothing and work boots that will afford protection against sparks and molten metal. This includes, as required, prescribed ear and eye protection, high-top work boots, hard hats, leg bands, spats, leather coat, and welding gloves. Torn, oily, or greasy gloves or clothing, or clothing made of highly combustible synthetic material must not be worn. Tools, clothes, or material must not be placed on top of cylinders, regulators, hoses, or welding machines.
- 1342.** Where possible, when in use, compressed gas cylinders must be in the upright position, chained, and/or properly secured to prevent falling over and must be at least 10 feet from the work area.
- 1343.** Before connecting oxygen or flammable gas regulators, supply valves must be opened slightly for an instant to remove any dirt present. Stand to one side and away from valve opening when blowing out cylinder. Do not hold torch to any part of body to test flow of gases.
- 1344.** Employees must not carry cigarette lighters or matches where they may be exposed to sparks or excessive heat.
- 1345.** Always use approved wrenches provided for connecting and disconnecting regulators, hoses, and torches. Red hose is for fuel gas and green hose is for oxygen gas.
- 1346.** When opening gas cylinders:
- [1]** Always use an approved wrench, if required, and leave it in place on the cylinder valve while using it.
 - [2]** Stand to one side of the cylinder being opened, opposite the regulator.
 - [3]** For all fuel gas cylinders other than acetylene, open the cylinder valve completely to seal the back seal packing.

- [4]** For acetylene cylinders, do not open the cylinder valve more than 1/4 to 1 turn.
- [5]** Open oxygen cylinder valves slowly until the pressure on the regulator tank valve builds; then, open the valve fully.
- 1347.** Before opening cylinder valves, see that pressure adjusting screws on oxygen and flammable gas regulators are in full release position to prevent rupturing the diaphragm.
- 1348.** Be sure that all oxygen and flammable gas equipment connections are clean. Never allow oil or grease to come in contact with such equipment.
- When lighting an oxygen acetylene torch, open the acetylene valve on the torch 1/8 of a turn and light the torch with a friction spark lighter.
- When lighting an oxygen-fuel torch and using either propane, mapp, propylene, or natural gas, open the fuel gas torch valve 1/4 of a turn and light the torch with a friction spark lighter.
- 1349.** The use of matches, cigarette lighters, or other open flames to light torches is prohibited. Operator should light his/her own torch using only a friction spark lighter or red hot metal.
- 1350.** Do not tighten a regulator to cylinder connection without first closing the cylinder valve.
- 1351.** Always close cylinder valves when moving equipment from one job location to another or when leaving equipment unattended.
- 1352.** Highway and rail-highway vehicles on public roadways must not transport compressed gas cylinders with regulators attached unless the cylinders are supported upright in a vented protective compartment except where prohibited by state law.
- 1353.** Do not tamper with or attempt to repair cylinder valves, regulators, or torches. If they do not work properly, turn them in tagged "Defective."
- 1354.** Each oxy-fuel torch must be equipped with external (in-line) flashback arrestors and reverse-flow check valves unless the torch is equipped with both of these devices built-in. When external (in-line) devices are required, a device that includes a

flash back arrestor and reverse-flow check valve in a single unit must be installed in each oxygen and fuel-gas line between the line and the torch. External devices must be of the approved types, compatible with the torch on which they are installed, and capable of allowing adequate gas flow. Check valves and flashback arrestors should be inspected regularly to ensure that rust, dirt, or other debris is not present. As recommended by the manufacturer, all in-service check valves must be tested at least every 6 months for proper operation.

NOTE: Although some torches have built-in flashback arrestors, many are equipped with built-in reverse-flow check valves only. These types of torches require the addition of the external flashback arrestors, which also typically contain a check valve within a single unit. Although this results in a redundant check valve (since there is one built into the torch and one in-line), this application is acceptable as the pressure drop across a check valve is very slight.

- 1355.** The pressure of acetylene gas in a hose or pipeline must not exceed 12 pounds per square inch.
- When an alternative fuel gas is used, the hose or pipeline pressure must be in accordance with the supplier's recommendation.
- 1356.** In case of flash-back, first close the oxygen valve at once (a delay is dangerous) then close the flammable gas torch valve. When shutting down the torch after use, first close the oxygen torch valve; then, close the flammable gas torch valve.
- 1357.** Do not allow torches to become over-heated.
- 1358.** Do not operate a torch with hoses thrown over shoulder; keep hoses as far away from body as possible. Always protect hoses from being run over or trampled and avoid tangles and kinks.
- 1359.** Hoses and torches on oxygen-fuel gas torch equipment must be protected against undue exposure due to abrasion, dragging or mechanical injury. When oxygen-fuel gas torch equipment is bled and removed for storage, it must be placed in a clean, ventilated area.
- 1360.** Protective caps must be replaced on cylinders when regulators and gauges are not attached.

- 1361.** Never use an open flame to search for leaks. Leaks should be located by applying soap and water.
- 1362.** Employees performing heating, welding, or cutting with a torch must use extreme care to avoid burning themselves or others. The flame, hot metal, or sparks must not be directed toward anyone close enough to be burned. When the work is completed, the flame must be extinguished as soon as practical. The torch should be positioned so as to prevent injury or fire.
- 1363.** Torch valves must be closed before the torch is laid down for any purpose. Place the torch where it will not be damaged, contaminated with dirt or grease, and where the valves will not be accidentally struck and opened. Do not leave a torch where gas can escape into a confined space.
- 1364.** Never enter, attempt to light a torch, or strike an arc in a confined space where acetylene or other gas vapor is present.
- 1365.** In case of fire in or around oxygen-fuel gas torch equipment, immediately close cylinder valves or work station valves if safety permits. All cylinders exposed to or damaged by fire will be removed from service, tagged appropriately, and returned to vendor.
- 1366.** When a cylinder is empty, close cylinder valve tightly, cap, and mark “**MT.**”
- 1367.** When closing down for the day or when work is finished, close oxygen and flammable gas supply valves tightly. Open torch valves to relieve pressure in the hoses. Open regulator adjusting screws fully and then close the torch valves.
- 1368.** Using oxygen gas as a substitute for compressed air or as a source of pressure is prohibited. Using oxygen gas in pneumatic tools, for blowing out air lines, for creating pressure, or for ventilating is prohibited.
- 1369.** A leaking gas cylinder must be placed in the open air with the valve open. Sources of ignition must be kept away until the gas has escaped from the cylinder. The valve must then be closed. A regulator may be attached to a leaky valve to temporarily stop leakage during removal. The leaking cylinder must be marked “**Defective.**”

- 1370.** Arrange for good ventilation before welding or cutting brass, bronze, and galvanized or painted metal. Suction or exhaust fans should be used in confined areas.
- 1371.** Cadmium-based silver solder must not be used.

TESTING OF OXYGEN-FUEL GAS TORCH EQUIPMENT

1380. All Oxygen-fuel gas torch equipment in service must be tested every 30 calendar days for leaks by one of the following methods. Anytime a torch hose has been repaired and/or replaced, it must be retested for leaks prior to placing it in service by one of the following methods. A tag must be attached to the regulator or station valve end of the hose showing date tested and person making the test.

METHOD 1: Submerge in clean water with working pressure on hoses. Any portion of hose not submerged must be tested by Method 2.

METHOD 2: Where the flammable gas supply pressure is 5 PSI or more, test may be made by observing regulator gauges for pressure drop with hoses charged to working pressure, torch and supply valves closed. If pressure drop is noted, reopen supply valves and locate leak by soapsuds test. In shops having distribution lines for oxygen and flammable gas and where regulators are not used at the work station, gauges may be inserted between a station and the hose for the purpose of this test.

1381. Oxygen-fuel gas hoses must be inspected prior to each use. Hose(s) showing leaks, burns, worn places, or other defects rendering it unfit for service must be repaired or replaced. Oxygen-fuel gas hoses must not have more than 1 splice joint per 50-foot set of hoses. Only standard 3/8" inside diameter hose fittings will be used for splicing.

EXCEPTION: A second splice may be made as a temporary measure to effect emergency repair provided the hose is replaced within 30 days following the emergency repair.

SHOP FUEL GAS DISTRIBUTION PIPELINES

- 1390.** Shut-off valves, piping, fusible plugs, relief valves, regulating equipment, hydraulic protective devices, and other safety features attached to a cylinder or forming a part of a fixed piping system must be maintained in proper condition and protected from mechanical damage.
- 1391.** When repairs are being made to an oxygen or flammable gas pipeline and it is necessary to close the supply valve, a “DO NOT OPEN” tag must be attached to the valve. When the work is finished, the tag must be removed by the employee(s) who attached it.
- 1392.** Oil-based pipe joint compounds must not be used on oxygen gas or fuel gas pipelines.
- 1393.** If torch fuel gas hoses are removed from shop pipeline work stations, apply caps to station connections.
- 1394.** Hydraulic protective devices located in the shop pipelines must be inspected every 90 days for leaks and for proper fluid levels in accordance with manufacturer’s recommendations. A log of inspection dates with name of person performing the inspection must be maintained and retained for at least 1 year.

Revised 6/25/15

STORAGE OF COMPRESSED GAS CYLINDERS

1400. Compressed gas cylinders must be handled with extreme care and secured in upright position to prevent falling when in storage. Portable LP gas cylinders equipped with relief valves may be stored horizontally in ventilated areas. Cylinders stored horizontally must be placed with the relief valve at the 12 o'clock position. *Revised 7/22/16*

- 1401.** Cylinders must not be subjected to rough handling, dropping, or shock that can damage valves or safety devices. See **Rule 1165**.
- 1402.** Cylinder valves must be fully closed, not leaking, and protective caps securely in place.
- 1403.** Cylinders must not be placed near sources of ignition, heat, or highly combustible material. A well-ventilated area remote from work areas is desirable.
- 1404.** Cylinders containing oxygen should be stored at least 20 feet from fuel gases or other combustible material. If conditions do not permit this, different types of gases can be stored together when separated by a noncombustible barrier at least 5 feet high having a fire resistance rating of at least one-half (1/2) hour.
- 1405.** In the event of fire involving a leaking cylinder, no attempt should be made to extinguish the flame unless the flow of vapor or liquid can be stopped. Efforts to extinguish should be directed toward exposed combustibles and the cooling of cylinders including the one that is on fire.
- 1406.** Employees must not transfer acetylene into a cylinder under any circumstances. They will charge cylinders with other gases only when specifically authorized.
- 1407.** Signs reading **“OXYGEN GAS,” “ACETYLENE GAS,” “MAPP GAS,” “PROPANE GAS,” “DANGER - FLAMMABLE GAS,” “DANGER - NO SMOKING, MATCHES OR OPEN LIGHTS,”** or other applicable wording must be prominently displayed at all gas storage facilities.

- 1408.** Storing or transporting any type of compressed gas cylinder in non-ventilated compartments of vehicles or structures is prohibited.

ELECTRIC ARC WELDING

- 1420.** Prescribed, approved welding shield with colored filter lens and clear plastic lens cover must be worn by employees engaged in electric arc welding. Suitable screens must be used in welding work stations or in areas where heavy welding occurs to protect the eyes of other employees in the vicinity. Staring at the arc produced by electric welding without proper eye protection is prohibited.
- 1421.** Welding material must be placed where it will not cause injury. Flammable material and debris must be removed from the vicinity before welding or cutting. Eliminate sharp edges on metal rod containers.
- 1422.** Before starting electric welding, ground cable must be firmly secured and must be as close as practicable to the work. Do not connect ground cable to pipelines, couplers, journal boxes, or other items where the flow of current may damage the component except when performing welding work on them. Do not connect the ground cable to the rail when welding on track mounted equipment. Damage may result to cushioning units, draft gear components, wheels, axles, gears, bearing, and track signal circuitry when made part of the welding circuit.
- 1423.** Before leaving the job, a welder must know that the electrode holder is free of welding rod stubs, and the welding machine is shut down. Welders must inspect the area to be sure there are no fires.
- 1424.** Before heating, cutting or welding on a loaded car, container, or trailer, employees must know its contents and take necessary precautions to prevent damage. If cars contain hazardous materials, employees must be governed by the Car Department Instruction Manual.

WORKING IN MANHOLES, TANKS, AND EXCAVATIONS

1490. A confined space is defined as any space that:

- an employee can enter and perform assigned work
- has restricted means for entry or exit, and
- is not designed or intended for regular use or occupancy

NOTE: Detailed requirements are presented in the Norfolk Southern Confined Space Entry Program. Consult the written program prior to performing work or authorizing that work be performed in confined spaces.

Do not enter any confined space without proper training. All potential hazards must be identified and controlled before entering the confined space.

If it is necessary to perform work in a confined space that has a potential for a toxic, oxygen deficient, and/or explosive atmosphere and no other safety hazards, the following precautions must be taken:

- [1]** Pre-entry air tests must be performed by a trained air monitoring technician for a minimum: Oxygen content, explosive gas, carbon monoxide, and hydrogen sulfide.
- [2]** If the atmosphere is satisfactory, provide forced ventilation with an approved blower for a minimum of 2 minutes prior to entry. Maintain forced ventilation and air monitoring for the entire time that the space is occupied. If, at any time, air monitoring indicates an atmospheric hazard, the space must be evacuated immediately.
- [3]** If pre-entry air monitoring indicates an unsatisfactory atmosphere, do not enter. Provide forced air ventilation for a minimum of 10 minutes; then, retest the atmosphere. If this test indicates a satisfactory atmosphere, proceed as above. If the retest indicates that the atmosphere continues to be unsatisfactory, entry by NS employees is prohibited. Notify your immediate supervisor to arrange services from a contractor with certification in hazardous confined entry procedures.

[4] All air testing must be recorded on Form 12130 found in the written Norfolk Southern Confined Space Entry Program and retained for a minimum of 1 year.

1491. An employee entering a manhole, well, tank, or excavation must have another employee stationed at the opening to render assistance.

The employee entering the confined space will wear a safety harness with non-metallic lifeline attached. The lifeline will be strong enough to support body weight and long enough to permit necessary movement. Before the employee enters, the fixed end of lifeline shall be fastened to a winch on a tripod placed over opening with legs secured to prevent movement.

When field conditions prevent use of a tripod, the line shall be secured outside the opening.

In addition to providing necessary assistance to employee within the confined space, employee stationed at opening shall prevent line from being fouled or cut.

1492. When in a manhole or excavation, employees should stand clear while material is being lowered or lifted.

1493. Shoring or sloping to prevent cave-in or slide is required before working in an excavation 5 feet deep or more.

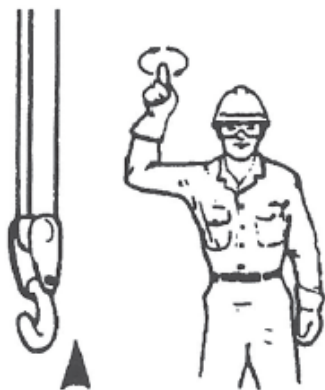
1494. Employees must not enter water or steam reservoirs until all pressure is relieved and reservoir is drained. All steam and water pipes leading to the reservoir must be disconnected, and a blind gasket of boiler steel must be inserted between the flanges and bolted up to keep water or steam out of the reservoir while employees are making repairs.

1495. Manholes must be protected when open and closed immediately after completion of work.

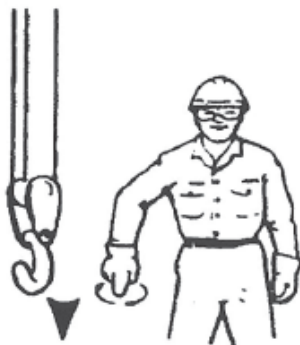
CRANES, PULLERS, HOISTS, AND DERRICKS

- 1540.** Foremen, crane operators, and boom truck operators must see that the capacity of crane is not exceeded, rail clamps and outriggers are properly used when required, hooks, chains, cables, ropes, and slings used for hoisting are of the proper size and in condition to handle the load safely.
- 1541.** Before using cranes, pullers, hoists, derricks, or similar equipment, the operator must know that the equipment is in safe condition.
- Cables, chains, pulleys, drums, and hooks must be inspected, and brakes and limit switches must be tested periodically to ensure that they are in proper condition and operate as intended. The operator must know the lifting capacity of the equipment.
- 1542.** Signals for the operation of hoisting equipment must be given only by the person designated. Operators of hoisting equipment must not act upon signals, except STOP signals unless they are given by the designated person. Where 2 cranes or derricks are lifting the same load, 1 person shall be designated to direct the movement of both.
- 1543.** Hoisting equipment operator must not move the equipment without clearly understood signals or instructions. A person giving hand signals must remain in sight of the operator at all times.
- 1544.** Hand signals to the operator of hoisting equipment will be in accordance with the illustrations shown herein.

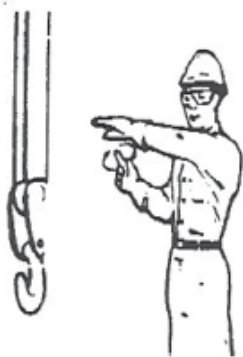
1544. (Continued)



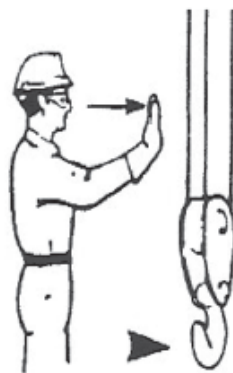
HOIST: With forearm vertical, forefinger pointing up, move hand in small horizontal circle.



LOWER: With arm extended downward, forefinger pointing down, move hand in small horizontal circle.

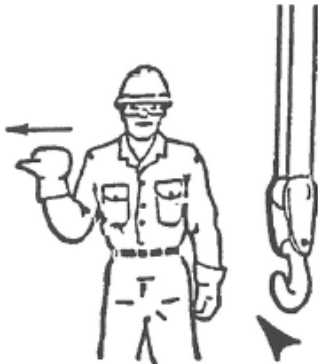


MOVE SLOWLY: Use 1 hand to give any motion signal and place other hand motionless in front of hand giving the motion signal. (Move slowly using Hoist diagram as example.)

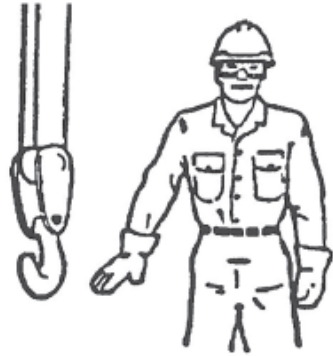


BRIDGE TRAVEL: Arm extended forward, hand open and slightly raised, make the pushing motion in direction of travel.

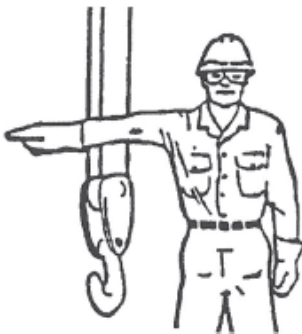
1544. (Continued)



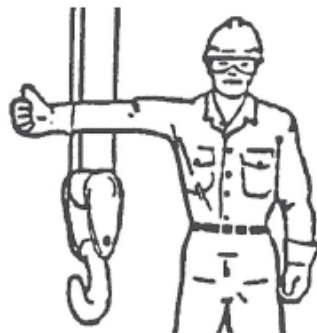
TROLLEY TRAVEL: Palm up, fingers closed, thumb pointing in direction of motion, jerk hand horizontally.



STOP: Arm extended, palm down, hold position rigidly.

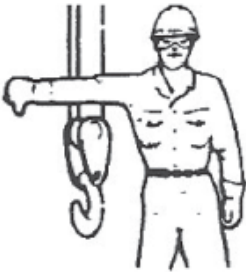


SWING: Arm extended, point with finger in direction of swing of boom.

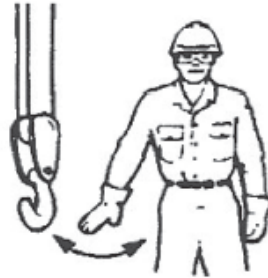


RAISE BOOM: Arm extended, fingers closed, thumb pointing upward.

1544. (Continued)

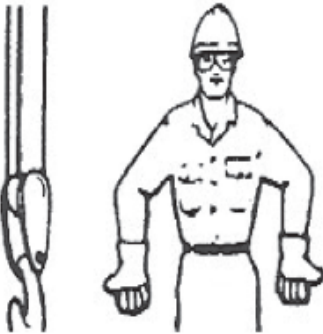


LOWER BOOM: Arm extended, fingers closed, thumb pointing downward.

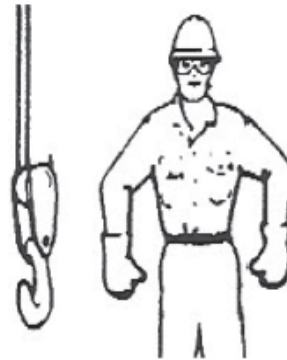


EMERGENCY STOP: Arm extended, palm down, move hand rapidly right and left.

TELESCOPING BOOM — TWO HANDS



EXTEND BOOM: Both fists in front of body with thumbs pointing outward.



RETRACT BOOM: Both fists in front of body with thumbs pointing toward each other.

1544. (Continued)

TELESCOPING BOOM — ONE HAND



EXTEND BOOM: One-hand signal:
One fist in front of chest with
thumb tapping chest.



RETRACT BOOM: One-hand
signal: One fist in front of chest
with thumb pointing outward and
heel of fist tapping chest.

- 1545.** Place the block or hook directly over the load, if possible, to prevent dragging or swinging the load.
- 1546.** Hook of crane or hoist block must not be directly attached to the load. Chains, slings, or other lifting accessories must be used. Employees must see that attachment to the load is secure, and crane operators must, when possible, observe that this is done.
- 1547.** Warning must be given to alert anyone in or near the path of a moving load or load handling equipment. Movement must stop unless everyone is clear.
- 1548.** Moving a crane, hoist, or derrick with the load swaying or turning excessively is prohibited.
- 1549.** Never lift a load with a sudden jerk or lower it so fast that a sudden stop is needed.
- 1550.** Both ends of an empty sling should be hooked to the block.
- 1551.** Do not stand between an obstruction and a crane, a derrick, or the load being handled by either.

- 1552. Do not leave hoisting equipment unattended with load, bucket, magnet, or other heavy attachment suspended.
- 1553. A crane or derrick boom must be lowered and properly supported for lubrication, repair, or when making any change in boom length or boom assembly except in pile driver service.
The boom must be secured to prevent movement when it is not in use.
- 1554. Push rather than pull to guide a suspended load when practicable. Keep hands and feet from under load. Use tag lines on bulky or awkward loads.
- 1555. Before unhooking a sling, be sure the load has settled, and stand clear.
- 1556. No part of hoisting equipment, load, or load line (including rigging and lifting accessories) is permitted to be within 20 feet of electric power lines unless the lines have been de-energized or except as otherwise permitted in the table below.

Voltage is Known to be (1 kV = 1,000 V)	Minimum Approach Distance
Up to 200 kV	15 feet
Over 200 kV to 500 kV	25 feet
Over 500 kV to 1,000 kV	45 feet
- 1557. Wrecking operations must not be started until contents of loaded cars are known and protection against any hazardous material has been arranged.
- 1558. Cars coupled to a crane equipped to furnish train line air must have the train line and all air reservoirs charged (except on MW&S air dump cars, the dumping air reservoir is not to be charged), and application and release test of brakes must be made before movement.
- 1559. Operators and/or pilots of boom-type cranes must be sure that end of boom will clear overhead bridges or other obstructions before attempting to pass beneath obstructions.

TRAILER AND CONTAINER OPERATIONS

- 1570.** TOFC-COFC cars must be properly secured to prevent movement before trailers, containers, or vehicles are loaded or unloaded.
- (a)** Only personnel qualified and authorized will move, load, or unload trailers with tractors, overhead cranes or side loading devices, or perform tie-down duties.
 - (b)** Vehicles within intermodal terminals must not exceed 15 MPH and must operate at a slower speed where conditions warrant.
- 1571.** Bridge plates must be secured in proper position before loading or unloading operations and before moving rail cars. Bridge plates that are frosty or slick must have sawdust, sand, or other suitable material applied.
- Safety rails, where provided, must be raised before working on the top deck of a multi-level car.
- All personnel other than trainmen must be off cars before switching is performed.
- 1572.** When raising portable ramps, stanchion legs must be properly extended and chains secured to the flat car.
- When kingpin plate and legs are raised on portable ramps, before doing any work on or under the plate or legs, the diagonal strut safety pin must be in place locking the strut to prevent collapse of the plate and legs.
- 1573.** Personnel must not walk between tractor trailers standing at scales, offices, or other check points except when necessary in connection with inspection duties. Then, they will notify drivers of both vehicles or keep a safe distance in case either vehicle should move.
- When necessary to go between trailers parked door to door, front of each trailer should be protected to prevent tractors from hooking up. Keep clear of trailers and tractors being coupled.

- 1574.** When TOFC cars are placed at an unloading ramp, the bridge plate from ramp to first car will not be put down until personnel preparing the trailers on this car have finished their work and have left the car. Personnel preparing the trailers will then lower the bridge plate to indicate the car is ready for unloading.
- 1575.** When trailers are being unloaded, the bridge plate on a car where stanchions are being lowered should not be placed down onto the car ahead until personnel preparing the trailers have finished their work and have left the car.
- 1576.** When trailers are being loaded circus style, personnel preparing trailers must not get on a car until the tractor placing trailers there has left the car and bridge plates have been raised unless necessary to assist the tractor driver in hitch securement.
- 1577.** Ground personnel must:
- [1]** Remain clear of overhead cranes, sideloaders, and/or tractors;
 - [2]** Not mount or dismount moving overhead cranes, sideloaders, and/or tractors;
 - [3]** Not ride in or on overhead cranes, sideloaders, and/or tractors.
- 1578.** Pins securing detachable bogie or chassis to trailer or container must be in place and locked before loading or unloading the equipment. Doors on trailers and containers must be securely closed.
- 1579.** Only authorized personnel are permitted to operate power wrenches. Before using such devices, employees must be familiar with their use and rated capacity, and use them only for the purpose intended.
- Before using power wrenches, employees must be sure they are in safe condition to perform required service.
- When using a power wrench on screw-type hitches, keep the head and body clear of the handle. Do not leave the wrench hanging in the hitch while other adjustments are made.

The power wrench must not be used to raise the hitch with the trailer weight resting on it.

Employees must not raise or lower a power wrench from ground to car by the electrical cord.

Electrical cords of power wrenches must not be strung across tracks or cars without being fully protected and must be kept clear of sharp obstacles to prevent being severed or short-circuited.

Power wrench must be laid down, not dropped in such a manner as to be damaged.

Power wrenches must be properly grounded. When operating in wet conditions, rubber gloves should be worn.

- 1580.** While hitches are being raised or lowered, keep hands, feet, and other parts of the body clear. Keep clear of pull-up type hitches at all times during loading and unloading in case they are knocked down accidentally.
- 1581.** When loading pull-up type hitches with a tractor and backing the tractor to permit removal of the pull-up hook from the hitch, take care to avoid hitting the knockdown plunger. Should this occur, however, knock the hitch down fully and re-raise it.
- When loading with a sideloader or with an overhead crane and it is necessary to open the hitch jaws manually, first check that the hitch is fully raised in order to avoid accidental knockdown.
- 1582.** When unloading from pull-up type hitches with a tractor, set the trailer brakes before knocking down the hitch.
- When unloading with a sideloader or an overhead crane, check to be sure that the diagonal strut is properly locked before unlocking the hitch jaws manually.
- 1583.** When trailers, containers, automobiles, MW&S equipment, or other vehicles are loaded on intermodal or multi-level cars, all hitches and tie-down attachments must be inspected to assure that they are in place and properly secured before cars are moved.

- 1584.** Tie-down chains on intermodal cars, trailers, or chain-equipped cars must be secured to keep them from dangling during movement.
- 1585.** When loading or unloading operations with side-loader or overhead crane are completed, the operator must be sure that lifting arms and frames are clear of the track.
- The person releasing railroad cars for movement must be sure that lifting arms and frames of the crane or side-loader are clear of the track.
- 1586.** Employees must know that equipment, machines, or tools being used are in a safe condition to operate. This includes cables, cords, and switches. Supervisor in charge must be notified if an unsafe condition exists.
- 1587.** Trailers or containers displaying hazardous materials placards must not be spotted or stored under public highways or overpasses.
- 1588.** In addition to hand signals shown in **Rule 1544**, operators of sideloading equipment will be governed by the following hand signals, as necessary, in loading and unloading trailers or other types of containers.



BACK: Arm extended forward, hand open and slightly raised making pushing motion.

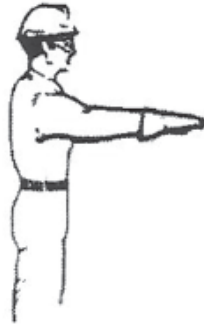


FORWARD: Arm extended forward, hand open and slightly raised, making pulling motion.

1588. (Continued)



RAISED FRONT OR REAR OF TRAILER: Arm extended toward front or rear of trailer, thumb pointing upward.



LOWER FRONT OR REAR OF TRAILER: Arm extended toward front or rear of trailer, palm down.



LEVEL: Arms extended, palms down, plane of arms indicates direction of movement.



RECLAMP: Hold hands in front of belt, palms up, and move hands toward and away from each other in pincer-like movement.

USE OF FLAMMABLE GAS, FLAMMABLE LIQUIDS, AND FUELS

- 1600.** Cars and trailers equipped with LP gas or any fuel gas must be opened and inspected for gas odors before connecting electrical lines and utilities.
- 1601.** If the odor of gas is detected inside car, trailer, or building, first open doors and windows. The main LP gas or fuel gas supply valve located at the fuel tank must be shut off as soon as possible. No repairs will be attempted until the car, trailer, or building is completely aired out. LP gas is heavier than air; it will accumulate at floor level and can pocket in lockers, toilets, cabinets, pits, or other low-lying areas.
- 1602.** Employees handling LP gas or any fuel gas must know at all times where an approved fire extinguisher is located.
- 1603.** Dry grass, weeds, and any other readily ignitable material within 10 feet of any LP gas container must be removed.
- 1604.** Smoking or open flames shall not be allowed within 25 feet of areas where fuel is being dispensed.
- 1605.** In the event of fire from escaping LP gas or fuel gas, the fire should not be extinguished but should be controlled until the gas can be shut off at the source. If the gas cannot be shut off at the source, let the fire burn until all the liquid is gone from the tank. Meanwhile, if safe to do so, protect the tank and exposed piping as well as nearby combustible structures or material by water spray if available. If the fire cannot be controlled and the tank is engulfed in flame, evacuate the area. When it is safe to extinguish the fire, it can be done with water spray, dry powder, or carbon dioxide extinguishers.
- 1606.** If a caboose, camp car, or other fuel-gas-equipped vehicle is involved in an accident, close the main valve at the tank before wreck clearing starts. If there is any evidence of leakage, protect against fire or explosion.
- 1607.** Oil and gas heating equipment and cook stoves must be lighted by a burning substance attached to a handle of sufficient length to provide a safe distance from flash in the

process of igniting the fuel. After placing the flame in the furnace, open the air valve, and then slowly open the fuel valve until the fuel is ignited. In the event of flame failure, the fuel supply must be closed off and the air supplied until the flammable gas in the furnace is purged. Do not attempt to relight the fuel from the hot furnace lining but repeat the first procedure. The furnace door must be left in open position until satisfactory operation is obtained.

- 1608.** Ceiling or wall vents in cars, trailers, or buildings equipped with gas appliances must be kept open at all times.
- 1609.** Anyone entering, using, or working in gas-equipped cars, trailers, or buildings must be alert for evidence of leaking gas and reporting the same promptly when discovered.
- 1610.** An unoccupied LP gas-equipped camp car or house trailer must not be released for movement in trains unless the main LP gas supply valve, located at the fuel tank, is shut off, and the car or trailer is properly prepared for movement by the using department.
- 1611.** Gasoline or LP gas-powered vehicles or machines must not be fueled with the engine running.
- 1612.** When fueling machines, remove gasoline caps on abrasive saws and other gasoline-powered engines slowly. Pressure can build up in tank and must be released before completely removing fuel cap.
- 1613.** Fuel containers must be charged and cylinders exchanged outdoors. Do not charge or use containers or cylinders that appear to be damaged.
- 1614.** Hose used for dispensing gas shall be marked “LP-Gas” or “LPG” and must be equipped with a spring-lever-operated handle.
- 1615.** Before dispensing LP gas, all connections must be tight to prevent any leakage.
- 1616.** During the transfer of LP gas, the attendant must remain nearby.
- 1617.** After filling fuel tanks and closing hose valve, loosen hose fitting slowly to relieve pressure unless hose valve is equipped with a

bleed valve, in which case pressure will be relieved through this device before breaking connections.

- 1618.** If fuel tank check valve does not close after filling is completed as indicated by gas or liquid continuing to leak from hose fitting or bleed valve, retighten hose fitting and open and close hose valve a few times to wash out any dirt or scale that may be holding the check valve open. If this is not effective, leave the hose attached and the hose valve closed and get help from qualified personnel.
- 1619.** Pump piping shall include a bypass valve to prevent excessive pressure in discharge pipe or hose. Means shall be provided outside the dispensing device to shut off power in case of emergency.
- 1620.** Only qualified persons will change LP gas cylinders or dispense LP gas into fuel containers of vehicles or cars.
- 1621.** Persons working with LP gas-handling equipment must wear plastic or rubber-coated gloves.
- 1622.** When changing cylinders, follow instructions posted near the cylinders or on the vehicle. The new cylinder must be positioned so that the relief valve will discharge from the gas space, which is in the highest portion of the cylinder.
- 1623.** Portable LP gas cylinders should be stored upright in cool, ventilated buildings. They must not be stored in the same compartment with other compressed gases nor in areas occupied by personnel.
- 1624.** Gas vapor leaks must be located by using soap and water solution and repaired by qualified personnel. Never use a match or other open flame to detect leakage. Close main supply valve on fuel tank before breaking any pipe connection or making repairs.
- 1625.** Extreme caution must be used when heating, burning, or welding in or near cabooses, camp cars, or other LP gas-equipped vehicles. Possibility of broken or leaking gas lines must always be considered.

- 1626.** Drums containing chemicals, petroleum products, or other liquids must be handled carefully. Before removing bung from a drum, the drum must be positioned so that the bung closure is located at the highest point on the drum. The bung must then be removed slowly, allowing pressure and gases to escape entirely through the threads before the bung is completely removed.
- 1627.** When heating of drummed material is authorized, the entire head of the drum must first be removed and heating performed under direct supervision. Caution must be exercised during heating to prevent accumulation of gas or fumes in enclosed areas.
- 1628.** Tanks, drums, other closed containers, and hollow or cored castings must be vented adequately before being heated.
- 1629. Handling and Transporting Gasoline or Other Flammable Liquids**
- [1]** Employees must not store or transport gasoline or other flammable liquids in closed compartments of passenger vehicles.
- [2]** If necessary to transport gasoline or other flammable liquids, employees must:
- [2.1]** Use SAFETY CANS bearing Underwriters Laboratories or Factory Mutual logos,
- [2.2]** Have a fire extinguisher readily available,
- [2.3]** Maintain ventilation, and
- [2.4]** Ensure protection against fire.
- [3]** Employees must place metal gasoline cans on the ground when filling to ensure electrical grounding and prevent the possibility of a spark from static electricity. Gasoline cans must not be filled while in the back of vehicles.
- 1630.** Gasoline or other highly flammable liquids must not be used to start or stimulate fires.

OFFICE SAFETY

1650. Stand or walk clear of doors. Open doors slowly. Do not push on glass panels of doors. When opening or closing doors, use knob or handle, where provided, and keep hands off door edges and facing.

1651. When seated, keep all chair legs on floor and feet off desks.

1652. Trash Disposal

Employees must thoroughly extinguish matches, cigars, cigarettes, or ashes before placing same in approved receptacles.

Used needles and syringes must not be discarded in Company office or restroom trash receptacles. Employees with medical conditions requiring the use of injectable medication during a workday must remove the syringe and needle from Company property at the end of the day.

Employees should warn those who handle trash for disposal when glass, sharp metal, or pointed objects are placed in trash receptacles. Employees whose responsibilities include emptying trash receptacles should wear work gloves and expect the presence of glass, sharp metal, or pointed objects. Accordingly, employees performing such work should either dump the receptacle or lift out the liner (if used).

Employees should not reach into trash receptacles to retrieve lost or discarded items but should empty the receptacle to find the article.

1653. Keep desk, file, and cabinet drawers and locker doors closed when not in use. No more than 1 drawer in the same cabinet or desk should be open at a time. Drawers and doors should be closed with the handle.

1654. Do not leave the blade of a paper cutter in a raised position. Keep hands clear of cutting edge.

1655. Electrical or phone cords for office devices must not be strung from one desk to another nor strung across the floor in such a way as to cause a hazard.

1656. Portable Electric Heaters

Portable electric heaters are allowed only for use in offices when approved by the Building Manager or proper authority. Heaters must be Underwriters Laboratory (UL) approved and operated in accordance with the manufacturer's instructions. Heaters not in use or in unattended offices must be turned off and unplug the unit when possible. Fossil-fueled heaters are not approved for office use.

1657. Fossil-Fueled Heaters

Portable fossil-fueled heaters are allowed only for use in shop areas and at other locations when approved by the proper authority. Heaters must be Underwriters Laboratory (UL) approved and operated in accordance with the manufacturer's instructions. Heaters must be extinguished when not in use or unattended.

FIRST AID

1686. First Aid Kits

- [1]** First aid kits to be used at all NS offices and operating locations are to be limited to those kits approved by the Medical Department and available through the NS Material System.
- [2]** Inspection and Replacement
 - [2.1]** The packages inside the first aid kits should be inspected against a list of approved contents and replaced as necessary.
 - [2.2]** If individually packaged items reach their expiration date or are opened (seal broken or contents exposed or partially used), the package or the unused portion should be disposed of properly.
 - [2.3]** Unauthorized contents are prohibited.
 - [2.4]** Obtain refills for all items contained in the first aid kit through the NS Safety & Health Equipment Catalog.

COAL PIERS AND BARNEY YARDS

- 1700.** When operating capstan winches, always hold the rope a sufficient distance from the winch head to prevent any injuries should the rope foul or slip on the drum and to avoid having the hands or clothing caught between or under the turns of the rope.
- 1701.** Walking or standing between a ship's lines and the ship itself is prohibited. Employees not assigned to handle the mooring lines must keep clear of them.
- 1702.** When handling ship's lines equipped with an expansion or extension tag line, the line tender will throw the tag line clear of the work area before removing ship's line from cleat or bollard.
- 1703.** Stepping across Barney pits or Barney cables when they are in service is prohibited.
- 1704.** Riders bringing cars from the Barney Yard must observe their route carefully to prevent a collision or sideswipe with cars entering the route from other tracks.
- 1705.** When the brakes have been released on cars in the Barney Yard and for any reason they are not dropped to the Barney pit, sufficient hand brakes must be applied to secure the cars before they are left.
- 1706.** Due to limited clearance between pusher and cars, employees working where pushers are used must expect them to move in either direction at any time and will not place themselves in a position to be injured.
- 1707.** Standing in bights of chains, lines, or cables is prohibited. Use care to avoid getting lines fouled under fenders or other parts of boat or pier. Gloves must be worn when handling lines or cables.
- 1708.** Riding on the counterweight or the cradle of a high-lift dumper to lubricate guides or any part of equipment is prohibited.
- 1709.** Before lubricating or performing any work on movable parts of dumpers, employees must have a thorough understanding with the operator and then, protect themselves by de-energizing the circuit at the control switch.

- 1710.** When there is close clearance between cars and sides of structure, employees will not walk through nor work in thawing plants unless protection is provided. Walking between energized electric heaters is prohibited.
- 1711.** Where cable limit switches are provided beside Barney pits and along walkways and inclines, they shall be used to stop all machinery in case of emergency.
- 1712.** Before performing any work on conveyor belts or rollers or stepping on or across belts, employees must pull the cable limit switch where used and then pull and tag the main power switch.
- 1713.** Dumper will be left in the tilt position if cars are left unattended on a dumper. If unable to tilt dumper, unattended cars must have brakes applied. If loaded car must be ejected from dumper to Empty Yard, only 1 car may be sent by at a time, then only upon proper understanding and with instructions of Coal Piers Yardmaster.
- Switches in the route to be used into the Empty Yard will be placed in manual.
- 1714.** Employees must not go onto the dumpers or into the dumper bins until the proper **EMERGENCY STOP** button or **SAFETY SWITCH** is operated. When the work to be done takes them away from the immediate area of the emergency stop or safety switch, employees must apply a safety tag on stop and reset buttons or safety switch. These employees only may remove the tag. When there is a tag on it, the reset button must not be pushed or the safety switch closed.
- 1715.** Employees will not ride cars up inclines or onto dumpers. When necessary to ride a car, either loaded or empty, from dumpers to Empty Yard, only 1 car will be handled at a time and the rider will not get on the car until it has left the dumper.
- 1716.** Employees must not attempt to release or winch cars out of kick-back switches until dumper is in tilt position and the pier placed on STOP.
- 1717.** Electric car retarder mechanism must not be maintained, repaired, or operated by means of hand crank without first cutting power off the motor.

- 1718. Whenever a ship loader is traveling, the warning device must be sounding. In the event the warning device is inoperative, the immediate supervisor in charge must be notified so that the travel area of the loader can be protected.
- 1719. All personnel working in or around a ship loader must, at all times, expect sudden movement of cables, belts, machinery, or the ship loader itself and protect themselves accordingly.
- 1720. In case of sudden storm or high wind, ship loader operator must immediately notify the supervisor and must not move or travel the ship loader except under direction of the supervisor.
- 1721. Employees are prohibited from standing or walking on hatch coamings of vessels or barges.

MARINE OPERATIONS

- 1750. **Working in and around Water Which May Endanger an Employee (Drowning)**
 - [1] Employees must wear U.S. Coast Guard approved life vests or buoyant work vests when:
 - [1.1] Working over or adjacent to water with a depth of 4 feet or more.
 - [1.2] On the decks of marine vessels not equipped with protective handrails.
 - [1.3] Where the danger of drowning exists.
 - [2] Life preservers in compliance with U.S. Coast Guard requirements will also be readily available in those work areas where life vests or buoyant work vests are required.
 - [3] Employees are not required to wear life vests or buoyant work vests when:
 - [3.1] Using approved fall arrest systems or safety nets.
 - [3.2] Conducting inspections that involve climbing structures above or below a bridge deck.
 - [3.3] On the decks of marine vessels or structures adjacent to the water that are equipped with protective handrails.

POLICY ON ALCOHOL AND DRUGS OF NORFOLK SOUTHERN CORPORATION AND ITS RAILROAD SUBSIDIARIES

Preface

This Policy on Alcohol and Drugs of Norfolk Southern Corporation and its Railroad Subsidiaries (“Policy”) does not take the place of **Rule G** which will continue to be applied to all employees as it has been in the past.

Rule G. An employee who reports for duty under the influence of alcohol or a Prohibited Drug (as defined by Company Policy on Alcohol and Drugs), or a derivative or combination of any of these, or who uses any of the foregoing while on duty, will be dismissed. Possession of any of the foregoing while on duty, or possession, use or being under the influence of any of the foregoing while on Company property or in Company work equipment or vehicles, or occupying facilities provided by the Company, is prohibited.

This Policy applies to all employees except commissioned officers in the Police department. (A separate policy on drugs applies to commissioned officers in the Police department.)

Policy Statement on Drugs

1. Employees who use a Prohibited Drug(s) are not permitted to perform service, and may be subject to dismissal.
2. A “Prohibited Drug” is defined as a:
 - a. Controlled Substance listed in the Federal Controlled Substances Act (Title 21 United States Code):
 - Any Schedule I drug. This includes recreational and medical use of marijuana; or

- Any Schedule II through V drug without a valid prescription. A prescription is considered valid if the drug is prescribed for a legitimate medical purpose to the employee by his/her treating doctor, and if less than one year has passed since the date of the prescription; and/or
- b. Synthetic/designer drug. This refers to a drug that is chemically produced to modify the structure of an illegal or controlled substance to circumvent existing drug laws, and/or mimic the pharmacologic effect of an illegal or controlled substance. These drugs are not intended for legitimate medical use and have a high abuse potential. This includes derivatives of controlled substances, drugs that are not scheduled under the Controlled Substances Act, and products that are labeled “not intended for human consumption”. Common names include (but are not limited to) Synthetic Marijuana/K2/Spice and Bath Salts.
3. Employees are prohibited from reporting for duty or remaining at work if their ability to safely perform their job duties is adversely impacted by their medication(s). Employees’ responsibilities related to their medication use at work are described in the Medical Condition and Medication Guidance located on the medical information page on the ERC or at nscorp.com.

Reasonable Cause Testing

A reasonable cause drug and/or alcohol test may be required under Federal regulations when:

1. An employee has been involved in an accident or incident and the supervisor suspects that the employee’s acts or omissions contributed to the occurrence or severity of that accident or incident; or
2. An employee has been involved in certain Operating Rule Violations.

Urine Drug Test

A urine drug test may be required:

- as part of a physical examination (all physical examinations required by the Company include a urine drug test);
- when the Chief Medical Officer (or doctor acting on behalf of the Chief Medical Officer and hereafter cumulatively referred to as “Chief Medical Officer”) has reason to question whether an employee meets this Policy; and/or
- when required or permitted by Company Policy or applicable Federal regulations.

A urine drug test may be offered:

- when federal regulations **do not apply**, and under the provisions of **Rule G**:
 - a supervisor trained in the recognition of the signs of impairment by drugs determines an employee who is reporting for duty, while on duty, on Company property or in Company work equipment or vehicles, or occupying facilities provided by the Company, appears to be under the influence of or using Prohibited Drugs. The supervisor’s determination must be based on specific, contemporaneous, articulable observations concerning the appearance, behavior, speech or body odors of the employee. Such observations may include indications of the chronic and withdrawal effects of drugs.
 - an employee who declines to be tested will not be disciplined for refusing the test. However, the employee may be subject to discipline for violating **Rule G** based on the supervisor’s observations of the employee’s behavior and documented signs and symptoms.

Company procedures for employees providing a urine sample follow those specified in federal regulations in that an employee will be directed to remove outer clothing (e.g., coveralls, jacket, coat, hat) and leave these garments and any briefcase, purse, or other personal belongings including electronic devices, outside of the testing area.

Health Services Procedure for Positive Urine Drug Test

An employee whose urine tests positive for a Prohibited Drug will be subject to the Health Services procedure described below unless:

- The circumstances establish a violation of **Rule G**, in which case the employee will be subject to dismissal; or
- The employee has previously tested positive under this Policy and/or Company rules, previous versions of this Policy and/or Company rules, or any predecessor company's policy and/or rules; or the employee has had a prior **Rule G** violation; and was instructed at that time to keep his or her system free of Prohibited Drugs, in which case the employee will be subject to dismissal.

NOTE: An employee dismissed for violation of **Rule G** may contact the Company's Drug and Alcohol Rehabilitation Services (DARS) Program. The DARS Program is a subset of services provided by the Norfolk Southern Employee Assistance Program (EAP). The disposition of such an employee will be governed by DARS policy. Refer to DARS Program Summary Plan Description for the provision governing return to service after dismissal for **Rule G**.

An employee whose urine tests positive for a Prohibited Drug will not be permitted to perform service. An employee withheld from service by the Chief Medical Officer because of a positive test is not thereby being subjected to discipline. However, if such an

employee fails timely to comply with the requirements shown below, he or she may be dismissed.

An employee whose urine tests positive will be instructed in writing by a Chief Medical Officer to contact the Company's DARS Program for evaluation to determine the level of assistance the employee needs. Such an employee must contact the office of the NS EAP Manager within seven (7) calendar days. The NS Manager EAP will thereafter arrange an appointment with an EAP counselor.

The employee will be returned to active service only after completing the evaluation process and any rehabilitation required by DARS and providing a negative urine sample, at a collection site selected by the Company, within 45 days of the date of the Chief Medical Officer's original letter of instructions, unless DARS determines additional time is required to complete rehabilitation. An employee who fails timely to contact DARS or to cooperate with the evaluation process and rehabilitation required by DARS or fails to provide a negative urine sample as specified above will be subject to dismissal for failing to comply with instructions and this Policy and Company rules.

An employee whose urine tests positive and then complies with the above requirements will be returned to service. The employee will be advised in writing, however, that the use of Prohibited Drugs is contrary to this Policy and Company rules. The employee will be instructed by the Chief Medical Officer that he/she must keep his/her system free of such Prohibited Drugs and that he or she must participate in any appropriate DARS continuing care recommendations to remain eligible for service. That employee will be subject to dismissal if any future test is positive.

An employee returned to service in this manner will be required by the Health Services during the five-year period following the date of his or her return to service to periodically report to a collection site for further testing to determine whether he or she is using Prohibited Drugs.

An employee who is dismissed for failing to obey instructions pursuant to this Policy and/or Company rules will not be eligible for reinstatement under the Company's DARS Program.

If a urine drug screen test is declared positive or "non-negative" by the Medical Review Officer (MRO), the split sample will be tested at another laboratory certified by the Department of Health and Human Services if the involved employee so requests within 72 hours after notification by the MRO of a positive or non-negative result. The employee will be responsible for the cost of the split sample test. (The employee will be reimbursed for such costs if the test is negative.) Any action taken by the Company on the basis of the original test will not be stayed pending the results of the test of the split sample.

If the MRO has determined that the drug test is negative, the MRO will accomplish the required administrative review and report the negative results to the Designated Employer Representative (DER). Unless the MRO directs NS to conduct a recollection under direct observation (for a result with creatinine from 2 to 5 mg/dl), per 40.197, NS considers a negative-dilute to be a negative test for all purposes except:

- Pre-employment/post-offer tests; or
- "reasonable-suspicion" or "for cause" tests.

Negative-dilute results from these two types of tests will prompt immediate notification of the job offeree or employee to take another test. This test will not be conducted under direct observation. If a test conducted for any other purpose is reported as "negative dilute", NS considers the result to be negative, and no additional testing will be required.

Policy Statement on Alcohol

Norfolk Southern Corporation and its subsidiary railroads continue to prohibit all possession and use of or impairment

by alcohol when employees are on duty, reporting for duty, on Company property, in Company work equipment or vehicles or occupying facilities provided by the Company; therefore, if the results of a breath alcohol test indicate the presence of alcohol in an employee's system, that employee will be subject to dismissal for violation of **Rule G**.

Breath Alcohol Test

A breath alcohol test may be required:

- When the Chief Medical Officer has to determine whether an employee meets this Policy; and/or
- When required or permitted by Company Policy or applicable Federal regulations.

A breath alcohol test may be offered:

- when federal regulations **do not apply**, and under the provisions of **Rule G**:
 - a supervisor trained in the recognition of the signs of impairment determines an employee who is reporting for duty, while on duty, on Company property or in Company work equipment or vehicles, or occupying facilities provided by the Company, appears to be under the influence of or using alcohol. The supervisor's determination must be based on specific, contemporaneous, articulable observations concerning the appearance, behavior, speech or body odors of the employee.
 - an employee who declines to be tested will not be disciplined for refusing the test. However, the employee may be subject to discipline for violating **Rule G** based on the supervisor's observations of the employee's behavior and documented signs and symptoms.

Health Services Procedure for a Positive Breath Alcohol Test

An employee dismissed for violation of **Rule G** may contact the Company's DARS Program. The disposition of such an employee will be governed by DARS policy. Refer to DARS Program Summary Plan Description for the provision governing return to service after dismissal for **Rule G**.

NOTE: Employees who previously tested positive under this Policy and/or Company rules, previous versions of this Policy and/or Company rules, or any predecessor company's policy and/or rules; or have had a **Rule G** violation; and who were returned to service following a negative test and instructed to keep their system free of Prohibited Drugs, will be subject to dismissal if any future test is positive for Prohibited Drugs or alcohol.

An employee who is dismissed for failing to obey instructions pursuant to this Policy and/or Company rules will not be eligible for reinstatement under the Company's DARS Program.

Off-the-Job Prohibited Drug Activity (All Employees)

Employees who are found to be using or possessing Prohibited Drugs in an off-the-job incident will be considered in violation of this Policy and will be subject to dismissal.

Off-the-Job Prohibited Drug or Alcohol Activity (Certified Locomotive Engineers, Remote Control Operators and Conductors)

Per 49 CFR Parts 240 and 242 regarding the qualification and certification of conductors or locomotive engineers or such candidates, if the following occurs within 36 months in which the railroad is making its certification decision:

- a conviction for, or completed state action to cancel, revoke, suspend, or deny a motor vehicle driver's license for, operating a motor vehicle while under the influence or impaired by a controlled substance or alcohol, or
- a refusal to undergo such testing as required by State law when a law enforcement officer seeks to determine whether a person is operating a vehicle while under the influence of a controlled substance or alcohol,

then the employee must:

- be evaluated by the railroad's EAP counselor to determine if the employee has an active substance abuse disorder; and
- cooperate in the evaluation and provide any records of prior counseling treatment for review by the EAP counselor.

If the employee is evaluated as not currently affected by an active substance abuse disorder, the subject data shall not be considered further with respect to certification. However, on recommendation of the EAP counselor, the railroad will condition certification upon participation in any needed aftercare and/or follow-up testing for alcohol or drugs.

If the employee is evaluated as currently affected by an active substance abuse disorder, the employee shall not be currently certified.

Refusal

An employee who refuses to provide a breath or urine sample for alcohol/drug testing when properly instructed to do so may be subject to dismissal for failure to obey instructions. Tampering with a urine sample by substitution, dilution, or adulteration shall be deemed a refusal and will also be considered conduct unbecoming an employee and grounds for dismissal.

Official Business-related Events

Employees may consume alcohol at pre-arranged official business-related events on NS property provided the event:

- is authorized by a VP or higher level officer of the Company; and
- is restricted to designated locations; and
- does not interfere with normal business operations; and
- does not impact workplace safety.

FRA RULE ON CONTROL OF ALCOHOL AND DRUG USE IN RAILROAD OPERATIONS

In general, the testing provisions of the FRA Rule (49 CFR Part 219) apply only to employees who perform service covered by the Hours of Service Act (such as train and engine service employees, train dispatchers, and clerks who handle train orders, signal employees) and roadway workers as defined in 214.7 (hereafter cumulatively referred to as “regulated employees” or “regulated service”). However, the rule does require that samples be collected from the remains of any employee who is fatally injured in certain accidents or incidents. Subparts B, C, D, E, F, G, and H of the rule are discussed below. A copy of the Federal Rule is available for review from proper authority.

Subpart B — Prohibitions

Regulated employees are prohibited (except as provided by 219.103) by the FRA Rule from:

1. Using or possessing alcohol while on duty;

2. Using or possessing a controlled substance while on or off duty;
3. Reporting for or remaining on duty while under the influence of or impaired by alcohol or any controlled substance;
4. Having 0.04% or more alcohol in the breath or blood;
5. Using alcohol prior to reporting for duty for whichever is the lesser of the following periods:
 - within four (4) hours of reporting service; or
 - after receiving notice to report for service; and
6. Performing or continuing to perform regulated service after an alcohol test is 0.02 or greater but below 0.04 until the start of the employee's next regularly scheduled duty period, but not less than 8 hours following the administration of the test.

NOTE: An employee whose Federal test result on an alcohol breath test is 0.02 or greater but below 0.04 will be handled in accordance with Company policy Rule G.

As provided by 49 CFR 219.103, regulated employees are not prohibited from use or possession of a controlled substance on Schedule II through V of the Controlled Substances Act if prescribed by a treating medical practitioner who has made a good-faith judgment based on knowledge of the employee's duties and medical history that the use of the substance at the prescribed dosage is consistent with safety, and the substance is used at the prescribed dosage.

When an employee tests positive for drugs or tests 0.04 or above for alcohol on an FRA authorized test, he/she must immediately be removed from regulated service. Such an employee may only be returned to service after evaluation by a Substance Abuse

Professional (SAP), participation in sufficient rehabilitation to return to service as evidenced by a return to service recommendation by a SAP, and furnishing a negative sample. The employee will be instructed by the Chief Medical Officer that he/she must keep his or her system free of Prohibited Drugs, and participate in any appropriate DARS continuing care recommendations to remain eligible for service. An employee returned to service under these circumstances will be subject to follow-up testing in accordance with the regulations for up to five (5) years. An employee removed from service following a positive FRA test is entitled under the FRA regulations to demand a hearing if the employee denies that the test result is valid evidence of prohibited alcohol or drug use.

Norfolk Southern's policy is that employees must request this hearing within five (5) calendar days of the date he or she is removed from service. This hearing may be combined with any disciplinary hearing arising from the same incident.

An employee who refuses to provide a breath or body fluid specimen(s) when required to by the railroad under a mandatory provision of the FRA Rule must be deemed disqualified for a period of nine (9) months and thereafter may be returned to regulated service only after evaluation and any necessary treatment by an employee assistance program and after testing negative for Prohibited Drugs and alcohol.

NOTE: As a matter of policy, however, Norfolk Southern and its subsidiary railroads intend to make every effort to collect samples when testing is required. Thus, if a test is required, the employee will be instructed to cooperate with the collection. Employees who fail to do so will be subject to dismissal for failing to comply with instructions.

Subpart C — Post-Accident Toxicological Testing

Subpart C currently requires railroads to collect blood and urine samples after certain train accidents or incidents. Samples must be collected after:

1. Train accidents resulting in damage in excess of the current reporting threshold which involve a fatality to anyone; a release of hazardous material lading from railroad equipment resulting in an evacuation or reportable injury resulting from the hazardous material release; or damage to railroad property of \$1,500,000 or more.
2. Impact accidents (involving collision) which result in damage in excess of the current reporting threshold which involve a reportable injury or damage to railroad property of \$150,000 or more.
3. Any train incident resulting in a fatality to an on-duty railroad employee who dies within 12 hours of the incident.
4. A passenger train accident involving damage in excess of the current reporting threshold resulting in a reportable injury to anyone.
5. A highway-rail grade crossing accident/incident when it involves:
 - A regulated employee who interfered with the normal functioning of a grade crossing signal system, in testing or otherwise, without first taking measures to provide for the safety of highway traffic that depends on the normal functioning of such system (as provided by 49 CFR 234.209)
 - A train crewmember who was, or who should have been flagging highway traffic to stop due to an activation failure of the grade crossing system (as provided by 49CFR 234.105(c)(3));
 - A regulated employee who was performing, or should have been performing, the duties of an appropriately equipped flagger (as defined in 234.5) due to an activation failure, partial activation, or false activation of the grade crossing signal system (as provided by 49 CFR 234.105(c)(1) and (2), 234.106, or 234.107(c)(1)(i));
 - A fatality to any regulated employee performing duties for the railroad regardless of fault; or

- A regulated employee who violated an FRA regulation or railroad operating rule and whose actions may have played a role in the cause or severity of the accident/incident. This includes any regulated employee who may not have been present at the time or location of the event, but whose actions may have played a role in its cause or severity, including, but not limited to, a dispatcher, or signal maintainer.

Exceptions: Except for human-factor highway-rail grade crossing accident/incident noted above, no test may be required in the case of a collision between railroad rolling stock and a motor vehicle or other highway conveyance at a highway/rail grade crossing. No tests are required in the case of an accident/incident, which is wholly attributable to a natural cause (e.g., flood, tornado, or other natural disaster), vandalism, or trespasser(s), as determined on the basis of objective and documented facts by the railroad representative responding to the scene.

When conditions require the collection of blood and urine samples, the railroad may also require breath testing if such testing does not interfere with timely collection of blood and urine samples.

The railroad supervisor responding to the scene will make a “good faith judgment” as to whether post-accident toxicological testing is required. If testing is required, all regulated employees who were directly involved in the accident will be tested. At a minimum, this includes all operating crewmembers of any train involved in the accident/incident. (However, if testing is required only under the impact accident, fatal train incident, or passenger train accident with injury criteria, and human-factor highway-rail grade crossing, all operating crewmembers may not have to be tested. Any employee who the railroad supervisor can immediately determine to have had no role in the cause(s) or severity of the accident will not be tested.)

In addition to the operating crews, any other regulated employee who was directly involved in the circumstances of the accident or incident (such as an operator, dispatcher, signal maintainer, or roadway worker) will be tested.

An employee required to be tested under Subpart C will be taken to a medical facility where the samples will be collected. The employee must cooperate in the sample collection process, complete certain FRA forms, and execute required releases. The samples will be shipped to the laboratory designated by FRA, which will perform the required analysis. FRA will notify both the railroad and the employee of the results of the analysis.

A railroad must immediately recall and place on duty a regulated employee for post-accident drug testing if:

1. The employee could not be retained in duty status under normal railroad procedures before being contacted by a railroad supervisor and instructed to remain on duty pending completion of the required determinations; and
2. The railroad's preliminary investigation (contemporaneous with the determination required by 49 CFR 219.201) indicates a clear probability that the employee played a role in the cause or severity of the accident/incident.

A regulated employee must be recalled for post-accident drug testing regardless of whether the qualifying event happened or did not happen during the employee's tour of duty. However, an employee may not be recalled for testing if more than 24 hours have passed since the qualifying event.

The time limits set forth in any Collective Bargaining Agreement for charging employees and holding investigations with respect to any disciplinary action that might arise from an accident or incident that required post-accident testing are suspended until the results of the analysis are received. However, the time limits for charging an employee are not suspended when the Company obtains sufficient information to charge an employee prior to the

receipt of the analysis. Thus, while an employee might be charged with certain violations after an accident, which required post-accident testing, the investigation of the charge(s) would not have to be held until the results were received.

At that time, depending on those results, the employee might be charged with additional rule violations.

Subpart C requires regulated employees to cooperate with post-accident toxicological testing. Employees who refuse to cooperate with testing must, at a minimum, be removed from regulated service for a nine-month period. As a matter of policy, however, Norfolk Southern and its subsidiary railroads intend to make every effort to collect samples when post-accident testing is required. Thus, if post-accident toxicological testing is required, the supervisor will instruct the employee to cooperate with that testing. Employees who fail to do so will be subject to dismissal for failing to comply with instructions.

Subpart C provides for a hearing in cases in which employees refuse to cooperate with post-accident testing. This hearing will usually be held together with any other disciplinary hearing arising out of the accident or incident. The conducting officer will, however, make separate findings and will consider:

1. Whether the railroad supervisor made a “good-faith determination” that testing was required.
2. If a blood test was refused due to health considerations, whether that refusal was made in good faith based on medical advice.

Subpart D — Mandatory Reasonable Suspicion Testing

The railroad must test a regulated employee for alcohol and/or drugs if a trained supervisor suspects that an employee has violated any prohibition in Subpart B of the FRA Rule concerning alcohol and controlled substances. The determination that

reasonable suspicion exists must be based on specific, contemporaneous, articulable observations concerning the appearance, behavior, speech or body odors of the employee. Such observations may include indications of the chronic and withdrawal effects of drugs. One supervisor trained in the recognition of the signs of impairment by alcohol/drugs is sufficient to require an alcohol test; two (2) supervisors (at least one trained in the recognition of the signs of impairment by alcohol/drugs) are needed to require a drug test.

Subpart E – Reasonable Cause Testing

Subpart E **permits** railroads to require urine and breath testing under the conditions specified in the regulations, provided the railroad notifies its regulated employees of its decision to use Federal reasonable cause testing authority. The company does and may continue to require urine and breath testing of regulated employees under the conditions specified in the regulations. Disciplinary action may (as in the past) be based on other evidence. Urine tests for drugs and/or breath tests for alcohol are permitted when:

A regulated employee has been involved in a reportable accident or incident and the supervisor suspects that the employee's acts or omissions contributed to the occurrence or severity of that accident or incident.

A regulated employee has been involved in certain Operating Rule violations.

Subpart F — Pre-Employment Testing

The railroad will test new hires (post-job offer) for regulated positions and employees transferring into a regulated position. A new hire must be administered a test for drugs with a result that does not indicate the misuse of controlled substances. As required by Federal Rule, an inquiry will be made of previous DOT regulated employers concerning a new hire's or transferee's prior drug and alcohol test results and any documentation relating to a

Substance Abuse Professional (SAP) evaluation, determination and compliance.

Subpart G — Random Testing

Subpart G requires railroads to test regulated employees selected on a random basis for prohibited alcohol and/or drug use. Each regulated employee must have a substantially equal chance of being selected.

The number of tests conducted during each 12-month period will equal or exceed a designated percentage of the number of regulated employees. Prior to each 12-month period, the FRA Administrator will determine the minimum required testing level for alcohol and drugs based on industry experience.

If a regulated employee performs functions subject to the random testing requirements of more than one DOT agency, a railroad must ensure that the employee is subject to selection for random drug and alcohol at or above the current minimum annual testing rate set by the DOT agency that regulates more than 50% of the employee's DOT-regulated functions.

An employee selected to be tested under the railroad's random testing program will be instructed to report to a designated collection site. Employees selected for testing will not be notified until they have reported for duty and then only as far in advance as is necessary to accomplish the test. The employee must cooperate in the sample collection and complete the required paperwork and certification. Compliance by the employee may be excused only in the case of a documented medical or family emergency.

Subpart H — Drug and Alcohol Testing Procedures

Drug and/or alcohol testing required or authorized by FRA Rule must be conducted in compliance with all applicable provisions of

the Department of Transportation Procedures for Transportation Workplace Drug and Alcohol Testing Programs, 49 CFR Part 40.

FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION ALCOHOL/DRUG TESTING REGULATIONS

Federal Motor Carrier Safety Administration (FMCSA) regulation (49 CFR Part 382) requires holders of commercial motor vehicle drivers licenses and drivers of Commercial Motor Vehicles (vehicles operated in commerce which (1) have a gross combination weight rating of 26,001 pounds or more inclusive of a towed unit with a gross vehicle weight rating of more than 10,000 pounds or have a gross vehicle weight rating of 26,001 or more pounds, or (2) are designated to transport 16 or more passengers, or (3) are used to transport hazardous materials in a quantity requiring placarding) to be tested for alcohol and drugs. The pertinent FMCSA regulations are discussed below.

Employees who hold a Commercial Motor Vehicle driver's license and are subject to being assigned to drive a covered Commercial Motor Vehicle, are subject to being tested for alcohol and/or drugs in accordance with FMCSA regulations any time while on duty unless otherwise notified.

Prohibitions

Employees subject to testing under FMCSA regulations ("covered" employees) are prohibited from:

1. Using alcohol while on duty; or
2. Reporting for duty or remaining on duty while having an alcohol concentration of 0.04 or greater; or
3. Reporting for duty and performing covered service within four (4) hours of using alcohol; or

4. An employee tested for alcohol under the provisions of the FMCSA Rule whose test result is 0.02 or greater but less than 0.04 may not perform or continue to perform covered service until the start of the driver's next regularly scheduled duty period, but not less than 24 hours following administration of the test.

NOTE: An employee whose Federal test result on an alcohol breath test is 0.02 or greater but below 0.04 will be handled in accordance with Company policy **Rule G**.

5. Using alcohol for eight (8) hours following an accident requiring post-accident testing until the employee undergoes the post-accident alcohol test.
6. Reporting for duty or remaining on duty when using a controlled substance identified in Schedule I of the Controlled Substances Act.
7. Reporting for duty or remaining on duty when using a controlled substance in Schedules II through V of the Controlled Substances Act, except when the use is pursuant to the instructions of a licensed medical practitioner, who has advised the employee that the controlled substance does not adversely affect the driver's ability to safely operate a Commercial Motor Vehicle.

An employee who refuses to provide a breath or body fluid specimen(s) when required by the railroad under mandatory FMCSA Rule, will not be permitted to continue to perform safety-sensitive functions.

NOTE: Norfolk Southern and its subsidiary railroads will make every effort to collect samples when testing is required. If a test is required, the employee will be instructed to cooperate with the collection. Employees who fail to do so will be subject to dismissal for failing to comply with instructions.

Subpart C -Testing Required Pre-Employment Testing

New hires (post-job offer) for covered driver positions must be tested for the use of alcohol and controlled substances. A new hire must be administered a test for drugs that results in a verified negative result. As required by Federal Rule, an inquiry will be made of previous DOT covered employers concerning a new hire's or transferee's prior drug and alcohol test results and follow-up.

Reasonable Suspicion Testing

The railroad must test a covered employee for alcohol and/or drugs if a trained supervisor suspects that an employee has violated any prohibition in Subpart B of the FMCSA Rule concerning alcohol and/or controlled substances. The determination that reasonable suspicion exists must be based on specific, contemporaneous, articulable observations concerning the appearance, behavior, speech or body odors of the employee. Such observations may include indications of the chronic and withdrawal effects of drugs. One supervisor trained in the recognition of the signs of impairment by alcohol/drugs must make the required observations.

Post-Accident Testing

A covered driver must be tested for alcohol and drugs if involved in any accident involving a Commercial Motor Vehicle resulting in a fatality.

Breath or blood alcohol tests, and/or urine drug tests conducted by federal, state, or local officials meet the requirements of this section.

After a reportable accident, a driver must be tested for alcohol and drugs if the driver received a citation for a moving traffic violation arising from the accident and:

- there was bodily injury with immediate medical treatment away from the scene, or
- a vehicle involved in the accident received disabling damage requiring it to be towed away.

The required post-accident sample must be collected as soon as possible, but in no case more than eight (8) hours after the accident for the alcohol tests and 32 hours after the accident for the urine drug test.

NOTE: When post-accident testing is required, all surviving employees holding CDLs who are in or on the involved covered vehicle must be tested.

Random Testing

The Company is required to test FMCSA covered employees selected on a random basis for prohibited alcohol and/or drug use. Each covered employee must have a substantially equal chance of being tested each time selections are made. The number of tests conducted during each 12-month period will equal or exceed a designated percentage of the number of FMCSA covered employees. The FMCSA Administrator will determine the minimum required testing level for alcohol and drugs based on industry performance.

An employee selected to be tested under random testing will be instructed to report to a designated collection site. Employees selected for testing will not be notified until they have reported for duty and then only as far in advance as is necessary to accomplish the test. The employee must cooperate in the sample collections and complete the required forms.

If a regulated employee performs functions subject to the random testing requirements of more than one DOT agency, a railroad must ensure that the employee is subject to selection for random drug and alcohol at or above the current minimum annual testing

rate set by the DOT agency that regulates more than 50% of the employee's DOT-regulated functions.

Consequences

A person who tests positive for alcohol or a controlled substance is medically unqualified to operate a motor vehicle. An employee who refuses to submit to such tests will not be permitted to perform or continue to perform safety-sensitive functions. If a driver refuses to be tested under applicable FMCSA regulations, that refusal will be treated as a positive test and the employee would be medically unqualified to operate a commercial motor vehicle. In addition, the employee may be subject to discipline for violating Rule G based on the supervisor's observations of the employee's behavior and documented signs and symptoms.

Employees who are disqualified from driver positions as a result of a positive test must be evaluated by a Substance Abuse Professional, complete any required evaluation, test negative for alcohol and/or drugs, and are subject to five-year follow-up testing.

Procedures and Safeguards for Alcohol Testing and Urine Drug Testing

Drug and/or alcohol testing required or authorized by FMCSA Rule must be conducted in compliance with all applicable provisions of the Department of Transportation Procedures for Transportation Workplace Drug and Alcohol Testing Programs, 49 CFR Part 40.

NORFOLK SOUTHERN CORPORATION DRUG AND ALCOHOL REHABILITATION SERVICE (DARS) PROGRAM SUMMARY PLAN DESCRIPTION

Norfolk Southern Corporation and certain of its subsidiaries (collectively, Company) maintain an active Drug and Alcohol Rehabilitation Services (DARS) Program. The DARS Program is a subset of services provided by the Norfolk Southern Employee Assistance Program (EAP).

Eligibility

Agreement and non-agreement employees of Norfolk Southern Corporation, Norfolk Southern Railway Company, wholly-owned subsidiaries of Norfolk Southern Railway Company and participating affiliates of Norfolk Southern Corporation are eligible for entry into the DARS Program during periods of active employment in one of three ways, as described below.

Certain former employees may be eligible for entry into the DARS Program within 30 days following dismissal if the employee satisfies the requirements outlined in the "Entry After Dismissal for Violation of Rule G" section.

[1] Voluntary Referral

An employee may be referred to the DARS Program by a fellow employee, a union representative, Norfolk Southern's Chief Medical Officer, or a supervisor. The employee may also make a self-referral. A referral can be made by contacting the regional EAP counselor listed in the telephone directory or by calling the NS EAP Manager, at 757- 629-2447, or for assistance 24 hours a day, call 1-844-215-4188.

An employee who voluntarily requests help from the DARS Program prior to the time that he or she violates the Company's rules with respect to alcohol or drugs, may do so without jeopardizing his or her employment.

Such employees will, to the extent necessary for treatment and rehabilitation, be granted unpaid leave of not less than 45 days. Furthermore, the employee will be returned to service on the

recommendation of the substance abuse professional, who may not unreasonably withhold approval to return to service.

Any such request for help and all subsequent counseling and treatment will be confidential. However, certain Protected Health Information may be released to the Company if permitted under the DARS Program's privacy practices (see "HIPAA Privacy"). As for certified locomotive engineers, RCO's and conductors or such candidates, confidentiality is waived if the person refuses to cooperate in the recommended course of counseling or treatment, as required by 49 CFR 240.119(e) and 49 CFR 242.115(g). Also, any drug and/or alcohol testing conducted pursuant to this policy will be considered non-Federal testing because a violation of Federal regulations has not occurred.

Voluntary Referral will not be available in cases in which the referral is made for the purpose or with the effect of anticipating the imminent and probable detection by a supervisory employee of a rule violation. While violation of the Company's rules or policies will result in disciplinary action, volunteering to participate in the DARS Program will not of itself result in discipline.

[2] Co-Worker Report Policy

An employee who has not previously committed a drug or alcohol offense and who, as a result of a report by a co-worker, is accused of violating **Rule G** may elect to waive investigation and contact the Company's DARS Program without jeopardizing his or her employment. Such an employee must report to an EAP counselor within seven (7) calendar days of being accused.

The counselor will complete an evaluation within 10 calendar days unless further evaluation is needed, in which case all necessary evaluations will be completed within 20 calendar days of the date on which the employee reported to the EAP counselor.

An employee will not be eligible for return to work through this provision of the DARS Program unless he or she authorizes the release of his or her Protected Health Information to the Company

or to any third party involved in the return to work process for use in the return to work evaluation and any other employment-related determinations.

If the EAP counselor finds the employee is affected by substance dependence on drugs or alcohol, the employee must, to the extent necessary for treatment and rehabilitation, be granted an unpaid leave of absence of not less than 45 days or for the period necessary to complete counseling and treatment.

The employee who enters the DARS Program after a co-worker report and elects to undertake the course of treatment, will be returned to work when he/she is sufficiently rehabilitated to return to work, as evidenced by a return to work recommendation by a substance abuse professional, and as determined by the Chief Medical Officer. In cases of non-agreement or excepted employees, the return to work may or may not be to the same position he or she occupied at the time of his or her dismissal on account of the needs of the Company. The employee will be required to participate in a reasonable program of follow-up treatment for up to five (5) years.

If the EAP counselor finds the employee is not affected by substance dependence on drugs or alcohol, the employee will be returned to work within five (5) days after completion of the counselor's evaluation.

An employee who is returned to work under this provision will be advised in writing that the use of Prohibited Drugs is contrary to Company policy and rules. The employee will be instructed by the Chief Medical Officer that he / she must keep his or her system free of Prohibited Drugs, and participate in any EAP continuing care recommendations to remain eligible for service. The employee will also be required by the Health Services during the five-year period following the date of his or her return to work to periodically report to a collection site for further testing to determine whether he or she is using Prohibited Drugs and/or alcohol. In addition, if there has been a violation of Federal regulations (219.101 or 219.102), the employee will be subject to

return-to-work and follow-up tests once the employee is determined to be ready to return to work. The employee will be subject to dismissal if any future test is positive.

The co-worker report provisions will not apply in cases in which the referral is made for the purpose or with the effect of anticipating the imminent and probable detection by a supervisory employee of a rule violation. The co-worker report policy does not apply when the reported employee previously has either waived investigation when accused of violating the Company's rules or policies with respect to drugs or alcohol, or has been returned to service after having been discharged for violating these rules.

[3] Entry After Dismissal for Violation of Rule G and Return to Service for Certain Employees

An employee who is dismissed for violating **Rule G** may, within 30 calendar days of the date he or she is dismissed, request to be evaluated by the DARS Program. If the EAP counselor determines that the dismissed employee is affected by substance dependence on drugs or alcohol, the employee may elect within the 30-calendar-day period following his or her dismissal to waive any claim as a result of that dismissal and enter the DARS Program.

Employees will not be eligible for reinstatement of employment through the DARS Program if claims filed by them or on their behalf are not withdrawn within the 30-calendar-day period following dismissal or if such claims are filed by them or on their behalf subsequent to that 30-calendar-day period.

In addition, an employee will not be eligible for reinstatement of employment through this provision of the DARS Program unless he or she authorizes the release of his or her Protected Health Information to the Company or to any third party involved in the return to work process for use in the return to work evaluation and any other employment-related determinations.

An employee who enters the DARS Program after dismissal for violation of **Rule G** and elects to undertake the course of treatment, will be returned to work when he/she is sufficiently rehabilitated to return to work, as evidenced by a return to work recommendation by a substance abuse professional, and as determined by the Chief Medical Officer. The employee will be required to participate in a reasonable program of follow-up treatment for up to five (5) years. When the dismissed employee is a non-agreement or excepted employee, the reinstatement may or may not be to the same position he or she occupied at the time of his or her dismissal, subject to the needs of the Company.

An employee who is returned to work under this provision will be advised in writing that the use of Prohibited Drugs is contrary to Company policy and rules. The employee will be instructed by the Chief Medical Officer that he / she must keep his or her system free of Prohibited Drugs, and participate in any DARS Program continuing care recommendations to remain eligible for service. The employee will also be required by the Health Services during the five-year period following the date of his or her return to service to report to a collection site for further testing to determine whether he or she is using Prohibited Drugs and/or alcohol. In addition, if there has been a violation of Federal regulations (219.101 or 219.102), the employee will be subject to return-to-work and follow-up tests once the employee is determined to be ready to return to work. The employee will be subject to dismissal if any future test is positive.

An employee may only be returned to work under this provision following his or her first **Rule G** disciplinary incident provided the employee has not previously tested positive for alcohol or drugs in violation of Federal drug and alcohol regulations, or in violation of Company policy and/or rules, or any predecessor company's policy and/or rules. Employees returned to work who are dismissed again for violating **Rule G** or who violate Company policy and/or rules on alcohol and drugs may participate in the DARS Program, but will not be returned to service. The disposition of a repeat offender will depend upon the decision of

his or her supervisor or, where applicable, the outcome of the contract grievance procedure and arbitration.

An employee who on a previous occasion elected to waive investigation under the co-worker report provisions may not be returned to work under this provision.

An employee arrested and convicted of an offense in connection with the possession or sale of drugs and who has been dismissed on that account will not be eligible to be returned to work.

Benefits Provided

EAP counselors evaluate an employee's addiction or rehabilitation and assist participants in designing a course of treatment or rehabilitation for his or her addiction, including assisting the participant in seeking hospitalization or other medical care or in joining self-help groups. If a participant refuses to cooperate or comply with the DARS Program treatment recommendations, participation in the DARS Program may be terminated.

EAP counselors maintain contact with participants during treatment and rehabilitation and assess their progress, and they may provide follow-up counseling after the participant returns to work. A list of all EAP counselors is set forth in the Company's telephone directory, and in the DARS Program Brochure which is available on the DARS Program webpage and which can be accessed through the Norfolk Southern website or from the Employee Resource Center (ERC).

The DARS Program does NOT cover the cost of hospitalization, medical treatment, or other outside assistance to which EAP counselors refer participants. (The employee may, however, be able to obtain benefits for rehabilitation and treatment under his or her medical benefit plan, depending upon the terms of the applicable plan.) Counseling and consultation services are provided by EAP counselors without charge, but the cost of any

outside consultation or counseling services recommended by a EAP counselor is not covered by the DARS Program.

Termination of Coverage

Eligibility for entry into the DARS Program will terminate for the following reasons:

- If your employment is terminated for any reason, unless you are eligible for entry under the "Entry After Dismissal for Violation of Rule G" provisions of the DARS Program;
- If you request and are granted a leave of absence, unless the leave of absence is granted in connection with the DARS Program;
- If you become disabled;
- If your employer's participation in the DARS Program is terminated; or
- If the DARS Program is terminated.
- If you have entered the DARS Program and subsequently experience one of these events terminating eligibility for entry, you may continue to receive benefits under the Program, unless the DARS Program is terminated.

Cost and Funding

Norfolk Southern Corporation, or its participating subsidiaries or its affiliates, pays the full cost of benefits provided under the DARS Program. (Benefits provided include counseling services and evaluation which are performed by EAP counselors, but the course of treatment recommended by the EAP counselor is not covered by the DARS Program.) The DARS Program is funded solely from the general assets of Norfolk Southern Corporation or its participating subsidiaries and affiliates.

HIPAA Privacy

The DARS Program complies with the privacy rule under the Health Insurance Portability and Accountability Act of 1996 (HIPAA).

The Notice of Privacy Practices for the DARS Program describes how the DARS Program may, consistent with the HIPAA privacy rule, use your health information. The Notice of Privacy Practices also describes how you can exercise certain rights in relation to your health information.

A copy of the Notice of Privacy Practices is maintained on the Norfolk Southern Corporation's website, at www.nscorp.com, under the "Employees" link. You can print a paper copy of the Notice of Privacy Practices from the website. You can also obtain a copy of the Notice of Privacy Practices by calling the Human Resources Help Desk at 800-267- 3313 or you can request a copy by sending an email to hrhelpdesk@nscorp.com.

Amendment or Termination

Norfolk Southern Corporation reserves the right to amend or terminate the DARS Program at any time by an appropriate written instrument executed by the Vice President-Human Resources of Norfolk Southern Corporation.

Your Rights Under ERISA

This section includes a summary of your ERISA rights under the Norfolk Southern Corporation DARS Program. This section also includes a description of your claims and appeals rights under the DARS Program and other administrative information.

Notice of Claim Denial

If your claim for a benefit is denied in whole or in part, you must receive a written explanation of the adverse benefit determination.

You have a right to have the Plan Administrator review and reconsider your claim. Benefit claim determinations will be made in accordance with the documents governing the DARS Program and, where appropriate, provisions of the DARS Program will be applied consistently with respect to similarly situated claimants.

All claims for DARS Program benefits will be decided within 30 days from the receipt of the request. The Plan Administrator may extend this period for 15 days if necessary because of matters beyond its control. In the event that this extension is necessary, you will be notified prior to the expiration of the initial 30-day period. Once the Plan Administrator has made a coverage decision on services, you will receive written notification of the coverage decision.

The Plan Administrator may deny a claim if information needed to fully consider the claim is not provided. The denial will describe the additional information needed to process the claim. The claim may be reopened by you or your provider furnishing the additional information. You or your provider must submit the additional information within 45 days from the date you were notified that the information is needed. Once your claim has been processed, you will receive written notification of the coverage decision.

A notice of any denial of your claim will include (i) the reason for the adverse determination and reference to provisions of the DARS Program on which the determination is based; (ii) a description of additional material necessary to perfect the claim and an explanation of why such material or information is necessary; and (iii) a description of the review procedures for the DARS Program and the applicable time limits, including a statement of your right to bring a civil action following an adverse benefit determination on review. If all or part of any claim is not covered, you have a right to see, upon request and at no charge, any rule, guideline, protocol or criterion that the Plan Administrator relied upon in making the coverage decision.

Right to a Formal Review of an Adverse Benefit Determination

Within 180 days of your receipt of any adverse benefit determination, you may request a formal review of such determination by the Plan Administrator.

You or your representative may submit written comments, documents, records, and any other information relating to your claim for benefits to the Plan Administrator. The Plan Administrator's review will take into account all comments, documents, records, and other information you submit relating to your claim for benefits, without regard to whether such information was submitted or considered in the initial benefit determination.

Upon receipt of your appeal of any adverse benefit determination, the Plan Administrator will resolve and respond in writing to your appeal within 30 days from the receipt of the request to appeal the claim.

In reviewing your appeal of an adverse benefit determination, the Plan Administrator will take into account all the information you submit, regardless of whether the information was considered at the time the initial coverage decision was made. A new review will be completed, and will not assume the correctness of the original determination. The individual reviewing your appeal will not have participated in the original coverage decision, and will not be a subordinate of the individual who made the original determination. Any decision that involves the review of medical information will be made by appropriate clinical staff.

When the review of your appeal has been completed, you will receive written notification of the outcome. In the case of an adverse benefit determination, the notice will include the specific reason or reasons for the adverse determination, reference to the specific DARS Program provisions on which the benefit determination is based, and a statement that you are entitled to receive, upon request and free of charge, reasonable access to and copies of all documents, records and other information relevant to your claim for benefits. If an internal rule, guideline, protocol, or other similar criterion was relied upon in making the adverse benefit determination, the notice will include the specific rule, guideline, protocol, or other similar criterion or a statement

that such rule, guideline, protocol, or similar criterion was relied upon in making the determination and that a copy will be provided free of charge upon request. The explanation will identify any medical or vocational experts whose advice was obtained by the DARS Program in connection with the claimant's adverse decision, whether or not the advice was relied upon. The notice also will include a statement that the DARS Program does not have any additional mandatory appeal procedures and that you have the right to bring a civil action under Section 502(a) of the Employee Retirement Income Security Act, as amended.

Your Rights Under The Law

As a participant in the Norfolk Southern Corporation DARS Program, you are entitled to certain rights and protections under the Employee Retirement Income Security Act of 1974 (ERISA). ERISA provides that all plan participants shall be entitled to:

Receive Information About Your Plan and Benefits

- Examine, without charge, at the Plan Administrator's office and at other specified locations, such as worksites and union halls, all documents governing the plan and a copy of the latest annual report (Form 5500 Series) filed by the plan with the U.S. Department of Labor and available at the Public Disclosure Room of the Employee Benefits Security Administration.
- Obtain, upon written request to the Plan Administrator, copies of documents governing the operation of the plan and copies of the latest annual report (Form 5500 Series) and updated summary plan description. The Plan Administrator may make a reasonable charge for the copies.

Prudent Actions By Plan Fiduciaries

In addition to creating rights for plan participants, ERISA imposes duties upon the people who are responsible for the operation of

the employee benefit plans. The people who operate your plans, called "fiduciaries," have a duty to do so prudently and in the interest of you and other plan participants and beneficiaries.

No one, including your employer, your union, or any other person, may fire you or otherwise discriminate against you in any way to prevent you from obtaining a pension or welfare benefit or exercising your rights under ERISA.

Enforce Your Rights

If your claim for a welfare benefit is denied or ignored, in whole or in part, you have a right to know why this was done, to obtain copies of documents relating to the decision without charge, and to appeal any denial, all within certain time schedules.

Under ERISA, there are steps you can take to enforce the above rights. For instance, if you request a copy of plan documents from the plan and do not receive them within 30 days, you may file suit in a Federal court. In such a case, the court may require the Plan Administrator to provide the materials and pay you up to \$110 a day until you receive the materials, unless the materials were not sent because of reasons beyond the control of the Plan Administrator. If you have a claim for benefits which is denied or ignored, in whole or in part, you may file suit in a state or Federal court. If it should happen that plan fiduciaries misuse the plan's money, or if you are discriminated against for asserting your rights, you may seek assistance from the U.S. Department of Labor, or you may file suit in a Federal court. The court will decide who should pay court costs and legal fees. If you are successful, the court may order the person you have sued to pay these costs and fees. If you lose, the court may order you to pay these costs and fees, for example, if it finds your claim is frivolous.

Assistance With Your Questions

If you have any questions about your plan, you should contact the Plan Administrator. If you have any questions about this statement or about your rights under ERISA, or if you need

assistance in obtaining documents from the Plan Administrator, you should contact the nearest office of the Employee Benefits Security Administration, U.S. Department of Labor, listed in your telephone directory or the Division of Technical Assistance and Inquiries, Employee Benefits Security Administration, U.S. Department of Labor, 200 Constitution Avenue N.W., Washington, D.C. 20210. You may also obtain certain publications about your rights and responsibilities under ERISA by calling the publications hotline of the Employee Benefits Security Administration at 1-866-444- EBSA (3272).

Other ERISA Information

Plan Sponsor:

Norfolk Southern Corporation
Three Commercial Place
Norfolk, VA 23510

Plan Administrator:

Vice President-Human Resources
Norfolk Southern Corporation
Three Commercial Place
Norfolk, VA 23510

Plan Year:

The Plan's fiscal year begins on January 1 and ends on December 31.

Agent For Service of Legal Process:

Vice President-Law
Norfolk Southern Corporation
Three Commercial Place
Norfolk, VA 23510

Service may also be made upon the Plan Administrator.

Name of Plan:

Norfolk Southern Corporation
Drug and Alcohol Rehabilitation Services Program

Plan Number: 511

Type of Plan: Welfare Benefit Plan

Type of Administration: Self-Administered







Employer Identification Number: 52-1188014

MEDICAL POLICY GOVERNING SMOKING AT NORFOLK SOUTHERN CORPORATION AND ITS RAILROAD SUBSIDIARIES

Smoking including the use of electronic cigarette devices is not permitted in:

- all office facilities, including Norfolk Southern's General Offices in Roanoke, Atlanta, and Norfolk, yard offices, agencies, division offices, sales offices, and offices within shop facilities
- classrooms and offices in Norfolk Southern's Technical Training Center
- meeting rooms and company-sponsored meetings held off the property
- company vehicles or company-provided vehicles
- locomotive engine cabs and cabooses
- sleeping cars or trailers, office cars, dining cars, camp cars, or dormitories
- locker rooms, restrooms, lunch rooms or tool rooms
- Norfolk Southern aircraft
- shop facilities (including non-office work area)

APPENDIX 1 WARM-UP EXERCISES

 <p>1. ARM CIRCLES 6 CIRCLES FORWARD AND 6 CIRCLES BACKWARD</p> <ol style="list-style-type: none"> Legs shoulder length apart Knees slightly bent Extend arms horizontally Rotate hands in small circles 	 <p>4. HANDS ON SHOULDERS 6 TURNS, THEN 6 BENDS</p> <ol style="list-style-type: none"> Look forward Rotate head side to side Neck side bends
 <p>2. HAND SLAPS 10 REPETITIONS</p> <ol style="list-style-type: none"> Extend arms horizontally Slap hands together As arms come back rotate palms up (feel shoulder blades pinch together in middle of back) 	 <p>5. TRUNK SIDE BENDS BEND 10 TIMES TO EACH SIDE</p> <ol style="list-style-type: none"> Keep knees flexed Hands on hips Bend to side — alternate sides
 <p>3. ARMS OVERHEAD 12 REPETITIONS</p> <ol style="list-style-type: none"> Raise and lower arms Keep shoulder blades back Reach overhead like a "stick up" 	 <p>6. TRUNK ROTATIONS 6 WITH HANDS ON HIPS 6 WITH HANDS ON SHOULDERS</p> <ol style="list-style-type: none"> Keep knees flexed Hands on hips first six to each side Hands on shoulders six to each side Keep head level as you turn

Please note the following when performing warm-up exercises:

- Warm-up exercises are intended to prepare the body for work.
- Avoid pushing the exercises to extreme; know your limitations.
- Warm-up slowly, not fast. Gentle pulling and stretching is all that should be felt.
- Do not bounce when performing warm-up exercises.
- Repeat warm-up exercises as necessary or throughout the shift.

WARM-UP EXERCISES



7. TRUNK BENDS

10 REPETITIONS

- Hands on sides with fingers behind back — thumbs forward
- Knees slightly bent
- Lean backward



9. SINGLE LEG LUNGES

10 REPETITIONS WITH EACH LEG

- Step forward
- Let knee bend
- Keep body upright
- Step back



8. KNEE BENDS

6 WITHOUT TOE RAISE

6 WITH

- Feet shoulder width apart
- Lock back in
- Bend knees slightly



10. FORWARD BEND

10 REPETITIONS

- Place hands on thighs
- Slowly bend forward and run hands down thighs to knee
- Return to upright position

Please note the following when performing warm-up exercises:

- Warm-up exercises are intended to prepare the body for work.
- Avoid pushing the exercises to extreme; know your limitations.
- Warm-up slowly, not fast. Gentle pulling and stretching is all that should be felt.
- Do not bounce when performing warm-up exercises.
- Repeat warm-up exercises as necessary or throughout the shift.

APPENDIX 2

FIRST AID PROCEDURES

DEFINITION

First Aid — The immediate, temporary care given the victim of an accident or sudden illness.

When responding to a serious illness or injury, **FIRST MAKE SURE THE SCENE IS SAFE**. Before approaching a victim, make sure the scene is safe for you and the victim. You do not want to become a victim yourself. Is the scene free of hazards? Some examples are:

- (1) Traffic. Make sure there is no traffic in the area that could injure you.
- (2) Electrical dangers. Where electric shock is involved, do not touch the victim until he/she has been separated from the electrical source.
- (3) Inhalation hazards. Where poison gas or lack of oxygen is suspected, do not enter an enclosed space to help an unresponsive victim unless you are using a self-contained breathing apparatus.

Wear personal protective equipment (gloves and eye protection if available).

Immediately treat injuries in the following order:

- Breathing problems
- Bleeding

Additional helpful procedures:

- Take measures to help prevent shock.
- Avoid moving the victim from the scene unless necessary for safety reasons.
- Do not move the victim more than necessary until professional help arrives.

UNRESPONSIVE VICTIM

Someone who is unresponsive may be the victim of a heart attack, cardiac arrest or other life threatening condition. Quick action can help save people with these life threatening conditions. The following information is to be used when an ADULT victim is found unresponsive:

- (a) **CHECK FOR RESPONSE.** Tap or gently shake the victim's shoulder and shout, "Are you OK?" Does the victim respond to your tap and shout by talking or moving?
- (b) **IF THERE IS NO RESPONSE:**
1. **POSITION THE VICTIM IF NECESSARY.** Make sure the victim is lying on his/her back on a firm, flat surface. If the victim is lying face down, carefully roll him onto his/her back.
 2. **QUICKLY GET HELP. PHONE YOUR EMERGENCY RESPONSE NUMBER (OR 911) AND GET AN AED IF AVAILABLE.** Here are the steps to follow:
 - a. Yell for help.
 - b. If someone comes, send that person to phone your emergency response number (or **911**) and get an automated external defibrillator (**AED**) if available.
 - c. If no one comes, leave the victim to phone your emergency response number (or 911) and get an AED if available nearby.
 - d. Identify anyone trained in the steps of cardiopulmonary resuscitation (**CPR**).
- (c) **BEGIN CPR.** Individuals trained* in CPR should begin the steps of CPR for an unresponsive victim. Some victims may only need the first steps of CPR. Other victims may need all of the steps. To help remember the steps of CPR, simply remember the ABCs:

A: Airway

B: Breathing

C: Circulation (Compressions)

*If you are the only one present and you are not trained in CPR or not confident in your CPR skills, but witness an

apparent cardiac arrest, skip **Section (e) 2.** on **page 129** (Rescue Breaths) and proceed to **Section (f)** on **page 130** (Chest Compressions).

- (d) OPEN THE AIRWAY.** Open the airway with a **HEAD TILT-CHIN LIFT**. Lift the chin up with 1 hand by putting your fingers on the bony part of the lower jaw near the chin. Do not press the soft tissues of the neck or under the chin. Lift the chin to move the jaw forward. At the same time, place your other hand on the victim's forehead and apply gentle pressure to tilt the head back. This will move the tongue away from the back of the throat to open the airway.



Head Tilt-Chin Lift

- (e) CHECK FOR *NORMAL BREATHING*.** Check to see if the victim is breathing normally (take at least 5 seconds but no more than 10 seconds). Put your ear next to the victim's mouth and nose. **LOOK** to see if the chest rises. **LISTEN** for the sounds of breathing. **FEEL** for breaths on your cheek. **NOTE:** In the first few minutes after a collapse, a victim who does not respond may gasp. Gaspings in *not* normal breathing.

- 1. IF THERE IS NORMAL BREATHING,** but the victim is not responding, carefully roll the victim to his/her side in the recovery position, using the victim's arms and legs for stabilization. Wait for medical assistance to arrive. Keep rechecking the victim, and if the victim stops moving, you will need to start the steps of CPR from the beginning



Recovery Position

CAUTIONS:

- Do not move an unresponsive victim until professional help arrives unless absolutely necessary (to prevent further injury or check breathing).
- Do not give an unresponsive victim anything by mouth.
- Look for emergency medical identification that would suggest a cause for unconsciousness (such as diabetes or epilepsy).
- Keep victim warm.

2. IF THERE IS NOT NORMAL BREATHING, GIVE 2 RESCUE BREATHS. Your breaths give oxygen to someone who cannot breathe normally on his/her own. Use the following steps to give rescue breaths:

- a. Hold the airway open with a head tilt-chin lift. Pinch the nose closed.
- b. Take a normal breath and cover the victim's mouth with your mouth*, creating an airtight seal.
- c. Give 2 breaths (blow for 1 second each). Watch for chest rise as you give each breath. **NOTE:** If the first rescue breath does not go in, you will need to re-open the airway with a head tilt-chin lift before trying to give the second rescue breath.

NOTE: During CPR there is very little chance that you will catch a disease. But if you give rescue breaths in the workplace, you should use a barrier device, such as a face shield or face mask.

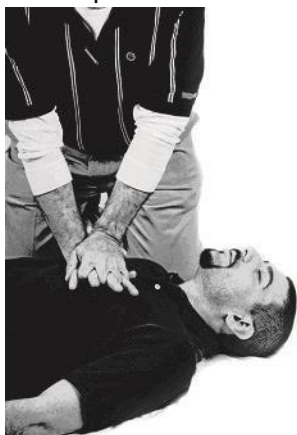


Rescue Breaths Using Face Mask

(f) **GIVE CHEST COMPRESSIONS.** One of the most important parts of adult CPR is chest compressions. When you give compressions, you pump blood to the brain and heart. Quickly move or remove clothes from the front of the chest that will get in the way of doing compressions and using an AED.

1. Give 30 **compressions** (at a rate of 100 a minute — push hard and push fast) and then give **2 breaths***. After each compression, release pressure on the chest to let it come back to its normal position.
2. Keep giving sets of 30 compressions and 2 breaths* until the AED arrives, the victim starts to respond and move, you are physically too exhausted to continue, or other trained personnel take over.

* If you are the only one present and you are not trained in CPR or not confident in your CPR skills, skip the 2 breaths and continue with chest compressions as described above.



Chest Compressions

(g) **USING AEDS.** An AED is a computerized device that can recognize an abnormal heart rhythm that requires a shock, tell the rescuer when a shock is needed, and give a shock if needed. ***An AED should be used during CPR of an unresponsive adult victim who is not breathing as soon as the AED becomes available.***



AED Pad Placement

- 1.** Individuals trained or able to follow the instructions for using an AED should perform these simple steps:
 - a.** Open the lid. Opening the lid turns on the AED.
 - b.** Follow voice prompts from the AED.
 - c.** Place adult electrode pads on the victim's chest.
 - d.** Be sure that no one is touching the victim (not even the person in charge of giving breaths) when the AED is checking the heart rhythm.
 - e.** When the AED advises that a shock is needed, make sure that no one is in contact with the victim to avoid injury to yourself and any other rescuers. At the "Stand clear. Push flashing button to deliver shock" prompt, you should loudly state "clear", and make a visual head to toe check of the victim to make sure that you and any other rescuers are "clear" of contact with the victim. Once this is accomplished, you will then press the "rescue button" to deliver a shock.
 - f.** Perform CPR.
 - g.** Follow other voice prompts from the AED.
 - h.** If victim becomes responsive, leave electrode pads in place and make the victim as comfortable as possible until ambulance personnel arrive on the scene.

NOTE: Remember that special situations will change the way you use an AED:

- **WATER.** Do not deliver a shock to a victim who is lying in water or covered with water (for example the victim's chest is covered with sweat). Water may cause the shock to flow over the skin from one pad to the other. If that happens, energy won't go to the heart. Also, the AED may shock the rescuer. Move the victim away from standing water, and quickly wipe the victim's chest before you attach the electrode pads. **NOTE:** If the victim is lying in a small puddle of water or snow, but the chest is *not* covered with water, you can use the AED to give shocks.
- **MEDICINE PATCH.** You should not put an AED over a medicine patch. The patch may block some of the shock dose so that some of the energy does not reach the heart. Also, giving a shock over the patch may burn the victim. If the medicine patch is in the same place where you would attach the AED pad, take the medicine patch off while wearing gloves (or place the AED pad near the patch, but not touching it). Quickly wipe the chest where the patch was before you put on the pad.
- **IMPLANTED DEFIBRILLATOR OR PACEMAKER.** Some victims may have an implanted defibrillator or pacemaker. These devices make a hard lump (smaller than a deck of cards) under the skin of the upper chest or in the abdomen. You should not put an AED over this device because the implanted device may block delivery of the shock to the heart. If you see this lump where the AED pads should go, put the pads at least 1 "away from the lump.
- **HAIRY CHEST.** If a victim has a hairy chest, the AED pads may stick to the hair instead of the skin on the chest. If this happens, the AED will prompt you to check the pads. Pull off the pads. If a lot of hair remains where you will put the pads, shave the area with a razor in the AED carrying case. Put on a new set of pads.

SUMMARY OF STEPS FOR ADULT CPR

Step	Action
1	Check for response. Kneel at victim's side. Tap and shout to see if the victim responds.
2	Position the victim. Make sure the victim is lying on his/her back on a firm, flat surface. If the victim is lying face down, carefully roll him onto his/her back.
3	If no response: <ul style="list-style-type: none"> • Yell for help. • Phone 911 (or your emergency response number). • Get an AED if available. • Begin CPR as trained.
4	Open the airway with a head tilt-chin lift.
5	Check to see if the victim is breathing normally (take at least 5 seconds but no more than 10 seconds). Remember: gasping is not normal breathing. <ul style="list-style-type: none"> • Put your ear next to the victim's mouth and nose. • Look to see if the chest rises. • Listen for breaths. • Feel for breaths on your cheek.
6	If there is normal breathing, carefully position the victim in the recovery position.
7	If there is <i>not</i> normal breathing, give 2 breaths* (1 second each). Watch for chest rise as you give each breath. *If untrained or not confident in CPR skills, skip breaths and go to next step.
8	Quickly move or remove clothes from the front of the chest that will get in the way of doing compressions and using an AED.
9	Give 30 compressions (at a rate of 100 a minute — push hard and fast) and then give 2 breaths* . After each compression, release pressure on the chest to let it come back to its normal position. *If untrained or not confident in CPR skills, skip breaths but continue with chest compressions.
10	Keep giving sets of 30 compressions and 2 breaths* until the AED arrives (use AED as soon as available), the victim starts to move, you are too physically exhausted to continue, or other trained help takes over. *If untrained or not confident in CPR skills, skip breaths but continue with chest compressions.

CHOKING (ADULT VICTIM)

Choking occurs when an object blocks the airway. If the airway is only partially blocked, the victim can still get enough air and can cough forcefully and speak. This victim does not need you to help, but you should stay with him and monitor his/her condition as he attempts to expel the foreign object. However if the victim's airway becomes completely blocked, and the victim:

- cannot breath or talk
- has a weak, ineffective cough or no cough
- has high-pitched, noisy breathing
- has bluish lips or skin, or
- makes the choking sign (holding the neck with one or both hands).

You should act quickly to help. To help, you will give abdominal thrusts (which are sometimes called the Heimlich maneuver).



Universal Choking Sign

(a) Follow these steps to help an adult choking victim:

1. If you think someone is choking, ask the victim "Are you choking?" If the victim nods, ask "Can you speak?" If the victim can't speak, tell the victim you are going to help. Stand firmly behind the victim and wrap your arms around him so that your fists are in front of the victim.
2. Make a fist with one hand.
3. Put the thumb side of your fist slightly above the navel (belly button) and well below the breastbone.
4. Grasp the fist with your other hand and give quick upward thrusts into his/her abdomen. Be sure that your hands are

directly on the midline of the abdomen when you press. Do not direct the thrusts to the left or right. Each thrust should be a separate and distinct attempt to dislodge the object.

5. Give thrusts until the object is forced out and he can breathe, cough or talk or until he stops responding.



Heimlich Maneuver

NOTE: For adult victims who are in advanced pregnancy or obese, perform chest thrusts instead of abdominal thrusts. Stand behind the victim and place your arms under the victim's armpits to encircle the chest. Make a fist with one hand. Place your fist (thumb side) against the victim's chest on the center of the breastbone. Grasp your fist with the other hand and press into the chest with quick backward thrusts.



Chest Thrusts

(b) If you cannot remove the object, the victim will stop responding. When the victim stops responding:

1. Yell for help.
2. Lower the victim to the ground, face-up.

3. If you are trained in CPR, follow the steps 4 through 10 noted in the above chart of Summary of Steps for Adult CPR.
4. Remember that every time you open the airway to give rescue breaths to an adult choking victim who has become unresponsive, open the victim's mouth wide and look for the object. If you see an object, remove it with your fingers. If you do not see an object, keep giving sets of 30 compressions and 2 breaths* until the AED arrives, the victim starts to move, you are too physically exhausted to continue, or other trained help takes over.

*Skip the breaths if you are alone and untrained or not confident in your CPR skills.

SEVERE BLEEDING

Rapid loss of as little as a quart of blood can cause shock and loss of consciousness. Since a victim can bleed to death in a very short time, immediate steps must be taken to stop any large, rapid loss of blood and to help prevent shock (see Prevention of Shock on **page 139**).

The following steps should be taken before any tourniquet application becomes necessary:

- (a) **APPLY DIRECT PRESSURE TO THE WOUND.** Place a pad such as a compress bandage, clean handkerchief or clean cloth over the wound and press firmly with your hands. If blood soaks through the entire pad, do not remove it but add more, thick layers of cloth and continue direct hand pressure even more firmly. The pad can be held in place with a bandage, necktie, or cloth strips and tied in place with a knot directly over the pad.



Direct Pressure

(b) ELEVATE THE WOUND. If there is evidence of fractures or broken bones, the injured part of the body should be raised above the level of the victim's heart. This will tend to slow down bleeding. If pressure on the wound has not been applied as called for above, simple elevation often will not stop the bleeding.

(c) APPLY PRESSURE ON THE SUPPLYING ARTERY. If severe bleeding from an open wound of the arm or leg is not stopped by direct pressure and elevation, use the pressure-point technique. Press the main artery that supplies the blood to the affected limb against the underlying bone. Success is determined by the stoppage of bleeding at the wound site.

1. Use pressure on the brachial artery to control severe bleeding from an open arm wound. This artery is on the inside of the upper arm and is easily controlled by placing your thumb over the artery and rotating inward.



Pressure on Brachial Artery

2. Pressure on the femoral artery to control severe bleeding of an open leg wound is also possible. The femoral artery is found on the front, inside part of the thigh where the leg joins the body. Apply pressure where pulsation is felt in that area. The pressure should be downward against the bone.



Pressure on Femoral Artery



Tourniquet

(d) APPLY TOURNIQUET ONLY IN A LIFE-THREATENING SITUATION AND ONLY AFTER DIRECT PRESSURE (TO THE WOUND OR ARTERY) AND ELEVATION HAVE FAILED TO CONTROL THE BLEEDING.

A tourniquet should be considered the method of last resort to control bleeding. A tourniquet should be at least 2" wide. Never use wire, rope or other narrow material.

1. Place the tourniquet just above the wound; do not allow it to touch the wound edges.
2. Tie a half knot.
3. Place a short, strong stick on the half knot. Tie a full knot over the stick.
4. Twist the stick just tight enough to stop the bleeding. Secure the stick with loose ends of the tourniquet.

NOTE: Make a written note of the location of the tourniquet and the time it was applied and attach the note to the victim's clothing. **THE TOURNIQUET SHOULD NOT BE LOOSENED EXCEPT ON THE ADVICE OF A PHYSICIAN.**

SHOCK

(a) CAUSES OF SHOCK include:

- Disturbance of circulation from bleeding, stroke, heart attack
- Severe injuries
- Pain
- Heat Exhaustion and Heat Stroke

- Infection
- Food or chemical poisoning

(b) SIGNS OF SHOCK include:

- Cold and clammy skin
- Beads of perspiration on the forehead and palms of the hand
- Pale face
- Complaints of feeling weak, faint, dizzy or cold
- Possible shaking chills
- Nausea or vomiting
- Shallow, sometimes rapid breathing
- Victim may become unresponsive

(c) PREVENTION OF SHOCK:

1. Correct the cause of shock, if possible (for example, control bleeding)
2. Keep victim lying down
3. Keep victim's airway open
4. Elevate legs if there are no broken bones
5. Keep head lower than trunk if possible
6. Keep victim warm (except when cooling is required for victims of Heat Exhaustion and Heat Stroke)
7. Give fluids if able to swallow
8. Reassure victim
9. Monitor victim's responsiveness and begin the steps of CPR (see **page 127**) if victim becomes unresponsive

CAUTIONS:

- Never give alcoholic beverages to the victim
- Do not give fluids to an unconscious or semi-conscious person
- Do not give fluids if abdominal injury is suspected
- *Prevention of shock should be considered with every injury or illness*

HEAD, NECK OR SPINE INJURY

- (a) Call a physician or ambulance immediately.
- (b) **DO NOT MOVE THE VICTIM UNNECESSARILY. ONLY TURN OR MOVE THE VICTIM IF:**
 - The victim is in danger
 - You need to check breathing or open the victim's airway
 - The victim is vomiting
- (c) If you must turn the victim, be sure to roll the victim while you are supporting the victim's head, neck, and body in a straight line so that they do not twist, bend, or turn in any direction. If the victim responds, but is vomiting, roll him carefully onto his/her side.
- (d) Keep victim warm and quiet.
- (e) Monitor victim's responsiveness, and begin the steps of CPR (see **page 127**) if the victim becomes unresponsive.

BROKEN BONES (FRACTURES)

- (a) **CLOSED FRACTURE** — a fracture in which the skin is not broken. Don't try to straighten or move any injured part that is bent, deformed, and possibly fractured (such as an arm or leg). Splinting is a method of immobilizing an extremity and should **ONLY** be used if the victim must be moved or transported to seek medical attention, and if splinting does not cause more pain.

NOTE: If you have to splint:

- Splint the injury in the position in which you find it.
- Splints must be long enough to extend well beyond the joints above and below the fracture.
- Any firm material can be used as a splint. Use clothing or soft material to pad splints.
- Fasten splints at joint below the break, above joint above the break, and loosely at the level of the break.
- A fracture of the hand or foot can be held steady with a simple pillow or rolled blanket bound about it. Do not remove the shoes. Leave toes (if the shoes are

already off) and fingers exposed to monitor for circulation; if they are bluish, the splint may be too tight.



Splint

- (b) OPEN FRACTURE** — a fracture in which there is usually an open wound; bones may be sticking out of the skin. Bleeding may be massive; the victim may be going into shock. The broken limb may be obviously deformed.
1. Maintain an open airway; begin the steps of CPR (see page **127**) if the victim is unresponsive.
 2. Stop any severe bleeding:
 - a. Cut clothing away from the wound.
 - b. Gently apply pressure with a large sterile (or clean) pad or cloth to stop the bleeding.
 - c. Do not wash the wound or stick anything in it.
 - d. Do not push back any part of a bone that is sticking out.
 - e. Cover the entire wound, including any protruding bone, with a bandage.
 3. Avoid moving the exposed bone and limb; this may cause the person a great deal of pain and may complicate his/ her recovery.
 4. If splinting is necessary (see **CLOSED FRACTURE** above), splint the same way as described above for a closed fracture.
 5. Take measures to help prevent shock (see **Prevention of Shock** on page **139**).

SEVERED BODY PARTS

- (a) Rinse the amputated part with clean water.
- (b) Wrap the severed body part in sterile gauze or clean cloth.
- (c) Place the severed body part in a plastic bag. Label the bag with the victim's name, date and time.
- (d) Put the plastic bag on ice. Make sure that it is sent to the hospital with the victim.

CAUTION:

Never place the amputated body part directly on ice or in water because ice or water may damage it.

DISLOCATION OF JOINTS

- (a) Treat dislocations as closed fractures.
- (b) For shoulder dislocation, place arm in a sling.
- (c) Be sure that the opposite shoulder supports the weight of the injured arm.

SPRAINS AND STRAINS

- (a) Treat sprains and strains as fractures if there is any doubt.
- (b) Place the injured person at rest.
- (c) Elevate the injured body part if doing so does not cause the victim more pain.
- (d) Apply cold compresses or ice packs until medical help is available. Do not apply ice or cold packs directly to the skin. Place a towel or cloth between the cold source and the skin.
- (e) Consult a physician.
- (f) Do not apply heat to the injured part for at least 24 hours.

CUTS AND ABRASIONS

- (a) Prevent infection.
- (b) Immediately cleanse wound and surrounding area with soap and warm water.

- (c) Wipe away from the wound, not toward it.
- (d) Apply antiseptic and cover with appropriate clean bandage.
- (e) For large or gaping wounds, follow instructions in the procedure for treating Severe Bleeding.

BRUISES

Apply ice bag or cold compresses for 20 to 25 minutes. Do not apply ice or cold pack directly to the skin. Place a towel or cloth between the cold source and the skin. A bruise can indicate something more severe beneath the bruise. If in doubt, send the victim to a medical treatment center. If skin is broken, treat as for a cut or abrasion.

FOREIGN BODY IN EYE

- (a) Pull upper lid gently outward and downward over lower lid, and release.
- (b) If foreign body is visible on upper or lower eyelid, attempt to remove with a corner of compress, cotton-tipped applicator stick, or clean handkerchief.
- (c) If foreign body cannot be EASILY removed, consult a physician immediately.
- (d) Contact lenses should be removed from the affected eye(s) as soon as possible.

PENETRATING FOREIGN BODY IN EYE

- (a) Do not attempt to remove foreign body or wash the eye.
- (b) Cover both eyes loosely with a sterile or clean dressing so that no pressure is put on the eyes. Coverage of both eyes is necessary to prevent movement of the injured eye.
- (c) Transport the victim by stretcher if possible.
- (d) Telephone ahead to an eye specialist and/or take the victim immediately to the nearest medical facility.

CHEMICALS IN EYES

- (a) Quickly flush eyes with water for at least 5 minutes while holding eyelids open.
- (b) In event of an alkali burn, flush the eyes thoroughly for at least 15 minutes.
- (c) Try to keep victim from rubbing eyes.
- (d) Cover eyes with a clean protective dressing and take victim to a physician at once.
- (e) Contact lenses should be removed as soon as possible.

SNAKEBITE

Medical attention is required for any snakebite as quickly as possible. If a person is bitten by a poisonous snake, first aid measures are to be undertaken to prevent absorption of the venom in the victim's body.

(a) First aid for snakebite:

1. Keep the victim calm and lying down if possible. Tell the victim not to move the part of the body that was bitten.
2. Minimize the victim's muscular activity. If it is necessary to move the victim, the victim should be carried.
3. Gently clean the bite area with an alcohol prep pad, an alcohol-based hand cleaner, or soap and water if available.
4. Immobilize (splint) the affected part and keep it still and at or below the level of the heart.
5. If a coral snake bit the victim on an extremity, the following treatment should be performed:
 - a. Apply mild pressure by wrapping an "Ace" bandage or similar wrap comfortably tight over the bite and up the entire limb.
 - b. You should still be able to slip or fit a finger under the bandage around the entire length of the arm or leg.

NOTE: DO NOT WRAP the bite area with a dressing if any other snake caused the bite.

CAUTION: For any snakebite:

- DO NOT cut the wound
 - DO NOT apply suction to the bite
 - DO NOT apply ice
 - DO NOT apply a tourniquet
6. Kill the snake if this can be done quickly and safely, and take with the victim to enable accurate identification. The dead snake must be handled with care. Try to give the treating physician an accurate description of the snake if the actual snake is not available.
 7. Transport the victim as quickly as possible to the nearest medical treatment facility. The top priority following a snakebite is to get the victim to a source of medical care.
 8. Take measures to help prevent shock (see Prevention of Shock on **page 139**) while waiting on transport and while en route to the medical treatment facility. Observe the victim for responsiveness and begin the steps of CPR (see **page 127**) if the victim becomes unresponsive.

(b) Types of poisonous snakes and symptoms of snakebite.

Poisonous snakes found in the United States include the pit vipers (rattlesnakes, copperheads, and cottonmouth moccasins) and coral snakes.

1. Signs of snakebite:

- Pit viper: Fang marks may be present as one or more well-defined punctures or a series of small lacerations or scratches. There may be no obvious markings where the bite occurred.
- Coral snake: The bite wound usually resembles scratch marks and is somewhat painful. There is little or no accumulation of fluids in the bite area.

2. Symptoms of snakebite:

- Pit viper: Swelling at the bite, usually occurring within 10 minutes, and pain, although pain may be absent. A toxic reaction may occur in minutes with numbness and tingling about the mouth and tongue, and a sense of peculiar taste. Breathing problems and shock symptoms may develop. The presence or absence of injection of venom is generally evident by 30 minutes and at least within an hour.
- Coral snake: A burning or prickling sensation may occur around the bite within several hours. Other symptoms may include weakness, apprehension, giddiness, nausea, vomiting, excess salivation, and even a sense of euphoria.

SPIDER BITE AND SCORPION STING

(a) First aid for spider bite:

Spiders inject venom into their victim through fangs; however, only a few species have fangs large and strong enough to penetrate human skin. Only the black widow and brown recluse are known to cause death in man.

1. Clean the bite area with an alcohol pad, an alcohol-based hand cleaner, or soap and water if available.
2. First aid is limited to the application of ice or cold compresses to the bite area. Apply ice or cold compresses to the sting area. Do not apply ice or cold packs directly to the skin. Place a towel or cloth between the cold source and skin.
3. The victim should be taken for treatment at a medical facility if any of the following symptoms occur: weakness, joint pains, nausea and vomiting, muscle spasms or cramps, fever, or lymph node enlargement.

(b) First aid for scorpion sting:

1. Clean the sting area with an alcohol pad, an alcohol-based hand cleaner, or soap and water if available.
2. Apply ice or cold compresses to the sting area. Do not apply ice or cold packs directly to the skin. Place a towel or cloth between the cold source and skin.
3. Keep the victim calm.
4. Minimize the victim's muscular activity.
5. Transport the victim to the nearest treatment facility.

STINGING INSECTS

Yellow jackets, hornets, wasps, honeybees, fire ants, and harvester ants deliver venom through stings. Stings from these insects generally provide a sudden, painful, burning sensation that lasts a few minutes.

(a) Employees with a history of severe allergic reactions to insect stings (particularly difficulty breathing, fainting, hives, or swelling of the tongue and face) must:

1. Wear an emergency identification bracelet identifying the allergy.
2. Carry an epinephrine emergency injection kit.
3. Notify his/her immediate supervisor of the history of severe reactions.

(b) First aid for insect stings:

1. Remove the stinger by gently scraping the site.
2. Clean the sting area with an alcohol prep pad, an alcohol-based hand cleaner, or soap and water if available.
3. Apply ice or cold compresses to the sting area. Do not apply ice or cold packs directly to the skin. Place a towel or cloth between the cold source and skin.
4. Elevate the stung body part if possible.

5. May use locally applied pain reliever such as Sting Kill or After Bite.
 6. If localized swelling or itching develops at the sting site which is not relieved or prevented by the above measures, an over-the-counter antihistamine such as Benadryl may be taken as directed on the package.
- (c) If the victim has a history of severe allergic reactions to insect stings, or shows signs of a severe allergic reaction:**
1. Call or have someone call for medical evacuation to a treatment facility as quickly as possible.
 2. If the victim responds and has an epinephrine pen, help the victim to get it so that he can use it. Victims who carry epinephrine pens should know how to use them.

DOG BITE OR OTHER ANIMAL BITE

- (a)** Use treatment as found in the procedure for Severe Bleeding if severe bleeding occurs.
- (b)** Transport the victim to a physician at once.
- (c)** Have the animal captured and examined by a veterinarian or the humane society.

TICK BITE

- (a)** Grab the tick by its mouth or head as close to the skin as possible with tweezers or a tick-removing device. Try to avoid pinching the tick.
- (b)** Lift the tick straight out without twisting or squeezing its body. Lift the tick until the victim's skin tents and continue to pull gently until the tick lets go.
- (c)** Clean the bite area with an alcohol pad, an alcohol-based hand cleaner, or soap and water if available.
- (d)** See a health care provider if you are in an area where tick borne diseases (such as Lyme disease) occur or if signs of infection occur. If possible, place the tick in a plastic bag and give it to the healthcare provider.

CAUTIONS: When trying to remove a tick:

- DO NOT use petroleum jelly.
- DO NOT touch the tick with your bare hands.
- DO NOT use fingernail polish.
- DO NOT use rubbing alcohol.
- DO NOT use a hot match.
- DO NOT use gasoline.
- DO NOT twist or jerk the tick.

POISONOUS PLANTS

- (a) Remove exposed clothing and wash the area thoroughly with soap and water as soon as possible after contact with poisonous plants.
- (b) Repeat washing and rinse several times.
- (c) Sponge with rubbing alcohol.
- (d) If blisters occur, see a physician.

(a) THERMAL BURNS EXTENSIVE:

1. Apply cleanest available dry cloth material over the burned areas.
2. Keep victim lying down if possible.
3. Give plenty of nonalcoholic fluids to drink if the victim is conscious and can swallow.
4. Move to hospital by ambulance immediately.
5. Do not apply ointment, grease, baking soda or other substances to burns.

(b) SMALL BURNS

1. Cool the burn. Use large amounts of cool water. Do not use ice or ice water except on small surface burns. Apply soaked towels or other wet cloths to the face or other areas that cannot be immersed. Keep cloth cool by adding more water.
2. Place a clean, dry dressing over the burn and bandage loosely.
3. Do not open blisters
4. Transport to medical treatment facility for examination by physician if any question about depth of burns.

(c) CHEMICAL BURNS

1. Immediately flush with water over and over again until chemical appears to be completely removed.
2. Flush away from the body to avoid further contamination.
3. Apply stream of water while removing clothing from the burned area. This will help remove the clothing without removing skin.
4. Place cleanest available dry material over the area.
5. Have victim lie down, if burned area is extensive.
6. Give plenty of nonalcoholic liquids to drink.
7. Do not apply ointment, grease, baking soda or other substances to the burns.

HEAT PROBLEMS

Illness related to heat fall basically into 3 categories of severity:

- **HEAT CRAMPS**
- **HEAT EXHAUSTION**
- **HEAT STROKE**

There can be gradual progression from one to another.

(a) Heat problems may be caused by:

- A salt or water intake that is inadequate to make up for that which is lost by sweating and/or;
 - From loss of the body's ability to regulate temperature properly due to medications, dehydration, and overexertion in extremely hot and/or humid weather.

(b) Prevention for heat problems:

1. During warm or hot weather, water should be drunk regularly, every 20 or 30 minutes.
2. With strenuous exercise at least 1 quart of water should be consumed each hour.
3. During mealtime, generous salting of food may be helpful. However, persons with high blood pressure should check with their doctors before adding additional salt to food.

FIRST AID FOR HEAT PROBLEMS

(a) HEAT CRAMPS — The least severe of the heat-related problems.

1. Signs and Symptoms:

- Severe painful muscle cramps, usually found in the calves and abdominal muscles.
- Muscle twitching, sometimes generalized.
- May occur alone or in the presence of Heat Exhaustion.

2. Treatment:

- a. Complete rest in a cool place for the remainder of the day.
- b. Drink large volumes of water with generous salting of food (this is all that is usually necessary in most cases).

(b) HEAT EXHAUSTION — When fluid replacement lags behind water lost by sweating, Heat Exhaustion can occur.

1. Signs and Symptoms:

- Progressive fatigue.

- Weakness.
- Headache, nausea or vomiting.
- Dizziness, mild confusion or fainting.
- Cool, clammy, and pale skin.
- Active sweating usually present.
- Body temperature normal to moderately increased.
- Pulse rapid and weak.
- Heat cramps may occur.
- May progress to Heat Stroke.

2. Treatment:

- a. Remove victim to cool shady area.
- b. Loosen or remove clothing and boots.
- c. Cool the victim by fanning and, if necessary, **applying** wet, cool compresses to the skin (with removal and fanning until skin has dried between applications).
- d. Have the victim drink plenty of water.
- e. Take measures to help prevent shock (see Prevention of Shock on **page 139**).
- f. Call ambulance and transport to a hospital as quickly as possible.

(c) **HEAT STROKE** — The most severe form of heat illness, occurs when the body loses its ability to properly regulate internal temperature, often due to certain medication, dehydration and overexertion. This is a life-threatening medical emergency and measures to reduce body temperature must be undertaken at once.

1. Signs and Symptoms:

- Abrupt onset with faintness, staggering and sudden collapse followed by prolonged confusion, unconsciousness and/or coma.
- Hot, dry and flushed skin.
- Decreased sweating.

- Extremely high body temperature.
- Rapid and weak pulse.

2. Treatment:

- a. Remove victim to cool shady area.
- b. Loosen or remove clothing and boots.
- c. Reduce body temperature IMMEDIATELY by: (1) Repeated application of wet cool compresses (with removal and fanning until skin has dried between applications). (2) Ice packs applied to the neck, arm pits, and groin. Do not apply ice or cold packs directly to the skin. Place a towel or cloth between cold source and the skin.
- d. Have the victim slowly drink water, if conscious.
- e. Take measures to help prevent shock (see Prevention of Shock on **page 139**).
- f. Observe the victim for responsiveness and begin the steps of CPR (see **page 127**) if the victim becomes unresponsive.
- g. Call ambulance and transport to a hospital as quickly as possible.

FROSTBITE

- (a) Prevention: The areas most susceptible to cold injury are hands, feet, face, nose, and ears. Periodically check these areas during extremely cold weather to make sure they are protected and no frostbite is occurring. The extent of injury cannot be determined at time of original examination.
- (b) Signs and symptoms of frostbite:
 - White skin.
 - Very cold skin.
 - Hard skin.
 - Loss of feeling in area.

(c) Treatment:

1. Cover possible frostbitten part with warm hand or woolen material.
2. Have victim hold hand in armpit, if fingers or hand involved.
3. Take victim indoors to warm sheltered spot as quickly as possible.
4. Remove wet clothing and replace with dry if possible.
5. Rapidly re-warm frostbitten part in warm water (water in which you may comfortably place your own hand). The temperature of the water should be between 100°F and 105°F if thermometer is available. Dry heat is acceptable if the frostbitten part is not too close to the heat source.
6. Wrap frostbitten part in blankets if warm water is not available.
7. Encourage victim to exercise fingers and toes, when part is warmed.
8. Give warm, nonalcoholic drink if possible.
9. Do not rub with ice or snow.
10. **DO NOT USE HOT WATER, HOT WATER BOTTLES OR HEAT LAMPS.**
11. Elevate the extremity above heart level to reduce swelling. Transport to medical treatment facility as quickly as possible for further care.
12. **DO NOT BREAK BLISTERS.**
13. **DO NOT APPLY OINTMENTS.**
14. **DO NOT APPLY PRESSURE DRESSINGS.**

EPILEPTIC SEIZURES

An epileptic seizure will usually end by itself in a few minutes.

- (a)** Protect the victim from injury by gentle restraint. Remove any nearby objects that might cause injury. Protect the person's head by placing a thin cushion or folded clothing underneath it.

- (b) While this is going on, have someone call for medical evacuation to a medical treatment facility as quickly as possible.
- (c) Keep calm. The victim is usually not suffering or in danger.
- (d) Roll the victim on his/her side if there is fluid in his/her mouth
(such as saliva, blood or vomit) so that the fluid drains from the mouth.
- (e) When the seizure is over, the person will usually begin to breathe normally. He/she may be drowsy and disoriented or unresponsive for a period of time.
- (f) Be reassuring and comforting.

CAUTIONS:

- DO NOT severely restrain the victim.
- DO NOT slap the victim.
- DO NOT douse the victim with water.
- DO NOT place fingers or any hard object between the victim's teeth.

HEART ATTACK

(a) SIGNS OF A HEART ATTACK MAY INCLUDE:

- Chest discomfort or chest pain. Most heart attacks involve discomfort in the center of the chest that lasts more than a few minutes or that goes away and comes back. It can feel like uncomfortable pressure, squeezing, fullness, or pain.
- Chest pain spreading to the shoulders, neck, jaw, stomach or arms.
- Shortness of breath or trouble breathing.
- Nausea or vomiting.
- Dizziness, lightheadedness or fainting.
- Pale, ashen (grayish) or bluish skin.
- Denial of signals of a heart attack.

NOTE: Signs of a heart attack in women, the elderly and individuals with diabetes are often less clear. In addition to chest pain or discomfort, these individuals are somewhat more likely to experience some of the other warning signs of a heart attack,

particularly shortness of breath, nausea/vomiting, heartburn or indigestion, and back, jaw, neck or shoulder pain.

(b) In the event of chest pains or other signs of a HEART ATTACK:

1. Immediately call your emergency response number (or 911) for medical evaluation to a hospital. Also, call the person in your area who has had CPR training and ask someone to get the AED if available.
2. Have the victim sit quietly. Loosen any tight or uncomfortable clothing.
3. Closely monitor the victim's responsiveness until emergency medical help arrives. Begin the steps of CPR (see **page 127**) if the victim becomes unresponsive.

STROKE

It is important to recognize the signs of stroke and get fast medical care. Treatments that can decrease injury from a stroke and help with recovery are available, but these treatments must be given within the first few hours after the first signs of a stroke appear.

(a) SIGNS OF A STROKE MAY INCLUDE:

- Sudden numbness or weakness of the face, arm, or leg, especially on one side of the body.
- Sudden confusion, trouble speaking or understanding.
- Sudden trouble seeing in one or both eyes.
- Sudden trouble walking, dizziness, loss of balance or coordination.
- Sudden severe headache with no known cause.

(b) In the event of signs of a STROKE:

1. Immediately call your emergency response number (or 911) for medical evaluation to a hospital.
2. Closely monitor the victim's responsiveness until emergency medical help arrives. Begin the steps of CPR (see **page 127**) if the victim becomes unresponsive.

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