

# **NEVADA STATE RAILROAD MUSEUM**

This document provides the official rules for the operation at the Nevada State Railroad Museum (Carson City). It is the information that must be learned in order to pass the safety exam for volunteers.

This file differs in format, but not content, from the printed book issued to crew members. It is made available for people to use in studying to take the safety exam.

The printed book must be carried at all times by members of the train crews.

## **General Safety Rules And Rules and Regulations for the Operation of Railroad Equipment May 1, 1987**

### **General Safety Rules**

Effective May 1, 1987

Approved:

Scott Miller

Administrator

Nevada Department of Museums & History

Re-Printed January 1, 1997

# Introduction

## Always Follow “Safe Work Practices”

The purpose of this booklet is to assist you in performing your duties as a professional railroader. By adhering to the “safe work practices” contained in this booklet, staying alert and never taking your environment for granted, you will avoid injury to yourself and others.

Remember, developing good work habits is important. Never take shortcuts. Follow these “safe work practices” and avoid personal injury.

### # 1

**When ascending or descending from equipment (for example, to set or release a hand brake):**

- A. Observe conditions of equipment, looking for defects such as bent, loose or missing stirrups, ladder rungs, and brake platforms.
- B. Face equipment.
- C. Use side ladder only.
- D. Be alert for unexpected movement.
- E. Look down and check for obstructions before detrainning.
- F. Never place lantern on your arm when ascending or descending equipment. Hold lantern at base of thumb and index finger.

**When getting on moving equipment:**

- A. ~~Assure yourself speed is not greater than 5 MPH.~~
- B. ~~Be certain you are standing clear of car, engine, or caboose so as not to be struck.~~
- C. ~~Face equipment as it approaches you and determine that stirrups and hand holds are not excessively bent, hanging loose or missing.~~
- D. ~~Board only leading end of car unless last in cut. You may board either end of an engine or caboose.~~
- E. ~~When boarding engines, first grasp the leading grab iron with leading hand in direction of movement. Then step up with trailing foot as you grasp trailing grab iron. Put trailing foot in trailing corner of step and let the movement lift you off the ground. Finally, place leading foot in stirrup.~~
- F. ~~When boarding box cars, grasp lower ladder rung with leading hand in direction of movement, then place trailing foot in trailing side of stirrup. Next, grasp the next higher ladder rung with trailing hand and let the movement lift you off the ground. Finally, place leading foot in stirrup.~~
- G. ~~Boarding tank cars while moving should be avoided if at all possible. If it is necessary for you to board a tank car, grasp sill hand hold and vertical hand hold simultaneously and place trailing foot in trailing corner of stirrup. Finally, as movement lifts you off the ground, place your leading foot in either:  
— in the stirrup;  
or, if the vertical grab iron is offset from the stirrup:  
— on the catwalk while bringing your hand from the sill hand hold to the vertical grab iron to preserve your balance and afford a secure position.~~

~~Conventional flat cars must be stopped before boarding. Pay attention to hand hold locations on bulkhead flat cars. Some have sill grab irons and vertical hand holds similar to tank cars, while others have a short ladder like box cars.~~

- H. ~~When working at night, shine your lantern on stirrup, ladder rungs, and/or grab irons before mounting assuring yourself they are not defective or missing. Never place lantern on your arm when boarding equipment. Hold lantern at base of thumb between thumb and index finger.~~

~~I. Remember — if you feel movement is too fast and/or footing conditions are undesirable, stop or slow movement before boarding.~~

**Date: 31 May 2006**

**Bulletin No. 2006-004**

Effective this date, General Safety Rules # 3 and # 4 of the General Safety Rules and Rules and Regulations for the Operation of Railroad Equipment for the Nevada State Railroad Museum - Carson City dated May 1, 1987 are hereby declared “null” and replaced with the following:

**“Rule # 3: Moving Equipment**

Mounting or dismounting moving locomotives or train equipment is prohibited on railroad operations of the Nevada State Railroad Museum – Carson City. “Rule # 4 is left vacant at this time. All train crew must make a “pen and ink” change in their personal rules books to reflect these changes. Future editions of the consolidated General Safety Rules and Rules and Regulations for the Operation of Railroad Equipment for the Nevada State Railroad Museums will reflect this change.

Any train crew observed mounting or dismounting from moving locomotives or railroad equipment is subject to immediate removal from service by Management.

**#3**

**Moving Equipment**

**Mounting or dismounting moving locomotives or train equipment is prohibited on railroad operations of the Nevada State Railroad Museum – Carson City.**

**#4**

 *Left Vacant* 

## # 5

### **When required to ride side of car:**

- A. Look in direction of movement.
- B. Maintain a firm clasp on ladder rung and have feet solidly placed in stirrup or on ladder rung. It may be necessary to angle feet slightly to the side to assure firm footing on ladder rung.
- C. Remain aware of conditions in direction of movement or ahead for impaired clearances, such as gate post, gates, loading docks, sides of buildings, or fouling cars on adjacent track.
- D. Employees must not ride on equipment on side opposite engineer unless fireman is in position to relay signals to engineer.

## # 6

### **When seated or standing in an engine or caboose (with equipment standing or moving):**

- A. Be alert for conditions that can cause slack action. Examples: train brake operation, change in grade, or change in speed, particularly entering or leaving yards.
- B. Protect yourself from slack action by remaining seated as much as possible. When seated on an engine, position both feet on floor or on foot rest. Persons in a caboose, place one or both feet on wall in front of seat or firmly on floor at base of wall in front of you.
- C. Duties may require you to stand in an engine for an extended period of time. As example would be behind an engineer for the purpose of train inspection on a curve. Stand with feet shoulder width apart, one foot slightly ahead of the other, with hands braced on wall or grab iron when available.
- D. When you are required to stand on the rear platform of a moving caboose for any reason, stand on rear platform directly in front of the closed door with feet shoulder width apart, one foot slightly ahead of the other. Keep both hands on grab rail, except when signaling or using walkie talkie you must have one hand securely on grab rail.
- E. When in a caboose and you are required to move from your seat, do so expecting slack action and have firm hand hold on grab rails, edges of bulkheads, and/or overhead grab rail if your body height permits, to prevent being thrown about.

- F. When ascending or descending to or from seats in cupola-type cabooses, use all hand holds and steps provided for the side being used.
- G. On cabooses or engines, all equipment must be secured in proper location. Do not place other objects or material on floors or walkways where it will become a tripping hazard.
- H. On cabooses, drawers and doors must be closed securely when not in use.
- I. Starting caboose stoves must be done in accordance with instructions. The use of flammable materials, including fusees, to start stoves or intensify fire is prohibited.

### **# 7**

#### **Switching movements with a caboose:**

- A. Do not ride inside a caboose during a switching movement.

### **# 8**

#### **When riding the leading car in a shoving movement:**

- A. Use the side ladder if so equipped and keep alert for changing conditions in the direction of movement.
- B. You are not permitted to ride on end ladders or other parts of moving cars, except when using handbrake to control speed of cars cut-off in motion.
- C. When riding car across street crossing, ride only on car that will permit you sufficient elevation to avoid being struck if hit or sideswiped by vehicular traffic. If such car is not available, dismount and walk across street with caution.

## # 9

**When it becomes necessary to ride cars and uncouple them while moving, you must not use feet to operate uncoupling lever.**

- A. With both feet firmly in stirrup, one hand on grab iron and after determining there are no obstructions, crouch down and grasp cut lever keeping hand clear of pinch points.
- B. After you operate the cut lever, assume proper position for riding on the side of moving equipment or detrain.

## # 10

**When crossing over moving equipment:**

- A. Use engines, cabooses or cars equipped with platforms and hand rails.
- B. If suitable car cannot be found, you may use the body of an empty flat car.
- C. Remember --- never place any part of your body between coupler horn and end sill, regardless of whether car is equipped with standard draft gear arrangement, sliding sill arrangement, or end-of-car cushioning device.
- D. As you detrain on opposite side, be alert for movement on adjacent track.

## # 11

**When crossing over moving equipment:**

- A. You are never permitted to cross over moving equipment except on engines or cabooses. You may not use the foot boards to cross over.
- B. Remember, as you walk across platform, do not loiter.
- C. Maintain firm hand hold on railings and grab irons remaining aware of your footing conditions.
- D. As you detrain on the opposite side, be alert for movement on adjacent track.
- E. Never sit on footboards, steps, or platforms of standing or moving equipment.

- F. Sitting, lying, or crossing under cars is prohibited, except when required in performance of duty and then when proper protection is afforded.

## # 12

### **When walking between or crossing tracks:**

- A. To avoid being struck by moving equipment, determine that track is clear by looking both ways before fouling, walking between, or crossing tracks.
- B. Perform task quickly and get in the clear.

## # 13

### **When walking around the end of standing equipment:**

- A. To avoid being struck by unexpected movement, be alert and give yourself at least 15 feet clearance.

## # 14

### **When separating equipment for any reason:**

- A. Make sure you separate cars and engines at least 15 feet and equipment is stopped before stepping between.

## # 15

### **When couplers need alignment or adjustment:**

- A. If it becomes necessary to make a coupler alignment or adjustment, be sure cars are separated by at least 15 feet and stopped.
- B. Have a clear understanding with the engineer and other crew members involved of the work to be performed and protection required.
- C. Then face coupler squarely, get as close as possible keeping back straight. Lift with leg muscles and move coupler to desired position.
- D. Never jerk, kick or use foot to make a coupler adjustment or alignment.

- E. If, after using reasonable force, coupler does not move to desired position, obtain help.
- F. When help is obtained, you must position person as previously described and the second person on the side of the coupler prepared to push,
- G. Remember – each of you must practice good body mechanics keeping back straight, knees bent, and lifting with leg muscles. Lift and push as a team.
- H. One person will have to control the movement by giving a command.

## # 16

### **When it becomes necessary to open or replace a knuckle in a coupler:**

- A. Make sure the cars are separated by at least 15 feet, stopped, and secured with hand brakes if required.
- B. Have a clear understanding with engineer and other crew members involved of the work to be performed and protection required,
- C. Keeping feet in the clear and making sure knuckle pin is in place, open the defective knuckle, remove knuckle pin from coupler, and set it within easy reach.
- D. Keeping feet in the clear, remove knuckle from the coupler. Holding defective knuckle as close to body as possible, dispose of it where it won't be a tripping hazard to yourself and others.
- E. Holding cut lever up, move knuckle thrower back into the coupler recess as far as it will go.
- F. Before lifting replacement knuckle up to the coupler, position it so that no unnecessary maneuvering will be required while fitting it into the coupler.
- G. Using good body mechanics lift the knuckle and place it into the coupler.
- H. Insert the knuckle pin into the top coupler pin hole.
- I. Close the knuckle and check to see that the pin drops and knuckle locks.

## # 17

### **When uncoupling cars or engines:**

- A. Operate uncoupling lever with hand next to equipment and face direction of movement.
- B. Do not jerk on uncoupling lever.
- C. Be alert for pinch points. Always place your hand on portion of cut lever that is designed as the handle.

## # 18

### **When you are required to seep between equipment to couple air hoses, use the following procedure:**

- A. If you couple air hoses on cars that are coupled to an engine, have a clear understanding with the engineer of the work to be done and protection required.
- B. Remember --- “Clear Understanding” means you must communicate to the engineer, orally or with an agreed-upon signal, and must receive an acknowledgement from him before stepping between cars.
- C. When coupling air hoses:
  - 1. Close angle cock if under pressure.
  - 2. Place only one foot between the rails.
  - 3. Securely grip each end of the hose at the bottom, lift it upward, match the connection portions, and slowly push the joint to its lowermost position.

## # 19

### **When working with coupled or uncoupled air hoses:**

- A. Open angle cock slowly keeping legs and feet clear of couplings and listen for air escaping which will indicate coupling is faulty and may fly apart.

- B. If a leak is heard, close both angle cocks and make sure pressure in hoses is fully depleted before attempting adjustment or repairs.
- C. Never kick, strike, or jostle pressurized hose couplings in an effort to stop leaks.
- D. Before opening angle cock to an uncoupled air hose, grasp hose at the glad hand, clear of vent port. Brace glad hand firmly against thigh, just above the knee. Before opening angle cock turn face away from glad hand.
- E. If necessary to uncouple air hoses by hand:
  - 1. Close both angle cocks.
  - 2. Place only one foot between the tracks.
  - 3. Securely grip each hose near the bottom joint.
  - 4. Slowly raise the hose joint until air pressure is depleted, then continue raising the joint until it separates.
  - 5. Return hoses to lowermost position instead of allowing them to drop.
- F. Never open angle cock on the end of moving equipment except in an emergency.
- G. To operate angle cock from opposite side, maintain balance and with extreme care insure that no part of body touches coupler, coupler assembly, or any part which may move, to prevent personal injury. If unable to comply with above procedures, cross over.
- H. When an angle cock handle is in closed position, do not depend on pressure being depleted in hose.

## # 20

### **When applying vertical wheel-type hand brakes:**

- A. Observe condition of ladders, steps, grab irons, and brake step before mounting car.
- B. Always be on left side of hand brake during operation.
- C. Have both feet securely placed with the left foot on ladder rung at or near same level as brake platform and the right foot firmly on the brake platform. When setting brake on a

tank car, have both feet securely placed on end of platform. Never apply a vertical wheel hand brake from the ground.

- D. Have firm grasp of ladder rung with left hand. Operate the wheel with right hand gripping in such a manner to always have your thumb on the outside of wheel rim.
- E. Do not use wheel spokes to apply brake.
- F. Wind slack out of the chain by turning the wheel in a clockwise direction until resistance is felt. Be prepared for unexpected bunching or slipping of brake chain.
- G. Now with legs slightly bent keeping back straight as possible, pull upward using short, steady strokes, with leg muscles doing the work, until reasonable force has been applied to wheel.
- H. Never jerk or lunge on a brake wheel.
- I. Do not use a brake club or other device on a geared hand brake.

## # 21

### **When releasing vertical wheel-type hand brakes:**

- A. Always be on the left side of the hand brake during operation.
- B. Have both feet securely placed with left foot on ladder rung at or near same level as brake platform and the right foot firmly on the brake platform. Never release hand brake from the ground.
- C. Have firm grasp of ladder rung or grab iron with left hand.
- D. Operate the wheel with right hand, gripping in such a manner to always have your thumb on the outside of wheel rim.
- E. Inspect the release lever for proper method of operation by its design and any instructions stamped on the gear case.

Remember --- when brake is equipped with a quick release, use it, and in doing so keep your back straight, arms straight, and lift with your leg muscles. Do not jerk on handle. If no quick release, grasp wheel in such a manner as to have thumb on outside of wheel rim. Release brake by pulling wheel in counter-clockwise movement.

- F. Operate the release, keeping all parts of your body clear of the wheel in case it should spin during release.
- G. Never place your foot in the wheel spoke to release a vertical wheel-type hand brake.

## #22

### **Operating staff-type hand brakes:**

- A. On a staff (horizontal) hand brake wheel, have both hands on the brake wheel. When applying the brake, push with the left hand and pull with the right hand. This method places you close to and applying pressure toward the car. Apply steady pressure on wheel or club, never apply pressure with a jerk. Keep firm hold of the wheel with both hands. If your feet slip, you can still hang onto wheel and avoid falling.
- B. On a staff brake lever, have both hands on the brake lever, placing one hand at the outward extreme of the lever and the other near the pivot point. Apply steady pressure on lever and never apply pressure with a jerk.
- C. To release staff, lever, or wheel brake with or without brake club:
  - 1. Apply only sufficient stress to release pawl without forcing it from ratchet.
  - 2. If not successful in the above, obtain help.
  - 3. Be prepared to re-engage pawl instantly to prevent wheel spinning.
  - 4. Release brake not more than 3 notches at a time to permit slack to adjust before completing releasing.

## # 23

### **When operating high stand rigid switches:**

- A. Observe switch points for any obvious obstruction, including spiked switches.
- B. Position yourself at the switch, clear of arc or line of travel of handle, and remove keeper or lock.
- C. Before throwing, place one hand on target staff.
- D. With other hand, take a full grasp at the end of the switch handle.

- E. Have feet approximately shoulder width apart, firmly on the ground with one foot placed slightly ahead of the other.
- F. Keep back as straight as possible and legs bent, and with a steady pull, lift the handle out of the slot, using your legs and not your back.
- G. Pull the handle smoothly through its arc of travel until switch has moved to desired position. Press the handle into holder and secure with lock or keeper.
- H. If handle becomes hard to move, stop! Take a new position to avoid twisting or straining back muscles, then continue pulling to desired position and press handle into holder and secure with lock or keeper. Never jerk or lunge on a switch handle.
- I. If handle stops at any point as you are pulling it through its arc of travel, reset handle to its original position and inspect switch points for foreign objects. If foreign objects are found, remove them, and complete movement.
- J. If switch cannot be operated using reasonable force, help must be obtained. If two people are required to throw switch, one person must apply steady, firm pressure by pushing on handle while the other person is pulling in a normal manner.  
  
Remember --- both must practice good body mechanics and not apply excessive, sudden force, causing you to lose control of movement. As in any job when two people are lifting or pulling together, the action must commence on command.
- K. Never kick or otherwise use your feet to move switch handle.
- L. Always report hard to throw switches to proper authority.

## # 24

### **Controlling switching or shoving movements:**

- A. Switching or shoving movements which can be controlled by hand signals must not be controlled by other methods.

## # 25

**When performing tasks on locomotives, be aware, and keep fingers and hands out of traps created by the operation of:**

- A. Seat adjuster mechanisms.
- B. Sliding windows
- C. Cab doors.
- D. Engine compartment doors.
- E. Hand brake operating and releasing levers.
- F. Remember --- Steam locomotives have hot metal in the cab.

## # 26

### **Applying blocking chains/materials to locomotive wheels:**

- A. When applying blocking chains or other blocking material to locomotive wheels, be aware: check head clearance when crouching to apply chains or blocking material, and again before arising. Afford yourself sufficient clearance so that hands and fingers are not between the chain or material and the wheel or brake rigging.
- B. When using blocking chains, grasp each handle rod at its center, then lay one chain portion over the top of the rail clear of the wheel and brake rigging. Keeping hand in the clear, slide the chain along the rail to a solid contact against the wheel. Repeat the process with the other chain portions.
- C. When using other blocking material, use a piece long enough to enable you to place the material under the brake rigging and against the wheel without catching hands or fingers. Remember --- always store blocking chains on the hooks provided. Never store chains or other items on steps or walkways.

## # 27

### **When moving in and out of locomotive cabs and on walkways and ladders:**

- A. Always use door handles or grab irons to open and close doors. Keep hands and fingers clear of door edges and door jams. Always grasp grab irons, railings, or other secure fixtures to prevent being thrown about.
- B. Keep all electrical and other compartment doors securely latched so you will not run into them. Report all defective latches and doors that will not stay closed.

- C. Always watch your footing closely. Locomotives vary in step and ladder arrangement. Know your equipment. Don't allow tools, chains, or other items to be placed where you have to step.
- D. If you observe oil or other foreign substances on ladders, steps, or walkways, warn other crew members and if practicable, avoid using that part of the equipment until the unsafe condition is corrected. Be sure you report it properly if you cannot correct it yourself.
- E. At night, have a plastic case flashlight in good working order and keep it with you.

## # 28

### **When applying locomotive wheel-type hand brakes:**

- A. Inspect area where you will be standing, for obvious defects.
- B. Obtain protective stance with one foot slightly in front of the other, knees slightly bent and back as straight as possible.
- C. Operate the wheel in such a manner to always have your thumb on the outside of wheel rim. Do not use wheel spokes to apply brakes.
- D. Wind the slack out of the chain by turning the wheel in a clockwise direction until resistance is felt. Be prepared for unexpected bunching or slipping of brake chain.
- E. Now with legs slightly bent, keeping back straight as possible, pull upward using short steady strokes until reasonable force has been applied to wheel. Let leg muscles do the work.
- F. Never jerk or lunge on a brake wheel.

### **Releasing wheel-type hand brakes:**

- A. When releasing wheel-type hand brake, turn wheel in a counter-clockwise direction. Protective stance is the same as when applying. Always inspect area where you will be standing and do not use wheel spokes to release the brake.
- B. Never place your foot in the wheel spoke to release a vertical wheel-type hand brake.

## # 29

### **Walking safety and proper footwear:**

- A. When walking, pay attention to footing and other conditions which affect your safety.
- B. When you refer to a switch list or consist, do so standing still and clear of tracks.
- C. Use established route or path to or from office, stations, shop, or other work location, while moving from one point to another while on duty or on NSRM property.

Avoid Dangerous Short Cuts!

- D. When walking and necessary to turn your head or look backwards --- Stop!
- E. Look in both directions before stepping foul of any track and when walking out of or from behind an engine, car, building, or other structure. If it is necessary to obtain a clear view of the track in both directions --- Stop!
- F. When duty requires walking beside tracks:
  - 1. Keep sharp lookout in both directions for approaching cars or engines.
  - 2. Never stand or walk between rails or on ends of ties when practicable to avoid it.
- G. Always keep safe distance from passing cars, engines, and trains to avoid being struck by falling or projecting objects.
- H. Do not sit, stand, step, or walk on rail, frog, switch, guardrail, or other part of track structure.
- I. Footwear is an important factor when developing good walking habits. Wear work boots/shoes with soles and heels firmly attached and heels that are not excessively worn.

## # 30

### **Using fusee:**

- A. To use fusee in the proper performance of duty:
  - 1. Expose end of top and press it against ignition powder, push fusee away from your

body and turn your head away.

2. Hold end to be lighted in downward position and far enough away to prevent fire or sulphur dropping onto any part of body or clothing.
  3. Keep lighted fusee at arm's length, below shoulder level and move it slowly.
  4. Avoid breathing fusee fumes.
- B. To extinguish fusee: strike lightly over some object until burning portion drops off, away from weeds, grass, or other flammable material, protecting eyes and body from burning portion.
- C. Fusees must not be left where they are subject to use by unauthorized persons.

## # 31

### **Lifting:**

- A. Lifting beyond normal physical capabilities is prohibited. Avoid jerking or twisted positions and obtain help to lift or handle heavy or cumbersome objects. When Lifting:
1. Have secure footing.
  2. Bend the knees and keep back erect.
  3. Take a firm grip on the object and slowly straighten the legs.
- B. When necessary for two or more persons to handle heavy or bulky materials or objects such as drawbars, knuckles, chains, or lading by hand, the following precautions must be taken:
1. Remove slipping or tripping hazards when practicable, exercise care to prevent slipping or tripping.
  2. Designate one person to give commands for all movements (lifting, walking, lowering, or throwing).
  3. Have person designated to give commands fully inform those assisting just what is to be done and what the words of command will be.
  4. Giving command by other than designated person is prohibited,

5. Lift or make other movement only on command.
6. Place crew according to size, strength and experience.

## **# 32**

### **When working around or on steam engines:**

- A. Use of other than standard chains or cables is prohibited.
- B. Pipe, valve, instrument panel, glass surface, or any other such part of engine must not be used for foot rest.
- C. Place and keep clothing, material, rags, supplies, tools, or other items in a designated cabinet, container, or location and not:
  1. On equipment platform, footboards, handrail, ladder, running board, step, stirrup, or walkway.
  2. In walking or working area.
  3. On backhead, throttle, reverse lever, brake stand, or lubricator.
  4. At other location that interferes with walking or working.
- D. All tools that belong with the engine must be in their proper place and in good condition.
- E. Before operating engine on which work has been performed, be sure that all tools, material, or other items are clear of:
  1. Moving parts.
  2. Overhead areas.
  3. Other hazardous positions.
- F. Extreme care must be taken to keep clear of hot or moving engine components. Be on guard against exhaust steam from cylinder cocks or blow-down valve or muffler.

- G. Engines must not be stopped over burning fusees or open flames.
- H. Fires, open flame lights, or smoking around fueling stations is prohibited.
- I. Avoid spillage when fueling engines.
- J. Know the locations of, and how to use fire extinguishers. When using fire extinguishers, avoid as much as possible inhaling fumes.
- K. On oil fueled locomotives crew members must familiarize themselves with operation and locations of the emergency fuel cutoff pullrings or handles. In case of a fire on the engine, any of the pullrings or handles should be pulled to shut off the supply of fuel oil.
- L. Do not litter cab areas.
- M. Hostlers and others who are authorized to move engines at terminals must, by inspection, know before moving them in shops that the air brakes are cut in and operative and in condition to be moved. Be positive that no one is working beneath or around them who might be injured. Due warning under all conditions must be given by ringing the bell before engine is moved.

# **NEVADA STATE RAILROAD MUSEUM**

## **Rules and Regulations for the Operations of Railroad Equipment**

Effective May 1, 1987

The rules herein set forth govern the railroad operations performed by the Nevada State Railroad Museum, and are for the government and information of staff and volunteers only. They supersede all previous rules and instructions inconsistent therewith. These rules supplement are superseded by the policies, rules, and regulations of the State of Nevada Department of Museums and History.

Special instructions may be issued by proper authority.

Approved:

Scott Miller

Administrator

Nevada Department of Museums & History

## **General Rules**

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

Obedience to the rules is essential to safety and is required.

To enter or remain in train service is an assurance of willingness to obey the rules, and demands the faithful, intelligent, and courteous discharge of duty.

Cooperation is essential to success. Cooperation between employees is required for proper functioning under the rules and regulations.

Suggestions from employees intended to promote safety, economy, or improved service, are solicited and will receive consideration.

The rules contained herein are issued for the purpose of incurring greater protection to lives of employees, the public, the property of the NSRM, and the traffic it transports.

The public judges a railroad by the appearance and conduct of its employees, quality of service, and condition of the property. Courteous, considerate treatment of patrons is of first importance.

In case of doubt or uncertainty the safe course must be taken.

## Definitions

<b>Derail</b>	A protective device that guides engines, vehicles or other on-track equipment off the rails.
<b>Employee</b>	For the purposes of these rules: <ol style="list-style-type: none"><li>1. Employees of the Nevada State Museum.</li><li>2. Employees of Short Line Enterprises.</li><li>3. Authorized volunteers of the Friends of the V&amp;T.</li></ol>
<b>Engine</b>	A locomotive unit propelled by any form of energy or combination of such units operated from a single control, used in train or yard service.
<b>Enginemen</b>	Engineers, firemen (helpers), and hostlers.
<b>Fouling point</b>	The location in the vicinity of a switch marking safe passing clearance with another track.
<b>Main Track</b>	A track, other than an auxiliary track, extending through yards, and between stations upon which trains are operated.
<b>NSRM</b>	Nevada State Railroad Museum.
<b>Proper Authority</b>	The Administrator of the Dept. of Museums & History, or his designee.
<b>Siding</b>	A track auxiliary to the main track for meeting or passing trains and run-arounds.
<b>Signal Indication</b>	Information conveyed by the aspect of a signal.
<b>Single Track</b>	A main track on which trains are operated in both directions.
<b>Special Instructions</b>	Instructions issued to employees which change, add to or annul Operating Rules, or other instructions.
<b>Speeds</b>	Restricted speed: A speed that will permit stopping short of another train, obstruction, stop signal, or switch not properly aligned, broken rail, and inoperative grade crossing warning devices, or within one half the range of vision, not to exceed 10 miles per hour.
<b>Switch</b>	A device to connect one track diverging from another.

<b>Trainmen</b>	Conductors, brakemen, and car attendants.
<b>Yard</b>	A system of tracks within defined limits provided for the making up of trains, storing of cars and other purposes.
<b>Yard Limits</b>	Limits specified in special instructions. Within yard limits, trains and engines will operate at restricted speed.

## **General Rules**

### **Rule A**

Employees whose duties are prescribed by these rules must be provided with a copy and with any special instructions.

### **Rule B**

Employees must be conversant with and obey the Rules and Instructions. If in doubt as to their meaning they must apply to proper authority for explanation; if immediate action is necessary, the safe course must always be taken. Employees must attend required classes and pass required examinations.

### **Rule C**

Persons employed in any position on trains must devote themselves exclusively to the NSRM's service while on duty. They must obey the rules and special instructions and promptly report to the proper authority any violation thereof.

Employees must refrain from conduct which adversely affects the performance of their duties, other employees, or the public. They must refrain from conduct which brings discredit upon the NSRM.

Any act of insubordination, hostility, or willful disregard of the NSRM's interest will not be condoned.

To avoid annoyance to the public, employees and others authorized to transact business at stations and on or about trains, must be courteous, orderly and quiet.

Solicitation or acceptance of gratuities from patrons is prohibited.

### **Rule D**

Employees must render every assistance in their power in carrying out the rules and special instructions. They must report promptly to the proper official any violation thereof, or any misconduct or negligence affecting the interest of the NSRM.

## **Rule E**

Accidents of any nature, defects in track, bridges, or signals, or any unusual condition which may affect the movement of trains must be protected at the locomotive, and proper authority informed of the condition promptly, using the first available means of communications.

## **Rule F**

The use of alcoholic beverages or other intoxicants, narcotics or other similar substances by employees subject to duty, or use while on duty on NSRM property is prohibited.

Employees shall not report for duty under the influence of any drug, medication, or other substances, including those prescribed by a doctor or dentist, that will in any way affect their alertness, coordination, response, safety, or ability to perform their work properly; nor shall drug, medications, or other substances be used by or be in the possession of employees on duty.

## **Rule G**

The use of tobacco by employees on duty while engaged in serving patrons in or about passenger stations or occupied passenger cars is prohibited. Smoking is prohibited in buildings and on trains and motor cars.

## **Rule H**

Employees on duty must be neat and clean in appearance. Their hair must be worn so the eyes are not covered and no longer than will allow for the safe conduct of their duties. Hair longer than shoulder length must be secured. Beards and/or mustaches may be worn provided they are consistent with safety.

Prescribed uniforms, badges, protective clothing and equipment must be worn while on duty.

Employees must be suitably clothed for the performance of their duties consistent with safety. Suitable footwear around shops, tracks, and moving equipment does not include sandals, high-heeled boots or shoes, "cowboy" type shoes, or tennis shoes.

## **Rule I**

Fire or other danger to the NSRM's property must be reported promptly and employees must unite to protect it, taking every precaution to guard against injury and loss or damage from any cause.

## **Rule J**

Employees are responsible for their own safety. Constant presence of mind to insure safety to themselves and others is the primary duty of all employees and they must exercise care to avoid injury to themselves or others. They must observe the condition of equipment and tools which they use in performing their duties and when found defective, will put them in safe condition, reporting defects to proper authority.

### **Crossing Through Moving Equipment Is Prohibited.**

Employees must expect the movement of trains, engines, or cars at any time, on any track, in either direction.

Employees must know that it is safe before fouling, walking between or crossing tracks by looking in both directions. When crossing tracks in front of standing engines or cars, they must provide at least 15 feet clearance and be prepared for unexpected movement of equipment. If in a group, walk in single file. Do not step on rail, switch or frog.

Employees are prohibited from getting on roof of cars except when necessary to make repairs.

Employees must not stand on track in front of an approaching engine or car. They must not ride footboard of engine in direction of movement or trailing footboard when engine is pulling cars.

Employees must not attempt to board or get off equipment moving at a speed which would endanger their safety.

Employees must inform themselves as to the location of structures or obstructions where clearances are close.

## **Rule K**

Employees reporting for duty are expected to be amply rested in order to be physically and mentally fit for the proper and safe performance of their duties.

# Rules for Single Main Tracks

## Signals

1. Employees whose duties may require them to give signals must provide themselves with the proper appliances, keep them in good order and ready for immediate use.
2. Signals must be given and acted upon strictly in accordance with the rules. Trainmen, enginemen and others must keep a constant lookout for signals. Those giving hand, flag or lamp signals must locate themselves so as to be plainly seen. Signals must be given in a manner that they can be definitely understood.

The utmost care must be exercised by trainmen and enginemen to avoid acting upon signals that are not understood, or that may be intended for other trains or engines. Unless trainmen and engineers are positive that signals given are intended for them, they must not move until proper understanding is assured.

When backing or shoving a train, engine or cars, the disappearance from view of employee or light by which signals are given must be construed as a stop signal unless the way is seen or known to be clear.

3. When flags (cloth or metal) are used by day, they must be of the prescribed color.
4. Electric lanterns may display white lights only except as specifically authorized for signaling purposes.
5. Day signals must be displayed from sunrise to sunset; but when day signals cannot be plainly seen night signals must be used in addition.

Night signals must be displayed from sunset to sunrise.

6. Colors used with signals:
  - a. Red – Stop
  - b. Yellow – Proceed at restricted speed
  - c. Green – Proceed
  - d. Blue – As prescribed by the rules
  - e. White – As prescribed by the rules.
7. A signal improperly displayed, absence of signal where signal is usually shown, absence of light, or white light displayed where a colored light should be, must be regarded as the most restrictive indication that can be given by that signal.

When a signal is out of order and not so indicated, or is improperly displayed, or working improperly, or light is out, report must be made to proper authority.

8. Lamp Signals

- a. Swung at right angle to track – Stop
- b. Slight horizontal movement at arms length – Reduce speed
- c. Raised and lowered vertically – Proceed
- d. Swung vertically in a circle at right angles to track – Back
- e. Swung horizontally at right angle to track – Apply air brakes
- f. Held at arms length above head – Release air brakes

9. Any object waved violently by anyone on or near the track is a signal to stop.

**Engine Whistle and Bell**

10. Engine Whistle Signals

Note: The signals prescribed are illustrated by “o” for short sounds; “—” for longer sounds. The sound of the whistle must be distinct, with the intensity and duration proportionate to the distance signal is to be conveyed.

- a. o                      Apply brakes. Acknowledgement of signal to initiate air test.
- b. —                     Air brakes applied for test.
- c. — —                 Proceed, acknowledgement of signal to release brakes, forward.
- g. o o                    Answer to any signal not provided for.
- h. o o o                 When standing, back.
- j. o o o o                Call for signals.
- l. — — o —            Approaching crossing at grade. The signal will commence not less than 10 seconds before reaching crossing. The signal is to be repeated or the last sound prolonged until engine has passed over the crossing.
- p. Succession of short sounds  
                                Alarm for persons or animals on the track.

11. Whistle must be sounded at all places where required by rule or law, and where necessary as warning signal.
12. In case of whistle failure, speed of train must be reduced consistent with safety and bell rung continuously when approaching and passing stations and over public crossings.
13. The engine bell must be rung when an engine is about to move, except after momentary stops in continuous switch movements. It must also be rung while approaching and passing public crossings at grade, and elsewhere necessary as a warning signal.
14. In case of engine bell failure, speed of train must be reduced consistent with safety, and whistle sounded continuously while approaching and passing public crossing at grade, and elsewhere necessary as a warning signal

### **Radio Rules**

15. Radio communications must be made in accordance with Federal Communications Commission regulations.
  - a. No employee shall knowingly transmit false distress communications.
  - b. Unnecessary, irrelevant, or unidentified communications are forbidden.
  - c. Obscene, indecent, or profane language is prohibited.
  - d. No employee shall knowingly transmit while distress traffic is being handled on circuit.

The following examples will govern transmissions.

Initiation – “Wabuska Station calling (engine name and number) . . . over.”

Response – “(Engine name and Number) . . . over.”

Termination – “(Engine name and Number) . . . out.”

If specific instructions are not understood or if continuous contact is not maintained, this must be construed as a stop signal.

## **Headlight**

16. A lighted headlight will be displayed on the front of every train by day and by night.

## **Blue Flag Protection**

17. A blue flag by day and a blue light by night, displayed at one or both ends of an engine, car or train, indicates that workmen are under or about it; when thus protected it must not be coupled or moved. Workmen will display the blue signals and the same workmen are alone authorized to remove them. Other cars must not be placed on the same track so as to intercept the view of the blue signals.
18. A sign reading “Stop – Men at Work,” “Stop – Employees Working,” or other similar message and of any color must be respected in the same manner as a blue signal.

## **Communication of Signals**

19. All members of engine and train crews must, whenever practicable, communicate in a distinct and audible manner to each other the names of all signals affecting the movement of their train or engine as soon as they become visible and thereafter continue to observe such signals and call any change of indication until they are passed. If engineer fails to control speed in accordance with signal indication of speed restriction, other crew members must take action to insure safety.

## **Yard Limits**

20. Yard limits will be designated in special instructions and/or the limits will be indicated by “Yard Limit” signs.

Within yard limits the main track may be used without providing protection against other trains and engines.

All trains within yard limits must move at restricted speed.

## Protection of Train

21. When a train makes an emergency stop, the train must be inspected before it is moved. No movement will be made until hand or lamp signal is given.

## Switching

22. When shoving cars, precaution must be taken to prevent damage or fouling other tracks. When conditions require, a member of the crew must take a conspicuous position on the leading car, with the proper signals. When shoving cars over crossings a trainman must ride the leading end or be ahead to protect the crossing.

Trains moving under conditions that may require them to stop, must, where possible, stop to clear public grade crossings. Such crossings must not be blocked longer than ten minutes unless no vehicles are waiting at or closely approaching the crossing.

Equipment must not be left standing longer than necessary on tracks within operating limits of automatic grade crossing warning devices. In leaving equipment on any track it must be left clear of crossing at grade and insulated joints. When necessary to spot equipment in vicinity of public grade crossings it must, if possible, be left a sufficient distance from road, sidewalk, or street line to afford an unobstructed view for persons approaching from either direction.

23. Switching must be done in a careful manner to avoid severe shocks by sudden starting or stopping or by impact in making couplings and to prevent personal injury or damage to equipment.

Cars and engines must not be permitted to couple at a speed in excess of 4 MPH. A stop must be made just prior to coupling to occupied passenger equipment. All passenger cars must be handled with air brakes in service.

24. Kicking and dropping of cars is prohibited.
25. Cars must not be shoved or left to foul leads or adjacent tracks until it is known that it is safe to do so. Engines and cars must not be left to foul adjacent track if it is possible to avoid it.
26. A sufficient number of hand brakes must be set to hold cars standing on any track. If brakes are inoperative, cars must be secured otherwise. When cars are set out on a grade they must be coupled if practicable and in addition to brakes being set, wheels must be blocked and, if necessary, chained to rail.

27. Cars left during switching operations with an employee in charge must be secured by handbrakes when necessary to prevent uncontrolled movement.
28. Where engines may be working at both ends of a track, or tracks, there must be a clear understanding so that crews involved are aware of movements to be made to avoid injury or damage.
29. Conductors are responsible for the position of switches and derails used by them and members of their crews. This does not relieve other crew members where and when they are handling a switch or derail or able to observe the positions of switches and derails.

A main track switch must not be lined by an employee for a train or engine movement other than their own.

30. In switching or other moves where trainmen are handling switches they must know that the switch is set properly before signaling engineer to move.

The normal position for a main track is lined and locked for movement on the main track; for a switch connecting any track except main track to siding is lined and locked for movement on the siding; for a derail, is lined and locked in the derailing position. They must be left in normal position after being used and locks must be tested to know that they are secure. Switches not equipped with locks must be left hooked. When a switch cannot be properly locked or hooked it must be secured and immediately reported to proper authority.

Main track switch locks found defective or missing must be replaced immediately. Report must be made to proper authority by first means of communication.

31. Employees lining switches must see that points fit properly and that switches are lined for route intended before initiating movement over them. If a rigid switch is run through it is thereafter unsafe and must be protected. If an engine or car is run partially through a switch the entire movement must be continued. When a switch is damaged report must be made immediately to proper authority and switch spiked unless track supervisor takes charge.
32. Employees riding on equipment while moving over a switch must pass stand before alighting to change position of a switch; when on rear car of moving train they must not alight until rear steps pass the switch stand.

## **Inspection of Train**

33. All employees must, as far as practicable, observe passing trains for defects.

Defects to be looked for include sticking brakes, wheels sliding, brake rigging down, swinging doors, hot journals, protruding objects, evidence of fire, or any condition which will endanger movement of trains.

Employees noticing such defects will give stop signals and when communication with proper authority is possible notify him of such defects. If nothing irregular is noted employees observing train for defect will give proceed signals to rear of passing train.

When passing trains and points where roadway men are working, train and engine crews must be on the lookout for signals and when practicable, exchange signals.

Roadway and other employees observing passing trains for defects will spread themselves, when practicable, to both sides of passing trains.

Employees must keep a sufficient distance from passing trains to avoid possibility of being struck by anything projecting or that may fall from passing train. They must not depend on others to notify them of approaching trains, engines or cars.

34. When practicable when leaving stations and at every opportunity on the road, crew members must carefully inspect the train for defects.

If a train is moving when a defect is discovered, train must be stopped.

While train is moving frequent inspection of the track from rear end must be made for evidence of derailed or dragging equipment.

Enginemen and forward trainmen must frequently look back and rear trainmen must look ahead, especially when moving around curves and approaching and passing stations, to observe signals and not condition of train.

## **General Regulations**

35. Both conductor and engineer are responsible for safety of the train or engine and for observance of the rules. Under conditions not provided for by the rules, they must take every precaution for protection. This does not relieve other employees of their responsibility under the rules.

Enginemen and trainmen must make all reports required of them in due time and in the form and manner described.

36. When a passenger train is receiving or discharging patrons, a train or engine must not pass between it and the station unless proper safeguards are provided.
37. In case of doubt or uncertainty the safe course must be taken.
38. An engine or train must not start until the proper signal is given.
39. Employees whose vision requires the use of glasses in order to meet requirements prescribed by the Nevada Department of Motor Vehicles must wear them while on duty and must carry an extra pair with them if required.
40. Civil, gentlemanly deportment is required of all employees in their dealings with the public and each other. Courtesy and attention to the public is demanded. Boisterous, profane or vulgar language is forbidden.

Employees are prohibited from entering into altercations with any person, regardless of provocation. They will make note of the facts, if necessary, and report to their immediate superior.

Employees, except those authorized by proper authority, are prohibited from having loaded or unloaded firearms in their possession while on duty or on NSRM property.

Horseplay, sparring, or any form of practical joking is forbidden on duty or on NSRM property.

41. Carelessness, negligence and/or indifference in the performance of duties will not be condoned.
42. Employees who are either disloyal, dishonest, insubordinate, incompetent, make false reports or statements, or conceal facts concerning matters under investigation, will be subject to dismissal.
43. Employees must report for duty at the designated time and place, attend to their duties during prescribed hours, and obey instructions from proper authority in matters pertaining to their respective branches of the service.

They must not absent themselves from duty, exchange duties with others, substitute others in their places, nor engage in other business which may interfere with the full discharge of their duty to NSRM without proper authority.

44. Throwing of articles (littering) from locomotives, cars roadway equipment or NSRM vehicles is dangerous and forbidden.

### **Injuries and Accidents**

45. All accidents resulting in personal injury, loss of life or damage to any property must be reported promptly to the security guard who will contact the Sheriff's Department by phone or radio.
46. Except to prevent immediate risk to human life, no railroad equipment shall be moved during emergency situations without the explicit instructions from the Sheriff's Department officer.
47. Injured people will not be moved, unless obviously necessary, except by qualified medical personnel. First aid, as required, will be provided by NSRM employees prior to the arrival of the medical personnel.
48. During the emergency period the Security Guard shall immediately assume authority. His authority shall only be superseded by the Sheriff's Department officer.
49. Employees shall not discuss accidents, loss of life, or personal injury with one another, the press or the public.

### **Chain of Command**

50. The general direction and government of a train is in charge of the Conductor, and all persons employed on the train are subject to his instructions.

Should there be any doubt as to authority or safety or proceeding, he must consult with the Engineer who will be responsible with him for the safety and the proper handling of the train and such use of signals and other precautions as circumstances may require.

Conductors must see that all members of crew report for duty at prescribed time, and report any violation to immediate supervisor.

51. Subject to specific orders of proper authority, conductor or (in absence of conductor) engineer, must require trainmen to position themselves as in his judgment may be necessary.

### **Conductor's Responsibility**

52. The protection of trains and passengers is of the first importance, and conductors must not allow other duties to interfere therewith. A trainman must be stationed, when practicable, on rear of every train while in motion.
53. When on duty, trainmen and firemen are subordinate to their conductors and engineers. Conductors and engineers must see that their subordinates are familiar with their duties, ascertain the extent of their experience and knowledge of the rules, and instruct them in the proper and safe performance of their work.
54. Conductors must give particular attention to the safety and comfort of their passengers, to the heating, lighting and ventilation of cars.

Brakemen, if not occupied by their duties, and car attendants must assist all passengers in getting on and off the cars and must remain by their train at terminals to answer inquiries until the train is vacated or they are relieved; in their absence conductors will perform this duty.

55. Conductors must not allow drunken, or disorderly persons to get on their train, nor permit obscene, profane or other ungentlemanly language, damage of NSRM property, or other misconduct in any of the cars.

Conductors must not allow passengers to carry in the coaches bulky packages or other articles which obstruct the aisles, seats, or the space between the seats, to the inconvenience of other passengers. Conductor shall summon the Security Guard as needed to deal with criminal behavior.

56. Articles found on train must be delivered to person authorized to receive them at terminals.

### **General regulations For Enginemen**

57. Enginemen and firemen must not, at the same time absent themselves from the engine while on duty.

58. Exercise great care to prevent water from being thrown from smoke stack when starting and do not open cylinder cocks nor permit overflow from injector at station platform.
59. Require the firing to be done in such a manner to avoid dense smoke and use the blower gently to prevent smoke trailing at stations.
60. Engineers must be diligent in all matters pertaining to safety and while moving must keep a close lookout, carefully note all signals and watch for obstructions on and defects in the track and roadway.

All other employees on engine must assist in keeping a close lookout and must give notice to engineer of any signals and any indications of obstructions or danger.

61. At station and other stops of sufficient duration, when practicable, engineer of locomotive must make an inspection thereof from the ground giving particular attention to the trucks and brake rigging.
62. Where locomotives are being serviced, they must not be moved until hose connections are removed and it is ascertained that employees servicing are in a safe location.

### **Air Brake Rules**

63. Enginemen when taking charge of locomotive must know that air brakes are operative with all brake cylinders cut in, air signals apparatus in good working order when applicable, and air conditioning devices are set at standard pressure.
64. Initial Terminal Road Train Air Brake Test
  - A. Each train must be inspected and tested as specified in this rule by a qualified person at points:
    1. Where the train is originally made up (initial terminal).
    2. Where train consist is changed other than by adding to removing a solid block of cars, and the train brake system remains charged.

3. Where the train is received in interchange if the consist is changed other than by:
  - a. Removing a solid block of cars from head end or rear end.
  - b. Changing motive power.
  - c. Removing or changing caboose; or
  - d. Any combination of the changes in (a), (b), and (c) of this subparagraph.

#### B. Procedure for Test

Train air brake system must be charged to required air pressure, angle cocks and cut-out cocks must be properly positioned, air hose must be properly coupled and must be in condition for service. An examination must be made for leaks and necessary repairs made to reduce leakage to a minimum. Retaining valves and retaining valve pipes must be inspected and known to be in condition for service.

After the brake system on the train is charged to within 15 pounds of the setting of the regulating valve on the engine, as indicated by an accurate gauge at the rear of the train, and upon receiving a signal to apply brakes for test, the leakage test must be made in the following manner:

- a. A 15 pound brake pipe service reduction must be made in automatic brake operation and the brake valve lapped. As soon as the brake pipe pressure has reduced to the level of the equalizing reservoir pressure and the service exhaust closes, wait 45 seconds, then observe the brake pipe leakage for one minute as indicated by brake pipe gauge. Leakage must not exceed five pounds per minute. After leakage test the brake pipe reduction must be increased to full service.

If excess leakage is detected the cause must be corrected, brake pipe pressure restored and leakage test remade.

Inspection of the train brakes must be made to determine that angle cocks are properly positioned, brakes are applied on each car, piston travel is correct, that brake equipment does not bind or foul and all parts of the brake equipment are properly secured. When this inspection has been completed, the release signal must be given and brakes released, and each brake inspected to see that all have released.

During standing test, brakes must not be applied nor released until proper signal is given.

Engineer will use the following whistle signals:

1. One short to indicate acknowledgement of signal it indicate air test.
2. One long to indicate application of brakes for test in response to signal.
3. Two longs to indicate release of brakes for completion of test in response to signal.

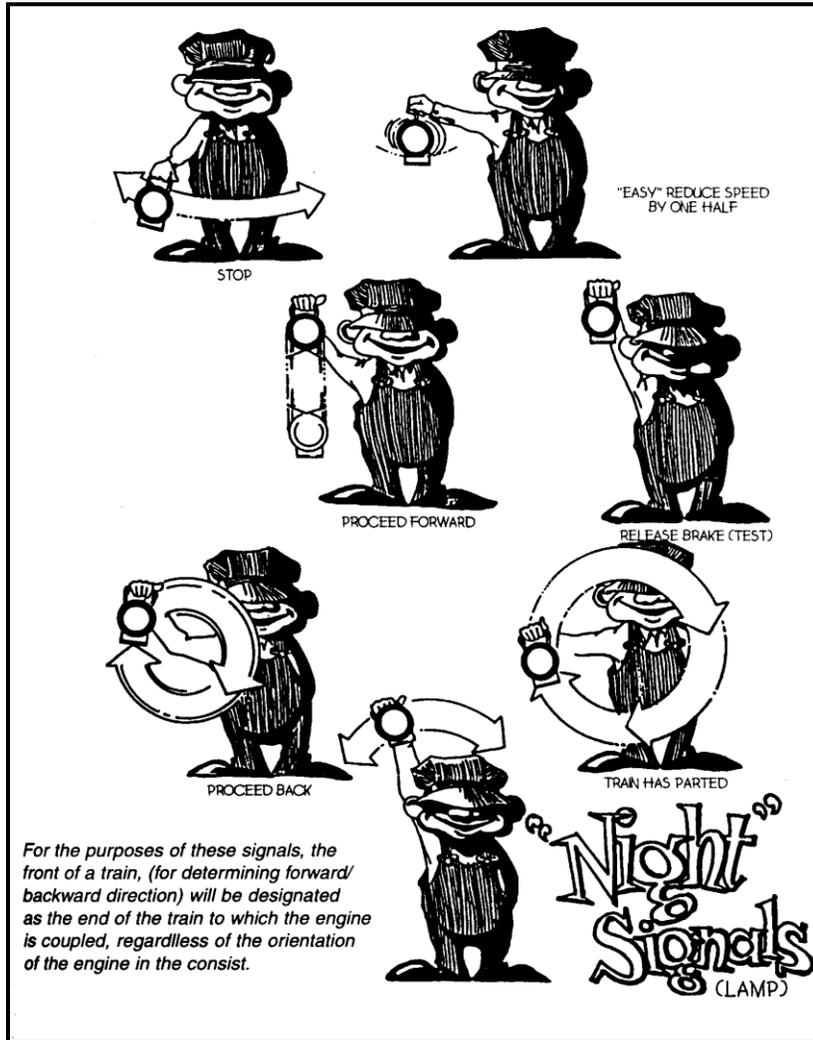
### C. Notification of Completed Tests

A qualified person participating in the test and inspection, who has knowledge that it was made shall notify the engineer that the initial terminal road train air brake test has been satisfactorily performed.

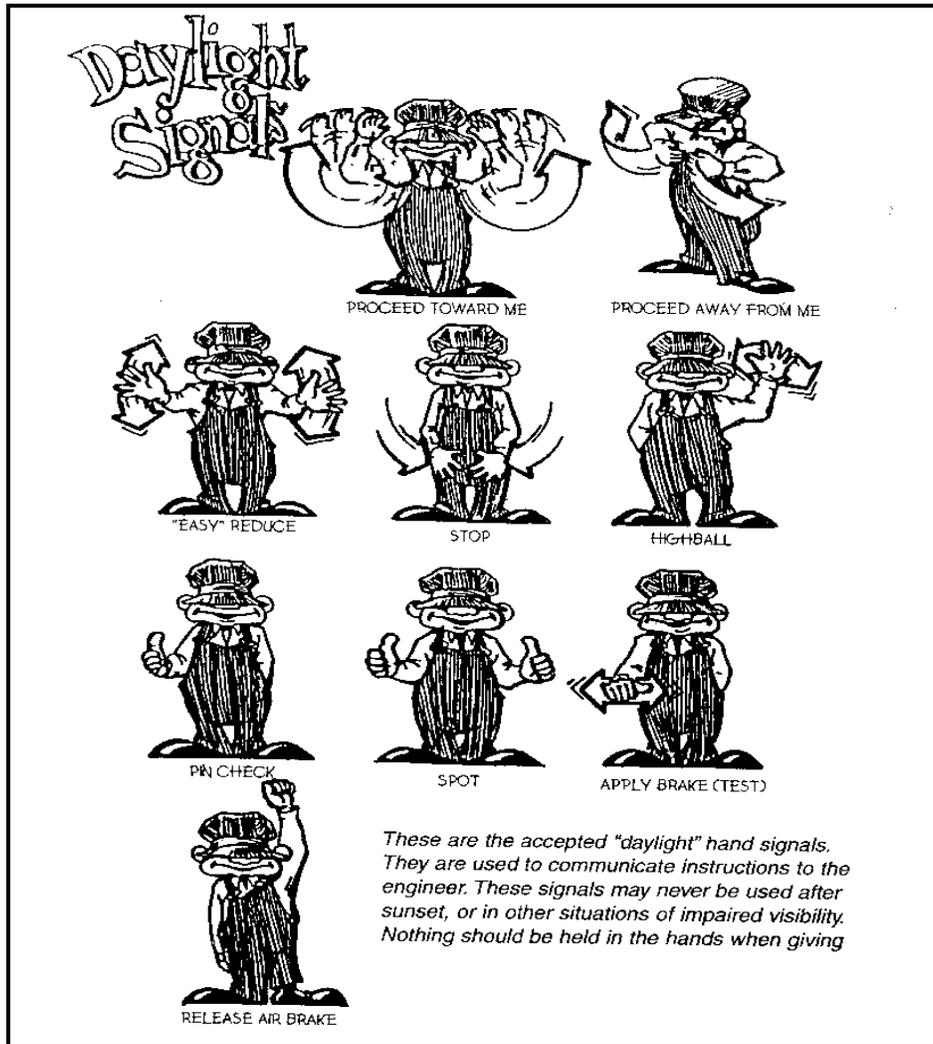
64. Passenger equipment being switched in the making up or breaking up of trains must have all airbrakes cut in before starting movement and automatic air brakes must be used in reducing speed or stopping.

Any cars left standing must have hand brakes set or be coupled to car or cars with sufficient hand brakes set to prevent them from moving.

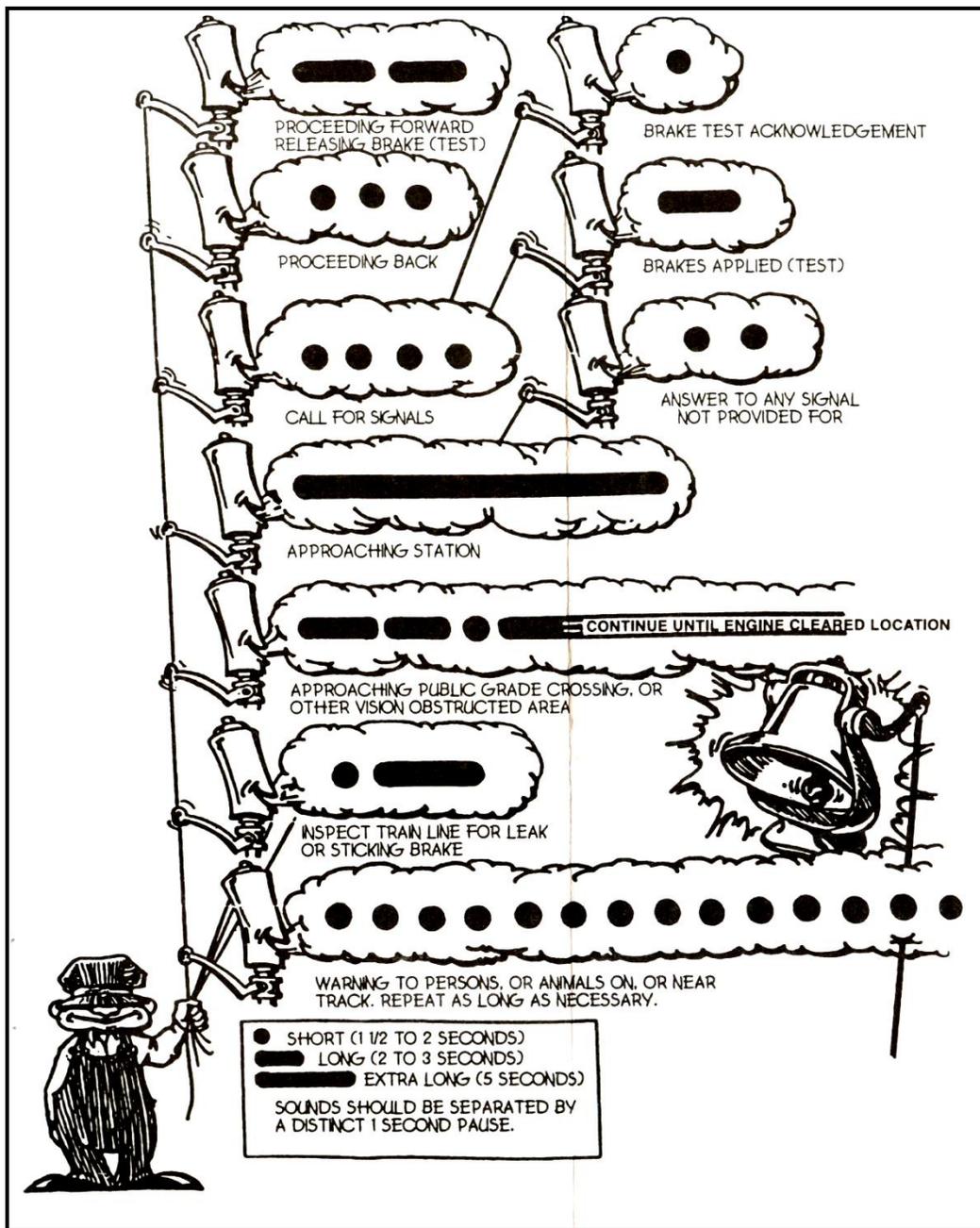
# LANTERN SIGNALS



# HAND SIGNALS



# WHISTLE SIGNALS



**The Nevada State Railroad Museum is an Agency of the Nevada Department of Cultural Affairs,  
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