



# **OPERATING RULES AND RAILROAD PROCEDURES BOOK**

**EFFECTIVE DATE  
APRIL 1, 2005**

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These rules are adopted pursuant to NRS 381.0061 on the date below.

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Peter Barton, Administrator  
Division of Museums and History

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Date

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## NSRW CONTACT PHONE NUMBERS

Boulder City Emergency Dispatch Center (for police, fire and medical emergencies) .....	293-9258
Museum Office .....	486-5952
Ticket Office/Gift Shop .....	486-5933
Museum Director, Greg Corbin.....	Office 486-5952 Home 567-1089 Cell 682-7502
Manager of Train Operations, Bob Freedman .....	Home 293-2717 Cell 496-1692
Safety Officer, Tony Bond.....	Home 873-7237 Cell 499-3303
Business Operations, Peg Franchetti.....	Office 486-5006 Cell 277-9917
Chief Mechanical Officer, Jim Potvin.....	Home 565-2254 Cell 375-9554
Chief Electrical Officer, Bob Freedman.....	Home 293-2717 Cell 496-1692
Crew Dispatcher, Chuck Brandt .....	Home 362-6938
Track Maintenance, refer to Greg Corbin or Mike Travaglia	
Designated Supervisors of Locomotive Engineers, Jim Potvin and Tony Bond	

## GENERAL NOTICE

- Safety is of the first importance in the discharge of duty.
- Obedience to the rules is essential to safety.
- To enter or remain in the service is an assurance of willingness to obey the rules.
- The service demands the faithful, intelligent and courteous discharge of duty.
- Employees will not be retained in the service who are careless of the safety of themselves or others, insubordinate, dishonest, quarrelsome or otherwise vicious, or who do not conduct themselves in such a manner that the railroad will not be subjected to criticism and loss of good will. Any disciplinary action needed will be administered by railroad management.

## DEFINITIONS

***Note:*** *For the purpose of these rules the following definitions will apply.*

**AB Valve.** The operating device used on rail cars for charging, applying and releasing the air brakes according to the varying pressures in the brake pipe.

**Air Brake.** A combination of parts operated by compressed air and controlled manually or pneumatically, by means of which the motion of a car or locomotive is retarded or arrested.

**Automatic Air Brake.** An arrangement of air brakes whereby air is stored in reservoirs on cars and locomotives. An operating valve such as a control, distributing or AB valve causes the brakes to apply and release by changes in the brake pipe pressure, whatever may be the cause. A reduction in the brake pipe pressure tends to cause a brake application; an increase in brake pipe pressure tends to release the brake.

**Automatic Brake Valve.** A device manually operated primarily to control the flow of air into and out of the brake pipe. This provides a means for the engineman to control the rate (service or emergency) of brake pipe pressure reduction and the air supply (main reservoir or feed valve) into the brake pipe for charging, recharging and releasing the brakes on both locomotives and attached cars.

**Back-up Valve.** A detachable portable air valve provided for the purpose of applying the brakes from the leading end of a car when it is necessary to push or back trains or cars. The device is connected by a stand hose and coupling to the brake pipe hose.

**Brake Application.** A sufficient reduction of brake pipe pressure (no matter how made) to cause the control valve or distributing valve to move to service or emergency position, which, if made in

the service position of the brake valve, may consist of one or more reductions.

**Brake Cylinder Release Valve.** An appliance interconnected with brake equipment permitting manual depletion of brake cylinder pressure while retaining air pressure in the remainder of the brake system.

**Brake Pipe.** The pipes, including branch pipe, angle cocks, cut-out cocks, centrifugal dirt collectors, strainers, hose and hose couplings, used to distribute compressed air throughout the train. The brake pipe connects the automatic brake valve on the locomotive with the brake apparatus on all the cars in the train.

**Bulletin Order.** A publication placed on the bulletin board to notify employees of changes in timetable, rules and procedures affecting the movement of trains. Supersedes both the rule book and the timetable.

**Conductor.** A person in charge of train operation and passenger safety.

**Derail Device.** A protective device that guides engines, cars, or other on-track equipment off the rails.

**Emergency Brake Application.** A quick, heavy reduction of brake pipe pressures which will cause the control valve to move to emergency position and transmit quick action. It may be made by the engineman with the automatic brake valve or by the trainman with the back-up valve, emergency brake valve, or angle cock. It is also made automatically when the brake pipe is broken or the train parts.

**Employees.** Employees of the Nevada State Railroad Museum/ Boulder City, Nevada, and authorized volunteers.

**Engine.** A locomotive unit propelled by any form of energy or combination of such units operated from a single control, and used in train or yard service.

**Enginemen.** Engineers, firemen (helpers) and hostlers.

**Feed Valve.** A valve that reduces main reservoir pressure to the pressure desired in the brake pipe, maintaining that pressure automatically while the brake valve handle is in running position.

**Fixed Signal.** A signal of fixed location indicating a condition affecting the movement of a train or engine.

***Note:*** *The definition of a “Fixed Signal” covers such signals as switch, stop signs, yard limit signs, reduce speed and resume speed signs, or other means for displaying indications that govern the movement of a train or engine.*

**Fouling Point.** The location in the vicinity of a switch marking safe passing clearance with another track.

**Full Service Reduction.** A service reduction of brake pipe pressure sufficient in amount to cause equalization of pressure in brake cylinder (unless limited by a safety valve or otherwise) with pressure in the reservoir from which compressed air is supplied to brake cylinder.

**Independent Brake Valve.** A device to operate the air brakes on the locomotive independently of the train brakes.

**Main Track.** A track, other than an auxiliary track, extending through yards and between stations upon which trains are operated.

**Pilot.** An employee assigned to a train when the engineer or conductor, or both, are not fully acquainted with the physical

characteristics or rules of the portion of the railroad over which the train is to be moved.

**SNRW.** Southern Nevada Railway.

**Siding.** A track auxiliary to the main track for meeting or passing trains.

**Restricted Speed.** Proceed prepared to stop short of train, engine, obstruction, or switch not properly lined and be on look out for broken rail or anything that may affect movement of train or engine. A speed of 5 mph must not be exceeded.

**Service Application.** A service brake application is accomplished by reducing brake pipe pressure at a predetermined rate. A service brake application may consist of one or a series of brake pipe pressure reductions. These reductions are controlled automatically by positional changes of the automatic brake valve handle.

**Service Rate of Reduction.** A decrease in brake pipe pressure, at a rate sufficiently rapid to move the operating valve on cars to service position, but at a rate not rapid enough to move the valve to emergency position.

**Signal Aspect.** The appearance of a fixed signal conveying an indication as viewed from the direction of an approaching train.

**Signal Indication.** Information conveyed by the aspect of a signal.

**Single Track.** A main track upon which trains are operated in both directions.

**Special Instructions.** Instructions issued to employees, which change, add to or annul Operating Rules or other instructions.

**Switch.** A device to connect one track diverging from another.

**Track Bulletin.** Track bulletins are issued as required and contain information on all conditions affecting safe train or engine movements.

**Trainmen.** Conductors, brakemen, and car attendants.

**Yard.** A system of tracks within defined limits provided for the making up of trains, storing of cars and other purposes.

**- END OF DEFINITIONS -**

## GENERAL RULES

***Note:*** *As used in these rules, the terms “employee” and “volunteer” are interchangeable.*

### 100 SAFETY

The rules contained herein are issued for the purpose of incurring greater protection to lives of employees, the public, the property of the Nevada Southern Railway (NSRW), and the traffic it transports.

1. In case of doubt or uncertainty, the safe course must be taken.
2. In the case of conflicting rules, the more restrictive/safe course must be taken.
3. Employees must attend required classes and pass required examinations.

### 101 OBEDIENCE TO THE RULES

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.

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.

### 102 COPY OF RULES/TIME TABLES/SPECIAL INSTRUCTIONS

Employees whose duties are prescribed by these rules must be provided with a copy of these rules and with any special instructions. While on duty, such employees must have a copy of the rule book available to them. Employees whose duties are affected by the timetable and/or special instructions must have a current copy available for reference while on duty.

A copy of the rulebook will be kept in the cab of each locomotive as well as the ticket office.

### **103 FEDERAL HOURS OF SERVICE**

Employees must be familiar with and comply with the requirements of the Federal Hours of Service Laws if and where applicable. Those affected by such laws shall be in compliance and are admonished to use their off-duty time in such a manner as to make them fit for safe, prompt, and efficient performance of their duties.

### **104 REPORTING FOR DUTY**

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.

Employees must report for duty at the designated time and place, attend to their duties during prescribed hours and obey instructions from the proper authority in matters pertaining to their respective branch of the service.

Employees coming on duty should check the employee bulletin board. The following items should be noted:

1. Train crew for the day and your assignment.
2. Daily timetable.
3. Any special instructions or additions to train orders which have been posted.

### **105 ABSENT FROM DUTY**

If an employee is going to be absent from their assigned duty, the employee, or someone on their behalf, must call the supervisor or manager to inform them of their absence. The supervisor or manager will call in a replacement. This holds true for single or multiple days.

The reading of newspapers, books or periodicals or playing of games while on duty is prohibited. Employees must not sleep while on duty. Lying down, or in a reclining position, with eyes closed or with eyes covered or concealed will be considered as sleeping.

#### **106 DEVOTION TO DUTY**

Employees in any position on trains must devote themselves exclusively to the NSRW service while on duty. The reading of newspapers, books or periodicals or playing of games while on duty is prohibited. Cell phone use except in case of emergencies while on active duty is also prohibited.

Employees must not sleep while on duty. Lying down, or in a reclining position, with eyes closed or with eyes covered or concealed, this will be considered sleeping.

Employees must obey the rules and special instruction while on duty.

#### **107 EMPLOYEE CONDUCT**

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 to the railroad.

Any act of insubordination, hostility, or willful disregard of the NSRW interest will not be tolerated. Avoid annoyance to the public, employees and others authorized to transact business at the railroad. 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.

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.

**108 NEGLIGENCE**

Carelessness, negligence and/or indifference in the performance of duties will not be tolerated.

**109 DISLOYALTY**

Employees who are disloyal, dishonest, insubordinate, incompetent, make false reports or statements, or conceal facts concerning matters under investigation will be subject to dismissal. Any disciplinary action needed will be administered by railroad management.

**110 EMPLOYEE COOPERATION**

Cooperation is essential to success. Cooperation between employees is required for proper function under the rules and instructions.

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

**111 ALTERCATIONS**

Employees are prohibited from entering into altercations with any person, regardless of provocation. They will make note of the facts, and report the incident to railroad management.

Horseplay, sparring, or any form of practical joking is forbidden while on railroad property.

## **112 FIREARMS**

Employees, except those authorized by railroad management, are prohibited from having loaded or unloaded firearms in their possession while on duty or at the Nevada State Railroad Museum at Boulder City, Nevada. Exceptions are special events held at the railroad or security guards hired to protect railroad property.

## **113 DRUGS AND ALCOHOL**

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

Employees shall not report for duty under the influence of any drugs, 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 drugs, medication, or other substances be used by or be in the possession of employees on duty.

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, on trains, and in motor cars. Smoking is permitted in designated smoking areas only.

## **114 APPEARANCE**

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 mustaches may be worn as long as they do not interfere with your safety, the safety of others or your duties.

Prescribed uniforms, I.D. badge, protective clothing and equipment must be worn while on duty.

Employees must be suitably clothed for the performance of their duties consistent with safety. Employees must not dress in a manner that will interfere with vision, hearing, or free use of hands and feet.

#### **115 FOOTWEAR**

Suitable footwear in and around shops is boots/shoes with soles and heels firmly attached and heels that are not excessively worn. It is recommended you wear protective footwear when working in the shop area.

#### **116 AGE LIMITS**

Persons must be at least 21 years of age to fill the position of conductor or engineer. Brakemen must be at least 18 years of age. Car attendants must be at least 16 years of age.

#### **117 VISION**

Employees whose vision requires the use of glasses in order to meet requirement prescribed by the Nevada Department of Motor Vehicles must wear them while on duty.

#### **118 TESTING**

Employees whose duties require them to be conversant on operating and safety rules must pass a written examination. A practical skills test showing knowledge of basic safety procedures will be given on equipment.

The written examination and practical skills test will be developed and administered by the railroad safety officer.

### **119 REQUALIFICATION**

Employees whose duties require them to be conversant on operating and safety rules must requalify every two years. The requalification examination and testing will be developed and administered by the railroad safety officer and a Designated Supervisor of Locomotive Engineers (DSLE).

### **120 ALERT TO TRAIN MOVEMENTS**

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

### **121 CROSSING TRACKS**

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 of clearance and be prepared for unexpected movement of equipment.

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

### **122 WALKING SAFETY**

Employees should maintain an awareness of their working environment.

1. When walking, pay attention to footing and other conditions which affect safety.
2. Use established routes or paths.
3. When walking and necessary to turn your head, Stop!
4. 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.

5. When duty requires walking beside tracks, keep a sharp lookout in both directions for approaching engines or cars.
6. Never stand or walk between rails or on ends of ties when practicable to avoid it.

### **123 LIFTING**

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 the back erect.
3. Take a firm grip on the object and slowly straighten the legs.
4. When necessary for two or more persons to handle heavy or bulky material or objects such as drawbars, knuckles, chains, or lading by hand, the following precautions must be taken:
  - a. Remove slipping or tripping hazards when practicable. When not practicable, exercise care to prevent slipping or tripping.
  - b. Designate one person to give commands for all movements (lifting, walking, and lowering, or throwing). When practicable, place designated person on one end of the object being handled.
  - c. Have person designated to give commands fully inform those assisting just what is to be done and what the words of command will be.
  - d. Giving command by other than designated person is prohibited.
  - e. Lift or make other movement only on command.
  - f. Place crew according to size, strength, and experience.

**124 CLEAN PROPERTY**

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

NSRW property must be kept in a clean, orderly, and safe condition. Museum buildings, facilities, or equipment must not be damaged or destroyed. Only information authorized by museum officers or law may be posted on railroad property.

**125 LOST AND FOUND**

Articles found on trains must be labeled with car number and name of finder and delivered to person authorized to receive them at the train depot.

All articles of value found on NSRW property must be cared for and promptly reported to proper authority.

**126 GRATUITIES**

Solicitation or acceptance of gratuities from patrons is prohibited. Patrons may make contributions to the NSRW in the donations box.

**127** Fire or other damage to the NSRW or Museum property must be reported promptly. Employees must take every precaution to guard against injury, loss or damage from any cause.

**128 SUGGESTIONS**

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

**129 OTHER TRACK EQUIPMENT**

Track inspection equipment, speeders, motor cars, etc., must obey all railroad rules instructions.

Drivers/operators are responsible for all operating rules, speed restrictions and any other factors, which may affect their safe operations. Drivers must be especially vigilant at public grade crossings since some track equipment may not activate the crossing signal. If the signal will not activate automatically, the crossing must be flagged manually before the track can be crossed. Always use the safest course of action.

### **130 EMPLOYEE SAFETY**

Employees are responsible for their own safety. Constant presence of mind to ensure 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 working condition before using.

### **131 REPORTING INJURIES AND ACCIDENTS**

When on the train, all accidents resulting in personal injury, loss of life or damage to railroad or private property must be promptly reported to the Conductor who will contact the appropriate authorities and railroad management.

If on railroad property, an accident resulting in personal injury, loss of life or damage to railroad or private property must be promptly reported to railroad management.

### **132 CARE OF INJURED**

Except to prevent immediate risk to human life, no railroad equipment shall be moved during emergency situations without the explicit instructions from the Conductor.

Injured people will not be moved unless obviously necessary, except by qualified medical personnel. First aid, as required, will be provided by NSRW employees prior to the arrival of medical personnel.  
(See procedure 701).

**133 EQUIPMENT INVOLVED IN AN ACCIDENT**

All locomotives and cars involved in an accident or injury must be removed from service immediately. No movement, cleaning or maintenance will be done. Railroad management will release the equipment after the accident investigation and inspections are completed.

**134 EMPLOYEE STATEMENTS AFTER AN ACCIDENT**

In case of an accident, loss of life, or personal injury, employees shall not discuss the details of the incident with anyone or one another.

Employees are only obligated to talk with NSRW railroad management or Federal Railroad Administration representatives. Employees are not required to talk to law enforcement officers.

Employees must not discuss details of an accident with members of the public, press or anyone else.

**135 ATTENDING SAFETY CLASSES**

Attendance at safety classes is required by all train crew personnel. Qualifications for certification of train crew positions will in part be based on attendance of these classes. Failure to attend safety classes will result in suspension of your certification.

**- END OF 100 SECTION -**

## **SAFE WORK PRACTICES**

### **200 GENERAL SAFETY STATEMENT**

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

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

### **201 GETTING ON STANDING EQUIPMENT**

1. Observe conditions of equipment looking for defects such as bent, loose or missing stirrups, ladder rungs, and brake platforms.
2. Face equipment.
3. Use side ladder only.
4. Be alert for unexpected movement.
5. Look down the track and check for obstructions before boarding the train
6. Never place lantern on your arm when ascending or descending equipment. Hold lantern at base of thumb and index finger.

### **202 MOVING EQUIPMENT**

Mounting or dismounting moving engines or train equipment is prohibited on this railroad.

### **203 RIDING THE SIDE OF A CAR**

1. Look in direction of movement.
2. Maintain a firm grasp 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.

3. Remain aware of conditions in direction of movement or ahead for impaired clearances, such as gatepost, gates, loading docks, sides of buildings, or fouling cars on adjacent track.
4. Employees must not ride on equipment on side opposite engineer unless fireman is in position to relay signals to engineer.

#### **204 OCCUPYING CAR/ENGINE ROOFS**

Employees are prohibited from getting on equipment roofs except for repair work. No person can be on a roof while the equipment is moving.

#### **205 SEATED OR STANDING IN AN ENGINE OR CABOOSE**

1. Be alert for conditions that can cause slack action. Examples: train brake application, change in grade, or change in speed, particularly entering and leaving yards.
2. Protect yourself from slack action by remaining seated as much as possible. When seated on an engine, position both feet on floor or on footrest.
3. 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.
4. Duties may require you to stand in an engine for an extended period of time. An example would be behind the engineer for the purpose of train inspection on a curve.
5. Stand with feet shoulder width apart, one front slightly ahead of the other, with hands braced on wall or grab iron when available.
6. 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. When signaling or using portable

radio, you must have one hand securely on grab rail.

7. When in a caboose and you are required to move from your seat, do so expecting slack action and have a firm hold on grab rails, edges of bulkheads, and/or overhead grab rail to prevent being thrown about.
8. When ascending or descending to or from seats in cupola-type cabooses, use all handholds and steps provided for the side being used.
9. On cabooses or engines, all equipment must be secured in proper location. Do not place other objects or materials on floors or walkways where it will become a tripping hazard.
10. On cabooses, drawers and doors must be closed securely when not in use.

## **206 SWITCHING MOVEMENTS WITH A CABOOSE**

Do not ride inside caboose during switching movements.

## **207 RIDING THE LEADING CAR IN A SHOVING MOVEMENT**

Use the side ladder if so equipped and keep alert for changing conditions in the direction of movement. The employee should be located, when practical, on the engineer's side of the cab.

Employees are not permitted to ride on end ladders of moving cars.

## **208 CROSSING OVER ON STANDING EQUIPMENT**

1. Use engines, cabooses, or cars equipped with platforms and handrails.
2. If suitable car cannot be found, you may use the body of an empty flat car.
3. 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.

4. As you detrain on opposite side, be alert for movement on adjacent track.

## **209 CROSSING OVER ON MOVING EQUIPMENT**

1. You are never permitted to cross over moving equipment except on engines or cabooses. You may not use the footboards to cross over.
2. Remember as you walk across platform do not loiter.
3. Maintain firm handhold on railings and grab irons remaining aware of your footing conditions.
4. Riding between cars or locomotives either on stirrups, couplers, grab irons, or footboards on the ends is prohibited at all times.
5. Never sit on footboards, steps, or platforms of standing or moving equipment.

## **210 CROSSING UNDER CARS**

Sitting, lying, or crossing under cars is prohibited, except when required in performance of duty and then only when proper blue flag or red zone protection is afforded.

## **211 WALKING BETWEEN OR CROSSING TRACKS**

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

## **212 WALKING AROUND THE END OF STANDING EQUIPMENT**

To avoid being struck by unexpected movement, be alert and give yourself at least 15 feet of clearance when walking around the end of standing equipment.

### **213 SEPARATING EQUIPMENT**

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

### **214 RED ZONE**

This is a safety first rule which is easily understood and has absolute authority over the movement of a train and its crew.

When a crew member is on the ground and their duties require them to venture into hazardous areas, such as between cars, and radio communications are in use, they will call the locomotive engineer and declare a Red Zone. The Engineer will respond “Red Zone”, which tells the crew person it is safe for them to enter the danger zone.

Before the Engineer declares the Red Zone, they will make sure all the train brakes are set and all control switches are in a safe position. The Engineer will not touch or move any controls until the crew member calls the Red Zone clear. The Engineer will verify the Red Zone clear and train movements can continue.

### **215 ALIGNMENT OR ADJUSTMENT OF COUPLERS**

1. If necessary to make an adjustment of coupler alignment, be sure that cars are separated by at least 15 feet and stopped.
2. Have a clear understanding with the Engineer and other crewmembers involved with the work to be performed and required protection (red zone) is afforded.
3. Put your back against the coupler. Use one leg as a push and brace against the inside of a rail. Push with your back and leg to move the coupler to the desired position.

4. Never jerk, kick or use foot to make a coupler adjustment or alignment.
5. If, after using reasonable force, coupler does not move to desired position, obtain help.
6. When help is obtained, you must position person as previously described and the second person on the side of the coupler prepared to push.
7. 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.
8. One person will have to control the movement by giving a command.

## **216 REPLACING A KNUCKLE IN A COUPLER**

1. Make sure the cars are separated by at least fifteen (15) feet and stopped. Secured the car with hand brakes if required.
2. Have a clear understanding with the engineer and other crewmembers about the work to be performed and that required protection is afforded.
3. Keeping feet in the clear and making sure the knuckle pin is in place, open the defective knuckle, remove knuckle pin from coupler, and set it within easy reach.
4. Keeping feet in the clear, remove knuckle from the coupler. Holding defective knuckle as close to body as possible, dispose of it where it will not be a tripping hazard to you and others.
5. Holding cut lever up, move knuckle thrower back into the coupler recess as far as it will go.
6. Before lifting replacement knuckle up to the coupler, position it so that no unnecessary maneuvering will be required while fitting it into the coupler.
7. Using good body mechanics lift the knuckle and place it into the coupler.

8. Insert the knuckle pin into the top coupler pin hole.
9. Close the knuckle and check to see that the pin drops and knuckle locks.

### **217 UNCOUPLING CARS OR ENGINES**

1. The train must come to a complete stop.
2. Ask the engineer for a RED ZONE. Once the red zone has been confirmed you may step between cars to close the angle cock.
3. Close angle cock.
4. Set sufficient hand brakes to keep the car from rolling.
5. Clear the red zone with the engineer then signal the engineer move away and uncouple the car(s).

### **218 NEVER UNCOUPLE A MOVING CAR**

### **219 STEPPING BETWEEN LOCOMOTIVES OR CARS TO COUPLE AIR HOSE**

1. Before you couple hoses on any cars that are coupled to an engine, have a clear understanding with the engineer of the work to be done and (red zone) protection required.
2. Remember - "Clear Understanding" means you must communicate to the Engineer, orally or with an agreed upon signal, and receive an acknowledgement.
3. When coupling air hoses:
  - a. Place only one foot between the track.
  - b. Securely grip the end of each hose at the bottom, lift it upward, match the connection portions, and slowly push the joint to its lowermost position.
  - c. Slowly open angle cock.

## 220 WORKING WITH AIR HOSES

1. Open angle cocks slowly keeping legs and feet clear of the couplings and listening for air escaping which will indicate coupling is faulty and may fly apart.
2. If a leak is heard, close both angle cocks immediately. Make sure the pressure in hoses is fully depleted before attempting adjustment or repairs.
3. Never kick, strike, or jostle pressurized hose couplings in an effort to stop leaks.
4. 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.
5. If necessary to uncouple air hoses by hand:
  - a. Close both angle cocks.
  - b. Place only one foot between the tracks.
  - c. Securely grip each hose near the bottom joint.
  - d. Slowly raise the hose joint until air pressure is depleted, then continue raising the joint until it separates.
  - e. Return hoses to lowermost position instead of allowing them to drop.
6. Never open angle cock on the end of moving equipment except in an emergency.
7. To operate an angle cock for opposite side, maintain balance and with extreme care ensure that no part of body touches coupler or coupler assembly to prevent personal injury. If unable to comply with above, cross over to operate angle cock.
8. When an angle cock handle is in closed position, do not assume that pressure in hose has been depleted.

## **221 VERTICAL WHEEL HAND BRAKES**

1. Observe condition of ladders, steps, grab irons, and brake step before mounting car.
2. Always be on the left side of hand brake during operation.
3. 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.
4. Have firm grasp of ladder rung of grab iron with left hand. Operate the wheel with right hand gripping on the outside of wheel rim.
5. Do not use spokes to apply brake.
6. 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.
7. 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.
8. Never jerk or lunge on the brake wheel.
9. Do not use a brake club or other device on a geared hand brake.

## **222 RELEASING VERTICAL WHEEL HAND BRAKES**

1. Always be on the left side of the hand brake during operation.
2. 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 release hand brake from the ground.

3. Have firm grasp on ladder rung or grasp iron with left hand.
4. Operate the wheel with the right hand, gripping in such a manner as to always have your thumb on the outside of the wheel rim.
5. 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.***

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

## **223 STAFF TYPE HAND BRAKES**

1. On staff (Horizontal) hand brake wheels, 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. Maintain a firm hold on the wheel with both hands. If your feet slip, you can still hang onto the wheel and avoid falling.
2. On a staff brake lever, have both hands on the brake lever, placing one hand at the outward

extreme end of the lever and the other near the pivot point. Apply steady pressure on lever and never apply pressure with a jerk.

3. To release staff, lever, or wheel brake with or without brake club:
  - a. Apply only sufficient stress to release pawl without forcing it from ratchet.
  - b. If not successful in the above, obtain help.
  - c. Be prepared to re-engage pawl instantly to prevent wheel from spinning.
  - d. Release brake not more than 3 notches at a time to permit slack to adjust before completing the release.

## **224 APPLYING LOCOMOTIVE WHEEL-TYPE HAND BRAKE**

1. Inspect area where you will be standing for obvious defects.
2. Obtain protective stance with one foot slightly in front of the other, knee slightly bent and back as straight as possible.
3. 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.
4. Wind slack out of chain by turning the wheel in a clockwise direction until resistance is felt. Be prepared for unexpected bunching or slipping of the brake chain.
5. With legs slightly bent keeping back as straight as possible, pull upward using short, steady strokes, with leg muscles doing the work, until reasonable force has been applied to wheel.
6. Never jerk or lunge on a brake wheel.

## **225 RELEASING WHEEL-TYPE HAND BRAKES**

When releasing wheel-type hand brake, turn wheel in a counter-clockwise direction. Protective stance is the same as when applying brake. Always inspect area

where you will be standing and do not use wheel spokes to release the brake.

Never place your foot in a wheel spoke to release a vertical wheel-type hand brake.

## **226 WORKING AROUND CARS AND ENGINES**

1. Employees making inspections, records, applying or removing placards, or performing other duties requiring them to climb about cars and engines, should endeavor to do all such work while cars are under blue flag or red zone protection. Do not move about on cars being switched. When practicable, you must notify trainmen and enginemen of your presence on or about cars in yards.
2. Always use door handles or grab irons to open and close doors. Keep hands and fingers clear of door edges and doorjamb. Always grasp grab irons, railings, or other secure fixtures to prevent being thrown about.
3. Keep all electrical and other compartment doors securely latched. Report all defective latches and doors that will not stay closed.
4. 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.
5. 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 that unsafe conditions are reported if not immediately corrected.
6. Employees working around locomotives at night should have a flashlight in good working order.

## **227 PINCH POINTS ON LOCOMOTIVES**

When performing tasks on locomotives, be aware and keep fingers, hands, and feet out of pinch points created by the operation of:

1. Seat adjuster mechanisms.
2. Sliding windows.
3. Cab doors.
4. Engine and electrical equipment compartment doors.
5. Hand brake-releasing levers.

## **228 USING FUSEES**

To properly use a fusee in the performance of duty:

1. Remove cap to expose scratch surface.
2. Hold fusee near base and rub scratch surface of cap against head of fusee.
3. Always point fusee away from face and body while igniting and while burning.
4. Keep lighted fusee at arms length, below shoulder level, and move it slowly.
5. Avoid breathing fusee fumes.
6. To extinguish, while protecting eyes and body from burning material, strike the fusee lightly on some object until burning portion drops off. Use care to keep burning materials away from weeds, grass, or other flammable material.
7. Fusees must not be left where they are subject to use by unauthorized persons.

## **229 TRAIN SPEED**

Speeds in excess of the allowed limits will not be tolerated. Engineers who are found to be speeding at any time shall be subject to disciplinary action and, if repeated, loss of running rights and or employment status. Enforcement of this rule will be carried out by railroad management.

**230 PHONE NUMBERS**

Phone numbers pertinent to the operation of this railroad, emergency numbers, officials, shop and office numbers will be posted on bulletin boards and in the cab of each locomotive and in the rule book.

**- END OF 200 SECTION -**

## POSITION DUTIES

### 300 CONDUCTORS

1. Conductors will hold a pre-run train crew safety meeting prior to the start of each day's operations and as necessary during the day for special movements.
2. The governing of a train is the responsibility of the Conductor. All persons on a train are subject to his instructions. Should there be any doubt as to authority or safety of proceeding, the Conductor must consult the engineer who will be responsible with the Conductor for the safety and proper handling of the train, use of signals and other precautions as circumstances may require.
3. Conductors must see that all members of crew report for duty at prescribed time and report any violation to immediate supervisor.
4. Conductors must know that members of their crew are familiar with and perform their duties, instruct them as necessary, and caution them as to risks; they must know that members of their crew properly comply with the rules and instructions, especially those relating to protection of trains. Inefficiency or insubordination must be reported to proper authority.
5. Conductor must know that train is being handled safely and speed restrictions are being observed. He must take immediate action to stop train when necessary.
6. The protection of trains and passengers is of the first importance and Conductors must not allow other duties to interfere therewith.
7. Conductors must give particular attention to the safety and comfort of their passengers including heating, cooling, lighting and ventilation of cars.

8. Conductors must not allow drunken or disorderly persons to get on their train, not permit obscene, profane or other ungentlemanly language, or damage to NSW properly or other misconduct.
9. Conductors must not allow passengers to board train with bulky packages or other articles, which obstruct the aisles, seats, or the space between the seats to the inconvenience of other passengers.
10. The Conductor is responsible for knowing the position of switches and derails used by their train. This does not relieve other crewmembers 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.
11. At the beginning of each day's operation, a complete walk around of the train must be made prior to moving the equipment. The Conductor will acknowledge the inspection on his daily report. Below is a partial list of items to be looked at:
  - a. Dragging equipment
  - b. Air lines connected and angle cocks correctly positioned.
  - c. Coupler condition.
  - d. Notice brakes which are set and any wheel chocks which must be removed.
  - e. Any loose equipment.
  - f. Anything which may cause an unsafe condition.

### **301 ENGINEERS**

1. The Locomotive Engineer operates the locomotive under the authority of train orders and the direction of the Conductor when in passenger or freight service. The Engineer operates the locomotive under the authority of train orders if operating a light engine only. The Engineer will be responsible to ascertain that the locomotive is supplied with fuel, water and other supplies for proper and safe operation. He will insure that only authorized persons ride in the cab. No more than five (5) people can ride in the cab including crew. The Engineer has final say as to who is authorized to ride in the cab for safety reasons. To be licensed on the NSW the Locomotive Engineer must have passed a written and oral examination and have documented at-the-throttle railroad experience. The Engineer will be responsible for proper tie-down (setting brakes etc.) on the locomotive and train after each run. The Engineer will report to the mechanical department any defect or irregularity with the locomotive or train.
2. Engineers must be diligent in all matters pertaining to safety. While moving he must watch for signals, obstructions and defects on the track and in the right of way.
3. Engineers and Conductors are equally responsible for knowing the members of their crew and being familiar with the performance of the crew members' duties. The Engineer may need to instruct them in their duties and caution them as to risks. Engineers must also know that members of their crew properly comply with the rules and instructions, especially those relating to protection of trains. Inefficiency or insubordination must be reported to railroad management.

4. Engineers on train duty will only allow other NSW licensed Engineers, NSW Student Engineers or Rental Engineers to handle a locomotive. Student Engineers and Rental Engineers must be under the direct supervision of a licensed Engineer.
5. At station and other stops of sufficient duration, the Engineers must make an inspection of both sides of the locomotive giving particular attention to the trucks and the brake rigging.
6. When there is no Conductor or when the Conductor is disabled, the Engineer will, unless otherwise directed by railroad management, have charge of the train and will be governed by the rules prescribed for Conductors. When the train has more than one Engineer, the senior Engineer will take charge.

### **302 DAILY LOCOMOTIVE INSPECTION**

The Engineer is responsible for inspecting the locomotive and filling out the pre-run list and cab inspection card.

### **303 TRACTION MOTORS**

To prevent burning of traction motors and other electrical equipment Engineers on diesel locomotives, will not use power but brakes to hold the train while standing.

### **304 ENGINEER WHO IS SPEEDING**

An Engineer in control of any locomotive or train that exceeds the published or posted speed limit will be subject to disciplinary action. If repeated violations are noted, an engineer may lose their certification to run on the railroad.

### **305 ENGINEER AND CONDUCTOR COMBINED DUTIES**

1. Engineers and Conductors must see that first aid kits, fire extinguishers, safety equipment and two-way radios are operational and supplied on all equipment carrying personnel or passengers over which they are responsible.
2. The Conductors must advise the Engineer of any restriction placed on equipment being handled. Likewise, the Engineer must inform other crewmembers of defective equipment prior to train movement.
3. Both the Conductor and the 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.

### **306 BRAKEMEN**

1. Head and Rear Brakemen: The Head Brakeman will work under the direction of the Engineer and Conductor and will assist the Engineer in all of their duties. The Rear Brakeman will work under the direction of the Conductor and will assist the Conductor in all of his duties.
2. The Brakeman's duties are as follow:
  - a. Couple and uncouple cars
  - b. Connect air hoses
  - c. Apply and release hand brakes
  - d. Set switches as directed
  - e. Perform terminal air tests and check the train before each departure
  - f. When possible assist in passengers loading and unloading the train
3. The Brakeman must know emergency procedures and location of emergency brake valves. He must

raise or lower retainer valves on each car as directed by the Engineer. The Brakeman will maintain radio communication with the Conductor and the Engineer.

4. A Brakeman must be stationed, on rear of every train while in motion, and be able to communicate with the Conductor and Engineer.

### **307 HEAD BRAKEMAN**

The Head Brakeman assigned to an engine will stay with the unit until:

1. It goes out of service.
2. Its work assignment is completed.
3. Or, by proper authority, they are reassigned to another task.

### **308 CAR ATTENDANTS**

Car attendants must patrol assigned cars frequently, and must inform the Conductor promptly of all irregularities or improper conduct on the train.

### **309 STATION MASTER**

The Station Master and their assistants report to and receive instructions from Railroad Management. They are in charge of the station and surrounding grounds. They will collect money for tickets, make announcements and provide for the comfort and safety of passengers.

### **310 TRAIN RUNNING SAFELY**

Crew members riding a train or engine must be aware of track grade, speed of the unit and track conditions. If the train or engine is not being handled safely or is not under control due to these or other conditions, the crew member must take immediate action to bring the train under control.

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**312 CLOSE LOOKOUT**

All employees or volunteers on an engine may assist in keeping a lookout for signals, obstructions, and dangers along the tracks. They must report these to the Engineer.

**313 MASTER TIME CLOCK**

A master time clock for the NSRW is located in the ticket office. The railroad runs on Pacific Time. The master time clock is set automatically via radio by WWV several times a day. Each day prior to train operations the operating train crew will check and set their watches to correspond within one minute of the master clock. Before the first train runs the Conductor and Engineer must compare their watches.

**314 WATCH REQUIREMENTS**

Each train crew employee shall have a watch in good working order which will not gain or lose more than one minute in a 24-hour period. The watch must display hours, minutes and seconds and have a numerically numbered face.

**-END OF 300 SECTION-**

## **RAILROAD OPERATIONS**

### **400 SAFETY**

1. In case of doubt or uncertainty the safe course must be taken; in all cases, the safest available methods must be followed.
2. Employees are responsible for their own safety. Constant presence of mind to ensure safety to themselves and others is the primary duty of all employees and they must exercise care to avoid injury to themselves and others. They must observe the condition of equipment and tools, which they use in the performance of their duties.
3. When equipment or tools are found to be defective, they must be reported to the proper authority and put in proper condition before further use.
4. Employees must observe trains closely and if anything unusual or defective is noted such as hot journal, dragging brake rigging, indication of fire, sticking brakes, sliding wheels, or any other dangerous condition, they must make every effort to call attention of trainmen and enginemen to such conditions. If the train is moving, a signal to stop must be given by hand, radio, flag, lantern or fusee.
5. As a precaution against injuries to passengers, trainmen and car attendants will use the words, "Please watch your step and use the handrails when using the steps" when passengers are loading or unloading from a train.

### **401 GENERAL ORDERS**

General Orders change, add to or annul operating rules and/or instructions. They will be issued and canceled over the signature of the Chief Operations Officer ("COO") or railroad management. General Orders will

be posted in books and/or on bulletin boards. Enginemen, trainmen, and others whose duties require, must review them before commencing each day's work or trip. When required, Conductors and Engineers on prescribed form will record the highest number of General Orders.

General Orders will be numbered consecutively beginning January 1 or each year and will be issued and canceled by the COO or railroad management and will expire with the calendar year. General Orders supersede any rule or regulation with which they conflict.

**402 MAIN TRACK AUTHORIZATION**

Main tracks must not be occupied unless authorized by proper form and authority.

**403 TRAIN ORDERS, TRACK WARRANT AND TRACK BULLETINS CONSTITUTING OPERATING FORMS**

Orders, warrants and bulletins will be issued as needed for safe train and engine movements. Engineers and Conductors operating trains or Engines will have a copy of these orders, warrants and bulletins in their possession while working on the orders, warrants or bulletins issued for their train or engines.

**404 CLEARANCES**

A train must not leave its initial station without proper clearance from the Conductor.

**405 TEMPORARY RESTRICTIONS**

Temporary restrictions will be posted as a bulletin under the signature of the COO or railroad management. Crews must look at the bulletin board before working on or moving any rolling equipment.

**406 TRACK BULLETINS**

Proper authority will issue track bulletins as required. Track bulletins will contain information on all conditions that affect safe train or engine movement.

**407 RETAINING TRACK BULLETINS**

Employees must have a copy of any track bulletins issued that apply to their work assignment or territory while on duty.

**408 TIMETABLES**

Each timetable supersedes the preceding timetable from the moment the new timetable takes affect and a General Order is posted. General Orders informing of new timetable, timetable supplements or special instructions must be posted at least 24 hours prior to the effective time. All crewmembers are required to carry or have available to them, understand and comply with the timetable while aboard their assigned locomotive and/or train.

**409 TIMETABLE CANCELLATION**

Timetable schedules are effective unless fulfilled or annulled by train orders, general order, or abolished by special instruction for the life of the timetable.

**410 TRAINS LEAVING EARLY**

A train must not leave the station in advance of its scheduled leaving time for any reason unless directed to by proper authority and orders.

**411 RULE CANCELLATION**

Rules may be issued, canceled or modified by General Order as posted by COO or railroad management.

**412 CHECKING ACCURACY**

Immediately upon receipt of operating forms, they must be carefully checked for accuracy by those addressed and then by other crewmembers. It must be known that they are properly addressed and that the clearance corresponds with the operating form received.

All crewmembers are responsible for complying with the requirements of all operating forms and reminding each other of their content. Any errors, omissions, or misunderstandings of operating forms must be immediately corrected. If crewmembers are uncertain regarding the meaning of any order, the crew must call the proper authority for a re-confirmation of the order.

**413 RETAINING OPERATING FORMS**

Operating forms must be retained and complied with on all trips made during the tour of duty upon which forms were received. At the end of the tour of duty for the crew upon which the orders were given, the crew must attach the completed operating forms to their respective reports at the conclusion of their shift and place them in the appropriate files or spot as directed by office personal.

**414 RELIEVED DURING TRIP**

When a Conductor or Engineer or both are relieved before completion of a trip, all operating forms held by them must be delivered to the arriving party. Both the arriving and leaving crew members must review and understand the transferred forms.

**415 LEFT BLANK**

## 416 RADIO RULES

Radio communications systems are under the jurisdiction of the Federal Communications Commission (“FCC”).

1. All employees, except those specifically authorized to do so, are prohibited from making any adjustments to a radio set.
2. No employee shall knowingly transmit any false distress communications, any unnecessary, irrelevant or unidentified communication, nor utter any obscene, indecent or profane language via radio.
3. Employees must clearly identify the station, train or engine and employ transmitting, or responding to, a radio communication.
4. When train or engine movements are to be made in response to radio communication, such as in switching operations, picking up or setting out cars, specific instruction must be given for each movement. When backing or shoving train, engine or cars, distance of movement must be specified and movement must be stopped in one-half the remaining distance unless additional instructions are received. If specific instructions are not understood or if continuous contact is not maintained, this must be construed as a stop signal.
5. In case of radio failure, hand signals will be used.
6. Crew members will always use train identification numbers while using radios.
7. The following example will govern radio transmissions
  - a. The initiation of a radio call. “Conductor 844 to Engineer 844.”
  - b. Response. “Engineer 844–over.”
  - c. Message. “Conductor 844 the train is secure. You may proceed to Railroad Pass–over.”

- d. Response. “Engineer 844 proceeding to Railroad Pass–out.”
- e. If the conversation was to continue the conductor and engineer will talk until one or the other is finished and signs off using the word “out”.

#### **417 REPEAT INSTRUCTIONS**

An employee who verbally receives instructions or information about train or engine movements by radio must repeat the message back to the sender.

#### **418 SIGNALS**

Employees responsible for display of signals or whose duties may require them to give signals must provide themselves with proper appliances, keep them in good order and ready for immediate use.

1. All employees must keep a constant lookout for signals. While engine is moving, members of the crew in the cab of engine must be in position to keep careful lookout in direction of movement and must give the engineer prompt notice of any hand, lantern, fusee or obstruction which may affect the movement of the train or engine. All members of the crew must be alert to receive signals from members of the crews of other trains or engines.
2. Rearview mirror must not be used for observing hand signals or conditions when making couplings or back-up movements.
3. When practicable, all signals must be given or placed on the Engineer’s side of track, but they must be respected when received from or found on either side.
4. Employees giving hand signals must locate themselves where they can be plainly seen and must give signals in such a way that they can be clearly understood.

5. Employees to whom hand signals are given must act on them promptly and properly. The utmost care must be exercised to avoid acting on signals that are not understood or may be intended for another train or engine.
6. A train or engine must not be moved in response to a hand signal which is not clearly understood or which may be intended for another train or engine until communication is made orally.
7. When backing or pushing an engine, train or cars in response to hand signals, the disappearance from view of the employee giving signals, or the light by which such signals are given, must be regarded as a stop signal except when the employee on the leading car is controlling the air brakes.
8. If specific instructions are not understood or if continuous contact is not maintained, this must be construed as a “Stop Signal”.

#### **419 COMMUNICATION SIGNALS**

All members of engine and train crews must communicate in a distinct audible or visual manner, all the signals affecting the movement of their train or engine.

#### **420 DAY SIGNALS**

Day signals must be displayed from sunrise to sunset, but, when day signals cannot be plainly seen, night signals must be used in addition.

NSRW signal movements are given in Figure A :

Figure A

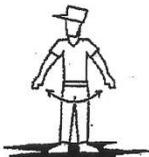
DAY (HAND) SIGNALS



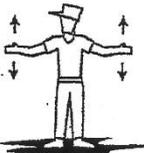
A. Come toward me



B. Go away from me



C. Stop the train  
Wave hands violently in emergency situations.



D. Easy, slow



E. Set the brakes



F. Release the brakes



G. "Highball"



H. Give me a pin



I. Red zone



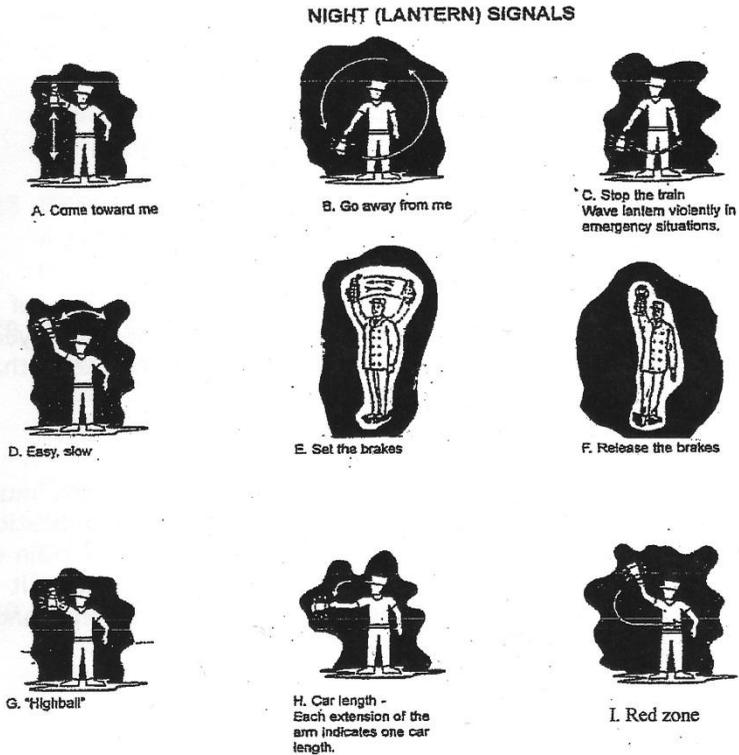
J. Car length -  
Each extension of the arm indicates one car length.

Note: All hand and lantern signals should be performed on the engineer's side at right angles to the track. Violent gestures of hand signals should be used in case of an emergency.

## 421 NIGHT SIGNALS

1. Night signals must be displayed from sunset to sunrise.
2. Lanterns must have white lights.
3. NSRW signal movements are shown below in figure B:

Figure B



Note: All hand and lantern signals should be performed on the engineer's side at right angles to the track. Violent gestures of hand signals should be used in case of an emergency.

## 422 FLAGS AND LIGHTS

Flags or lights of the prescribed color and type must be used as required by the rules by day. Lights of the prescribed color and type must be used by night. Flags may be of cloth, metal or other suitable material.

Day signals must be displayed from sunrise to sunset, but when day signals cannot be plainly seen, night signals must be displayed in addition. Night signals must be displayed from sunset to sunrise.

## 423 COLOR SIGNALS

	<u>Color</u>	<u>Indication</u>
1.	Red	Stop
2.	Green	Proceed as prescribed by rules
3.	Blue	As prescribed by Rule #431
4.	Yellow	Proceed at restricted speed

## 424 USE OF SIGNALS

A signal imperfectly displayed, or the absence of a signal at a place where a signal is usually displayed, must be regarded as the most restrictive indication that could be given by that signal.

## 425 CAB CREW AND SIGNALS

All members of the crew in the cab of engine must communicate to each other by its name the indication of each signal affecting the movement of their train or engine as soon as it becomes visible or audible. It is the responsibility of the engineer to require compliance with this rule.

**426 DISPLAY OF RED FLAG**

A red flag will be displayed at locations where trains must stop as required on a track warrant, general order, or due to other conditions. Train must stop short of red flag and may not proceed unless authorized by proper authority. If authority to proceed is received before stop is made, train may pass red flag without stopping.

**427 DISPLAY OF YELLOW FLAG**

Yellow flags warn trains to restrict movement because of track conditions or structures. To make sure train movement is restricted at the right location, employees must display a yellow flag one-half mile before the restricted area.

**428 DISPLAY OF GREEN FLAG**

A green flag indicates the end of a temporary speed restriction.

**429 FLAG LOCATION**

Flags will be displayed only on the track affected. These flags must be placed to protect all possible access to the restricted area.

Flags are generally displayed to the right of the track as viewed from an approaching train, although red flags or red lights may be displayed between the rails.

**430 OTHER SIGNALS**

Other signals may be used for other purposes, providing they are understood by all crewmembers. When not involved in giving signals, employees must avoid making motions, which might be construed as a signal.

Radios may be used instead of hand or lantern signals to convey information when the use of such signals is not practicable. While radio is being used to control movement of a train or engine, it must be understood by all crew members exactly which moves will be made under radio control and, during that time, hand or lantern signals will not be given to the engineer nor acted upon with the exception of stop signals.

Any object waved violently, at any time, by any person on or near the track must be interpreted as a signal to stop.

#### **431 FUSEES**

A train or engine finding a burning fusee on or near its track must stop before passing the fusee. After the fusee burns out, the train may then precede not exceeding 10 mph for at least the next one-half mile.

Fusees must not be placed where they could set fire to anything nor on road crossings.

#### **432 BLUE FLAG RULE**

When setting a blue flag, if possible, use an NSRW personal issue blue flag with your name on it. This will allow other crew members to know who set the flag.

1. A blue flag or blue light displayed at one or both ends of an engine, car or train indicates that workmen are under or about it.
2. When equipment is protected by a blue flag, it must not be coupled to or moved.
3. Other equipment must not be placed on the same track so as to interfere with the view of the blue signals without first notifying workmen.
4. When emergency repair work is to be done under the engine or under or about cars in a train and a blue signal is not available, a member of the crew

must notify the Engineer and protection must be given those engaged in making the repairs. Train or engine must not be moved, nor may the air brakes be applied or released until all employees are out from under or from between engine or cars and the Engineer has been so advised by the same employee.

5. Workmen will display the blue signals and only the same class of workmen is authorized to remove them.
6. 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.
7. When an engineer is asked to comply with a blue flag signal, the following actions must be taken:
  - a. Brakes applied.
  - b. Reverse in neutral position.
  - c. Open generator field switch and or control switch.
  - d. Signal the trainmen that all actions have been completed and it is now safe to work on equipment.
8. Each manually operated switch providing access to that track must be lined against movement and secured by an effective locking device. A blue signal must be placed at or near each manually operated switch or rolling equipment.

A derail capable of restricting access to the portion of track where work will be performed is locked in the derailing position with an effective locking device and positioned at least 50 feet from the rolling equipment to be protected or positioned at least 50 feet from the end of an engine on an engine servicing track where speed does not exceed 5 mph.

On the main track, a blue signal must be displayed at each end of rolling equipment.

This protection must be maintained until notified by the employee who requested it that it is no longer required.

#### **433 PERMANENT SPEED SIGNS**

Permanent speed signs, as prescribed in special instructions, will be placed one-quarter mile in advance of the point where speed restriction became effective. Figures on the face of these signs denote the highest speed permitted over the limits of the restriction. A permanent green board or a speed sign prescribing higher speed will be placed at the end of each restriction.

#### **434 TORPEDOES**

Torpedoes will not be used on this railroad.

#### **435 MOVEMENT THROUGH GATES AND DOORWAYS**

When a train or engine approaches doors or gates for entry, the unit should stop prior to the opening. You should check to make sure all doors and gates are held open securely and there is clearance for your equipment. When ready to enter, you should have a crewman on the ground signaling your movement. Crew members should not ride on the side of engines or cars when making these types of moves.

#### **436 RINGING ENGINE BELL**

The engine bell must be rung under any of the following conditions:

1. When the engine is about to move until it starts to move. Exception: During continuous switching operations.
2. When approaching public crossings.

3. When approaching a train standing on a siding.
4. When approaching a station.
5. When approaching a track gang or any other workers on or adjacent to the track.

#### **437 BELL FAILURE**

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.

#### **438 SOUNDING WHISTLE**

Engine whistle/horn signals:

1. The engine whistle or horn is a safety/warning device. The unnecessary use of the horn or whistle is prohibited.

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

2. o Apply brakes. Acknowledgement of signal to initiate air test when train is stopped and secure.
3. \_\_ Air brakes applied for test.
4. \_\_ \_\_ Proceed, acknowledgement of signal to release brakes, forward.
5. o o Answer to any signal not provided for.
6. o o o When starting, back.
7. o o o o Call for signals.
8. \_\_ \_\_ 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 or train has occupied the crossing.

9. Succession of short sounds 0 alarm for persons or animals on the track.

#### **439 HORN/WHISTLE USE**

The whistle must be sounded at all places where required by rule or law and where necessary as warning signal.

1. When weather conditions impair visibility sound the whistle/horn frequently.
2. As a warning to other employees and the public, i.e., starting and stopping.
3. As a warning when approaching a crossing or blind curve.

#### **440 HORN/WHISTLE FAILURE**

In case of whistle failure, speed of train must be reduced consistent with safety and bell rung continuously when approaching and passing through station and over public crossings.

Stop train before each public crossing so a crew member on the ground can flag crossing, unless crossing gates are in lowered position. Then, Engineer may proceed through at 5 mph

#### **441 HEADLIGHT**

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

#### **442 HEADLIGHT DIMMING**

Dim the headlight under the following conditions:

1. At stations and in yards when switching is being done.
2. At times to permit the passing of hand or lantern signals or for employee safety.
3. When an engine is left unattended.

**443 HEADLIGHT FAILURE**

If the headlight fails en route the engineer must:

1. Illuminate all other external lights.
2. Ring the bell continuously.
3. Sound engine horn/whistle frequently.
4. Reduce speed and be prepared to stop.

These restrictions do not apply if the engine has operable ditch lights.

**444 LEAD CAR WHITE LIGHT**

A white light must be displayed on the front of the leading car when cars are pushed at night, except when switching in a yard.

**445 DISPLAYING DITCH LIGHTS**

When the head unit engine is equipped with ditch lights they must be on when the headlight is illuminated.

**446 REAR CAR LIGHT**

1. Each train that occupies or operates on the mainline track shall be equipped and display on the trailing end of the rear car of that train at least one continuously illuminated marking device. This marking device shall use a color defined by the red-orange-amber color range and have an intensity of not less than 100 candela nor more than 1,000 candela as measured at the center of the beam width.
2. Marking devices shall be illuminated continuously during the period between one hour before sunset and one hour after sunrise and during all other hours when weather conditions so restrict visibility that the end silhouette of a standard box car cannot be seen from one-half mile on tangent track by a person having 20/20 corrected vision.

The centroid of the marking device must be located at a minimum of 48 inches above the top of the rail

3. When a locomotive is operated singly, or at the rear of a train, highly visible marking devices may be provided by the use of:
  - a. At least one marking device that complies with this rule; or
  - b. At least one illuminated red or amber classification light on the rear of the locomotive, provided it complies with this rule; or
  - c. The rear headlight of the locomotive illuminated on low beam.

#### **447 MARKERS**

The use of engine marker lights or caboose marker lamps are not required for operational purposes, however, markers may be used as part of the historical or character enhancement of railroad operations.

#### **448 TRAINS RUNNING IN UNSAFE CONDITIONS**

Trains and engines must be protected against any known condition, which may interfere with their safety. When conditions exist which may impair visibility or affect condition of track or structure, speed must be regulated to ensure safe passage and to ensure observance and compliance with signal indications.

#### **449 SUBMERGED TRACKS**

Trains and engines shall not be operated over track submerged in water until track has been inspected by proper authority and known to be safe. Engines must not be operated in excess of 5 mph through water above the top of the rail. Diesel locomotives are restricted to rail that has no more than three (3) inches of water covering the rail.

#### **450 PROTECTION AGAINST DEFECTS**

If any defect or condition which might cause an accident is discovered in track bridges, culverts, tunnels or if any member of a train or engine crew has reason to believe that their train or engine has passed over a dangerous defect, a stop must be made at once, flag protection provided, and proper authority notified.

#### **451 OBSERVE AND CALL SIGNALS**

Crew members in the cab of engine must be alert for and communicate to each other in a clear and audible manner the name or aspect of each signal affecting the movement of their train as soon as it becomes visible or audible. They must continue to observe signals and call any change of indication until passed. This also applies to radio signals from the Conductor, Brakemen or other crew members on your train. If prompt action is not taken to the respective signal, crew members must remind Engineer of rule requirement. The same practice is to be used on all grade crossings by calling “clear”.

#### **452 PRECAUTIONS FOR COUPLING AND MOVING**

Before coupling to or moving cars or engines, it must be known that they are properly secured and can be coupled and moved safely.

#### **453 LOCOMOTIVE STANDING UNATTENDED**

When a locomotive is standing unattended, equipment and controls should be positioned as follows:

1. Throttle in “Idle”.
2. Reverse lever in “Neutral”, handle removed and secured.
3. Generator field switch open or “Off”.
4. Selector switch open or “Off”.
5. Independent brake fully applied.

6. Automatic brake valve reduction of 20 psi.
7. Hand brake set.

#### **454 REPORTING ENGINE DEFECTS**

The Engineer shall report any defect of the engine on the daily inspection form that is provided for that purpose. If a relieving Engineer is assuming duty he must also be informed of defects. Engineers must report all defects which threaten either the safety of the passengers and crew or the structural or mechanical integrity of the locomotive.

#### **455 CONDITION OF AIR BRAKES**

Engineers, Conductors and Trainmen are jointly responsible for the condition of all air brakes on locomotives and cars to the extent that it is possible to detect defective equipment by required air tests. Trainmen should carry spare glad hand gaskets with them and change bad gaskets when necessary.

#### **456 YARD LIMITS**

Yard limits will be designated in special instructions and/or the limits will be indicated by 'Yard Limit' signs. When in yard limits, the main track may be used without providing protection against other trains and engines.

#### **457 LEFT BLANK**

#### **458 AVOID STOPPING**

Avoid stopping within any controlled zone so that unnecessary operation of the signal is avoided.

#### **459 FLAGGING A CROSSING**

If you approach a crossing that has automated crossing gates that have failed, or a public crossing that is not protected you must flag the crossing prior to occupying the space. The following procedure should be used to flag the crossing.

1. Stop the train a minimum of one car length prior to the crossing.
2. Put a crew member on the ground to stop all road traffic. By day the crew member should have a red flag or stop paddle. By night the crew member should have a white lantern or flashlight.
3. After all road traffic has been stopped the crew member should signal the engineer to proceed into the crossing.
4. Once the train is clear of the crossing the crew member should give the engineer a stop signal, board the train and proceed.

#### **460 ENGINE UNCOUPLING FROM A TRAIN**

When an engine is to be uncoupled from a train, the Engineer must stop the train and take a 20 pound brake pipe reduction. After the reduction they will set the valve to the lap position. The Engineer will then give one whistle blast to indicate the brakes have been set. The Brakeman at that time should close the angle cock on the engine to cut off the airflow to the cars. When the Brakeman signals the Engineer to pull away from the train the Engineer can release the automatic and independent brakes and uncouple the engine. After the air has escaped from the air hose the hose should then be secured. Remember, we do not bottle the air on the NSRW.

**461 UNCOUPLING AND COUPLING ENGINES**

Before a movement can be made by an engine that has coupled to cars or a train sufficient time must be allowed for the air to charge the airbrake system.

**462 WHEEL FLAT SPOTS**

Locomotive or cars having one or more flat spots that are 2 ¼ inches in length or adjoining flat spots of more than 2 inches, must be set out at the first available point. Speed must not exceed 10 mph to the set out point.

**463 TRAIN HANDLING**

The rules herein set forth are the basic requirements essential to the proper handling of trains. Train handling involves many factors that command attention, obedience to the rules, and the exercise of good judgment.

1. When two or more locomotives are coupled in a train, the brakes must be operated from the lead locomotive. The brake pipe cut-out cocks on all other locomotives must be closed and the brake valve handles placed in proper position.
2. When two or more locomotives are coupled to the head end of a train, the leading locomotive should be used to start the train. The second locomotive must not be used except when necessary and/or second locomotive is of higher rated horsepower. The second locomotive can then be used to start the train. After train has moved 200 feet, the lead locomotive may then apply power.
3. When it becomes apparent to lead Engineman that the air brakes must be applied and time and conditions permit, he will notify trailing Engineer by radio, in advance of brake application to enable those Engineers to reduce locomotive throttle to idle. Engineer on trailing locomotive

will give close attention to respective air gauges, and in the event of an emergency brake application, control brake cylinder pressure on their respective locomotives to prevent wheel sliding.

4. No attempt should be made to start train before all brakes are released. When starting a train, the locomotive speed must be kept slow and uniform until it is known that entire train is moving. In case of doubleheader, power must not be used by second locomotive until all slack in train has been stretched by leading locomotive or Engineer on leading locomotive has given signal for assistance.
5. When necessary to take slack in a train, it should be taken either from only one or two cars or the entire train. When ascending grade is sufficient to cause train to roll back, the automatic brake must be applied and power must be used to bunch slack, after which brakes must be released and forward movement immediately started before slack is lost again.
6. When starting a train on a descending grade, locomotive speed must be kept slow and uniform by use of independent brake until it is know the entire train is moving.
7. Engineer must frequently observe air gauges, not only when brakes are being used but to know that brakes and air system are functioning properly.
8. Train crew must frequently observe brake pipe pressure as indicated by caboose gauge or such gauges on passenger equipment while trains are running. If pressure cannot be sufficiently maintained, the train must be stopped to recharge the air brake system and the cause for low pressure must be ascertained and corrected before proceeding.

9. Engineer will be held responsible for overheating or sliding wheels of locomotive in his charge.
10. When a locomotive or train does a quick stop at a station or other location, the Engineer must perform the following steps:
  - a. Set air brakes. 20 pound reduction
  - b. Put reverser handle in neutral.
  - c. Open the generator field switch.
  - d. Make one blast of the engine whistle to indicate that brakes are set and it is safe to load and unload passengers.

#### **464 RUNNING BACKWARD**

1. When shoving a train, the brakes must be operated by the Engineer when hand or radio signals can be transmitted from rear end of train. If hand or radio signals cannot be transmitted from the rear of train, a brake hose and valve must be in place and able to be used by the Brakeman to stop the train.
2. In making a service stop with train moving backward, with a locomotive on head end only, the locomotive brake must be kept released and slack kept bunched by working power until stop is made.
3. When a train is to be shoved with a locomotive at rear of train, control of brakes must be transferred to rear locomotive before movement is started. The brake valve cut-off must be closed on all locomotives except the one from which the brakes are to be operated.
4. In shoving moves a Brakeman must ride in the back end of the train.

## **465 BRAKING PASSENGER TRAINS**

1. When braking passenger trains, throttle must be reduced to Run 4 or lower before initial brake pipe reduction is made, and throttle must be reduced further as speed decreases, grade conditions permitting. Locomotive brakes must be allowed to apply on succeeding brake pipe reductions. Every effort must be made to stop with minimum possible pressure in brake cylinders.
2. When reducing speed of passenger trains for curves, where operating conditions permit, the required reduction in speed should be made before reaching curve, releasing brakes on entering curve and permitting train to move around curve with brakes released.
3. Stopping passenger trains by use of locomotive independent brakes alone is prohibited. Exception to this rule, during a Terminal Air Test when the train is doing a roll by the independent brake should be used.
4. Air must be cut in and automatic brake used when switching passenger train cars, except that independent brake may be used when making couplings. Engineer must use care to avoid rough handling.
5. When a passenger train is receiving or discharging passengers, a train or engine must not pass between it and the station unless proper safeguards are provided.

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

#### **466 BRAKING FREIGHT TRAINS**

1. When making a service stop or reducing speed of a freight train, initial brake pipe reduction must be made, after which sufficient time must be allowed for proper adjustment of slack in train before further brake pipe reduction is made.
2. After initial brake pipe reduction is made, throttle must be reduced gradually as speed of train decreases.
3. When train has reached point where it is evident it will stop within the next forty (40) feet, a further brake pipe reduction must be made of sufficient amount to have air exhausting from automatic brake valve, throttle must be closed, and independent brake fully applied on the locomotive head end as train comes to stop.

#### **467 TRAIN PARTED**

If a train parts while running, forward portion must be kept moving if possible until rear portion has stopped. After stopping, angle cock at rear end of forward portion of train must be closed and air brake system promptly recharged.

**Exception:** When necessary to replace knuckle or perform any work under or between separated portions of train, angle cock on both portions of train must be left open until work is completed and train is ready to be moved or recoupled. Hand brakes must be applied on both portions of train to extent necessary if standing on a grade.

#### **468 ROAD INSPECTION OF TRAINS**

1. Members of the crew on the engine must look back frequently, especially while rounding curves and approaching sidings, to observe the condition of their train and signals from trainmen.

2. On freight trains approaching a sidings, members of the crew on the rear of train must observe both sides of their train and if everything is all right, signal the engineer to proceed, if practicable.
3. When practicable, while train is in motion, frequent inspection must be made of track from rear of train for evidence of derailed or dragging equipment.
4. If time permits at stops, walk around and roll-by inspection must be made, giving particular attention to running gear, brake and draft rigging, loose doors, shifted loads, overheated journals or any unsafe condition. Walking inspection must continue until entire train has been inspected or until movement starts.
5. When a stop is made by a passenger train due to some condition affecting the equipment of that train, a thorough inspection of the train must be made before proceeding.

#### **469 GOOD SWITCHING PRACTICES**

Train switching must be performed promptly and efficiently and in a manner, which will avoid personal injury, damage to lading, equipment, structures or other property. No couplings will be permitted in excess of four (4) mph.

The following applies to road work as well as switching in yards:

1. Switching movements must be done in a careful manner to avoid severe shocks by sudden starting or stopping.
2. Violent signals must not be given except in cases of emergency or to avoid an accident. Move locomotives and cars when switching so that violent signals will not be necessary.

3. Use “reduced speed” and car length signals, when shoving into a coupling or to the end of a track, etc.
4. Switch with as few cars as practicable.

#### **470 HANDLING CARS AHEAD OF THE ENGINE (SHOVING MOVEMENT)**

1. When cars or a dead engine are being shoved a crew member must ride on the end of the lead unit. They should be in visual communication with the engine crew and given the appropriate signals to control the movement of the train. Any shoving movement must be made at restricted speed. You must stop at all crossings not protected by an automatic signal, and a train crew member must flag the crossing. At night he must display a white light.
2. The Conductor or other qualified trainman may act as lookout/spotter on shoved end of a train.
3. Before starting movement the Conductor or Brakeman will communicate with the Engineer that everyone is completely clear and movement may begin.
4. Everyone will check radios and hand signals so that on blind curves information can be conveyed to the Engineer.
5. Under no circumstances will the spotter leave his/her post without a) stopping the train and b) clearly communicating with the Conductor and Engineer that another qualified person is on lookout.
6. When shoving cars, it must be known that there is sufficient track to hold the cars.
7. Cars must not be shoved out to foul other tracks unless an authorized employee is protecting the movement.

8. Before shoving cars, the cars must be coupled and slack stretched to ensure that all couplings are made.

#### **471 COMMUNICATION BETWEEN CREWS**

Where engines may be working at both ends of a track, or tracks, there must be a clear understanding of the movements being made so the crews can avoid injury or equipment damage.

#### **472 UNSAFE SPEED**

If the Engineer fails to control the speed of an engine or train in accordance with signals indicating a restriction of speed, posted or written speed limits, other crewmembers must take action to insure safety of the train.

#### **473 PASSING TRAINS**

1. Employees should observe all 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.
2. Employees noticing such defects will give stop signals and when communication with proper authority is possible notify them of such defects. If nothing irregular is noted employees observing train or defects will give proceed signals to the rear of passing trains.
3. When passing other trains and points where roadway men are working, train and engine crews must be on lookout for signals and when practicable, exchange signals.
4. Roadway and other employees observing passing trains for defects will spread themselves, when practicable, to both sides of passing trains.

5. Employees must keep 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. When practicable when leaving stations and at every opportunity on the road, crew members must carefully inspect the train for defects.
6. While train is moving frequent inspection of the track from rear end must be made for evidence of derailed or dragging equipment.
7. 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 note condition of train.

#### **474 PUBLIC GRADE CROSSING PROTECTED BY AUTOMATIC CROSSING SIGNALS**

1. At public grade crossings protected by automatic crossing signals, bells, or gates, the activation points for those circuits controlling these signals will be designated by:
  - a. A sign or post lettered 'CC',
  - b. Yellow joint bars; or
  - c. Yellow stripes painted on the inside and outside of the rail head, base, and web of both rails.
2. Every effort must be made to avoid unnecessarily occupying controlling circuits or leaving switches open with the controlling circuits.
3. When a train, engine or switching movement has been delayed or stopped within 500 feet of a public grade crossing protected by automatic crossing signals, bells, or gates, any further movement, either forward or reverse, toward the crossing must be made at restricted speed until it

is determined that the crossing signals are operating for sufficient time to stop highway traffic. In case the crossing signals are not operating for the movement, crossing must be protected by a member of the crew.

#### **475 PUBLIC GRADE CROSSING NOT PROTECTED BY AUTOMATIC CROSSING SIGNALS**

1. At public crossings not protected by automatic crossing signals or when such signals are not in operations, a member of crew must act as crossing watchman under the following conditions:
  - a. When cars are pushed over such crossing, except when movement is under control of an employee on leading car with back-up hose and valve in place.
  - b. When cars are switched over such crossings.
  - c. When cars standing at or near such crossing are to be coupled to.
  - d. When a road engine switching at stations or moving in yards is to back over such crossing.
2. The employee protecting such movements must remain on ground ahead of movement until front of movement has passed over the crossing.

#### **476 FLAG PROTECTION**

1. When a train is moving under circumstance in which it may be overtaken by another train on the same track behind it, a member of the crew must drop lighted fuses at proper intervals and take such other action as may be necessary to ensure full protection.
2. When a train stops, except when clear of the main track, a member of the crew must go back immediately with flagman's signals a sufficient distance to ensure full protection. Front of train

must be protected in the same way when necessary.

3. Note: *Flags and vests are found in either the engine or caboose of NSRW trains.*

#### **477 FLAG PROTECTION RESPONSIBILITY**

1. Conductors and Engineers are responsible for protection of their train, and when protection is necessary, they must see that it is provided with utmost promptness and in strict accordance the rules.
2. Other duties must not be permitted to interfere with the protection of a train.
3. When a train requires protection, the Engineer must immediately sound appropriate whistle signals. Inability to hear these signals does not relieve members of the crew from protecting their train.
4. When a train is flagged, flagman must give the Engineer a through explanation of the cause for the flagging and the Engineer will be governed by those conditions.

#### **478 SECURING CARS**

1. A sufficient number of hand brakes must be set to hold cars standing on any track. If brakes are inoperative wheels must be blocked.
2. When track is on a grade, hand brakes must be set, and when necessary, wheels must be blocked and cars coupled together, to keep the equipment from moving.
3. In setting brakes on cars on a grade, brakes must be set on low end of the cut of cars and slack must be bunched to know cars will stand when engine is cut off.

#### **479 MOVEMENT IN YARD OR ON OTHER TRACKS**

1. Engines or trains approaching leads in terminal yards must stop before fouling lead unless it is known that switches are properly lined and lead is clear.
2. Starting a train movement from a yard track to an out of yard track, a crew member will direct the movement to a route that is known to be clear.
3. Before a light engine starts out of yard track, Engineer must know that switches are properly lined and route is clear.
4. All engine movements in engine house area must stop before fouling adjacent track or lead until proceed signal is received from employee at the first switch to be used. Proceed signal must not be given for movement unless it can be seen there is no conflicting movement.

#### **480 TRACK SWITCHES**

1. Switches will be operated by qualified NSRW crew members only.
2. Switch stands will not be thrown or reset while rail equipment is moving through the switch or is standing over the points .
3. When a person throws a switch and the move is to commence, the Brakeman shall step back at least five (5) feet from the stand while the move is made and shall not touch the stand again until the traveling train, or track vehicle clears the switch.
4. If the switch stand is equipped with a lock or hook it must always be slung in the lock loop during a switch move.
5. Switch stands must be locked, if equipped, at all times except during switch operations.
6. During switch operations all Brakemen must visually check the points for proper contact and alignment. Points that do not make contact or

leave gaps are a hazard. Such conditions must be reported immediately for repairs before further switch moves can be made.

7. In the event that a switch has been run through against the points, the switch cannot be used in any direction until repairs have been made or the points are spiked and the gauge of the points is checked. Immediate reporting is necessary and protection of traffic is required. If there is a delay in reporting a run through switch, measures must be taken to protect the switch from future traffic moves by either a flagman being posted or a red flag being placed.
8. Members of the crew on the engine must keep in mind the location of switches at all times and, when practicable, must see that switches near the engine are properly lined.
9. Switches must be left in proper position after they have been used.
10. Unless otherwise provided, the normal position of a main track switch is for main track movement and it must be lined and locked in that position except when changed for immediate movement.
11. During switching operations, an unattended main track switch must not be left open unless it is known that no other train or engine will pass over the switch.
12. A main track switch must not be left open for a following train or engine unless a member of the crew of such train or engine or an employee assigned to handle switches will restore the switch to normal position.
13. A main track must not be fouled until the main track switch has been opened. A train or engine leaving a main track must clear the main track before stopping for the trainman who is to restore the switch to normal position.

#### **481 SPRING SWITCHES**

1. Spring switches are indicated by a letter “S” on the switch target.
2. When a train or engine stops before completing movement through a spring switch, the switch must be lined by hand before making a reverse movement or before taking slack.
3. For movement through a spring switch where the locomotive does not precede cars, the switch must be operated by hand.
4. Trains and engines using any track other than the main track must be prepared to stop short of a train, engine, obstruction or a switch not properly lined.

#### **482 CROSS-OVER SWITCHES**

Both switches of a cross-over must be opened before a cross-over movement is started and the movement through the cross-over must be completed before either switch is restored to normal position.

Both switches of a cross-over must be left in normal position after having been used. A switch of a cross-over must not be unlocked or lined for cross-over movement while a train or engine is closely approaching or passing on the other track.

#### **483 DERAILS**

Employees in train and engine service must keep in mind the location of derails at all times and must be on the lookout for portable derails on tracks being repaired. Engines and cars must not be permitted to pass over derails in derailing position.

All derails must be kept locked in derailing position when not being used, regardless of whether there are cars on the track they are protecting. Derail equipped

with switch stand must be kept locked in non-derailing position while movements are being made over them.

#### **484 HIGH STAND RIGID SWITCHES**

1. Observe switch points for any obvious obstruction, including spiked switches.
2. Position yourself at the switch, clear of arc or line of travel of handle, and remove keeper or lock.
3. Before throwing, place one hand on the target staff.
4. With the other hand, take a full grasp at the end of the switch handle.
5. Have feet approximately shoulder width apart, firmly on the ground with one foot placed slightly ahead of the other.
6. Keep back as straight as possible and legs bent, and with a steady pull, lift the handle out of the holder slot, using your legs and not your back. Make sure you stand back far enough from the switch stand handle so when you lift the handle out of the holder the handle (if under pressure) does not spring up and hit you.
7. 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.
8. 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.
9. 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.

10. 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.
11. Never kick or otherwise use your feet to move switch handle.
12. Always report hard to throw switches to proper authority.
13. Weather hot or cold can produce large forces in a switch. Use caution when lifting a switch handle from a locking position. The load may jerk the handle out of your hand.

#### **485 MAIN TRACK SWITCHES**

The normal position for a main line track switch is lined and locked for movement on the main track. A switch connecting any track except main line tracks to siding is lined and locked for movement on the siding. Derails should be lined and locked in derailing position except when being used.

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.

#### **486 CLEAR OF MAIN TRACK SWITCHES**

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

#### **487 SWITCH INSPECTION**

Employees lining switches must see that the points fit properly and that switches are lined for the 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 it must be reported to the proper authority immediately. The switch can not be used until it is repaired and put back in service.

**488 SWITCHES WITH LOCKS OR HOOKS**

Main track switch locks found defective or missing must be reported to the proper authority and replaced immediately.

**- END OF 400 SECTION -**

## **AIR BRAKE RULES**

### **500 ENGINEER TAKING CHARGE OF A TRAIN**

When taking charge of a locomotive, the Engineer must know that the air brakes are operative with all cylinders cut in, or in compliance with rule number 509.

### **501 TERMINAL AIR BRAKE TEST**

Each train must be inspected and air tested as specified in this rule by a qualified person at points:

1. Where the train is originally made up (initial terminal).
2. Where an engine or train consist is changed.  
(See procedure 703)

### **502 LEFT BLANK**

### **503 AIR BRAKES ON PASSENGER EQUIPMENT**

After coupling or uncoupling passenger equipment you must have all air brakes cut in and tested before movement. Once movement begins, a running air test needs to be performed to make sure the brakes are working and you are in compliance with rule number 509.

### **504 BRAKE PISTON TRAVEL**

At the initial terminal air brake test, piston travel of body mounted brake cylinders with a 12 inch stroke which are less than three (3) inches or more than nine (9) inches must be adjusted to seven (7) inches.

During static brake testing, Conductors and Brakemen must take note of excessive travel on brake pistons of over eight (8) inches and brake shoe thickness of less than 5/8 of an inch. Any defects must be reported in the daily trip report and if necessary verbal reporting to

the mechanical supervisor for further inspection and possible repair.

### **505 RUNNING TEST REQUIREMENTS**

A running test of air brakes on all trains must be made at the following locations.

1. When leaving the point where locomotive was added to or detached from train.
2. When leaving the point where cars were added or detached from the train.
3. When engine crew or train crew has been changed.
4. Before any outbound train leaves the summit of steep grades or at points designated by special instruction.

### **506 RUNNING TEST PROCEDURE**

Test must be made as soon as speed of train is sufficient to prevent stalling. The following procedure will govern running air brake test:

1. While using sufficient power to keep train stretched, apply train brakes with enough force to ascertain whether or not train brakes are operating properly. Locomotive brakes must be kept released when performing a running air brake test. If train brakes are operating properly, brakes must be released and train may proceed.
2. If train brakes are not operating properly train must be stopped and an inspection made to determine the cause and the problem must be corrected before train is allowed to proceed. In this case, engineer must inform proper authority that there is a brake problem.

### **507 USE OF ENGINE BRAKE PROHIBITED**

Except in case of emergencies, running a light engine or performing a terminal air brake test, the use of engine brake is prohibited. Limited exceptions do apply. See rule 518.

### **508 EMERGENCY APPLICATION**

When a train is stopped with an emergency application of the brakes, whether from the engine or at an emergency rate of reduction from the train, the Engineer will not move the locomotive until informed by a member of the crew that an inspection of the entire train has been completed and that it is safe to do so, except in such cases when a bridge or other obstructions prevent crew members from walking the length of the train. In such a case, the portion of the train that can be inspected must be inspected, and at such point the train can be moved then stopped clear of the obstruction, the remaining portion of the train must be inspected. When moving the train under such conditions it will not be moved at a speed any faster than 4 mph.

If the brakes on the train are applied in emergency from any source, the Engineers brake valve must be moved to emergency position and left in this position until the train has stopped and the equalizing reservoir pressure has vented to zero psi. Wait one to two minutes, then place the train brake into the lap position. Once the problem has been located and corrected, the Conductor or Brakeman shall contact the Engineer and notify them the problem has been fixed. At that time the Engineer may put the train brake in the release position.

The Rear Brakeman's emergency brake valve located in the caboose must not be used except in case of an

emergency. If an immediate stop is necessary the valve must be fully opened to the position marked “APP” and left open until the train has come to a complete stop. Notify the train crew that you have opened the valve and give the reason why. Do not close the valve until you are asked to do so by the Engineer or Conductor.

#### **509 DEFECTIVE BRAKES**

Each train must have operative air brakes on 80% of the cars in the consist while running except in case of failure en route. Failure must be promptly reported to mechanical department.

#### **510 STOPPING THE TRAIN**

When a train has arrived at either end of a trip and before the locomotive is uncoupled from the train, the engineer must stop the train at the prescribed spot and make a 20 psi. brake pipe reduction. The Engineer will blow one whistle blast. After the whistle blast the Engineer must put the automatic brake valve in the lap position until the Conductor or Brakeman has closed the angle cock at the uncoupling end of the locomotive. **Bottling the air is prohibited and is in no case allowed on this railroad.**

As the engine is waved off, the Engineer can release the automatic brake and the Conductor or Brakeman shall allow the brakes on the standing portion of the train to apply into emergency. If provided, chains and/or dummy couplings shall be connected to the unused locomotive or car air hose glad hand to prevent damage.

**511 CHARGING BRAKES**

Before any locomotive which has been uncoupled and recoupled to its train can move, sufficient time must be allowed for the air to charge the air system and a terminal air brake test must be performed.

**512 SETTING HAND BRAKES**

If any rail cars or rolling stock are to be uncoupled from a locomotive, sufficient hand brakes must be set to keep the equipment from rolling. If necessary, wheel chocks should be placed on the downhill side of the equipment.

**513 MOVING CARS WITH AIR BRAKES CHARGED**

Unless under special orders or conditions, all rolling stock shall be moved with air connected to the brake systems and the system charged at all times.

**514 RELEASING HAND BRAKES**

At no time shall rolling stock be moved with hand brakes applied.

**515 STANDING CARS**

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.

**516 DOUBLE HEADING**

When two engines are coupled together to pull a train, the second engine shall cut out the train line valve and the lead locomotive shall control all braking needs. The lead locomotive is also the 'controlling' locomotive in regard to train handling and speed.

**517 BRAKE PIPE LEAKAGE**

Brake pipe leakage shall not exceed 5 psi drop per minute for a 20 pound application made.

**518 INDEPENDENT AIR BRAKE**

When a train is made up the independent brake should not be used to stop the train by itself. It should be used in conjunction with the automatic train brake.

**- END OF 500 SECTION -**

## **VOLUNTEER INFORMATION AND GUIDELINES**

### **600 MUSEUM MISSION STATEMENT**

The Nevada State Railroad Museum is a cultural resource dedicated to educating visitors and the community about Nevada railroad history. This mission is accomplished through the collection, preservation and interpretation of significant locomotives, rolling stock, artifacts, photographs and memorabilia directly related to railroads and railroading in Nevada. In addition to static exhibits, select pieces of equipment in the collection are restored and operated throughout the year to demonstrate steam and early gasoline technology and provide visitors first-hand experience with railroad history through the sights, sounds and sensations of a train ride.

### **601 THE VOLUNTEER PROGRAM**

The Museum values the volunteer program and what volunteers have accomplished. Opportunities abound to participate as much or as little as you like in numerous Museum activities and goals such as:

1. Scheduled and special train runs
2. Santa Train
3. Special events
4. Conduct tours for visitors and school children.

### **602 THE REWARDS AND BENEFITS OF VOLUNTEERING**

Learn more about Nevada's railroads, past and present.

Enjoy the camaraderie of others who share your interest in trains and history.

### **603 REQUIREMENTS FOR VOLUNTEERS**

As a volunteer for the Nevada State Railroad Museum please:

1. When volunteering for work always confirm the date and time with the scheduler of Museum services.
2. Report to the Museum Volunteer Coordinator for your assignment.
3. If for any reason you cannot report for work at your assigned time, please inform the Museum Volunteer Coordinator as soon as possible.
4. Should a member of the public ask you a reference or research question, please refer them to a staff member, if you do not know the answer. It is better to say "I don't know, but I'll find out for you," than to give an incorrect answer.
5. All rules and regulations apply both to employees and volunteers.
6. This is a public service organization. Please act and dress accordingly.
7. Consult with the Museum staff for clarification of any job related matter.
8. Any on-the-job injuries must be reported immediately to a Museum staff member.
9. Should you wish to change your work assignment contact the Volunteer Coordinator.
10. Wear your Museum volunteer badge while working and when attending museum functions. The museum provides you with your volunteer name badge.
11. As a volunteer you might choose to incur some out-of-pocket expenses. For example, you might enjoy dressing up in 'railroad' clothes, or perhaps you would benefit from wearing 'safety shoes' while at the museum. Gasoline expenses would be incurred if you choose to run museum errands as part of your volunteering. Generally, out-of-

pocket expenses are voluntary so as not to preclude anyone from volunteering.

12. Volunteers can deduct mileage for travel to and from the Museum, as well as most work clothes and uniforms from their yearly income taxes. Check with your tax professional to make sure you are eligible. This does not hold true for days you are paid to work.

#### **604 TEN COMMANDMENTS FOR VOLUNTEERS**

1. Understand the job you undertake
2. Accept training appreciatively and contribute your own experience.
3. Match your interest to the needs about you and the job.
4. Serve faithfully and report new insights about your work.
5. Discover how your job relates to the total program.
6. Open yourself to opportunities for growth in skill, self-confidence and responsibility.
7. Value your special two-way role as community liaison.
8. Contribute to supervision by self-evaluation and a willingness to ask.
9. Give loyalty to your organization and its program.
10. Take pride in the volunteer career—it pays handsomely in treasures of the spirit.

#### **605 ETHICAL STANDARDS FOR MUSEUMS**

1. American museums are organized for public trust that holds their collections and information for the benefit of those they serve. With this organizational principle comes serious responsibilities for museum trustees, staff, and volunteers, who by virtue of their commitment to

the museum are committed to serving the interest of the museum's beneficiaries—the public.

2. Ethical standards for museums have been broadly established for the field by the American Association of Museums and are elaborated in codes of ethics adopted by individual museums. *The Code of Ethics for Museums* adopted by the AAM in 1991 delineates ethical standards in three areas, governance, collections, and programs. The code states that “loyalty to the mission of the museum and to the public it serves is the essence of museum work, whether volunteer or paid
3. Volunteers must understand and clearly abide by these policies, which generally prohibit them from:
  - a. Receiving compensation (fees, gift, favors, or other things of value) for duties as a museum volunteer. This restriction also applies to members of the volunteer's immediate household.
  - b. Violating the confidentiality of privileged information related to museum activities.
  - c. Using museum property, materials, or supplies for anything other than museum business.
  - d. Engaging in any outside activity that might result in a conflict of interest—actual, potential, or perceived.
4. Conflict of interest is an especially critical concern for volunteers. According to the AAMD code, “no individual may use his or her position in a museum for personal gain or to benefit another at the expense of the museum, its mission, its reputation, and the society it serves.” When a volunteer's personal or professional loyalties might conflict—or give the appearance of

conflict—with the museum’s interest, the potential for conflict of interest exists.

5. The volunteer:
  - a. Understands and supports the purpose, structure, and policies of the institution or organization and of the related volunteer group.
  - b. Offers the use of his or special skills or experience.
  - c. Conducts himself or herself in accordance with the standards of conduct and ethics of the institution or organization.
  - d. Complete any orientation, training course or on-the job-training required.
  - e. Endeavors to be flexible in accepting assignments, performs assigned responsibilities willingly and courteously to the best of his or her ability, and accepts the guidance of his or her manager or supervisors.
  - f. Complies with the time and dress requirements of the institution or organization.
  - g. Obeys all security and safety rules of the institution or organization.
  - h. Respects the confidentiality of sensitive or proprietary information.
  - i. Provides timely notification to his or her supervisor or manager of absence or termination.
  - j. Serves as a good will ambassador generally and a communicator of the role of the institution in the community.

## 606 LIABILITY

1. VOLUNTEERS ARE SUBJECT, LIKE ALL OF US, TO LEGAL RESPONSIBILITY FOR THEIR ACTIONS.
2. In the State of Nevada, a volunteer would be found liable if she/he was found to have made a major mistake which would constitute gross negligence or intentional misconduct. Legislation passed by the Nevada State Legislature in 1987 was aimed at easing the liability burden faced by volunteers by making it more difficult for someone to prove successfully that a volunteer is legally liable for civil damages. NRS 41.485 limits liability to an act which is intentional, willful, wanton or malicious.
3. However, this legislation does not:
  - a. Prevent volunteers from being sued.
  - b. Eliminate the need for insurance.
  - c. Eliminate the need for good volunteer management.

If you need more detailed information about the State insurance, please see the Museum Director.

END OF 600 SECTION

## **RAILROAD PROCEDURES**

### **701 EMERGENCY RESPONSE PROCEDURES**

These procedures are intended to be strong guidelines but **be sure that common sense is used** to interpret the intent of these procedures. To aid in the interpretations, keep in mind that the order of priorities is: 1) Safety of passengers and crew first, 2) equipment and railroad property second.

**When contacting Emergency Services**, please follow the procedure outlined as closely as possible since these procedures have been coordinated with Boulder City Fire Department and with the Boulder City Police Department (“Emergency Services”). Emergency responses will be divided into six general categories: 1) Medical emergencies, 2) Fire (smoke), 3) Uncooperative passengers, 4) Obstruction problems, 5) Mechanical problems, and 6) Observed (from the train) problems. For all emergencies, it is the responsibility of the Conductor to direct train crew actions, and to contact and coordinate with Boulder City emergency services.

#### **1. Contacting Emergency Services.**

If the Conductor does not have a cell phone, it will be necessary to borrow one from a crew member or from one of the passengers, or via the radio have one of the other crew members contact Emergency Services. The train crew must call Emergency Services, even if some of the passengers have already called 9-1-1, since only the train crew can give accurate information as to the rendezvous location.

- a. The following locations have been selected as potential places for the emergency crews to meet the train. It is the responsibility of the conductor to select the best location

(including the possibility of stopping the train at the current location) and convey that selection (both by Location Designation Letter and by verbiage) to the Boulder City Emergency Response Center. Please remember that the direct line to the Boulder City Emergency Response Center is not available to the general public, should not be shared, and should be used only for train emergencies as defined in the next section. Cards with emergency telephone numbers and a map of emergency rendezvous Location Designation Letters will be issued to crew members.

- 1) Location A, the Station. This is the preferred meeting point, if possible. It has the best access.
- 2) Location B, Veteran's Memorial Drive. Stop the train on the west side of the bridge. There is dirt road access from near the Veteran's Facility to the north side of the tracks.
- 3) Location C, reserved for future use. There are plans for trail development in the area that may provide for a good rendezvous point in the future. For now, do not use this designation.
- 4) Location D, Railroad Pass Casino. Stop the train with the last car just clear of the cut. There is vehicle access from the casino parking lot. At this location, you are no longer in Boulder City. Boulder City Emergency Response Center will handle calls to this location, but may have to transfer responsibility to Henderson.

- b. Contacting Boulder City Emergency Response Center. The Boulder City Dispatch Center at the Police Department is the communications center and 9-1-1 emergency response center for police, fire and public works. Boulder City has enhanced 9-1-1, which is a direct line and displays the caller's information when a landline is used. When calling Emergency 9-1-1 from a cellular phone, however, the call usually goes to the Las Vegas communications center, which then reroutes the call to the appropriate emergency provider. This call routing can add additional time to the response time of emergency personnel. It is therefore recommended one of the following procedures is used:
- 1) When calling from the train via a cell phone, dial the direct line to the Boulder City Dispatch Center, 293-9258. Then follow the voice prompts to talk to the dispatcher.
  - 2) If personnel are available at the railroad station, contact them via radio and have them contact the Boulder City Dispatch via a land line.
  - 3) Utilizing the Location Designation Letters (defined in section 1) identify which of the four accessible areas of contact will be used. A corresponding map will be part of the Emergency Response Procedures Policy for the railroad and will be included in the Fire Department's Response Plan.

- 4) If it is necessary to contact 9-1-1 via a cell phone, when you get the Las Vegas 9-1-1 Metro Communications Center, you need to tell them that you have a Boulder City emergency. They will transfer you.

The Boulder City Dispatch Center will identify themselves as “Boulder City Dispatch” when they answer the phone. In addition the other two dispatch centers, Las Vegas Fire Alarm Office and Henderson Dispatch Center, will automatically transfer the caller to the Boulder City Dispatch Center once they are informed of the location of the incident.

Identify yourself as “Nevada Southern Railway Conductor [your name]”. Tell them the nature of the emergency, (Chief Complaint/Age/Gender/Medical History/Medications) and the planned meeting point (using the designation letters: “Location A, the Station”, “Location B, Veteran’s Memorial Drive”, “Location D, Railroad Pass Casino”, “train is stationary”).

If the train is stationary, try to give a best estimate of the train’s location. For example, “about a half mile east of the I-95 intersection”.

## 2. Emergency Responses.

It is the Conductor’s responsibility to determine the nature and severity of the emergency, determine whether emergency crew response is needed, and to select the rendezvous location.

- a. Medical Emergencies. The Conductor must determine whether the situation is one that requires Emergency Medical Technicians (EMT's). First aid situations are ones where a band aid is required for a cut, a persistent nose bleed, etc. When the passenger will be transported to medical attention (if any) by their family/friends in a private vehicle, provide the use of a first aid kit from that car. If the situation is unclear, err on the side of calling for help from emergency services.

*First*, radio the engineer and direct him to proceed to the closest rendezvous point (Station or Railroad Pass Casino, etc.). For example "Engineer 844, this is Conductor 844. We have a medical emergency. Proceed to the Station". The engineer must then proceed at maximum safe speed to the Station (no matter which direction the train was moving).

*Second*, contact emergency services and report the emergency. This needs to be done even if passengers have already called 9-1-1. Only the Conductor has the knowledge of what train movements will occur.

*Third*, assist the passenger. Do not attempt procedures such as CPR unless your training is current. If the passenger is mobile, taking them into the ADA car is the preferred location for meeting the EMT's. There is a bathroom; there is water, lots of room and a

tile floor. We will consider having a pad, blanket and pillow available in that car.

*Fourth*, when in radio range of the Station, contact the Station Master to prepare the platform for the emergency crew. Tell the Station Master which vestibule will be for exclusive use of the emergency personnel. The Station Master is responsible for contacting the Museum Director to inform him of the problem.

*Fifth*, prepare the train for access by the emergency personnel. Open vestibules, constrict passengers to protect the open stairs if there are not enough car attendants. Move passengers to areas away from the designated emergency vestibule. Ensure adequate access to the patient. Keep all other passengers away from the incident location—have “crowd control”. Do not be afraid of utilizing other passengers if they identify themselves as trained medical or fire personnel and request to provide assistance. Do not, however, ask passengers for assistance.

Once the train is stopped, allow the emergency personnel to board the train, and then have all other passengers disembarked (and we want to offer them the choice of re-rides on the next run or rain checks). Keep the area of the designated vestibule clear, and keep the path to the emergency vehicle(s) clear. The Captain on the responding emergency crew will request assistance if needed. Usually this is limited

to assistance with lifting a patient or equipment. Transport might require moving the passenger to the ADA car and using the side load door, the side doors of the open air car, or possibly off the west end of the 601 car.

Once the emergency crew has departed the platform, establish a run schedule for the remainder of the day and inform the train crew, platform crew, and waiting passengers of the revised schedule.

b. Fire (smoke) on the train.

*First*, radio the engineer and direct him to stop the train. Do not use the word “fire” on the radio. For example, “Engineer 844, this is Conductor 844. Stop the train. We have smoke in the 501 open air car.” The engineer must immediately stop the train, set train and independent brakes, and set the handbrake so that both the engineer and the front brakeman can assist in disembarking passengers. If the fire appears (smells) electrical in nature, the Conductor should instruct the front brakeman to shut down the HEP car.

*Second*, open vestibules and begin disembarking passengers.

*Third*, contact emergency services and report the emergency. Tell them that the train is stopped and describe as best you can the location. You have a better view of how they might gain access to the train than they have from the road.

*Fourth*, the Conductor will ensure that all passengers are off the train, then remain outside the train and organize the passengers. If the fire is small, the brakemen can try the fire extinguisher. Do not use an extinguisher on fire in a wastebasket (it tends to blow burning material from the wastebasket and spreads the fire), rather try to cover and smother the wastebasket. Do not enter any area that has significant smoke. If there are vestibules that are clear of smoke, the brakemen can open those vestibules to the street side to provide better access for the fire crew. Direct the fire crew when they arrive.

*Fifth*, contact the Station Master and advise him of the situation so that those waiting on the platform can be informed. The Station Master is responsible for contacting the Museum Director to inform him of the problem. When the fire crew has declared the train safe to board, board passengers (away from the fire damaged area). Consult with all crew to assess the damage and determine how the damaged area will be avoided—possibly just not allowing passengers into that car, or possibly removing that car from the consist (as when there is an electrical fire and it is necessary to remove that car to restore electricity to the remainder of the cars).

If the train can safely be operated with passengers, establish a run schedule for the remainder of the day and inform the train crew, platform crew, and waiting passengers

of the revised schedule. If the train will not complete its scheduled runs, the Station Master can offer refunds for the tickets being held. And we want to offer the passengers from the train the choice of re-rides on the next run or rain checks.

c. Uncooperative Passengers.

This is the most difficult category for the crew to handle. It ranges from people being loud and obnoxious to physical altercations. At no time should the crew become part of the conflict (such as by trying to separate individuals who are fighting or by arguing with people who are rowdy). The decision has to be made as to whether the situation warrants police intervention or if it is a situation that, while unpleasant, can be accommodated for the remainder of the run. For example, a loud group annoying other passengers might be accommodated by moving the passengers being annoyed to another car (do not try to move the loud group).

If the situation warrants police intervention, follow a procedure similar to that for a medical emergency.

*First*, radio the engineer and direct him to the closest rendezvous point (Station, Railroad Pass Casino, etc.).

*Second*, contact Emergency Services and report the emergency. This needs to be done even if passengers have already called 9-1-1. Only the Conductor has the

knowledge of what train movements will occur.

*Third*, as best you can remove all other passengers from the area of conflict.

*Fourth*, when in radio range of the Station, contact the Station Master to prepare the platform for the officers. Tell the Station Master which vestibule(s) will be for use by the officers—police boarding the train should not herd the offenders into other passengers. The Station Master is responsible for contacting the Museum Director to inform him of the problem.

*Fifth*, prepare the train for access by the officers. Open vestibules—conscript passengers to protect the open stairs if there are not enough car attendants. Move passengers to areas away from the designated access vestibule(s).

Once the train is stopped, allow the officers to board the train, then have all other passengers disembark. And, again, we want to offer the passengers from the train the choice of re-rides on the next run or rain checks.

Once the officers have departed, load your passengers if you are at the Railroad Pass Casino and return to the Station. At the Station, establish a run schedule for the remainder of the day and inform the train crew, platform crew, and waiting passengers of the revised schedule.

d. Obstruction Problems.

Potential obstructions, as well as, actual obstructions should be reported to the engineer. Examples of potential obstructions would be a person standing near the tracks or an ATV operating near the tracks. If the engineer can see the potential obstruction, then the engineer can adjust the speed of the train so that the train can stop before the person/ATV accidentally crosses the tracks. If the potential obstruction cannot be seen by the engineer, it is the responsibility of the brakeman who can see the situation to advise the engineer.

Actual obstructions are things such as a broken rail, large rocks on the track, people walking along the tracks, ATVs driving along (or near) the tracks, etc. The train must stop (preferably 15' or more) before the obstruction. Therefore, the brakeman (especially the rear brakeman) must maintain a sense of how long it will take to stop the train from its current speed. If the obstruction is close to the train, shorten the radio protocol to "Stop the train, stop the train, stop the train." In an extreme case use "Emergency stop, emergency stop, emergency stop." This could occur if a broken rail is not spotted until the train is very close to the break or if an ATV suddenly came across the tracks.

The emergency stop has the problem of causing injury to passengers who are standing and who either fall or bump into things, so it should be used only when the

results of the stopping are worse than those caused by the emergency stop (derail from a broken track could cause many passenger injuries; hitting an ATV could kill the driver).

- e. Mechanical Problems. These are primarily mechanical breakdown situations that do not require a response from emergency personnel. It is the Conductor's responsibility to assure the passengers of their safety (no panic) and to keep them informed as to actions being taken. If people are left to guess at the situation, they will guess the worst. Consult with all crew to isolate the problem and determine the preferred action to be taken. When possible, inform the Station Master of the situation so passengers or those waiting at the station can be informed.
- f. Observed Problem. There may be occasions when an emergency or problem is observed from the train—a brush or building fire, automobile accident, or even an ATV accident on one of the trails. Report the situation to emergency services and use the train as a marker if appropriate (as with an ATV which could not be seen from the road) to give the emergency crew the accident location relative to the stopped train.

## **702 STANDARD TRAIN OPERATION PROCEDURE**

The purpose of this rule is to set forth a standard set of operational procedures that all crew members are expected to follow when performing their train duties. By following these rules, all crew members will know what to expect from each other when working together

as a crew. In turn this will make our overall operation safer for you, our passengers, and the public.

### Start of the Day

<u>Eng. and H. Brake</u>	<u>Rear Brake</u>	<u>Conductor</u>
1. Start up the engine and the gen car following the prescribed start up procedures and perform daily inspections.	Perform daily safety checks and roll by brake test.	Open up the train and do a safety inspection.
2. When all inspections and testing have been completed and the crew members are in their proper positions the Conductor will give the Engineer permission to move the train.		
3. If taking the train to the depot, stop at the prescribed mark. Check with the Conductor to make sure the train is in a good spot for loading and unloading passengers. Once the train is set on its final mark, set the brakes and give one short blast on the whistle. Set the engine hand brake.		Check to make sure the cars are spotted for easy loading and unloading.

## Standard Train Trip

<u>Eng. and H. Brake</u>	<u>Rear Brake</u>	<u>Conductor</u>
4. Set the engine controls for run and wait for the highball from the Conductor. Once received, two blasts on the whistle, bell on, release your brakes and leave the depot.	Check your brake pipe pressure before leaving the depot.	Finish loading your passengers, close up the train, make your seating announcement and give a highball to the Engineer.
5. As you approach the road crossing use a standard set of bell and whistle crossing signals.		At the appropriate time make any further announcements needed and play part one of the history track.
6. After the end of your train has passed the yard limit sign, maintain proper train speed to Railroad Pass.		
7. At the first bike crossing, use a standard set of bell and whistle crossing signals.		

Eng. and H. Brake

Rear Brake

Conductor

8. When approaching the blind curve, use appropriate whistle signals as a warning of the approaching train.
9. At the second bike crossing use a standard set of bell and whistle crossing signals.
10. When approaching the end of the line, come to a full stop before the red flag. Do not slam the engine into reverse with the train still rolling forward to start your reverse movement. Come to a full stop, then put the unit into reverse, bell on, three blasts on the whistle, release your brakes and start your reverse movement. Maintain proper train speed back to Boulder City.

<u>Eng. and H. Brake</u>	<u>Rear Brake</u>	<u>Conductor</u>
11.	As you approach bike crossing two, radio the Engineer the status of the crossing, then use a standard set of whistles for the crossing.	At the appropriate time play part two of the history track.
12.	When approaching the blind curve, use appropriate whistle signals as a warning of the approaching train.	
13.	As you approach bike crossing one, radio the Engineer the status of the crossing, then use a standard set of whistles for the crossing.	
14. As you approach the yard limit area, radio the Boulder City Station Master and ask for authority to enter Boulder City Station. When you reach the yard limit, slow to the yard speed limit	When approaching the road crossing, radio the Engineer the status of the crossing, then use a standard set of whistles for the crossing.	Announce the station arrival and pending stop. Seats please.

Eng. and H. Brake

Rear Brake

Conductor

and proceed into the station.

15. When arriving at the station, bell on, roll to the stop mark and stop, one blast on the whistle, radio the Conductor that the brakes are set, turn the engine controls to off, then set your engine hand brake.

Once the train brake is set, check your brake pipe pressure.

After confirmation that the train brakes are set, unload your passengers.

16. At the end of the day, put the train away following standard procedures or any special instructions given to you by the yard or mechanical department.

Apply all normally used hand brakes to secure the train and lock the caboose.

Secure all the train cars.

END OF PROCEDURE 702

### **703 PROCEDURE FOR TERMINAL AIR BRAKE TEST**

Generally, the terminal air brake test will be done in the yard and completed before the first train movement of the day. If other locations are used for train storage or train make up, a terminal air brake test will be required at those locations as well.

1. Once the train is made up and the Engineer confirms the train air system is fully charged and equalized, the Engineer will call the Rear Brakeman and let him know he is ready to start the terminal air brake test.
2. Once the air is up and equalized, the Engineer will let the Rear Brakeman know he is ready to start the terminal air brake test. The Brakeman will check the rear of the train air brake pressure gauge to confirm there is a minimum of 90 pounds of air in the system. If 90 pounds is seen on the brake pipe gauge, the terminal air test can proceed. If there is less than 90 pounds of air in the system, the cause of the insufficient air must be found and corrected before the terminal air test can continue.
3. With 90 pounds of air in the brake pipe line, the Brakeman will call the Engineer and ask him to start the terminal air test. The Engineer will take a 20 pound automatic brake reduction. After the exhausting air has escaped from the brake pipe stand, the Engineer will give one blast on the whistle and call the Brakeman by radio to confirm the 20 pound set is complete.
4. After receiving word the 20 pound set is complete, the Brakeman will check the rear of the train brake pipe pressure gauge to confirm a 20 pound reduction has taken place. This 20 pound drop at the end of the train indicates the brake application has been transmitted down the entire

length of the train. Now that the 20 pound set is made, you should ask permission to release the caboose hand brake before you start your walk up inspection up one side of the train.

5. The Brakeman should start their visual brake inspection by walking the entire length of the train. The walk should start on the Brakeman side of the train. This will allow you to cross over to the Engineer's side for the roll by test. While inspecting the train, you should look to see that the brake shoes are up against the wheels, the piston plungers are extended, and the brake rigging looks solid. Confirm the brakes are set on each car. If you see any defects, notify the Engineer so he can take appropriate measures to correct the problem.
6. As the Brakeman is walking the train, the Engineer needs to start the taper (leak) test. The Engineer has already taken the 20 pound set. Wait one minute after the air has exhausted the brake stand before starting the taper test. After cutting out the brake stand, watch the brake pipe pressure gauge for the next minute to determine brake pipe leakage. If during that minute you lose less than 5 pounds of air pressure, you have a good air system. If you lose more than 5 pounds of air, you have a failed air system. If you have a failed test, you need to find the cause of the leak or leaks, correct them, and perform the test again until your system passes. Once the air system has passed, the Engineer must notify the Brakeman so the next phase of the test can take place. At this point the Engineer can call for the train crew to release all remaining hand brakes that are set.
7. The last step of the terminal brake test is a second visual inspection of the train—the roll-by

test. The Brakeman should move to the other side of the train, the Engineer's side, and take a position that will enable them to watch the train during the roll by. Once in position, the Brakeman should call or signal the Engineer to start the roll by. The Engineer will release the automatic brake for the roll by. The only brake the Engineer will be using during the roll by will be the independent engine brake. As the train rolls slowly by, the Brakeman should check to see that all the brakes have released and all the train wheels are rolling freely. Once the roll by is complete, contact the Engineer for a stop train (so you can board), let him know that you had a good roll by and all equipment is working properly. Board the train, contact the Engineer, let him know you are on board, and he can proceed.

8. If you cannot do a roll by for any reason, the Brakeman must cross over to the other side of the train, ask the Engineer to release the automatic train brake, walk the length of the train, and do a visual inspection to see that all the brakes on all the cars have released. If all is well, contact the Engineer, let him know all brakes are released and you are on board and ready to move when the train is able to do so.

END OF PROCEDURE 703