



# **OPERATING** **RULES**

**EFFECTIVE OCTOBER 15, 2010**

***SAFETY FIRST***

**The rules in here govern the operation of the Arborway T.T. & Northwestern and must be complied with by all employees.**

**Safety is the most important element in performing duties. Obeying the rules essential to job safety and continued employment.**

**IN CASE OF DOUBT OR UNCERTAINTY, TAKE THE SAFEST COUSRE OF ACTION.**

**Special instructions may be issued by the proper authority.**

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# Special Instructions for General Operations on ATT&NW

## CHAIN OF COMMAND

1. Railroad Superintendent/Chief Engineer
2. Operations Officer
3. Locomotive Trainer or Pilot
4. Engineer
5. Conductor

For the purpose of this rule book any reference to “employee” means any paid employees, volunteers, or anyone asked to help in the operations of the ATT&NW

1. The safe operation of all aspects of ATT&NW shall be of paramount importance for all crew members. The use of alcohol or narcotics by operating crews is strictly forbidden on ATT&NW. (ref: Rule B, F, &G)

2. A dark signal will be assumed to have that signal’s most restrictive aspect. Out-of-service signals will be identified to train crews before daily operations commence. **TRAIN CREWS WILL NEVER PASS A RED SIGNAL AT OZARK MOUNTAIN TUNNEL.** If a dark signal is observed at this location, all operations on the Meramec Subdivision will cease and train crews will notify Operations Officer immediately. (ref: 8.3 & 8.5)

3. Every train crew shall consist of an engineer and a conductor. Both will be equipped with working two-way radios and the conductor should ride in the rearmost car of the train, when possible. (ref: 9.1, 10.1, & 10.7.1)

4. The engineer (or Pilot) is responsible for the safe movement and operation of both engine and consist. A conductor may assume responsibility for communication and implementation of train orders but is doing so under the supervision of the engineer and the authority of the Operations Officer. Any conductors receiving orders must verify that they are also received by the engineer using signals, radio, or direct verbal communication. (ref: 4.1, 4.2, 9.1, 9.2, 12.3, & 12.6)

5. Operations will be single direction, closed loop mainline only. All movements must have proper authority from the Operations Officer. Any exception requires permission from the Railroad Superintendent. (ref: 4.2 & 8.8)

6. Light engines and trains operating on the Roundhouse Lead and Car barn Lead shall have a conductor or designated brakeman on the ground protecting shoves and providing flagging protection at the Roundhouse X-over. (ref: 7.0)

7. All train crews will conduct a standing brake test at the beginning of operations, and a running brake test after leaving Woods Valley Station. Roll by brake tests will be performed after a train first enters service and after trains have been sitting for any length of time with at least one handbrake set. ATT&NW cars with working hand brakes have white marks on the wheels for easier identification of wheels with stuck brakes. (ref: 4.14 & 11.0)

8 When practical, any operating crew or maintenance crew observing a passing train shall conduct a roll by check for sticking wheels and brakes or dragging equipment. (ref 4.14)

9. On trains equipped with entire consist of Bell Gardens cars with electric-lock doors; train conductor must check to make sure they are all locked before departure from Woodsvally Station.

10. During night operations, all trains operating after dark shall have a working headlight and display rear markers at end of train. All train crew members shall have working electric flashlights or lanterns in addition to radios. (ref: Rule R, 3.1, 3.16, & 3.17)

11. A train that may be met or passed must stop at least fifty feet from the signal or clearance point of the facing point switch.

12. All train crews must make sure they know who is on their crew and that they are authorized to be on the crew of that train. (ref: Rule F & 9.2)

13. An adult must ride in the stock cars with children. Conductor is responsible for instructing the adult to keep doors closed and secure while train is in operation. (ref: 9.3)

14. Electric Trolley 1911 and its cars are restricted to the upper loop and inner loop only.

**15. Smoking is prohibited inside any engine cab while moving or stopped, on any part of a train traveling along the railroad, and in any structures. (ref: Rule H)**

## **Railroad Definitions**

For the purpose of these rules the following definitions apply:

### **ABS**

Automatic Block Signals.

### **Airbrake**

A combination of devices, operated by compressed air, arranged in a system and controlled manually or pneumatically, which retard or arrest the motion of a car or locomotive.

### **Airbrake Hose**

Reinforced flexible tubing attached to a nipple that screws into the angle cock at the end of the brake pipe on each end of the car or engine. The other end is fitted with a coupling, which engages with an identical coupling on the adjoining car. The complete arrangement forms a flexible air connection between the brake pipes of the cars and engines throughout the train.

### **Air Compressor**

A device on a locomotive that compresses air, used for train brakes and other accessories on the locomotive.

### **Air Gauge**

An instrument for indicating air pressure, usually expressed in pounds per square inch.

### **Angle Cock**

A manually operated valve at each end of the brake pipe on locomotives and cars to permit or prevent the flow of air.

### **Aspect**

The information displayed by a fixed signal. An aspect conveys an indication that has a specific meaning in accordance with a railway's rules.

### **Automatic Block Signal**

A block signal that is part of an automatic block system actuated by a track circuit and designed to reflect track condition and block occupancy. It may be combined with an interlocking network.

### **Automatic Brake Valve**

A manually operated pneumatic valve on the locomotive that provides control of the train's brake pipe.

Back-up Valve/Hose (Monkey Tail)

A device, either portable or permanently connected to the brake pipe, for the purpose of bleeding air from the brake pipe.

Block

A length of track between clearly defined limits, used to separate trains.

Brake Application

A reduction of brake pipe pressure (no matter how made) that will cause a train's brakes to apply.

Brake Cylinder

A metallic cylinder containing a piston that is forced in or out by compressed air to apply the brakes.

Brakeman

An employee who assists with train and yard operations. Duties include throwing switches, coupling and uncoupling cars, hooking up air hoses, and assisting with air tests.

Brake Pipe

That section of the airbrake piping of a car or locomotive which is the sole connecting means by which the car brakes are controlled by the locomotive engineer. The pipe extends from one end of the car to the other. At the ends, flexible hoses provide connections between the cars. When a train is made up and all brake pipes on the cars are joined together, the entire pipe system is referred to as the "brake pipe."

Brake Pipe Pressure

The amount of pressure in pounds per square inch in the brake pipe.

Brake Pipe Cutout Valve

A device used on cars and locomotives to isolate the control valve from the brake pipe.

Color-Light Signal

Signal hardware that uses colored lights to display aspects.

Color-Position-Light

Signal hardware that displays signal aspects through both the color and position of lights.

Conductor

The employee responsible for the safe and efficient operation of a train. All employees on the train must obey the conductor's instructions, unless the instructions endanger the train's safety or violate rules.

Conductor's Valve

A manually operated device installed on passenger cars and cabooses for applying the brakes on the train.

Crossover

A track connection between two adjacent tracks.

Derail

The protective device that guides engines, cars, or other on-track equipment off the rails.

Direct Traffic Control (DTC)

A system used for dispatching trains by radio that uses fixed blocks.

Employee

For the purpose of these rules: any paid employee of the railroad and recognized volunteers in the performance of authorized duties.

Engine

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

Engineer

The employee responsible for the safe and efficient operation of a locomotive or a locomotive and consist.

Engine Men

Engineers, Firemen (helpers), and Hostlers.

Extra Train

A train not authorized by timetable schedule. It may be designated:

*Extra*-for any train except work extra, the movement of which is authorized in a specific direction.

*Work Extra*-for any train authorized by proper authority, the movement of which may be in either direction within specified limits.

Fireman

The employee in charge of maintaining the correct water level and steam pressure in a steam locomotive; the engineer's assistant on a diesel locomotive.

Fixed Signal

A signal of fixed location, indicating a condition affecting the movement of a train; such as switch targets, yard limit signs, or speed signs.

Fouling Point

A location in the vicinity of a switch, marking safe passing clearance with another track.

Frog

The part of a switch or crossing that permits wheel flanges to cross rails at an angle.

General Order

An order issued by an operating officer, which contains only information and instructions related to rules and operating practices. General orders replace any rule, special instruction, or regulation that conflicts with the general order.

Grade (of Track)

Usually expressed as a percentage figure, which is the number of feet the track rises or falls in a longitudinal distance of a hundred feet. Thus, a two percent ascending grade means that the track rises two feet in elevation over a distance of one hundred feet.

Grade Crossing

A place where a railroad track intersects a roadway or trail on the same level.

Handbrake

A mechanical arrangement applied manually by a wheel or lever to force the brake shoe against the braking surfaces.

Hostler

An employee whose services, prepares, and operates engines in designated shop and yard areas.

Independent Brake Valve

A brake valve that provides control of the locomotive brakes regardless of the automatic brake valve handle position.

Initial Reduction

The minimum pressure reduction of the brake pipe to cause an automatic train brake application.

Main Line

A primary artery of a railroad, which may consist of one or more tracks.

Main Reservoir

An air reservoir on the locomotive for storing and cooling compressed air.

Operations Officer

Railroad superintendent or other employee designated by timetable or general order responsible for the safe and efficient operation of the railroad, maintaining schedules and monitoring employees' adherence to the rules.

Pilot

An employee assigned to a train when the engineer or conductor is not acquainted with the rules or a portion of the railroad over which the train is to be moved.

Points

The movable part of the switch, used to direct wheel flange from one set of tracks to another.

Railroad Superintendent / Chief Engineer

The employee authorized to represent and manage the railroad in all matters. The senior operating officer.

Regular Train

A train authorized by a timetable schedule.

Restricted Speed

A speed that will permit stopping within one-half the range of vision; short of a train, engine, railroad car, stop signal, derail, or switch not properly lined, looking out for broken rail, not to exceed 5 miles an hour (walking speed).

Right-of-Way

The strip of land upon which a railroad track is built.

Safety Officer

Person appointed by the Railroad Superintendent that is responsible for the safety of employees and visitors.

Schedule

That part of a timetable which prescribes class, direction, number, and movement for a regular train.

Searchlight Signal

A variety of color-light that uses a single lamp and a focus beam.

Semaphore

A traditional signal that displays aspects by position of an arm, or blade, and may be used in combination with colored lights.

Siding

A track auxiliary to the main track for meeting or passing trains and run-arounds.

Signal Indication

Information conveyed by the aspect of a signal.

Single Track

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

Slack

The accumulation of clearances and wear in the associated parts of the couplers and draft gears.

Slack Action

Movements of a part of a coupled train at a different speed of another part of the same train.

Special Instructions

Instructions issued to employees, which change, add to, or annul operating rules or other restrictions.

Spring Switch

A switch that is operated by hand but can accept trailing train movements in either position without risk of derailment. Springs automatically return the position of the points to their normal position.

Station

A place designated in the timetable by name.

Superior Train

A train having precedence over another train.

Switch

A device to connect one track diverging from another.

Timetable

The authority for movement of regular trains subject to the rules. It may contain classified schedules and special instructions.

Track Bulletin

A notice containing information as to track conditions or other conditions, necessary for the safe operation of trains or engines.

Train

An engine or more than one engine, with or without cars, displaying a marker and authorized to operate on a main track.

Trainmen

Conductors, brakemen, and car attendants

Wheel Sliding

A situation where the wheel is rotating slower than the longitudinal movement would indicate.

Wheel Slipping

The situation where the wheel rotates faster than the longitudinal movement would indicate.

Yard Master

A yard master maybe assigned by the railroad superintendent, responsibilities include making up trains, initial train inspection, air brake test and movement being made in the yard.

Yard

A system of tracks other than main tracks and sidings, used for making up trains, storing of cars, and other purposes.

Yard Limits

A portion of main track designated by *yard limits* signs, by timetable, by special instructions or track bulletin, which trains and engines may use as prescribed by rule 5.0.

## **General Rules**

### **Rule A**

Employees whose duties are prescribed by these rules must be provided with a copy and with any special instruction, which they must have available while on duty.

### **Rule B**

Employees must be conversant with and obey the rules and instructions. If in doubt as to their meaning, they must apply to the proper authority for explanation. If immediate action is necessary, **the safe course must always be taken.**

Rules may be issued, cancelled, or modified by general order, timetable, or special instructions.

### **Rule C**

Employees must be familiar with and obey all rules and instructions, and must attend required classes. Employees must pass the required examination.

### **Rule D**

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

Employees must refrain from any conduct which adversely affects the performance of their duties. They must refrain from activity that brings discredit to the railroad.

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

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

### **Rule E**

Accidents, personal injuries, defects in track, bridges or signals, or any unusual condition which may affect the safe and efficient operation of the railroad, must be protected at the location and proper authority informed of the condition promptly using the first available means of communication.

### **Rule F**

All are Responsible, engine and train crew 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 always take the safe course. This does not relieve other members of the train crew from their responsibility under the rules.

### **Rule G**

The use of alcoholic beverages, intoxicants, drugs, narcotics, marijuana, or controlled substances by employees subject to duty, when on duty is prohibited.

Employees must not report for duty or be on railroad equipment under the influence of or use while on duty or have in their possession any alcoholic beverage,

intoxicant, narcotic, marijuana, medication, or other substance, including those prescribed by a doctor, that will adversely affect their alertness, coordination, reaction, response, or safety.

### **Rule H**

Employees must report to duty on time and must be neat and clean in appearance.

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

Public contact employees must have attire identifying themselves as ATT&NW staff.

The use of tobacco by employees while engaged in serving patrons in or about the stations or occupied passenger cars is prohibited. **Smoking is prohibited inside any engine cab while moving or stopped, on any part of a train traveling along the railroad, and in any structures.**

Throwing of articles (littering) from locomotives, cars, or any railroad equipment is dangerous and forbidden.

### **Rule K**

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

Employees must know 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 five feet clearance and be prepared for unexpected movement of equipment. Do not step on rail, switches, or frogs.

Employees must not stand on the track in front of an approaching engine, car, or other moving equipment.

Employees must inform themselves as to the location of structures or obstructions where clearances are close. Employees must not attempt to get on or off equipment at a speed greater than restricted speed, only when absolutely necessary and in a safe manner.

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.

### **Rule L**

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

### **Rule M**

Employees are responsible for their own safety. Constant presence of mind to ensure the 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 that they use when performing their duties, and when found defective, will put them in safe condition, reporting all defects to the proper authority.

**Rule N**

When operating at the ATT&NW employees who work on another railroad are under the jurisdiction of the officers and rules of this railroad.

**Rule O**

Minors (**anyone under the age of 18**) must not be employed in engine service unless under the supervision of a qualified engineer. They must not be employed in other service unless written release is first obtained from their parents or guardian. No person shall be employed in train service that cannot read and write the English language.

**Rule P**

Boisterous, profane or vulgar language is forbidden. Employees are required to be considerate and courteous to patrons and each other, and must not enter into altercations with any person.

**Rule Q**

In case of an accident, injury, or fire and it is necessary to call 911. The Railroad Superintendent **MUST** be notified and **HE** will make the call. The caller must be clear to refer to the railroad as a “**private miniature railroad at Woodsvally Farm**” and/or “**miniature train at Woodsvally Farm.**”

**Rule R**

Any and all persons operating equipment on the railroad should have the necessary tools for the safe operation of engines, trains, and work equipment. These tools may include the following examples: radios, flags, wheel chocks and/or chains, timetable, water hose, and lantern.

## **1.0 Standard Time**

### **Standard Clock**

- 1.1 Central Standard Time will be obtained and kept on a clock labeled “Standard Time.” The standard clock will be marked as such and located outside the Woodsvally Farm station.

### **Watches**

- 1.2 Watches of the prescribed type, displaying hours and minutes and using Aramaic numbers—or digital—will be used by yard masters, conductors, enginemen, brakemen, firemen, operations officer, operators, track and bridge foremen, and such other employees of the railroad.

### **Check Watches**

- 1.3 Every day before beginning work, all employees must do one of the following:
- Compare their watch with a Standard Clock
  - Ask the Operation Officer for the correct time
  - Compare their watch with an employee who has the correct time

## **2.0 Timetables**

### **Current Supplements**

- 2.1 Trainmen and enginemen before starting on any subdivision upon which they have not been running, or when returning from an absence from service, must inquire for and know that they have the current timetable and supplements.

### **Special Instructions**

- 2.2 Special instructions will replace any rule or regulation with which they conflict.

## **3.0 Signals**

### **Proper Equipment**

- 3.1 Employees whose duties may require them to give signals, must provide themselves with the proper equipment the beginning of their shift and kept in good order and ready for their immediate use.

### **3.2 Receiving and Giving Signals**

- Always be on the lookout for signals.
- Not act on any signal that they do not understand or that may be intended for other trains or engines.

## Giving Signals

- Make sure signals can be plainly seen.
- Give signals clearly so they can be understood,
- Give signals on the engineer's side of the track when practical.
- Remain visible to the engineer at all time, after throwing switches step clear, in sight of engineer before giving a signal to move.
- Switch man must provide car count by hand signal or radio signal when passing a stopping point, coupling up, and for reverse movement.

## Signal Disappearance

If a person disappears who is giving the signal to back or shove a train, engine, or car, or the light being used disappears, employees must Stop movement, unless employee on leading car controls the air brakes.

## Signal to Stop

**Any object waved violently by any person on or near the track is a signal to stop.**

## Flag & Board Signals and Colors

3.3 Flags of the prescribed color (cloth or metal) must be used by day, and lights of the prescribed color by night. Electric or kerosene lanterns may display white lights specifically authorized for signaling purposes.

Red-----stop

Yellow / Red----restricted speed be prepared to stop

Yellow---proceed at restricted speed

Green----proceed

Blue-----men working on equipment

## Display of Yellow Flag/Boards

Yellow flags/boards warn trains to restrict movement because of track conditions or men work on the track. To make sure train movement is restricted at the right location, employees must display a yellow flag/board 300 feet (distance between mile post) before the restricted area. Trains must move at restricted speed until the rear of the train clears the restricted area, indicated by a green flag/board.

## Display of Yellow-Red Flag/Boards

Yellow-red flags warn a train to be prepared to stop because of men or equipment. To make sure the train is prepared to Stop at the right location, employees must display a yellow-red flag/board 300 feet (distance between mile post) before the stopping point.

## **Display of Green Flag/Board**

A green flag indicates the end of a restricted area.

## **Display of Red Flag/Board or Red Light**

A red flag/board or red light is displayed where trains must stop. When approaching a red flag/board or red light, the train must stop short of the red flag/board or red light and not proceed unless the employee in charge gives verbal permission. If permission to proceed is received before the train stops, the train may pass the red flag/board or red light at restricted speed without stopping.

## **Blue Flag/Board Protection**

3.4 A blue Flag/board signifies that workmen are on, under, or between rolling equipment and requires that:

1. Rolling equipment must not be coupled to or moved
2. Rolling equipment must not pass a blue flag/board on a track protected by the signal.
3. Other rolling equipment must not be placed on the same track so as to block or reduce the view of the blue flag/board.
4. Rolling equipment must not enter a track when a blue flag/board is displayed at the entrance to the track.
5. **Protection Removed.** Blue flag/board may be removed only by the workman who placed it there.

During the day, a clearly distinguishable blue flag/board or light, and at night, a blue light. The blue light may be steady or flashing. The blue flag/board does not need to be lighted when it is attached to the operating controls of an engine and the inside of the engine cab area is lighted enough to make the blue flag/board clearly distinguishable.

## **Fusee**

3.5 Not used at the ATT&NW

## **Lantern Signals**

3.6 Lantern signals: The hand or a flag, moved the same as a lantern, gives the same indication.

# Lantern Signals



Stop



Ahead



Backup



Easy



Pin



Stretch

or



Cut Off



Set Air



Release Air



Highball

## Hand Signals

3.7 Other hand signals may be used for other purposes providing they're understood by all crewmembers.

# Hand Signals



Stop



Come to Me



Go Away from Me



Easy



Pin



Cut Off



Set Air



Release Air



Highball



Set Hand Brake



Secure Equipment

### **Signal out of order**

3.8 When a signal is out of order, or it is improperly displayed, or working improperly, or light is out, a report must be made to the proper authority.

### **Absent Signal**

3.9 A signal improperly displayed, absence of signal where signal is usually shown, absence of light, or white light displayed where a colored light should be, must be regarded as the most restricted indication that can be given by that signal.

### **Avoid Extra Signals**

3.10 When not involved in giving hand signals, employees must avoid making motions which might be construed as a hand signal.

### **Radio for Signals**

3.11 The radio may be used instead of hand signals to convey information when the use of hand signals is not practicable. When the radio is being used to control the movement of a train or engine, it must be understood by crew members exactly which moves will be made under radio control during that time hand signals will not be given to the engineer nor acted upon with the exception of stop signals, when necessary to stop the movement. Radio communications for backing and shoving movements must specify the direction and distance and must be acknowledged when distance specified is more than four cars.

**Movement must stop within half of the distance specified unless additional instructions are received.**

### **Permanent Speed Signs**

3.12 Permanent speed restriction signs will be placed in advance of permanent speed restrictions. Numbers on the face of these signs indicate the highest speed permitted over the limits of the restriction.

### **Ring the Bell**

3.13 Except where the momentary stop and start is a continuous switching movement, the engine bell should be rung when the engine is about to be moved, while approaching and passing public crossings, before tunnels, and elsewhere when necessary as a warning signal.

## **Whistle Blowin'**

### **3.14 Engine Whistle Signals**

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

- a. —           After stopping: brakes applied;
- b. — —        Release brakes; proceed.
- c. oooo —      Call conductor to the engine or radio.
- d. oo           Acknowledgement of any signal that is not otherwise provided for. Also must be blown as engine passes any flag/board.
- e. ooo         When standing: backing up.
- f. oooo        Call for signals.
- g. — ooo      Flagman protect rear of train.
- h. ooo —     Flagman protect front of train.
- i. — — — — Flagman may return to the train.
- j. — — o —   Approaching crossing at grade. The signal will commence at the whistle board (w) and the last long sound will not end until the engine has occupied the crossing.
- k. — o         Warning for both persons, animals and when approaching stations, tunnels, and bridges.

## **No Unnecessary Bell and Whistle**

3.15 The unnecessary use of either the whistle or the bell is prohibited.

## **Headlight On**

3.16 When entering into tunnels, at night, or any in climate weather, a lighted headlight will be displayed bright on the front of every train. If the headlight fails, a white light must be substituted where required. Headlight failures must be reported by the first means of communication and reduce to restricted speed.

### **Red Tail light**

3.17 A red marker lamp or pair of lamps of the prescribed type will be displayed at the rear of every train at night to indicate the rear of the train.

### **Callout the Signal**

3.18 Crew members in the cab must be alert for signals. As soon as signals become visible or audible, crew members must communicate clearly to each other the name or aspect of signals affecting their train. They must continue to observe signals and announce any change of aspect until the train passes the signal.

If the signal is not complied with promptly, other crew members must remind the engineer and / or conductor of the rule requirement. If the crew members receive no response or if the engineer is unable to respond, they must immediately take action to ensure safety, using the emergency brake valve to stop the train, if necessary.

## **4.0 Movement of Trains and Engines**

### **Repeat Instructions**

4.1 An employee who verbally receives instructions or information about train or engine movements must repeat them.

### **Permission for Main Track**

4.2 Before initiating movement on a main track, a crewmember must receive permission from the Operations Officer.

### **Reverse Movements**

4.3 A train must obtain permission from the Operations Officer before making a reverse movement.

### **Protect the Point**

4.4 When cars or engines are shoved and conditions require, a crew member must provide protection for the movement. Cars or engines must not be shoved to block other tracks until it is safe to do so. When cars or engines are shoved on a main track or controlled siding in the direction authorized, movement must not exceed restricted speed.

### **Stop to throw the switch**

4.5 A train required to take siding must stop clear of the switch, unless the switch is properly lined to leave the main track.

### **Yard limits**

4.6 Within Yard Limits, trains or engines are authorized to use the main track not protecting against other trains or engines, only after obtaining permission to occupy main track. Engines must give way as soon as possible to trains as they approach. All movements entering or moving within Yard Limits must be made at restricted speed. (Reference 5.0)

### **Protect Your Train**

4.7 Protect trains and engines against any known condition that may interfere with their safety. When conditions restrict visibility, regulate speed to ensure that crew members can observe and comply with signal indications.

### **Consider Speed**

4.8 Crew members must consider train or engine speed, tonnage, grade conditions, and air gauge indications to determine that the train or engine is being handled safely and is under control. If necessary, take immediate action to bring the train or engine under control.

### **Emergency Stop**

4.9 When a train or engine is stopped by an emergency application of the brakes while occupying the main track, or severe slack action occurs while stopping.

-All cars, engines, equipment, and tracks must be inspected before proceeding

### **Against the Current**

4.10 Movements against the current of traffic must be authorized by the proper authority. Trains and engines moving against the current of traffic must approach block signals, interlocking signals, or facing point prepared to stop, unless:

- the track is clear
- switches are properly lined
- signals indicate proceed.

### **Moving at Restricted Speed**

4.11 When required to move at restricted speed, movement must be made at a speed that allows stopping within half the range of vision, short of:

- train
- engine
- rolling stock
- men or equipment fouling the track
- stop signal, or
- derail or switch lined improperly.

### **Stop in the Clear**

4.12 When possible, a train entering a siding must not stop until the entire train is in the clear of the main track.

### **Leaving Cars In Sidings**

4.13 Avoid leaving cars or equipment on sidings unless authorized by the proper authority. If the proper authority cannot be obtained, the siding must be properly protected at both ends. Apply hand brakes and or wheel chocks.

### **Inspect Passing Trains**

4.14 Employees must inspect passing trains. If they detect any of the following conditions, they must notify crew members on the passing train by any available means:

- over-heated journals
- sticking brakes
- sliding wheels
- wheels not properly positioned on the rail
- dragging equipment
- insecure contents (including people)
- signs of smoke or fire
- headlight or marker improperly displayed
- any other dangerous conditions

### **Trains in the Station**

4.15 When a passenger train is receiving or discharging patrons, a train or engine must not approach or enter unless proper safeguards are provided.

### **Proper Signal, then Move**

4.16 In case of doubt or uncertainty, the safe course must be taken. An engine or train must not start movement before the proper signal is given.

## **5.0 Yard Limits**

### **Yard Limit Sign**

5.1 Yard limits will be designated in special instructions and /or the limits will be indicated by "Yard Limits" signs.

### **Yard Limit Use**

5.2 Within yard limits, the main track may be used by trains or engines, but must protect against other trains or engines. Engines must give way to trains as soon as practicable upon their approach.

### **Yard Limits at Restricted Speed**

5.3 All trains and engines within yard limits must move at restricted speed. A speed that will permit stopping within one-half the range of vision; short of a train, engine, railroad car, stop signal, derail, or switch not properly lined, looking out for broken rail, not to exceed 5 miles an hour (walking speed).

## **6.0 Protection of Trains**

### **Emergency Protection**

6.1 When a train makes an emergency stop, the train must be inspected before it is moved. No movement will be made until it is known that it is safe to do so. When a train stops on main track, Operations Officer must be contacted and flag protection is required. A flagman must immediately go back at least 300 feet (distance between mile posts) and allowing at least 50 feet of visibility from that point to an approaching train, and flag the rear of the train. The flagman must remain there until a train has stopped behind his train or he has been recalled to his own train. When recalled and safety to the train will permit, he may return bringing the flag with him. When required, a flagman

must protect the front of the train in the same manner. A flagman must not permit other duties to interfere with the protection of the train. The conductor and engineer are responsible to see that flag protection is provided for the protection of the train when required. When a train requires protection, the engineer must immediately sound whistle signals requesting flag protection. The inability to hear these signals does not relieve crewmembers from protecting the train.

## **7.0 Switching**

### **Precaution When Shoving**

7.1 When shoving cars, precaution must be taken to prevent damage or fouling of other tracks. When conditions require, a crewmember must take a conspicuous position on the leading car, using proper signals. When shoving cars over a crossing, a trainman must ride the leading car or be ahead to protect the crossing.

### **Careful Switching**

7.2 Switching must be done in a careful manner to avoid severe shocks by sudden starting or stopping or by impact in making couplings and to prevent personal injury or damage to equipment. Cars and engines must not be permitted to couple at excessive speeds. A stop must be made just prior to coupling to *occupied* (passengers on board) equipment.

### **Kicking & Dropping**

7.3 Kicking and dropping of cars are prohibited.

### **Cars Left To Foul**

7.4 Cars must not be shoved or left to foul leads or adjacent tracks until it is safe to do so. Engines and cars must not be left to foul adjacent tracks.

### **Set Handbrakes**

7.5 A sufficient number of handbrakes must be set to hold cars standing on any track. When applying handbrakes, the car's brakes must be applied by the air system. If not equipped, cars must be secured by other means. When cars are set out on a grade, they must be coupled if practicable, and in addition to brakes being set, wheels must be chocked and if necessary chained to the rail.

### **Switch Properly Lined**

7.6 In switching or other movements where trainmen are handling switches, they must know that the switch is properly set and points are aligned and locked before signaling the engineer to move. Switches must be left in their normal position. When a switch cannot be properly hooked, it must be secured and reported to the proper authority. All manual operated switches must be left lined for the main.

### **Spring Switch**

7.7 No switches are to be utilized as spring switches.

### **Stop Before Turntable**

7.8 Before movement is made onto or off of a turntable, a stop must be made and trainmen must know that the rails are properly aligned and latches and locks are properly engaged

### **Clearances**

7.9 When overhead or side clearances are close, make sure movement is safe.

### **Check the Switch**

7.10 The employee handling the switch is responsible for the position of the switch, that it is fully made and in good operating condition.

### **Line the Switch after the Move**

7.11 Do not return a main track switch to the normal position until movement is clear of the main track.

### **Position of Crossover**

7.12 The normal position of crossover switches is lined for the main. Crossovers are only used with special instructions from the Railroad Superintendent.

### **Coupling**

7.13 Don't walk or reach hands and legs between cars or engine when coupling together.

### **Riding on Engine or Cars**

7.14 Riding on the foot plate of engine or car in the direction of movement is strictly forbidden. Conductor or Brakeman may stand while train is moving in order to provide visibility to the engineer but must be adequately braced and prepared for sudden movement or stopping.

## **8.0 Signal Block System Rules**

### **Signal Color Instructions**

8.1 Signal aspects and indications are as shown in the rule book, timetable, or special instructions.

Signal aspects are identified by the position of semaphore arms, color of lights, flashing of lights, position of lights, or any combination.

Signals may display colored light aspects or semaphore arms and color lights.

### **Block Signals**

8.2 Block signals govern the use of blocks (sections of main track).

Dwarf signals indicate switch position ONLY

Where two signals are located on a single mast the bottom head indicates diverging track. Any exception to this will be listed in timetable or special instructions.

### **Dark Signal**

8.3 Must be treated as a red signal, operations officer must be notified, and permission must be given to proceed.

### **Over run Signal**

8.4 If a train over runs any block signal that requires it to stop, the crew must:

- warn other trains at once by radio,
- stop the train immediately and make a safe reverse movement
- report it to the operations officer.

### **Red Failed Signal**

8.5 When a block is occupied, or when a switch is protected by a signal is changed from its normal position and that signal fails to display its most restricted indication, regard the signal as displaying stop. The train must stop immediately, and employees must warn others by radio of the exact location and status of the train. Contact the operations officer or control operator and do not move the train without permission.

### **Restricted Until Next Clear Signal**

8.6 When a train passes a signal requiring movement at restricted speed, the train must move at restricted speed until its leading wheels have passed the next governing signal or the end of the block system when given proper authority.









### **Stop Indications**

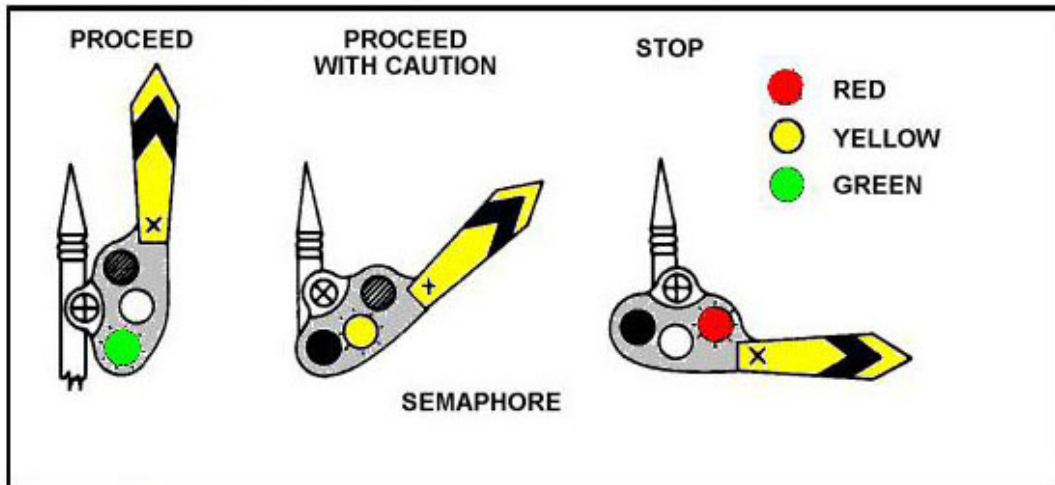
8.7 At a signal displaying a stop indication, and if no conflicting movement is evident, the train crew must contact the operations officer and follow their instructions.

### **Authority to Enter Main Track**

8.8 Permission must be given by the Operations Officer or the Railroad Superintendent before a train can enter the main from any yard, siding, or lead track.

## TALL MAST SIGNALS

 Green	 Green over Red	<b>CLEAR</b>	Proceed
 Amber	 Amber Over Red	<b>APPROACH</b>	Proceed prepared to stop at the next signal, trains exceeding 5 MPH immediately reduce to that speed.
 Red over Green		<b>DIVERGING CLEAR</b>	Proceed on diverging route Not exceeding prescribed Speed through turnout.
 Red over Amber		<b>DIVERGING APPROACH</b>	Proceed on diverging route Not exceeding prescribed Speed through turnout preparing to stop. If exceeding 5 MPH, immediately reduce to that speed
 Red	 Red Over Red	<b>stop</b>	Stop.



## Dwarf signals

Dwarf signals indicate switch position only

A solid amber indicated switch is lined for straight track.

A flashing amber indicates switch is line for the turn out.

A solid red indicates that the switch points are in the mid position and is not lined up.

## Color Position Lights



**SIGNAL INDICATION SHOWN HERE:  
SWITCH IS LINED FOR THE WYE.  
REDUCE SPEED TO RESTRICTED SPEED. PREPARED TO STOP.**



**SIGNAL INDICATION SHOWN HERE:  
BRING YOUR TRAIN TO A SAFE STOP AND CHECK SWITCH.  
SWITCH NOT PROPERLY LINED.**



**SIGNAL INDICATION SHOWN HERE:  
SWITCH IS LINED FOR MAIN LINE MOVEMENT.  
APPROACH NEXT SIGNAL PREPARED TO STOP.**

## **9.0 CONDUCTORS' RESPONSIBILITY**

### **Protect Train & Passengers**

9.1 The protection of trains and passengers is of the first and most importance; the conductor must not allow other duties to interfere therewith. The conductor must be stationed, where practicable, on the rear of every train while in motion.

### **One Team**

9.2 When on duty, trainmen and fireman are subordinate to the conductors and engineers. Conductors and engineers must see that their subordinates are familiar with their duties, ascertain the extent of their experience and knowledge, and instruct them in the proper and safe performance of their work.

### **Passenger Comfort**

9.3 Conductors must give particular attention to the safety and comfort of their passengers.

### **Passenger Behavior**

9.4 Conductors must not allow drunken or disorderly persons to get on their train nor permit obscene, profane, or other ungentlemanly language, damage to railroad property, or other misconduct on his train. The conductor must also not allow smoking or littering.

### **Lost & Found**

9.5 Articles found on the train must be delivered to a person authorized to receive them at terminals.

### **Making up Trains**

9.6 The conductor is responsible for the make-up of the train's consist and if changes are to be made in consist, and make necessary train movements. In addition:

- inspect couplers, air hoses, wheels, brake rigging, and safety appliances.
- apply the proper rear-end markers.
- arrange loading steps and ramps.

### **Brake Test**

9.7 The conductor will assist and direct the proper brake test prior to the train's departure, and after any change in consist. Reference 11.5

*All crewmembers should always remember to check all handbrakes to make sure they are released prior to the departure of every train, regardless of who did or did not set the brakes.*

## **10.0 REGULATIONS FOR ENGINEMEN**

### **Diligent Engineer**

10.1 Enginemen must always be diligent in all matters pertaining to safety and while moving, must keep a close lookout for all signals and watch for instructions and defects

in track and right-of-way. Firemen, when possible, must assist in keeping a close lookout and must instantly give notice to the engineer of any signals and any indications of obstructions or danger at all times, on or off duty.

### **Frequent Inspection**

10.2 At stations and other stops of sufficient duration, when practicable, the engineer of the locomotive must make an inspection thereof from the ground, giving particular attention to the locomotive running gear, trucks, and brake rigging.

### **Walk-Around Inspection**

10.3 Where locomotives are being serviced, they must not be moved until hose connections are removed and it is ascertained that trainmen servicing equipment are in a safe location. Check for Blue Flags.

### **Moving Equipment**

10.4 A train must not be moved until the proper signal is given from the train crew and engineer has sounded the proper whistle signals. Great care must be exercised in moving to avoid injury to guests or others by a sudden or unexpected movement of the train.

### **Completed Brake Test**

10.5 The engineer is co-responsible to see that a complete train brake test is performed on a newly-assembled train and after any change in train consist. A running brake test must be performed in the event of any crew change.

### **Sufficient Fuel and Water**

10.6 The engineer must know that the locomotive is furnished with sufficient fuel, water, lubricating oil, and sand for service.

### **Lubed and Inspected**

10.7 The engineer must see to it that all points requiring lubrication are supplied with adequate oil or grease, and that injectors, lubricators, and cylinder cocks are operating properly. Inspections should be made while stopped, lubrication provided, and adjustments made as necessary.

### **Unauthorized Persons**

10.8 The engineer must not permit unauthorized persons to ride on or operate locomotives. Other engine service employees, when competent, may handle the locomotive under the direct supervision of the engineer, who is on duty and entirely responsible for that locomotive.

### **Keep it Clean**

10.9 The engineer (together with the fireman) should keep the locomotive clean and wiped down.

### **Loading and unloading**

10.10 When loading and unloading passengers or freight or whenever the engine crew detrains, the locomotive will be in neutral, brakes will be fully applied.

## **11.0 AIR BRAKE RULES**

### **Train Brake Inspection**

11.1 Brake equipment on locomotives and cars must be inspected and tested in accordance with the regulations set forth herein.

### **Feed valve setting**

11.2 Brake Pipe pressure is set at around 70 psi.

### **Shop Forces Jointly Responsible for equipment**

11.3 The Railroad Superintendent and or Yard Master are jointly responsible with enginemen and trainmen for the condition of airbrake equipment on locomotives and cars to the extent that it is possible to detect defective equipment by the required air test.

### **Valves Fully Open or Fully Closed**

11.4 To ensure proper operation of the brakes, all angle and cutout cocks must be fully open from the engine to the rear car. When angle cocks are open, the handles stand straight (parallel) with the pipe, and when closed, the handles stand crosswise (at right angle) with the pipe.

### **Initial Terminal Train Air Brake Test**

11.5 An "Initial Terminal Air Brake Test" must be performed by a qualified employee where the train is initially made up or to train cars that are added to the consist.

### **Initial Terminal Procedure**

11.6 Procedure for initial terminal inspection and test:

After all hoses are made up and there are no air leaks, ensure that the airbrake system has been charged sufficiently to within two pounds of the locomotive feed valve setting as indicated by the locomotive air gauge. Upon confirmation of a proper request or signal to apply the train brakes, a 20 lb brake pipe reduction will be made from the pressure indicated by the brake pipe gauge on the locomotive. One long sound of the whistle should be made to indicate that the brakes are applied for the test. After the brakes have been applied, begin the brake pipe leakage test, not to exceed 5 lbs, for one minute. An inspection of the train brakes must be made to determine that the brakes are applied on each car, that the brake rigging does not bind or foul, and that all parts of the equipment are properly secured. When the inspection of the application of the train brakes is completed, and upon confirmation of the proper request or signal to release the brakes, the air brakes must be released. Two long sounds of the whistle should be made to indicate that the brakes have been released. Each car must then be inspected to see that all of the brakes have been released. During the initial terminal airbrake test, the brakes must not be applied or released until the proper signal is given, except in the case of excessive brake pipe leakage. (Both sides of the train need to be inspected for dragging

equipment or anything that would cause an un-safe condition including clearance problems.) If the brake pipe gauge indicates leakage in excess of 5 lbs per minute, the engineer must give one short sound and one long sound of the whistle and place the automatic brake valve in the running position to recharge the train. Upon confirmation of this signal, the train must be inspected for air leaks and corrected, then the complete initial terminal air brake test must be repeated.

### **Check Valve Test**

11.7 A "Check valve test" will be performed following the initial terminal test on equipment incorporating this feature.

### **Check Valve Test Procedure**

11.8 Check valve test procedure:

The train air brake system must be charged to within 2 lbs of the locomotive feed valve setting. Next take the brake pipe pressure to zero (Big Hole) and move the automatic brake valve to lap. The brake pipe pressure should not exceed 3 lbs per minute. If the train fails the test, repeat the test by charging the train making sure the train is released. Then take the brake pipe pressure to zero and cut out the automatic brake valve. The brake pipe pressure should not exceed 3 lbs per minute. If the train fails the test, charge the train (automatic brake valve cut in and released) and , starting at the rear of the train, close the angle cock on the rear of the next car forward. Return to the last car and open the rear angle cock putting the car in to emergency. Allow enough time for the pipe to vent (3-5 seconds), and check for air coming from the brake pipe of that car due to leaky check valve (thumb over hose). If the car passes, go to the next car forward and close the angle cock on the rear of the next car forward. Return to the second car from the end, separate the hoses, and open the angle cock putting that car into emergency and check for a leaky check valve as above. Repeat these steps until the faulty car is found. Repair the car or remove it from service.

### **Application and Release**

11.9 An application and release test must be performed after the brake pipe has been compromised.

### **Application and Release Procedure**

11.10 Application and release test procedure:

The train air brake system must be charged to within 5 lbs of the locomotive feed valve setting. Upon the proper request or signal to apply the train brakes, a 20 lb brake pipe reduction must be made. It must be determined that the brakes apply on the cars behind the newly added cars. The brakes on the cars must be seen to apply. Upon proper request or signal to release the train brakes, the automatic brake valve must be placed in the running position. It must be determined that the brakes release on the cars behind the newly added cars; the brakes on the rear cars must be seen to release.

### **Running Brake Test Procedure**

11.11 Running brake test procedure:

The test must be made as soon as the speed of the train is sufficient to prevent stalling. While using sufficient power to keep the train stretched, apply the train brakes with enough force to slow the train, and ascertain whether or not the train brakes are operating properly. The locomotive brakes must be kept released during the running test. If the train brakes are operating properly, the train brakes may be released, and the train may proceed. The engineer is responsible for making the running test. If the train brakes are not operating properly, the train must be stopped, an inspection made to determine the cause, and the trouble corrected. Before proceeding, an application and release test must be made. Immediately upon proceeding, a running test must be repeated.

## **12.0 RADIO RULES**

### **Federal Communications**

12.1 Radio communication must be made in accordance with federal communications regulations.

### **No False Transmitting or Unnecessary Communications**

12.2 No employee shall knowingly transmit false distress communications. Unnecessary, irrelevant, or unidentified radio communications are forbidden.

### **Radio Failure**

12.3 In the event of a radio failure all crew members must take the safest course of action and also use hand and whistle signals.

### **Clean Talk**

12.4 Obscene, indecent, or profane radio language is prohibited.

### **Distress Traffic Priority**

12.5 No employee shall knowingly transmit while distress traffic is being handled on the same frequency.

### **Lost Communication-Stop Movement**

12.6 If specific radio instructions are not understood or if continuous radio contact is not maintained, this must be construed as a stop signal and the train must be brought to a stop and not moved until communication is restored.

### **Radio Procedures**

12.7 1. All moving equipment operating on the ATT&NW in any capacity shall be equipped with a working two-way radio. Train conductors will carry a hand-held radio. A radio check will be required before daily operation commences.

2. Trains will be identified on the radio by the engine number of the lead locomotive. For example, engineer on a train pulled by engine 801 would call the Operations Officer

saying “801 calling operations officer...” The conductor would call by saying “801 conductor calling operations officer...”

3. ATT&NW radios are equipped with four channels: ATT&NW Channel 1 (Main Road), ATT&NW Channel 2 (Road 2), ATT&NW Channel 3 (Yard), ATT&NW Channel 4 (Maintenance).
4. All Main Line trains will operate on Channel 1.
5. All yard operations will be operated on Channel 3.
6. After a train is made up in the yard and completed brake tests, the supervising yardmaster will call the dispatcher on Channel 1 and tell him a train is ready to move to the main line. At that time, train crew will be instructed to switch to Channel 1 for further operation.
7. Inbound trains will advise Operations Officer when they have cleared main line and entered yard, and switch radio operations to Channel 3.
8. Train crew MUST NOT use cell phones while operating trains.

### **13.0 Operation of Multiple Trains on Meramec Subdivision**

1. For purposes of this discussion, a “train” shall include track inspection cars, maintenance equipment, the trolley, and light engines.
2. Multiple –train operation shall commence only after a “job briefing” consisting of the Operations Officer assigned for the day, all train crews and the Railroad Superintendent. No trains shall operate until the signal system governing Ozark Mountain Tunnel has been activated and tested.
3. During multiple-train operations, engine crew shall call out location on Road Channel 1 as required.

### **14.0 Operation in Tunnels & Evacuation Procedure**

1. Trains entering Deer Ridge Tunnel and Ozark Mountain Tunnel should sound a warning blast of horn or whistle and bell (one long and one short blast) when approaching tunnel portal.
2. Ozark tunnel is equipped with emergency lighting, with on-off switches at the both portals. Light switches will normally be in the “off” position.

3. If a train stalls in the tunnel, the conductor will walk to the nearest portal, turn tunnel lights on, and notify all other trains of the situation by radio and stay outside the portal flagging approaching trains. If train is stopped in the tunnel for longer than 2 minutes engineer must shut off engine or shut down the steam engine.
4. If train crew needs to evacuate passengers, it shall be done after emergency tunnel lighting is ON, and train conductor instructs the passengers to exit the train on the left side or fireman's side of the train walk to the nearest end of tunnel.
5. When 801 is operating the ventilation fans must be turned on in Ozark Mountain Tunnel switch is located the east portal (uphill portal).

## **15.0 Operation of Steam Locomotive No.** **801**

1. 801 engine crew will consist of engineer and fireman, unless special instruction is given by the Railroad Superintendent. The fireman will not assume duties of a conductor.
2. 801 is restricted to mainline operations on the Meramec and Upper Loop subdivisions only.
3. Locomotive 801 crew shall check water levels in tender at each station stop.
4. Treated steam locomotive water is available at the Woodsvally station water tank. Locomotive 801 will only use treated water from this location. Before operating day commences, crew shall check water treatment equipment at Woodsvally Station and confer with Railroad Superintendent to confirm that treatment system is operational and tank water is being replenished.
5. The engineer must know that all firing appliances are in proper condition, and available for service.
6. The engineer must know that the locomotive has sufficient water maintained in the boiler at all times. The engineer must test all sight glasses to ensure that all water registering appliances are in proper working condition.
7. The engineer and/or fireman must operate the blow down valve at proper intervals to purify the boiler. The engineer must determine the position of engine and wind direction before blowing down, to ensure spray will not come back on engine or train, or damage trackside landscaping, buildings, equipment, and most importantly people.

## **16.0 Operation of Visiting Locomotives**

1. Operation of all visiting locomotives and rolling stock must be authorized by ATT&NW Railroad Superintendent. Equipment must conform to ATT&NW wheel tread and flange-depth standards.
2. Visiting locomotives must have pilot engineer until visiting engineer is familiar with ATT&NW mainline and rules. A pilot engineer may ride in the first car behind the locomotive tender if there is no room in cab area. Pilot engineer must have communication with engineer and a hand-held radio.
3. All visiting locomotives operating on Meramec Sub. Mainline trains must be equipped with air brakes. Locomotives without air brakes will be restricted to light engine movement only, except if a single trailing car behind tender is needed to accommodate a pilot engineer.
4. Visiting steam locomotives operating on Meramec Subdivision must be equipped with suitable capacity tender or an auxiliary water car. If water capacity is deemed insufficient, operator must first arrange for placement of ATT&NW tank car with treated boiler water at appropriate setout tracks on main line. Setout tracks suitable for spotting of water cars are located at Panhandle Junction, and Meramec Station.
5. Red water spigots on main line right-of-way are untreated irrigation water and are used for steam locomotive boiler water at the locomotive owner's risk.
6. Coal or wood-burning steam locomotive owners must make arrangements for their own fuel.
7. Crews and passengers of trains pulled by coal or wood-burning steam locomotives must wear approved safety glasses or goggles.
8. Crews operating coal or wood-burning steam locomotives must be vigilant for cinder-caused line side fires and should have appropriate equipment on hand to extinguish them.
9. Coal or wood-burning steam locomotives will not have flat cars with hay bales in their consist.

## **17.0 Qualifications of Train and Enginemen**

All employees must pass the required initial and annual examinations before being assigned to service.

### **Requirements Waived**

17.1 The requirements for one year service may be waived upon written documentation of prior experience, and recommendation of the Railroad Superintendent.