

**UNION PACIFIC RAILROAD COMPANY**  
**Northwestern District**  
**Oregon Division**

**SPOKANE INTERNATIONAL  
RAILROAD COMPANY**

**Special  
Instructions  
No. 19**

**Effective Wednesday  
July 1, 1970**

Superseding Special Instructions No. 18

Employees whose duties are in any way affected  
thereby, must have a copy of these instructions  
with them while on duty.

**G. H. BAKER,**  
General Manager

**R. L. RICHMOND**  
General Superintendent

**R. B. HARDIN**  
Superintendent

NOTE: Changes in this issue are printed in type same as this.

## SPECIAL INSTRUCTIONS—ALL SUBDIVISIONS

(U.P.R.R. Co. Oregon Division and S.I.R.R. Co.)

### Railroad Watches

2 (R). Referring to Rule 2 of the Consolidated Code of Operating Rules, the following will govern:

Employees listed below must, while on duty, have and use a reliable railroad grade watch\* which must not vary more than 30 seconds from correct time.

Employees in train, engine or yard service.  
Assistant Superintendents of Safety and Courtesy  
Terminal Superintendents  
Assistant Terminal Superintendents  
Trainmasters  
Assistant Trainmasters  
Terminal Trainmasters  
Road Foremen of Engines

†Station Agents  
†Operators  
Outside Hostler Helpers

Such other employes as may be designated.

(†Except when assigned in offices where standard clock is located.)

(\*A railroad grade watch is a pocket watch which is equipped with a lever set, or a wrist watch of approved type.)

Wrist watches approved under this rule are:

Ball "Official Railroad Standard" Model 1604B, 21 jewel, size 13 ligne;

Bulova "Accutron-Railroad Approved" model, including calendar model;

Elgin "B. W. Raymond" model, 23 jewel, size 13/0;  
Hamilton electric Model 505 "Railroad Special";  
Longines Model "T-905" Railroad Watch.

3 (R). At stations where there is no standard clock, operators must compare time with the train dispatcher as soon as practicable after commencing each day's work, but before making time comparisons with other employes.

### Signals

7 (R). When starting trains with helper on rear end of train, and it is not possible to relay signals, the following method will be used:

When ready to move, engineer on head end will make a 15-pound automatic brake pipe reduction, return brake valve to running position and wait three minutes. Engineer on helper engine will start three minutes after his gauge shows brake pipe pressure being restored.

8 (R). Yellow flags by day and yellow lights by night will be used by switchtenders and herders.

Proceed signals as well as stop signals given by switchtenders must be answered.

### Reduce and Resume Speed Signs

12 (R). Reduced Speed sign showing by figures the maximum speed permitted, placed on engineer's side of track, indicates that the track 2500 feet distant is in condition for a speed of not more than indicated by the sign. Example: 60-25 will indicate maximum speed of 60 MPH for passenger trains, 25 MPH for freight trains.

Resume Speed sign placed on engineer's side of track, indicates that the Reduce Speed location has been passed.

The entire train must pass over the designated location at the specified speed.

Such speed restrictions will also be shown in time-table or superintendent's bulletin.

### Engine Whistle Signals

15 (R). In addition to locations listed in Operating Rule 15 (1), engine whistle must be sounded and bell rung approaching private crossings when view of crossing is obscured or when it can be seen that persons or vehicles are approaching or in the vicinity of the crossing.

### Tri Radial Lights

17 (R). Revolving amber light on locomotives so equipped must be burning both day and night as follows:

On road engines when engine is moving, except on trailing units in multiple consists;

On yard engines when moving in a street and when approaching and passing over any public or private crossing.

### Markers

19 (R). Union Pacific trains will display the following types of markers:

- (a) Marker lamp or lamps, unlighted by day, lighted by night; or,
- (b) Cupola-mounted marker lights on cabooses so equipped; or,
- (c) Oscillating red rear end light; or,
- (d) ReflectORIZED metal flags, except between Portland and Seattle.

19 (S). Red reflectORIZED disc with hinged cover, applied to cabooses and car body type units is for emergency use only and must be concealed except when its use is required to comply with Rule 19 (A).

### Movement In Yard Limits

93 (R). Unless otherwise authorized, a train or engine must not be moved against the current of traffic within yard limits until provision has been made for the protection of such movement.

### Railroad Crossings

98 (S). At a railroad crossing at grade protected by signals, crews must not leave trains, engines or cars standing between the opposing home signals unless length of consist extends beyond one of those signals.

### Public Crossings

103 (R). When a train, engine or switching movement is to be made against the normal current of traffic over a public crossing protected by automatic crossing signals, bells or gates, a member of the crew must protect crossing, unless a crossing watchman is on duty.

### Switches

104 (R). Except where otherwise specified, No. 14 turnouts are installed at all dual control switches in CTC territory.

104 (S). For movement through a spring switch where engine does not precede the cars, switch must be operated by hand.

### Train Orders

211 (R). In train order offices where duplicating machines are available, such machines may be used for reproduction of train orders when sufficient copies cannot be made at one writing.

Rule 211 of The Consolidated Code of Operating Rules is modified accordingly.

212 (R). Time in body of train orders must be stated in words and figures. In transmitting and repeating train orders, time must be spelled and then pronounced, example: "t-w-o t-e-n 2-1-oh PM".

215 (R). Except at initial stations, when a train's superiority is restricted for an opposing train at the point where the order is issued to it, the order must not be made complete to the train which is being advanced until the operator has placed two torpedoes on the rail not less than 1000 feet from the train order signal in the direction of the restricted train, and the train dispatcher has been notified that torpedoes have been placed. In addition, the restricted train must be brought to a stop by operator, using red flag or red fusee, before the train dispatcher OK's the clearance.

### Train Order Signals

222 (R). Lights will not be kept burning at night in train order signals on branches when operators are not on duty, and trains must be governed by the day indication of such signals.

### Telephone Booths

225 (R). Telephone booths equipped with locks must be locked after having been used. When lock on a telephone booth is missing or is found to be defective, report must be made to the train dispatcher.

### General Description of Signals

Unless otherwise indicated, where two or more signals are located on the same mast, the upper signal will govern main

route and the lower signal or signals will govern diverging route or routes.

Stop signals are designated by the absence of number plates and, in CTC territory, are marked by a plate bearing the letter "A".

Stop-and-Proceed signals are designated by number plates.

Block signal numbers indicate their location approximately in miles and tenths according to mile posts. Signals governing eastward trains have even numbers and signals governing westward trains have odd numbers.

### Use of Sand

247 (R). In moving over CTC, dual control, remote or spring switches, to avoid depositing heavy accumulation of sand on rail, automatic sanding device must be nullified passing fouling point. When tonnage and gradient requires use of sand to avoid slipping, hand sanders may be used.

### Authorizing Extras and Sections

250 (R). When movement is entirely within territory where Rule 251 or Rule 261 is in effect, sections and extra trains may be authorized by Clearance Form A, instead of by train order or numbered clearance, except that work extras must be authorized by train order in Rule 251 territory.

Clearance for a section must bear the words "Green signals" or "No signals" following section number. When clearance bears the words "Green signals" it requires the display of green signals to the terminal station of that train on that subdivision.

### Centralized Traffic Control System

267 (R). Clearance Form C must be received to authorize track and time limits for a work train. Clearance Form C must also be received to authorize a train or engine to proceed from a Stop indication as provided in Operating Rule 269 except when movement is leaving main track or leaving CTC territory or for movement entirely within yard limits.

267 (S). Trains in turn-around or work train service, must receive Clearance Form A at start of tour of duty. This clearance is authority for movement in CTC territory during continuous tour of duty without receipt of additional Clearance Form A, being governed by signal indications and instructions from dispatcher.

Helper engines cut off between terminals need not receive Clearance Form A for additional movements in CTC territory, but must be governed by signal indications and instructions from dispatcher.

268 (R). When a train or engine clears a controlled siding by use of an auxiliary track or branch line, a member of crew must report to train dispatcher when controlled siding is clear and switches properly lined. Train or engine must not re-enter controlled siding without authority from train dispatcher.

269 (R). In CTC territory at locations indicated in special instructions, push-buttons have been installed in telephone booths of relay houses at dual control switch locations for emergency use when the dispatcher cannot clear signals or when a Stop indication is displayed and communication has failed.

Two push-buttons are installed at each location, one marked "East" and the other "West" and the operation of the button for the proper direction will, when conditions permit, cause signals to clear for the movement. The following will govern:

Emergency push-buttons installed in telephone booths of relay houses at dual control switch locations may be used in an attempt to obtain proceed signal indication only when so instructed by dispatcher, or when communication fails.

When instructed by dispatcher to use emergency button and a Clear indication is received, train or engine may proceed in accordance with signal indications.

When stopped by a Stop indication and communication has failed, proper push-button may be used, and if a Clear indication is then displayed, the train or engine may proceed, but must move at restricted speed to the next Stop signal in advance, keeping close lookout for track car or obstruction. A report must be made to train dispatcher by quickest means of communication.

269 (S). In CTC territory, when flagging from a Stop signal in accordance with Rule 269, train or engine must not pass next point of communication except on signal indication or further authority from control operator.

### Dual Control Switches

275 (R). After passing a signal governing movement over a dual control switch, if train or engine stops before entire movement has passed next opposing signal and it is necessary to make a reverse movement, a member of the crew must so advise control operator.

Control operator must block signal levers and must not change position of the switch, clear a signal for a conflicting movement, or remove marker blocks until he has been advised verbally by a member of the crew that his train has backed clear of the insulated joints at the signal.

After having made reverse movement under these circumstances, no forward movement may be made except on signal indication or authority from control operator.

275 (S). When necessary to perform switching over dual control switch as provided in Operating Rule 275 (A), first move, when possible, must be made on signal indication.

275 (T). When communication fails and it is necessary to hand operate remote control or dual control switches, switch must not be operated until five minutes after selector lever has been placed in HAND position.

### AUTOMATIC CAB SIGNAL SYSTEM RULES

Note.—Automatic Cab Signal System Rules will be used only in ACS territory specified in the time-table or in special instructions.

### Aspects

Note.—In the following illustrations:

R—Red.  
Y—Yellow  
G—Green

451. Name—Restricting.



Indication—Proceed at restricted speed.

452. Name—Advance Approach.



Indication—Proceed prepared to pass next signal at not exceeding 40 miles per hour.

453. Name—Clear.



Indication—Proceed.

Rules

454. Automatic Cab Signal System supplements automatic block signals in governing the use of blocks, but does not supersede the superiority of trains, nor dispense with the observance of rules governing the use of automatic block or other signals and rules whenever and wherever they may be required, except as prescribed by Rule 456.

455. When cab signal indication changes to a more restrictive indication, engineer must acknowledge with acknowledging device.

456. When a train is proceeding after having been stopped by a block signal, if cab signal changes to a less restrictive indication, train may proceed in accordance with indication received after it has moved its length beyond point where cab signal changed.

Exception: Rule 456 does not apply when proceeding after having been stopped by a flashing red light on a block signal.

456 (R). Automatic Cab Signal Rule 456 does not apply when a train is proceeding after having been stopped by a block signal governing movement through a block in which slide warning detector fences are located. In such case, movement through the entire block must be made at restricted speed regardless of the fact that the cab signal changes to a less restrictive indication.

457. When cab signal indication does not correspond with block signal indication, engineer must be governed by the most restrictive indication displayed by either signal, and must report the fact to train dispatcher from first available point of communication, giving signal number and engine number.

When cab signal indication does not correspond with block signal indication for two consecutive blocks, cab signal may be considered inoperative. If previous advice has been received from train dispatcher or by bulletin of inoperative cab signal within designated limits, train must proceed within those limits in accordance with second and third paragraphs of Rule 458.

458. When a cab signal device becomes inoperative, train may proceed in accordance with block signal indications but not exceeding 40 miles per hour to the next available point of communication where report must be made to train dispatcher, who will instruct as to cutting out cab signal devices and further movement of train.

When cab signal devices have been cut out, train may proceed in accordance with block signal indications but not exceeding 79 miles per hour and as much slower as rules or conditions require.

While so proceeding, if train encounters a block signal displaying Stop or Stop-and-Proceed indication, or light not burning on a block signal, train must stop. After stopping, train must wait for change of signal indication and if the signal does not change to a less restrictive indication within three minutes, the train may proceed as prescribed by Rule 509.

459. When necessary to use a non-equipped engine on a passenger train, movement must be same as with engine with inoperative cab signal in accordance with second and third paragraphs of Rule 458.

460. When equipped engines are double-headed, all but leading engine must have cab signal devices cut out.

461. When engineer takes charge of an equipped engine in cab signal territory or enters cab signal territory, he must know that cab signal devices are cut in.

Operative tests must be made by engineer before entering cab signal territory.

462. Cab signal devices must not be cut out while in cab signal territory without authority.

On an equipped engine with three-position acknowledging device, use of cut-out position is prohibited when operating within cab signal territory, except when authorized.

When seals on cab signal devices are broken, or found broken or missing, report must be made promptly.

463. Cab signals will not indicate conditions ahead when the engine is:

- (a) Moving against the current of traffic.
- (b) Pushing cars.
- (c) Not equipped for backward running and is running backward.

464. If the cab warning whistle sounds longer than 6 seconds, another member of crew in cab of engine must go to the engineer immediately and ascertain cause, and when conditions require, must take immediate action to stop train.

465. If cab signal whistle fails to sound when cab signal changes to a more restrictive indication, Rule 458 must be complied with.

Block Signals

509 (R). When a slide warning device plug is found pulled or controller operated but no obstruction on or damage to track is found, the plug must be replaced, if practicable, or controller reset by depressing "Re-set" button, and conductor must make report to train dispatcher by *quickest means of communication*.

513 (R). Referring to exception (a), Rule 513. Indication displayed by a track occupancy indicator (block indicator) is not authority for a train or engine movement, nor does it relieve a train or engine from waiting five minutes before fouling a main track.

517 (R). If a block signal fails to display its most restrictive indication when a block is occupied or when a switch connected with automatic block signal system is changed from its normal position, it must be regarded as displaying a Stop indication. A member of the crew must be left at signal and he must stop all trains moving in the direction governed by that signal and inform them of false-clear indication. Flagman must remain there until relieved by an employe of Signal Department or by instructions from proper officer.

A train or engine with no brakeman must place a red flag in center of track opposite the signal; then in both directions place two torpedoes one-half mile from red signal and two torpedoes one and one-half miles from red signal.

In all cases, train dispatcher must be notified by the *quickest means of communication*.

Use of Radio

650 (R). Radio communication must not be used to avoid compliance with any operating rule.

Employes on trains must not ask, and employes at stations must not advise the indication of block signals, interlocking signals or train order signals, nor may such information be passed from one train to another by radio.

Channels assigned to other railroads are provided for use only while operating over those railroads. Use of these channels in other territories is prohibited.

Safety Precautions

700 (R). Employes must not step on the coupler or drawbar of any car, or on any portion of cushioning devices.

Passengers on Freight Trains

710 (R). The following passengers only may be carried on freight trains between stations at which the trains stop:

- Persons in charge of live stock or other freight when provided with proper transportation;
- Employes of Union Pacific Railroad with annual pass when traveling on company business requiring use of freight trains;
- Other persons with annual or trip pass only when endorsed "Good on Freight Trains";
- Passengers holding revenue tickets with permit issued by superintendent.

710 (R). Continued.

Agents and conductors must notify passengers, stockmen, messengers and caretakers that they must ride in the place provided for them, and must not get on or off caboose, drover cars or other cars while train is in motion, and that in all cases the train will be stopped at designated points for this purpose.

Inspection of Trains

713 (R). When train is moving, a trainman must be stationed on rear of train to give or receive signals as follows:

When meeting trains on double track; when meeting or passing trains on sidings; when passing train order signals. On freight trains, trainman must be on rear platform of caboose; on passenger trains, he may be on platform of rear passenger-carrying car, and top half of vestibule door must be open.

713 (S). When 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.

713 (T). When starting from initial stations and intermediate stops, freight trains must not exceed 6 MPH for the first train length unless proceed signal is received from trainman, or it is known that all members of the crew are aboard the train.

713 (U). On freight car wheels, flat spots two and one-half inches or longer, or if there are two or more adjoining spots each two inches or longer, on passenger cars one inch or longer, and on turbine or diesel locomotives two inches or longer, are condemnable and when discovered in train, conductor or engineer must immediately report to train dispatcher and be governed by his instructions.

714 (R). As soon as hot box is detected, train must be stopped and no attempt made to run to next siding to set out car without making an inspection before proceeding.

When a car is set out account hot box, all fire in box must be extinguished. Dirt, gravel or snow must be placed on top of box at back end over top of dust guard retainer opening. If dry chemical fire extinguisher available, contents of one bag should be thrown into journal box and lid closed until fire extinguished, after which all packing must be removed from waste packed box and any remaining fire therein extinguished. Pad lubricator must be removed when practicable. Journal box lid must be left closed. Conductor must make thorough inspection of car body before and after attention is given to hot box to insure there is no further danger of fire.

714 (S). Location of hot box detectors is shown in special instructions for each subdivision.

Installation of hot box detectors and the instructions contained in this rule in no way relieve members of crew, operators or others from compliance with rules relative to watching train, inspection of their train, or inspection of other trains.

When advised by dispatcher of suspected hot journal, train must stop immediately and journal must be inspected. If this journal is of normal temperature, before proceeding, all other journals on car reported as well as all journals on three cars each side of car reported must be hand felt. Train dispatcher must be advised of findings.

Fire Prevention

726 (R). Cars loaded with explosives or flammable commodities must not be permitted to stand over open flame switch heater. If stop is made with such cars standing over open flame heater, flame must be extinguished.

726 (S). Cabs, outfit cars or other cars which contain stoves with fire burning, must be placed in yards or at stations where the danger of fire is minimized to the greatest extent practicable. Such cars must not be left unattended on bridges for extended periods of time.

726 (T). Employees are prohibited from smoking or carrying lighted cigars, cigarettes or pipes in mail, baggage or express cars while same are being loaded, unloaded or while in transit.

Handling of Explosives or Other Dangerous Articles

729 (R). Trainmen, enginemen, yardmen, agents and other employees who in any way handle or care for explosives and other dangerous articles must familiarize themselves with the regulations and instructions governing the handling of them.

BE 589 (b). A car requiring car certificates and "Explosives," "Dangerous," "Dangerous—Radioactive Material," "Poison Gas," "Flammable Poison Gas," "Dangerous—Empty Flammable Poison Gas," "Dangerous—Empty Poison Gas" or "Caution—Residual Phosphorus" placards under the provisions of this part shall not be transported unless such freight car is at all times placarded and certificated as required. Placards and car certificates lost in transit shall be replaced at the next inspection point, and those not required shall be removed at the next terminal where the train is classified.

BE 589 (b). (1) At points where trains are inspected, cars placarded "Explosives" and adjacent cars shall be inspected; such cars shall continue in movement only when inspection shows them to be in condition for safe transportation.

Switching Cars Containing Explosives, Poison Gas, or Flammable Poison Gas or Placarded Trailers on Flat Cars

BE 589 (c). A car placarded "Explosives," "Poison Gas," or "Flammable Poison Gas," or any flat car carrying a trailer placarded "Explosives," "Poison Gas," "Dangerous," or "Dangerous—Radioactive Material" shall not be cut off while in motion. No car moving under its own momentum shall be allowed to strike any car placarded "Explosives," "Poison Gas," or "Flammable Poison Gas," or any flat car carrying a trailer placarded "Explosives," "Poison Gas," "Dangerous," or "Dangerous—Radioactive Material," nor shall any such car be coupled into with more force than is necessary to complete the coupling.

BE 589 (c). (1) When transporting a car placarded "Explosives" in terminals, yards, side tracks, or sidings, such cars shall be separated from the engine by at least one non-placarded car.

BE 589 (c). (2) Closed cars placarded "Explosives" shall have doors closed before they are moved.

Switching of Cars Containing Dangerous Articles

BE 589 (d). In switching operations where use of hand brakes is necessary, a placarded loaded tank car, or a draft which includes a placarded loaded tank car shall not be cut off until the preceding car or cars clear the ladder track and the draft containing the placarded loaded tank car, or a placarded loaded tank car shall in turn clear the ladder before another car is allowed to follow.

BE 589 (d). (1) In switching operations where hand brakes are used, it shall be determined by trial that a car placarded "Dangerous" or that a car occupied by a rider in a draft containing a car placarded "Dangerous" has its hand brakes in proper working condition before it is cut off.

Placement of Freight Cars Containing Explosives in Yards, on Sidings, or Sidetracks

BE 589 (e). Cars placarded "Explosives" shall be so placed that they will be safe from all probable danger of fire. Freight cars placarded "Explosives" shall not be placed under bridges or overhead highway crossings nor in or alongside of passenger sheds or stations except for loading or unloading purposes.

Notice to Crews of Cars Containing Explosives in Freight Trains or Mixed Trains

BE 589 (f). At all terminals or other places where trains are made up by crews other than road crew accompanying the outbound movement of cars, the railroad shall execute a consecutively numbered notice showing the location in the freight train or mixed train of every car placarded "Explosives." A copy of such notice shall be delivered to the train and engine crew and a copy thereof showing delivery to the train and engine crew shall be kept on file by the railroad at each point where such notice is given. At points where train or engine crews are changed, the notice shall be transferred from crew to crew.

Position in Freight Train or Mixed Train of Cars Containing Explosives

BE 589 (g). In a freight train or a mixed train either standing or during transportation thereof, a car placarded "Explosives" shall, when length of train permits, be placed not nearer than the sixteenth car from both the engine or occupied caboose, except:

- (1) When the length of freight train or mixed train will not

BE 589 (g). Continued.

permit it to be so placed, it shall be placed near the middle of the train.

(2) When transported in a freight train made up in "blocks" or classifications, a car placarded "Explosives" shall be placed near the middle of the "block" or classification in which moving, but not nearer than the sixth car from both the engine or occupied caboose.

(3) When transported in a freight train or a mixed train performing pickup and/or setoff service, it shall be placed not nearer than the second car from both the engine or occupied caboose, except as provided in paragraph (1) of this section.

#### Separating Cars or Flat Cars Carrying Trailers or Containers Placarded "Explosives" From Other Cars in Train

BE 589 (h). In a freight train or a mixed train either standing or during transportation thereof, a car or flat car carrying trailers or containers placarded "Explosives" must not be handled next to:

1. Occupied passenger car; except as provided in paragraph (1) of this section.
2. Occupied combination car; except as provided in paragraph (1) of this section.
3. Any car placarded "Dangerous" or "Dangerous-Radioactive Material."
4. Engine.
5. Any car placarded "Poison Gas" or "Flammable Poison Gas."
6. Wooden under frame car (except on narrow gauge railroads).
7. Loaded flat car, except that cars carrying trailers or containers placarded "EXPLOSIVES" as authorized by the regulations in this chapter may be coupled to each other. (Note: Flat cars equipped with permanently attached ends of rigid construction shall be considered as open-top cars. See subparagraph (8) of this paragraph.)
8. Open-top car when any of the lading protrudes beyond the car ends or when any of the lading extending above the car ends is liable to shift so as to protrude beyond the car ends.
9. Car, with automatic refrigeration or heating apparatus in operation; car, with open-flame apparatus in service or with internal combustion engine in operation.
10. Car containing lighted heaters, stoves or lanterns.
11. Car loaded with live animals or fowl, occupied by an attendant.
12. Occupied caboose except as provided in paragraph (1) of this section.

#### Position in Train of Loaded Placarded Tank Car

BE 589 (i). In a freight train or a mixed train, except a train consisting entirely of placarded loaded tank cars and as provided in paragraph (j) of this section, a placarded loaded tank car shall when the length of the train permits, be not nearer than the sixth car from the engine, occupied caboose or passenger car.

BE 589 (i). (1) When the length of the freight train or mixed train will not permit it to be so placed, it shall be not nearer than the second car from the engine, occupied caboose or passenger car.

BE 589 (i). (2) When transported in a freight train engaged in "pickup" or "setoff" service, a placarded loaded tank car shall be not nearer than the second car from both engine or occupied caboose.

#### Separating Loaded Tank Cars Placarded "Dangerous" From Other Cars in Train

BE 589 (j) In a freight train or mixed train either standing or during transportation thereof, a placarded loaded tank car must not be handled next to:

1. Occupied passenger car, other than cars occupied by gas handlers and authorized personnel accompanying shipment.
2. Occupied combination car, other than cars occupied by gas handlers and authorized personnel accompanying shipment.
3. Any car placarded "Explosives."
4. Engine or occupied caboose, (except when train consists only of placarded loaded tank cars).

5. Any car placarded "Poison Gas" or "Flammable Poison Gas."
6. Wooden under-frame car (except on narrow gauge railroads).
7. Loaded flat car, other than specially equipped cars in trailer-on-flat-car service or flat cars loaded with automobiles, trucks, or trailer bodies which are secured by means of a device or devices designed and permanently installed on the flat car for that purpose and of a type generally accepted for handling in interchange between railroads. (Note: Flat cars equipped with permanently attached ends of rigid construction shall be considered as open-top cars. See subparagraph (8) of this paragraph.)
8. Open-top car when any of the lading protrudes beyond the car ends or when any of the lading extending above the car ends is liable to shift so as to protrude beyond the car ends.
9. Car, trailers or truck bodies on flat car with automatic refrigeration or heating apparatus in operation; car, trailers or truck bodies on flat car with open-flame apparatus in service or with internal combustion engines in operation.
10. Car, trailers or truck bodies on flat car containing lighted heaters, stoves or lanterns except when car is occupied by gas handlers or authorized personnel accompanying shipment.
11. Car loaded with live animals or fowl, occupied by an attendant.

#### Position in Freight Train or Mixed Train of Cars Placarded "Poison Gas," "Flammable Poison Gas," or Containing Poison Liquids, Class A.

BE 589 (k). In a freight train or mixed train either standing or during transportation thereof, a car placarded "Poison Gas," "Flammable Poison Gas" or containing poison liquids, class A, shall not be next to other freight cars placarded "Explosives" or cars placarded "Dangerous."

BE 589 (k). (1) In a freight train or mixed train either standing or during transportation thereof, a loaded tank car placarded "POISON GAS," or "FLAMMABLE POISON GAS," must not be handled next to:

- (i) Occupied passenger car, other than cars occupied by gas handlers and authorized personnel accompanying shipment.
- (ii) Occupied combination car, other than cars, occupied by gas handlers and authorized personnel accompanying shipment.
- (iii) Any car placarded "EXPLOSIVES."
- (iv) Engine or occupied caboose.
- (v) Any car placarded "DANGEROUS."
- (vi) Wooden under-frame car (except on narrow gauge railroads).

(vii) Loaded flat car, other than specially equipped cars in trailer-on-flat-car service or flat cars loaded with automobiles, trucks, or trailer bodies which are secured by mean of a device or devices designed and permanently installed on the flat car for that purpose and of a type generally accepted for handling in interchange between railroads. (Note: Flat cars equipped with permanently attached ends of rigid construction shall be considered as open-top cars. See subparagraph (k) (1) (viii).)

(viii) Open-top car when any of the lading protrudes beyond the car ends or when any of the lading extending above the car ends is liable to shift so as to protrude beyond the car ends.

(ix) Car, trailers or truck bodies on flat car with automatic refrigeration or heating apparatus in operation; car, trailers or truck bodies on flat car with open-flame apparatus in service or with internal combustion engines in operation.

(x) Car, trailers or truck bodies on flat car containing lighted heaters, stoves or lanterns except when car is occupied by gas handlers or authorized personnel accompanying shipment.

(xi) Car loaded with live animals or fowl, occupied by an attendant.

#### Position in Freight Train or Mixed Train of Cars Placarded "Explosives" or "Poison Gas" or Both, and Cars Placarded "Flammable Poison Gas" When Accompanied by Cars Carrying Guards or Gas Handling Crews

BE 589 (l). A car requiring "Explosives" or "Poison Gas" placards, or both, and a car requiring "Flammable Poison Gas"

BE 589 (l). Continued.

placards, shall be next to and ahead of the car occupied by the guards or gas handling crews accompanying such car; except that when the car occupied by guards or gas handling crews is equipped with a lighted heater or stove it shall be the fourth car behind a car or cars requiring "Explosives" placards.

#### Cars Containing Explosives, Poison Gas, or Flammable Poison Gas and Tank Cars Placarded "Dangerous" in Passenger or Mixed Trains

BE 589 (m). Cars containing explosives, class A, poison gases or liquids, class A, or flammable poison gas, and tank cars requiring "Dangerous" placards shall not be transported in a passenger train. Such cars may be transported in mixed trains but only at such times and between such points that freight train service is not in operation.

Exception: Carload shipments of explosives may be made by express and handled in passenger trains when in sealed express cars properly placarded. Such explosives may also be handled in an express peddler car with messenger in charge when such car is assigned to the handling of express and baggage exclusively.

BE 589 (m). (1) Cars containing explosives, class A, poison gases or liquids, class A, or flammable poison gas, and tank cars placarded "Dangerous" shall not be transported next to occupied cabooses or cars carrying passengers in mixed trains, except as provided in paragraph (1) of this section.

BE 589 (m). (2) When a car containing explosives, Class B, or dangerous articles other than explosives requiring labels (not including Class A poison gases or liquids) is moved in a mixed train and such car is not occupied by an employe of the carrier, placards must be applied to the car as required by this part.

#### Position in Train of Cars Containing Radioactive Materials

BE 589 (n). In a freight train or mixed train either standing or during transportation thereof, a car placarded "Dangerous-Radioactive Material" must not be handled next to cars placarded "Explosives" or next to carload shipments of undeveloped film.

#### Empty Tank Cars

Empty tank cars must not be moved from stations unless dome cover and all outlet caps have been replaced and wrenched tight, shipping tags and cards removed from car and "Dangerous" placards removed or replaced by "Dangerous-Empty" placards.

#### Power Transmission Wires

734 (R). Power transmission wires carrying 2300 volt circuit are located on top arms of signal pole lines and on top arms of joint communication and signal pole lines.

#### High and Wide Cars

799 (X). Trains handling cars or loads of excess height or in excess of 12 feet in width must keep close lookout for close clearances and where overhead or side clearance is doubtful, movement must be stopped and adequate protection provided.

Cars of excess height, as per stencil or placard, must not be switched with except in placing them in and taking them out of trains. In switching movements such cars must not be cut off while in motion, but must be shoved to a stop. No one will be permitted to ride on top of such cars.

Loads of excess width must not be stored on nor moved over yard tracks where clearance is insufficient, unless there is an intervening track between trains or cars containing loads of excess width. No one will be permitted to ride on the side of such cars.

Unless otherwise instructed, cars of excess width or height must be handled in head end of train.

Except in CTC territory, trains handling wide loads must obtain meeting or passing order with other trains handling wide loads at stations where they will have a track between them.

When a train which is handling a wide load is notified by train order of another train handling a wide load, the train dispatcher must be notified so that meeting or passing point can be arranged.

Crews of trains receiving notice of wide load in other trains must inspect their train for open or swinging doors or anything projecting beyond normal clearance.

799 (Y). For all cars (both loads and empties) which have over-all dimensions exceeding published clearances or whose movement is subject to regulation by State Public Service Commissions,

maximum over-all dimensions will be furnished from the Office of General Superintendent of Transportation to District Superintendents of Transportation, General Managers and Superintendents, along with the applicable coded standard operating procedures for certain specific measurements and conditions which are common to most of such cars. The codes involve the use of a number and a letter in coordinated sequence, i.e., 1-A, 2-B, 3-C, etc., and are self-policing against error and are enumerated below with the restrictions and protective requirements indicated.

- 1A Protect against other loads over 12 ft. wide, also all loads and equipment having a width over 12 ft. due to track curvature and through turnouts, by arranging definite meeting and passing points where track centers will provide safe clearance.
- 2B This load must not pass or be passed on parallel, tangent or curved tracks except at arranged meeting and passing points where track centers will provide safe clearance.
- 3C This load must not pass or be passed on curved tracks except at arranged meeting and passing points where track centers will provide safe clearance.
- 4D See that loads and equipment are back of fouling points to clear extreme width of this equipment.
- 5E Separate this load from locomotive or any other heavy load exceeding 177,000 lbs. gross weight, by at least three cars not exceeding 177,000 lbs. gross weight each.
- 6F Load must be placed on carrying car so that all axles are equally loaded.
- 7G Account too large to move direct via Aspen Tunnel must route east from Ogden over westbound main track through the Altamont Tunnel between Ogden and Granger.
- 8H Cannot be handled direct to Spokane and must move via Hooper Junction and Colfax or Thornton to Spokane.
- 9I Route via the westbound main track No. 5 through the Spokane passenger terminal.
- 10J Do not detour via team tracks Nos. 1 and 5 under James Street Railway viaduct at Kansas City.
- 11K Keep off tracks under train shed and adjacent to umbrella sheds at Salt Lake City.
- 12L Do not route via the Leamington cut-off on a 9 degree, 36 minute curve under the North Temple Street Viaduct at Salt Lake City account insufficient horizontal clearance.
- 13M Cars are of standard dimensions on the Utah Division but high and/or wide in States of California and Nevada.
- 14N Cars are of standard dimensions for the State of Idaho but high and/or wide in States of Oregon and Washington.

Detailed instructions will be issued to provide proper protection for any conditions not specifically provided for in Codes 1-A through 14-N.

It must be fully understood that there is to be no change in the present method of issuing train orders for these excess dimension cars.

#### Position of Cars in Trains

805 (R). Scale test cars and cars tagged, stenciled, or billed "Handle Only At Rear End of Train" must be handled in rear of train with scale test car next to caboose.

805 (S). Referring to Rule 805 (E), Consolidated Code of Operating Rules:

Open-top cars or flat cars loaded with pipe, lumber, plate or rolled steel, poles or other lading which has a tendency to shift, must not be handled in train next to engine or caboose. This does not apply to trailers or containers on flat cars except to flatbed or stake body trailers loaded with similar commodities.

In train movements, freight cars 85 ft. or more in length must not be coupled to a diesel unit nor to any car 39 ft. or less in length except that such cars equipped with signal and steam heat line may be handled in passenger train coupled to diesel unit.

805 (T). Automobiles, trucks or tractors loaded on flat cars or multi-level auto racks must be entrained not less than five cars behind engine. If practicable, such cars must be entrained ahead of open-top cars containing coal, coke, pumice, sand or any other abrasive material. If this cannot be done, such cars must be entrained not closer than five cars behind any open-top car containing abrasive material.

805 (U). Open-top cars containing pumice, chips, sand or other commodities subject to blowing off cars must, when practicable, be entrained not less than ten cars ahead of caboose. Cars con-

taining one of these commodities should be separated from cars containing another of these commodities by three cars, to avoid contamination.

805 (V). Snow plows handled in freight trains must be handled next ahead of caboose. Snow plows with only one drawbar may be handled behind caboose when securely chained to caboose, and with air brakes operative. When handling snow plows in switching moves, snow plows must be handled alone, or with not more than one car.

805 (W). The following aluminum center-flow covered hopper cars, loaded or empty, must be entrained at rear of train, not more than 15 cars from rear:

SN 5501 to 5510, inclusive.

These are cylindrical covered hoppers and do not have complete center sill.

805 (X). Cars loaded with phosphorus or cars placarded "Caution—Residual Phosphorus" must be handled as near to rear of train as possible, but not nearer than sixth car from occupied caboose, length of train permitting.

805 (Y). The following tank cars are in service for movement of phosphorous from points in Idaho to various destinations:

MONX 23000 Series, gross wt. loaded, 414,000 lbs.

MCPX 23000 Series, gross wt. loaded, 414,000 lbs.

FMLX 19000 Series, gross wt. loaded, 315,000 lbs.

Additional cars of similar capacity and high gross weight may be placed in this service. When being returned to loading points, these cars carry water ballast. The following governs handling:

When Loaded with Phosphorous:

MONX 23000 and MCPX 23000 Series cars must be separated from the locomotive, from each other, and from any car with gross weight exceeding 220,000 pounds by not less than three cars of a gross weight not exceeding 220,000 pounds. Must be handled at speeds not exceeding 50 MPH.

FMLX 19000 Series cars, single or not more than two such cars coupled, must be separated from locomotive and from any other car exceeding 220,000 pounds gross weight by not less than three cars of a gross weight not exceeding 220,000 pounds.

When Loaded with Phosphorous or with Water Ballast:

These cars must be coupled carefully, must not be humped and must not be cut off while in motion. In switching operations they must be handled with air brakes cut in and operative.

Except at loading or unloading facilities where derail protection is provided, if necessary to set these cars out or to leave them unattended, they must be coupled to another car of a different type, hand brakes applied on both cars and air reservoirs drained to determine that hand brakes are sufficient to hold the cars.

805 (Z-1). Instruction and exhibition cars series UP 200-209 inclusive are equipped with Sharon couplers and must be handled at rear end of trains only.

Union Pacific boxcars in Series 24400-24488 (former high-speed mail and baggage cars), when handled in freight trains, must be handled on rear end only.

#### Diesel Units Dead in Train

805 (Z-2). Foreign line, government, export or commercial diesel units, Union Pacific yard-switcher units of any type or Union Pacific road-switcher units of Alco, or Baldwin type, to be moved dead in train must be separated from each other and from the engine by not less than five cars and must be entrained not more than 30 cars behind the control unit. Waybill instructions must be carefully checked and unless modified in writing must be complied with. In the absence of instructions relative to speed, a speed of 35 MPH must not be exceeded with yard-switcher, or 45 MPH with road-switcher units of these types dead in train.

#### Cars Partly Loaded or Unloaded

808 (R). All persons are prohibited from riding in cars while being switched, which are in the process of being loaded or unloaded. Part loads will not be switched unless properly broken down or properly braced to prevent contents falling and being damaged. Before switching with or moving cars which are in the process of loading or unloading, persons working in or about the cars must be notified and trainmen and yardmen must see that cars are not switched with until cars are vacated. When such cars are moved, they must be returned to their former location unless otherwise directed.

#### Movements on Leads and Yard Tracks

808 (S). In terminal yards, road engines, trains and yard movements approaching leads, must stop before fouling lead unless it is known that switches are properly lined and lead is clear.

Before a train starts out of yard track, brakeman will precede the movement to a point where it is known route is clear.

#### Track Scales

808 (T). Engines must not be moved over live rails of track scales and when moved over dead rails of track scales, a speed of 5 MPH must not be exceeded.

Sanders must not be used over track scales and engines or cars must not stand on dead rail over scale deck or platform of track scales.

Cars to be weighed must be stopped on scales and uncoupled at both ends while being weighed, except on scales equipped with automatic weighing device.

Cars must not be violently stopped by impact, sudden application of brakes or by blocking wheels. After cars are weighed, they must not be moved over live rails if possible to avoid it. When making impact with cars on scales, speed must not exceed 2 MPH and 4 MPH must not be exceeded over scales in any case.

Cars on live rail must not be moved by other cars or engines moving on dead rail, or vice versa. Cars must not be moved over scale with one truck on live rail and other truck on dead rail.

#### Securing Cars

809 (R). Each passenger unit with control cab is provided with two chain wheel blocks for emergency use.

When necessary to set out a car or a unit from a passenger train between terminals, in addition to applying hand brakes as required by the rules, wheels must be blocked using these chain wheel blocks.

#### Switching Operations

810 (R). When spotting cars at rail trailer facilities, auto unloading ramps or on spur tracks, movement must be stopped three car lengths from end of track, and further movement must be preceded by a member of the crew on the ground.

When placing cars at rail trailer facilities or auto ramps, cars must be coupled, slack bunched, and sufficient hand brakes applied on cars farthest from ramp.

810 (S). New outfit cars being placed in service, converted from passenger equipment, contain equipment highly subject to damage from slack action or rough handling.

These cars are numbered 906052 to 906071 inclusive and 906100 to 906124 inclusive and can be readily identified as they are painted light green instead of the usual aluminum color.

These cars must be handled with extreme care, and in switching with them, air brakes must be cut in and operative.

They must not be humped, and must not be cut off while in motion. Other cars must not be cut off while in motion and allowed to couple to these cars or a cut containing these cars.

#### Continuous Rail Trains

810 (T). Following instructions govern movement of continuous welded rail, or of continuous lengths of jointed rail from one location to another.

This rail is loaded on sets of 26 permanently coupled flat cars with buffer car at each end, and a caboose for Maintenance of Way Supervisor in charge.

This equipment must be handled as a unit, must not be switched with, and when combined with other traffic must be handled next to engine. Consist of such trains must not exceed a total of 50 cars, including caboose.

Maximum speed when handling this equipment under load:

Unrestricted track—40 MPH.

On restricted curves—20 MPH less than published speed restriction except where published speed restriction is 30 MPH or less—maximum speed—10 MPH.

Through cross-overs or turn-outs—10 MPH.

After entering a siding or yard track, train must not proceed until authority is received from Maintenance of Way Supervisor assigned to ride with each train.

Crews must be alert for any signal or communication from rail train supervisor while train is in motion.

Couplers on welded rail train cars are subject to damage from rough handling, account blocking of couplers for rail train service.

These cars are numbered 903900 to 903989 inclusive, and can be readily identified as they are painted a light green color.

These cars must be handled with extreme care, and in switching them, air brakes must be cut in and operative.

They must not be humped, and must not be cut off while in motion. Other cars must not be cut off while in motion and allowed to couple to these cars or a cut containing these cars.

#### Helper Engines

812 (R). Helper engine on passenger train must be coupled ahead of road engine. Passenger trains must not be pushed from the rear except in case of emergency or other unusual circumstances and then for no greater distance than is necessary.

On freight trains, when helper engine is to be cut into train, units with combined total of not more than 7500 HP may be cut in ahead of caboose, and must be cut in ahead of cars designated in Special Instructions 805 (R). If helper engine consists of units, the combined total of which exceeds 7500 HP, helper engine must be cut in ahead of tonnage for all units in excess of 7500 HP. When necessary to cut two helper engines into a train, the helper engine with the greatest total horsepower must be cut in nearest head end of train and ahead of the tonnage of the rear helper engine.

#### Coupling Passenger Cars

888 (R). When coupling an engine or cars to passenger equipment, coupling must be tested by stretching slack after coupling is made.

After coupling a tight lock coupler to any coupler, it must be seen that knuckle is securely locked in closed position.

When coupling other type coupler to tight lock coupler, knuckle on tight lock coupler must be closed and knuckle on other coupler must be open, to be closed by impact of car.

After cars are coupled, tight lock couplers must be inspected to see that tell-tale is visible just below bottom of coupler head and that knuckle is locked.

#### Cabooses

900 (R). At final terminal, caboose windows must be closed and caboose must be locked unless outbound crew is available to take charge of caboose.

#### Engine Service

920 (R). Referring to Operating Rule 920 and to Air Brake Rule 1001 (A):

At terminals where mechanical forces are employed, the Mechanical Department will be responsible for knowing, when an engine is set out for service, that it is in good working order and is adequately furnished with fuel, water, sand and other supplies, including flagging equipment and signal appliances. Enginemen will not be required to make inspection of engine at such points, except for inspecting and testing air brakes as required by Special Instruction 1001 (R).

Engine crews will leave roundhouse or designated track promptly when engine is available.

920 (S). Engineer must not permit any unauthorized person to handle the locomotive. The fireman, when competent, may handle the locomotive under the close supervision of the engineer, under the following conditions, the engineer being responsible:

In road freight service;

In yard service provided the fireman is a promoted engineer.

The fireman must not be permitted to handle the locomotive in road passenger service except in emergency.

920 (T). Rear view mirror of engines so equipped must not be used for observing conditions or hand signals in making backup or switching movements or in making couplings.

#### Leaving Locomotives Unattended

920 (U). Locomotive must not be left without a man in charge, except at designated places and under authorized conditions. Locomotives must not be left standing so they will block or foul adjacent tracks.

When locomotive coupled to cars is left unattended, hand brakes must be set on not less than ten cars, or on all cars in case locomotive is coupled to only ten cars or less.

920 (V). When a locomotive equipped with operative safety control feature and with independent air brake fully applied is left unattended, hand brakes on units need not be set as required by Air Brake Rule 1003, unless engines are shut down. This does not modify the requirements of Air Brake Rule 1044 (B).

The use of independent air brake and operative safety control feature, with engines idling, is sufficient to secure an unattended locomotive.

When engines of a locomotive are shut down, air brakes must be fully applied and, in addition, front and rear of a traction wheel must be blocked, hand brake applied on each unit, and sufficient hand brakes must be applied throughout the train to prevent movement should air brakes leak off.

During freezing weather, when diesel engines are shut down, cooling water must be drained to winter level and, if necessary, to prevent damage to engine, must be drained completely.

920 (W). At points where no mechanical forces are employed, or are not on duty, and locomotive is left unattended, reverse lever must be removed and delivered to crew dispatcher, operator or other designated employe on duty at location where enginemen register.

#### Speedometers

928 (R). On locomotive equipped with speedometer, engineer must verify accuracy of speedometer not less than twice during each trip, by using watch to make time check between mile posts.

First check will be made at first opportunity after departure from point where engineer takes charge of locomotive. Care should be exercised to make check while speed is constant between mile posts, and, when possible, speed should be 30 MPH or over.

When check indicates speedometer is not registering correctly, report must be made to train dispatcher.

#### Inspecting Locomotives

928 (S). When stopped at points between terminals where time will permit, engineers must get on ground and inspect both sides of their locomotive.

#### Diesel Locomotives

930 (R). When a locomotive consisting of two or more units is to be moved in yards, around enginehouses, or between stations without cars, if unit at each end is equipped with control cab, locomotive must be operated from leading unit in direction of movement unless the movement is protected by a trainman.

Movement of locomotives at enginehouses, servicing or maintenance facilities must not exceed 5 miles per hour.

Engines must be stopped before moving onto a turn-table, and before entering enginehouse or servicing facilities where elevated tracks or pits are used.

930 (S). When diesel units are operating with less than full complement of motors or when it is necessary to cut out one or more of the motors at any time enroute, train dispatcher must be notified at first opportunity.

930 (T). On locomotives in road service, not more than five men may ride in control cab.

Unauthorized persons, including deadhead train and engine men, must not occupy cab of trailing unit of diesel locomotive on any train.

930 (U). On diesel locomotives, side and end doors of engine rooms must be kept closed while the locomotives are moving.

930 (V). Referring to Rule 101 (C), the following will govern: Diesel engines must not be towed, or operated under their own power, through water over three inches above rail. When towed, or operated under own power through water above rail, a speed of three (3) MPH must not be exceeded.

930 (W). Doors of high voltage cabinets must not be opened and adjustments must not be attempted nor made in high voltage cabinets of diesel locomotives until engine has first been isolated and stopped and units have come to a stop.

930 (X). When necessary to break seal on any sealed portion of a locomotive, notation must be made on engineer's work report explaining necessity for breaking seal.

930 (Y). Ground relay protection knife switches are applied for use by electrical forces in making tests of equipment. Under no circumstances may the seal on ground relay knife switch be broken, or knife switch be opened. When seal on ground relay knife switch is broken or is found broken or missing, such information must be included on work report.

930 (Z). To avoid damage to traction motors and failures thereof, when diesel freight locomotives consists are mixed with units having different gear ratios, the unit having lowest ratio or lowest maximum speed will govern maximum MPH. The unit having highest minimum continuous speed will govern the slower speeds. Short time rating must not be exceeded on any unit in consist.

Chart on Page 27 provides necessary information.

When operating close to continuous rating under full power, "Minimum Continuous Speed" or "Maximum Amperage," whichever occurs first, is controlling.

Attention is directed to the fact that short time ratings may not be used consecutively; that is, a unit cannot be operated for 15 minutes at the 1/4-hour rating, then for 30 minutes at the 1/2-hour rating, etc.

If unable to proceed within the limits prescribed, train must be stopped, facts reported to train dispatcher who will instruct as to reducing tonnage or providing additional power.

930 (Z-1). The following instructions govern cooling of overheated traction motors on diesel locomotives:

After motors have become overheated by having been operated to the limits of their short time rating, they can be cooled sufficiently to permit a second use of short time rating by either (1) cooling the motors for 15 minutes with the engine in the 5th throttle position, generator field switch open, no load, or (2) cooling the motors for 20 minutes with the engine at idle, no load.

930 (Z-2). If diesel unit is not loading or not making transition, high voltage cabinet contactors must not under any circumstances be manually operated.

To determine if the contactors are picking up as they should, the diesel engine should be isolated, then restored to power.

Proper report must be made to the next maintenance terminal.

#### Track Restrictions

934 (R). Freight cars 85 feet or more in length must not be handled on curves in excess of 16 degrees except as follows:

Where movement is authorized by an officer, these cars may be handled on curves of more than 16 degrees but not exceeding 20 degrees at speed not exceeding 4 miles per hour. A member of crew must watch movement closely, prepared to give stop signal if any indication of failure to safely negotiate the curve. Particular attention must be given to lateral movement of coupler, as critical point of movement on curve develops when coupler approaches maximum lateral movement permitted by coupler opening.

Overhang at end of these cars is greater than on other cars and clearances must be watched closely when handling on curves in excess of 16 degrees.

934 (S). In handling hydra-cushion cars on industrial tracks where curvature is 30 degrees or greater, movement is restricted to single car and unit.

#### Air Brakes

1001 (R). Engineer must know before moving an engine in engine house or from spot track that adequate air pressure is being maintained and that air brake equipment is functioning properly. Application and release test of independent brake must be made and in addition to noting brake cylinder pressure on gauge, visual inspection must be made to know that brakes apply when independent brake valve is in application position. Hand brakes must be released on all units before engine is moved.

Safety control feature must be cut in.

On road freight power, after throttle is initially opened, sufficient time must be allowed for engine and generator to build up sufficient current to move the locomotive before advancing throttle.

In case of emergency requiring shorter stop than can be made with independent brake, automatic brake valve should be placed in "Emergency" position which will automatically reduce engine speed to "Idle."

When operating a light engine, running test of independent brake must be made immediately after movement is started. When back-up movement of a light engine is protected by an employee using back-up hose, running test of brakes must be made with back-up hose immediately after back-up movement is started.

At terminals where hostler relieves incoming engineer, brakes must be tested with independent brake valve immediately after locomotive is detached from train to insure that brakes are operating properly.

1001 (S). When units are added to or removed from a locomotive

consist, or when air hoses are separated between units, before proceeding following test of brakes must be made after locomotive consist is complete and all air hoses and control cables have been coupled.

1. Application and release test of independent brake.
2. With independent brake in "Release" position, automatic air brakes must be applied, using 15 pound reduction.
3. With automatic brakes applied, independent brake valve handle must be depressed in "Release" position.

Each unit in locomotive consist must be inspected by an employe on the ground to see that brakes apply and release properly.

1024 (R). On locomotives equipped with 26-C type brake valve, brake valve cut-off valve on controlling unit must not be moved out of "Freight" or "Passenger" position except when making brake pipe leakage test required by rules.

1030 (R). Air Brake Rule 1030 (D) is cancelled.

#### Maintenance of Way

99 (R). RULE 99 (E) OF MAINTENANCE OF WAY AND SIGNAL RULES IS CANCELLED AND THE FOLLOWING SUBSTITUTED:

99 (E). When track is impassable, or before obstructing track or in any way rendering it impassable or unsafe, flagmen must be immediately sent in both directions with flagman's signals.

One-fourth mile from the point to be protected he must place a red flag by day, or a red light by night between the rails of the track or on the right of the track as viewed from an approaching train.

One mile from the red signal he must place two torpedoes on the rail not less than 150 feet apart. Continuing back two miles from the red signal he must place two torpedoes on the rail not less than 150 feet apart.

He may then return to the red signal one-fourth mile from the point to be protected where he must remain and flag approaching trains with hand signals until relieved by foreman in person or by another flagman carrying the foreman's written instructions.

Where there are two or more main tracks the required protection must be provided in both directions on all tracks affected.

Should a train be seen or heard approaching before a flagman has reached the required distance, he must at once place the two torpedoes on the rail and, in the day time, continue in the direction of the approaching train and flag it with a red flag. At night or during foggy or stormy weather, he must immediately place two torpedoes on the rail and leave a burning fusee at that point, and continue in the direction of the approaching train giving stop signals with another burning fusee.

When a flagman is recalled by his foreman, he must remove all the torpedoes he has placed.

There is no change in flagman's signals.

99 (S). RULE 99 (F) OF MAINTENANCE OF WAY AND SIGNAL RULES IS CANCELLED AND THE FOLLOWING WILL GOVERN:

99 (F). When an employe alone finds track or bridge unsafe for trains at normal speed, he must immediately place a red flag by day, or a red light by night, between the rails of the track, or to the right of the track as viewed from an approaching train, in both directions one-fourth mile from the point to be protected. After the red signals are placed, he must go in the direction from which the first train is expected.

One mile from the red signal he must place two torpedoes on the rail not less than 150 feet apart. Continuing back two miles from the red signal he must place two torpedoes on the rail not less than 150 feet apart. He must then place torpedoes in the same manner in the opposite direction.

Where there are two or more main tracks, signals must be placed in both directions on all tracks affected.

After the signals have been placed, flagman must return to the point of obstruction and remain until relieved by another flagman, except that if a train approaches, he must go toward it and flag it with hand signals.

99 (T). On the following branches, protection of track as prescribed by Maintenance-of-Way Rule 99 (J) is authorized:

Joseph Branch;  
Pilot Rock Branch;  
Heppner Branch;  
Condon Branch;  
Umatilla Branch;  
Olympia Branch;  
Grays Harbor Branch;  
Pendleton Branch;  
Dayton Branch between Turner and Dayton Jct. and between Waitsburg Jct. and Bolles;

Pomeroy Branch;  
Moscow Branch;  
Connell Branch;  
Yakima Branch between Richland Jct. and Yakima;  
Sunnyside Branch;  
Wallula Branch between Zangar Jct. and Walla Walla;  
Wallace Branch;  
Sierra Nevada Branch;  
Pleasant Valley Branch;  
Tekoa Branch;  
Tucannon Branch.

## SPECIAL INSTRUCTIONS—FIRST AND SECOND SUBDIVISIONS

### JOSEPH AND PILOT ROCK BRANCHES

#### Use of Engine Whistle

15 (S). Within the city limits of Pendleton, it is unlawful to sound engine whistle except to signal flagman or to prevent accident not otherwise avoidable.

#### Switch Lights

27 (R). Switch lights will not be used on branches shown below:  
Joseph Branch;  
Pilot Rock Branch.

Trains and engines must approach facing point switches on these branches prepared to stop if switch is not in normal position.

#### Train Registering Exceptions

83 (R). Conductors of the following trains may register by register ticket per Operating Rule 83 (A):  
LaGrande —Nos. 105 and 106;  
Hinkle —Nos. 105 and 106.

#### Public Crossings

103 (S). At Baker, street crossings at Campbell and Auburn Streets must not be blocked in excess of five minutes by freight trains.

At Barnhart, when movements to or from ballast pit are made over public crossing, a member of the crew must be stationed on each side of track at the crossing to stop highway traffic.

#### Switches

104 (R). No. 14 turn-outs are installed at all dual control switches in CTC territory except:

Meacham—West switch to siding;  
—Switches between Tracks 1 and 2 at east and west end;  
Duncan —Siding switches;  
Gibbon —West switch to siding;  
Rieth —Switch to Pilot Rock Branch.

104 (T). Switches will be set normally at:

La Grande: Joseph Branch switch—for drill track;  
Switch to north side lead and roundhouse—for drill track;

Joseph, main track switch, east leg of wye—for wye;  
Joseph, switch at stem of wye—for east leg of wye;  
Hinkle, junction switch, Umatilla Branch—for running track;  
Hinkle, wye switches—for running track;  
Hinkle, switch at stem of wye—for east leg wye.

104 (U). At La Grande, when switching movements are being made on east end of drill lead, derail and main track switch must be operated by hand.

#### Main Track Derails

104 (V). Main track derails are located at the following points:  
Pilot Rock—two derails located 1500 feet west of west switch to New Setout Track and 190 feet east of west switch to Old Mill Track. Derails must be in derailing position except when movement is being made over them.

#### Centralized Traffic Control System

267 (T). CTC Stop signals located as follows are designated as "starting signals":

Huntington—M.P. 389.3 and 389.8.  
Baker —M.P. 341.7 and 342.4.  
La Grande —M.P. 289.7 and 290.2.

When stopped by a "starting signal," member of crew must communicate with dispatcher and be governed by his instructions.

268 (S). At Pendleton, trains from Pendleton Branch to extension of Track 6, must obtain permission from train dispatcher before passing Signal 2165.

#### Centralized Traffic Control System

269 (T). Referring to Special Instructions 269 (R), push buttons are located in relay houses:  
Between Hinkle and Rieth  
At MP 184.0  
At MP 184.5

#### Hot Box Detectors

714 (T). Referring to Special Instruction 714 (S), hot box detectors are located:

Location	Read Out
MP 194.9	Albina
MP 211.0	Albina
MP 243.7	Albina
MP 298.9	Albina
MP 336.1	Albina
MP 371.8	Albina

**Close Clearances**

799 (R). There are close clearances above and at the side of main tracks as follows, and in addition thereto, at platforms and other structures above and at the side of industry, stock and other tracks. (See Operating Rule M.)

Location	Structure or obstruction	Clearance of engine or car is close at—
<b>First Subdivision</b>		
M.P. 388.40	Bridge	Side.
M.P. 387.75	Bridge	Side.
M.P. 387.36	Bridge	Side.
M.P. 386.92	Bridge	Side.
M.P. 385.95	Bridge	Side.
M.P. 385.19	Bridge	Side.
M.P. 385.02	Bridge	Side.
Lime	Overhead bridge	Side.
M.P. 384.42	Bridge	Side.
M.P. 383.27	Bridge	Side.
M.P. 382.02	Bridge	Side.
M.P. 381.77	Overhead bridge	Top.
M.P. 381.66	Bridge	Side.
M.P. 381.41	Bridge	Side.
M.P. 380.44	Bridge	Side.
M.P. 380.22	Bridge	Side.
M.P. 379.62	Bridge	Side.
M.P. 378.75	Bridge	Side.
M.P. 378.77	Tunnel No. 6	Side.
M.P. 378.19	Bridge	Side.
M.P. 376.11	Bridge	Side.
M.P. 375.62	Bridge	Side.
M.P. 373.90	Bridge	Side.
M.P. 373.76	Bridge	Side.
M.P. 372.02	Bridge	Side.
M.P. 366.74	Bridge	Side.
M.P. 343.94	Bridge	Side.
M.P. 322.52	Overhead bridge	Top and Side.
M.P. 322.25	Overhead bridge	Top and Side.
M.P. 312.07	Overhead bridge	Side.
<b>Second Subdivision</b>		
La Grande	Second Street viaduct	Top.
M.P. 288.02	Bridge	Side.
M.P. 252.52	Bridge	Top.
M.P. 251.18	Bridge	Side.
M.P. 238.67	Bridge	Side.
M.P. 230.57	Bridge	Side.
M.P. 226.86	Bridge	Side.
M.P. 214.42	Bridge	Side.
M.P. 206.21	Bridge	Side.
M.P. 205.84	Bridge	Side.
M.P. 204.91	Bridge	Side.
M.P. 204.15	Tunnel No. 3 1/2	Side.
M.P. 198.26	Bridge	Side.
<b>Joseph Branch</b>		
M.P. 2.48	Bridge	Side.
<b>Pilot Rock Branch</b>		
M.P. 0.16	Bridge	Top and Side.

799 (S). At La Grande, look out for close clearance on Tracks 4 and 5, which have less clearance than other tracks in yard.

**Chaining Cars to Rail**

809 (S). Between Huntington and Pendleton, when cars are set out on sidings on grade where there are no derails, in addition to setting hand brakes and blocking wheels, cars must be chained to rail.

**Helper Engines**

812 (S). When helper units are cut out of trains at Kamela or Encina, helper units will be used to couple rear portion of the train to head portion.

**Track Restrictions**

934 (T). On tracks listed below, only engines of types shown may be used:

(Note following are classified as DE-Switch engines: Alco road-switch units Nos. 1280-1295; 1000 HP units Nos. 1000-1095, 1100-1198, 1200-1210, 1800-1865 and 1870-1877.)

Location	Track	Engine Permitted
Pendleton	Harris Mill Log Track	DE-switch

934 (U). EMD DDA 40X (6900 series) units must not be operated on branch lines and must not be operated over turn-out from main track to Highline track at Lime.

**Air Brake Rules**

1029 (R). Running test as prescribed in Air Brakes Rules 1029, 1029 (A), 1029 (B) and 1029 (C) must be made before descending grades as follows:

Encina	—westward and eastward;
Telocaset	—westward and eastward;
Kamela	—westward and eastward.

1030 (S). Inspection required by Air Brake Rule 1030 (C) must be made on all trains at La Grande.

1041 (R). Air brake test prescribed by Air Brake Rule 1041 must be made on all trains before leaving Encina or Kamela when air hose has been parted or angle cock turned.

1042 (R). Retaining valves must be used on trains handled with diesel locomotives with dynamic brake not in operation or when not equipped with pressure maintaining feature when descending grades, as follows:

Freight trains descending grades between Encina and Durkee and between Hilgard and Huron must use one operative retaining valve for each fifty tons of train but in no case less than one-half of all retaining valves in train. If engineer finds it difficult to control train or to recharge train, he will request train crew to turn up additional retaining valves necessary to insure safe control of train, stopping train if necessary.

Between Telocaset and Union Jct., and between Huron and Duncan, on trains averaging to exceed fifty gross tons per car, or trains handled by engines having one air compressor, one-half of all retaining valves must be used.

Retaining valves must be used consecutively from head end of train.

When retaining valves are used, freight and mixed trains will use five minutes moving first mile after turning up retaining valves, four minutes moving second mile and three minutes moving each mile thereafter, except where slower speed is otherwise prescribed.

1042 (S). On locomotives equipped with pressure maintaining feature and dynamic brakes, both of which are operative, trains will be handled on descending grades between Durkee and Huron without the use of retaining valves.

Following will govern the use of retaining valves on freight trains when handled on descending grades by diesel locomotives equipped with dynamic brake in operation without pressure maintaining feature:

(a) Westward between Kamela and Huron and eastward between Kamela and Hilgard:

2 Unit Locomotive	3 Unit Locomotive	4 Unit Locomotive
1375 tons or less: None.	2063 tons or less: None.	2750 tons or less: None.
Over 1375 tons: One retaining valve must be used for each 55 tons in excess of 1375 tons, but not less than 15 retaining valves must be used.	Over 2063 tons: One retaining valve must be used for each 55 tons in excess of 2063 tons, but not less than 15 retaining valves must be used.	Over 2750 tons: One retaining valve must be used for each 55 tons in excess of 2750 tons, but not less than 15 retaining valves must be used.

(b) Eastward between Encina and Oxman:

2 Unit Locomotive	3 Unit Locomotive	4 Unit Locomotive
2000 tons or less: None.	3000 tons or less: None.	4000 tons or less: None.
Over 2000 tons and not exceeding 2250 tons averaging not to exceed 60 tons per operative brake: None.	Over 3000 tons and not exceeding 3375 tons averaging not to exceed 60 tons per operative brake: None.	Over 4000 tons and not exceeding 4500 tons averaging not to exceed 60 tons per operative brake: None.
Over 2000 tons and not exceeding 2250 tons averaging more than 60 tons per operative brake, also over 2250 tons: One retaining valve must be used for each 60 tons in excess of 2000 or 2250 tons as the case may be, but not less than 15 retaining valves must be used.	Over 3000 tons and not exceeding 3375 tons averaging more than 60 tons per operative brake, also over 3375 tons: One retaining valve must be used for each 60 tons in excess of 3000 or 3375 tons as the case may be, but not less than 15 retaining valves must be used.	Over 4000 tons and not exceeding 4500 tons averaging more than 60 tons per operative brake, also over 4500 tons: One retaining valve must be used for each 60 tons in excess of 4000 or 4500 tons as the case may be, but not less than 15 retaining valves must be used.

(c) Westward between Telocaset and Union Junction:

2 Unit Locomotive	3 Unit Locomotive	4 Unit Locomotive
3000 tons or less: None.	4500 tons or less: None.	6000 tons or less: None.
Over 3000 tons: One retaining valve must be used for each 60 tons in excess of 3000 tons, but not less than 15 retaining valves must be used.	Over 4500 tons: One retaining valve must be used for each 60 tons in excess of 4500 tons, but not less than 15 retaining valves must be used.	Over 6000 tons: One retaining valve must be used for each 60 tons in excess of 6000 tons, but not less than 15 retaining valves must be used.

Note: In applying above tables, dynamic brake must be operative on number of units shown.

**SPECIAL INSTRUCTIONS—THIRD AND FOURTH SUBDIVISIONS**

**UMATILLA, CONDON AND HEPPNER BRANCHES**

**Use of Engine Whistle**

15 (S). At The Dalles, between Union Ave. and Jefferson Ave., it is unlawful to sound engine whistle except to signal flagman or to prevent accident not otherwise avoidable.

**Switch Lights**

27 (R). Switch lights will not be used on branches shown below:  
Umatilla  
Condon  
Heppner

Trains and engines must approach facing point switches on these branches prepared to stop if switch is not in normal position.

**Train Registering Exceptions**

83 (R). Conductors of the following trains may register by register ticket per Operating Rule 83 (A):  
Hinkle —Nos. 105 and 106;  
The Dalles —First-class trains.

**Clearances**

83 (S). Clearance must be received as follows:  
The Dalles —All trains enroute Bend Branch must receive B.N. clearance.

83 (T). Trains from Heppner or Condon branches need not receive clearance to enter CTC territory at Heppner Jct. or Arlington. Such trains will be governed by signal indications and instructions from train dispatcher.

**Identification of Trains**

89 (R). Westward trains between The Dalles and Crates must make necessary identification of all trains met or passed.

**Movements in Yards**

93 (S). Yard limits include territory shown:  
Troutdale —on Kenton Line only.

(d) If due to any condition engineer or conductor considers a particular train cannot be safely handled beyond Huron or Oxman as prescribed in Paragraphs (a) and (b) of this rule without use of retaining valves, trains must be stopped and remain standing ten minutes at Huron or Oxman to cool wheels and inspect train.

(e) When use of retaining valves is required, these valves must be used consecutively from head end of train.

(f) Additional retaining valves must be used in accordance with provisions of Air Brake Rule 1042 when in the judgment of the engineer or conductor use thereof is necessary.

(g) Conductor must advise engineer number of cars, total tonnage, average tons per operative brake, and location of loads and empties in train.

(h) When retaining valves are used, freight trains will use five minutes moving first mile after turning up retaining valves, four minutes moving second mile and three minutes moving each mile thereafter, except where slower speed is otherwise prescribed.

1042 (T). Freight trains handled with diesel locomotives with dynamic brake not in operation must stop and remain standing ten minutes to allow wheels to cool and inspect train at the following points when retaining valves are required to be used beyond these points:

- Oxman —Eastward;
- M.P. 279 —Eastward;
- Meacham—Westward;
- Huron —Westward.

When eastward freight trains stop at Motanic and remain standing ten minutes stop need not be made at M.P. 279 to cool wheels and inspect train.

93 (T). At The Dalles, trains and engines may move against the current of traffic except when a first class train is due. Such movements must be made at restricted speed.

**Flag Protection**

99 (X). On following branches between 6 A.M. and 6 P.M. daily, a speed of 10 MPH must not be exceeded by all extra trains, approaching and moving on curves and where view is obscured, looking out carefully at all points for track cars and men working on track without flag protection. Speed on curves must be such as to be able to stop within one-half the distance track is seen to be clear and whistle signal 15 (1) must be sounded frequently:  
Umatilla Branch;  
Condon Branch;  
Heppner Branch;

**Public Crossings**

103 (T). At The Dalles, public crossings must not be blocked longer than 10 minutes. When a train is to be delayed getting in or out of the yard, crossings must be cut immediately.

**Switches**

104 (R). No. 14 turn-outs are installed at all dual control switches in CTC territory except:

- Biggs —Siding switches
- Quinton—East switch to siding.
- Hinkle —Switches to Passenger Track No. 1
- 104 (T). Switches will be set normally at:  
Hinkle, junction switch, Umatilla Branch—for running track;  
Hinkle, wye switches—for running track;  
Hinkle, switch at stem of Wye—for east leg of Wye.

104 (V). Main track derails are located at the following points:  
Condon (M.P. 44.2) Derail must be lined and locked in derauling position except when movements are to be made over it.

104 (W). At Heppner, when cars are left on main track for Kinzua Lumber Co., switch must be lined and locked for chip track to provide derail protection.

**Centralized Traffic Control**

269 (T). Referring to Special Instructions 269 (R), push buttons are located in relay houses:

- At West Biggs
- At MP 184.0
- At MP 184.5

**Dual Control Switches**

275 (U). At Union Pacific controlled interlockings, listed below, when control operator is unable to clear the signal and movement is authorized as prescribed by Rule 606(a) or 606(b), levers on control machine must, when possible, be positioned for route to be used.

Selector lever on all dual-controlled switches over which movement is to be made must be placed in HAND position and must not be restored to POWER position until movement over the switch has been completed.

- East Portland
- Portland Terminal

**Electrically Locked Switches**

280 (R). At Oregon Trunk Jct., junction switch and both switches of cross-over between eastward and westward main tracks are equipped with electric locks controlled by operator at The Dalles. Telephone is located at cross-over switches.

Proceed indication on Signal A-951 is authority for trains from Bend Branch to proceed on westward track to The Dalles without receipt of clearance.

**Routes Through Interlocking**

605 (R). At Troutdale proceed indication of interlocking signal located just west of junction switch will authorize eastward trains from Kenton Line to proceed to train order office.

**Hot Box Detectors**

714 (T). Referring to Special Instructions 714 (S), hot box detectors are located:

Location	Read Out
MP 109.4	Albina
MP 124.9	Albina
MP 142.9	Albina
MP 160.5	Albina

**Close Clearances**

799 (R). There are close clearances above and at the side of main tracks as follows, and in addition thereto, at platforms and other structures above and at the side of industry, stock and other tracks. (See Operating Rule M.)

**SPECIAL INSTRUCTIONS—ALBINA TERMINAL AREA**

**Movements in Yards**

93 (U). The following instructions govern while using track-age of Portland Terminal Railroad:

Trains and engines using tracks 1 to 10 inclusive, Portland Union Station, must move at restricted speed when passing a train receiving or discharging passengers, and must not cross High Shed at passenger station unless proceed signal is received from station master or his assistant, or preceded by a member of the crew when passage over the High Shed is seen to be clear and it is safe to proceed.

Interlocking at south end of freight and passenger yards governs all trains and engines entering or leaving yards.

When signal indicates Stop, the following whistle signals will be used to call for desired route: (When conditions are favorable,

Location	Structure or obstruction	Clearance of engine or car is close at—
<b>Fourth Subdivision</b>		
M.P. 69.40	Bridge	Side.
M.P. 63.32	Bridge	Side.
M.P. 61.03	Bridge	Side.
M.P. 39.90	Bridge	Side.
M.P. 32.15	Bridge	Side.
M.P. 31.85	Bridge	Side.
M.P. 29.65	Bridge	Side.
M.P. 26.01	Bridge	Side.
M.P. 15.82	Bridge	Side.
M.P. 10.25	Underpass handrails (N.E. 162nd)	Side.
M.P. 8.19	Underpass handrails (N.E. 122nd)	Side.
M.P. 5.43	Overhead bridge (N.E. 82nd Ave.)	Top.
M.P. 5.01	Overhead bridge (N.E. 74th Ave.)	Top.
M.P. 4.65	Overhead bridge (N.E. Halsey)	Top.
M.P. 4.5	Tunnel (Peninsula Jct.)	Top and side.
M.P. 4.14	Overhead bridge (N.E. 60th Ave.)	Top and side.
M.P. 3.79	Overhead bridge (N.E. 53rd Ave.)	Top and side.
M.P. 2.86	Overhead bridge (N.E. 37th Ave.)	Top.
M.P. 2.59	Overhead bridge (N.E. 33rd Ave.)	Top.
M.P. 0.43 (Willamette River)	Bridge	Side.
Portland	Depot umbrella shed	Top and side.
<b>Umatilla Branch</b>		
M.P. 10.67	Bridge	Side.

799 (T). At Heppner, keep sharp lookout for 5'-7" horizontal impaired clearance to unloading platform on trackage serving Kinzua Corporation.

**Track Restrictions**

934 (U). EMD DDA40X (6900 series) units must not be operated on branch lines.

At Portland, these units may be operated over bridge 0.43 on westward track only account insufficient clearance on eastward track.

6900 series locomotives must not be moved over turnouts at the following location:

Portland (Montavilla)—MP 5.90, team track east and west switches out of inside 2°00' curve.

934 (V). Referring to Special Instruction 934 (S), following tracks have curvature in excess of 30 degrees:

Bonneville—Powerhouse spur.

934 (W). Cars weighing in excess of 263,000 pounds not permitted on Condon and Heppner Branches.

**Air Brake Rules**

1042 (U). Retaining valves must be used on descending grades as follows:  
Condon Branch, all trains, M.P. 35 to Arlington, all retaining valves must be used.

Retaining valves must be used consecutively from head end of train.

When retaining valves are used, freight and mixed trains will use five minutes moving first mile after turning up retaining valves, four minutes moving second mile and three minutes moving each mile thereafter, except where slower speed is otherwise prescribed.

hand or lantern signals should be used instead of whistle signals.)

- For Albina ..... o
- For Troutdale ..... o
- For S. P. Main Line..... o o
- For S. P. Yard ..... o o
- For East Second Street... o o
- For B. N. to East Side..... o o

When the signal indicates Proceed, the whistle signal must not be sounded.

93 (V). Two parallel tracks between East Portland and Albina are designated as:

- Running track 1—track nearest river;
- Running track 2—track farther from river.

These tracks are signalled for movement in both directions.

Telephones are installed at following locations:

- Switch Tenders Building Randolph St.;
- Crossover at Clark St.;
- Crossover at Irving Dock Elevator;
- Globe Dock Elevator, near track 1.

Trains and engines moving from East Portland to Albina may enter Running tracks 1 or 2 on proper interlocking signal indication.

Trains or engines moving from Albina to East Portland may enter Running tracks 1 or 2 on receipt of proceed signal given with yellow flag or yellow light by switchtender at Harding Street, Albina. Unless such proceed signal is received, trains and engines must stop clear of switches and cross-overs at Harding and Randolph streets.

Engines leaving Running track 1 or 2 at any industry between Albina and East Portland must report by telephone to operator East Portland after running track is clear and switch is properly lined.

A train or engine must not enter Running track 1 or Running track 2 at any intermediate location, or cross from one running track to the other without permission from operator at East Portland. Operating Rule 513 will apply.

Normal position of all switches on these tracks between Albina and East Portland is for the running tracks.

Switchtender at Albina must not give proceed signal to a train or engine moving beyond Albina Avenue to enter running tracks without first securing permission from operator at East Portland, nor may operator at East Portland clear interlocking signal for a train or engine which is to move beyond interlocking limits to enter these tracks without first notifying switchtender at Albina.

Operator East Portland and switchtender Albina will arrange for movement of trains or engines on right hand track in direction of their movement, except in emergency or for movement which requires that track to the left be used.

Operator East Portland will maintain a record on prescribed form showing occupancy of Running tracks 1 and 2 and operators' transfer must include trains or engines which have not cleared these tracks when transfer is made.

**Railroad Crossings and Junctions**

98 (R). Trains and engines must be governed by the following at the railroad crossings and junctions indicated.

Location	Railroad Crossed, or Junction With	Trains Which Have Precedence	How Governed
East Portland. (S.E. Second Ave. between S.E. Main and S.E. Madison Sts.)	B. N.	U. P.	Stop signs.

**Handling Cars Ahead of Engine**

101 (R). Cars must not be shoved ahead of engine through tunnel between St. Johns Jct. and Peninsula Jct.

**Normal Position of Switches**

104 (T). Normal position of switch to Albina Fuel Co. Spur is for Barker Mfg. Co. lead.

104 (X). Cross-over switches on tracks 21 to 26 inclusive must be left lined for straight track after having been used.

**Dual Control Switches**

275 (U). At Union Pacific controlled interlockings, listed below, when control operator is unable to clear the signal and movement is authorized as prescribed by Rule 606(a) or 606(b), levers on control machine must, when possible, be positioned for route to be used.

Selector lever on all dual-controlled switches over which movement is to be made must be placed in HAND position until movement over the switch has been completed.

- East Portland
- Portland Terminal

**Interlocking**

605 (S). To indicate the route to be used through interlocking, the following whistle signals will be used:

**At East Portland:**

- For Portland.....
- For Albina ..... o
- For Graham .....
- For S. P. Main Line..... o
- For S. E. Second Ave. .... o o
- For S. P. yard ..... o o
- For transfer track ..... o
- For East Side Freight Terminal... o o

Movements from Albina to East Portland will not sound whistle signals for route unless governing signal indicates Stop and no conflicting movement is evident.

**Close Clearances**

799 (R). There are close clearances above and at the side of main tracks as follows, and in addition thereto, at platforms and other structures above and at the side of industry, stock and other tracks. (See Operating Rule M.)

Location	Structure or obstruction	Clearance of engine or car is close at—
M.P. 15.82	Bridge	Side.
M.P. 10.25	Underpass handrails (N.E. 162nd)	Side.
M.P. 8.19	Underpass handrails (N.E. 122nd)	Side.
M.P. 5.43	Overhead bridge (N.E. 82nd Ave.)	Top.
M.P. 5.01	Overhead bridge (N.E. 74th Ave.)	Top.
M.P. 4.65	Overhead bridge (N.E. Halsey)	Top.
M.P. 4.5	Tunnel (Peninsula Jct.)	Top and side.
M.P. 4.14	Overhead bridge (N.E. 60th Ave.)	Top and side.
M.P. 3.79	Overhead bridge (N.E. 53rd Ave.)	Top and side.
M.P. 2.86	Overhead bridge (N.E. 37th Ave.)	Top.
M.P. 2.59	Overhead bridge (N.E. 33rd Ave.)	Top.
M.P. 0.43 (Willamette River)	Bridge	Side.
Portland	Depot umbrella shed	Top and side.

799 (U). At south end of Union Station, Portland, clearance is very close and will not clear a man on side of car between tracks 1 and 2, 3 and 4, 5 and 6, 7 and 8, 9 and 10 from interlocking signals to point 100 feet north of the crossing.

799 (V). Cars or loads of excessive height or width must not be placed under shed on Rip tracks 1, 2 or 3, under load shifter or inside Freight House, Albina.

**Turning Cars**

799 (W). When necessary to turn cars on turntable, they must be placed on the turntable and removed from the turntable from the east end.

**Switching Operations**

808 (U). At Terminal 4, when Cargill switch engine is tied up on Elevator 7 or this track is blocked by Cargill Company's motor vehicles, Elevator 9 must be used for switching movement west of the elevator.

**Track Restrictions**

934 (T). On tracks listed below, only engines of types shown may be used:

(Note—following are classified as DE-Switch engines; Alco road-switch units Nos. 1280-1295, 1000 HP units Nos. 1000-1095, 1100-1198, 1200-1210, 1800-1865 and 1870-1877.)

Location	Track	Engine Permitted
East Portland	Barker Mfg. Co. Spur No. 1 Smithwick Spur	DE-Switch
Kenton		
Kenton	Sunshine Biscuit Spur Swan Island Trackage	
Albina		
St. Johns		
Terminal No. 4	Willamette Tug and Barge Spurs on River Side	
Oregon Ship Yard		
Union Carbide		
	Various spurs and cross-overs	

934 (U). EMD DDA40X (6900 series) units must not be operated on branch lines.

At Portland, these units may be operated over bridge 0.43 on westward track only account insufficient clearance on eastward track.

6900 series locomotives must not be moved over turnouts at the following location:

Portland (Montavilla)—MP 5.90, team track east and west switches out of inside 2°00' curve.

934 (X). Referring to Special Instruction 934 (R), All Subvisions:

At the following locations, 85-foot rail trailer flat cars may be handled on curves in excess of 16 degrees as provided therein:

Between Albina and east end of Steel Bridge, Portland;  
Between East Portland and east end of Steel Bridge, Portland.

934 (Y). Freight cars 60 feet or more in length of any type or 50 feet or more in length when equipped with hydra-cushion, must not be operated over the following tracks without authority from the Yardmaster:

Location	Tracks
Swan Island Kenton Line	All tracks Armour Meat Company Sunshine Biscuit Company
Graham Line	Hyster Company Spur Barker Mfg. Company Blake, Moffitt & Towne Simon Saw Spur Graybar Electric Acme Steel Crane Plumbing Mosaic Tile Finzer Business Machines Tile Distributor Western Athletic
St. Johns Branch	Willamette Tug and Barge McCormick Baxter Western Cooperae Portland Woolen Mills
East End Albina West End Albina	Fred Meyers Warehouse Albina Engine Works Louis Dreyfus Balloon Track
Larrabee Flats	Larrabee Flat lead

### SPECIAL INSTRUCTIONS—FIFTH SUBDIVISION

#### OLYMPIA AND GRAYS HARBOR BRANCHES

##### Switch Lights

27 (R). Switch lights will not be used on branch shown below: Olympia Branch.

Trains and engines must approach facing point switches on this branch prepared to stop if switch is not in normal position.

##### Train Registering Exceptions

83 (R). Conductors of the following trains may register by register ticket per Operating Rule 83 (A):

Black River—All trains;

Reservation—All westward trains.

At Argo, only trains which originate or terminate in U.P. yard at that station will register.

At Centralia, Grays Harbor Branch trains originating or terminating at Blakeslee Jct. must register in U.P. train register at B.N. telegraph office.

D-83 (R). Information required by Operating Rule D-83 need not be received at:

Argo, by westward trains and engines.

##### Clearances

83 (S). Clearance Form A must be received as follows:

Black River—all westward trains.

Argo —all eastward trains.

Reservation—all westward trains.

Centralia —all westward Grays Harbor branch trains originating at Blakeslee Jct.;

Aberdeen —all eastward trains;

All trains must receive B.N. clearance at Reservation or U.P. Jct. (Tacoma) when entering B.N. trackage at those locations.

83 (T). Trains are not required to receive a clearance as per Operating Rule 83 (B) as follows:

Seattle—eastward trains. Clearance received at Argo by an eastward train confers same authority on Fifth Subdivision as when received at Seattle.

##### Movements in Yards

93 (S). Yard limits include territory shown:

Aberdeen—between yard limit sign just east of Cosmopolis and B.N. yard limit sign at Myrtle St. west of Aberdeen depot.

Olympia Branch—From yard limit sign near switch at stem of wye East Olympia to and including Olympia.

93 (T). Between Argo and Seattle Union Station, trains or engines may move against the current of traffic except when a first class train is due. Such movements must be made at restricted speed.

##### Railroad Crossings and Junctions

98 (R). Trains and engines must be governed by the following at the railroad crossings and junctions indicated.

Location	Railroad Crossed, or Junction With	Trains Which Have Precedence	How Governed
Helsing Jct.	C. M. St. P. & P.	U. P.	Stop signs.
South Aberdeen. (Donovan Mill)	B. N.	B. N.	Stop signs.
Olympia. (Jefferson and 7th Sts.)	B. N.	U. P.	Stop signs.
Tacoma. (Dempsey Mill Spur)	B. N.	B. N.	Stop signs.
Tacoma, Tidewater.	B. N.		Semi-automatic interlocking. Special Instruction 98 (T).
Seattle (Duwamish Ave. and East Marginal Way.)	B. N. C. M. St. P. & P.	B. N. C. M. St. P. & P.	Stop Signs
Seattle. (East Marginal Way & Spokane St.)	B. N.	B. N.	Stop Signs
Seattle. (Railroad Ave. and Atlantic St.)	B. N. C. M. St. P. & P.	B. N. C. M. St. P. & P.	Stop Signs

98 (T). At B.N. Crossing, Tacoma-Tidewater, when stopped by semi-automatic interlocking signal and no conflicting movement is evident, a member of crew must go to the crossing, push time release push-button, hold for five seconds, then release. At ex-

piration of time interval, indicator lamp will light to indicate time interval has expired. If signal does not then change to permit train or engine to proceed, member of crew will signal engineer to proceed if no train or engine is approaching on conflicting routes. See Operating Rule 613.

##### Drawbridges

98 (U). Trains and engines after stopping at stop signs must not proceed onto draw span of bridge between Montesano and South Montesano until they have called for, received and acknowledged proceed signal from bridge tender, and in addition must be governed by position of derail located 128 feet east, and derail located 195 feet west of trestle leading to drawbridge. During certain hours each day draw span will be left open for river traffic and derails will be set in derailling position. If necessary for train or engine to use drawbridge during such hours, notify Agent Aberdeen or dispatcher to call drawbridge operator.

98 (V). At Tacoma, all trains and engines after stopping at stop signs must not proceed onto draw span of bridge until they have called for, received and acknowledged proceed signal from bridge tender.

##### Flag Protection

99 (X). On following branches between 6 A.M. and 6 P.M. daily, a speed of 10 MPH must not be exceeded by all extra trains approaching and moving on curves and where view is obscured, looking out carefully at all points for track cars and men working on track without flag protection. Speed on curves must be such as to be able to stop within one-half the distance track is seen to be clear and whistle signal 15 (1) must be sounded frequently:

Olympia Branch;  
Grays Harbor Branch.

##### Barge Operations

101 (S). At Seattle rail-barge docks, Harbor Island, clearance is extremely close on all tracks approaching barge apron and on the barges. Employes must not ride on side, end or top of cars being moved on or off barges beyond "Impaired Clearance" signs.

Engine foreman or barge-master must receive permission from barge company supervisor before any movement is made on or off barges. All cars must have air brakes cut in and operative when moving on or off barges and all movements must be made with extreme care.

To avoid improper coupling of cars against bumper couplers at end of barges, no coupling will be made with more cars than the barge track will hold, not including empty reacher cars.

Engines are not permitted on apron of barge slip.

##### Movements at Olympia

103 (U). On Olympia Branch, between Olympia City Limits and East Olympia, county ordinance provides the following:

1. No street, road or road crossing may be closed to vehicular traffic by a standing train, engine or cars or by automatic crossing signal devices for more than five minutes, nor may more than two consecutive street or road crossings be closed by a standing train at any time.

2. When any switching movement across any grade crossing has been completed, and crossing cleared, reverse movement over the crossing must not be made until all accumulated vehicular traffic has cleared the crossing.

3. No car may be left standing within 25 feet of street or road right-of-way line except on spur tracks or side tracks serving industries.

103 (X). At Olympia, City Ordinance relating to the movement of railroad trains and railroad traffic provides for the following:

1. No car or cars are to be kicked or dropped over any street grade crossing, or along any tracks extending along any streets or immediately adjacent to any streets.

2. At Olympia, trains and engines must stop before passing over any street crossing not protected by automatic crossing signal devices.

3. No locomotive, railroad car or cars may be left unattended on any main track having a grade of 1% or more.

4. No street or street crossing may be blocked to vehicular traffic for more than 5 minutes at any time.

5. Not more than 3 consecutive street intersections may be blocked by any moving train at any given time.

6. Not more than 2 consecutive street intersections may be blocked by any standing train at any time.

7. No switch move may exceed a speed of 5 MPH at any intersection within the City of Olympia.

8. When switch movements across grade crossing have been completed and the crossing cleared, reverse movement across such crossing may not be made until all accumulated vehicular traffic at the crossing shall have cleared the intersection.

9. Switch movements of engine and 5 cars only may be moved across the following crossings between the hours of 7:30 A.M. and 8:15 A.M., 11:50 A.M. and 12:20 P.M., 12:40 P.M. and 1:05 P.M., 3:25 P.M. and 3:45 P.M. and between 4:50 P.M. and 5:30 P.M.:

East Union Avenue	Columbia Street at
Legion Way	West Seventh
East Fourth Avenue	East State Avenue

10. No public road or street crossing may be blocked to vehicular traffic by any standing engine, car or train during the hours prescribed in paragraph 9 above.

11. No car may be left standing on any track within 25 feet of a street right-of-way-line, except on spurs or sidings serving industries.

The items listed above are in addition to any other regulations governing railroad traffic in effect at Olympia, and violation carries a heavy penalty.

##### Public Crossings

103 (Y). At Fifteenth Street, Tacoma, all trains and engines must stop and a member of the crew must be sent ahead to act as crossing watchman.

##### Switches

104 (T). Switches will be set normally at:  
Tacoma Jct., junction switch—for C. M. St. P. & P.;  
Aberdeen, switch at end of double track—for eastward trains;  
South Montesano, wye switch on Montesano Branch—for west leg of wye;  
Helsing Jct., junction switch—for U. P. main track.

##### Dual Control Switches

275 (U). At Union Pacific controlled interlockings, listed below, when control operator is unable to clear the signal and movement is authorized as prescribed by Rule 606 (a) or 606 (b), levers on control machine must, when possible, be positioned for route to be used.

Selector lever on all dual-controlled switches over which movement is to be made must be placed in HAND position and must not be restored to POWER position until movement over the switch has been completed.

Black River  
Aberdeen Drawbridge

##### Staff System

301 (R). Movements on Olympia Branch are governed by Staff system.

Single staff will be used, located in staff box on right side of door of trainman and engineman locker room, Olympia. Trains or engines must secure this staff before using Olympia Branch east of Union Avenue, City of Olympia, and must retain staff until movement is completed.

Trains or engines must not move from East Olympia to Tumwater Yard or Olympia without having staff in their possession. When such movement is necessary, dispatcher will instruct how staff will be obtained.

After movements are completed, staff must be placed in staff box and securely locked.

##### Interlocking

605 (T). To indicate the route to be used through interlocking, the following whistle signals will be used:

At Argo:  
For Seattle ..... o .....  
For yard lead ..... o .....  
From Seattle to B.N. .... o .....  
From Argo yard to Georgetown lead ..... o

**Close Clearances**  
799 (R). There are close clearances above and at the side of main tracks as follows, and in addition thereto, at platforms and other structures above and at the side of industry, stock and other tracks. (See Operating Rule M.)

Location	Structure or obstruction	Clearance of engine or car is close at—
<b>Fifth Subdivision</b>		
Tacoma.....	B. N. overhead bridge to draw span.	Top and side.
Tacoma.....	Viaduct (15th St.).....	Top and side.
M.P. 144.92.....	Bridge.....	Side.
M.P. 146.93.....	Bridge.....	Side.
M.P. 174.68.....	Bridge.....	Side.
Seattle (Albro Place).....	Overhead bridge.....	Side.
Seattle (Eighth Ave. So.).....	Overhead bridge.....	Top.
Seattle (Dearborn Ave.).....	Overhead bridge.....	Top and side.
Seattle.....	Depot umbrella shed.....	Top and side.
Seattle (Jackson St.).....	Overhead bridge.....	Top.
<b>Olympia Branch</b>		
M.P. 5.23.....	Tunnel No. 25.....	Top and side.
M.P. 5.75.....	Tunnel No. 26.....	Top.
M.P. 6.75.....	Overhead bridge.....	Top and side.
<b>Grays Harbor Branch</b>		
M.P. 1.26.....	Bridge.....	Side.
M.P. 4.35.....	Bridge.....	Side.
M.P. 43.53.....	Overhead bridge.....	Top and side.
Cosmopolis.....	Weyerhaeuser Plant.....	Side.
M.P. 53.33.....	Bridge.....	Side.
<b>Montesano</b>		
M.P. 0.31.....	Bridge.....	Side.

799 (Z). Employees are warned that clearances to trolley poles are close at locations shown below.

Station	Location	
Black River.....		C. M. St. P. & P.
Argo-Seattle.....	Argo yard lead and between Argo and Seattle passenger station.....	C. M. St. P. & P.
Georgetown.....	West end of siding entering main track	C. M. St. P. & P.

799 (Z-1). At Olympia, account insufficient clearance between B. N. connection scale track and main track, trains or engines must not attempt to pass on main track if trains or engines are moving on connection.

### SPECIAL INSTRUCTIONS—SIXTH SUBDIVISION

YAKIMA, SUNNYSIDE, TEKOA, PLEASANT VALLEY, WALLULA, MOSCOW, CONNELL, POMEROY, TUCANNON, PENDLETON, DAYTON, WALLACE, AND SIERRA NEVADA BRANCHES

#### Use of Engine Whistle

15 (T). Within the city limits of Spokane, Pendleton and Pomeroy, it is unlawful to sound engine whistle except to signal flagman or interlocking operator, or to prevent accident not otherwise avoidable.

At Walla Walla, the use of the engine whistle at the public crossings at West Cherry Street and Gardeners' Association just west of Mill Creek Bridge, is prohibited except to prevent accident not otherwise avoidable.

#### Switch Lights

27 (R). Switch lights will not be used on branches shown below:  
Pomeroy, Connell,  
Dayton, Wallace,  
Sierra Nevada, Pleasant Valley,  
Tucannon, Pendleton,  
Moscow,

Trains and engines must approach facing point switches on these branches prepared to stop if switch is not in normal position.

#### Train Registering Exceptions

83 (R). Conductors of the following trains may register by register ticket, per Operating Rule 83 (A):  
B. N. Crossing, Spokane —all B. N. trains;  
Walla Walla —all trains.

At Aberdeen, account insufficient clearance between coach track No. 1 just east of passenger station and main track at turnout, trains and engines must not attempt to pass on main track if trains or engines are moving on coach track No. 1.

#### Track Restrictions

934 (T). On tracks listed below, only engines of types shown may be used:

(Note—following are classified as DE-Switch engines: Alco road-switch units Nos. 1280-1295; 1000 HP units Nos. 1000-1095, 1100-1198, 1200-1210, 1800-1865 and 1870-1877.)

Location	Track	Heaviest Engine
Seattle	Various Spurs along 5th Avenue	DE-Switch
Seattle	Various Spurs along East Marginal Way	
Seattle	Various Spurs on 11th Ave. S. W.	
Seattle	Various Spurs on Alaskan Way	
Aberdeen	Various Front St. Spurs	
Hoquiam	Grays Harbor Chair Spur	

799 (U). EMD DDA40X (6900 series) units must not be operated on branch lines.

These units must not be operated on Union Depot trackage at Tacoma.

934 (V). Referring to Special Instruction 934 (S), following tracks have curvature in excess of 30 degrees:

#### SEATTLE:

##### East Marginal Way

- 1 track, Willow St. lead spur.
- 1 track, Stenoff Metal Co.
- 1 track, Isaacson Iron Works.
- 1 track, Pomeroy Wine Co.
- 2 tracks, Manson Construction Co.

##### Harbor Island

- 1 track, Seattle Iron & Metal Co.
- 1 track, Boeing Spur Outfitting Dock
- 2 tracks, Port of Seattle.
- 1 track, reverse curve, U. S. Gypsum Co.

Eastward B. N. trains leaving Union Pacific tracks via east leg of wye at Wallula will register by registering ticket at Attalia. Conductor of such trains will report arrival at Attalia by telephone to operator, Wallula.

#### Clearances

83 (S). Clearance Form A must be received as follows:

- Ayer —All trains;
- B. N. Crossing—All westward Sixth Subdivision trains originating at East Spokane;
- Dishman —All westward Tekoa Branch trains originating at East Spokane;
- Walla Walla—All trains;
- Wallula —All eastward Wallula Branch trains;
- Wallula —All eastward Yakima Branch trains.

83 (T). Trains need not receive Clearance Form A as required by Operating Rule 83 (B) at:

- East Spokane,
- Hooper Jct.,
- Tucannon,
- Starbuck,
- La Crosse,
- Pomeroy,
- Bolles,
- Richland Jct.,
- Seltice,
- Colfax,
- Manito.

83 (U). Union Pacific trains enroute from East Spokane to C.M.St.P.&P. at Manito must receive C.M.St.P.&P. clearance in addition to U.P. Clearance at Dishman.

All trains enroute from Plummer to Union Pacific at Manito must receive U.P. clearance at Plummer.

U.P. clearance received at Dishman by trains enroute to Wallace Branch confers same authority on Wallace Branch as when received at Manito or Plummer Jct.

U.P. clearance received at Plummer by eastward trains confers same authority on Tekoa Branch as when received at Manito.

#### Yard Limits

93 (W). Yard limits at Midvale include entire Sunnyside Branch.

#### Railroad Crossings and Junctions

98 (R). Trains and engines must be governed by the following at the railroad crossings and junctions indicated:

Location	Railroad Crossed, or Junction With	Trains Which Have Precedence	How Governed
Marengo. (M.P. 306.6)	C. M. St. P. & P.		Automatic block signals.
Spokane. B. N. Crossing (M.P. 369.2)	B. N.		Interlocking.
Spokane. B. N. Crossing	B. N.		Automatic Interlocking. Special Instructions 98(W).
Manito. (M.P. 143.7)	C. M. St. P. & P.		Automatic block signals. Special Instructions 98(X)
Garfield. (M.P. 95.4)	B. N.	U. P.	Stop signs.
Oakesdale. (M.P. 39.68)	B. N.	U. P.	Stop signs.
Oakesdale. (M.P. 39.65)	B. N.	B. N.	Stop signs.
Thornton. M.P. 30.7)	B. N.	U. P.	Gate.
Walla Walla. (M.P. 47.2)	B. N.	U. P.	Stop signs.
Walla Walla. (M.P. 46.6)	W. W. V.	U. P.	Gate.
Langdon. (M.P. 44.2)	W. W. V.	U. P.	Gate.
Milton. (M.P. 36.3)	W. W. V.	U. P.	Gate.
Parker. (M.P. 91.3)	B. N.		Automatic Interlocking.
Donald. (M.P. 89.35)	B. N. (gantlet track).		Automatic Interlocking. Special Instruction 613 (S).
Garrett. (M.P. 28.7)	W. W. V.	U. P.	Gate.
Dayton. (M.P. 13.00)	B. N.	U. P.	Stop signs.
Dayton. (M.P. 13.01)	B. N.	U. P.	Stop signs.
Pullman. (M.P. 19.3)	B. N.	U. P.	Stop signs.
Wallace. (M.P. 80.4)	B. N.	U. P.	Stop signs.
Wallace. (M.P. 80.6)	B. N.	U. P.	Stop signs.
Plummer Jct. (M.P. 16.2)	C. M. St. P. & P.		Special Instructions 98 (Y).

98 (W). At Spokane, over B. N. Crossing on old yard lead, movements are governed by automatic interlocking signals. If movement is delayed after entering approach section to this crossing, signal may resume Stop indication at expiration of time interval.

Push buttons, located on signals, may be operated to obtain signal indication for a reverse movement.

Emergency release push button is located near crossing. Instructions are posted in box.

98 (X). At Manito, junction switch will be lined normally for movement from Union Pacific to C.M.St.P.&P. Upper unit of Block Signal 1437 governs movement from Union Pacific to C.M.St.P.&P.

98 (Y). At Plummer Jct. movement from Union Pacific connection to C.M.St.P.&P. main track is governed by dwarf signal at clearance point on U.P. connection. When illuminated "S" is displayed, switch may be lined. If signal then displays proceed indication, movement may be made to C.M.St.P.&P. main track.

#### Drawbridges

98 (Z). At Drawbridge M.P. 23.45, Wallace Branch, after stopping at stop sign, train must not proceed until authority is received from bridge tender over telephone located at stop sign, except that if such authority is not received, a member of crew must determine that draw span is properly closed and locked, and give proceed signal when safe to proceed.

#### Flag Protection

99 (X). On following branches between 6 A.M. and 6 P.M. daily, a speed of 10 MPH must not be exceeded by all extra trains approaching and moving on curves and where view is obscured, looking out carefully at all points for track cars and men working on track without flag protection. Speed on curves must be such as to be able to stop within one-half the distance track is seen to be clear and whistle signal 15 (1) must be sounded frequently:

- Dayton Branch; Alto to Bolles (on Pendleton Branch);
- Hooper Jct. to Connell (on Pomeroy Branch);
- Connell Branch;

#### Public Crossings

103 (Z). The following will govern trains and engines at the public crossings named below:

Location	Instructions
At Spokane, within city limits.	Trains, engines or cars must not be stopped on street crossings longer than five minutes. If it is evident movement will be stopped longer than five minutes, crossing must be cut to allow vehicular traffic to proceed.
Spokane—Medelia and Washington Street.	All engines using switching tracks must stop clear of crossing and member of crew will ascertain that flashing light signals are operating and bells ringing before proceeding over crossing. Cars must not be left within 30 feet on either side of crossing.
Spokane—Division Street.	Unless absolutely necessary, movements across street must not be made between 6:00 AM and 8:00 AM, 11:30 AM and 1:30 PM, 5:00 PM and 7:00 PM. Between 6:00 AM and midnight, the number of movements across the street is limited to twenty, and the street must not be crossed when to do so would interrupt traffic.
Spokane—Monroe Street. Howard Street. Mallon Avenue.	Member of crew must be on ground and stop vehicular traffic before movement is made by train or engine over all crossings, except where crossing is protected by automatic flashing light signals which are in operation.
Spokane—Hamilton Street on Taylor Edwards Company spur tracks. Division Street at Cataldo.	Stop must be made and member of crew must ascertain that automatic crossing signals are in operation before occupying crossing.
Tekoa—County road at junction switch to McGoldrick's Spur.	Member of crew must be on ground and stop traffic before movement is made over the crossing.

**Switches**

104 (T). Switches will be set normally at:

- Hinkle—wye switches—for running track;
- Hinkle—Switch at stem of wye—for east leg of wye;
- Fairfield—switch to B.N. connection on siding—for B.N.;
- Hooper Jct. (Connell Branch)—for line via Park;
- Seltice—for line via Colfax;
- Winona—for line via Colfax;
- LaCrosse—Connell Branch switch—for Connell Branch;
- Tucannon—for Tekoa Branch;
- Riparia-junction switch—for movement to Camas Prairie;
- Walla Walla—east wye switch Pendleton Branch—for Pendleton Branch;
- Wye switch Wallula Branch—for movement to east leg of wye;
- Yakima, Walnut Street—for main switching lead.

104 (V). Main track derails are located at the following points:

Pomeroy (M.P. 29.65) (M.P. 29.91)	} Deraill will be set in derailling position only when cars are left standing on main track above it.
Dayton (100 feet east of depot) (150 feet east of west switch to cannery track)	
Pendleton Branch (M.P. 1.11)	} Deraill must be lined and locked in derailling position except when movements are to be made over it.
Wallace (M.P. 81.13)	} Spring switch point set in derailling position at all times and must be changed for eastward movement.
Gem (M.P. 84) Burke (M.P. 86.3)	} Deraill will be set in derailling position only while switching is being done above it.
Burke (M.P. 86.4)	} Deraill must be lined and locked in derailling position except when movements are to be made over it.
Sierra Nevada Spur (300 feet east of refinery track switch)	} Spring switch point must be set in derailling position at all times except when changed for descending movement.
Sierra Nevada Spur (west of No. 1 track switch at zinc plant)	} Deraill will be set in derailling position only when cars are left standing on main track above it.

104 (Y). At East Spokane, spring switch equipped with facing point lock is installed in main track at west end of yard.

Spring switch installed on C.M.St.P.&P. connection is equipped with switch point indicator for eastward movements. When this indicator displays green, switch points are lined for movement on Union Pacific track. When indicator displays yellow, switch is lined for eastward movement on C.M.St.P.&P. track. If this indicator displays red, switch points must be examined to know switch is lined for movement to be made.

Westward movements through either of these spring switches will be governed by westward dwarf signal located near west end of Union Pacific running track and between that track and main track, controlled by Operator at Dishman. Before making movements from U.P. running track to main track, crews must secure permission from Operator at Dishman by telephone. C.M.St.P.&P. crews must obtain this permission before leaving C.M.St.P.&P. yard.

**Centralized Traffic Control System**

268 (S). At Pendleton, trains from Pendleton Branch to extension of Track 6, must obtain permission from train dispatcher before passing Signal 2165.

269 (T). Referring to Special Instructions 269 (R), push buttons are located in relay houses:

- At Wallula;
- At Villard Jct.;
- At Zangar Jct.

**Dual Control Switches**

275 (U). At Union Pacific controlled interlockings, listed below, when control operator is unable to clear the signal and movement is authorized as prescribed by Rule 606 (a) or 606 (b), levers on control machine must, when possible, be positioned for route to be used.

Selector lever on all dual-controlled switches over which movement is to be made must be placed in HAND position and must not be restored to POWER position until movement over the switch has been completed.

- B.N. Crossing (Spokane);
- Kalan Drawbridge.

**Controlled Signals**

275 (V). Train and engine movements between B.N. Crossing and Dishman will be governed by controlled signals located at B.N. Crossing, at east and west ends of East Spokane, and east end of siding at Dishman.

Indications of such signals will supersede the superiority of trains between these points. When one of these controlled signals displays Stop indication, member of crew must communicate with operator and be governed by his instructions.

Trains and engines must not enter main track at west end East Spokane or at east switch Dishman without permission from operator except that when illuminated letter 'S' is displayed on signal at west end of East Spokane, Sixth Subdivision, or at east switch Dishman, switch may be lined for main track and movement then made according to signal indication.

275 (W). Stop signals governing movement over dual control switches at east switch, Ayer and at Ayer Junction, and westward Stop signals at west switch, Joso, are controlled by control operator at Ayer. A train or engine stopped by these signals must not proceed without authority from control operator at Ayer.

**Staff System**

301 (S). Movements of trains and engines on the Government trackage between Richland Junction (Yakima Branch) and yard limit sign on Government trackage at M.P. 43.8, are governed by staff system.

Divided staff, lettered "A" and "B", will be used and staff boxes are located at Richland Junction and at M.P. 43.8.

When only one train movement is to be made in the staff limits, dispatcher will notify the crew and that crew must have both staffs "A" and "B" in their possession and retain them for the round trip.

When two trains are to be run in these limits, the first train must not enter the staff limits until it has been ascertained that both staffs are in box at that point, and has taken staff "A" for their movement. Second train entering staff limits must have staff "B" in their possession.

After moving through the staff limits, both staffs must be left in staff box. Staff box must be left locked at all times.

Conductor of train which is to move, or has moved, through the staff limits, must register his train on train register at Richland Junction, and indicate staff used, either "A" or "B" or both.

Train or engine movements on Government trackage from end of staff system into interchange yard and wye at North Richland will be governed by yard limit rules and instructions issued by Government dispatcher. When two trains are run, the first train arriving at interchange yard must remain at that point until the second train arrives.

**Slide Detector Signals**

509 (S). On Yakima Branch, between M.P. 41 and M.P. 42, slide detector signals, designated by triangular number plates, are in service. When signal displays Stop indication, train must stop be-

fore passing and may then proceed at restricted speed to signal at opposite end of protected territory, looking out for damaged rail or obstruction, and report must be made to train dispatcher at first opportunity.

**Interlocking**

605 (U). To indicate the route to be used through interlocking, the following whistle signals will be used:

- At B. N. Crossing, Spokane:
- For Spokane Union Station . . . . . o o o
- For old yard . . . . . o o o o
- For East Spokane . . . . . o o o o
- For B. N. transfer . . . . . o o o
- For S. I. balloon track . . . . . o

613 (R). At Columbia River Bridge, M.P. 7.44 Yakima Branch, when a train is stopped by semi-automatic interlocking signal, a flagman must be sent to drawbridge to give proceed signal if deraill and draw span are properly closed. Two long sounds of engine whistle must be sounded before proceeding, and movement must be made at restricted speed.

613 (S). At Yakima River Bridge, M.P. 89.35, Yakima Branch, trains and engines are governed by automatic interlocking signals and must approach gantlet track at restricted speed. A train or engine stopped by an interlocking signal must comply with Operating Rule 613. If signal does not change its indication after one minute, flag protection must be provided for movement between home signals governing gantlet track.

**Close Clearances**

799 (R). There are close clearances above and at the side of main tracks as follows, and in addition thereto, at platforms and other structures above and at the side of industry, stock and other tracks. (See Operating Rule M.)

Location	Structure or obstruction	Clearance of engine or car is close at—
<b>Sixth Subdivision</b>		
M.P. 231.83	Tunnel No. 7	Top and side.
M.P. 275.1	Tunnel No. 10	Top and side.
M.P. 275.5	Tunnel No. 11	Top and side.
M.P. 275.97	Tunnel No. 12	Top and side.
M.P. 276.2	Tunnel No. 13	Top and side.
M.P. 276.48	Tunnel No. 14	Top and side.
M.P. 278.36	Overhead bridge	Top and side.
M.P. 281.3	Tunnel No. 15	Top and side.
M.P. 286.78	Overhead bridge	Top and side.
M.P. 292.07	Tunnel No. 16	Top and side.
M.P. 294.37	Tunnel No. 17	Top and side.
M.P. 305.62	Overhead bridge	Top and side.
M.P. 325.70	Overhead bridge	Top and side.
M.P. 337.20	Overhead bridge	Top and side.
M.P. 352.13	Bridge	Side.
M.P. 353.57	Overhead bridge	Top.
M.P. 353.94	Overhead bridge	Top.
M.P. 357.48	Overhead bridge	Top and side.
M.P. 357.95	Overhead bridge	Top and side.
M.P. 363.79	Overhead bridge	Side.
Spokane	Umbrella shed Track 1	Side.
Spokane	Umbrella shed Track 2	Side.
Spokane	Umbrella shed Track 7	Side.
Spokane	Umbrella shed Track 9	Side.
Spokane	Umbrella shed Track 11	Side.
Spokane	Market Street bridge	Top and side.
Spokane	Division Street bridge	Top.
Spokane	Tunnel, westward track	Top and side.
Spokane	Tunnel, eastward track	Top and side.

Location	Structure or obstruction	Clearance of engine or car is close at—
<b>Yakima Branch</b>		
M.P. 7.44	Bridge	Top and side.
M.P. 11.52	Bridge	Side.
M.P. 14.16	Overhead bridge	Top and side
M.P. 16.06	Bridge	Side.
M.P. 24.31	Overhead bridge	Top.
M.P. 35.89	Bridge	Top and side
M.P. 53.36	Bridge	Side.
M.P. 56.83	Bridge	Side.
M.P. 58.04	Bridge	Side.
M.P. 58.19	Bridge	Side.
M.P. 73.03	Bridge	Side.
M.P. 73.20	Bridge	Side.
M.P. 73.30	Bridge	Side.
M.P. 89.35	Bridge	Top and side.
M.P. 93.54	Overhead bridge	Top.
Yakima, First Avenue and C Street	Traffic light	Top.
<b>Tekoa Branch</b>		
M.P. 19.96	Bridge	Side.
M.P. 26.73	Bridge	Side.
M.P. 77.23	Bridge	Top and side.
M.P. 90.27	Bridge	Top and side.
M.P. 93.01	Bridge	Side.
M.P. 94.70	Overhead bridge	Top.
M.P. 98.03	Bridge	Side.
M.P. 112.98	Overhead bridge	Top.
M.P. 115.79	Bridge	Side.
M.P. 143.67	Overhead bridge	Side.
<b>Moscow Branch</b>		
M.P. 8.54	Bridge	Top and side.
M.P. 18.77	Bridge	Top.
M.P. 18.97	Bridge	Top and side.
M.P. 19.27	Overhead bridge	Top.
<b>Wallace Branch</b>		
M.P. 23.45	Bridge	Top and side.
M.P. 55.56	Bridge	Side.
M.P. 58.01	Bridge	Top and side.
M.P. 62.14	Bridge	Top and side.
M.P. 63.48	Bridge	Top and side.
M.P. 64.03	Bridge	Side.
M.P. 72.59	Bridge	Side.
M.P. 79.36	Bridge	Top and side.
Burke station to end of track	Various	Top and side.
<b>Pleasant Valley Branch</b>		
M.P. 1.51	Bridge	Top and side.
M.P. 41.21	Overhead bridge	Top.
<b>Pendleton Branch</b>		
M.P. 0.51	Bridge	Top.
M.P. 36.86	Bridge	Side.
M.P. 74.12	Overhead bridge	Top and side.
<b>Wallula Branch</b>		
M.P. 10.35	Overhead bridge	Top and side.
M.P. 14.32	Bridge	Side.
<b>Connell Branch</b>		
M.P. 15.13	Bridge	Side
M.P. 15.74	Overhead bridge	Top and side.

799 (Z-2). At Spokane Union Station, extreme caution must be used when handling freight equipment on any track to know equipment will clear umbrella sheds and platforms.

809 (T). At Spokane Union Station, when passenger equipment is left unattended, hand brakes must be set on each car and on engine.

934 (T). On tracks listed below, only engines of types shown may be used:

(Note—Following are classified as DE-Switch engines: Alco road-switch units Nos. 1280-1295; 1000 HP units Nos. 1000-1095, 1100-1198, 1200-1210, 1800-1865 and 1870-1877.)

Location	Name of Track	Engines Permitted
Walla Walla ..	Pacific Fruit Spur	DE-Switch
Walla Walla ..	Walla Walla Gardeners Spur	
Walla Walla ..	Pacific Supply Co-op.	
Walla Walla ..	Walla Walla Cannery	
Walla Walla ..	Jefferson St. Connection Libbys.	
Walla Walla ..	Mill Spur.	

934 (U). EMD DDA40X (6900 series) units must not be operated on branch lines.

At Spokane Union Station, these units may be operated only on main tracks 4 and 5.

6900 series locomotives must not be moved over turnouts at the following location:

Spokane—No. 7 turnouts out of main track Union Station area.

934 (V). Referring to Special Instruction 934 (S), following tracks have curvature in excess of 30 degrees:  
Spokane —Spokane Flour Mill, Track 32.

**Yakima Branch**

Yakima —YVT Co., 3 tracks.

**Pendleton Branch**

Walla Walla —Track 58, Walla Walla Poultry Association.  
—Track 67, Walla Walla Canning Co.  
—Track 66, Walla Walla Canning Co.

934 (X). Referring to Special Instructions 934 (R), All Subdivisions:

At the following locations, 85 foot trailer flat cars may be handled on curves in excess of 16 degrees as provided therein:

Walla Walla, track serving rail trailer facilities.

934 (Z). Pile driver 900321 must not be handled on Connell Branch between Hooper Junction and Connell.

**Air Brake Rules**

1029 (S). At Spokane Union Station, passenger trains will make running air test only after leaving the elevated structure.

1041 (R). Brake pipe test, as prescribed in Air Brake Rule 1041, must be made on all freight trains before descending grade Weston to Barrett, Relief to Starbuck, Alto to Menoken, Crest to Colfax, Plummer Jct. to Chatcolet, Burke to Wallace, Sierra Nevada Branch end of track to Bradley.

1042 (V). Retaining valves must be used on descending grades as follows:

On all trains Crest to Colfax, Relief to Starbuck, Weston to Barrett, Burke to Wallace and Sierra Nevada Branch end of track to Bradley, all retaining valves must be used.

On freight trains descending grades Mica to Chester and Darknell to Rockford and on freight and mixed trains Jerita to Hay, Alto to Menoken, Turner to Dayton, trains averaging not to exceed fifty gross tons per operative brake may be handled without the use of retaining valves. On trains averaging to exceed fifty gross tons per operative brake, one half of all retaining valves must be used.

Retaining valves must be used consecutively from head end of train.

When retaining valves are used, freight and mixed trains will use five minutes moving first mile after turning up retaining valves, four minutes moving second mile and three minutes moving each mile thereafter, except where slower speed is otherwise prescribed.

**SPOKANE INTERNATIONAL RAILROAD COMPANY**

**SPOKANE SUBDIVISION AND COEUR D'ALENE BRANCH**

**Use of Engine Whistle**

15 (U). Within the city limits of Spokane, it is unlawful to sound engine whistle except to signal flagman or interlocking operator or to prevent an accident not otherwise avoidable.

**Clearances**

83 (S). Clearance Form A must be received as follows:  
B. N. Crossing—all eastward trains.

**Railroad Crossings and Junctions**

98 (R). Trains and engines must be governed by the following at the railroad crossings and junctions indicated:

Location	Railroad Crossed or Junction With	Trains Which Have Precedence	How Governed
Spokane. (M.P. 0.03)	U. P.	U. P.	Stop Signs.
Spokane. (M.P. 0.04)	B. N.	B. N.	Stop Signs.
Grand Junction (M.P. 21.99)	B. N.	B. N.	Stop signs.
Grand Junction (M.P. 22.13)	C. M. St. P. & P.	S. I.	Stop signs.
Sandpoint (M.P. 75.2)	B. N.	B. N.	Stop signs.
Bonniers Ferry. (M.P. 109.4)	B. N.	B. N.	Stop signs.
<b>Coeur d'Alene Branch</b> Gibbs. (M.P. 7.79)	B. N.	B. N., C. M. St.- P. & P.	Stop signs.
Coeur d'Alene (M.P. 8.71)	B. N.	B. N.	Stop signs.

**Flag Protection**

99 (X). On Coeur d'Alene Branch between 6 A.M. and 6 P.M. daily, a speed of 10 MPH must not be exceeded by all extra trains approaching and moving on curves and where view is obscured, looking out carefully at all points for track cars and men working on track without flag protection. Speed on curves must be such as to be able to stop within one-half the distance track is seen to be clear and whistle signal 15 (1) must be sounded frequently.

**Public Crossings**

103 (Z). The following will govern trains and engines at the public crossings named below:

Location	Instructions
Spokane, within city limits.	Trains, engines or cars must not be stopped on street crossings longer than five minutes. If it is evident movement will be stopped longer than five minutes, crossing must be cut to allow vehicular traffic to proceed.
Spokane— Monroe Street Howard Street Mallon Avenue Division Street	Member of crew must be on ground and stop vehicular traffic movement before movement is made by train or engine over crossings except where crossing is protected by automatic flashing light signals which are in operation.
Spokane— Hamilton Street	Manually-controlled flashing light crossing signal must be activated before moving over crossing on SI spur. Switch key controller located on signal mast west of crossing.
Sandpoint—	Member of crew must be on ground and stop vehicular traffic before switch movements are made on all street crossings.

**Normal Position of Switches**

104 (Z). At Eastport, normal position of switch at tail of wye is for east leg of wye.

**Dual Control Switches**

275 (U). At Union Pacific controlled interlocking, listed below, when control operator is unable to clear the signal and movement is authorized as prescribed by Rule 606 (a) or 606 (b), levers on control machine must, when possible, be positioned for route to be used.

Selecter lever on all dual-controlled switches over which movement is to be made must be placed in HAND position and must not be restored to POWER position until movement over the switch has been completed.

B.N. Crossing (Spokane).

**Close Clearances**

799 (R). There are close clearances above and at the side of main tracks as follows, and in addition thereto, at platforms and other structures above and at the side of industry, stock and other tracks. (See Operating Rule M.)

Location	Structure or Obstruction	Clearance of engine or car is close at—
M.P. 32.70 .....	Overhead bridge .....	Top.
M.P. 41.14 .....	Overhead bridge .....	Top and sides.
M.P. 41.17 .....	Overhead bridge .....	Top and sides.
M.P. 74.7 .....	Street light post .....	Top and side.
M.P. 85.9 .....	Bridge .....	Top and sides.
M.P. 101.1 .....	Overhead bridge .....	Top and sides.
M.P. 109.9 .....	Bridge .....	Top and sides.
M.P. 114.59 .....	Tunnel No. 1 .....	Top and sides.
M.P. 114.93 .....	Tunnel No. 2 .....	Top and sides.
M.P. 117.1 .....	Tunnel No. 4 .....	Top and sides.
M.P. 130.3 .....	Bridge .....	Top and sides.
M.P. 136.1 .....	Bridge .....	Top and sides.
<b>Coeur d'Alene Branch</b>		
M.P. 6.73 .....	Overhead bridge .....	Top and sides.
M.P. 6.76 .....	Overhead bridge .....	Top and sides.
M.P. 6.91 .....	Overhead bridge .....	Top and sides.
M.P. 8.26 .....	Overhead bridge .....	Top and sides.

**Chaining Cars to Rail**

809 (T). Cars must not be left standing on west leg of wye at Eastport unless securely chained to rail.

**RATING OF DIESEL LOCOMOTIVES IN FREIGHT SERVICE IN TONS OF 2000 POUNDS**

Total weight of train exclusive of locomotive, which the different classes of locomotives will haul in each direction between stations named, under favorable weather conditions. Rating shown is for single unit. If more than one unit, rating of combined units will govern.

	31-45 5000 HP GE U50	60-61 5500 HP ALCO DL855	72B-98B 5000 HP EMD DD35	100-129 1500 HP EMD GP7	130-349B 500-542B 1750 HP EMD GP9 EMD F9	400-448 2400 HP EMD SD24	470-499 2000 HP EMD GP20	625-640 2500 HP GE U25B	675-678 2400 HP ALCO DL640	700-739B 800-875 2250 HP EMD GP30	740-763 2500 HP EMD GP35	1400-1409 2500 HP EMD SDP35	3000-3047 3000 HP EMD SD40
<b>FIRST SUBDIVISION</b>													
Huntington to Durkee	4050	4000	3980	1500	1720	2850	1750	2000	1880	1900	2000	2500	3350
Durkee to Encina	1910	1900	1880	700	820	1320	850	950	900	900	950	1150	1500
Encina to North Powder	8000	8000	8000	3100	3450	5650	3450	4000	3900	3800	4000	4800	6450
North Powder to Telocaset	4050	4000	3980	1500	1720	2850	1750	2000	1880	1900	2000	2400	3250
Telocaset to La Grande	8400	8400	8400	3300	3600	5950	3600	4200	4100	4000	4200	5050	6800
La Grande to Union Jct.	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL
Union Jct. to Telocaset	2750	2750	2750	1050	1100	1950	1200	1400	1350	1350	1400	1700	2250
Telocaset to Baker	5800	5800	5800	2300	2500	4700	2500	2950	2850	2800	2950	3500	4700
Baker to Encina	2750	2750	2750	1050	1100	1980	1200	1400	1350	1350	1450	1700	2250
Encina to Huntington	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL
<b>SECOND SUBDIVISION</b>													
La Grande to Hilgard	4820	4820	4820	1820	2080	3400	2100	2400	2280	2300	2400	2500	3350
Hilgard to Kamela	1910	1900	1880	700	820	1320	850	950	900	900	950	1150	1500
Kamela to Hinkle	9600	9600	9600	3650	4100	6800	4100	4850	4700	4600	4850	5800	7750
Hinkle to Duncan	3800	3800	3800	1500	1640	2700	1670	1950	1900	1850	1950	2300	3100
Duncan to Kamela	2100	2100	2050	800	900	1475	900	1050	1000	1000	1050	1300	1700
Kamela to La Grande	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL
<b>THIRD SUBDIVISION</b>													
Hinkle to Munley	7000	6900	6800	3860	4000	5950	4200	4400	4050	4300	4400	5600	7550
Munley to The Dalles	9999*	9999*	9999*	4150	4500	7500	4500	5300	5150	5050	5300	6300	8500
The Dalles to Seufert	6100	6100	6100	2300	2600	4300	2630	3050	2850	2900	3050	5250	6200
Seufert to M.P. 108	9999*	9999*	9999*	4750	5260	9999*	5260	6200	5900	5800	6200	7300	9999*
M.P. 108 to M.P. 114.5	6100	6100	6100	2300	2600	4300	2630	3050	2850	2900	3050	3750	5000
M.P. 114.5 to Boardman	9999*	9999*	9999*	4750	5260	9999*	5260	6200	9500	5800	6200	7300	9999*
Boardman to Hinkle	6100	6100	6100	2300	2600	4300	2630	3050	2850	2900	3050	3750	5000
<b>FOURTH SUBDIVISION</b>													
The Dalles to Crates	7000	6900	6800	3500	4000	4900	4200	4500	4300	4300	4500	5600	7550
Crates to Albina via Kenton	9999*	9999*	9999*	4750	5260	9999*	5260	6200	5900	5800	6200	7300	9999*
Troutdale to Clarnie via Graham	7000	6900	6800	2700	3000	4900	3050	3500	3300	3350	3500	4450	6000
Albina to Hood River via Kenton	6400	6400	6200	4150	4300	6400	4400	4500	4350	4450	4500	6100	8100
Portland to Clarnie via Graham	4100	4100	4000	1500	1800	2900	1830	2000	1900	1900	2000	2600	3550
Hood River to The Dalles	7000	6900	6800	3500	4000	4900	4200	4500	4300	4300	4500	5600	7550

CL—Car Limit.  
\*Rating exceeds 10,000 tons.

**RATING OF DIESEL LOCOMOTIVES IN FREIGHT SERVICE IN TONS OF 2000 POUNDS**

Total weight of train exclusive of locomotive, which the different classes of locomotives will haul in each direction between stations named, under favorable weather conditions. Rating shown is for single unit. If more than one unit, rating of combined units will govern.

	31-45 5000 HP GE U50	60-61 5500 HP ALCO DL85	72B-98B 5000 HP EMD DD35	100-129 1500 HP EMD GP7	130-349B 500-542B 1750 HP EMD GP9 EMD F9	400-448 2400 HP EMD SD24	470-499 2000 HP EMD GP20	625-640 2500 HP GE U25B	675-678 2400 HP ALCO DL640	700-739B 800-875 2250 HP EMD GP30	740-763 2500 HP EMD GP35	1400-1409 2500 HP EMD SDP35	3000-3047 3000 HP EMD SD40
<b>FIFTH SUBDIVISION</b>													
Albina to Vader	8000	8000	8000	4250	5000	6000	5000	5500	5300	5300	5500		
Vader to Napavine	4400	4400	4400	1800	2000	3100	2000	2300	2200	2200	2300		
Napavine to Argo	8000	8000	8000	4250	5000	6000	5000	5500	5300	5300	5500		
Argo to Centralia	8000	8000	8000	4250	5000	6000	5000	5500	5300	5300	5500		
Centralia to Napavine	3400	3400	3400	1400	1700	2450	1700	1950	1850	1850	1950		
Napavine to Albina	8000	8000	8000	4250	5000	6000	5000	5500	5300	5300	5500		
<b>SIXTH SUBDIVISION</b>													
Spokane to Geib	6150	6150	6150	2400	2650	4350	2650	3100	3000	3100	3100	5000	5000
Geib to Page	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL
Page to Humorist	9900	9900	9900	3900	4250	7050	4250	5000	4850	5000	5000	8000	8000
Humorist to Wallula	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL
Wallula to Juniper	9999*	9999*	9999*	3950	4300	7150	4300	5050	4900	5050	5050	8100	8100
Juniper to Hinkle	6150	6150	6150	2400	2650	4350	2650	3100	3000	3100	3100	5000	5000
Hinkle to Wallula	9999*	9999*	9999*	5000	5200	7800	5600	5900	5800	5900	5900	8950	8950
Wallula to Humorist	7200	7200	7200	2800	3100	5100	3100	3600	3500	3150	3600	5800	5800
Humorist to Ayer	9999*	9999*	9999*	3950	4300	7150	4300	5050	4850	5000	5050	8000	8000
Ayer to Geib	6150	6150	6150	2400	2650	4350	2650	3100	3000	3100	3100	5000	5000
Geib to Spokane	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL

\*Rating in excess of 10,000 tons.  
CL—Car Limit.

**RATING OF DIESEL LOCOMOTIVES IN FREIGHT SERVICE IN TONS OF 2000 POUNDS**

Total weight of train exclusive of locomotive, which the different classes of locomotives will haul in each direction between stations named, under favorable weather conditions. Rating shown is for single unit. If more than one unit, rating of combined units will govern.

	100-129 GP7	130-349B 500-542B GP9 F9 470-499 GP20	400-448 SD24	1000 1095	1800 1824	GP7	GP9 F9 GP20	SD24	1000 1095	1800 1824
<b>Pendleton Branch</b>										
						1500	1500		1400	1400
						1350	1350		750	800
						CL	CL		CL	CL
						1500	1500		1400	1400
						1850	1850		1400	1400
						1200	1200		1050	1125
						950	950		750	800
						1750	1750			
						2500	2500		1400	1400
						750	750		775	850
						3700	3700		3500	3750
<b>Tekoa Branch</b>										
						1750	1750		1175	1275
						1130	1130		750	825
						1650	1650		1042	1140
						2200	2200		2000	2150
						1700	1700		1200	1300
						4000	4000		3500	3700
						625	625		400	450
						4000	4000		3500	3700
						1900	1900		1500	1650
						5000	5000		4000	5000
						4000	4000		3200	3400
						1400	1400		1150	1250
						1000	1000		700	750
						1850	1850		1500	1650
						1750	1750		1400	1550
						1350	1350		1000	1100
						2300	2300		2000	2200
						1450	1450		1150	1250
						1435	1435		1000	1050
						4000	4000		3500	3700
<b>Wallace Branch</b>										
						2250	2250		1700	1850
						1900	1900		1300	1750
						1900	1900		1200	1300
						500	500		275	300
						450	450		225	275
						1200	1200		750	750
						3000	3000		2500	2700
						1000	1000		550	600
<b>Connell Branch</b>										
						3700	3700		3500	3700
						1200	1200		1100	1200
						1300	1300		1200	1300
<b>Pleasant Valley Branch</b>										
						1780	1780		1400	1550
						3500	3500		3000	3200
						1575	1575		1150	1250
						1400	1400		950	1025
						2350	2350		1900	2100
<b>Dayton Branch</b>										
						2200	2200		1600	1600
						1600	1600		875	875
						1500	1500		875	875
						3000	3000		2000	2000
<b>Tucannon Branch</b>										
						2400	2600		1200	1350
						CL	CL		CL	CL
<b>Pomeroy Branch</b>										
						2200	2400		1200	1350
						1800	2000		1000	1150
						CL	CL		CL	CL

CL—Car Limit.

Maximum Speed, Continuous And Short Time Motor Ampere Ratings

UPRR Diesel Road Units

Series	Class	HP	Gear Ratio	Max. Gear Speed MPH	Over Speed Set MPH (Nom.)	Continuous		One Hour		1/2 Hour		1/4 Hour	
						MPH	Amps	MPH	Amps	MPH	Amps	MPH	Amps
<b>EMD</b>													
70- 98B	DD35	5000	#74/18	71	75	12.0	1000	11.5	1010	11.0	1050	10.0	1125
			#62/15	71	75	12.0	1000	11.5	1010	11.0	1050	10.0	1125
			#59/18	90	75	15.0	1000	14.5	1010	14.0	1050	12.5	1125
			*59/18	90	75	11.0	1020	11.0	1040	10.5	1075	9.5	1150
100- 129	GP7	1500	62/15	65	65	11.5	825	10.5	900	10.0	925	9.5	950
130- 349B	GP9	1750	62/15	65	75	12.0	900	11.5	925	10.5	970	9.5	1065
300- 348B	GP9M	2000	62/15	65	75	14.0	900	13.0	925	12.5	970	10.5	1065
400- 448	SD24	2400	62/15	65	75	10.0	950	9.5	970	8.5	1030	7.5	1145
			59/18	83	75	12.5	950	12.5	970	11.0	1030	9.5	1145
450- 459	SD7	1500	62/15	65	75	6.5	900	6.0	950	5.5	985	5.0	1035
470- 499	GP20	2000	62/15	65	75	14.0	900	13.0	925	12.5	970	10.5	1065
			59/18	83	75	17.0	900	16.5	925	15.5	970	13.5	1065
500- 542B	F9	1750	62/15	65	75	12.0	900	11.5	925	10.5	970	9.5	1065
700- 875	GP30	2250	#62/15	71	75	12.0	980	11.5	990	11.0	1030	10.0	1115
			#59/18	90	75	15.0	980	14.5	990	14.0	1030	12.5	1115
			*59/18	90	75	11.0	990	11.0	1015	10.0	1060	9.0	1140
740- 763	GP35	2500	#62/15	71	75	12.0	1000	11.5	1010	11.0	1050	10.0	1125
			#59/18	90	75	15.0	1000	14.5	1010	14.0	1050	12.5	1125
			*59/18	90	75	11.0	1020	11.0	1040	10.5	1075	9.5	1150
900- 974B	E8, E9	2400	55/22	98	95	32.0	750	31.0	775	28.0	830	23.0	940
1400-1409	SDP35	2500	59/18	90	90	12.0	1000	11.0	1025	10.5	1060	9.5	1125
3000-3082	SD40	3000	62/15	71	75	11.0	1050	10.5	1075	10.0	1100	9.5	1150
			59/18	90	75	14.0	1050	13.5	1075	13.0	1100	12.5	1150
			#59/18	90	75	11.0	1090	10.5	1125	10.5	1140	10.0	1180
3100	SD24M	3300	59/18	90	75	14.0	1050	13.5	1075	13.0	1100	12.5	1150
3600-3643	SD45	3600	#59/18	90	75	14.0	1050	13.5	1075	13.0	1100	12.5	1150
			*59/18	90	75	11.0	1090	10.5	1125	10.5	1140	10.0	1180
3644-3649	SD45	3600	#62/15	71	75	11.0	1050	10.5	1075	10.0	1100	9.5	1150
6900-6946	DD40X	6600	#59/18	90	75	11.5	1120	11.0	1150	10.0	1200	9.0	1275
<b>Alco</b>													
60- 61	DL855	5500	74/18	70	75	16.5	1040	16.0	1050	15.5	1100	15.0	1130
675- 678	DL640	2400	74/18	70	75	15.0	1040	14.5	1050	14.0	1100	13.5	1130
2900-2909	DL630	3000	74/18	70	75	10.0	1195	9.5	1215	9.0	1240	8.5	1275
<b>G. E.</b>													
31- 53	U50	5000	74/18	70	75	15.0	1085	14.5	1095	14.0	1120	13.5	1175
625- 640	U25B	2500	74/18	70	75	15.0	1085	14.5	1095	14.0	1120	13.5	1175
2800-2809	U28C	2800	74/18	70	75	11.0	1085	10.5	1095	10.0	1120	9.5	1175
5000-5039	U50C	5000	#79/24	84	75	15.0	1195	14.5	1215	14.0	1230	13.5	1270
			*79/24	84	75	11.0	1195	11.0	1215	10.5	1230	10.0	1270

#Performance Control Or Power Limiting Control.

\*Modified Performance Control.

Note: Continuous And Short Time MPH Ratings Consistent With Speedometer Dial Ratings.