

GREAT NORTHERN RAILWAY COMPANY

**SPOKANE
DIVISION**

Special Instructions No. 3

**EFFECTIVE 12:01 A. M.
PACIFIC TIME**

Sunday, February 24, 1946

These Instructions constitute a part of the Time-Table currently in effect. Employes whose duties are in any way affected by the Time-Table must have a copy of the Current Special Instructions and Current Time-Table with them on duty.

**I. E. CLARY, Superintendent
I. E. MANION, General Manager
J. B. SMITH, General Superintendent of Transportation**

FIRST SUBDIVISION

(MAIN LINE)

1. MAXIMUM SPEED FOR TRAINS.

Between	Passenger	Freight
Hillyard and Lyons	45 MPH	35 MPH
Lyons and Wenatchee	60 MPH	50 MPH

2. SPEED RESTRICTIONS.

Spokane, all trains approach crossover east of bridge 270, and crossover west of Howard Street at restricted speed.		
Spokane, public crossing Howard Street	12 MPH	
other public grade crossings.....	20 MPH	
Bridge 270, Spokane, R-1, R-2, SP&S E-1, Z-6.....	20 MPH	
Bridge 273, Spokane, Q-1, S-1, N-3, SP&S E-1.....	20 MPH	
R-1, R-2, SP&S Z-6	10 MPH	
Bridge 274, Fort Wright, Q-1, R-1, R-2, S-1, N-3, SP&S E-1, Z-6	30 MPH	
Between Galena and East Galena:		
All trains on straight track	15 MPH	
on curves and public crossings	8 MPH	
Ephrata, 2.2 miles east of, Army Air Depot spur.....	8 MPH	
Between Home Signals of Interlockings at Spokane, U.P.R.R. Jct., westward	20 MPE	

3. ENGINE RESTRICTIONS ON INDUSTRY TRACKS.

Engines heavier than "O" class not permitted on following tracks:
 Between Galena and East Galena, and on spur track serving Army Northwest Air Depot Yard at Galena.
 East Galena, GN engines not permitted on Chemical Spur and Warehouse Spur. If necessary to set out or pick up on these tracks hold on to enough cars as reachers.
 Ephrata, 2.2 miles east of, Army Air Depot Spur, south of siding.

4. TRAIN REGISTER EXCEPTIONS.

Hillyard, trains 1, 2, 27 and passenger extra register by ticket.
 Spokane, first class trains and trains originating or terminating at passenger station will register and receive clearance.
 Appleyard, register is for second and inferior class trains, except No. 381-382 and passenger extra will register by ticket.
 Wenatchee, register is for first class trains, Nos. 381-382 and passenger extras.

5. RESTRICTED CLEARANCES.

In electrified zone all wires must be considered alive unless a clearance has been obtained from operator at Skykomish Substation.

Appleyard, and between Appleyard and Wenatchee, high voltage electric wires over tracks will not clear man on top of cars. Train and engine men must keep off top of cars and engines passing thru this territory, except in emergency, then use extreme caution.

The following overhead wires crossing our track, and trolley in electrified zone, do not have standard clearance of 27 ft. from top of rail:

Rock Island, 1 mile west of.....	23' 9".
Appleyard, MP 1646	25' 6".

Between Appleyard & Wenatchee, highway bridge:	
Over Main track	19' 9".
Over Lead track	21'.

6. Double track extends between Hillyard and Fort Wright, except over bridge 274 and S.P.&S. Jct. which is governed by interlocking signals.

7. Spokane, Between the hours of 7:00 a. m. and 11:00 p. m. daily, watchman will protect movements over public grade crossings and railroad crossing at Trent Avenue and Sheridan Street. Between the hours of 11:00 p. m. and 7:00 a. m. daily, trains and yard engines must stop before moving over these crossings and a member of the crew on the ground at the crossing will protect the movement.

8. Spokane, derail on N.P. transfer track located 160 feet east of switch to train yard about one-fourth mile east of Division St.

9. Spokane, derail on connecting track between First Subdivision and Ninth Subdivision 37 feet west of N.P. transfer track switch just west of Trent Avenue.

10. East Galena, 3 miles east of, trains and engines must stop before moving over Cheney Highway grade crossing, and a member of the crew on the ground at the crossing will protect the movement.

11. Spokane, City Ordinance prohibits sounding of engine whistle within the city limits, except to prevent accident not otherwise avoidable, or to signal an interlocking, or to communicate with a flagman.

12. SPEED TEST BOARDS.

Engineers shall test speed of their trains passing following points as compared with Speed Table:

Westward trains, between MP 1492 and MP 1493, east of Galena.
 Eastward trains, between MP 1612 and MP 1613, 2½ miles west of Winchester.

Eastward trains, between MP 1644 and MP 1645, ½ mile west of Malaga.

13. CROSSOVERS ON DOUBLE TRACK.

Facing point.

Trailing point.

MP 1473.14 west of Hillyard.

MP 1476 east of UP Tower, Spokane.

MP 1476.69 on Br. 269, Spokane.

MP 1477.12 east of Br. 270, Spokane.

MP 1477.22 east of Br. 270, Spokane.

MP 1477.61 (Scissors) on Br. 273 west of Spokane passenger depot.

MP 1477.61 (Scissors) on Br. 273 west of Spokane passenger depot.

MP 1478.41 west of Br. 273, Spokane.

350' east of depot, Harrington.

3200' west of depot, Mohler.
 2000' west of depot, Downs.

14. EMERGENCY TELEPHONES.

Spokane, when stopped by Stop-indication at automatic block signal 1474.7, telephone is provided so cause may be determined to prevent train pulling down and blocking street crossings—

Fort Wright, east end bridge 274.....Booth

Fort Wright, west switch

Bluestem, east end double track

Lamona, east of water tank

West end double track

Wilson Creek, west switch

Middle of siding

Ephrata, east wye switch

Trinidad, water tank

West switch

Appleyard, east lead switch.....Pole booth

15. SPRING SWITCHES WITH FACING POINT LOCK.

Lyonseast and west siding switch.

Galenaeast and west siding switch.

Espanolaeast and west siding switch.

Edwalleast and west siding switch.

Nemoeast and west siding switch.

Odessaeast and west siding switch.

Irbyeast and west siding switch.

Wilson Creekeast siding switch.

Ephrataeast and west siding switch.

Trinidadeast and west siding switch.

Wenatcheeeast and west crossover switch west end yard.

Olds crossover(Connection to W-O line).

Normal position is for main track.

16. SPRING SWITCHES WITHOUT FACING POINT LOCK.

Hillyard, east end yard, junction of east yard lead and track No. 5.

Normal position is for track No. 5.

Fort Wright, west wye switch to siding.

Normal position is for siding.

17. MANUAL INTERLOCKINGS.

Spokane, 1.17 miles east of... UP RR crossing and Jct.
Fort WrightEnd of double track and SP&S
Ry Jct.

Whistle signals for routes:

Spokane, UP crossing:

Main track 1 long.

GN-SI Ry Transfer No. 1.....1 long, 1 short.

GN-SI Ry Transfer No. 22 long, 1 short.

Fort Wright:

Main Track GN Ry.....1 short, 1 long.

Main Track SP&S Ry.....1 long, 1 short.

Siding GN Ry.....2 long, 1 short.

18. MANUAL INTERLOCKINGS WITH DUAL CONTROL SWITCHES.

Hillyard.....end of double track east and west end of yard.
East end of yard, switches at end of double track, yard lead and Safety switch are interlocked.
West end of yard, switches at end of double track, yard lead and Spike Yard lead are interlocked.

Interlockings at east and west end of yard are electrically controlled from depot.

Main track between these interlockings is a single track.

If a train is stopped by a Stop-indication and no immediate conflicting train movement is evident, trainmen shall communicate with the operator and be governed by his instructions. At east end of yard push buttons are provided in iron box locked with a switch lock located at west No. 5 switch and on eastward home signal at Safety switch for operation by trainmen for movement of eastward trains from yard to eastward or westward main tracks.

Eastward trains leaving yard will use westerly push buttons in order to line routes instead of pulling down and using push button at eastward home signal Safety switch.

Instructions for operation of push buttons are posted in these boxes which must be locked after using.

When the yard lead junction spring switch is lined for a facing point movement to west yard lead, a green target and green light will be displayed on the switch stand.

When spring switch is lined for a facing point movement to east yard lead, a yellow target and yellow light will be displayed on the switch stand.

When spring switch is not properly lined for facing point movement a red light will be displayed at switch stand height on eastward home signal mast at Safety switch.

For trailing point movements from either yard lead a lunar white light will be displayed.

When so instructed by the operator, interlocking switches may be lined by hand for switch or other train movements as required.

Electric switch machines are equipped with two levers for hand operation. These are latched and locked with a switch lock.

Move "Short" lever to position displaying "Hand".

Move lever marked "Hand Throw" slowly until clutch engages and switch points begin to move with "Hand Throw" lever. Switch may now be lined by hand as desired.

"Short" lever shall be left in position displaying "Hand Throw" until all switching, or other train or engine movements over the switch, has been completed, when "Hand Throw" lever shall

be latched in either position and "Short" lever shall be moved to position displaying "Power" and locked. All home signals will indicate Stop during the period "Short" lever is in position displaying "Hand".

Under no circumstances shall a hand signal be given for a train or engine movement over an interlocking switch unless the "Short" lever is in position displaying "Hand" and the switch has been lined in the position desired by the "Hand Throw" lever.

Whistle signals for routes west end of yard:

Eastward trains,

To main track1 long, 1 short, 1 long.

To yard1 long, 1 short.

Westward trains,

To westward main track1 long.

To eastward main track2 long, 1 short.

19. SEMI-AUTOMATIC INTERLOCKINGS.

Bluestem.....end of double track.

Lamona.....end of double track.

Bluestem and Lamona, interlockings operate automatically for all movements with the following exceptions:

Train movement from single track to double track running against the current of traffic requires push button operation at home signal.

Lamona, when movement is to be made from double track to siding, the siding switch must not be lined until engine is within home signal limits.

Lamona, eastward train moving out of siding immediately after westward train has passed, must operate switch release push button located on eastward home signal to line route for eastward main track.

Bluestem, westward train moving out of siding immediately after eastward train has passed, must operate switch release push button located opposite switch to line route for westward main track.

20. SWITCH INDICATORS.

Ephrata, indicator is located 2.2 miles east, near hand operated Air Depot switch.

Push buttons and instructions for their operation are in iron box locked with a switch lock.

The member of the crew who is to line switches must first operate push button "R" for route desired and hold a few seconds. Both the trainman and the engineer must observe and be governed by the indicator before lining switches or fouling main track.

If the indicator displays a yellow light when push button "R" is operated, switches may be lined and movement made immediately without waiting as prescribed by Rule 513. The yellow light will be extinguished by the lining of main track switch.

If a yellow light is not displayed in the indicator when push button "R" is operated, every precaution, consistent with train rights and operating rules, must be taken before lining switch or fouling main track.

If push button "R" is operated and the intended movement is not made, or main track switch is not lined, push button "N" must be operated to restore signal system to normal condition to avoid delays to trains on main track. Push button "N" must never be operated after push button "R" if the intended movement is to be made.

Push button boxes must be kept closed and locked, except as required to be open for immediate use.

SECOND SUBDIVISION

(MAIN LINE)

1. MAXIMUM SPEED FOR TRAINS.

Between	Passenger	Freight
Wenatchee and Merritt	50 MPH	50 MPH
Merritt and Berne	35 MPH	25 MPH
Berne and Scenic	30 MPH	20 MPH
Scenic and Skykomish	35 MPH	25 MPH
Skykomish and Baring	60 MPH	50 MPH
Baring and Gold Bar	45 MPH	35 MPH
Gold Bar and Seattle	60 MPH	50 MPH

2. SPEED RESTRICTIONS.

Cashmere, Over public crossing Main Street	25 MPH
Bridge 370, Dryden, R-1, R-2	20 MPH
Bridge 371, Dryden, R-1, R-2	10 MPH
Bridge 372, Dryden, R-1, R-2	10 MPH
Bridge 385, Berne 2 mi. east of, Q-1, S-1, N-3	20 MPH
R-1, R-2	10 MPH
Bridge 406, Scenic 4 mi. west of, R-1, R-2	20 MPH
Bridge 408, Tonga 3 mi. east of, Q-1, R-1, R-2	20 MPH
Bridge 446, Sultan, Q-1, R-1, R-2, S-1, N-3	10 MPH
Bridge 4, Ballard	15 MPH
Skykomish, over public crossings	15 MPH
Monroe, thru town limits	25 MPH
Everett, over public crossing Pacific Avenue	8 MPH
Edmonds, thru town limits	8 MPH

Interbay, over NP Ry crossing	15 MPH
Seattle, thru tunnel King Street Station	20 MPH
Seattle, over public crossings	20 MPH
Trains handling snow machinery:	
Between Skykomish and Merritt	25 MPH
Between Merritt and Wenatchee	30 MPH
Between Skykomish and Lowell	30 MPH
Between Home Signals of Interlockings at:	20 MPH
Pacific Avenue, westward.	
Everett Jct., westward.	
North Portal.	
South Portal.	

3. ENGINE RESTRICTIONS ON INDUSTRY TRACKS.

O-1 and heavier engines not permitted on:
 Snohomish, Columbia Packing Co. Spur.
 Seattle, King Street Terminal, on north end of tunnel track 1 and 3.

Seattle, GN freight house yard lead, engines heavier than O-4 not permitted over or beyond turnout of puzzle switch Holgate Street from eastward main track.

Everett, O class and heavier engines not permitted on track at Long Siding and Everett Flour Mill on Bayside.

Skykomish, all GN engines prohibited on Wood Spur.

If necessary to set out or pick up on any of the above tracks hold on to enough cars as reachers.

Delta, trains running via this yard with R engines must make their set out or pick up on tracks 1, 2, 3 and 4.

4. TRAIN REGISTER EXCEPTIONS.

Appleyard, register is for second and inferior class trains, except No. 381-382 and passenger extras will register by ticket.

Wenatchee, register is for first class trains, Nos. 381-382 and passenger extras.

Monroe, register only for CMStP&P RR trains.

Snohomish, register only for NP Ry trains and eastward NP trains register by ticket.

Lowell, NP Jct., register only for NP trains.

Lowell Jct., register only for CMStP&P trains and is located 32d Street and McDougall Avenue, Everett.

Interbay, first class trains register by ticket.

Interbay, engineers and conductors of trains originating which operate over joint track south of Seattle must register at yard office and show number of last bulletin issued by NP and GN.

5. ELECTRIFIED ZONE ALL WIRES MUST BE CONSIDERED ALIVE UNLESS A CLEARANCE HAS BEEN OBTAINED FROM OPERATOR AT SKYKOMISH SUBSTATION.

BETWEEN WENATCHEE AND SKYKOMISH, TELEGRAPH AND TELEPHONE WIRES ARE LOCATED ALONG HIGHWAY AND CONSEQUENTLY NO ATTEMPT MUST BE MADE TO CONNECT TELEPHONE APPARATUS TO ANY WIRES LOCATED ALONG TRACK.

Between Appleyard and Skykomish, high voltage electric wires in electrified zone at some points will not clear man on top of cars. Train and engine men must keep off top of cars and engines while passing thru this territory, except in emergency and then use extreme care.

The following overhead wires crossing our track, and trolley in electrified zone, do not have standard clearance of 27 ft. from top of rail:

	Main track	Lead track
Between Appleyard and Wenatchee, overhead bridge,	19' 9"	21' 0"
Cashmere, ½ mile west of, overhead bridge	19' 11"	
Dryden, bridge 370, thru-truss	19' 5"	
Chumstick, tunnel No. 13	19' 2"	
Winton, Swede tunnel No. 13.5	19' 0"	
Winton, tunnel No. 14	19' 11"	
Berne-Scenic, Cascade tunnel No. 15	19' 3"	
Startup, public crossing, MP 1758	24' 9"	
MP 1762, 528 ft. west	25' 6"	
MP 1770, 700 ft. west of Fry's Spur switch	25' 3"	
MP 1770, 900 ft. west of Fry's Spur switch	26' 9"	
MP 1770, 925 ft. west of Fry's Spur switch	25' 1"	
Snohomish, NP overhead bridge	19' 0"	
Snohomish, MP 1775	25' 9"	
300 ft. west MP 1775	25' 9"	

Skykomish, targets on roundhouse switch stands will not clear man riding on side of cars or engines.

Seattle, King Street station, close clearance between eaves of umbrella shed and sides of cabs, P-2 and larger engines.

- Between Appleyard and Wenatchee, eastward Second Subdivision freight trains will use main track, westward freight trains will use lead track entering main track at crossover just west of passenger station, Wenatchee, unless otherwise instructed by Yardmaster.
- Seattle, train, yard and engine movements between GN freight yard and 5th Avenue tracks will be made via NP and UP main track Oregon Street connection and their time-tables and Special Instructions will govern.
- Interbay, main track is a single track between 700 ft. east of NP Ry crossing and 4000 ft. west of bridge 4, Ballard. Each end of this single track is equipped with a spring switch, normal position is for trains entering double track. Color light type dwarf signal 4.8 governing eastward movements from yard lead to main track thru spring switch near 23d Avenue overhead bridge is interconnected with and is a part of the automatic block signal system. When an eastward movement is to be made from yard lead to main track, trainmen shall operate push button "R" at signal 4.8. If no conflicting movement is being made on main track and spring switch is in proper operating condition, signal 4.8 will indicate proceed after a time interval of three minutes. After push button "R" is operated a white light will be displayed if operation is effective. If push button "R" is operated and the intended movement is not made, or main track switch is not lined, push button "N" must be operated to restore signal system to normal condition to avoid delays to trains on main track. Push button "N" must never be operated after push button "R" if the intended movement is to be made. Westward freight trains will enter yard at the connection from westward main track at east end of yard unless otherwise instructed by yardmaster. Trains or engines must stop east of signal 5.3 and not proceed until trainmen have lined switch to enter yard.

9. Cascade tunnel, track between Berne and Scenic is controlled by positive block in both directions. When stopped by a Stop-indication at automatic block signal located near entrance to tunnel, train must not proceed unless authorized by train order to do so. In case of loss of power or other emergency, a train in the tunnel may make a forward or backward movement to Scenic or Berne without flag protection and may pass signals indicating Stop and proceed at restricted speed without stopping.

10. Everett tunnel, track between Everett Jct. and west switch, Pacific Avenue, is controlled by positive block in both directions. When stopped by a Stop-indication at the home signal trains must not proceed unless authorized by train order to do so. A train or engine within these limits may make a forward or backward movement without flag protection.

11. Seattle tunnel, King Street station, between South Portal and North Portal, movements are controlled by interlocking signals and positive block is maintained in both directions. A train or engine in the block may make a forward or backward movement without flag protection within these limits. No train or engine will run against the current of traffic between South Portal and North Portal nor pass home signal displaying Stop-indication unless furnished "Tunnel Card" signed by the operator. When moving against the current of traffic do not exceed 10 MPH.

Interlocking signal located at North Portal of Seattle tunnel and controlled from South Portal Tower, will be changed to display indications in accordance with Rules 601-A, 601-C and 601-D. Green over Red (Rule 601-C) displayed indicates route thru South Portal Interlocker to eastward main track (Tunnel track 4) properly lined.

Red over Yellow (Rule 601-D) displayed indicates diverging route thru South Portal Interlocker properly lined.

While these indications repeat the indications of the dwarf signal of color light type located at the South Portal of Seattle tunnel governing southward train and engine movements to eastward main track (Tunnel Track 4) and other station tracks of King St. station, emergencies may arise which may cause a change in the indications of this dwarf signal after southward train or engine has entered the tunnel and enginemen and trainmen must be on the alert to observe such change which will be indicated by the display of a yellow light and the sounding of a horn at the special southbound approach signal located in the tunnel about twelve hundred (1200) feet north of the South Portal.

Dwarf signal of color light type, located between eastward and westward main tracks, south end King St. station, Seattle, governing westward train and engine movements on eastward main track (Tunnel Track 4) is controlled from South Portal Tower.

When Red is displayed, Rule 601-A governs.

When Yellow is displayed, Rule 601-E governs.

When a train or engine is stopped by the Stop indication of this signal, towerman must be informed of desire to make westward movement on eastward track by four operations of the push button located on top of the signal.

Tunnel directions are North from South Portal to North Portal and South from North Portal to South Portal.

12. Between NP Jct. and Delta (freight yard) 3.26 miles west, trains and engines will be governed by NP Ry time-table and Special Instructions.

13. Winton, Berne, Scenic, electric knife switches located in depot provide manual control of signals at these locations so that signals can be set to display Stop-indication in case any defect is discovered while trains are passing these depots. Trains stopped by any of these three signals will not proceed until instructed by trainmen to do so. Knife switches are connected to westward automatic block signal at west switch, Scenic and Winton, and to eastward automatic block signal at east switch, Berne.

Berne, two rail clamps have been placed in the depot for emergency use. When necessary for any train to set out bad order car on the siding at Berne, train crew must get these clamps from the depot and see they are properly secured to the rail on the east end of the car, properly blocked so will be no danger of car running away. Crew that picks up the bad order car see clamps are removed and replaced in the depot.

14. Cashmere, control switch for manual operation of highway crossing signals, Division Street just west of depot, located in control box, locked with a switch lock, on cable post. To set crossing signals in stop position, open circuit control switch by pulling handle down. After using, place handle in normal position and lock control box.

15. SPEED TEST BOARDS.

Engineers shall test speed of their trains passing following points as compared with Speed Table:

Both directions, between MP 1779 and MP 1780, west of Snohomish.

16. CROSSOVERS ON DOUBLE TRACK:

Facing point.	Trailing point.
	MP 7.36 East of Ballard.
	MP 14.5 one-fourth mi. west of Richmond Beach depot.
	MP 15.02 Standard Oil spur, east of Richmond Beach.
	MP 17.92 east of Edmonds.
	MP 24.29 between Meadowdale & Mukilteo.
	MP 28.40 Mukilteo depot.
	MP 29.21 east of Mukilteo.
	MP 31.33 GN oil spur west of Everett Jct.

17. EMERGENCY TELEPHONES.

Leavenworth, west switch	Booth
Tunnel 13.5, east end	Booth
Winton, west switch	Booth
Old Gaynor	Booth
Berne, east switch	Booth
Cascade Tunnel No. 15, in each refuge bay.	
Scenic, west switch	Booth
Alpine	Old depot
Skykomish, east switch	Booth
Grotto, west switch	Booth
Reiter, 2 miles east	Booth
Reiter Gravel pit	Booth
Gold Bar, west switch	Booth
Monroe, east switch	Booth
Pacific Avenue, west switch	Booth
Everett tunnel No. 16, east end	Booth
Everett Jct.	Booth
Mosher, crossover	Booth
MP 15, Standard Oil Spur	Booth
MP 11.5	Booth
MP 9.5	Booth
Ballard, crossover switch	Booth
Interbay yard, east end	Booth

18. SPRING SWITCHES WITH FACING POINT LOCK.

Wenatchee Olds crossover (Connection to W-O line) east and west crossover switches.

Merritt	east and west siding switch.
Skykomish	east and west siding switch.
Baring	east and west siding switch.
Monroe	east and west siding switch.
Snohomish	east and west siding switch.
Interbay	yard lead switch near 23d Avenue overhead bridge.

Normal position is for main track.

Interbay	east end double track.
	Normal position is for eastward main track.
	west end double track.
	Normal position is for westward main track.

19. MANUAL INTERLOCKINGS.

Ballard	Salmon Bay drawbridge.
North Portal	King Street tunnel and terminal tracks.
South Portal	

20. MANUAL INTERLOCKINGS WITH DUAL CONTROL SWITCHES.

Pacific Avenue	west siding switch.
Everett Jct.	end of double track and junction of Third Subdivision.

These switches are electrically controlled by operator at passenger station, Everett.

21. AUTOMATIC INTERLOCKINGS.

Interbay.....NP Ry crossing.

22. INSTRUCTIONS GOVERNING OPERATION OF TRAINS IN ELECTRIFIED TERRITORY.

Between Peshastin and 1 mile east of east switch, Leavenworth, between 1 mile west of west switch, Leavenworth, and Winton tunnel, when, for any reason, single trains in excess of 3500 tons with three General Electric engines coupled on the head end are stopped on heavy grade specified above will double their trains into either Leavenworth or Winton and will not attempt to start train on Chumstick Line to avoid damage to equipment and excessive delays.

When helper engine is operated on freight trains, conductors must see that helper engine is cut into train so that not more than rated tonnage of the helper engine will be trailing. When train does not have full tonnage for all of the engines, tonnage in the train must be prorated between the train engine and the helper engine.

When necessary to make a backup movement on ascending mountain grade sufficient hand brakes must be set on rear end to hold up the slack; then when ready to proceed ahead, hand brakes must be released starting from the rear car first and working toward the head end of train so the slack will run out gradually and avoid break-in-two.

Engineers, when practicable, must operate helper engines from controls on the right side.

Between Skykomish and Wenatchee, in handling trains of 5000 tons or over, see that 15 heavily constructed cars with large A.A.R. drawbars and heavy draft rigging are placed next behind engines with the heavy drawbar pull.

Helper engines on eastward tonnage trains will drop their regeneration load at 20 MPH at foot of 2.2 grade, Merritt, and pick it up again starting down Winton Hill, and will drop their regeneration load at 20 MPH when stopping at Dryden to cut out helper.

Westward, helper engines will not assist train engineer thru regeneration in making final stop at Skyomish.

Holding capacity of units in regeneration are as follows:

- 1 General Electric, 1400 tons on 2.2 grade,
1900 tons on 1.6 grade at 15 to 18 MPH.
- 1 Westinghouse, 1250 tons on 2.2 grade,
1750 tons on 1.6 grade at 15 to 18 MPH.

Tonnage rating of electric engines on 2.2 grade:

- General Electric 1000 tons per cab.
- Westinghouse 750 tons per cab.

Steam derricks, ditchers, and other roadway machines must not be worked within 200 ft. of tunnel portals within the electrified territory unless power is turned off on the trolley line.

Arrangements for handling of the power shall be made with Electrical Superintendent or his representatives.

General Electric engines 5010 to 5017 inclusive, operating between Appleyard and Skykomish, are equipped with high voltage connectors at the top of each end of cabs so that when engines are coupled together these connectors contact each other. These connectors are painted red, and when any pantagraph of a coupled number of these units is in contact with the trolley wire, all of these connectors are energized.

Do not come in contact with these connectors.

Diesel freight engines, 5400 H.P., have following tonnage ratings:

- 2.2 grades, 2000 trailing tons.
- 1.6 grades, 3000 trailing tons.
- 1.0 grades, 4800 trailing tons.

These 5400 H.P. diesel engines will handle 2000 tons, Skykomish to Berne, in helper service and the same combination of electric engines should be operated thru Skykomish to Berne.

Diesel engines will handle 1500 tons single thru Cascade tunnel eastward.

The electric holding brakes on these engines will hold at approximately 17 MPH the same tonnage on a descending grade that the engine will pull up the grade at continuous tractive effort. That is, the regenerative brake on these engines will hold 2000 tons on a 2.2 grade, 3000 tons on a 1.6 grade and

4800 tons on a 1.0 grade at approximately 17 MPH. At either a higher or lower speed than this, the engines will handle less than this maximum tonnage. On the 2.2 grade, diesel engines should be cut into the train approximately 1800 tons from the rear end which is the tonnage the diesel engines can hold with the electric brake at from approximately 15 to 20 MPH.

This brake was not designed as a stopping brake, but is primarily for holding trains on long grades and engineers in the electrified territory must not expect diesel engine holding brake to have the capacity for slowing down heavy freight trains that the electric engines have.

Diesel engines must not be cut in ahead of the electric engines in either direction.

Engineers on diesel engines will not use any power to push train at any point from Berne to Appleyard, except when stop is made at Winton, and then only to get the train started at speed of 10 MPH.

All trains approaching Skykomish, with diesel engines cut in as helper, must stop before passing automatic block signal 1731.7, east of east switch, before proceeding into yard regardless of signal indication.

Diesel engines, 5400 H.P., operated on eastward freight trains thru Cascade tunnel will be governed as follows:

1. Engage both cooling fans on all four units of the diesel leaving Skykomish and control the engine cooling water temperatures between 155 and 165 degrees by proper shutter regulation.
2. When diesel engine passes Scenic depot, open all four radiator shutters on the two rear units wide open.
3. When diesel engine enters tunnel, reduce throttle to No. 6 position and operate diesel engine thru tunnel in No. 6 throttle.
4. Regulate water temperature on the two leading cabs with the radiator shutters to maintain a water temperature of between 155 and 165 degrees.
5. Hot engine alarms are set at 195 degrees and should the hot engine alarm sound on either of the two rear cabs, isolate the unit with high temperature and handle train on three units thru tunnel. Place the unit back on the line after water temperature is reduced to normal and check water level in engine cooling water tanks. Should the water level fall below minimum level as indicated in the water glass, shut engine down.
6. If, for any reason, eastward trains being handled or helped by diesel engines are stopped in tunnel, diesel engines must be closed down and members of crew on both head end and rear end of train must communicate with each other on telephones located in each bay of the tunnel and have a thorough understanding with entire crew whether train will be backed out of tunnel or doubled out to Berne. If backed out to Scenic, train must be stopped before passing east siding switch and not back down main track unless protected by train order or flagman, or backing in on siding, it must be known siding is clear. In making these moves definite understanding must be had with all members of the crew as to what is to be done to avoid accident.
7. Report maximum engine water temperature reached in tunnel each trip on the engineer's work report on arrival at Appleyard.

23. Between Appleyard and Skykomish two copies of Train Orders will be given head end of train so when helper engine is cut in at intermediate station one copy can be delivered to helper engineer.
24. Pilot light has been installed on dwarf signal 5.1 adjacent to crossover where trains enter main line, Interbay yard, for sole purpose of calling employees' attention to signal when getting off cars or engines between tracks.
25. OLDS crossover has been installed 950 ft. east of MP 1653 on main line and 2200 ft. south of MP 3 on W-O line as connection to main line. Between this point and Wenatchee this track will be designated as yard lead instead of W-O main line and will be operated under Yard rules and all trains using this track must expect to find track occupied. Normal position of both switches is for main line movement.
26. Tonga, water tank 3 miles East.

27. Skykomish, unless otherwise directed by train dispatcher extension on east end of siding for use only by eastward trains and in no case will train or cars be left on this extension without engine coupled and air brakes operative.

28. Baring, water tank 1.26 miles West.

THIRD SUBDIVISION

(Vancouver Line)

1. MAXIMUM SPEED FOR TRAINS.

Between	Passenger	Freight
Everett Jct. and Samish	55 MPH	45 MPH
Samish and Bellingham	40 MPH	30 MPH
Bellingham and Vancouver	55 MPH	45 MPH

2. SPEED RESTRICTIONS.

Bridge 10, Delta	10 MPH
Bridge 11, Marysville, Q-1, R-1, R-2, S-1, N-3.....	5 MPH
All other engines	10 MPH
Bridge 12, Marysville, Q-1, R-1, R-2, S-1, N-3.....	5 MPH
All other engines	10 MPH
Bridge 14, Silvana, Q-1, R-1, R-2, S-1, N-3.....	20 MPH
Bridge 15, Silvana R-1, R-2	20 MPH
Bridge 36, Mt. Vernon, Q-1, R-1, R-2, S-1, N-3.....	5 MPH
All other engines	25 MPH
Bridge 64, Ferndale, Q-1, R-1, R-2, S-1, N-3.....	5 MPH
Bridge 66, Blaine Q-1, R-1, R-2, S-1, N-3.....	20 MPH
Bridge 69, Colebrook	25 MPH
Bridge 70, Crescent	25 MPH
Everett, Bond, Hewitt, California, 24th St., crossings..	6 MPH
Marysville, thru city limits	8 MPH
Mt. Vernon, thru city limits	8 MPH
Burlington, thru city limits	8 MPH
Blaine, thru city limits	8 MPH
South Bellingham, over street crossing to street crossing just north of freight depot, Bellingham.....	10 MPH
New Westminster, Fraser River bridge	6 MPH
North wye switch, Fraser River Bridge	4 MPH
Over Front & Columbia St. crossings.....	10 MPH
Sapperton, Brunette St.	10 MPH
Burlington, Seventh Subdivision crossing	8 MPH
South Bellingham, NP Ry crossing.....	8 MPH
Bellingham, CMStP&P RR crossings, Army St., Commercial Street and Pine Street.....	8 MPH
Vancouver, Burrard Inlet, CPR Crossing, Powell St.....	8 MPH
White Rock-Crescent, October 15 to May 1, between MP 123 and MP 127	20 MPH
Between Home Signals of Interlocking at Delta Jct.....	20 MPH
Trains will run at restricted speed at points where slides or falling rock are liable to be encountered between Samish tunnel and 2 miles north of Bellingham.	

3. ENGINE RESTRICTIONS.

Between White Rock and Vancouver, engines heavier than O-5 and H-6 prohibited.

4. ENGINE RESTRICTIONS ON INDUSTRY TRACKS.

Blaine, all engines not permitted on dock track. If necessary to set out or pick up on this track hold on to enough cars as reachers.

5. TRAIN REGISTER EXCEPTIONS.

Vancouver, Vancouver Jct. C.N. Jct., trains arriving will register in G.N. train order office at Vancouver.
Delta, register only for trains originating and terminating.

6. RESTRICTED CLEARANCES.

The following overhead wires crossing our track do not have standard clearance of 27 ft. from top of rail:

Delta, south wye switch	25'
Marysville, industry track	23'
Stanwood, house track and industry track	24'
Fir, English Lumber Co. spur 1.3 mi. south.....	25'
Mt. Vernon, Union Oil Company spur.....	25' 10"
Burlington, Carnation Milk Company Spur	25' 6"

New Westminster, retaining wall Front Street crossing in front of penitentiary will not clear man on side of car or engine.

New Westminster, retaining wall Front Street crossing in front of penitentiary will not clear man on side of car or engine.

7. Delta (freight yard) located 1.08 miles south of Delta Jct. is provided with: Standard Clock, Bulletins, Train Register, Water, Oil, Wye, Track Scale, Turntable.

8. Delta, private road crossing near yard office, train, yard and engine movements over this crossing must be protected as prescribed by Rule 103.

9. Blaine-White Rock, trains will not pass International Border without permission of Customs and Immigration Inspectors.

10. White Rock, between 2 miles south and Ocean Park, from May 15 to September 15, engineers will sound engine whistle frequently and bell must be rung continuously.

11. Still Creek, northward trains having wait or meet orders to fulfill at this point will stand south of Renfrew Street crossing until train to be met or passed is in the block to avoid circuit operating crossing signals at Grandview Highway, 13th Avenue.

12. Sapperton, push buttons and instructions for their operation are located in iron box locked with a switch lock near south wye switch and north siding switch for control of wigwag signals at Brunette Street crossing. Care must be exercised in the use of push button control to avoid unnecessary operation of crossing signals during switching movements.
Push button boxes must be kept closed and locked, except as required to be open for immediate use.

13. SPEED TEST BOARDS.

Engineers shall test speed of their trains passing following points as compared with Speed Table:
Both directions, between MP 65½ and 66½ between Mt. Vernon and Fir.
Southward, between MP 149 and MP 150, North of Endot.

14. CROSSOVER ON DOUBLE TRACK.

Facing point.	Trailing point.
	2054 ft. North of MP 152.
	Dominion Bridge Co. spur.

15. SPRING SWITCHES WITH FACING POINT LOCK.

Mt. Vernon, south siding switch.
 Normal position is for main track.
Endot, end of double track.
 Normal position is for northward main track.
Still Creek, end of double track.
 Normal position is for southward main track.

16. MANUAL INTERLOCKINGS.

Delta Jct, drawbridge 10 and NP Ry crossing.
Marysville, 1.25 miles south of drawbridge 11.
 0.50 miles south of drawbridge 12.
Fir, 1.34 miles south of English Lbr. Co. crossing.
New Westminster-Fraser River Jct., drawbridge and junction of CN and BCE Rys.
Delta Jct., whistle signals for routes:
Main track

From north to Delta yard	1 long, 1 short.
From south to Delta yard	2 long, 1 short.
From Delta yard to north	2 long.
From Delta yard to south	3 long, 1 short.
From NP Ry connection to north.....	1 long, 1 short, 1 long.
From north to NP Ry connection.....	1 long, 1 short, 2 long.

New Westminster-Fraser River Jct., when, for any reason, a proceed indication cannot be displayed at the home signal, no train or engine movement shall be made over bridge, except on authority of regular Dominion Government clearance.

17. AUTOMATIC INTERLOCKINGS.

Still Creek, 1.84 miles south of.....B.C.E. Ry. crossing

18. SEMI-AUTOMATIC INTERLOCKINGS.

New Westminster, 0.50 miles north CPR crossing, Crossover to Waterfront track.

New Westminster, 1 mile north, Fraser Mill Spur.

Vancouver, CPR Crossing at Burrard Inlet.

New Westminster, Fraser Mill Spur CPR crossing:

Normal position of gates is stop for Great Northern.

G. N. train or engine movements over CPR crossing are governed by manually operated gates electrically locked. Instructions for their operation are posted in lock box locked with a switch lock located at gate. After using lock box must be locked.

New Westminster, crossover to water front track:

G. N. train or engine movements between main track and water front track over CPR crossing are governed by electric lock at main track switch stand. Both switches of crossover are lined by operation of main track switch stand. Instructions for its operation are posted in lock box locked with a switch lock. After using lock box must be locked.

Vancouver, CPR crossing at Burrard Inlet:

Normal position of gates is stop for Great Northern.

GN train or engine movements over CPR crossing are governed by manually operated gates electrically locked. Instructions for their operation are posted in lock box locked with a switch lock located at gate adjacent to Powell Street.

Operation of this gate also operates gate on opposite side of CPR tracks by means of mechanical connection.

GN westward trains or engines shall stop clear of Powell Street until gates are opened and the way is clear for movement across CPR tracks to avoid blocking traffic on Powell Street. Wigwag type crossing signals governing traffic on Powell Street are manually controlled by handle of electric gate lock. After using lock box must be locked.

19. RAILROAD CROSSINGS PROTECTED BY GATES.

Burlington, Seventh Subdivision crossing.

Normal position is clear for Third Subdivision.

South Bellingham, 1.14 miles north of, NP Ry crossing.

Normal position is clear for Great Northern.

Bellingham, CMStP&P RR crossings.

1 at Army Street, 1 at Commercial Street.

2 at Pine Street.

Normal position is clear for Great Northern.

Vancouver, Main Street, BCE Ry crossing.

Normal position is stop for Great Northern.

Trains, engines or cars must not be moved over this crossing until a member of the crew is stationed at the crossing to protect traffic on Main Street.

20. SWITCH INDICATORS.

Vancouver, indicators are located near switches on each side of main track at the junction of the Burrard Inlet Line and Prior Yard, roundhouse lead and wye tracks about 800 ft. south of Vancouver Jct.

First class trains must approach B.I. Line and roundhouse lead switches prepared to stop unless block signals governing movements over these switches indicate proceed and main track is seen to be clear. Yard and engine movements may be made in either direction across main track at this point on the time of delayed first class trains without flag protection provided yellow light is displayed in the indicator. First class trains will be considered delayed when they are more than ten minutes past due out of Vancouver Jct. or CN Jct.

The member of the crew who is to line switches must first operate push button "R" for route desired and hold a few seconds. Both the trainman and the engineer must observe and be governed by the indicator before lining switches or fouling main track.

If the indicator displays a yellow light when push button "R" is operated, switches may be lined and movement made immediately without waiting as prescribed by Rule 513. The yellow light will be extinguished by the lining of main track switch. If a yellow light is not displayed in the indicator when push

button "R" is operated, every precaution, consistent with train rights and operating rules, must be taken before lining switch or fouling main track.

If push button "R" is operated and the intended movement is not made, or main track switch is not lined, push button "N" must be operated to restore signal system to normal condition to avoid delays to trains on main track. Push button "N" must never be operated after push button "R" if the intended movement is to be made.

Push button boxes must be kept closed and locked, except as required to be open for immediate use.

21. Vancouver, National Harbours Board Railway operate jointly with GN Ry over Great Northern tracks between Water Front and connection with GN main track north of the roundhouse; also between north leg of wye from main track switch and connection with Canadian National Railway in the Great Northern South Yard, all of which is located within yard limits of Vancouver.

Telephones for City and train dispatcher are located in booth near Great Northern main track connection. There is also a City telephone and train register in the National Harbours Board yard office.

Movements in both directions over the Burrard Inlet line must be recorded in train register.

Before movement is made over Burrard Inlet line in either direction, yard foreman or engineer will communicate with the yard office of the National Harbours Board Railway to ascertain if it is safe to proceed; air brakes must be cut in and operative on all engines and cars; the engine must be on the leading end of the cars during hours of darkness.

Speed restrictions:

8 MPH over Georgia, Kiefer, Pender and Cordova Streets.

10 MPH over Union Street on northward movements; southward movements must stop before passing over Union Street and a member of the crew must be on ground at crossing to protect traffic.

22. Engines going into Carnation trackage at Ferndale may go thru the gate into Firestone yard to a distance of not to exceed 100 feet north of highway crossing.

23. EMERGENCY TELEPHONES.

Between Delta Jct. and wye.....	Booth
Bridge 11	Watchman Cottage
Kruse Jct.	Booth
Belleville Pit, switch	Booth
MP 76	Booth
MP 86	Watchman Shanty
Samish water tank	Booth
Sockeye, highway crossing	Booth
So. Bellingham, tool house	Booth
No. Bellingham, cement spur	Booth
Custer, south switch	Booth
MP 125	Booth
Fraser Mill Spur	Booth
Sapperton scale house.....	
Dominion Bridge	Booth
Endot	Booth
Still Creek	Booth
B. I. Jct.	Booth

FOURTH SUBDIVISION

(Oroville Line)

1. MAXIMUM SPEED FOR TRAINS.

Between	Passenger	Freight
Wenatchee and Oroville	35 MPH	30 MPH
Oroville and Hedley	15 MPH	15 MPH

2. SPEED RESTRICTIONS.

H-4 engines, on straight track	30 MPH
on curves	20 MPH

3. **ENGINE RESTRICTIONS.**
Engines heavier than class indicated are prohibited:
Between Wenatchee and Omak, O-1.
Between Omak and Oroville, F-8, H-4.
Between Oroville and Hedley, G-3, G-4.
4. Chopaka-Cawston, trains will not pass International Border without permission of Customs and Immigration Inspectors.
5. Wakefield, Tonasket, Riverside, take water only when absolutely necessary.
6. OLDS crossover has been installed 950 ft. east of MP 1653 on main line and 2200 ft. south of MP 3 on W-O line as connection to main line. Between this point and Wenatchee this track will be designated as yard lead instead of W-O main line and will be operated under Yard rules and all trains using this track must expect to find track occupied. Normal position of both switches is for main line movement.

FIFTH SUBDIVISION

(Kettle Falls-Nelson Lines)

1. MAXIMUM SPEED FOR TRAINS.

Between	Passenger	Freight
Troup Jct. and South Nelson	15 MPH	15 MPH
South Nelson and Kettle Falls	30 MPH	20 MPH
Kettle Falls and Valley	40 MPH	30 MPH
Valley and Dean	35 MPH	30 MPH

2. SPEED RESTRICTIONS.

Between South Nelson and Kettle Falls	20 MPH
Bridge 1, Waneta	8 MPH
Northport, wye tracks	8 MPH
Dolomite, spur track	10 MPH
Chewelah, thru town limits	8 MPH
Deer Park, thru town limits	10 MPH

3. ENGINE RESTRICTIONS.

Engines heavier than class indicated are prohibited:
Between Dean and Northport, M-2.
Between Northport and Nelson, F-1.

4. ENGINE RESTRICTIONS ON INDUSTRY TRACKS.

O-1 and heavier engines not permitted on siding at Addy.
If necessary to set out or pick up on this track hold on to enough cars as reachers.

5. Troup Jct., northward trains must stop clear of junction switch before entering Canadian Pacific main track and know track is clear.
6. Apex, northward trains must stop and make service test of air brakes before descending Nelson hill.
7. Boundary-Waneta, trains will not pass International Border without permission of Customs and Immigration Inspectors.
8. Fruitvale, water tank located 3 miles south.
9. Marble, water tank located 4 miles south.

10. SWITCH INDICATORS.

Dean, indicator is located near hand operated junction switch for movements from Spokane division Fifth subdivision to Kalispell division Fourth subdivision.

Push buttons and instructions for their operation are posted in iron box locked with a switch lock.

The member of the crew who is to line switches must first operate push button "R" for route desired and hold a few seconds. Both the trainman and the engineer must observe and be governed by the indicator before lining switches or fouling main track.

If the indicator displays a yellow light when push button "R" is operated, switches may be lined and movement made immediately without waiting as prescribed by Rule 513. The yellow light will be extinguished by the lining of main track switch.

If a yellow light is not displayed in the indicator when push button "R" is operated, every precaution, consistent with train rights and operating rules, must be taken before lining switch or fouling main track.

If push button "R" is operated and the intended movement is not made, or main track switch is not lined, push button "N" must be operated to restore signal system to normal condition to avoid delays to trains on main track. Push Button "N" must never be operated after push button "R" if the intended movement is to be made.

Push button boxes must be kept closed and locked, except as required to be open for immediate use.

11. EMERGENCY TELEPHONES.

West Kettle FallsBooth

SIXTH SUBDIVISION

(Republic Line)

1. MAXIMUM SPEED FOR TRAINS.

Between
Kettle Falls and Republic, all trains 20 MPH

2. SPEED RESTRICTIONS.

Trains handling loaded log cars 15 MPH

3. ENGINE RESTRICTIONS.

Engines heavier than F-8 prohibited on this subdivision.

4. Kettle Falls, normal position of junction switch is for Fifth Subdivision.

5. Laurier-Grand Forks, trains will not pass International Border without permission of Customs and Immigration Inspectors.

SEVENTH SUBDIVISION

(Anacortes Line)

1. MAXIMUM SPEED FOR TRAINS.

Between
Rockport and Anacortes, all trains 20 MPH

2. SPEED RESTRICTIONS.

Bridge 12, Whitney 8 MPH
Bridge 52, Concrete 10 MPH

3. ENGINE RESTRICTIONS.

Engines heavier than class indicated are prohibited:
Between Burlington and Rockport, F-8.
Between Burlington and Anacortes, F-1.

4. ENGINE RESTRICTIONS ON INDUSTRY TRACKS.

Engines not permitted on industry tracks at:
Anacortes, Puget Sound Mill & Lumber Co. log dump trestle
Anacortes Canning Co. spur track.

Sedro-Woolley, Skagit Steel & Iron Works north spur.
If necessary to set out or pick up on these tracks hold on to enough cars as reachers.

5. Concrete, water station is closed, call on agent for instructions in emergency.

6. Color light type signals, and semaphore type approach signals, under control of Bridge Tender, govern train and engine movements over Drawbridge #12 near Whitmarsh. Interlocking Signal Rules govern in the use of these signals, but do not modify any other rules or restrictions applying to train and engine movements over this drawbridge.

EIGHTH SUBDIVISION

(Mansfield Line)

- 1. MAXIMUM SPEED FOR TRAINS.**
Between
Columbia River and Mansfield, all trains 20 MPH
- 2. SPEED RESTRICTIONS.**
Trains handling steam derrick, over bridges 5 MPH
- 3. ENGINE RESTRICTIONS.**
Engines heavier than F-8 prohibited on this subdivision.
- 4. Columbia River, normal position of junction switch is for siding on First Subdivision.**

NINTH SUBDIVISION

(Moscow Line)

- 1. MAXIMUM SPEED FOR TRAINS.**
Between
Spokane and Moscow, all trains 25 MPH
- 2. SPEED RESTRICTIONS.**
Trains handling steam derrick, over bridges 5 MPH
Bridge 9.5, Parkview 8 MPH
Bridge 23.2 Mt. Hope, 2 miles West of 8 MPH
Spokane, between Tudor and Sprague Avenues..... 10 MPH
Valley Ford, Madison Street crossing east of depot... 10 MPH
Moscow, thru City limits 10 MPH
- 3. ENGINE RESTRICTIONS.**
Engines heavier than G-3 or 1000 HP oil-electric prohibited on this subdivision.
- 4. RESTRICTED CLEARANCES.**
Spokane, bridge 1.5 will not clear man on top or sides of cars or engines. Train and engine men must keep off top or side of cars and engines while passing over bridge, except in emergency and then use extreme caution.
- 5. Bridge 23.2, 2 miles west of Mt. Hope, trains or engines must stop before crossing bridge.**

TENTH SUBDIVISION

(Coeur d'Alene Line)

- 1. MAXIMUM SPEED FOR TRAINS.**
Between
Spokane and Coeur d'Alene, all trains 25 MPH
- 2. SPEED RESTRICTIONS.**
Trains handling steam derrick over bridges 5 MPH
Spokane, Crestline St., UP and CMStP&P RR crossings 15 MPH
Millwood, public crossing 4 MPH
Huetter, NP Ry crossing 10 MPH
Coeur d'Alene, thru City limits, at restricted speed.
- 3. ENGINE RESTRICTIONS.**
Engines heavier than G-3 or 1000 HP oil-electric are prohibited on this subdivision.
- 4. RESTRICTED CLEARANCES.**
Between Spokane and Coeur d'Alene, train and engine men must keep off top and sides of cars and engines, except in emergency and then use extreme caution account restricted side and over-head clearances at various points.

5. Coeur d'Alene, trains and engines must stop before passing over 11th Street and Mullan Avenue crossings and movement must be protected by flagman on the ground at the crossing.

6. Coeur d'Alene, trains and engines must stop and sound two blasts of engine whistle before proceeding over Diamond Drill Crossing.

7. MANUAL INTERLOCKINGS.

Inland Jct. 0.71 miles east of U. P. and CMStP&P RR crossings.

8. RAILROAD CROSSINGS PROTECTED BY GATES.

Huetter, 0.54 miles east of NP Ry crossing.

Normal position is clear for Great Northern.

9. Operation between Spokane Bridge and Coeur d'Alene, a distance of 12 miles, is consolidated with the CMStP&P RR and trains will be governed by CMStP&P RR Time Table and Special Instructions.

Trains on this Subdivision leaving Spokane will be cleared thru the Great Northern dispatcher to Spokane Bridge and will be cleared at Spokane Telegraph office by the CMStP&P RR dispatcher for movement from Spokane Bridge to Coeur d'Alene. Trains leaving Coeur d'Alene will be cleared by the Great Northern dispatcher for movement from Spokane Bridge to Spokane and by the CMStP&P RR dispatcher at their office in Coeur d'Alene for movement from Coeur d'Alene to Spokane Bridge.

10. EMERGENCY TELEPHONES.

Millwood Transfer track	Booth
Carders	Booth
Flora Jct.	Booth
Greenacres	Booth
Spokane Bridge	Booth
Coeur d'Alene, MP 32	Booth
Gibbs	Booth

ELEVENTH SUBDIVISION

(Colfax Line)

1. MAXIMUM SPEED FOR TRAINS.

Between

Spring Valley and Colfax, all trains 25 MPH

2. SPEED RESTRICTIONS.

Trains handling steam derrick, over bridges 5 MPH

3. ENGINE RESTRICTIONS.

Engines heavier than G-3 or 1000 HP oil-electric are prohibited on this subdivision.

4. RESTRICTED CLEARANCES.

Colfax tunnel will not clear man on top or sides of cars and engines.

Between Spring Valley and Colfax, train and engine men must keep off top and sides of cars and engines, except in emergency and then use extreme caution account restricted side and over-head clearances at various points.

5. Colfax, trains and engines while switching or moving in and out of depot must use extreme care in passing over North and Last Streets account restricted view.

6. SEMI-AUTOMATIC INTERLOCKINGS.

Colfax, 0.29 miles west of.....UP RR crossing
Normal position of gates is stop for Great Northern. GN train and engine movements over UP crossing are governed by manually operated gates electrically locked. Instructions for their operation are posted in lock box locked with a switch lock located at gate. Operation of gate nearest lock box also operates gate on opposite side of UP track by means of mechanical connection.

7. RAILROAD CROSSING PROTECTED BY GATES.

Thornton, 0.57 miles west ofUP RR crossing
Normal position is stop for Great Northern.

ALL SUBDIVISIONS

1. SPEED RESTRICTIONS FOR ENGINES.

Steam	Maximum Speed Permissible	Movement of Engines Dead in Train
F-8, G-3	40 MPH	
H-4, H-5, H-7	65 MPH	All Steam engines with side rods on both sides
H-6	60 MPH	40 MPH.
M	40 MPH	
N-3	35 MPH	
N-3 (Roller Bearing)	50 MPH	All Steam engines without side rods 10 MPH.
O-Classes	50 MPH	
P-2	75 MPH	
Q-1	40 MPH	
Q-2	45 MPH	
R-Classes	40 MPH	
S-1	60 MPH	
S-2	75 MPH	
Steam engines backing up..	20 MPH	
Steam engines in forward motion running light or caboose hop	35 MPH	
Diesel and Gas-Electric		
50-51	35 MPH	35 MPH
75 to 144	40 MPH	35 MPH
175 to 181	75 MPH	60 MPH
182 to 185	65 MPH	60 MPH
200 and 300	45 MPH	40 MPH
250-251	85 MPH	65 MPH
301 to 305	50 MPH	40 MPH
400 to 428	50 MPH	40 MPH
500 to 504	90 MPH	75 MPH
2300 to 2324	50 MPH	50 MPH
2325 to 2341	70 MPH	60 MPH
Electric		
5000 to 5008-B	45 MPH	45 MPH
5010 to 5017	55 MPH	55 MPH

When moved dead in trains:

Place Class "O" and larger engines not to exceed 15 cars behind road engines, in electrified zone only. Class "R" engines can be handled on head end, all others near rear.

Place Class F-8 and smaller engines next ahead of caboose, Diesel and Gas-Electric engines 2300 to 2341 must be handled on rear of train.

Not less than five cars between all engines.

2. SPEED RESTRICTIONS GENERAL.

When freight cars, except cars equipped with passenger trucks and steel wheels, are handled in passenger trains, the train will not exceed authorized speed for freight trains in the territory operated.

Freight engines used for handling passenger trains must not exceed authorized speed for freight trains in the territory operated.

Trains handling steam derricks, pile drivers, ditchers, cranes, steam shovels, dozers, etc. On Main lines25 MPH except on 6 degree curves or sharper and on branch lines15 MPH

Trains handling ore cars or air dump cars loaded with ore or gravel on main lines30 MPH except on 6 degree curves or sharper and on branch lines20 MPH

Unless conditions require a further speed restriction, trains or engines moving against the current of traffic on double track thru interlockings15 MPH

Trains or engines over drawbridges15 MPH

Trains or engines moving on main routes actuating points of spring switches35 MPH

Trains or engines moving in facing point direction at spring switches without facing point lock25 MPH

Trains or engines thru No. 20 turnouts at:.....35 MPH

Hillyard, end of double track east and west end of yard.

Fort Wright, end of double track.

Fort Wright, SP&S Junction.

Bluestem, end of double track.

Lamona, end of double track.

Skykomish, east siding switch.

Still Creek, end of double track.

Endot, end of double track.

Trains or engines thru No. 15 turnouts at:.....25 MPH

Lyons, east and west siding switch.

Nemo, east and west siding switch.

Odessa, east and west siding switch.

Ephrata, east and west siding switch.

Trinidad, east and west siding switch.

Wenatchee, east and west crossover switch west end of yard.

Merritt, east and west siding switch.

Baring, east and west siding switch.

Monroe, east and west siding switch.

Snohomish, east and west siding switch.

Everett Jet. junction switch end of double track.

Interbay, end of double track east and west end of yard.

yard lead switch near 23d Ave. overhead bridge.

Trains or engines thru all other turnouts.....15 MPH

3. CLEARANCE PROVISIONS AND EXCEPTIONS, RULE 83(B).

(1). Spokane, clearance issued and signed by the Superintendent will confer the same authority to a first class train as tho received at its initial station.

(2). Everett Jet., trains for which this point is the initial station may proceed on authority of clearance under which such trains arrive when interlocked signal indicates proceed.

(3). Burlington, Seventh Subdivision trains must secure clearance.

(4). Great Northern clearance received at Nelson will clear train at Troup Jct.

(5). Kettle Falls, all trains must secure clearance.

4. Under Rule 2 of the Consolidated Code of Operating Rules, watches that have been examined and certified to by a designated inspector must be used by train dispatchers and yardmen.

5. The following Consolidated Code of Operating Rules and definitions do not apply to Great Northern or Northern Pacific employes, unless they work in joint territory where such rules are in effect:

10 f	251-264 incl.	Manual Block Sytem
14 t, u, v, w	300-373(A) incl.	Block Stations
210	S-509(A)	Cab Signals
217	606, a, b, c, d	
225	636	

6. (a) Not more than one employe will ride on leading footboard of engine, then outside of rail, preferably on engineer's side.

(b) Employes are prohibited from riding on pilot or pilot beam of engine, or on footboard between engine and cars when cars are being pulled, shoved, switched, or while coupling is being made.

(c) When adjustment is necessary to drawbar, knuckle pin, or locking block, prior to making coupling, or when coupling fails, engines or cars must be separated, not less than 10 feet and action taken to prevent movement before going between cars.

(d) Where helper engine is used behind caboose helping train, helper pilot will ride engine, and engine will be uncoupled by trainman from caboose platform.

(e) When heading out of sidings, freight trains with helper engine behind caboose, must regulate speed so that rear trainman can line switch and get on caboose instead of tank of helper engine. This as a matter of safety because employes are prohibited from using running board of engine or passing from front of engine to caboose while train is in motion.

(f) Employes are forbidden to stand with feet resting upon car trucks, truck frame, or oil box while car is in motion.

(g) Riding on open cars containing lading which may shift is prohibited, except as required to operate hand brakes or to ride the lead car when cars are being pushed. Employes must make every effort to station themselves to prevent injury, and on gondola cars must not stand or place arm, leg, or other part of body between sides or end of car and lading.

(h) Trainman or other employes, when carrying baggage or other articles, except brake club and lantern, are prohibited from climbing up or walking over top of train.

- (i) Employees are forbidden to ride on top or sides or stand on top of air dump cars, either loaded or empty.
- (j) Jumping from the top of one car to the top of another car on adjacent track is prohibited.
7. Snow or ice should not be allowed to accumulate on footboards.
 8. Employees who desire to wear colored glasses while on duty are obliged to purchase them from Company storekeeper.
 9. Brakemen with less than one year of experience should not be used as flagman except in emergency, and then Superintendent will be notified by wire.
 10. Double heading trains is prohibited, except as authorized by Superintendent.
 11. When operating snow machines in non-block signal territory, no train should be permitted to follow closer than a station apart; when that cannot be done, they will be blocked not less than thirty minutes apart.
 12. After severe blizzard or dirt storm, employes on first train over road must exercise care to avoid accident caused by striking drift without first having drifts faced with hand shovels, cutting in far enough to get beyond the hard snow and giving a perpendicular wall to strike against instead of slope or wedgelike shape.
 13. When operating snow dozer, flanger will be operated by competent employe, and conductor in charge will ride in the dozer.
 14. On snow and dirt dozers, every precaution must be taken to see that cage, flangers and wings clear all obstacles when in service and are properly secured when in thru trains, and dozers properly turned. Hand screws must be tightened to raise flanger on dozers as high as possible before making a back-up movement, and must not be released until the dozing work is actually to start. Hand screws holding the cage on dozers must be tightened or chains otherwise fastened, except when dozer has air in cylinders and is attended by an employe.
 15. Loaded dump cars should not be handled on double track after dark, but if necessary to do so, close watch must be kept by trainmen and if a car dumps its load, train must be stopped and protection afforded on the opposite track.
 16. Account necessity of heating road oil to permit faster flowing, such cars will not be spotted in the immediate vicinity of any buildings due to fire hazard.
 17. When dining cars or other non-platform cars are placed on the rear of passenger trains, in addition to flexible gate being closed and fastened in place, rear door of car must be kept locked with coach key.
 18. Kicking or dropping cars into tracks on which there are occupied outfit cars is prohibited.
 19. Baggage cars returned deadhead when moved in storage mail service in opposite direction will be accompanied by waybill carrying notation "Deadhead mail car, no material of any character other than U. S. Mail or mail sacks to be loaded in it". Conductors will be held responsible for compliance of waybill instructions.
 20. Baggage cars on trains 1 and 2 carry 100 ft. of steam hose in two 50 ft. lengths for emergency use in event of steam failure on train engine and non-steam train line engine furnished to handle train. On one of the 50 ft. lengths, one end is equipped with standard connection to fit steam dome of engine and other end equipped with standard Vapor No. 312 steam coupler which fits all steam conduits. The other 50 ft. hose has both ends equipped with Vapor No. 312 steam coupler. Fastened to base of reel is an extra combination Vapor No. 312 steam coupler, which can be attached to hose with steam dome connection and in case of steam line failure on a car both hose can be used to run around such car so can be taken to first terminal, but car to be drained before proceeding.
 21. Unless otherwise provided, when passenger trains are operated against the current of traffic on double track or through sidings, conductors shall notify Railway Postal Clerks, trains shall stop at points where U. S. Mail is usually picked up and conductors are responsible for delivery of mail to Postal car.
 22. Conductors will report by wire all flat spots on wheels of passenger cars. Any cars having flat spots on wheels of more than two and one-half inches long must be set out.
 23. Pullman Troop Sleepers and Pullman Troop Kitchen cars have two separate sets of brake equipment cylinders. When necessary to release air brakes both of these cylinders must be bled off to avoid slid flat wheels.
 24. Conductors will see that multiple sheet metal protectors are returned to equipment box on baggage cars when extra journal bearings are used.
 25. Conductors will make prompt wire report to Superintendent and Coach Yard Foreman, St. Paul, when air hose is removed from sealed box marked "Emergency Air Hose" found over Jennings drive on passenger cars having truck mounted brakes, and when spare belt is used which is provided as emergency in air conditioned cars to avoid possible complete failure if blower fan belt should break.
 26. Where journal boxes on passenger cars are equipped with spring packing retainers and it becomes necessary to repack or rebrass journal, trainmen will see packing retainer is put back in place.
 27. When necessary to set out equipment due to hot journal, be sure that all traces of fire are extinguished, and journal box properly marked.
 28. Trainmen and others must not hang train order hoops on brake staff of cabooses as this is not only dangerous, but also a violation of Federal Law.
 29. Telephones located in booths and freight houses must have switch cut out after using, and must be kept secured by lock except when being used.
 30. Conditions make it necessary to handle in trains and in switching movements certain equipment of extreme height and width and all employes are warned to keep off top of these cars when moving and also such standing cars in electrified zone, except in case of emergency as height of cars is such that man standing on top of cars will not have proper overhead clearance at many tunnels and structures. Train, engine and yard men are cautioned to be on the lookout for such equipment and in absence of previous advice, wire proper officer for instructions.
 31. The contract with the Western Fruit Express Company does not relieve the Railway Company of responsibility for proper handling of perishable freight on the road and at points where the Express Company does not maintain representatives. Conductors on trains carrying perishable freight will ascertain from waybills class of service required and light or extinguish heaters and manipulate vents in accordance with current instructions for handling perishable freight issued by the National Perishable Freight Committee, copies of which are furnished to all interested parties.
 32. Handling of Explosives, Inflammable and Corrosive Liquids. Cars placarded explosives moving in thru trains must be handled not less than 16th car from road engine, one car from helper engine, and 11 cars from caboose. These cars may be handled second car from engine or caboose in local trains. These cars must not be placed in train next to loaded tank cars, flat or gondola cars loaded with pipe, lumber, poles, iron, steel, or refrigerator cars equipped with gas burning heaters, stoves, or lanterns, or next to box cars bearing inflammable or corrosive liquids. Cars containing explosives must have air and hand brakes in operative condition, and must not be cut off while in motion.
- The following will govern handling of shipments of explosives by express and handled in passenger trains:
- Carload shipments of explosives may be made by Express and handled in passenger trains when in sealed express car properly placarded.
- Less than carload shipments may be made in so-called Express peddler car with messenger in charge when such car is assigned

- to the handling of express and baggage exclusively provided shipments are accompanied by an authorized representative of the United States Government while on our trains.
- Placarded loaded tank cars must not be placed in train next to cars containing lighted heaters, stoves, lanterns, or gas burning type refrigerators, or next to flat or gondola cars loaded with logs, lumber, rails, pipe, or anything that is liable to shift, and cars must not be handled less than the 6th car from engine or caboose when possible to do so.
- Loaded tank cars must not be cut off in motion until all preceding cars have cleared route, and in turn cleared, before any cars are allowed to follow.
- Further details governing handling of Explosives, Inflammable and Corrosive Liquids may be found in I.C.C. Regulations.
33. The use of open flame lights, burning oil lanterns, and smoking is prohibited when handling gasoline or other flammable oils, also in and around the operating cab of gas-electric engines.
 34. Gas-Electric engines must not be fueled while occupied by passengers, or coupled to cars occupied by passengers.
 35. Delivery of gasoline or other flammable oils must not be made after dark.
 36. The normal position of a spring switch with facing point lock is identified by a color light type signal displaying a lunar white light for train or engine movements in a trailing point direction and for movements in facing point direction when conditions require.
 37. The normal position of a spring switch without facing point lock is identified by a triangular yellow target on switch stand with letter "S" in black, and "lunar white" light in switch lamp in place of green light displayed in both directions thru or over the switch.
 38. Trains, when departing from stations, either from siding or main track in trailing point movement which actuate points of spring switches, a member of the crew must observe the indication of the governing signal in the opposite direction after rear end of train has passed thru switch to ascertain if switch points return to normal position. If this signal indicates Stop and no immediate train movement or other cause is evident report the fact to the Superintendent from the first available point of communication.
 39. Switch Indicators at Spring Switches:—A Switch Indicator, consisting of a single yellow light unit (normally dark) and a switch-key-controller mounted on an iron mast located at the clearance point of a siding, must be operated by a member of the crew who, together with the engineer, must observe and be governed by its indication before fouling main track or making movement from a siding to the main track thru a spring switch in automatic signal territory, unless the movement is made immediately after an opposing train has passed the switch.
If the Indicator displays a yellow light when the switch-key-controller is operated, train or engine movement to the main track may be made immediately in accordance with train rights and operating rules. Display of yellow light must continue until the leading wheels have passed the clearance point.
If the Indicator does not display a yellow light when the switch-key-controller is operated, every precaution consistent with train rights and operating rules must be taken to provide proper protection before passing the clearance point and fouling the main track.
To operate Switch Indicator, insert switch key in controller and turn clockwise toward "R", and hold a few seconds. If yellow light is displayed and intended movement is not made, insert switch key in controller and turn counter-clockwise toward "N" to restore signal system to normal condition to avoid delays to trains on main track.
Switch-key-controller must never be operated toward "N" after having been operated toward "R" if intended movement to the main track is to be made.
 40. Facing point locks on hand operated switches are indicated by a six inch yellow stripe painted on target staff. Be positive locking device is restored to normal position after using. A running switch must not be made thru this type switch.
 41. Unless otherwise displayed, yard limit signs of the reflectorized type consist of letter "Y" and approach signs, one mile distant, are diamond shaped.
 42. Employes are forbidden to go out on ledges, running boards, or any other outside structure of ditchers, steam shovels, cranes or other similar machines while moving.
 43. Employes must not go out on exterior of cab or use running board, nor hang from gangway or steps of moving engine. Using the narrow ledge along the bottom of the engine cabs to pass to or from cab to running board or to work from is prohibited. This narrow ledge is to be used only in case of extreme emergency when it is necessary to escape from the cab in this manner to prevent injury from escaping steam, hot water, fire or similar causes.
If necessary to get out on running board of engine, engine must not be moving and employe shall use the steps that are provided on the front of the engine from pilot to running board. On engine in roundhouse or shop it is permissible to use ladders or special built stair platforms.
 44. Under Consolidated Code Rule 24, engine number only will be displayed in indicators on engines so equipped. This will also apply when our engines are operating over Northern Pacific tracks. Between Klamath Falls and Chemult, Southern Pacific Rules will govern.
 45. When picking up train orders on head end of train it must be done from window of engine cab and never from gangway or steps.
 46. While Consolidated Code Rule 204 (A) prescribes that copies of train orders will be furnished the rear trainman, such orders will only be furnished on trains designated as follows: Trains Nos. 1, 2, 3, 4, 7, 8, 28, 355, 358, 359, 360 and sections thereof; also any extra passenger train whether operated as section of regular trains or as a passenger extra.
 47. When no color indication is displayed by a train order signal of the color light type, trains which have not been notified must stop. Trains thus stopped may proceed after securing clearance from operator. If there is no operator on duty, call the operator and secure clearance. Failing to contact operator communicate with train dispatcher for instructions before proceeding. Report the fact to the Superintendent from the first available point of communication.
 48. When engine is being spotted for purpose of taking fuel or water, or leaving there, it will not be moved until it is positively known that employes are located where they will not be injured. Manhole cover must not be opened until actually necessary and closed immediately after using. Avoid overflowing engine tanks particularly during freezing weather to prevent ice forming on ground, grab irons, tanks and foot boards of engines.
 49. Employes must see that manhole covers on fuel oil cistern of oil burning engines are securely fastened by all lugs after fuel oil has been taken.
 50. On stoker equipped engines, stoker must be stopped before employes attempt to pass thru or perform any work in the coal space of tender.
 51. Employes who are authorized to move engines at shops and roundhouses, either on inside or outside tracks, must, by inspection, know before moving engine that it is in condition to be moved, and be positive that no one is working underneath or around it that is liable to be injured. When necessary to work under engine on outside tracks another employe will stand watch to prevent engine being moved.
 52. When moving engines or heater cars in or about roundhouse tracks, employes in charge of such movement must see man is stationed on rear end of engine or on leading end of heater car while movements are being made and at night white light must be displayed on the rear end of engine or heater car.
 53. No employe will move the reverse lever of an engine without first knowing that no one is working around links or other parts who might be injured thereby.

54. Employes firing up boilers must see, that boiler is full of water, that reverse lever is in center of quadrant with throttle closed and cylinder cocks open before starting fire to generate steam in boiler.
55. The hole in fire box door of oil burning engines will be closed except when being used for sanding purposes.
56. Air hose on diesel and electric engines must be hooked up in hose fastener when not in use.
57. Before leaving any engine terminal, enginemen will make proper tests and inspections of water glasses, gauge cocks, water column and injectors, and will not leave the terminal unless all these are in proper working order.

Should enginemen on steam engines find that the water is not in sight in water glass, and if water cannot be raised to bottom gauge cock or water glass by opening throttle, on oil burning engines the fire must be extinguished immediately, and on coal burning engines the fire must be knocked out or smothered to the extent there will be no damage done to the crown sheet. If water can be raised to the bottom gauge cock or water glass the water level should be built up by use of the pump, or injector, or both.

Should the low water alarm whistle blow, on any engine so equipped, enginemen will immediately ascertain where the water level is in the boiler by blowing out water glasses and the water column, and being sure that water glass mounting valves are open and if water cannot be raised to the bottom gauge cock or water glass by opening throttle, enginemen will be governed by instructions in the preceding paragraph.

58. ON ENGINES, PASSENGER AND FREIGHT CARS EQUIPPED WITH ROLLER BEARINGS, EMPLOYEES WILL BE GOVERNED AS FOLLOWS:

American Steel Foundries' type roller bearings have the roller bearing in the hub of the wheel and standard journal brasses in the journal box. Should the roller bearing fail, or overheat, the axle will then turn on the conventional brass in the journal box and should be given the same attention as standard non-roller bearing boxes. If the roller bearings should fail in such a manner as to permit the wheel to wobble on the axle, care must be exercised, train moved slowly to first siding and car set out.

Roller bearing failures on cars or engines equipped with roller bearings in the journal boxes may be due to lack of oil. If the box is not blazing, the oil plug in the cover should be removed and engine or valve oil added. Oil must never be added to a box that is blazing. After the oil has been added and plug replaced, the train should proceed at reduced speed and care exercised until it is apparent that the box will run cool. A car equipped with roller bearing that is on fire must be closely watched, train moved slowly to first siding and car set out. Prompt report of all roller bearing failures occurring on engines and cars must be made to the Superintendent from the first available point of communication.

Some engines and cars equipped with roller bearings have heat indicators or stench bombs inserted in the housing of boxes which release a strong pungent odor in the event of excessive journal box temperatures. When this odor is detected train must be stopped at once and box located. Compare the temperature of this box with the other boxes on the same engine or car, check the oil level, and if there is no evidence of overheating, train may proceed, but if the box is overheating, proceed only as instructed in the preceding paragraph.

59. TRAIN INSPECTIONS.

On passenger trains, frequent running inspection shall be made from the vestibules in various parts of the train and trainman should so place himself so as to take advantage of air currents or other atmospheric conditions. When stops are made for water or fuel, or when on siding at meeting points and at other stops where in the judgment of the conductor it is necessary, a careful inspection shall be made of the running gear.

Freight and mixed trains, in addition to the designated stops for inspection, shall not make a continuous run of more than 50 miles without a stop for inspection. These stops shall be made between switches, except when stop is made for water, fuel or train orders. This, however, does not relieve trainmen from making inspection when other stops permit, or whenever in the judgment of the conductor it is necessary.

During stormy weather, when view of running gear is obscured, or if other conditions require, more frequent inspections shall be made.

Engine and train men must frequently look along both sides of the train from the head end and the rear end, especially while rounding curves and approaching sidings, to observe condition of train. They must be on the lookout for signals given by other employes who may observe defects on passing train. Frequent inspection shall be made by trainmen of track behind moving train to detect if anything on the train is dragging so that if any indications of fresh marks on the track are observed the train may be brought to a stop as quickly as possible to avoid derailment. When caboose is equipped with electric spot light it shall be used at night to make such track inspection; when not so equipped trainmen shall use electric lantern for this purpose.

These instructions do not supersede Rules 713, 812 and 927 of the Consolidated Code of Operating Rules, but are supplementary thereto.

During winter weather, when stops are made at inspection points, train line in first four cars behind engine shall be thoroughly blown out to prevent ice forming in train line due to moisture accumulation.

If stop is made for another purpose one station on either side of designated points, inspection may be made at that point instead of regular inspection point. The following stations are designated as regular inspection points where stop shall be made for inspection of freight and mixed trains:

	Eastward or Northward trains	Westward or Southward trains
First Subdivision	Quincy	Edwall
Second Subdivision	Lowell	Merritt Skykomish
Third Subdivision	Burlington	White Rock

60. Rule D-97 is in effect on this division.

61. Some engines and cars are being equipped with Mars Oscillating Light and the following instructions will govern:
Mars lights on engines will be of a type to display a white or emergency red oscillating light. There will be an operating headlight panel switch to the right of the engineer so that this light may be operated as follows:

It is first necessary to turn on the dynamo motor generator snap switch, which is adjacent to the panel switch. It is then necessary to turn on the snap switch on the headlight panel switch, which starts the oscillating motion of the light. The operating lever on this panel may then be placed in one of the following positions—emergency red, off, full and dim, which will give the corresponding lights—bright emergency red light, bright white light and dim white light. This light take a 480 watt, 12 volt globe.

By turning off the oscillating snap switch the Mars Light comes to a stop and can be used as an emergency headlight in case of failure of the regular headlight, or can be used in territories where there is falling rock. When using the Mars light for emergency headlight or looking out for falling rock, it may be focused by pushing a push button on the headlight panel switch. The Mars light on engines will be used in addition to the headlight and will be displayed in the same manner as the headlight as prescribed by Rules 17 and 17(B) of the Consolidated Code of Operating Rules. Under Rule 17(C) only the Mars light will be displayed in dim position during daylight hours when full power headlight is not required. This also applies to steam engines equipped with Mars lights.

When it is necessary to use the Mars light as a protection light, the engineer will immediately place the operating lever in red position and it is to be used in this position by day or night when protection is needed—such as a sudden stop or loss of air in double or single track territory, overrunning the fouling point at meeting or waiting points or at the end of double track or a junction, or other emergencies whenever it is necessary to protect the front end of engine or train. This does not relieve the flagman from protecting as per Rule 99 of the Consolidated Code of Operating Rules, or the observance of other rules.

Mars lights on cars will be of a type to display an emergency red oscillating light. This emergency light can be turned on by two switches—one located in the rear end of the car and the

other located in the vestibule or front end of the car so that the flagman can turn it on or off as he is getting off or on the car. This light takes a 250 watt, 32 volt globe.

The Mars light on rear car will be displayed by day or night each time the train is stopped; also when moving under circumstances in which it might be overtaken by another train or engine. Use of this light does not relieve the flagman from protecting his train per Rule 99 of the Consolidated Code of Operating Rules.

62. Trains handling flat or skeleton cars loaded with logs must stop at appropriate locations immediately before passing over through-truss bridges or through tunnels and make thorough inspection of all cars of logs in their train, making certain train and lading are in safe condition before proceeding. Extra stops en route will be made for this purpose when in the judgment of the conductor it is necessary.

Trainmen must maintain watch behind their trains for logs that may have rolled off cars and if main track is fouled take prompt action to protect trains.

On double track, conductors must notify train dispatcher when logs are to be handled and the log train must be at stop when being passed by other trains, except that when two trains handling logs are passing, either one should stop until the other train has pulled by whether on siding or double track.

On single track, trains handling logs must be at stop when meeting or being passed by passenger and freight trains, except when there are more cars than siding will hold, it is permissible for log train to pull by such trains at restricted speed.

In electrified zone and double track territory, logs must be secured to cars by chains or cables, except between Hillyard and Fort Wright.

Unless conditions require further speed restrictions, trains handling logs must not exceed 25 MPH.

No trains may pass under overhead railroad bridge at Snohomish or Skykomish when cars loaded with logs are passing over these bridges.

63. **GREAT NORTHERN BULLETINS ON TENANT LINES.**
NP RyEverett, Auburn, Sumas, Seattle.
CMStP&P RREverett, Tacoma, Enumclaw.
Canadian National Ry.....Port Mann.
National Harbours Board Ry..Vancouver, B. C.
64. Engineers making stops to take water with long heavy freight trains will cut off their engines and not attempt to spot at water spout.
65. SP&S Ry furnishes copy of their Terminal Division bulletins to Interbay roundhouse, Interbay Yard office and PD office, Seattle for convenience of our employees entering their tracks from the north.
66. Red signs have been placed on frost boxes of water tanks and oil tanks, as follows:
Oil Tanks—in case of emergency, close large valve in frost box.
Water Tanks—in case of emergency, close large valve in frost box.
67. 1. In case of failure of traction motor armature bearing on Diesel-electric locomotive in high speed passenger service, you will be governed by the following:
Wheel Slip Light on Diesel locomotive functions because of a difference in voltage between two traction motors. This is caused by the power wheels revolving at different speeds which may be due to either one pair of wheels slipping or sliding. Whenever one pair of wheels slip on one or more trucks the Wheel Slip Light on the engineer's instrument panel will light intermittently. Whenever one pair of wheels lock or skid, due to a broken pinion or axle gear, or the armature shaft frozen in its bearings, the Wheel Slip Signal will light and give a continuous warning as long as power is being supplied to the motors.
When the Wheel Slip Light gives continuous warning, the train should be brought to a stop and positive observation made to ascertain whether or not all the Diesel truck wheels are turning. In event pair of wheels is locked, Superintendent should be notified immediately and no attempt made to move locomotive until properly authorized.

2. Whenever it is necessary to shut down one of the engines on freight or passenger Diesel locomotives during freezing weather the following will govern:

- (a) Engine should be drained to low level and "G" valve opened.
(b) Steam admission valve to engine must be opened to supply steam to engine cooling system from steam generator.

Diesel engines are provided with bayonet gauges or lubricating oil sight glasses which provide a means of determining the lubricating oil level in the engine. The oil level should always be between the "Low" and "High" limits.

Any increase in oil level in the crankcase above the "Full" mark would indicate a fuel oil or water leak in the oil pan. If this condition is found, the engine should be shut down and not again operated until a qualified mechanic or supervisor ascertains whether the engine is in safe condition to continue operation.

68. On through passenger trains handled by Diesel locomotives train men must not blow out steam line approaching the point where train is to be separated and the car man at these points where necessary to cut the train will shut off the steam heat valve on the car just ahead of where cut in the train is to be made and car man at the rear end, after this valve has been closed off, will open the rear valve and blow out the steam line.

LOCATION OF TUNNELS

First Subdivision:

Tunnel No. 11.1—0.85 miles west of Crater,
Length—953.2'.
Height—23'.

Tunnel No. 12 —1.85 miles west of Columbia River.
Length—221'.
Height—22.2'.

Second Subdivision:

Tunnel No. 13 —2 miles west of Chumstick.
Length—2601'.
O. H. Clearance 19' 2" to trolley wire.

Tunnel No. 13.5—4.7 miles west of Chumstick.
Length—788'.
O. H. Clearance 19' 0" to trolley wire.

Tunnel No. 14 —1.08 miles east of Winton.
Length—4059.4'.
O. H. Clearance—19' 11" to trolley wire.

Tunnel No. 15 —Between Berne and Scenic.
Length—41152'.
O. H. Clearance—19' 3" to trolley wire.

Tunnel No. 16 —0.24 miles east of Everett.
Length—2440'.
Height—21.1'.

Tunnel No. 17 —0.10 miles east of Seattle.
Length—5141.5'.
Height—23.3'.

Third Subdivision:

Tunnel No. 18 —0.33 miles north of Samish.
Length—1113'.
Height—21.2'.

Tunnel No. 19 —0.66 miles south of Sockeye.
Length—141.3'.
Height—20.5'.

Tunnel No. 20 —0.45 miles south of Sockeye.
Length—328.5'.
Height—20.35'.

Tunnel No. 21 —2.12 miles north of Sockeye.
Length—713.2'.
Height—20.9'.

Fourth Subdivision:

Tunnel No. 8.4—0.43 miles north of Zena.
Length—434'.
Height—22.9'.

Tunnel No. 15.7—2 miles north of Wagnersburg.
Length—763'.
Height—22.1'.

LOCATION OF TUNNELS—Continued.

Tunnel No. 35.3—3.36 miles north of Stayman.
Length—358.5'
Height—22.4'.

Tunnel No. 7 —4.83 miles north of Oroville.
Length—1761'.
Height—22.5'.

Sixth Subdivision:

Tunnel No. 1 —3.8 miles west of Hurlburt.
Length—113.1'.
Height—21.3'.

Eighth Subdivision:

Tunnel No. 1 —4.1 miles north of Palisades.
Length—750'.
Height—21.3'.

Eleventh Subdivision:

Colfax tunnel 2.8 miles east of Rye.
MP 72.4 Length 629.5'.
Height—20.5'.

WATCH INSPECTORS

A. F. Benson, Newport.
H. H. Trowbridge, 5012 No. Market, Spokane (Hillyard).
R. S. Wills, N. 221 Washington St., Spokane.
Nelson Jewelry Co., 408 Riverside Avenue, Spokane.
Funk's Jewelry Store, Wenatchee.
C. M. Smith, 2925 Colby, Everett.
Weisfield & Goldberg, 414 Pike St., Seattle.
Peter Michael, 223 Pine St., Seattle.
A. T. Crumpacker, 5308 Ballard Avenue, Seattle.
Mierow's Inc., 1105 Broadway, Tacoma.
C. K. Ahern, Centralia.
H. Humphrey, Burlington.
E. H. Easton, Bellingham.
S. E. Edwards, New Westminster.
W. H. Grassie, 607 Hastings, Vancouver, B. C.
Weisfield & Goldberg, 530 S. W. Washington St. Portland, Ore.

SPEED TABLE

Time Per Mile			Time Per Mile		
Min.	Sec.	Miles Per Hour	Min.	Sec.	Miles Per Hour
		40	1	12	50.0
		41	1	14	48.6
		42	1	16	47.4
		43	1	18	46.1
		44	1	20	45.0
		45	1	22	43.9
		46	1	24	42.9
		47	1	26	41.9
		48	1	28	40.9
		49	1	30	40.0
		50	1	33	38.7
		51	1	36	37.5
		52	1	39	36.4
		53	1	42	35.3
		54	1	45	34.3
		55	1	50	32.7
		56	1	55	31.3
		57	2	....	30.0
		58	2	10	27.7
		59	2	20	25.7
1	....	60.0	2	30	24.0
1	1	59.0	2	40	22.5
1	2	58.0	3	....	20.0
1	3	57.1	3	30	17.1
1	4	56.2	4	....	15.0
1	5	55.3	5	....	12.0
1	6	54.5	6	....	10.0
1	7	53.7	7	....	8.5
1	8	52.9	8	....	7.5
1	9	52.1	9	....	6.7
1	10	51.4	10	....	6.0

G. E. Wellein, Chief Dispatcher, Seattle.
R. I. Triplett, Chief Dispatcher, Spokane.
F. V. Percival, Asst. Superintendent, Interbay.
C. A. Manthe, Trainmaster, Seattle.
L. E. Barnes, Trainmaster, Interbay.
H. B. Bassett, Trainmaster, Interbay.
E. T. Carter, Trainmaster, Everett.
E. J. Gardner, Trainmaster, Portland.
L. L. LaFontaine, Trainmaster, Wenatchee.
C. M. Rasmussen, Trainmaster, Spokane.
C. J. Evey, Trainmaster, Spokane.