

**ACCIDENTS
DON'T JUST HAPPEN
—THEY ARE CAUSED**

SR. ASST. TERMINAL SUPERINTENDENT

H. E. HALL..... El Paso

**ASSISTANT
TERMINAL SUPERINTENDENTS**

D. L. RAY..... El Paso

W. G. LARSON..... El Paso

TRAINMASTERS

M. L. WELLS..... Lordsburg

H. R. RUTLER..... Tucson

W. H. TANNER..... Tucson

J. E. KOCH..... Phoenix

T. P. KELLY..... Tucson

ASSISTANT TRAINMASTERS

A. E. BEDNAR..... Hayden

G. A. TONCHEFF..... Tucson

C. W. STODDARD..... Tucson

L. F. RODRIGUEZ..... El Paso

G. C. WOODWARD..... Phoenix

R. S. HATFIELD..... El Paso

ROAD FOREMEN OF ENGINES

T. H. HOLLINGSHEAD..... Tucson

J. W. RIDGEWAY..... Tucson

B. J. BONACINA..... El Paso

CHIEF TRAIN DISPATCHER

H. L. ANDERSON..... Tucson

**SOUTHERN PACIFIC
TRANSPORTATION
COMPANY**



**TUCSON DIVISION
TIMETABLE
AND SPECIAL INSTRUCTIONS**

5

EFFECTIVE SUNDAY, OCTOBER 26, 1975

AT 12:01 A. M.

MOUNTAIN STANDARD TIME

**FOR THE GOVERNMENT AND INFORMATION
OF EMPLOYEES ONLY**

R. L. KING,
General Manager—System.

W. J. LACY,
Regional Operations Manager.

J. J. WILLIS,
Asst. Vice President—Transportation.

J. W. BREEN,
Superintendent of Transportation.

R. O. COLTRIN,
Superintendent.

**R. V. WILLS,
F. J. PHILLIPS,
J. J. TIERNEY,**
Assistant Superintendents.

TUCSON DIVISION TIMETABLE No. 5, OCTOBER 26, 1975

2

GILA SUBDIVISION

EASTWARD			Mile Post Location	STATIONS			Station Number	Distance from P.F.E. Yard	WESTWARD		
FIRST CLASS				SIDING CAPACITIES AND FACILITIES					FIRST CLASS		
	2								1		
	Passenger										
	Leave Mon., Wed. & Sat.										
	AM 3.15		732.7				49095	253.2			
			737.4								
			737.5								
			743.7				49099	248.5			
			750.6				50020	242.3			
			750.7				50040	235.4			
			753.5				50050	232.6			
	3.59 AM		770.0				50080	216.1		1.48 AM	
			776.4				52010	209.7			
			783.8				52018	202.3			
			792.6				52027	193.5			
			792.7				52031	185.7			
			800.5				52038	174.3			
			811.9				52046	166.5			
			819.7				52056	156.2			
			830.0				52066	146.3			
			839.9				52072	140.7			
			845.5				52090	130.5			
			855.7				52107	123.2			
			863.0				52114	116.4			
			863.2				52119	112.0			
			870.0				52128	102.9			
			870.2				52134	96.6			
			874.6				52142	88.8			
			883.7				52152	78.9			
			890.0				52163	67.8			
			897.8				52174	58.2			
			907.7				52200	49.9		PM 9.30	
			918.8				52209	42.4			
			928.4				52216	35.2			
	AM 8.15		936.7				52226	28.2			
			944.2				52238	19.7			
			951.4				52251	11.9			
			958.4				52258	7.3			
			966.9				52270	2.7		8.45 PM	
			974.7				52280	0.0			
			979.3								
	s 9.10 AM		983.9								
			986.6								
	Arrive Mon., Wed. & Sat.									Leave Tue., Thu. & Sat.	
	2									1	

STATIONS
SIDING CAPACITIES AND FACILITIES

Yd. Lmits. { TO-R YUMA BKYPQ } DT
 EAST YARD
 8388 FORTUNA
 8487 KINTER
 No. 1 Trk. { DOME } No. 1 Trk. P
 WELLTON
 8371 NOAH
 8415 COLFRED
 8401 MOHAWK
 8386 STOVAL
 8388 AZTEC
 8240 STANWIX
 8369 SENTINEL
 8392 PIEDRA
 8356 THEBA BKP
 GILA
 8049 BOSQUE
 8883 SHAWMUT
 8305 ESTRELLA
 8330 MOBILE
 8359 ENID
 8309 MARICOPA
 8330 BON
 8336 TO CASA GRANDE BKPQ
 8344 TOLTEC
 N-8677 S-8754 PICACHO YP
 8381 WYMOLA
 8337 RED ROCK P
 8445 NAVISKA
 8372 RILLITO P
 8195 KINO
 W-7890 STOCKHAM
 Yd. Lmits. { TO-R TUCSON BKYPQ } DT
 TO-R P.F.E. YARD BKIYPQ
 (253.2)

Automatic Block Signal System

Centralized Traffic Control

GILA SUBDIVISION

PHOENIX SUBDIVISION

EAST-WARD		STATION NUMBER	WEST-WARD
	Nogales Branch		Distance from Nogales
	STATIONS SIDING CAPACITIES AND FACILITIES		
986.6	Yd. Lmts. TO-R P. F. E. YARD BKIYPQ	52280	68.6
983.9	Yd. Lmts. TO-R TUCSON BKPQ	52270	65.9
1002.4	Yd. Lmts. SAHUARITA	52322	47.4
1021.1	AMADO	52344	28.7
1049.8	Yd. Lmts. TO-R NOGALES BKPQ	52370	0.0
(68.6)			

EAST-WARD		STATION NUMBER	WEST-WARD
	STATIONS SIDING CAPACITIES AND FACILITIES		Distance from Dock
	Chandler Branch		
923.6	Yd. Lmts. McQUEEN	51187	19.6
943.2	Yd. Lmts. DOCK	51199	0.0
(19.6)			
	Tempe Branch		Distance from West Chandler
915.3	Yard Limits TEMPE JCT.	51172	7.7
917.7	PETERSON	51175	5.3
919.2	HELENA	51177	3.8
923.0	WEST CHANDLER	51179	0.0
(7.7)			
	Litchfield Branch		Distance from Litchfield Park
889.3	Yd. Lmts. LITCHFIELD JCT.	51110	5.4
894.7	LITCHFIELD PARK	51115	0.0
(5.4)			
	Hayden Branch		Distance from Hayden
948.9	2100 Yd. Lmts. R MAGMA P	51240	51.3
959.0	FLORENCE P	51310	41.2
987.8	Yd. Lmts. RAY JCT. P	51340	12.4
1000.2	Yd. Lmts. TO-R HAYDEN BKPQ	51360	0.0
(51.3)			

ADDITIONAL STATIONS

Capacity and Direction of entry into Spurs	Mile Post	NAME	Station Number
1450W ..	746.6	Blaisdell..... (Spur)	50030
588E ..	760.2	Ligurta..No. 1 Track (Spur)	50070
450W ..	850.3	Smurr.....	52078
882E ..	921.0	Seco..... (Spur)	52167
1350 ..	933.1	Eloy.....	52179
..	953.5	Avra..... (Spur)	52221
1050E ..	962.2	Marana.....	52231
..	968.6	Plata..... (Spur)	52241
1300 ..	977.4	Jaynes.....	52254
..	981.2	Petrie..... (Spur)	52263
Nogales Branch			
..	992.4	Aldona..... (Spur)	52312
588E ..	1010.4	Continental..... (Spur)	52332
..	1034.2	Otero.....	52357
Chandler Branch			
..	925.4	Tremaine.....	51190
8675 ..	929.3	Chandler.....	51193
..	931.0	Pozo..... (Spur)	51195
1680 ..	934.3	Serape.....	51197
Hayden Branch			
..	1003.5	Winkelman..... (Spur)	51380

PHOENIX SUBDIVISION

EASTWARD			Mile Post Location	STATIONS SIDING CAPACITIES AND FACILITIES	Station Number	Distance from Picacho	WESTWARD		
FIRST CLASS							FIRST CLASS		
2	Passenger						1	Passenger	
	Leave Mon., Wed. & Sat.							Arrive Sun., Wed. & Fri.	
AM 3.59		770.0	Wellton P	50080	208.4	AM 1.48			
4.10		780.9	Roll 3469	51012	197.5	1.36			
4.32		802.5	Kofa 3686	51034	175.9	1.14			
4.52		822.3	Hyder 3688	51053	156.1	12.54			
5.11		841.1	Saddle 3680	51063	137.3	12.43			
5.21		851.0	Gillespie 3551	51068	127.4	12.34			
5.31		861.3	Arlington 3628	51073	117.1	12.24			
5.36		865.7	Dixie 3537 Yd. Lmts.	51078	112.7	12.09 AM			
5.46		875.7	Buckeye 3707 Yd. Lmts. P	51088	102.7	11.59 PM			
		889.3	Litchfield Jct. YP	51110	89.1				
6.00		889.7	Litchfield 3594 Yd. Lmts. P	51120	88.7	11.45			
6.03		893.0	Cashion 4825 Yd. Lmts. P	51123	85.4	11.40			
		895.7	Tolleson P	51126	82.7				
6.09		898.1	Fowler 3575 P	51128	80.3	11.34			
6.17		904.0	23rd Ave. Phoenix 3661 P	51136	74.4	11.25			
s 6.45		906.0	Phoenix P	51140	72.4	s 11.20			
6.49		907.0	Phoenix Yard TO-R BKYPQ	51160	71.4	10.58			
		911.1	Kendall P	51164	67.3				
7.05		914.4	Tempe 3835 P	51170	64.0	10.43			
		915.3	Tempe Jct. P	51172	63.1				
7.17		921.8	Mesa 3972 TO Yd. Lmts. PQ	51185	56.6	10.31			
7.20		923.6	McQueen Yd. Lmts. P	51187	54.8	10.26			
7.23		927.0	Gilbert 5785 Yd. Lmts. P	51205	51.4	10.22			
7.33		937.2	Germann 5733 Yd. Lmts. P	51218	41.2	10.12			
7.45		948.9	Magma 3803 P	51240	29.5	10.00			
7.57		960.7	Coolidge N-8677 YP } CTC	51415	17.7	9.48			
8.15 AM		962.0	Picacho S-8754 YP } CTC	52200	0.0	9.30 PM			
		979.7							
		936.7							
Arrive Mon., Wed. & Sat.			(208.4)					Leave Tue., Thur. & Sat.	
2								1	

RULE 5. Phoenix Yard: Time applies for eastward first-class trains at 6th Street, MP 906.7 and westward first-class trains at 16th Street, MP 907.8.

ADDITIONAL STATIONS			
Capacity and Direction of entry into Spurs	Mile Post	NAME	Station Number
780W ..	793.0	Growler.....	51024
760W ..	812.38	Horn.....	51044
3250 ..	900.4	Pipeola.....	51130
.. ..	900.8	Cotpro.....	51132
.. ..	902.0	Campo.....	51134
3240 ..	909.43	Aristuc.....	51162
.. ..	911.8	Tovrea.....	51166
.. ..	912.4	Auction..... (Spur)	51167
.. ..	912.9	Yeso.....	51169
.. ..	917.1	Normal Jet.....	51182
.. ..	932.0	Higley.....	51211
.. P	938.1	Rittenhouse.....	51223
.. P	941.6	Queen Creek.. Yd. Lmts.	51229
.. ..	966.4	Randolph.....	51421

6

LORDBURG SUBDIVISION

EAST-WARD		Station Number	WEST-WARD
Mile Post Location	STATIONS SIDING CAPACITIES AND FACILITIES		
Douglas Branch			
1032.6	Yd. Lmts. TO-R BENSON YP	53050	78.6
1058.8	Yd. Lmts. LEWIS SPRINGS Y	53129	48.2
1085.0	Yd. Lmts. BISBEE JCT. YP	53155	22.0
1107.0	Yd. Lmts. TO-R DOUGLAS BKYPQ	53190	0.0
(78.6)			
Ft. Huachuca Branch			
1058.8	Yd. Lmts. LEWIS SPRINGS Y	53129	12.0
1070.8	1718 FT. HUACHUCA	53140	0.0
(12.0)			
Bisbee Branch			
1085.0	BISBEE JCT. YP	53155	5.7
1088.3	1721 CORTA	53157	2.4
1089.6	WARREN	53162	1.1
1090.5	LOWELL	53163	0.2
1090.7	BISBEE Q	53165	0.0
(5.7)			
Don Luis Branch			
1088.3	1721 CORTA	53157	2.5
1089.8	DON LUIS	53159	1.0
1090.8	GALENA	53160	0.0
(2.5)			
Globe Branch			
1098.4	Yd. Lmts. TO-R BOWIE BKYPQ	53280	133.8
1098.1			
1137.5	SAFFORD	53322	94.4
1221.5	Yd. Lmts. TO-R GLOBE BKP	53376	10.4
1231.9	Yd. Lmts. MIAMI P	53395	0.0
(133.8)			

EAST-WARD		Station Number	WEST-WARD
Mile Post Location	STATIONS SIDING CAPACITIES AND FACILITIES		
Clifton Branch			
1148.3	Yd. Lmts. TO-R LORDSBURG BKYPQ	53470	69.9
1146.4			
1165.3	SUMMIT	54010	51.0
1184.3	DUNCAN	54031	32.0
1186.9	380 FOX	54036	29.4
1205.2	GUTHRIE	54050	11.1
1209.8	1120 SOUTH SIDING	54062	6.5
1216.3	ABB { CLIFTON P	54070	0.0
(69.9)			

ADDITIONAL STATIONS			
Capacity and Direction of entry into Spurs	Mile Post	NAME	Station Number
Douglas Branch			
882 ..	1039.8	Curtiss.....	53110
200E ..	1048.2	Fairbank.....	53118
.. ..	1052.4	Land.....	53112
.. ..	1081.2	Naco.....	53150
3038W ..	1096.74	Paul Spur.....(Spur)	53177
2375 ..	1096.9	Forrest.....	53175
2872 P	1104.3	Calumet (Yd. Lmts.)...	53183
Globe Branch			
700W ..	1145.6	Pima.....	53329
2450 ..	1176.8	Calva.....	53349
2000 ..	1201.0	San Carlos.....	53361
200W ..	1213.5	Cutter.....(Spur)	53368
200W ..	1227.3	Burch.....(Spur)	53387
Ft. Huachuca Branch			
882 ..	1068.9	Garden Canon.....	53135

CARRIZO SUBDIVISION

EAST-WARD
Mile Post Location

STATIONS
SIDING CAPACITIES AND FACILITIES

Yd. Lmts. Yard Limits
 R EL PASO (Union Depot) BKIP
 TO-R EL PASO (Cotton Ave.) BKIYPQ
 TOWER 47 IQ
 FORT BLISS P
 8726 PLANEPORT P
 4897 NEWMAN P
 5013 DESERT P
 9100 Yd. Lmts. OROGRANDE P
 4604 DUNES P
 5359 OMLEE P
 9426 Yd. Lmts. ALAMOGORDO PQ
 4882 THREE RIVERS P
 5318 POLLY P
 5580 Yd. Lmts. CARRIZO PQ
 5073 ROBSART P
 6188 ANCHO P
 9000 GALLINAS P
 4911 CORONA P
 5803 Yd. Lmts. VAUGHN PQ
 5148 LEONCITO P
 4985 PASTURA P
 5026 ARABELLA P
 5605 Yd. Lmts. SANTA ROSA PQ
 5168 LOS TANOS P
 4821 CUERVO P
 4970 NEWKIRK P
 4948 MONTOYA P
 5380 PALOMAS P
 4927 HARGIS P
 Yd. Lmts. TUCUMCARI BKYPQ
 TO-R

Automatic Block Signal System

Station Number

WESTWARD

SECOND CLASS

Distance from Tucson	991	993	995
	Freight	Freight	Freight
Arrive Daily	Arrive Daily	Arrive Daily	Arrive Daily
	AM 7.55	PM 3.55	PM 11.55
	7.24	3.24	11.24
	7.05	3.05	11.05
	6.41	2.41	10.41
	6.23	2.23	10.23
	5.55	1.55	9.55
	5.37	1.37	9.37
	5.30	1.30	9.30
	4.50	12.50	8.50
	4.26	12.26	8.26
	4.15	12.15	8.15
	4.02	12.02 PM	8.02
	3.40	11.40 AM	7.40
	3.18	11.18	7.18
	3.03	11.03	7.03
	2.28	10.28	6.28
	2.08	10.08	6.08
	1.50	9.50	5.50
	1.33	9.33	5.33
	1.18	9.18	5.18
	1.07	9.07	5.07
	12.55	8.55	4.55
	12.45	8.45	4.45
	12.30	8.30	4.30
	12.19	8.19	4.19
	12.10	8.10	4.10
	12.01 AM	8.01 AM	4.01 PM
	Leave Daily	Leave Daily	Leave Daily
	991	993	995

(331.5)

ADDITIONAL STATIONS

Capacity and Direction of entry into Spurs	Mile Post	NAME	Station Number
W ..	1306.4	Tobin..... (Spur)	55105
2665W ..	1312.6	Bunsen..... (Spur)	55111
1370W ..	1307.5	Tobin Safeway.....	55105

SPECIAL INSTRUCTIONS—ALL SUBDIVISIONS

RULE A. Employees must know they have in their possession copy of Rules and Regulations of the Transportation Department, effective January 1, 1969.

RULE M. Fourth paragraph is revised to read:

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

Fifth paragraph of Rule M is cancelled in its entirety.

DEFINITIONS

Holidays are revised to read:

New Year's Day, January 1,
Washington's Birthday, third Monday in February,
Memorial Day, last Monday in May,
Independence Day, July 4,
Labor Day, first Monday in September,
Veteran's Day, November 11,
Thanksgiving Day, fourth Thursday in November,
Christmas Day, December 25.

RESTRICTED SPEED is revised to read:

Proceed prepared to stop short of train, obstruction, stop signal or switch not properly lined and look out for broken rail, not exceeding twenty miles per hour.

RULE 3. First paragraph is revised to read:

Conductors, yard-engine foremen, engineers and outside hostlers must compare their watches with a standard clock before commencing each day's work. Conductors and yard-engine foremen must, when practicable, compare time with their engineers before starting each trip or each day's work. At the first opportunity other members of the crew must compare time with the conductor, yard-engine foreman or engineer.

RULES 10-G, 10-H and 10-I. When unattended red flags or red lights, yellow flags, red **CONDITIONAL STOP** signs and yellow **PROCEED PREPARED TO STOP** signs are displayed between siding switches, they must be duplicated to right of siding in direction of approach. If clearance between siding and main track does not permit display of these flags or signs to right of track in direction of approach, flags or signs may be displayed to the left of track in direction of approach. Display of these flags or signs to left of track in direction of approach must be respected as though they were displayed in accordance with these rules.

RULES 10-G, 10-H and 15. On all branch lines, yellow signals will be displayed one-half mile from point of restriction, and when a torpedo is exploded in the vicinity of a yellow flag displayed in accordance with Rule 10-H, train must proceed expecting to find an unattended red flag that may be displayed one-half mile beyond the torpedo and the yellow flag.

RULE 10-J. Speed signs prescribing an increase in speed will not be installed on branches. Speed restriction tables will indicate permissible speeds between mile post locations named.

Second and fourth paragraphs are revised to read:

Speed signs that prescribe reduction in speed will be located two miles from initial point of restriction, and where used to authorize increase in speed will be located at point where higher speed commences. Speed may be increased as soon as rear of train has passed speed sign. Where such signs are not used to authorize an increase in speed, limit of restriction will be shown in timetable.

Certain speed signs have the word "SIGNAL" above the figures. Such signs in advance of signal indicate the speed that must not be exceeded while engine is passing signal two miles beyond the speed sign, unless signal can plainly be seen to be displaying green aspect.

RULE 14(l). Where there are multiple public crossings not more than one-fourth mile apart, sign bearing letter "X" located one-fourth mile in advance of first crossing will display a figure which represents the number of crossings involved.

Whistle signal under provisions of Rule 14(l) must be sounded until engine has passed over the last crossing.

RULE 17. Headlights will be displayed on yard engines in the direction of movement, and when engine is not provided with headlight on rear, a white light will be displayed in direction of movement.

The headlight is to be dimmed approaching and passing other engines, when other engines or trains are passing on adjacent track or when safety of employees is required.

RULE 21. First paragraph is revised to read:

Trains must be identified by engine number on lead unit when practicable. Only the number designated for identification will be continuously illuminated when engine is so equipped.

RULE 26. On diesel fueling tracks a blue light will not be attached to reflectorized blue "MEN AT WORK" signs when displayed at night.

RULE S-72. Westward trains are superior to trains of the same class in the opposite direction.

RULE 101 Is revised to read:

Trains, or engines with cut of cars, must be protected against any known condition which interferes with their safe passage at normal speed.

When member of train or engine crew has reason to believe that movement on main track or siding has passed over defect in track or structure which may interfere with safe train movement at authorized speed, mile post location of defect, as exact as possible, must be immediately noted, train must be stopped as soon as practicable consistent with good train handling techniques and following precautions taken:

- a. Train dispatcher and other known trains and engines which are subject to pass over affected track must be notified immediately, utilizing radio and/or the nearest means of communication available, furnishing information as to the location, as exact as possible, of probable defect in track or structure.
- b. Unless relieved of responsibility by train dispatcher, reporting crew must provide protection for other trains or engines, make inspection of defect, notifying train dispatcher of findings.
- c. In all cases, inspection of train, or engine with cut of cars, must be made before proceeding to determine that all wheels are on rail and it is safe to proceed.

RULE 102. Should a passenger train break in two or an emergency application of brakes occur while in motion on grade, head brakeman will immediately go towards rear, close angle cock at opening if train has parted, set hand brakes, and turn up retaining valves on detached portion. After train is coupled air must be applied from engine before hand brakes and retaining valves are released.

ADD:

At any time a train, or engine with cut of cars, in motion on main track or siding has an emergency application of air brakes, or is derailed, mile post locations traversed by the train or engine while moving in emergency, as exact as possible, must be immediately noted. Train dispatcher must be notified without delay.

Track and structures under train at the time of emergency application or derailment, as well as any track or structure over which any part of train passed after emergency application or derailment occurred, must be inspected to determine that it is safe for passage of trains at authorized speed.

An inspection of train, or engine and cut of cars, must be made before proceeding to determine all wheels are on rail. If derailment or emergency application caused damage to track or structure that would interfere with safe movement of trains at authorized speed, crew must provide necessary protection for other trains, and immediate report must be made as required by Rule 101.

RULES 103 and 103-A. General Order R-1 issued by the Arizona Corporation Commission October 10, 1973 requires compliance in the State of Arizona with the following:

- A. When necessary to shove a railroad car or cars over a public grade crossing not having automatically controlled crossing signals, employees shall flag the crossing.

- B. When during normal train operations at night it becomes necessary to block a public grade crossing with standing railroad cars, and the crossing does not have automatically controlled crossing signals, flares or fuses shall, as soon as possible, be placed in the center of the roadway on both sides of the track at not less than ten (10) feet from the railroad car or cars to warn motorists that the crossing is occupied.
- C. Detached railroad cars containing explosive or hazardous material shall not be left standing on any grade crossing during normal train operations.
- D. It shall be unlawful for railroad employees to "drop" or "kick" railroad car or cars across a grade crossing unless the crossing is flagged by a flagman or traffic is restricted by automatic gate arms.

Arizona Revised Statutes relating to the blocking of crossings reads as follows:

"40-852. **Allowing engine or car to remain upon public crossing; penalty**

An engineer, conductor or other employee or officer of a railroad company who permits a locomotive or cars to be or remain upon the crossing of a public highway over such railway so as to obstruct travel over the crossing for a period exceeding fifteen minutes, except in cases of unavoidable accident, is guilty of a misdemeanor."

This Statute must be complied with by all concerned.

RULE 103-A. On tracks other than main tracks where crossing is protected by automatic gates or other automatic crossing protection and STOP signs are located approximately twenty-five feet each side of crossing, movements must stop at STOP sign and allow gates to lower or other automatic protection to operate twenty seconds before entering crossing.

RULE 105. Capacity of sidings column indicates length of train in feet that can be accommodated between fouling points. Sidings designated "E" in capacity of sidings column are assigned for use by eastward trains; those designated "W" are assigned for use by westward trains. Those designated "N" for North and "S" for South are assigned for use by trains as shown in Special Instructions for the subdivision on which located.

RULE 211 and Train Order Form N.

When operator advances a train at a station under Rule 211, Example (3), the following wording must be used:

"This is SP operator (station) I have a Form 'N' train order to advance (train) on main track until (time)."

RULE 283. When indication governs movement to track other than main track, movement must be made with caution.

RULE 285. First paragraph under **Name and Aspect**, is revised to read:

Trains exceeding medium speed must reduce to medium speed before engine reaches the signal if advance view of signal permits.

RULE 286. When distant signals governing movements on controlled sidings display yellow aspect, train may proceed at restricted speed expecting to find siding occupied by a preceding train.

First paragraph under **Name and Aspect**, is revised to read:

Trains exceeding medium speed must reduce to medium speed before engine reaches the signal if advance view of signal permits.

RULE 290-A. Is revised to read:

Indication: PROCEED WITHOUT STOPPING NOT EXCEEDING RESTRICTED SPEED PREPARED TO STOP SHORT OF NEXT HOME SIGNAL.

**RULE 505. AUTOMATIC BLOCK SIGNAL SYSTEM
PUSH BUTTONS**

Where signal protection is provided for movements from an adjacent track to main track, push buttons and lights are installed in box near each of the two signals, with time-release feature, to clear signals on one track when the control circuit on the other track is occupied.

Train on main track to let train on siding pass may clear signal on siding by pressing button bearing number of signal on siding. Train on siding to let train on main track pass should not pass APPROACH CIRCUIT sign, but when necessary to do so, may clear signal on main track by pressing button bearing number of signal on main track. Further instructions posted inside push button box.

ELECTRIC OR MECHANICAL SWITCH LOCKS

Where electric or mechanical switch locks are installed, be governed by instructions posted in telephone booths, on doors or on housings of electric mechanical switch lock.

RULE 507. ADD: On single track within yard limits, when an automatic block signal displays stop indication, engines, after stopping, may proceed at restricted speed under the following conditions:

- (1) When a preceding train is seen in the block and intervening track is seen to be clear.
- (2) When view of track is clear to end of block.
- (3) After waiting five minutes and no train or engine is seen or heard approaching.

RULE 663(b). INTERLOCKING

Operator may authorize movements under provisions of this rule after it has been ascertained indication lights on control panel are illuminated indicating dual control switches are in proper position and locked for movement without requiring dual control switches to be placed in hand position as required by Rule 772.

When indication lights on control panel are not illuminated movements may be authorized under provisions of this rule; however, before making movement over dual control switches, such switches must be placed in hand position in accordance with Rule 772, and locked until movement over switch has been completed. When movement has been completed, switch must be returned to normal position and selector lever restored to motor position and locked.

When member of crew examines switch to see that points are in proper position for movement, examination must be made on the ground.

RULE 705. HOT BOX DETECTORS

If means of communication is available, engineer must inform conductor and helper engineer, if any, when approaching hot box detector. Crews on helper engine and on rear end of train must acknowledge and advise engineer of indications displayed in addition to taking appropriate action in accordance with applicable rules and Special Instructions.

Actuation of hot box detector requires train to be immediately stopped for inspection. To accomplish this without causing journal to seize from the brake application, dynamic brake must be used when practicable. When working power and hot box detector has been actuated, brakes should be applied with an initial reduction, reducing power and applying dynamic brake as soon as possible consistent with good train handling, adding to the reduction as may be necessary to complete the stop.

Except for emergency situations, train and engine crews must avoid using radio transmitter within 500 feet of hot box detector scanner site.

Hot box detector scanner sites have a white light continuously displayed on track side of instrument house, except when a hot bearing is detected, at which time light will start flashing. Crew members must keep a vigilant lookout for light and, when flashing, conductor and engineer must immediately orally compare observation when means of communication is available. Absence of white light must be promptly reported to train dispatcher.

When indication of hot bearing is shown at more than one hot box detector system indicating the same car, and hot bearing is not located, car will be set out after receiving second indication.

Connecting crews, if any, must be notified by incoming crew of failure to locate hot bearing if indication is received on any hot box detector system and car is not set out.

Instructions follow for operations of hot box detectors when stopped by illuminated letter or flashing white light, actuated by hot bearing.

TYPE A. LETTER "H" INDICATOR WITH DIGITAL READOUT.

When letter "H" is illuminated or it is known hot bearing has been detected by crew member observing the flashing white light at scanner site, train must be stopped promptly and inspection made to determine that it is safe to proceed. Where possible, inspection must be made before passing over switches or structures. After inspection, train must not exceed 15 MPH from point of inspection until stop is made at location of readout indicator and be governed by instructions posted inside case.

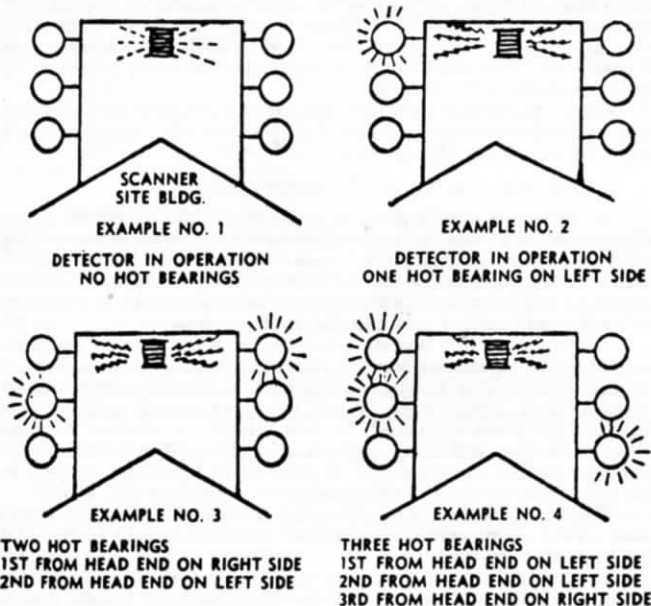
When letter "W" is illuminated train must stop and wait until indicator is extinguished or permission is obtained from train dispatcher to proceed. Telephone located near "W" indicator.

When hot box detector is activated, member of crew must make a physical count of axles from rear of train to axle indicated by digital readout, and when hot bearing is not located, then all bearings of car indicated by detector as well as five cars on either side of the car involved must be inspected.

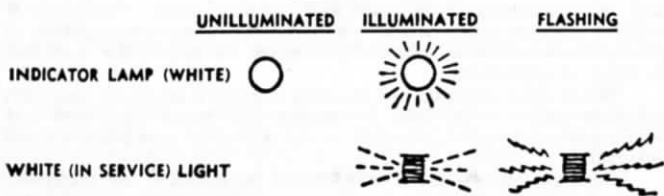
When "H" indicator indicates a hot bearing on train and there is no count shown on hot bearing detector and/or red light below readout marked "Locator Out of Service" is illuminated or when digital readout indicator displays a false indication such as a duplication of numbers or the numbers displayed exceed the number of axles in train, then all bearings of train must be inspected.

After inspection has been completed train dispatcher must be notified of condition found. When it is safe to proceed, member of crew must push button below indicator panel to cancel numbers on the indicator. Case door must be closed and secured with switch lock.

**TYPE B. LIGHT INDICATOR ARRAY.
HOT BOX DETECTOR INDICATOR ARRAY**



LEGEND



Detector instrument house is equipped with indicator array consisting of white lights as shown in diagram.

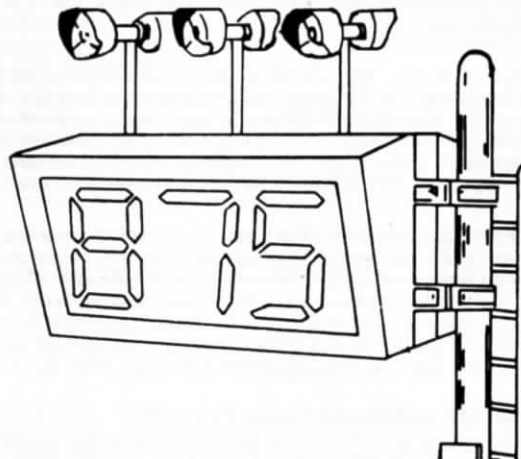
White light at top center of indicator array will be continuously displayed, except when a hot bearing has been detected, at which time light will start flashing. Absence of white light must be promptly reported to train dispatcher.

Three vertical white lights are located on each side of indicator array. Lights on right side will be displayed for hot bearings on right side of train and lights on left side will indicate hot bearings on left side of train, in direction of movement. Top light indicates first hot bearing, second light indicates second hot bearing, and third light indicates third hot bearing. Lights will indicate a maximum of three hot bearings on each train.

Crew members must keep vigilant look-out when passing these locations, and if hot bearing is detected, train must be stopped promptly, and inspection made to locate car with hot bearing. In addition, truck of car with hot bearing will be sprayed with fluorescent dye marker for identification. All bearings on car marked, as well as car ahead, must be inspected.

When indicator array indicates hot bearing on train, and no dye marker is observed, all bearings of train must be inspected.

TYPE C. MONITOR DISPLAY BOARD WITH INDICATOR LIGHTS.



A monitor display board and hot box indicator lights, as shown in diagram, are mounted on a signal mast at side of track. As the train passes the detector, the right or left hot box indicator light on top of the board starts to flash immediately upon detection of a hot bearing, indicating the side of the train having the overheated bearing. Two seconds after the train passes the detector, the display board will display numerals indicating the accumulated axle count from the hot bearing to the rear of the train.

A flashing indicator light in the center indicates that another hot bearing (or bearings) was detected subsequent to the hot bearing which is numerically indicated on the display board. Flashing lights, both left and right but not in the center, indicate two hot bearings, same axle, numerals displayed indicating axle count from that axle to the rear of the train. Flashing center light, together with either the left or right light only, indicates the hot bearings detected were all on the same side of the train. All three indicator lights flashing signify the indicated hot bearing may be on either side and that one of the subsequent bearings was on the opposite side.

The display board is illuminated as train passes and will display zeros in the absence of a hot bearing. Absence of any numerical display after passage of a train must be promptly reported to train dispatcher.

Also upon detection of a hot bearing, white light which is continuously illuminated on equipment house adjacent to monitor display board, will start to flash. Absence of white light must be promptly reported to train dispatcher.

When any indicator light displays flashing white aspect, train must be stopped promptly and inspected. If only one flashing aspect is indicated, the axle number from rear of train shall be inspected plus all bearings of car indicated by detector as well as each adjoining car. If center light displays flashing white aspect, all bearings from count indicated to rear of train shall be inspected on side or sides as indicated by left or right flashing white light. Lights and illuminated numerals will automatically cancel out ninety seconds after entire train passes detector.

When hot box detector is actuated member of crew must make physical count of axles from rear of train to axle indicated by display board. When hot bearing is not located then all bearings of car indicated by detector as well as five cars on either side of the car involved must be inspected.

TYPE D. REMOTE READOUT BY RECORDER AT TERMINAL.

Readout is by recorder located at nearby terminal as shown under Rule 705 on each subdivision of Special Instructions.

Hot box detector scanner sites have a white light continuously displayed on track side of instrument house, except when a hot bearing is detected, at which time light will start flashing. Absence of white light must be promptly reported to train dispatcher.

Crew members must keep a vigilant lookout for light and, when flashing, conductor and engineer must immediately orally compare observation when means of communication is available. Train must be stopped promptly, and when means of communications is available, crew member must contact employe at location of recorder to determine location of hot bearing. If location of hot bearing cannot be determined inspection must be made of all bearings.

REPORTING OF HOT BOXES:

When hot box detectors are actuated the following information is to be reported at next terminal in telegraph message form identified by symbol H.B. addressed jointly to **Superintendent, Division Engineer, Signal Supervisor, and Chief Train Dispatcher, also General Manager—Amtrak, San Francisco**, when an Amtrak passenger train is involved.

1. Date and time stopped, and MP location.
2. Train identification.
3. Car number and location in train.
4. Box location (1, 2, 3 or 4 from trailing end of car in direction of movement, right or left side).
5. Disposition of car: If set out, state where. If inspection shows that it was not necessary to set out even though bearing was warm enough to activate the detector, advise what corrective action was taken to permit movement of car. If roller bearing equipped, so state.
6. Report all cases where train passes over the detector without an indication having been displayed, but develops a hot bearing between detector and a point 20 miles beyond detector.

ABSOLUTE-PERMISSIVE BLOCK

RULE 744. Is revised to read:

When an absolute signal displays stop indication, train or engine must stop. Except as provided in Rule 745, train or engine, after stopping, must wait ten minutes and if no train or engine is seen or heard approaching, flagman must be sent ahead and train or engine may follow, keeping at least one-half mile behind flagman until flagman reaches next signal displaying proceed indication (green aspect), or reaches opposite end of A-PB.

ADD: RULE 745. When an absolute signal displays stop indication, and it is known that indication is caused by a portion of train standing on the main track, an engine, with or without cars, after stopping, may proceed at restricted speed to couple to train or cars, provided intervening track is seen to be clear to point where cars or train is standing.

CENTRALIZED TRAFFIC CONTROL

RULE 765. First sentence is revised to read:

When necessary to perform switching moves requiring more than one reverse and one normal movement over any main track or controlled siding switch and track is unoccupied, member of crew must request, and train dispatcher will designate, work limits and clock time limit that must not be exceeded.

RULE 776(a). When member of crew examines switch to see that points are in proper position for movement, examination must be made on the ground.

RULE 781. White light which may appear on side of relay housing is maintainer's call light, but when train has been stopped by an absolute signal and white light is observed burning, member of crew will communicate with train dispatcher except when a train is closely approaching.

GENERAL REGULATIONS

RULE 804. ADD: Employes are, unless authorized by an officer of the Company, forbidden to have in their possession while on the property firearms, concealed or otherwise, or any other weapon considered dangerous.

RULE 810. ADD: Continued failure by employes to protect their employment shall be sufficient cause for dismissal.

RULE 822. Trainmen shall not be inside caboose when caboose is involved in switching moves or when caboose is being coupled to or uncoupled from train.

Ninth paragraph is revised to read:

When necessary to climb through cars, employes may, when practicable, cross only through those standing cars equipped with end platforms or over the body of an empty flat car. They must not place any part of their body between coupler horn and end sill regardless of whether car is equipped with standard draft gear arrangement, sliding sill arrangement or end-of-car cushioning device. Crossing through moving equipment is prohibited.

ADD: When train is starting, stopping or moving slowly, employes on train must maintain a secure position to avoid personal injury from possible slack action.

RULE 824. SETTING OUT CARS EQUIPPED WITH AB or ABD AIR BRAKE EQUIPMENT

Any time an angle cock is closed in the train where the brake pipe pressure is lower than it is elsewhere, the resultant equalization will raise the brake pipe pressure at that point sufficient to release the AB or ABD valve. Equalizing the air in the brake pipe will cause release of brakes throughout the cars. Therefore, it is imperative that when cars are set out, regardless of the air brake equipment, a sufficient number of hand brakes must be applied and brake pipe pressure completely depleted by opening angle cock and LEAVING THE ANGLE COCK IN OPEN POSITION.

RULE 825. When necessary to set out a car of Flammable Compressed Gas (FCG), hand brake must be applied. Where track is not protected by derail, rail skate or rail skid, car must be chained to the rail.

A sufficient number of hand brakes must be applied to hold cars; if two cars or more, not less than two (2) hand brakes must be applied.

At terminals where instructions require application of hand brakes on freight trains, outgoing crews must not release hand brakes until road engine is coupled and brake system charged.

Rail skids are hung on posts at locations listed under subdivisions. When using rail skid it must be placed on rail and leading wheel of first car in descending direction run onto rail skid and hand brakes applied if brakes are operative before engine is detached. Train crews picking up cars from these locations must remove rail skid, return to proper location and lock in place where lock is provided.

Car set out on grade with defective hand brake, must have another car with hand brake securely applied placed below and against the bad order car.

RULES 825 and 883. Cars with short wheel base, less than 30 feet inside length as stencilled on side of car, should not be left standing on main track in automatic block signal territory, interlocking limits, CTC limits or on CTC sidings unless coupled to another car to prevent possibility of short wheel base car occupying dead section of track.

RULE 827. At crew change points, and locations specified in instructions under subdivisions, trains handling Flammable Compressed Gas (FCG) must be given a rolling inspection by outbound train crew unless otherwise instructed.

When picking up cars containing Flammable Compressed Gas (FCG) at plants, interchange points or other locations, unless otherwise provided, trainmen or switchmen will make inspection to determine cars have no obvious leaks and that hand brakes, air brakes and trucks are in safe condition for movement. Cars that are not in safe condition for movement will not be handled. Immediate report must be made to the train dispatcher or yardmaster, where applicable, from first available means of communication, when car containing Flammable Compressed Gas (FCG) has been set out or has not been picked up. Report should include car number, location, commodity, and reason car cannot be moved.

At locations specified in instructions under subdivisions, trains handling cars containing Flammable Compressed Gas (FCG) will stop and entire train must be inspected from both sides to determine that there is no obvious leakage of Flammable Compressed Gas (FCG) and that there is no other unsafe condition of equipment before proceeding.

Engines running light on descending grade without dynamic brake in operation must stop a sufficient length of time to permit wheel heat radiation if there is INDICATION OF OVERHEATING.

Dragging equipment and/or derailed car detector warning beacon mounted on post or relay case adjacent to detector will display revolving red light when detector is actuated. Crew members must keep vigilant look-out when passing and if revolving red light observed, train must be stopped promptly and inspection made of train and track, notifying train dispatcher of condition found.

If means of communication is available, engineer must inform conductor and helper engineer, if any, when approaching hot box detector, dragging equipment detector, derailed car detector, excess dimension load detector or person making rolling inspection of his train. Crews on helper engine and on rear end of train must acknowledge and advise engineer of indications displayed in addition to taking appropriate action in accordance with applicable rules and Special Instructions.

Actuation of dragging equipment and/or derailed car detector requires train to be immediately stopped for inspection. To accomplish this without risking immediate derailment or worsening of derailment from brake application, dynamic brake must be used when practicable. When working power and dragging equipment and/or derailed car detector has been actuated, brakes should be applied with an initial reduction; reducing power and applying dynamic brake as soon as possible consistent with good train handling, adding to the reduction as may be necessary to complete the stop.

During inspection by trainmen, if any roller bearing is found with one cap screw loose or missing and hot box detector has not been activated and check with tempilstick reveals no overheated condition, train may proceed to the next terminal where car must be set out.

Under the same circumstances, when two or more roller bearing cap screws are found loose or missing, train may proceed with caution to the first available track where car must be set out.

RULE 827 is revised to read as follows:

Speed of freight trains must not exceed eight miles per hour when starting from initial stations and intermediate stops, for the length of train, or until proceed signal is received from trainman.

When starting from initial station and intermediate stops, rolling inspection must be made by crew members of as much of train as practicable and train must be stopped if any unsafe conditions are noted.

When train is stopped for any reason after departing initial station and prior to arrival on receiving track at terminating

station, inspection must be made immediately of as much of train as practicable.

Trainmen and enginemen must frequently observe both sides of their train while running, looking out for signals and indications of defects in track and train, especially while rounding curves and while approaching and leaving stations. Additional observations must be made, of both sides of train sufficiently in advance of first switch at each station, but not less than two miles, so that if defect is detected, train can be stopped consistent with good train handling techniques prior to reaching switch. Rear trainman must also make observation behind train looking at track and structures, particularly at track car setoffs and grade crossings, for evidence of distressed or derailed car(s). Results of these observations must be communicated by radio, if practicable, between crew members on head end and rear end of train and with each other. If indication of defect is observed, train must be promptly stopped for closer inspection and correction of defect.

When making inspection, crew members must observe train closely for hot bearings, sticking brakes, sliding wheels, dragging equipment, insecure lading, signs of smoke or fire, or any other dangerous condition. If defects are discovered while train is moving, stop signal must be given immediately and train must be stopped consistent with good train handling techniques. Defects should be corrected if possible, and cars unsafe for movement must be set out and Chief Train Dispatcher notified. Special attention must be given to hot bearings.

Cars placarded Explosives, Poison Gas, Flammable Poison Gas, Dangerous, or Dangerous Radio Active Material must be given careful inspection at all points where train inspection is made.

RULE 830. At interlocked railroad crossings at grade, cars or engines must not be cut off nor left within interlocking limits in such a way as to foul any part of the crossing frogs.

RULE 837. When making yard movements on any work lead or an adjoining track thereto, the movement will have the right to move on the track for which the switches are properly lined. If switch is lined against the movement, or for an adjacent connected track, the movement must not proceed until it is safe to do so. Position of the switches will govern the right of movement regardless whether or not they are spring, rigid or variable.

RULE 837-A. FLAMMABLE COMPRESSED GAS (FCG).

Tank cars containing Flammable Compressed Gas (FCG) shall not be cut off when in motion. No car moving under its own momentum shall be allowed to couple to a car containing Flammable Compressed Gas (FCG). During switching operations cars must not be coupled with more force than necessary to complete the coupling.

Trains handling Flammable Compressed Gas (FCG) will be identified by alpha "K" as the last letter in train identification, except for local freight and road switcher assignments.

At crew change points, and locations specified in instructions under subdivisions, trains handling Flammable Compressed Gas (FCG) must be given a rolling inspection by outbound train crew unless otherwise instructed.

When necessary to set out a car of Flammable Compressed Gas (FCG) hand brake must be applied. Where track is not protected by derail, rail skate or rail skid, car must be chained to the rail.

When handling cars containing Flammable Compressed Gas (FCG) in local or switching moves, work should be arranged to minimize handling of these cars. To the extent practicable, when gathering or distributing cars containing Flammable Compressed Gas (FCG), cars should be separated and isolated on a separate track, and properly secured until switching has been completed.

When picking up cars containing Flammable Compressed Gas (FCG) at plants, interchange points or other locations, unless otherwise provided, trainmen or switchmen will make inspection to determine cars have no obvious leaks and that hand brakes, air brakes and trucks are in safe condition for movement. Cars that are not in safe condition for movement will not be handled. Immediate report must be made to the train dispatcher or yardmaster, where applicable, from first available means of communication, when car containing Flammable Compressed Gas (FCG) has been set out or has not been

picked up. Report should include car number, location, commodity, and reason car cannot be moved.

At locations specified in instructions under subdivisions, trains handling cars containing Flammable Compressed Gas (FCG) will stop and entire train must be inspected from both sides to determine that there is no obvious leakage of Flammable Compressed Gas (FCG) and that there is no other unsafe condition of equipment before proceeding.

When necessary to provide helper engine for trains handling cars containing Flammable Compressed Gas (FCG), helper engine must be placed in accordance with helper service instructions and there must be a proper separation of the helper engine from cars containing Flammable Compressed Gas (FCG).

Unless specifically authorized trains or cuts of cars containing Flammable Compressed Gas (FCG) must not exceed 100 cars or 8,000 tons.

Following are shipping names of Flammable Compressed Gas (FCG):

Standard Transportation Classification Code	Shipping Name
2813210	Acetylene Gas Acetylene
2813425	Argon-Hydrogen Gas Mixture
2813430	Argon-Methane Gas Mixture Methane
2818960	Butadiene from Alcohol
2911985	Butadiene from Petroleum Butadiene, Inhibited
2911931	Butane, Impure, for further refining
2912110	Butane Gas, Liquefied Butane
2912122	Butene (Butylene) Gas, Liquefied
2813990	Compressed Gases, NEC, OT Poison Compressed Gases, NOS Fluorine Tetrafluoroethylene, Inhibited
2912130	Coal Gas
2813929	Carbon Dioxide—Propylene Oxide Mixture
2813932	Carbon Monoxide
2899887	Compounds of Fluids, Intombeng Starting Engine Starting Fluids
2818224	Dimethyl Ether (Methyl or Wood Ethers)
2813980	Dispersant Gases, NEC, Flammable
2813934	Dimethylamine, Anhydrous Monomethylamine, Anhydrous Trimethylamine, Anhydrous
2813944	Ethylene Oxide—Dichlorodifluoro- methane Ethylene
2912120	Ethylene, Liquid (Bicarburetted Hydrogen) Ethene
2813984	Fluoroethane Gases, Flammable Difluoroethane Difluoromonochloroethane
2813460	Hydrogen Gas Hydrogen Hydrogen, Liquefied
2813946	Hydrogen, Sulfide
2813940	Helium—Butane Gas Mixture
2813942	Helium—Isobutane Gas Mixture
2813992	Hydrocarbon Gas, NEC Hydrocarbon Gas, Liquefied and Non- liquefied Liquefied Hydrocarbon Gas Methylacetylene—Propadiene, Stabilized
2814175	Isobutane for further refining processing Isobutylene
2912112	Isobutane Gas, Liquefied
2912190	Liquefied Petroleum Gas, NEC, Com- pressed Liquefied Petroleum Gas
2818947	Methyl Chloride Methyl Chloride—Methylene Chloride Mixture

Standard Transportation Classification Code	Shipping Name
2813950	Methyl Mercaptan Gas Methyl Mercaptan
2813954	Nitrogen—Hydrogen Gas Mixture
2912111	Propane Gas, Liquefied Propane Cyclopropane
2912131	Pintsch Gas
2813978	Refrigerants, NEC, Liquid, Flammable
2813964	Trifluorochloroethylene Gas Trifluorochloroethylene
2813966	Vinyl Chloride (Chloroethene) Vinyl Chloride Vinyl Fluoride Inhibited
2818280	Vinyl Methyl Ether (Methyl Vinyl Ether) Vinyl Methyl Ether Inhibited

RULE 872. Enginemen taking charge of engines at Tucumcari, El Paso, Lordsburg, Tucson, Phoenix and Yuma will consider engines as having been amply supplied with water, fuel, sand and other supplies.

RULE 883. Light engines must not be left unattended on grades unless protected in descending direction by derail or spur track switch lined for diverging track. Air brakes must be applied and hand brake on each unit of consist must be applied and chain must be placed under wheels.

First sentence in first paragraph is revised to read:

When an engine is left without an employe in charge, it must when practicable, be placed on track affording protection against entry to main track; hand brakes must be fully applied, wheel secured with blocking chain or if not available other suitable blocking material, reverse lever removed from control stand, generator field switch OFF, engine isolated and cab doors locked.

RADIO OPERATING RULES

RULE 958. Is revised to read:

Employes shall identify the radio station from which they are calling by prefacing their call with the railroad name, for example: "SP Caboose Train Second 802 calling SP Engine Second 802, over," and to answer a call, announce, for example: "This is SP Caboose Train Second 802, over."

Radio station must be identified at the end of each transmission which exceeds three minutes, except that, in event of continued exchange of communications, identification shall be made at the end of each 15-minute period if the exchange continues without substantial interruption.

RULE 962. First sentence is revised to read:

Radio communication system may be used in lieu of hand, flag or lamp signals prescribed by Rule 12.

RULE 963(d). Is revised to read:

Train dispatcher communicating direct with engineer or conductor, after assured train is stopped, may authorize train to pass an absolute signal displaying stop indication within CTC limits as prescribed by Rule 776.

AIR BRAKE RULES

RULE 2. Engines not equipped with control cables for multiple operation must not be picked up by light engines. If necessary to pick up such engines, they will be picked up only by freight trains or locals.

Enginemen taking charge of road engines at Tucumcari, El Paso, Lordsburg, Douglas, Tucson, Nogales, Phoenix and Yuma will consider that condensation has been drained from reservoirs and from moisture and dirt collectors and that sanders are operating properly.

RULE 2-A. When continuous wheel slip and/or ground relay action is experienced on a unit, the unit should not be

isolated and allowed to remain in the engine consist unless inspection definitely reveals that all wheels are rotating freely.

When using engine brake, it must according to conditions, be operated in such manner as to avoid overheating of brake shoes and wheels.

On departure from maintenance facility, engineers must determine by making running air brake test that the independent and automatic brakes are operating effectively.

RULE 2-B. First sentence in second paragraph is revised to read:

When going from power to dynamic braking proceed as follows:

1. Assure that throttle is in IDLE position.
2. Move selector lever to OFF position.
3. Pause 10 seconds.
4. Move selector lever to B or braking position.
5. Use throttle or dynamic brake handle to control strength of dynamic braking as needed.

Dynamic brake on head end of freight trains must not exceed 24 axles.

If the maximum 24-axle limit cannot be adhered to due to units in the consist not having dynamic brake cutout switches, then such units must be isolated prior to using dynamic brake.

When dynamic brake and automatic air brake are used together, the independent brake valve handle must be depressed and held in release position a sufficient time to ensure engine brakes are released.

RULE 3. A full independent brake application on road locomotive classes EP 636, GF 628, GF 630, GF 633, EF 623, EF 630, EF 636, EF 642 results in a brake cylinder pressure of 72 psi. This brake cylinder pressure must be maintained to provide required braking power at very low speed or when stopped. Under no circumstances must self-lapping portion of independent brake valve be changed except to obtain brake cylinder pressure of 72 psi from a full independent brake application.

RULE 11. Cars equipped with brake cylinder release valve may have one or two operating release rods. Operating rods connected to brake cylinder release valve may be identified by stencil reading "Br.Cyl.Rel." or by a diamond shaped stencil or by noting that end of release rod forms a small closed circle. Air brakes can be released on cars equipped with brake cylinder release valve by a hard momentary pull on release rod after brake pipe pressure has been depleted.

RULE 12. SETTING OUT CARS EQUIPPED WITH AB or ABD AIR BRAKE EQUIPMENT.

Rules require that when cars are set out and a sufficient number of hand brakes are applied brake pipe pressure must be depleted by opening angle cock. This method of securing cars is applicable to cars equipped with AB air brake equipment or cars equipped with the latest type of air brake equipment, the ABD valve.

RULE 13. Second paragraph is revised to read:

In case the trouble cannot be corrected or complete air failure occurs from any cause, train must not be moved. Train dispatcher must be promptly notified.

Sixth paragraph is revised to read:

Should the compressor or main reservoir on the lead engine fail the train must be stopped, automatic brakes left applied, dead-engine feature cut in and control of the brakes transferred to the second engine. The train must not be moved beyond the next point where an engine with suitable air equipment can be placed in the lead.

Seventh paragraph is canceled in its entirety.

RULE 14. In helper service with helper engine cut in train or helper on point of road unit(s), engine with engineer in other than lead unit must have brake pipe cut-off valve cut

out. 26C automatic brake valve handle must be placed in HANDLE OFF position. Handle must be left in this position to be available for emergency application, if necessary. Independent brake valve must be cut in and handle placed in release position.

RULE 17. If at any time in engineer's judgment use of retaining valves is required, stop will be made and retaining valves turned up in accordance with his request.

RULE 22. When two or more trains or engines are working at locations where Mechanical Department forces are not on duty, employees must not couple air hoses or go on, under or between cars for the purpose of making repairs until a member of the crew has notified employees on other trains or engines in the immediate vicinity, and yardmaster, where assigned, that work is about to be performed and complete understanding had to prevent movement on the affected track.

First paragraph is revised to read:

All trains, except for run-through and unit run-through trains covered in Rule 22-B, must be given inspection and test as specified in this rule at points:

- (1) Where a train is originally made up (initial terminal);
- (2) Where a train consist is changed other than by adding or removing a solid block of cars and train brake system remains charged; and
- (3) Where train is received in interchange.

ADD: RULE 22-B. Air Brake Tests on Run Through and Unit Run-Through Trains.

Each RUN-THROUGH TRAIN must be given inspection and test as prescribed by Rule 22 at points: (1) Where train is originally made up (Initial Terminal); (2) Where train consist is changed other than by adding or removing a solid block of cars and train brake system remains charged.

Each UNIT RUN-THROUGH TRAIN must be given inspection and test as prescribed by Rule 22 at points: (1) Where train is originally made up and where it is reassembled after being broken up; (2) and once during each round-trip cycle at designated points.

At these designated points inspection and tests must be made to determine the piston travel of a body-mounted 10-inch brake cylinder does not exceed 10 inches; and piston travel on all other brakes must not exceed the nominal travel specified by more than 2 inches or exceed the maximum travel specified by the badge plate or stencil on the car.

At a point where a block of one or more cars is added to a run-through train or a unit run-through train after the train is originally made up, cars must be inspected and tested as prescribed by Rule 22. At a point other than a terminal where a block is added, inspection and tests must be made as prescribed by Rule 24-C.

Inspection and tests made under Rule 22 must be recorded at the time they are performed by completing FRA Form F-6180-48 in duplicate. This form must be signed by employee responsible for the inspection and tests. One copy of the form shall be kept in the cab of the engine until the train arrives at its final terminal. In the event of change of head-end power between terminals, engineer must insure that this form accompanies train.

At locations where the crew of one carrier takes over control and operation of a run-through train or unit run-through train from the crew of another carrier, the receiving carrier shall inspect and test the train to determine that:

- (1) The cab of the engine contains a completed FRA Form F-6180-48.
- (2) Brake pipe leakage does not exceed 5 pounds per minute.
- (3) Brakes apply and release on the rear car from a 20-pound service brake pipe pressure reduction.

If the cab of the engine does not contain a completed Form F-6180-48, the train must be inspected and tested as prescribed by Rule 22 before it proceeds.

RULE 23. The following series of cars are equipped with ABEL brake system which has automatic change-over feature to provide proper brake function when car is loaded and when empty:

SSW 75700-75799	Gondolas
SSW 78500-78599	Hoppers (open top)
SP 333500-334399	Gondolas
SP 337500-337599	Gondolas
SP 345000-345669	Gondolas
SP 354000-354749	Gondolas
SP 463500-464899	Hoppers (open top)
SP 467500-467549	Hoppers (open top)
SP 480000-480193	Hoppers (open top)
SP 491000-491059	Hoppers (covered)
SP 492000-492039	Hoppers (covered)
SP 500604	Flat cars
SP 590000-590099	Flat cars
KCC 1401-1524	Hoppers (open top)

The following series of cars are equipped with ABDEL brake system, which has automatic change-over feature to provide proper brake function when car is loaded and when empty. This feature is fully automatic on these series and requires no action on part of engineer:

SP 337600-337699	Gondolas
SP 354750-355299	Gondolas
SP 463337-463486	Hoppers (Open Top)
SP 464000-465699	Hoppers (Open Top)
SP 590100-590131	Flat Cars (Anode)
SP 595500-595624	Cradle Flats

RULE 33. Loaded cars with empty-load brakes (ABEL or ABDEL) are to be considered the equivalent of one and one-half (1½) cars in determining tons per operative brake.

RULE 60. On descending grades train air brakes must be used in conjunction with dynamic brakes unless air brake application would cause train to either stop or retard speed excessively below that which is authorized.

MISCELLANEOUS

1. HELPER SERVICE

The following covers engine tractive effort in pounds:

Engine Model	Classification	Starting Tractive Effort
C 415	AS415	62,750
RS 11	AS418-1 to 6	65,000
RS 32	AS420	63,750
C 630	AS600-1	102,000
RSD 15	AS624-1	92,500
C 628	AS628-2	97,750
C 630	AS630-1	101,000
GP 9	EF418-1 to 9; EF418C-1-2; EF418E-1-2-3	64,200
GP 20	EF420-1-2; EF420C-1-2	65,100
GP 30	EF423-1; EF423C-1	66,100
GP 35	EF425-1 to 4; EF425C-1-2-3	66,000
GP 40	EF430C-1	67,560
SD 9	EF618-1 to 5; EF618E-1-2	89,700
SD 39	EF623-1-2	104,150
SD 35	EF625-1	95,540
SD 40	EF630-1-2	102,750
SD 40-2	EF630-3-4	102,100
SD 45	EF636-1 to 6; EF636C-1 to 5	103,470
SD 45-2	EF636-7 to 10-12-15; EF636C-6 to 9	102,600
SD 45X	EF642-1-2	103,240
DD 35	EF850B-1	131,750
GP 40P-2	EP430-1	70,200
SDP 45	EP636-1	102,500
SW 1200	ES412	62,250
SW 1500	ES415-1 to 6	65,000
MP 15	ES415-7	65,400
SD 7	ES615-1 to 4	82,500
SD 38	ES620-1	104,000
U 25 B	GF425-1-2-3	67,800
U 28 B	GF428-1	67,890
U 28 C	GF628-1	103,120
U 30 C	GF630-1-2	104,850
U 33 C	GF633-1 to 10	104,710
U 50	GF850	139,250

NOTE: For classification of engines, see Item 3.

(a) Rule for entraining when only one helper engine:

(1) On trains of less than 100 cars, helper engine consisting of not more than two six-axle operating units totaling 179,400 pounds tractive effort nor more than two four-axle operating units totaling 135,600 pounds tractive effort or a combination of one four-axle and one six-axle operating unit totaling 157,600 pounds tractive effort may be placed behind caboose.

(2) On trains of 100 or more cars helper engine consisting of only one unit may be placed behind caboose.

(3) Helper engine that does not qualify under (1) or (2) must be entrained as near as practicable to shove 1/3 and pull 2/3 of tonnage handled by helper engine.

(b) Trains having more than one helper engine must have each engine entrained as near as practicable so that it will shove 1/3 and pull 2/3 of tonnage handled.

(c) Trains powered with two helper engines, one of which qualifies to be placed behind caboose, must entrain the non-qualifying helper as near as practicable to shove 1/3 and pull 2/3 of tonnage handled by the non-qualifying helper.

(d) Not more than 3500 tons may be placed behind rear helper engine.

(e) When helper is used on train handling empty coil cars in series SP 595500 to SP 595624, helper engine must be entrained ahead of these cars.

(f) AS415, AS420, ES412 and ES415 class units must not be cut into train in helper service. No more than two of these units may be placed behind caboose.

(g) Helper engine must not be placed on head end of train without authority from train dispatcher.

(h) Air must be cut in on all helper engines and engine must not be coupled nor uncoupled while train is in motion.

(i) Road engineer and helper engineer must communicate any change affecting the operation of their train when means of communication is available. When communication is not available, and speed is being held above 8 MPH on ascending grade, helper engineer must regulate amperage during speed reductions or speed increases to maintain the amperage indicated before speed change; if speed of train drops below 8 MPH or when coming to a stop on ascending grade, helper engineer must regulate amperage during speed reduction to maintain the amperage indicated before speed change, then close throttle just before train stops.

(j) When speed of trains powered with 12,000 or more horsepower on the head end and with helper engine entrained drops below 16 MPH, road engineer must reduce throttle to Run 6.

Loss of helper unit or units resulting in train speed dropping below 16 MPH and head end power being reduced to Run 6 may result in helper power working in short time rating. The short time rating must not be exceeded. If it appears that short time rating will be exceeded, assistance must be requested from train dispatcher. If assistance cannot be obtained, grade must be doubled.

(k) In locating helper engine(s) in train, the following example of calculating tonnage for road engine and helper engine(s) will be used.

Example:

Train: 42 loads, 87 empties, 5756 tons
 Four unit road engine (2-U30C, 1-SD39, 1-SD35)
 Three unit helper engine (2-SD39, 1-SD40)

Total road horsepower	10800
Total helper horsepower	7600
Total horsepower	18400

SPECIAL INSTRUCTIONS—ALL SUBDIVISIONS

- (1) Divide total horsepower by tonnage =

$$\frac{18400}{5756} = 3.196 \text{ HP/T}$$
- (2) Divide road horsepower by HP/T factor =

$$\frac{10800}{3.196} = 3379 \text{ tons}$$
 Road engine will handle 3379 tons.
- (3) Divide helper horsepower by HP/T factor =

$$\frac{7600}{3.196} = 2377 \text{ tons}$$
- (4) To determine 1/3 of helper tonnage divide

$$\frac{2377}{3} = 792 \text{ tons}$$
 Helper engine will shove 792 tons.
- (5) To determine 2/3 of helper tonnage multiply

$$792 \times 2 = 1584 \text{ tons}$$
 Helper engine will pull 1584 tons.

2. PLACEMENT OF RESTRICTED CARS IN TRAIN WITH OR WITHOUT HELPER:

- (a) When average weight of cars in train, other than LAEST, locals or switchers, except Hayden Local, between Magma and Hayden is more than 60 tons per car, do not entrain any cars with gross less than 50 tons within 5 cars of road or helper engine.
 The above will not apply to GSLAF between Tucumcari and Yuma when total tonnage does not exceed 5000 tons.
- (b) Certain USAX and DODX flat cars in series 38016 thru 38665 and 39095 thru 39199 are restricted to movement on rear of train and behind any helper engine. Restricted cars will be indicated on conductor's train list at terminals. When cars listed in above series are picked up at locations other than a terminal, they must be entrained on rear of train and behind any helper unless it is determined that cars are not restricted.

3. CLASSIFICATIONS ARE DESCRIPTIVE OF ENGINES AS FOLLOWS:

- 1st letter Builder: A—Alco; E—EMD; G—GE
 2nd letter Type of service: F—Freight; P—Passenger; S—Switcher
 1st number Number of axles
 2nd and 3rd numbers Horsepower (100)
 Last letter Style of unit:
 A—Car body type with control cab
 B—No control cab
 C—SSW
 E—SP Equipment Co.
 S—SP Equipment Co. owned, leased to SSW
 NO LETTER—Indicates road switcher type

4. SPEED RESTRICTIONS FOR ENGINES: Maximum speed shown below is subject to further restriction applicable to certain territories as shown in Speed Restrictions for Trains:

MAXIMUM SPEED AND LENGTH OF ENGINES

CLASSIFICATION	ENGINE NUMBERS	MAXIMUM SPEED EXCEPT#	LENGTH (FEET)
AS600	1000-1002	70	70
ES406	1004	45	44
ES408	1100-1128	65	44
ES408B	1150-1153	65	44

CLASSIFICATION	ENGINE NUMBERS	MAXIMUM SPEED EXCEPT#	LENGTH (FEET)
ES409	1190-1199	65	44
AS409	1200-1281	60	45
ES410	1300-1337	65	44
ES615	1400-1442	70	61
AS410	1820, 1842	60	45
ES412	2250-2316	65	44
AS415	2400-2409	65	54
ES415	2450-2689	65	45
ES415	2690-2759	65	48
AS418	2900-2903; 2905-2936	70	57
AS618	2951-2970	70	58
ES620	2971-2976	70	69
EP418	3001-3002; 3004-3010	70	56
AS624	3100-3102	25*	67
AS628	3110-3136	25*	69
AS630	3140-3153	25*	69
EP418	3186-3196	70	56
EP430	3197-3199	70	63
EP636	3200-3209	70	71
EF418	3300-3822	70	56
EF618	3827-3964	70	61
AS420	4000-4009	70	57
EF420	4030-4153	70	56
EF618	4300-4451	70	61
EF423	5000-5017	70	56
GS407	5100-5109	55	37
EF623	5300-5325	70	66
EF425	6500-6681	70	56
GF425	6700-6767; 6800-6865	70	60
EF625	6900-6953	70	61
GF428	7025-7028	70	60
GF628	7150-7159	70	67
EF430	7600-7607	70	59
GF630	7900-7936	70	67
EF630	8300-8306; 8350-8356	70	71
EF630	8400-8488	70	66
GF633	8585-8796	70	67
EF636	8800-9156	70	66
EF636	9157-9404	70	71
EF642	9500-9505	70	71
EF850B	9900-9902	70	88
GF850	9950-9952	70	84
Amtrak Locomotives:			
EP415A	SP Model F7, 110-123	79	51
EP415B	SP Model F7, 160-164	79	50
	BN Models F7A, F7B, 100-107; 150-154	70	..
	BN Model F3B, 155-156	70	..
	BN & UP Models E8A, E9A, 325-352; 411-433	70	70
	BN & UP Models E8B, E9B, 370-374; 453-470	70	70
EP630A	Model SDP40F, 500-649	70	72
Rock Island Locomotives:			
	Units Nos. 190 to 299 incl.	70	60
	Units Nos. 300 to 339 incl.	70	56
	Units Nos. 340 to 399 incl.	70	59
	Units Nos. 4700 to 4719 incl.	70	59
B&O Locomotives:			
	Units Nos. 3500 to 3519 incl.	70	56
	Units Nos. 3540 to 3559 incl.	70	56
	Units Nos. 3581 to 3599 incl.	70	56
	Units Nos. 3600 to 3699 incl.	70	59
	Units Nos. 3700 to 3898 incl.	70	56
	Units Nos. 3900 to 3919 incl.	70	56
	Units Nos. 6900 to 6956 incl.	70	56
	Units Nos. 7400 to 7440 incl.	70	61
	Units Nos. 7482 to 7500 incl.	70	61
N&W Locomotives:			
	Units Nos. 1500 to 1609 incl.	70	66
	Units Nos. 1700 to 1814 incl.	70	66

Engines handled dead must not exceed speed shown in table.

*When operated in multiple unit control, on head end of train or running light and engineer is in other than the leading control cab in direction of movement, speed must not exceed 30 MPH. 'A' type units (indicated by letter 'A' following classification numerals) operating in reverse as lead unit in direction of movement must not exceed 30 MPH.

*May be handled isolated in multiple, dead in multiple, or dead in train at maximum speed of 70 MPH.

D&RGW, BN and UP diesel units, when used, will be permitted maximum freight train speeds but must not exceed maximum speed stenciled in cab of each unit.

ANY LOCOMOTIVE NOT LISTED.....35 MPH*

*Except when other speed is authorized by train order.

5. OTHER INSTRUCTIONS

A. Dead diesel locomotives weighing 100,000 pounds or more will be placed first behind locomotive handling train; locomotive weighing less than 100,000 pounds must be placed near rear of train.

B. Dead or disabled engines, and equipment listed in timetable which requires movement at reduced speed must first be reported as ready to move to the Chief Train Dispatcher, who will designate the train in which the engine or equipment is to be moved. Any such engine must not be handled in train until train order designating maximum speed is issued.

C. Engines operated with engineer in other than lead unit in direction of movement, must not exceed 20 MPH when approaching highway or street crossing at grade, subject to further restrictions imposed by local conditions.

D. Movement of foreign line engines, in service or dead in train, must not be authorized until provisions of current Line Clearance Circular have been complied with.

E. When a unit or units in locomotive consist emit excessive smoke through exhaust stacks other than from a cold start, prompt report must be made to train dispatcher who will arrange to notify roundhouse foreman or locomotive maintenance forces on duty at first maintenance facility where train is scheduled to stop. Unit number, time and location where excessive smoking of unit was first observed must be reported.

When a yard engine is observed emitting excessive smoke, report must be made to roundhouse foreman or locomotive maintenance forces on duty.

In addition, engineer must make appropriate entry on work report, Form CS 2326.

F. AS415, AS420, ES412 and ES415* class engines must not be moved dead in train. These engines must be MU'ed in engine consist.

When only AS415, AS420, ES412 and ES415* units are used in engine consist, not more than two units may be on the line when making a reverse movement with cars or train and must be located adjacent to the train.

When operating with mixed engine consist, where dynamic brake is required, not more than two AS415, AS420 and ES415* units will be used.

- (1) If one unit is used, it will be placed as the second unit.
- (2) If two units are used, units must be placed as the second and third units in consist.
- (3) A road unit must be coupled against the train.
- (4) If necessary to make a reverse move with cars or train, lead unit must be isolated.

If necessary to operate with more than two AS415, AS420, ES412 and ES415* class units in consist (including pick up of units from outlying points), these units must be placed in the lead. Under these conditions, if reverse move is made with cars or train, all units ahead of the two rear units in these classes will be isolated.

*ES415 class engines, numbered 2680-2759 inclusive, have been equipped with modified couplers. This modification permits these units to be placed in locomotive consists or dead in train without being subject to restrictions applicable to other class ES415 locomotives.

NOTE: ES412 class units 2212-2257 will not be used in mixed consist account not equipped with #24 MU wire.

G. Extreme caution must be used during dynamic braking or when making reverse moves to prevent jackknifing and track damage.

H. Not more than ten diesel units in operation may be used on head end of any freight train.

I. When moving against current of traffic, or when movement is not protected by block signals, speed of passenger trains and light engines must not exceed 59 MPH, and speed of freight trains must not exceed 49 MPH, nor may speed exceed that applying to normal operation.

J. Unless otherwise authorized, trains handling passenger cars with flat spots on wheels in excess of 3/4 inches in length must not exceed 10 MPH. When flat spots are not in excess of 3/4 inches long such cars may be operated at maximum authorized speeds.

K. Gross weight of SPMW 6400-6439 100-ton air dump cars cannot exceed the gross weight shown in Special Instructions or Line Clearance Circular for each branch line. Also, cars must not be dumped on curves of 25 degrees or more, or operated through curves of 35 degrees or more.

L. Forward brakeman on freight trains will ride the lead unit when a seat is available.

M. Open-top cars with lading height exceeding fifteen (15) feet six (6) inches, except cars transporting highway trucks or trailers, multi-level freight cars either loaded or unloaded, and automobile underframe cars, shall be entrained at least five (5) cars distance from engine or caboose if length of train permits on train operating in or through the States of California, Nevada and Arizona.

N. MAXIMUM SPEED PERMITTED WITH CERTAIN EQUIPMENT	MPH MAIN TRACKS OTHER THAN BRANCHES	MPH MAIN TRACKS ON BRANCHES
Double or triple loads.....		25
Scale test cars, except.....	40**	30
SP 2024, WO 3.....	65	49
K&J pedestal or center hinged air-dump cars, loaded or empty (except SPMW- 5100 to 5289).....	35*	25*
Relief outfits with steam derrick.....	45	25*
Relief outfit SPMW 7140 must not be operated east of MP 972.37 on Hayden Branch, nor east of MP 1088.9 on Douglas Branch.		
Locomotive cranes:		
with boom disconnected, heavy end forward, except:.....	45	25*
SPMW 2575.....	35*	25*
with boom disconnected, light end forward.....	20*	15
with boom in place, either end forward.	25*	15
SPMW 4027, 4080, 4088, 4091, 4542, 4543, 5849, 6601, and 6602 with boom discon- nected and counterweight forward.....	45	25*
SPMW 5479		
with boom disconnected and counter- weight forward.....	45	25*
with boom disconnected and light end forward.....	20	15
with boom in place, either end forward..	25	15
SPMW 5595.....	40	25*
with boom disconnected and light end forward.....	20*	15
with boom in place, either end forward.	25*	15
SPMW 6603, 6604		
with boom in place, either end forward.	25	25
with boom disconnected, light end for- ward.....	20	20
with boom disconnected, heavy end forward.....	45	20
with boom disconnected, either end forward and moveable counter- weight properly positioned.....	55	25
Steam pile drivers:		
SPMW 3402		
with leads removed and secured.....	45	25*
SPMW 4052		
handle on rear end.....	25	25*
SPMW 4053.....	35	25*
Jordan Spreaders: (Except SPMW 8001)		
Running backward.....	25	20
Moving forward (prepared for travel)..	35	35

*These speeds must not be exceeded, and on curves where authorized speed is more than 15 MPH speed must be reduced to 5 MPH less than shown in timetable and on speed signs.

**Scale Test Car NBS-1 to be handled in trains not more than 20 cars ahead of caboose and speed of train handling NBS-1 not to exceed 60 MPH.

O. OTHER MAXIMUM SPEEDS	MPH PASSENGER TRAINS	MPH FREIGHT AND MIXED TRAINS
Trains of deadhead equipment with caboose.....	65	.....
Passenger trains with caboose.....	65	.....
Engine and caboose only, except: must not exceed speed for same engine running forward light.	.....	65
Engine, flanger and caboose only, except:	.....	40
On curves.....	.....	30
PC 598500 to 598999 (Gondolas).....	.....	55
Empty bulkhead flat cars (FB) except series SP 590000-590111, SP 591100-591124 and SSW 88050-88099 equipped with roller bearings.....	.....	55

NOTE: Light engines on descending grade without dynamic brake in operation must not exceed Column 2 speeds.

P. Flat cars loaded with copper anodes must not be handled in trains unless cars are equipped with side cleats.

Q. Except when handling cabooses on or near the head end in local or road switcher service and when handling only a few cars, cabooses are not to be moved other than at rear of train.

R. Units SSW 9052 through 9068 and 9090 through 9099 will have overspeed cut-out cocks blocked open and no attempt should be made to close them. In event overspeed device (or speedometer) malfunctions enroute, unit should be rearranged in the locomotive consist as a trainline unit to clear the condition.

S. Back Up Movements

- (a) Allow sufficient time for train brakes to release before applying power.
- (b) Apply power gradually. **DO NOT USE ANY MORE POWER** than actually required. In no case may more than 18 axles of power be used. On grades in excess of 1.0 percent, no more than 12 axles may be used.

RULE 7-B. Yuma and PFE Yard: Freight trains arriving or departing Yuma Yard and Westward trains departing PFE Yard must receive proceed signal (green flag by day, green light by night), or oral authorization from yardmaster or his representative.

RULES 7-A, 10-G, 10-H and 10-I. Between Dome and Wellton: Between MP 753.4 and MP 770.9 on No. 1 and No. 2 tracks. Red **CONDITIONAL STOP** signs, yellow **PROCEED PREPARED TO STOP** signs, yellow flags, unattended red flags and red lights for westward trains using No. 2 track, and eastward trains using No. 1 track, will be placed to left of track in direction of approach.

RULE 10-J. Speed signs for eastward movement on No. 1 track, Dome to Wellton are located to left of No. 1 track; speed signs for westward movement on No. 2 track, Wellton to Dome are located to left of No. 2 track, and are located as follows:

Eastward No. 1 Track		Westward No. 2 Track	
MP	Reading	MP	Reading
756.20	55	770.65	70-60
763.00	70-60	770.18	Thru X-over
766.00	Thru X-over		25
	25	765.00	to No. 1 track
768.72	to No. 2 track		55
	50	758.20	40

Other speed signs to left of track:

Eastward	Reading	Westward	Reading
MP 733.01	60	MP 792.54	70-60
MP 734.50	60	MP 829.25	50
		MP 979.37	70-60

RULE 21. Identification of superior trains must be made by eastward trains enroute Phoenix Subdivision between Yuma and Wellton to be applied at Wellton, and by westward trains enroute Phoenix Subdivision between Tucson and Coolidge to be applied at Coolidge. Reduce speed sufficiently to permit identification and comply with Rule 14(k).

RULE 82-A. Eastward trains originating Yuma, and westward trains originating P.F.E. Yard or Tucson, enroute Phoenix Subdivision with same conductor and engineer must obtain two clearances, one endorsed Gila Subdivision and one endorsed Phoenix Subdivision. Phoenix Subdivision clearance and orders, if any, addressed to such trains at Yuma, P.F.E. Yard or Tucson authorizes movement on Phoenix Subdivision.

RULE 83. Check of train register at Yuma by eastward trains enroute Phoenix Subdivision will apply at Wellton. Check of train register at Tucson by westward trains enroute Phoenix Subdivision will apply at Coolidge.

RULE 83-A. At following stations only trains indicated will register:
 Tucson } Trains originating or terminating.
 P.F.E. Yard }

RULE 85. Within CTC limits, between East Yard and Wellton and Stockham and Picacho, a section of a regular train must not pass and run ahead of another section of the same schedule without first exchanging train orders with the section to be passed, each section to display signals if necessary.

RULE 93. Yard limits within which the provisions of Rule 93 will apply except within CTC limits are established at the following points:

West MP		East MP
732.50	Yuma	737.40
977.96	Tucson	(No. 2 Track) 993.00
	Tucson	(No. 1 Track) 992.09
	Tucson	(Nogales Br.) 991.42
998.74	Sahuarita	1005.50
1042.37	Nogales	1049.89

Nogales: Trains arriving Nogales with not to exceed 2000 ft. in length unless otherwise instructed, will trail through spring derail in main track at west end of yard, proceed on main track and stop short of fouling point of crossover from main track to No. 1 yard track, west of Court Street. If yard crew is not available on arrival, road engine will be left attached to train.

RULE D-97. Will apply as follows:
 On both main tracks between end of CTC, MP 732.45, Yuma and Subway, MP 734.26.
 On both main tracks between P.F.E. Yard and Stockham.

RULE 99-C. Will apply on Nogales Branch.

RULE 103-A. At the following locations, trains or engines moving under the provisions of Rules 771 and 776 must not enter the crossing until protection for vehicular traffic has been afforded by a member of the crew, or it is known that automatic warning devices are operating.

Station	Location	Mile Post
Stockham.....	End of double track—Prince Road ...	979.6
Bon.....	AS&R Spur	913.8
Maricopa.....	East siding switch, County Highway ..	897.8
Kino.....	West Switch—Ina Road	974

Toltec: Sound detector microphone installed on mast 75 feet west of Toltec Road Crossing. Eastward trains stopping west of crossing MP 928.6 on Toltec siding, before starting must sound whistle to lower or keep crossing gates down.

Sahuarita: When necessary to cross US-89 on Drill Track to AS&R Mine, and Anamax Mine, MP 999.76, west of Sahuarita during night hours, movements must be preceded by a member of train crew displaying lighted red fusee. Except in an emergency, trains must not stop while on the highway right-of-way. Eastward trains entering the Drill Track to AS&R Mine and Anamax Mine will continue across and clear the highway before stopping for brakeman to board train. Westward trains will stop at the highway right-of-way line and not proceed until main track switch has been lined for continued movement across highway. Switching movements must not be made at main track switch to Drill Track.

Stop sign installed on west side of crossing, east leg of wye.

Station	Location	MP
Aldona....	Crossing protection private road crossing Hughes Aircraft.....	992.4

RULE 104.

Derails on main track:

Nogales.... Spring point derail, facing westward movement, just west of west switch of first yard track north of main track may be trailed through in eastward movement.

Sahuarita: On AS&R spur, switch to derailing spur at entrance to AS&R yard is equipped with spring head rod and must be trailed through when moving into AS&R yard.

On Pima Spur, switch to derailing spur at entrance to Pima Yard is equipped with spring head rod and must be trailed through when moving into Pima Yard.

On Duval Spur, derail 9.03 miles east of initial switch and 2830 feet west of entrance to Duval Yard, is equipped with spring head rod and must be trailed through when moving into Duval Yard. Point derails are located east and west end of runaround track.

RULE 204. Trains of Gila and Phoenix Subdivisions with same conductor and engineer may be issued train orders on one Subdivision that affect their movement on Gila or Phoenix Subdivision.

RULE 221. P.F.E. Yard, Tucson and Casa Grande are train-order offices only for trains originating.

RULE D-251. Will apply as follows:

On both main tracks between end of CTC, MP 732.45, Yuma and Subway MP 734.26.

SPECIAL INSTRUCTIONS—GILA SUBDIVISION

Tucson: On both main tracks between PFE Yard and Stockham.

RULE 306. The following block signals equipped with triangular plate bearing the letter "P" have included in their control limits some special protective device. Absolute signals are listed as "P-A" or "P-SA."

Eastward Signals	Signals	Westward Signals
P-A } P-A }	Spring switch, east end Colorado River bridge	
	Spring switch, east end No. 1 Yard Track on No. 2 Track, MP 737.5	P-SA
P-A Dome } No. 1 Track }	Collision detector, Ligurta underpass, MP 760.61	P-7607
P-7606 } No. 2 Track }	Collision detector, Ligurta underpass, MP 760.61	(P-A MP 768
P-7988	High Water Detector, Bridge 798.99	(P-A West end P-A Stoval
P-8608	High Water Detector, Bridge 862.03	(P-A West end P-A Bosque
P-8674	High Water Detector, Bridge 868.88	(P-A West end P-A Shawmut
P-8778	High Water Detector, Bridge 878.34	P-8807
P-8948	High Water Detector, Bridge 894.92	(P-A West end P-A Maricopa
P-A, East end } P-A, Maricopa }	High Water Detector, Bridge 898.96	P-8991
P-9488	High Water Detector, Bridge 949.28	(P-A West end P-A Red Rock
P-A	Spring switch, west end westward siding, Stockham	
P-9834	Spring Switch, west end crossover, Sixth Ave., Tucson	
P-I Westward } Main track } Tucson }	Spring switch, west end of crossover, westward main track to eastward main track, Cherry Avenue	
P-I Eastward } Main Track } Tucson }	Spring switch, west end of crossover from eastward main track to Nogales lead, Cherry Avenue	
P-I Nogales } Lead Tucson }	Spring switch, west end of west lead, Cherry Avenue	
	Spring switch, east end of double track, Cherry Ave.	(P-SA East end P-SA west lead Cherry Ave.
	Spring switch, east end of crossover from westbound main to eastbound main, Cherry Avenue	(P-SA west lead P-SA east lead
	East End of crossover from eastward main to east lead	P-SA east lead

RULE 505. AUTOMATIC BLOCK SIGNAL SYSTEM

Yuma: Main tracks between MP 734.26 and MP 737.50 are designated as follows:

- No. 1 track—To North
- No. 2 track—To South

Between MP 734.26 and 737.50 trains and engines may use main tracks in either direction, being governed by signal indication.

Signal 7333 governs westward movements through crossover to main track only and will remain dark until crossover switch is open.

Westward signal adjacent to No. 2 Track, MP 734.32 will display red aspect only as per Rule 290, Fig. "I." Trains and engines will be governed by Yardmaster's instructions before passing this signal.

Tucson: Westward Signal 9833 on eastward main track governs westward movement through crossover and displays stop indication until east crossover switch is lined for crossover movement to westward main track.

Eastward 2-unit Signal P-9834 top unit governs movements on eastward main track, bottom unit governs movements to Passenger Track No. 1.

When westward signal 9835 displays stop indication westward freight trains must not pass this signal if there is a westward passenger train in passenger track No. 1, except on instructions from yardmaster.

Trains moving on main track in either direction, will move between MP 987.7 at 36th St. and MP 985.48 at Cherry Ave. by block signals whose indications will supersede the superiority of trains.

RULE 535. SPRING SWITCHES

Spring switches equipped with facing point locks are located as follows:

Location	Normal Position
East Yard	East end of crossover from running track to Track No. 2 Track No. 2
Stockham	West end westward siding Main Track
P.F.E. Yard.	End double track, MP 985.48 Westward Track

Spring switches not equipped with facing point locks are located as follows:

Location	Normal Position
**Yuma	West leg of wye from running track West leg of wye
	East leg of wye from running track Running track
	Tail end of wye West leg of wye
	East end Roundhouse Track No. 1 East leg of wye
	West end Roundhouse Track No. 1 Roundhouse Track No. 1
*Tucson	West end crossover, Stone Ave. Westward track
*Tucson	West end crossover from passenger tracks Eastward Track

Location	Normal Position
Tucson . . Spring switch, west end of crossover, westward main track to eastward main track, Cherry Ave.	Westward main track
Tucson . . Spring switch, west end of crossover from eastward main track to Nogales Lead, Cherry Avenue . . .	Eastward main track
Tucson . . Spring switch, west end of west lead, Cherry Ave. . .	East lead
Tucson . . Spring switch, east end of double track, Cherry Avenue	Main track
Tucson . . Spring switch, east end of crossover from westward main track to eastward main track, Cherry Avenue	Crossover
Tucson . . East end of crossover from eastward main track to east lead	East lead

*Equipped with switch point indicator.

**All engines to diesel facilities will use west leg of wye into roundhouse service track.

INTERLOCKING

RULE 605. Tucson: Limits extend on westward main track from eastward interlocking signal MP 985.15 to westward interlocking signal end of double track MP 985.50. On eastward main track from eastward interlocking signal MP 985.15 to westward interlocking signal end of double track MP 985.50, and from eastward interlocking signal MP 985.2 on Nogales lead to westward interlocking signal MP 985.37 and to westward interlocking signal on west lead MP 985.36.

Signals are under the control of Operator at Yard Office, 22nd Street.

RULE 663(b). Operators at Yard Office, 22nd Street, Tucson, may authorize movements under provisions of this rule after it has been ascertained indication lights on control panel are illuminated indicating dual control switches are in proper position and locked for movement without requiring dual control switches to be placed in hand position as required by Rule 772.

When indication lights on control panel are not illuminated movements may be authorized under provisions of this rule; however, before making movement over dual control switches, such switches must be placed in hand position in accordance with Rule 772 and locked until movement over switch has been completed. When movement has been completed, switch must be returned to normal position and selector lever restored to motor position and locked.

RULE 705. LETTER TYPE INDICATORS

Indicators located as follows:

Illum. Letter	On Signal	Approaching	Authorizes and requires movement as follows:
W	MP 986.8	Nogales Branch, Tucson	Westward trains must stop east of Indicator. When flashing white light is displayed train is authorized to proceed to PFE yard, or be governed by oral authority from yardmaster.

HOT BOX DETECTORS

Illum. Letter	On Signal	Approaching	Location of Readout
H	Westward Absolute Signal E.E. Wellton	Wellton	M.P. 769.2 Wellton
W	7722	Noah	Eastward Absolute Signal E.E. Noah
H	7742	Noah	Eastward Absolute Signal E.E. Noah
W	7743	Wellton	Westward Absolute Signal W.E. Stoval
H	8035	Stoval	Westward Absolute Signal W.E. Stoval
W	8054	Aztec	Eastward Absolute Signal E.E. Aztec
W	8073	Stoval	Eastward Absolute Signal E.E. Aztec
H	8092	Aztec	Eastward Absolute Signal E.E. Aztec
W	8322	Piedra	Westward Absolute Signal W.E. Sentinel
H	8323	Sentinel	Westward Absolute Signal W.E. Sentinel
W	8349	Sentinel	Eastward Absolute Signal E.E. Piedra
H	8378	Piedra	Eastward Absolute Signal E.E. Piedra
H	Westward Absolute Signal E.E. Estrella	Estrella	Westward Absolute Signal W.E. Estrella
W	8778	Mobile	Eastward Absolute Signal E.E. Mobile
H	8806	Mobile	Eastward Absolute Signal E.E. Mobile
W	8807	Estrella	Westward Absolute Signal W.E. Maricopa
H	P-8991	Maricopa	Westward Absolute Signal W.E. Maricopa
W	8992	Bon	Eastward Absolute Signal E.E. Bon
W	9051	Maricopa	Eastward Absolute Signal E.E. Bon
H	9052	Bon	Eastward Absolute Signal E.E. Bon
W	9398	Wymola	Westward Absolute Signal W.E. Picacho
H	9399	Picacho	Westward Absolute Signal W.E. Picacho
H	Eastward Absolute Signal W.E. Wymola	Wymola	Eastward Absolute Signal E.E. Wymola
W	9600	Rillito	Westward Absolute Signal W.E. Naviska
H	9601	Naviska	Westward Absolute Signal W.E. Naviska
W	9619	Naviska	Eastward Absolute Signal E.E. Rillito
H	9640	Rillito	Eastward Absolute Signal E.E. Rillito

SCANNER SITES

MP	Type	Direction	Location
740.2	C	East and West	East Yard-Fortuna
772.7	A	East and West	Wellton-Noah
806.3	A	East and West	Stoval-Aztec
834.9	A	East and West	Sentinel-Piedra
851.3	C	East and West	Smurr-Gila
878.7	A	East and West	Estrella-Mobile
902.0	A	East and West	Maricopa-Bon
922.0	C	East and West	Toltec-Casa Grande
941.4	A	East and West	Picacho-Wymola
961.7	A	East and West	Naviska-Rillito
979.4	D	East	*Stockham

*Readout at Tucson Yard.

Refer to Rule 705, All Subdivisions.

CENTRALIZED TRAFFIC CONTROL

RULE 760. Limits extend from eastward absolute signals at end of double track, East Yard, MP 737.38 to westward absolute signal at end of double track, Stockham.

East Yard: West switch crossover, between yard track No. 1 and eastward main track is hand operated, normal position for movements to drill track. Eastward absolute signal located on signal bridge just west of this switch governs movements through crossover to eastward main track when switch is lined for movement through crossover, and on drill track when lined for movement to drill track. Westward absolute signal located on drill track just east of this crossover governs westward movements on drill track.

SPECIAL INSTRUCTIONS—GILA SUBDIVISION

Between Wellton and Dome, westward track is identified as No. 1 track and eastward track identified as No. 2 track. Signals are provided for movement of trains in either direction, on both main tracks, being governed by indications of absolute and automatic block signals. Crossovers equipped with dual control switches installed at MP 768.

PFE Yard: CTC Limits extend from MP 987.7 to east end PFE Yard MP 987.92.

RULE 825. Instructions for setting hand brakes:

Yuma: Freight trains Two hand brakes on east end, Four hand brakes on west end;

East Yard: Freight trains. Two hand brakes on east end, Five hand brakes on west end.

Tucson: Passenger trains—To prevent uncontrolled movement, rail skid must be placed under west end of train and a sufficient number of hand brakes must be set, but not less than two brakes on west end and two brakes on east end, unless outbound crew takes charge and engine remains attached.

Tucson and PFE Yard:

- *Freight trains, 1 to 10 cars . . . All hand brakes.
- *Freight trains, 11 to 20 cars . . . 10 hand brakes west end.
- *Freight trains, 21 to 49 cars . . . 10 hand brakes west end, 5 hand brakes east end.
- *Freight trains, 50 cars or more. 15 hand brakes west end, 10 hand brakes east end.

*Hand brakes will not be set if outgoing crew takes charge of train on arrival, and inbound crew is advised by Yardmaster that engine is not to be detached and no switching is to be performed on the train. Hand brakes will not be set if switch crew takes charge of train on arrival.

*Hand brakes on outbound trains must not be released until engine is coupled to train, air test completed, and blue flag removed.

Portable rail skids are hung on posts at the following locations:

- Tucson:** West end No. 1 passenger track.
- Kinter:** West end of siding.
- Mohawk:** East end of siding.
West end of siding.
- Sahuarita:** Pima Mine switch off AS&R drill track.
Duval Mine switch off Anamax drill track.
Duval Mine at east and west end of run-around track.

Refer to Rule 825, All Subdivisions.

RULE 827. Trains handling cars containing Flammable Compressed Gas (FCG) will stop and inspection will be given entire train from both sides at the following locations:

- Eastward Kino
- Westward Fortuna

to determine that there is no obvious leakage of Flammable Compressed Gas (FCG) and that there is no other unsafe condition of equipment before proceeding.

Nogales Branch: Eastward trains handling cars containing Flammable Compressed Gas (FCG) will stop at the run-around track at MP 1045 and inspect entire train from both sides to determine that there is no obvious leakage of Flammable Compressed Gas (FCG) and that there is no other unsafe condition of equipment before proceeding. Unsafe cars are to be set out on the run-around track and Chief Train Dispatcher immediately notified.

Dragging and/or derailed equipment detectors and indicators installed at the following locations:

MP	Location
752.45	Between Dome and Kinter
773.20	Between Noah and Wellton
780.40	Between Colfred and Noah
788.60	Between Colfred and Mohawk
796.60	Between Mohawk and Stoval
805.40	Between Stoval and Aztec
815.60	Between Aztec and Stanwix
825.00	Between Stanwix and Sentinel
836.30	Between Sentinel and Piedra
843.10	Between Piedra and Theba
852.00	Between Theba and Gila
859.80	Between Gila and Bosque
866.40	Between Bosque and Shawmut
873.00	Between Shawmut and Estrella
879.15	Between Estrella and Mobile
886.40	Between Mobile and Enid
893.60	Between Enid and Maricopa
903.60	Between Maricopa and Bon
912.47	Between Bon and Casa Grande
922.80	Between Casa Grande and Toltec
930.80	Between Toltec and Eloy
940.70	Between Picacho and Wymola
947.70	Between Wymola and Red Rock
954.50	Between Red Rock and Naviska
962.70	Between Naviska and Rillito
971.60	Between Rillito and Kino
976.40	Between Kino and Jaynes

The above dragging equipment detectors have been equipped with Time Out device which will extinguish revolving red light after 10 minutes time has elapsed.

Refer to Rule 827, All Subdivisions.

AIR BRAKE RULES

RULE 17. Retaining valves must be used on freight trains on descending grades as follows:

Sahuarita: AS&R, Pima, Anamax and Duval mines.

With dynamic brake in operation:

Permissible Tons Per Unit Without Retaining Valves*

	Basic Dynamic Brake		Extended Range Dynamic Brake		
	4 Axle	6 Axle	4 Axle	6 Axle	8 Axle
With dynamic brake in operation and WITH pressure maintaining system of braking	1000	1500	1200	1800	2400

If permissible tonnage is exceeded, one retaining valve must be used for each 150 tons in excess thereof.

*If any unit having basic dynamic brake is operated with units having extending range dynamic brake, all units in consist must use tonnage authorized for units having basic dynamic brake.

Locomotive classes AS628, AS630, EF425, EF623, EF625, EF630, EF636, GF425 (except units 6700-6727), GF628, GF630, GF633, EF850B and GF850 are equipped with extended range dynamic brake.

RULE 24. Will apply at Tucson.

RULE 24-B. Yuma: Incoming engineer, after completing stop, must make a full service brake application leaving brakes applied. When outgoing crew takes charge of train on arrival or otherwise is assured, upon request, that continuity of brake pipe has not been disturbed, engineer will release brakes and proceed.

RULE 24-C. Sahuarita: Before making any switch moves at AS&R, Pima, Anamax or Duval mines, it must be known that air brake system on each car being handled is fully charged, air hoses coupled between engine and cars and angle cocks properly positioned.

Ten minutes must be allowed to charge air brake system on cars picked up at AS&R, Pima, Anamax and Duval mines before making air brake test. All brakes must be operative on loaded and empty cars before leaving AS&R, Pima, Anamax and Duval mines.

After fully charging air brake system, engineer will make a 20-pound brake pipe reduction, and conductor will see that a member of crew observes each car to see that brakes are properly working, then release brakes and wait five minutes before switch move commences. In addition, engineer will check brake pipe leakage as prescribed by Air Brake Rule 22.

RULE 24-E. Will apply at Tucson and Yuma.

AIR BRAKE RULE 24-F. Will apply as follows:

Casa Grande: To all switching movements on all Tracks at AS&R, Sacaton Mill.

Tucson: When making movements either direction between PFE Yard and areas outside PFE Yard but within yard limits.

Responsibility to know that above has been done rests upon yard engineer and yard foreman.

Carman on duty at Tucson PFE Yard will couple air hose and make test as prescribed by Air Brake Rule 24-F.

RULE 33. Sahuarita: AS&R, Pima, Anamax and Duval mines.

Maximum tonnage per operative brake 140½ tons. All retainers will be used. Retainers will be used in high pressure position on loaded cars and low pressure position on empty cars. Descending movement will not be made unless locomotive has an operative dynamic brake but not more than 15 cars for each four axles of dynamic brake at speed not exceeding 15 MPH.

MISCELLANEOUS

1. Casa Grande: Impaired overhead clearance over Casa Grande Warehouse Spur.

Impaired side clearance at scale house on Casa Grande Warehouse Spur. Trainmen must not ride side of car when spotting this spur.

Impaired overhead and side clearance at scale on Casa Grande Cotton Oil Mill spur. Trainmen must not operate beyond operating limit sign located approximately 600 ft. beyond point of switch.

2. Rillito: Cars must not be kicked or dropped into Arizona Portland Cement Spur, and cars must not be left standing on this spur west of insulated joints at east end of circuit actuating highway crossing signals. Chains across crusher spur at each end of pit are secured by snaps to posts, and may be unfastened to move cars to or from pit. Chains must be fastened across track when there is no car spotted over pit.

Derail on crusher spur, located 80 feet east of crusher pit, must not be lined for movement into spur until it is known that track over pit is ready for the movement.

3. Plata: Impaired side and overhead clearance exists at AS&R belt loader on scale. Employees are prohibited from riding sides or top of cars at this location. Engine and cars, other than ore cars, must not pass over scale track.

4. Sahuarita: At AS&R plant, spur to Rod & Ball Mill has overhead and side impaired clearance at entrance to building. Cars must not be moved beyond face of building.

All trains must stop before entering or departing tracks at AS&R Mines, and inspect all switches to see that they are in proper position and in working order.

Watch for impaired side and overhead clearances on all tracks Anamax Mine Yard.

5. Nogales Branch: Do not block Hughes Road crossing with switching operations between 8:00 A.M. and 9:15 A.M. and between 4:00 P.M. and 5:15 P.M.

6. PFE Yard: Look out for ice and material alongside PFE tracks.

7. Engines listed must not operate on tracks shown below:

Class of Engine	Restricted Tracks
All engines . . . Smurr	Unloading pit on spur, Gila Feed Yards.
All engines . . . Casa Grande . . .	Track scales on cotton oil mill spur, and Casa Grande Warehouse spur.

Class of Engine	Restricted Tracks
All engines . . . Seco	50 ft. south of road crossing on East Mill Spur.
All engines . . . Rillito	On open pit at Arizona Portland Cement Co. Trainmen must not cross pit, but must go around pit via stairway.
All engines . . . Plata	Track scales, AS&R track.
All engines except a single four-axle unit.	Aldona Hughes Aircraft, all tracks.
All engines . . . Sahuarita	Track scale, Pima mine concentrate track.

8. LOAD LIMIT (car and contents):

Yuma-PFE Yard, except:	263,000 pounds
Gross weight of 263,000 pounds or less applies to uniformly loaded four-axle cars having trucks spaced 23 feet 0 inches or more center to center and minimum axle spacing of 5 feet 6 inches.	
Gross weight uniformly loaded four-axle cars with minimum axle spacing of 6 feet 0 inches, and minimum distance 37 feet 0 inches center to center of trucks; also, wheels 38 inches or more in diameter	315,000 pounds
Ore cars SP 333500 to 334399 and SP 341000 to 341335 and ATSF 64000 to 64099	281,000 pounds
Hopper cars series SP 464000	281,000 pounds
PFE Yard-Nogales, except:	240,000 pounds
Air dump cars SPMW 6400 to 6439	240,000 pounds
Gross weight uniformly loaded four-axle cars with minimum axle spacing of 6 feet 0 inches, and minimum distance 37 feet 0 inches center to center of trucks; also, wheels 38 inches or more in diameter	315,000 pounds
Ore cars SP 333500 to 334399 and SP 341000 to 341335 and ATSF 64000 to 64099 between MP 1004.8 and PFE Yard including AS&R spur, Anamax, Pima and Duval mines Sahuarita	281,000 pounds
Hopper cars series SP 464000	281,000 pounds

Unless authorized by Superintendent, heavier loads must not be handled.

9. SPEED RESTRICTIONS FOR OTHER THAN MAIN TRACKS	With Caution Not Exceeding MPH
Centralized Traffic Controlled sidings and turnouts, and crossovers	25
Through CTC siding at Gila	20
Through other sidings, yard and other tracks, wyes, balloon tracks, crossovers and turnouts, except:	15
On branches	10
AS&R Spur at Plata	10
Cement track at Rillito	10
Spur to AS&R mine, Sahuarita, Eastward	20
Westward	15
Spur to Pima mine, Sahuarita, Eastward	20
Westward	15
Spur to Anamax mine, Sahuarita, Eastward	25
Except through curves #2 and #3	20
Westward	15
Spur to Duval mine, Sahuarita, Eastward	25
Westward	15
PFE Yard, including PFE Co., yard tracks Nos. 51 to 57 inclusive at PFE Yard	10

10. Back Up Movements

Grades in excess of 1.0 percent:	
Eastbound . . . MP 824.39 to MP 824.46 . . .	West of Sentinel
MP 857.0 to MP 871.0 . . .	Between Gila and Estrella.
Westbound . . . MP 796.0 to MP 793.0 . . .	Mohawk
Sahuarita	All mine spurs
Nogales Branch	Eastbound MP 1040. to 1049.8

Refer to ALL SUBDIVISIONS, Page 17, 5—OTHER INSTRUCTIONS, R. Back Up Movements.

SPECIAL INSTRUCTIONS—GILA SUBDIVISION

SPEED RESTRICTIONS FOR TRAINS: Maximum speed of trains in territory shown below is subject to further restrictions applicable to engines in the train as shown in **SPEED RESTRICTIONS FOR ENGINES**, and **MAXIMUM SPEED PERMITTED WITH CERTAIN EQUIPMENT** and **OTHER MAXIMUM SPEEDS** appearing on pages 16 and 17 of Special Instructions for All Subdivisions. Speed must be further reduced as prescribed by speed signs, except as specifically authorized by Special Instructions herein, or by timetable bulletin.

All trains must run carefully during and after heavy storms, particularly when the track is apt to be affected. When fog, storms or other conditions obscure track or signals, speed of trains must be so reduced as to permit strict observance of signals and **INSURE SAFETY, REGARDLESS OF TIME.**

TERRITORY			PASSENGER TRAINS	FREIGHT AND MIXED	TERRITORY			PASSENGER TRAINS	FREIGHT AND MIXED
MP	MP	Column:	1	2	MP	MP	Column:	1	2
EASTWARD, YUMA TO TUCSON:					WESTWARD, TUCSON TO YUMA:				
732.10 to 733.01 (Thru Turnout)			25	25	987.75 to 982.73			35	35
733.01 to 734.50 (Eastward)			60	55	982.73 to 979.37 (End Double Track)			50	50
734.50 to 737.62 (Track No. 1 and No. 2)			60	55	979.37 to 919.24			70	55
737.62 to 737.83 (End L.A. Divn.)			70	55	919.24 to 918.40			60	55
737.83 to 746.58			70	55	918.40 to 884.00			70	55
746.58 to 748.58			55	55	884.00 to 871.90			50	50
748.58 to 756.20 (No. 2 Track)			40	40	871.90 to 864.00			60	55
756.20 to 763.00 (No. 2 Track)			55	55	864.00 to 852.25			55	55
763.00 to 770.72 (No. 2 Track)			70	55	852.25 to 825.25			70	55
770.72 to 779.00 (No. 2 Track)			50	50	825.25 to 822.40			60	55
779.00 to 792.54			70	55	822.40 to 794.30			70	55
792.54 to 794.30			60	55	794.30 to 792.54			60	55
794.30 to 822.40			70	55	792.54 to 779.00			70	55
822.40 to 825.25			60	55	779.00 to 770.72 (No. 1 Track)			50	50
825.25 to 852.25			70	55	770.72 to 763.00 (No. 1 Track)			70	55
852.25 to 864.00			55	55	763.00 to 756.20 (No. 1 Track)			55	55
864.00 to 871.90			60	55	756.20 to 748.58			40	40
871.90 to 884.00			50	50	748.58 to 737.83 (Begin L.A. Divn.)			70	55
884.00 to 918.40			70	55	737.83 to 737.62			70	55
918.40 to 919.24			60	55	737.62 to 735.25 (Track No. 1)			60	55
919.24 to 979.37			70	55	735.25 to 734.50 (Track No. 1)			40	40
979.37 to 982.73 Begin double track			50	50	737.62 to 734.50 (Track No. 2)			60	55
982.73 to 985.19			35	35	734.50 to 732.10 (Thru Turnout)			25	25
985.19 to 985.27			25	25					
985.27 to 987.75 except			35	35					
985.69 to 987.75 All eastbound Freights 10 MPH									
EASTWARD, DOME TO WELLTON (No. 1 Track):					WESTWARD, WELLTON TO DOME (No. 2 Track):				
748.58 to 756.20			40	40	770.84 to 770.65			50	50
756.20 to 763.00			55	55	770.65 to 763.00			70	55
763.00 to 770.72			70	55	763.00 to 756.20			55	55
770.72 to 770.84			50	50	756.20 to 745.00			40	40
EASTWARD, YUMA TO EAST YARD (No. 1 Track):					WESTWARD, EAST YARD TO YUMA (No. 2 Track):				
733.01 to 734.50			60	45	737.51 to 737.49 (Thru Turnout)			35	35
734.50 to 737.51			60	55	737.49 to 734.50			60	55
					734.50 to 732.29			25	25

Trains handling cars containing Flammable Compressed Gas (FCG) must not exceed 55 MPH. Where maximum authorized speed is less than 55 MPH and more than 25 MPH, train must be operated at 5 MPH less than maximum authorized speed.

Trains handling cars containing Flammable Compressed Gas (FCG) must not exceed 30 MPH at the following locations:

- Gila Between MP 854 and MP 857
- Casa Grande Between MP 918 and MP 919
- Eloy Between MP 933 and MP 933.5
- Tucson Between MP 979.6 (Prince Road) and PFE Yard

Maximum authorized speed for freight trains is 55 MPH except BSMFF, APLAA, APLAB and GSLAF are authorized to operate at Column One speeds provided train contains no restricted cars, or empties except cabooses, and does not exceed 80 tons per operative brake and 120 cars.

Other freight trains may be authorized by train order to operate at Column One speeds not exceeding 65 MPH provided they contain no restricted cars, or empties except cabooses, and do not exceed 80 tons per operative brake and 120 cars.

Eastbound freight trains arriving P.F.E. Yard do not exceed 10 MPH on main track MP 985.69 (22nd St.), and MP 987.75 (36th St.) to allow for train inspection.

Westbound freight trains departing Main Track P.F.E. Yard Tucson, will not exceed 15 MPH until caboose passes the yard office building.

REFER TO SPEED RESTRICTIONS FOR OTHER THAN MAIN TRACKS ON PAGE 23.

SPECIAL INSTRUCTIONS—GILA SUBDIVISION

SPEED RESTRICTIONS FOR TRAINS: Maximum speed of trains in territory shown below is subject to further restrictions applicable to engines in the train as shown in **SPEED RESTRICTIONS FOR ENGINES**, and **MAXIMUM SPEED PERMITTED WITH CERTAIN EQUIPMENT** and **OTHER MAXIMUM SPEEDS** appearing on pages 16 and 17 of Special Instructions for All Subdivisions. Speed must be further reduced as prescribed by speed signs, except as specifically authorized by Special Instructions herein, or by timetable bulletin.

All trains must run carefully during and after heavy storms, particularly when the track is apt to be affected. When fog, storms or other conditions obscure track or signals, speed of trains must be so reduced as to permit strict observance of signals and **INSURE SAFETY, REGARDLESS OF TIME.**

TERRITORY		FREIGHT AND MIXED	TERRITORY		FREIGHT AND MIXED
MP	MP		MP	MP	
EASTWARD, P.F.E. YARD TO NOGALES:			WESTWARD, NOGALES TO P.F.E. YARD:		
	984.18 to 985.10	10		1049.89 to 1048.50	10
	985.10 to 987.10	20		1048.50 to 1045.75	20
	987.10 to 1045.75	25		1045.75 to 987.10	25
	1045.75 to 1048.50	20		987.10 to 985.10	20
	1048.50 to 1049.89	10		985.10 to 984.18	10

Trains handling cars containing Flammable Compressed Gas (FCG) must not exceed 55 MPH. Where maximum authorized speed is less than 55 MPH and more than 25 MPH, train must be operated at 5 MPH less than maximum authorized speed.

Trains handling cars containing Flammable Compressed Gas (FCG) on the Nogales Branch must not exceed 10 MPH at the following locations:

- Between MP 985 and MP 993
- Between MP 1002 and MP 1004
- Between MP 1010 and MP 1011
- Between MP 1041 and MP 1049.8

NOGALES BRANCH: When engines of the following classifications are operated on the Nogales Branch, they must not exceed speeds shown between mile post locations as listed below where authorized maximum speeds as shown above are greater:

Class of Engines	MP	MP
	1017.10 to 1017.35	1042.78 to 1046.37
GF 850-1	25	25

REFER TO SPEED RESTRICTIONS FOR OTHER THAN MAIN TRACKS ON PAGE 23.

RULE 7-B. Phoenix Yard: Freight trains arriving or departing must receive proceed signal (green flag by day, green light by night) or oral authorization from Yardmaster or his representative.

RULE 10-J. Speed signs to left of track:

Westward	Reading
MP 892.80	50
Eastward	Reading
MP 905.62	20

RULE 82-A. Trains authorized at Phoenix Yard or Hayden enroute Gila Subdivision with same conductor and engineer are thereby authorized on both Phoenix and Gila subdivisions.

Trains operating in ore service between Hayden and Ray Junction need not obtain clearance at Hayden.

RULE 83. At following stations only trains indicated will register:

Phoenix Yard	Trains originating or terminating.
Hayden	Trains operating via Florence.
Magma	Trains to and from Hayden Branch and trains instructed by train order. Register located in telephone booth at crossover.

RULE 93. Yard limits within which the provisions of Rule 93 will apply are established at the following points:

West MP	East MP
770.72 Wellton	782.00
(End of CTC off Gila line to Phoenix line)	(Phoenix line)
864.34 Dixie	867.10
874.22 Buckeye	877.02
888.80 Litchfield Jct.	890.60
Litchfield Jct. (Litchfield Branch)	End of track
894.23 Phoenix	916.14
Tempe (Tempe Branch)	End of track
920.45 Mesa	924.5
923.6 McQueen (Chandler Branch)	Dock 943.2
925.66 Gilbert	928.48
934.45 Germann	939.71
940.50 Queen Creek	943.02
946.84 Magma	951.02
Magma (Hayden Branch)	950.50
986.84 Ray Jct.	988.72
998.80 Hayden	1004.90

RULE 99-C. Will apply as follows:

On Hayden Branch—Between Magma and Ray Junction.

RULE 103-A. A flagman must precede all movements over:

Pipeola	Crossings within Southern Pacific Pipe Line reservation.
Phoenix	Zeb Pearce track No. 207 over Lincoln Street.
Tovrea	Washington Street.
Tempe	Fifth Street.
Tempe	University Drive (Transmission Road) on spur serving Arizona Public Service Plant. All train movements must stop before proceeding over crossing.
Tempe	Westward movements from Tempe Branch to Main Line at 13th Street must stop at stop sign located 128 feet east of 13th St. crossing and wait until crossing gates are down before proceeding.

Mesa: Spur track on south side of Main Line, South Extension Road, MP 920.98, is equipped with stop signs and key down release. It is necessary to use S. P. switch key to

operate or re-start crossing signals. Insert key in either of the key release boxes and turn slowly one complete turn to the right. For eastward movement, key release box is on instrument case on southwest side of crossing. For westward movement, key release box is on instrument case southeast side of crossing.

West Chandler	Tempe Branch Williams Field Road—MP 923.00
Litchfield	Stop signs installed and a flagman must precede all movements over Van Buren Avenue MP 891.26.

RULE 104. Normal position of rigid switches at the end of double track and at junctions, is as follows:

Litchfield Jct.	Litchfield Br., for Phoenix line
Tempe Jct.	Tempe Br., for Phoenix line
McQueen	Chandler Br., for Phoenix line
Magma	Magma-Arizona RR main track, for back track
Ray Jct.	Crossover MP 987.7 for Hayden Br.
Ray Jct.	KCCRR main track, for yard track
Hayden	KCCRR line for Hayden Br.
Hayden	SMARR main track, for Hayden Br.

RULE 104-E. Hayden Jct.: Switch point indicator now in service at MP 1001.81, ore track, will display green indication when switch is in full normal or full reverse position and will display red indication if switch is not in full normal or full reverse position. Switch target will indicate position of switch point. Trains and engines making trailing movement over this switch may leave switch in position to which forced by trailing movement.

RULE 204. Trains of Gila and Phoenix Subdivisions with same conductor and engineer may be issued train orders on one Subdivision that affect their movement on Gila or Phoenix Subdivision.

RULE 211. Letter type indicator on stub mast MP 921. Display of letter "M" authorizes eastward train to proceed on main track Mesa to receive train-orders.

RULE 221. Phoenix Yard is train-order office only for trains originating.

RULE 306. The following block signals equipped with triangular plate bearing the letter "P" have included in their control limits some special protective device. Absolute signals are listed as "P-A" or "P-SA."

Eastward Signals	Protection	Westward Signals
P-7916	High water detector, bridge 792.67	P-7927
P-8406	High water detector, bridge 841.30	P-8415
P-8414	High water detectors, bridges 842.75 and 842.86	P-8431
P-8550	High water detector, bridge 857.56	P-8589
P-9052	Spring switch, west end passenger lead, Phoenix	
P-9218	Barricade detector for Dead End Streets MP 922.8	P-9231
P-9290	High water detector, bridge 933.71	P-9351
P-9396	High water detector, bridge 941.12	P-9415
P-9756	High water detector, bridge 976.88 ... P-A, MP 977.1	

AUTOMATIC BLOCK SIGNAL SYSTEM

RULE 505. Phoenix: Crossing—AT&SFRy Wye: If signal indicates "Stop" trains and engines must stop, and if wye is clear of intersecting movement, may then proceed as prescribed by Rule 507, but must provide flag protection on intersecting track unless derail is known to be in derailing position.

Phoenix: Signal P-9052 will display indications per RULE 282 Figure D, RULE 283 Figure D, RULE 285 Figure E, RULE 288 Figure C and RULE 290 Figure F of Rules and Regulations of Transportation Department. Top unit of Signal P-9052 governs eastward movement on main track and lower unit of Signal P-9052 governs eastward movement through spring switch to Union Station tracks. Trains or engines to move from main track to passenger lead must stop before reaching Signal P-9052 until spring switch has been lined for passenger lead, and signals display proceed indication.

Phoenix: Signal protection is provided for westward movement from Passenger Station to main track and for westward movements on new freight main. Push buttons and pilot lights installed in box mounted on side of signal case 9057 with time-release feature, to clear signals on one track when the control circuit on the other track is occupied.

Refer to Rule 505. Automatic Block Signal System (push buttons) All Subdivisions.

Coolidge: Trains moving on main track in either direction between Signal 9623 and Signal 9616 will move by block signal indication which will supersede the superiority of trains.

When Signal 9623 displays stop indication and letter "S" is not displayed, westward trains after stopping must obtain permission from train dispatcher before proceeding under the provisions of Rule 507 or entering the siding.

When Signal 9616 displays stop indication eastward trains after stopping must obtain permission from train dispatcher before proceeding under provisions of Rule 507 or entering the siding.

Main track or siding must not be occupied or fouled except as authorized by signal indication or the train dispatcher.

Eastward trains on siding must obtain train dispatcher's permission before fouling main track to proceed to beginning of CTC regardless of the aspect displayed in eastward absolute signal and after permission obtained from train dispatcher, Rule 513 must be complied with before fouling main track.

RULE 516. Overlap posts:

Tolleson . . . 450 feet east of Signal 8958 . . . Eastward trains
 Tolleson . . . 750 feet east of MP 895.00 . . . Westward trains
 23rd Ave. Phoenix . . . Middle of siding . . . Eastward trains
 23rd Ave. Phoenix . . . Middle of siding . . . Westward trains

RULE 535. SPRING SWITCHES

Spring switches equipped with facing point locks are located as follows:

Location	Normal Position
Phoenix . . . Main track at passenger lead.	
Hayden . . . 700 feet west of KCC gate. Main track derail	
*Hayden . . . MP 1001.81	Ore track

*Equipped with switch point indicator.

RULE 705. LETTER TYPE INDICATORS

Indicator located as follows:

Illum. On Letter Signal	Approaching	Authorizes and Requires Movement as follows:
S 9623 . . .	East switch Coolidge . . .	Enter siding and remain in siding until authorized by timetable or train order authority to proceed.

HOT BOX DETECTORS

Illum. On Letter Signal	Approaching	Location of Readout
W 9512	Coolidge	
H 9513	Magma	MP 949.6 Magma
H MP 954.6	Coolidge	MP 960.3 Coolidge
W 9591	Magma	

SCANNER SITES

MP	Type	Direction	Location
856.5	C	East and West . . .	Gillespie-Arlington
953.0	A	East and West . . .	Magma-Coolidge

Refer to Rule 705, All Subdivisions.

ABSOLUTE-PERMISSIVE BLOCK

RULE 740. Hayden-Ray Jct.: Limits extend between absolute signal MP 988.7 and absolute signal MP 998.9. Distant signal D-9882 installed MP 988.3 just east of Ray Jct.

Unit for display of flashing white light governing westward movements installed on mast at MP 999.2 and when displayed authorizes westward movement to beginning of APB.

CENTRALIZED TRAFFIC CONTROL

RULE 760. Limits extend from eastward absolute signal east of east switch of siding, Coolidge, to westward absolute signals east of east switch of crossover to Phoenix line and at fouling point of north siding Picacho.

GENERAL REGULATIONS

RULE 821. Hayden Branch: Eastward trains must approach stop sign at MP 984.66 and westward trains must approach stop sign at MP 984.80 prepared to stop until it can be ascertained that Wooley Wash track is safe for passage of trains.

During and after heavy rains and run-off when there are indications that gravel or debris may be found on Wooley Wash track, trains must stop at these stop signs and not proceed until it has been ascertained that track is safe for the passage of trains.

Maximum speed across Wooley Wash must not exceed 10 MPH.

High water detector at MP 972.09, Hayden Branch, equipped with revolving red light. Trains must approach structure at MP 972.09 prepared to stop until it is ascertained that structure is safe for passage of trains. Train crew must then notify train dispatcher so that Maintenance of Way personnel can be contacted to re-set high water detector and inspect structure at MP 972.09.

RULE 827. Trains handling cars containing Flammable Compressed Gas (FCG) will stop and inspection will be given entire train from both sides at the following locations:

Eastward	Fowler
Westward	Baseline Road east of McQueen

to determine that there is no obvious leakage of Flammable Compressed Gas (FCG) and that there is no other unsafe condition of equipment before proceeding.

Dragging and/or derailed equipment detectors and indicators installed at the following locations:

MP	Location
*775.50	Between Wellton and Roll
808.90	Between Kofa and Horn
880.00	Between Buckeye and Litchfield Jct.
899.00	Between Fowler and Pipeola
911.00	At Kendall
954.00	Between Magma and Coolidge
970.30	Between Florence and Ray Jct.
975.20	Between Florence and Ray Jct.
976.80	Between Picacho and Coolidge
979.75	Between Florence and Ray Jct.

*The above dragging equipment detector has been equipped with time out device which will extinguish revolving red light after ten (10) minutes time has elapsed.

Refer to Rule 827, All Subdivisions.

SPECIAL INSTRUCTIONS—PHOENIX SUBDIVISION

AIR BRAKE RULES

RULE 22. Phoenix: Trainmen must not couple air hose on outgoing trains at Phoenix until train is made up and caboose and road engine are on train. Coupling caboose and road engine to train will be considered as an indication that the train is made up and switchmen have completed their work. Switchmen must not perform switching on or couple other cars to a train on which the caboose and road engine have been attached without instructions from the yardmaster who will see to it that members of the train crew are notified in advance. After train is so made up switchmen must not place cars or engines behind or ahead of train in the same track.

MISCELLANEOUS

1. **Phoenix Yard:** All cars 65 ft. or longer must be chained, not coupled, thru 27-degree curves on 3rd St. River track between Grant Street and Buckeye Road. 85 ft. T.O.F.C. flats must be chained from Grant Street to spot and return.
2. **Litchfield:** Gate at entrance Goodyear Aircraft spur is locked with Government lock, and to gain entrance a long and short sound of whistle will be notification to watchman on duty to take care of the opening and closing of the gate.
3. **Normal Jct.:** Switch serving Smitty's Big Town MP 917.46 has impaired clearance account side wall on underpass will not permit trainmen to throw switch with ease. Trainmen must use caution and throw switch with care.
4. **Hayden:** Weigh-in-motion scale located on Kennecott Copper Company tracks west of ore bins on lead track to ore dump. Scales are equipped with three (3) bi-directional traffic light signals equipped to display three (3) aspects. Traffic light signals govern ore train speeds as follows: Signals will light when engine passes over sensor located beyond first signal in direction of travel. Train must not exceed four (4) MPH until last car has passed over scale. Four (4) MPH or under, signals will display green aspect, yellow aspect when approaching overspeed and red aspect for overspeed. When yellow or red aspect appear on signals, speed must be reduced accordingly. If speed is reduced accordingly and signals continue to show red aspect, Chief Dispatcher's office must be notified of conditions as soon as possible.

Kennecott Copper Corporation Railroad between Hayden and Hayden Smelters is operated by the Tucson Division, is within Hayden yard limits, S.P. Rules apply.

Kennecott Copper Company has installed three signal lights at the entrance to the main line, that portion in front of KCC smelter. Lights are located at the three entrances, which are as follows:

1. Hayden Junction.
 2. The lower track from ASARCO.
 3. The upper track from ASARCO.
- Signal indications are: Yellow Proceed with Caution.
Red . . . Stop.

When signal system displays a red indication, SP crews will try to locate KCC switch engine on or around main track in front of the smelter. If KCC switch crews cannot be seen working in the vicinity of the smelter, then call the Agent at Hayden, who will report the red signal to the KCC guard shack at the main entrance. When light remains red and Agent has been notified, or crew cannot reach Agent at Hayden, SP may go by red signal preceded by flagman to the point where SP leaves the main track in front of KCC smelter.

Main track in front of KCC smelter shall be that portion from the derail to the ASARCO upper track; also from the derail to ASARCO lower track, also known as the entrance to the bullion hole.

Back-up hose must be used when shoving cars Hayden to Hayden Smelters.

Maximum speed permitted between Hayden and Hayden Smelters is 15 MPH. Grade is 2.2% descending Hayden Smelters to Hayden.

Impaired overhead and side clearances, AS&R tracks.
Impaired overhead and side clearances at Hayden Smelters.

5. Engines listed must not operate on tracks shown below:

Class of Engine	Restricted Track
All engines...Hayden	On trestles to old ore bins and over scales, AS&R tracks.
All engines...Hayden	Beyond east derail located east of switches of sidings of San Manuel Arizona Railroad.

Class of Engine	Restricted Track
EF 630-1 } ...Normal Jct. . . .	Spur serving Smitty's Big Town
EF 850B }	MP 917.46.
All engines...Cashion	Beyond clear point spur serving R and R leasing.

6. LOAD LIMIT (car and contents):

Wellton-Picacho, except:	263,000 pounds
Gross weight of 263,000 pounds or less applies to uniformly loaded four-axle cars having trucks spaced 23 feet 0 inches or more center to center and minimum axle spacing of 5 feet 6 inches.	
Gross weight uniformly loaded four-axle cars with minimum axle spacing of 6 ft. 0 in. and minimum distance 37 ft. 0 in. center to center of trucks; also, wheels 38 in. or more in diameter	
Ore cars SP 341000 to 341335 and ATSF 64000 to 64099	315,000 pounds
Litchfield Jct.-Litchfield Park	281,000 pounds
Tempe Jct.-West Chandler	240,000 pounds
McQueen-Dock	240,000 pounds
Magma-Hayden, except:	263,000 pounds
Cars having truck centers 30 ft. 0 in. or less	240,000 pounds
Ore cars KCCRR between Ray Jct. and Hayden, MP 1002.4	266,000 pounds
Ore cars SP 341000 to 341335 and ATSF 64000 to 64099 between Magma and Hayden, MP 1002.4	281,000 pounds
Unless authorized by Superintendent, heavier loads must not be handled.	

7. LOCATION OF OVERHEAD AND SIDE STRUCTURES NOT STANDARD CLEARANCE ON MAIN TRACK AND SIDINGS

Mile Post	Location	Description
778.00	Gila River bridge	Side
891.00	Agua Fria River bridge	Side
914.00	Salt River bridge	Side
959.30	Gila River bridge	Side
971.30	Hayden Branch	
to		
971.77	Rock cuts	Side
972.40	Tunnel No. 1	Side and overhead
972.50	Gila River bridge	Side
973.00	Rock cut	Side
973.04	Rock cut	Side
973.07	Rock cut	Side
976.00		
to		
977.00	Rock cuts	Side
980.00		
to		
982.00	Rock cuts	Side
983.50	Rock cut	Side
985.30	Gila River bridge	Side
985.50	Rock cut	Side
988.30	Rock cut	Side
988.50	Tunnel No. 2	Side and overhead
990.00	Tunnel No. 3	Side and overhead
992.30	Rock cut	Side
1003.4	Gypsum Docks (Winkelman)	Side and overhead

8. SPEED RESTRICTIONS FOR OTHER THAN MAIN TRACKS

	With caution Not exceeding MPH
Through sidings, yard and other tracks, wyes, balloon tracks, crossovers and turnouts	10
On branches	10
Tempe, old Creamery Branch spur	10

SPMW 7140 must not be operated east of MP 972.37, Hayden Branch.

9. Back Up Movements

Grades in excess of 1.0 percent.
Eastbound—MP 841 to MP 849.4
Hayden to AS&R or KCC Smelters.
Refer to ALL SUBDIVISIONS, Page 17, 5—OTHER INSTRUCTIONS, R. Back Up Movements.

SPECIAL INSTRUCTIONS—LORDSBURG SUBDIVISION

RULES 7-A, 10-G, 10-H and 10-I. Red **CONDITIONAL STOP** signs, yellow **PROCEED PREPARED TO STOP** signs, yellow flags, red flags and red lights must be placed to left of track in direction of approach on No. 1 Track and No. 2 Track between P.F.E. Yard, MP 987.76 and 1000.22 west of Vail.

RULE 7-B. PFE Yard: Freight trains arriving or departing PFE Yard must receive proceed signal (green flag by day, green light by night) or oral authorization from yardmaster or his representative.

RULE 10-J. Speed signs to left of track:

Eastward	Reading	Westward	Reading
MP 987.75	55	MP 989.75	35
MP 990.25	70-60	MP 990.25	Diverging Route 15
MP 1247.3	50		
		MP 992.25	50

RULES 30 and 31. Curtiss: Whistle signal must be sounded and bell kept ringing approaching and over all crossings Apache Powder Co. tracks.

RULE 81. Globe Branch: No. 2 track Globe Yard will be used as main track.

RULE 82-A. Crews ordered for trains at El Paso (Union Depot) will obtain clearance and train orders, if any, from pneumatic tube receptacle installed in Trainmen's Register Room, El Paso Union Depot.

When interlocking signal Tower 47 displays proceed indication for movement to eastward main track, such indication will authorize engines to move from Tower 47 to Alfalfa unit, El Paso Yard.

RULE 83-A. At following stations only trains indicated will register:

- Tucson..... } Trains originating or terminating.
 - P.F.E. Yard..... }
 - Benson..... } Trains to and from Douglas Branch.
- Train register is located in box affixed to pole approximately 300 feet east of San Pedro Street crossing, between House tracks Nos. 1 and 2.

RULE 83-B. At open train order offices, trains may register by ticket as follows:

El Paso (Tower 196), Trains originating or terminating Alfalfa or Cotton Avenue units.

Trains originating or terminating El Paso (Union Depot) will register by ticket, placing ticket in pneumatic tube receptacle located in Trainmen's Register Room.

Conductors of trains originating Alfalfa or Cotton Avenue units, El Paso Yard, must show on margin of train register ticket thrown off at Tower 196 time watch was compared with standard clock, and operator at Tower 196 will enter this information on train register.

RULE 93. Yard limits within which the provisions of Rule 93 will apply except within CTC Limits are established at the following points:

West MP		East MP
977.96	Tucson (No. 2 Track)	993.00
	Tucson (No. 1 Track)	992.09
	Benson (Douglas Br.)	1034.00
1058.30	Lewis Springs	Ft. Huachuca-End of Track
1084.27	Bisbee Jct.	1085.78
	Bisbee Jct. (Don Luis Branch)	End of track
	Bisbee Jct. (Bisbee Branch)	End of track
1102.94	Douglas	1109.06
	Bowie (Globe Br.)	1099.50
1218.70	Globe-Miami	1232.98
1146.60	Lordsburg	1149.77
	Lordsburg (Clifton Br.)	1148.52
1319.87	El Paso (No. 2 Track)	
1291.54	El Paso (No. 1 Track)	
	El Paso (Carrizozo Subdivision)	1300.54
	El Paso (T&L tracks)	820.00

El Paso: First-class trains enter and leave El Paso Union Depot on yard track within interlocking limits of Tower 196.

Semi-automatic signal on No. 2 Track west of Icehouse crossover will display yellow aspect when switch to crossover from No. 2 Track to T&L Lines is lined and Signal 8314 at east end of crossover displays Stop indication.

RULE D-97. Will apply as follows:

On No. 1 track and on No. 2 track between P.F.E. Yard and Mescal. Proceed indication in westward "SA" signals at west end Mescal will authorize movement on No. 1 track.

Between Anapra and Tower 47.

RULE 99-C. Will apply as follows:

On Douglas, Globe and Clifton Branches.

RULE 103-A. A flagman must precede all movements over:

Miami..... Crossing over U.S. Highway 60-70 at MP 1232.61 near end of Globe Branch.

Bowie..... STOP SIGN on east and west side of road crossing north side of station track. Trains and engines must stop and not enter crossing until it is known that automatic crossing gates are down.

Clifton..... Crossing at MP 1216.2 is equipped with Stop Signs and Crossing Signals 12162 and 12162A are equipped with unit for display of flashing white lights.

Display of flashing white lights indicates gates are down. Trains or engines approaching must not enter crossing until flashing white lights are displayed or it is known Crossing Signals are actuated and gates are down.

It is necessary to use S.P. switch key to operate or restart Crossing Signals. Insert switch key in either of the KEY RELEASE boxes and turn SLOWLY one complete turn to the right. For EASTWARD movement key release box is on post located on NORTH side of track. For WESTWARD movement key release box is on case on SOUTH side of track.

Deming..... Sage spur crossing Highway 80.

RULE 104. Derails in main track:

Ft. Huachuca . 378 feet west of west wye track switch.

Lewis Springs. On Ft. Huachuca Br., 237 feet east of junction switch.

Galena..... West end Interchange Track for Interchange Track.

Globe..... at MP 1221.50

Miami..... MP 1231.63

Mescal: Derails installed 235 feet east of west switch and 350 feet west of east switch. Before siding is used train dispatcher's permission must be obtained, derail lined by hand, then train dispatcher can clear eastward or westward signal to enter siding.

The normal position of rigid switches at end of double track and junctions is as follows:

- Lewis Springs. Ft. Huachuca Br., for Douglas line.
- Bisbee Jct. Main track switches at east and west ends of yard must be left lined for main track.
- Bisbee Jct. Bisbee Br., for Douglas line.
- Bisbee Jct. End of west leg of wye must be left lined for west leg of wye.
- Corta..... Bisbee Br., for Bisbee Branch.
- Douglas..... FCP RR, for SP yard track.

SPECIAL INSTRUCTIONS—LORDSBURG SUBDIVISION

RULE D-151. Westward trains will use No. 1 track Mescal to P.F.E. Yard. Eastward trains will use No. 2 track P.F.E. Yard to Mescal. Double track rules apply.

Between Anapra and Icehouse Crossover MP 1320.90, the two main tracks are designated as follows—

- No. 1 Track, current of traffic westward.
- No. 2 Track, current of traffic eastward.

Between Icehouse Crossover, MP 1320.90, and El Paso (Union Depot), three main tracks are designated as follows:

- North Track . . . No. 1 Track, current of traffic westward;
- Middle Track . . . No. 2 Track, current of traffic eastward;
- South Track . . . No. 3 Track, current of traffic eastward.

Between El Paso (Union Depot) and El Paso (Cotton Avenue), the two main tracks are designated as follows:

- No. 1 Track, current of traffic westward.
- No. 2 Track, current of traffic eastward.

Eastward trains may use No. 2 Track or No. 3 Track between Icehouse Crossover and El Paso (Union Depot), being governed by block signal indication.

RULE 221. Tucson, P.F.E. Yard, Bowie, Lordsburg and Deming are train-order offices only for trains originating except:

No. 1 and No. 2 must obtain clearance OK'd by Chief Train Dispatcher at Lordsburg.

RULE D-251. Will apply as follows:

On No. 2 track from MP 987.76, P.F.E. Yard, to beginning of CTC, MP 1023, west end Mescal.

On No. 1 track from end of CTC, MP 1023, west end Mescal, to P.F.E. Yard, MP 987.76.

On No. 1 and No. 2 Tracks between Anapra and Icehouse Crossover; on No. 1, No. 2 and No. 3 Tracks between Icehouse Crossover and El Paso (Union Depot); on No. 1 and No. 2 Tracks between El Paso (Union Depot) and El Paso (Cotton Avenue); on both main tracks between Tower 47 and Alfalfa unit, El Paso Yard.

RULE 306. The following block signals equipped with triangular plate bearing the letter "P" have included in their control limits some special protective device. Interlocking signals are listed as "P-I," Absolute signals are listed as "P-A" or "P-SA."

Eastward Signals	Protection	Westward Signals
P-I Westward Main Track Tucson	Spring switch, west end of crossover, westward main track to eastward main track, Cherry Avenue.	
P-I Eastward Main Track Tucson		
P-I Nogales Lead Tucson	Spring switch, west end of crossover from eastward main track to Nogales lead, Cherry Avenue.	
	Spring switch, west end of west lead, Cherry Avenue.	
	Spring switch, east end of double track, Cherry Ave.	P-SA East end double track, Cherry Ave.
	Spring switch east end of crossover from westward main track to eastward main track Cherry Avenue.	P-SA West lead P-SA East lead
	* East end of crossover from eastward main track to east lead.	P-SA East lead
P-SA	Spring switch, end double track, PFE Yard, MP 987.7.	
P-10140	Collision detector, underpass, MP 1014.00.	
P-A	Spring switch, west end north siding Mescal	
P-A	Collision detector, Luzena underpass, MP 1091.04.	P-A

Eastward Signals	Protection	Westward Signals
P-10572	High water detector, Bridge 1057.85.	P-10601
P-10600	High water detector, Culvert 1060.54.	P-10625
P-10862	High water detector, Bridge 1086.93.	P-10883
P-A, West end Olga	High water detector, Bridge 1106.32, main track and siding	P-A, East end Olga
P-A East end San Simon		
P-11202	High water detectors, Bridges 1121.40 and 1121.49.	P-A West end Vanar
P-A, East end Vanar	High water detector, Bridge 1123.30.	P-11243
P-11650	High water detector, Bridge 1166.20.	P-A West end Separ
P-11694	High water detector, Bridge 1170.64.	P-11721
	High water detector, Bridge 1170.76.	
P-A East end Tunis	High water detector, Bridge 1199.02.	P-12005
P-12112	High water detector, Bridge 1211.92.	P-12131
	High water detector, Bridge 1212.92.	
P-12132	High water detector, Bridge 1213.17.	P-12151
	High water detector, Bridge 1213.58.	
P-12152	High water detector, Bridge 1215.96.	P-12173
	High water detector, Bridge 1216.11.	
P-12172	High water detector, Bridge 1218.11.	P-A West end Carne
P-A West end Carne	High water detector, Bridge 1219.02.	P-A East end Carne
P-12314	High water detector, Bridge 1233.56.	P-12337
P-12430	High water detector, Culvert 1244.68.	P-12455
P-13198	Fire protection Rio Grande bridge.	

AUTOMATIC BLOCK SIGNAL SYSTEM

RULE 505. Tucson: Trains moving on main track in either direction will move between MP 987.7 at 36th St. and MP 985.48 at Cherry Ave. by block signals whose indications will supersede the superiority of trains.

Lordsburg: Trains moving on main track, in either direction, will move between end of CTC, at west switch yard track No. 1, and end of CTC, at east switch yard track No. 1, by block signals whose indications will supersede the superiority of trains.

RULE 535. SPRING SWITCHES

Spring switches equipped with facing point locks are located as follows:

Location	Normal Position
PFE Yard . . . End double track, MP 985.48.	Westward track
PFE Yard . . . End double track, MP 987.7.	No. 2 track
*Wilmoth East end, Eastward siding.	No. 2 track

*Equipped with switch-point indicator.

Spring switches not equipped with facing point locks are located as follows:

Location	Protection	Normal Pos.
Tucson . . . Spring switch, west end of crossover, westward main track to eastward main track, Cherry Avenue.		Westward Main Track
Tucson . . . Spring switch, west end of crossover from eastward main track to Nogales lead, Cherry Avenue.		Eastward Main Track
Tucson . . . Spring switch, west end of west lead, Cherry Avenue.		East Lead
Tucson . . . Spring switch, east end of double track, Cherry Avenue.		Main Track
Tucson . . . Spring switch, east end of crossover from westward main track to eastward main track, Cherry Avenue.		Crossover
Tucson . . . East end of crossover from eastward main track to east lead.		East Lead
Mescal. . . West end, north siding.		No. 1 track

SPECIAL INSTRUCTIONS—LORDSBURG SUBDIVISION

INTERLOCKING

RULE 605. Tucson: Limits extend on westward main track from eastward interlocking signal MP 985.15 to westward interlocking signal end of double track MP 985.50. On eastward main track from eastward interlocking signal MP 985.15 to westward interlocking signal end of double track MP 985.50, and from eastward interlocking signal MP 985.2 on Nogales lead to westward interlocking signal MP 985.37 and to westward interlocking signal on west lead MP 985.36.

Signals are under the control of Operator at Yard Office, 22nd Street.

RULE 663(b). Operators at Yard Office, 22nd Street, Tucson, may authorize movements under provisions of this rule after it has been ascertained indication lights on control panel are illuminated indicating dual control switches are in proper position and locked for movement without requiring dual control switches to be placed in hand position as required by Rule 772.

When indication lights on control panel are not illuminated movements may be authorized under provisions of this rule; however, before making movement over dual control switches, such switches must be placed in hand position in accordance with Rule 772 and locked until movement over switch has been completed. When movement has been completed, switch must be returned to normal position and selector lever restored to motor position and locked.

RULE 705. LETTER TYPE INDICATORS

Indicators located as follows:

Illum. Letter	On Signal	Approach- ing	Authorizes and Requires Movement as Follows
S	12060	Deming	Train to enter station track at west switch, MP 1207.2.

HOT BOX DETECTORS

Illum. Letter	On Signal	Approaching	Location of Readout
H	10147	Marsh	MP 1012.4 Marsh
W	10179	Marsh	
H	10669	Cochise	Westward Absolute Signal W.E. Cochise
W	10692	Willcox	
H	10712	Willcox	Eastward Absolute Signal MP 1074.3 Willcox
W	10713	Cochise	
H	Westward Absolute Signal MP 1099.6	Bowie	Westward Absolute Signal W.E. Bowie
W	11014	Olga	
W	11039	Bowie	
H	Eastward Absolute Signal W.E. Olga	Olga	Eastward Absolute Signal E.E. Olga
H	12215	Carne	Westward Absolute Signal W.E. Carne
W	12234	Akela	
W	12251	Carne	
H	12268	Akela	Eastward Absolute Signal E.E. Akela

SCANNER SITES

MP	Type	Direction	Location
991.5	D	West	*Wilmot
1016.4	A	West	Marsh-Mescal
1038.1	C	East and West	Fenner-Sibyl
1069.3	A	East and West	Cochise-Willcox
1102.6	A	East and West	Bowie-Olga
1126.2	C	East and West	Vanar
1152.0	C	East and West	Ulmorris
1181.2	C	East and West	Wilna-Gage
1224.2	A	East and West	Carne-Akela
1252.0	C	East and West	Aden-Afton
1289.3	D	East	**Lizard-Anapra
1289.3	C	East and West	Lizard-Anapra

*Readout at Tucson Yard.

**Readout at El Paso Yard.

Refer to Rule 705, All Subdivisions.

CENTRALIZED TRAFFIC CONTROL

RULE 760. P.F.E. Yard: Limits extend from MP 987.7 to East end P.F.E. Yard, MP 987.92.

Mescal-Anapra: Limits extend from west switches of controlled siding Mescal, MP 1023.00, to west switch of No. 1 yard track, Lordsburg, MP 1146.6; and from fouling point at east end No. 1 yard track, Lordsburg, MP 1149.77, to clear point on North main line at Anapra, MP 1290.

Deming: Portion of old siding west of MP 1208.17 is a station track, capacity 5000 feet. This track must be kept clear of cars and may be used for meeting or passing trains when directed by train dispatcher. Permission must be obtained from train dispatcher before using this track for switching movements.

GENERAL REGULATIONS

RULE 825. Instructions for setting hand brakes:

Tucson: Passenger trains—To prevent uncontrolled movement, rail skid must be placed under west end of train and a sufficient number of hand brakes must be applied, but not less than two hand brakes on west end and two hand brakes on east end, unless outbound crew takes charge and engine remains attached.

TUCSON AND PFE YARD:

- *Freight trains, 1 to 10 cars . . . All hand brakes.
- *Freight trains, 11 to 20 cars . . . Ten hand brakes west end.
- *Freight trains, 21 to 49 cars . . . Ten hand brakes west end, Five hand brakes east end.
- *Freight trains, 50 cars or more . 15 hand brakes west end, 10 hand brakes east end.

*Hand brakes will not be set if outgoing crew takes charge of train on arrival, and inbound crew is advised by yardmaster that engine is not to be detached and no switching is to be performed on the train. Hand brakes will not be set if switch crew takes charge of train on arrival.

*Hand brakes on outbound trains must not be released until engine is coupled to train, air test completed, and blue flag removed.

Portable rail skids are hung on posts at the following locations:

- Mescal Both ends of siding.
- Dragoon Ore Spur.
- Corta West end of siding.

Deming: Portable rail skids are hung on post at west end of Murray Lane. Trains setting out cars containing flammable compressed gas (FCG) must secure car with hand brake and rail skids.

Refer to Rule 825 All Subdivisions.

RULE 827. Trains handling cars containing Flammable Compressed Gas (FCG) will stop and inspection will be given to entire train from both sides at the following locations:

- Eastward Lizard
- Westward Wilmot

to determine that there is no obvious leakage of Flammable Compressed Gas (FCG) and that there is no other unsafe condition of equipment before proceeding.

Dragging and /or derailed equipment detectors and indicators installed at the following locations:

MP	Location
991.5 (No. 2 Track)	Between 36th St., Tucson and Wilmot
998.8 (No. 1 Track)	Between Wilmot and Vail
1013.0	Marsh
1017.5 (No. 2 Track)	Pantano and Mescal
1025.9	Between Mescal and Chamiso
1059.3	Between Dragoon and Cochise
1086.1	Between Raso and Luzena
1118.0	Between San Simon and Vanar
1136.9	Between Mondel and Gary
1183.4	Between Wilma and Gage
1192.2	Between Gage and Tunis
1202.3	Between Tunis and Deming
1213.1	Between Deming and Carne
1233.5	Between Dona and Akela
1243.0	Between Dona and Aden
1255.1	Between Aden and Afton

MP	Location
1264.0	Between Afton and Lanark
1273.0	Between Lanark and Strauss
1288.7	Between Lizard and Anapra
1288.9	Anapra

Refer to Rule 827, All Subdivisions.

Lordsburg: Inbound rolling inspection of all freight trains will be made by the outbound crew.

AIR BRAKE RULES

RULE 17. Retaining valves must be used on freight and mixed trains on descending grades as follows:

Pinal to Burch, Pinal to Cutter, between Clifton and Guthrie, Galena to Corta, Don Luis Branch, Bisbee to Bisbee Jct., Ft. Huachuca to Lewis Springs.

Without dynamic brake in operation: One retaining valve for each 80 tons in train. If gross tonnage exceeds 80 tons per operative brake, retaining valves must be used on all cars and speed must not exceed 15 MPH.

With dynamic brake in operation:

PERMISSIBLE TONS PER UNIT WITHOUT RETAINING VALVES*

	Basic Dynamic Brake		Extended Range Dynamic Brake		
	4 Axle	6 Axle	4 Axle	6 Axle	8 Axle
With dynamic brake in operation but without pressure maintaining system of braking.....	600	900	725	1075	1450
With dynamic brake in operation and with pressure maintaining system of braking.....	1500	2250	1800	2700	3600

If permissible tonnage is exceeded, one retaining valve must be used for each 150 tons in excess thereof.

*If any unit having basic dynamic brake is operated with units having extending range dynamic brake, all units in consist must use tonnage authorized for units having basic dynamic brake.

Locomotive classes AS628, AS630, EF425, EF623, EF625, EF630, EF636, GF425 (except units 6700-6727), GF628, GF630, GF633, EF850B and GF850 are equipped with extended range dynamic brake.

RULE 24. Will apply at Tucson and El Paso.

RULE 24-B: Lordsburg: Incoming engineer, after completing stop, must make a full service brake application leaving brakes applied. When outgoing crew takes charge of train on arrival or otherwise is assured, upon request, that continuity of brake pipe has not been disturbed, engineer will release brakes and proceed.

RULE 24-E. Will apply at Tucson.

RULE 24-F. Will apply as follows:

Bisbee Branch, Don Luis Branch, Fort Huachuca Branch, on all tracks at Curtiss Powder Plant, Paul's Spur at Forrest and on unloading trestle at P.D. Smelter at Calumet.

Tucson: When making movements either direction between PFE Yard and areas outside PFE Yard but within yard limits. Responsibility to know that above has been done rests upon yard engineer and yard foreman. Carman on duty at Tucson PFE Yard will couple air hose and make test as prescribed by Air Brake Rule 24-F.

RULE 25. Will apply as follows:

Fort Huachuca..... Westward trains.

AIR BRAKE RULE 26. Before descending grades specified below with a freight train when the temperature is 32° F. above zero or less, and at other times that may be designated by the proper authority, the brake pipe hose must be blown out on the head end of train in the manner prescribed in last paragraph of Air Brake Rule 26:

South Siding	East and West
Bisbee	West
Ft. Huachuca-Garden Canon.....	West

RULE 33. Pinal to Burch, Pinal to Cutter, between South Siding and Guthrie, South Siding and Clifton, Don Luis Branch, Bisbee to Bisbee Jct. and Ft. Huachuca to Lewis Springs:

Maximum tonnage per operative brake..... 80 tons except with dynamic brake and pressure maintaining system of braking in operation with not more than 15 cars for each four axles of dynamic brake; with speed not exceeding 15 MPH and with all retaining valves on loaded cars in high pressure position... 140½ tons

Should dynamic brake failure occur while handling in excess of 80 tons per operative brake train may proceed at speed not exceeding 15 MPH if in judgment of conductor and engineer it is safe to do so, and provided retaining valves are used as prescribed by Air Brake Rule 17.

Restrictive grades are as follows:

WESTWARD STATION MP	TO	STATION MP	SPEED
Fairbank	to	Benson	
1046.4	to	1032.7	25
Ft. Huachuca	to	Lewis Springs	
1070.8	to	1058.8	20
Miami	to	Bowie	
Globe	to	San Carlos	
1217.52	to	1213.5	20

MISCELLANEOUS

1. Engines listed must not operate on tracks shown below:

Class of Engine	Restricted Tracks
All engines except ES406-1, AS409-4, AS410-1, only.....	Calumet..... Trestle to ore bins at Smelter.
All engines.....	Don Luis..... White Tail Deer spur, beyond impaired clearance sign.
All engines.....	Lowell..... Trestle 1091.38 on approach to ore bin, Shattuck Denn mine.
AS600 series	
FP600 series	
EF600 series	
ES600 series	
GF600 series	
EP600 series	
EF850-B	
GF850.....	Clifton Branch.. Must not be operated east of Fox.

2. P.F.E. Yard: Look out for ice and material alongside PFE Co. tracks.

SPECIAL INSTRUCTIONS—LORDSBURG SUBDIVISION

3. Douglas Branch: Crook Tunnel (MP 1089) look out for fallen rocks at east and west ends of tunnel.

4. Bisbee Branch: Campbell shaft track and Denn spur track at Lowell must not be used beyond points indicated by signs: "Limit of Southern Pacific switching operations."

5. Calumet: On Phelps-Dodge track No. 5 in smelter plant at Calumet the "Impaired Clearance" sign located in advance of trackage operated by Phelps-Dodge electric locomotives refers to side clearance of signal lights and 400 volt electric trolley overhead wire.

Before entering this area crews must stop at Phelps Dodge scale house and receive assurance from scale house foreman that electric power is off. In addition it must be known that cars and engines will clear.

Switching service on Phelps-Dodge track No. 5 must be done during daylight hours only.

6. Willcox: Do not leave cars spotted on house track or Standard Oil spur within 600 feet east of west house track switch.

7. Lordsburg: Through freight trains arriving Lordsburg will stop for crew change before blocking crossing east of depot. Trains doing switching will avoid blocking this crossing except when absolutely necessary.

8. Deming: Ruby Street crossing must not be blocked other than for trains moving over crossing.

9. LOAD LIMIT (car and contents):

Tucson-El Paso, except.....263,000 pounds

Gross weight of 263,000 pounds or less applies to uniformly loaded four-axle cars having trucks spaced 23 feet 0 inches or more center to center and minimum axle spacing of 5 feet 6 inches.

Gross weight uniformly loaded four-axle cars with minimum axle spacing of 6 ft. 0 in. and minimum distance of 37 feet, 0 inches center to center of trucks; also, wheels 38 in. or more in diameter.....315,000 pounds

Ore cars SP 333500 to 334399.....281,000 pounds

Ore cars SP 341000 to 341335 and

ATSF 64000 to 64099.....281,000 pounds

Sulphuric acid tank cars.....281,000 pounds

Hopper cars SP 464000 series.....281,000 pounds

Bowie-Miami, except.....281,000 pounds

Air dump cars SPMW 6400-6439.....263,000 pounds

Lordsburg-Clifton

Cars having truck centers 30 ft. 0 in. or more.....281,000 pounds

Cars having truck centers less than 30 ft. 0 in.240,000 pounds

Air dump cars SPMW 6400-6439.....263,000 pounds

Benson-Douglas

Cars having truck centers 30 ft. 0 in. or more.....281,000 pounds

Cars having truck centers less than 30 ft. 0 in.240,000 pounds

Hopper cars SP 464000 series.....281,000 pounds

Ore cars SP 467500 to 467549 between

Bisbee Jct. and Douglas.....281,000 pounds

Lewis Springs-Ft. Huachuca.....240,000 pounds

Corta-Galena, except:.....240,000 pounds

Ore cars SP 467500-467549.....281,000 pounds

Bisbee Jct.-Bisbee, except:.....240,000 pounds

Ore cars SP 467500-467549.....281,000 pounds

10. LOCATION OF OVERHEAD AND SIDE STRUCTURES NOT STANDARD CLEARANCE ON MAIN TRACK AND SIDINGS

MP	Location	Description
1032.50	Benson... San Pedro River bridge.....	Side
1148.1	Lordsburg Ore loading ramp.....	Overhead and Side
1148.30	Lordsburg East end No. 4 track.....	Side
1209.00	Deming... Stock corral track.....	Side

Clifton Branch

1205.10	..... Gila River bridge.....	Overhead and Side
1215.89	Clifton... San Francisco River bridge.....	Overhead and Side

Douglas Branch

1089.00	Crook Tunnel.....	Overhead and Side
---------	-------------------	-------------------

Ft. Huachuca Branch

1059.00	Lewis Springs.. Bridge over San Pedro River.....	Overhead and Side
1070.80	Ft. Huachuca.. Within Military Reserve.....	Overhead and Side

Don Luis Branch

1089.80	Don Luis..... Ore loading ramp on White Tail Deer spur.....	Side
1090.80	Galena..... Dallas Shaft spur.....	Side

11. SPEED RESTRICTIONS FOR OTHER THAN MAIN TRACKS With Caution Not Exceeding MPH

Centralized Traffic Controlled sidings and turnouts, except:.....	25
Sage: Lead track from controlled siding to and including Industry Tracks.....	10
Through siding Mescal.....	15
Through siding Lordsburg.....	25
Through other sidings, and turnouts, except:..	15
Over slip switches turnout side.....	10
Over slip switches straight side.....	15
Through yard and other tracks, wyes, balloon tracks, crossovers, except:.....	15
On branches.....	10
San Simon Indy. Spur.....	5
P.F.E. Yard, including P.F.E. Co., yard tracks Nos. 51 to 57 inclusive.....	10
On Government tracks at Wilmot Airport....	10
North house track at Benson.....	15
South house track at Benson.....	5
On all tracks and turnouts serving lettuce packing sheds, Willcox.....	5
Through West Turnout Icehouse Crossover...	30
Through East Turnout Icehouse Crossover...	30
On all tracks in Fort Huachuca.....	15
On wye tracks at Lewis Springs, Bisbee Jct., Douglas.....	10
On all turnouts listed below:	
Benson..... Wye track.....	10
Curtiss..... Magazine spur.....	10
Lowell..... Denn Lumber spur.....	10
Dragoon East Siding, crossover through East Switch.....	10

12. Back Up Movements

Grades in excess of 1.0 percent.	
Eastbound... MP 995 to MP 998	
MP 1034 to MP 1046	
MP 1114.5 to MP 1129	
Westbound... MP 1132 to MP 1128	
MP 1066 to MP 1054	
MP 1033 to MP 1023.6	

CLIFTON BRANCH:

Eastbound... MP 1205 to MP 1211.5
Westbound... MP 1216 to MP 1211.5

BISBEE BRANCH: Bisbee Jct. to Bisbee

DON LUIS BRANCH: Corta to Calena

FORT HUACHUCA BRANCH: Lewis Springs to Ft. Huachuca

GLOBE BRANCH:

Eastbound... MP 1213 to MP 1219
MP 1227 to MP 1232.98
Westbound... MP 1227 to MP 1219

DOUGLAS BRANCH: MP 1105.5 to MP 1107.

Refer to ALL SUBDIVISIONS, Page 17, 5—OTHER INSTRUCTIONS, R. Back Up Movements.

SPECIAL INSTRUCTIONS—LORDSBURG SUBDIVISION

SPEED RESTRICTIONS FOR TRAINS: Maximum speed of trains in territory shown below is subject to further restrictions applicable to engines in the train as shown in **SPEED RESTRICTIONS FOR ENGINES**, and **MAXIMUM SPEED PERMITTED WITH CERTAIN EQUIPMENT** and **OTHER MAXIMUM SPEEDS** appearing on pages 16 and 17 of Special Instructions for All Subdivisions. Speed must be further reduced as prescribed by speed signs, except as specifically authorized by Special Instructions herein, or by timetable bulletin. All trains must run carefully during and after heavy storms, particularly when the track is apt to be affected. When fog, storms or other conditions obscure track or signals, speed of trains must be so reduced as to permit strict observance of signals and **INSURE SAFETY, REGARDLESS OF TIME.**

TERRITORY			PASSENGER TRAINS	FREIGHT AND MIXED	TERRITORY			PASSENGER TRAINS	FREIGHT AND MIXED
MP	MP	Column:	1	2	MP	MP	Column:	1	2
TUCSON EASTWARD, AGAINST CURRENT OF TRAFFIC ON NO. 1 TRACK:					EASTWARD, EL PASO COTTON AVE. TO ALFALFA UNIT, NO. 2 TRACK:				
987.75 to 988.40			35	35	1297.60 to 827.71 to 826.90			15	15
988.40 to 990.25			49	49	826.90 to 820.00			30	30
990.25 to 1021.29			59	49	WESTWARD, ALFALFA UNIT TO EL PASO COTTON AVE. NO. 1 TRACK:				
1021 to 1021.74 (Mescal) (Spring Switch)			35	35	820.00 to 826.90			30	30
EASTWARD, TUCSON TO EL PASO:					826.90 to 827.71 (1297.60)				
982.73 to 985.19			35	35	EL PASO WESTWARD, AGAINST CURRENT OF TRAFFIC ON NO. 2 TRACK:				
985.19 to 985.27			25	25	1295.40 to 1293.54 (1320.90)			25	25
985.27 to 988.40			35	35	1320.90 to 1317.70			25	25
988.40 to 990.25 (No. 2 Track)			55	55	WESTWARD, EL PASO TO TUCSON:				
990.25 to 1003.88			70	55	1297.76 to 1295.40 except			15	15
1003.88 to 1010.36			25	25	via slip switch opposite Tower 47			10	10
1010.36 to 1012.48			40	30	1295.40 to 1279.70			35	35
1012.48 to 1014.00			30	30	1279.70 to 1128.68			70	55
1014.00 to 1016.77			40	30	1128.68 to 1124.40			40	40
1016.77 to 1018.08			30	30	1124.40 to 1121.40			50	50
1018.08 to 1023.10			40	40	1121.40 to 1078.00			70	55
1023.10 to 1033.60			55	55	1078.00 to 1069.15			50	50
1033.60 to 1036.79			50	50	1069.15 to 1061.00			70	55
1036.79 to 1052.43			40	40	1061.00 to 1059.00			50	50
1052.43 to 1059.00			60	55	1059.00 to 1052.43			60	55
1059.00 to 1061.00			50	50	1052.43 to 1036.79			40	55
1061.00 to 1069.15			70	55	1036.79 to 1033.60			50	50
1069.15 to 1078.00			50	50	1033.60 to 1023.10 (1021.74) Mescal			55	55
1078.00 to 1121.40			70	55	1021.74 to 1021.29			40	40
1121.40 to 1124.40			50	50	1021.29 to 1008.40			65	50
1124.40 to 1128.68			40	40	1008.40 to 1007.45			60	50
1128.68 to 1279.70			70	55	1007.45 to 990.25			70	55
1279.70 to 1320.15 (No. 2 Track)			35	35	990.25 to 988.40			50	50
1320.15 to 1320.60 (No. 2 Track)			30	30	988.40 to 982.73			35	35
1320.60 to 1320.90 (West switch Icehouse Crossover) (No. 2 Track)			30	30	MESCAL WESTWARD, AGAINST CURRENT OF TRAFFIC ON NO. 2 TRACK:				
1320.90 to 1322.28 (No. 3 Track)			30	30	1023.08 to 1003.88			25	25
1322.28 to 1322.87 (No. 3 Track)			25	25	1003.88 to 988.40			49	49
1320.90 (1293.54) to 1295.40 (No. 2 Track)			30	30	988.40 to 987.75			35	35
1295.40 to 1297.76 except via slip switch opposite Tower 47			15	15	ANAPRA EASTWARD, AGAINST CURRENT OF TRAFFIC ON NO. 1 TRACK:				
			10	10	1289.90 to 1295.40			25	25

Trains handling cars containing Flammable Compressed Gas (FCG) must not exceed 55 MPH. Where maximum authorized speed is less than 55 MPH and more than 25 MPH, train must be operated at 5 MPH less than maximum authorized speed.

Trains handling cars containing Flammable Compressed Gas (FCG) are restricted as follows:

MPH	LOCATIONS
30	Benson—Between MP 1032 and MP 1033
30	Willcox—Between MP 1074 and MP 1075
30	Deming—Between MP 1207.5 and MP 1208.5
20	Anapra—Between MP 1289.9 and MP 830 (T.L.)
10	El Paso—Between MP 830 and Dallas St. Yard
25	El Paso—Between MP 827 and MP 823.1 (Texaco Crossover)

and must not exceed 30 MPH departing Lordsburg until caboose has passed depot.

Maximum authorized speed for freight trains is 55 MPH except BSMFF, APLAA, APLAB and GSLAF are authorized to operate at Column One speeds provided train contains no restricted cars, or empties except cabooses, and does not exceed 80 tons per operative brake and 120 cars.

Other freight trains may be authorized by train order to operate at Column One speeds not exceeding 65 MPH provided they contain no restricted cars, or empties except cabooses, and do not exceed 80 tons per operative brake and 120 cars.

Westbound freight trains arriving P.F.E. Yard do not exceed 10 MPH on main track MP 987.75 (36th St.), and MP 985.69 (22nd St.) to allow for train inspection.

All freight trains entering Lordsburg reduce speed to 10 MPH to permit inbound rolling inspection by outbound crew.

REFER TO SPEED RESTRICTIONS FOR OTHER THAN MAIN TRACKS ON PAGE 34.

SPECIAL INSTRUCTIONS—LORDSBURG SUBDIVISION

Freight trains authorized to operate at Column One Speeds, except BSMFF, APLAA, APLAB and GSLAF are further restricted as follows:

TUCSON EASTWARD AGAINST CURRENT
OF TRAFFIC ON NO. 1 TRACK

MP	MP	MPH
988.40 to 1021.29	49

EASTWARD—TUCSON TO LORDSBURG

MP	MP	MPH
1082.80 to 1091.00	60

Trains handling empty cars except cabooses must not exceed 55 MPH.

Maximum speed for freight trains without operative dynamic brakes on descending grades between Steins and Wilmot is 50 MPH.

REFER TO SPEED RESTRICTIONS FOR OTHER THAN MAIN TRACKS ON PAGE 34.

SPECIAL INSTRUCTIONS—LORDSBURG SUBDIVISION

SPEED RESTRICTIONS FOR TRAINS: Maximum speed of trains in territory shown below is subject to further restrictions applicable to engines in the train as shown in **SPEED RESTRICTIONS FOR ENGINES**, and **MAXIMUM SPEED PERMITTED WITH CERTAIN EQUIPMENT** and **OTHER MAXIMUM SPEEDS** appearing on pages 16 and 17 of Special Instructions for All Subdivisions. Speed must be further reduced as prescribed by speed signs, except as specifically authorized by Special Instructions herein, or by timetable bulletin.

All trains must run carefully during and after heavy storms, particularly when the track is apt to be affected. When fog, storms or other conditions obscure track or signals, speed of trains must be so reduced as to permit strict observance of signals and **INSURE SAFETY, REGARDLESS OF TIME.**

TERRITORY	ALL TRAINS	TERRITORY	ALL TRAINS
MP MP		MP MP	
EASTWARD, BOWIE TO MIAMI:		WESTWARD, MIAMI TO BOWIE:	
1098.12 to 1099.45	10	1232.98 to 1231.00	10
1099.45 to 1139.20	25	1231.00 to 1222.57	20
1139.20 to 1139.30	10	1222.57 to 1220.47	10
1139.30 to 1184.56	25	1220.47 to 1184.73	25
1184.56 to 1184.73	10	1184.73 to 1184.56	10
1184.73 to 1220.47	25	1184.56 to 1139.30	25
1220.47 to 1222.57	10	1139.30 to 1139.20	10
1222.57 to 1231.00	20	1139.20 to 1099.45	25
1231.00 to 1232.98	10	1099.45 to 1098.12	10
EASTWARD, LORDSBURG TO CLIFTON:		WESTWARD, CLIFTON TO LORDSBURG:	
1146.54 (1148.30) to 1147.16	10	1216.69 to 1203.80	10
1147.16 to 1149.33	20	1203.80 to 1198.80	20
1149.33 to 1157.28	30	1198.80 to 1197.40	10
1157.28 to 1160.75	20	1197.40 to 1171.22	20
1160.75 to 1171.22	30	1171.22 to 1160.75	30
1171.22 to 1197.40	20	1160.75 to 1157.28	20
1197.40 to 1198.80	10	1157.28 to 1149.33	30
1198.80 to 1203.80	20	1149.33 to 1147.16	20
1203.80 to 1216.69	10	1147.16 to 1146.54 (1148.30)	10
EASTWARD, BENSON TO DOUGLAS:		WESTWARD, DOUGLAS TO BENSON:	
1032.60 to 1033.25	20	1107.00 to 1079.50	25
1033.25 to 1050.57 (1046.39)	25	1079.50 to 1076.40	25
1046.39 to 1053.49	40	1076.40 to 1067.00	40
1053.49 to 1053.80	25	1067.00 to 1060.00	25
1053.80 to 1060.00	40	1060.00 to 1053.80	40
1060.00 to 1067.00	25	1053.80 to 1053.49	25
1067.00 to 1076.40	40	1053.49 to 1046.39 (1050.57)	40
1076.40 to 1079.50	25	1050.57 to 1033.25	25
1079.50 to 1107.00	25	1033.25 to 1032.60	20
EASTWARD, LEWIS SPRINGS TO FT. HUACHUCA:		WESTWARD, FT. HUACHUCA TO LEWIS SPRINGS:	
1058.77 to 1067.89	25	1070.99 to 1067.89	10
1067.89 to 1070.99	10	1067.89 to 1058.77	25
EASTWARD, BISBEE JCT. TO BISBEE:		WESTWARD, BISBEE TO BISBEE JCT.:	
	10		10
EASTWARD, CORTA TO GALENA:		WESTWARD, GALENA TO CORTA:	
	10		10
<p>GLOBE BRANCH: Trains containing empty ore cars SP 341000 to 341310 and ATSF 64000 to 64099 must not exceed speed of 20 MPH between Miami and Bowie.</p>			

Trains handling cars containing Flammable Compressed Gas (FCG) must not exceed 55 MPH. Where maximum authorized speed is less than 55 MPH and more than 25 MPH, train must be operated at 5 MPH less than maximum authorized speed.

Trains handling empty cars except cabooses must not exceed 55 MPH.

When engines of the following classifications are operated on the Globe Branch, they must not exceed speeds shown between mile post locations as listed below where authorized maximum speeds as shown above are greater:

Class of Engines	MP
	1227.39 to 1231.94
EP415A-1, AS418-1 to 6, GF425-1 to 3	10

DON LUIS and BISBEE BRANCHES: AS418-1 to 6 class engines must not exceed 15 MPH.

REFER TO SPEED RESTRICTIONS FOR OTHER THAN MAIN TRACKS ON PAGE 34.

RULE 7-B. Freight trains must not enter receiving tracks unless proceed signal (green flag by day, green light by night), or on oral instructions from yardmaster or his representative.

RULE 93. Yard limits within which the provisions of Rule 93 will apply are established at the following points:

West MP		East MP
1319.87	El Paso	
1291.54	El Paso (No. 1 Track)	
	El Paso (Carrizozo Subdivision)	1300.54
	El Paso (T and L Lines Tracks)	820.00
1301.50	Fort Bliss-Planeport-Tobin	1308.00

RULE 98. Railroad crossings at grade not interlocked. Joint SP Santa Fe Levee Track crossing Santa Fe connection to International Bridge located 387 feet North of the center of the Santa Fe International Bridge. Stop signs are located on both sides of the Santa Fe connection to the International Bridge. Movements over this crossing may be made after stopping and flagman has preceded the movement.

RULE 103-A. Automatic crossing warning device on No. 3 track at Globe Mills is not connected with industry track. Flagman must precede all movements over:

- Globe Mill—Road crossing over industry track.
- Fort Bliss Drill—Airport Road.

Ashley: State Highway crossing on Fort Bliss spur. Approach circuits of automatic crossing warning device indicated on rail joints on each side of crossing. When these circuits are occupied and crossing is not entered within one minute signals cease to operate.

To operate or restart signals, insert switch key in either of the **KEY RELEASE** boxes located on each signal mast and turn **SLOWLY** one complete turn to right.

RULE 104. Split point derail in A, B, C and D units of El Paso yard are located on west end of tracks Nos. 17, 18, 29, 33, 34 and west end of lead opposite A-B yard unit.

RULE D-151. Between Ice House Crossover, MP 1320.90, and El Paso (Union Depot) the three main tracks are designated as follows:

- North track No. 1 Track, current of traffic westward;
- Middle track No. 2 Track, current of traffic eastward;
- South track No. 3 Track, current of traffic eastward.

Eastward trains may use No. 2 Track or No. 3 Track being governed by block signal indication.

RULE D-251. Will apply as follows:

On No. 1 and No. 2 Tracks between Anapra and Icehouse Crossover; on No. 1, No. 2 and No. 3 Tracks between Icehouse Crossover and El Paso (Union Depot); on No. 1 and No. 2 Tracks between El Paso (Union Depot) and El Paso (Cotton Avenue); on both main tracks between Tower 47 and Alfalfa unit, El Paso Yard.

RULE 306. The following block signals equipped with triangular plate bearing the letter "P" have included in their control limits some special protective device. Absolute signals are listed as "P-A" or "P-SA";

Eastward Signals	Signals	Westward Signals
P-8232	Barricade Detector for Dead End Streets	P-8231 P-8233

AUTOMATIC BLOCK SIGNAL SYSTEM

RULE 505. Signals 8231 and 8233 located on signal bridge west end Alfalfa unit govern movements as follows:

Signal 8231 governs movement on Westward Track.
Signal 8233 governs movement from drill track to Westward Track.

Westward trains or engines stopped by Signal 8231 must actuate push button, wait 45 seconds and if signal does not display a proceed indication may proceed under the provisions of Rule 507.

Westward trains or engines leaving Alfalfa unit from drill track and stopped by Signal 8233, provided no westward movement is approaching on Westward Track, may actuate push button and, if after waiting 2 minutes and 50 seconds, signal does not display a proceed indication, may proceed under the provisions of Rule 507 after first complying with Rule 513.

Signal 8226 located west of facing point crossover from Eastward Track to Westward Track Alfalfa unit governs movements as follows:

- Top unit governs movement on Eastward Track;
- Bottom unit governs movement into yard.

When Signal 8226 displays stop indication an eastward train or engine to enter Alfalfa unit at this location, after stopping, may proceed at restricted speed if proceed signal received from yardman, green flag by day, green light by night or oral authorization from yardmaster or his representative which will indicate protection on Westward Track has been provided in the directions necessary to safeguard movement.

Signals 8223 and 8225 located on signal bridge Alfalfa unit (near Little Flower Road) govern movements as follows:

- Signal 8223 governs movement on Westward Track;
- Signal 8225 governs movement from yard to westward track and will not display any indication unless crossover is lined for movement from yard to westward track.

SPRING SWITCHES

RULE 535. Spring switches not equipped with facing point locks are located as follows:

Location	Normal Position
Alfalfa Unit	West end of crossover from drill to Westward Track Westward Track
*Tower 47 El Paso	{ No. 6 Lead to Tucumcari Connection Tucumcari Connection
*Tower 47 El Paso	{ West end Crossover 3 and 6 Track 3 Diesel Shop Track
*Tower 47 El Paso	{ East end Crossover 29 to 30 Track 30 Track

*Equipped with switch-point indicator.

INTERLOCKING

RULE 605. Ice House Crossover, MP 1320.90: Eastward SA signal governs movement as follows:

- Top unit To No. 3 Track;
- Bottom unit To No. 2 Track.

When signal displays stop indication a member of crew must call operator at Tower 196. Telephone located on instrument case.

EL Paso (Union Depot) Tower 196: Limits on No. 1 Track and No. 2 Track extend from Signal 8299 to westward interlocking signal near (T and L Lines) MP 828.20 and No. 3 Track from east end Union Depot yard to Campbell Street overpass.

Conductor, brakeman and/or engineer will inform tower operator when passenger trains are ready to leave.

Tower 47: Limits on No. 1 Track and No. 2 Track extend from eastward interlocking signals near (T and L Lines) MP 828.20 east of trainway to westward interlocking signals at (T and L Lines) MP 826.90 and on Carrizozo Subdivision to absolute signal at MP 1297.82.

Westward-three-unit signal at MP 1297.82 Carrizozo Subdivision governs movements as follows:

- Top unit Westward to No. 1 Track;
- Middle unit Eastward to No. 1 Track;
- Bottom unit To other diverging routes.

Eastward two-unit signal on East leg of wye at connection with No. 1 Track governs movement as follows:

- Top unit To No. 1 Track;
- Bottom unit Through crossover to No. 2 Track.

Westward three-unit signal on No. 1 Track at (T and L) MP 826.90 governs movements as follows:

- Top unit Westward on No. 1 Track;
- Middle unit To T and P connection;
- Bottom unit To other diverging routes.

Crank required to operate dual control switches and telephone for communication with operator located on instrument house just west of Piedras Street crossing.

Dwarf signal governing movements from Tracks 203 or 206 does not check position of inside switch 206, observance of points must be made to assure proper line-up for movement.

RULE 663(b). Operator at Tower 196 and Tower 47 may authorize movements under provisions of this rule after it has been ascertained indication lights on control panel are illuminated indicating dual control switches are in proper position and locked for movement without requiring dual control switches to be placed in hand position as required by Rule 772.

When indication lights on control panel are not illuminated movements may be authorized under provisions of this rule; however, before making a facing point or trailing point movement over dual control switches, such switches must be placed in hand position in accordance with Rule 772 and locked until movement over switch has been completed. When movement has been completed, switch must be returned to normal position and selector lever restored to motor position and locked.

ABSOLUTE-PERMISSIVE BLOCK

RULE 740. Limits extend between MP 1297.6 (east limit Tower 47), El Paso, and MP 1302.2 (west end siding), Planeport.

RULE 741. When absolute signal at either end of A-PB displays stop indication, train or engine must obtain authority from operator at Tower 47 to proceed. If signal cannot be cleared and there is no opposing train or engine causing signal to display stop indication, operator Tower 47 may authorize train or engine to proceed on main track to limit of A-PB as prescribed by Rule 507.

Trains or engines must not enter main track or use main track switches within A-PB limits without first obtaining permission from operator Tower 47.

If, for any reason, proceed indication of absolute signal cannot be acted upon at once operator Tower 47 must be notified immediately.

Rule 744 will not apply within these limits.

GENERAL REGULATIONS

RULE 825. Unless relieved of responsibility by yardmaster, crews of freight trains or transfer cuts arriving in a unit of El Paso Terminal with 15 or more cars will set five hand brakes on west end and five hand brakes on east end.

Hand brakes on outbound trains must not be released until engine and caboose are coupled to train, and it is known that air is through train.

Sufficient hand brakes must be set on all trains arriving Union Depot and not less than two hand brakes at any time on the east end of the train. Any employe releasing any of these brakes must first set as many others to replace them.

Refer to Rule 825, All Subdivisions.

RULE 827. Alfalfa and Cotton Ave. Units, El Paso Yard: First two paragraphs will not apply to crews of westward freight trains while departing these units.

AIR BRAKE RULES

RULE 24. Will apply at El Paso.

RULE 24-F. Will apply as follows:

El Paso: Direct movements between Planeport and Cotton Avenue Yard, slag pit and Cotton Avenue Yard, Chalmizal Yard and Cotton Avenue Yard, and between Cotton Avenue Yard and Alfalfa Yard, when there are no set-outs or pick-ups enroute. Responsibility to know that above has been done rests upon yard engineer and yard foreman. Carman on duty at El Paso, Cotton Avenue, or Alfalfa Yards, will couple air hose and make test as prescribed by Air Brake Rule 24-F.

MISCELLANEOUS

1. The El Paso Terminal is under the jurisdiction of the Superintendent of the Tucson Division.

2. The main tracks between El Paso (Union Depot) and Tower 47 are designated:

- North track No. 1 Track;
- Middle track No. 2 Track;
- South track, between Union Depot and Campbell Street overpass No. 3 Track.

3. SPEED RESTRICTIONS ON MAIN TRACK Not Exceeding MPH

Between west limits Tower 196 (T&L), MP 829.90 and Dallas Street (T&L) MP 827.71	20
Between Dallas Street (T&L), MP 827.71 and (T&L) MP 827.40	15
Between (T&L) MP 827.40 and east limits of Tower 47 (T&L), MP 826.90	20
Between Dallas Street (T&L), MP 827.71 and east limits Tower 47 (Carrizozo Subdivision), MP 1297.82	15
Except: Over slip switches, straight side	15
Over slip switches, turnout side	10
Between east limits Tower 47 (T&L), MP 826.90 and (T&L), MP 820.00	30

4. SPEED RESTRICTIONS ON OTHER THAN MAIN TRACK With Caution Not Exceeding MPH

Through sidings, yard and other tracks, wyes, balloon tracks, crossovers and turnouts, except:	15
Over slip switches, straight side	15
Over slip switches, turnout side	10
On all turnouts listed below:	
West turnout Ice House Crossover	30
East turnout Ice House Crossover	30
Industry tracks	10
Repair, store and material tracks, shop yard.	10
MP 827.0 to MP 830.5 Dallas St. and EPUD Yards	10
ALFALFA YARD . . . All Yard Tracks	10

5. OPERATIONS OVER TEXAS AND PACIFIC TRACKS

Movements over Texas and Pacific Tracks between Tower 47 and/or in Texas and Pacific Yard will be governed by Southern Pacific Rules except the following Texas and Pacific Rules will apply:

RESTRICTED SPEED—Proceed prepared to stop short of train, engine, obstruction, or switch not properly lined.

RULE 103(a). PRECAUTIONS IN SWITCHING—When cars are shoved by an engine and conditions require, a trainman must take conspicuous position on the leading car.

Employes must observe the following precautions in switching movements:

- (1) See that cars left on tracks are properly secured, clear other tracks and, when practicable, clear public crossing at least 100 feet.
- (2) When coupling or shoving cars, take proper precaution to prevent damage or fouling of other tracks by stretching coupling, and setting sufficient hand brakes. Make couplings at a speed of not more than 4 miles per hour.

- (3) Before shoving yard tracks, know there is sufficient room to hold the cars. When shoving entire length of track, see that cars are coupled and, unless otherwise provided, send a man to head end to protect the movement.
 - (4) When necessary to control cars by hand brakes, know that sufficient brakes are in working order before cars are cut off.
 - (5) Kicking or dropping of cars will be permitted only when such movement can be made without danger to employes, equipment, or contents of cars. Know that the track is sufficiently clear, and when dropping cars, know switches and brakes are working properly and run engine on straight track when practicable.
Cars containing flammables, explosives, or other dangerous articles, must not be dropped or kicked.
Cars must not be dropped through spring or remote control switches.
 - (6) When engines may be working at both ends of a track, have proper understanding between crews involved.
 - (7) Before coupling to or moving cars on tracks where cars are being loaded or unloaded, see that running boards, oil tank couplings, elevator spouts and similar connections are removed and clear, and persons, in or about cars are warned and requested to vacate cars while being switched.
 - (8) Passenger cars and occupied outfit cars must not be kicked or dropped. Other cars must not be kicked or dropped into a track on which passenger or occupied outfit cars are standing.
 - (9) Before switching passenger equipment or occupied outfit cars, see that brake pipe connections are made, angle cocks opened between the cars and brake system charged. Automatic brake valve only must be used by engineers in such switching.
When coupling passenger cars or occupied outfit cars, moving portion must be properly controlled and utmost caution used to avoid rough handling; couplers must be fully compressed and after coupling appears to have been made, couplers must be stretched to know that knuckles are locked, before making air and steam connections.
When a sign reading "OCCUPIED OUTFIT CARS" is attached to switch lock, or to cars, cars must not be coupled to nor moved until occupants have been notified and permission given by the foreman or his representative. Occupied outfit cars protected by these signs, when located on other than sidings, will not be protected by train order or general order.
 - (10) Before coupling into cars standing on grade, near ends of tracks, derails, public crossings, cars in process of loading or unloading, a test of hand brakes must be made and fact known that car or cars are secured and coupled, and will not roll away and cause damage in event coupling is missed.
 - (11) Trains, engines or cars must not be permitted to stand across another railroad when practicable to avoid it.
 - (12) Cushion underframe cars and cars 70 feet long or longer must not be left standing on turnouts or curves when possible to avoid it, but must be left on straight track to permit coupling to them safely.
- (2) Main track switches must not be left open after movement through them is completed except:
 - (a) As prescribed by TP Rule 402.
 - (b) When attended by a member of the crew.
 - (c) During switching operations, when a portion of the train is occupying the main track, and it is known that no other train or engine will pass over the switch.
 - (3) A main track switch must not be left open for a following train or engine, unless in charge of a member of the crew of such train or engine, or an assigned switch-tender.
 - (4) When practicable, the engineer must see that switches and derails near the engine are properly lined and must require other members of crew on engine to observe same.
 - (5) A train or engine must not foul a main track or other track until switches connected with the movement are properly lined. Switches must not be lined when conflicting movement is closely approaching switch. Spring switches; and automatic switches identified by letter "V," or bowl or stand painted yellow; may be trailed through when lined either for or against movement, provided it has been ascertained there is no conflicting movement on or closely approaching switch. At least one truck must have trailed through an automatic switch lined against movement before a reverse movement is made.
When waiting to cross from one track to another and during the approach or passage of a train or engine on tracks involved, all switches connected with the movement must be secured in the normal position.
Main track switches must not be restored to normal position until the movement is completed or clear of the main track involved.
 - (6) Where trains or engines are required to be reported clear of the main track, such report must not be made until switch has been secured in its normal position.
 - (7) After restoring a main track switch to normal position, employe must test the lock to know that it is secured and see that switch points fit properly. Defective or missing main track switch locks must be replaced immediately or switch securely spiked for main track movement.
 - (8) Derails must be set to derail, and, except pipe connected derails, must be locked (if equipped with locks) in that position, unless lined to permit movements.
 - (9) After lining a main track switch for a train, the employe attending the switch must go to the opposite side of main track, when practicable, and not return to the operating switch stand until the movement has been completed.
When not practicable to go to opposite side of track, the employe will stand at least 20 feet from operating switch stand.
 - (10) Employes alighting from a moving train to restore main track switch to normal position, must, when practicable, get off the rear end of car, on opposite side of train from the operating switch stand, and must not cross over to switch stand until train is in clear.
 - (11) When a train or engine is clear of main track to meet or be passed by a train, employes must not unlock, nor take a position in the vicinity of any main track switch. They must not go beyond the clearance point for the purpose of attending the switch to be used, and must remain at least 150 feet from the switch while the expected train is approaching or passing the switch.
 - (12) Employes handling switches must see that they are properly lined for route to be used and that both switch points have moved and fit in proper position, that lever is properly secured, and, when operating lever is equipped with latch, they must not step on latch, except when throwing switch.

RULE 104. HAND OPERATED SWITCHES

- (1) Main track switches must be lined and locked for main track when not in use. Other than main track switches, equipped with switch locks, must be lined and locked for normal position when not in use.
The following other than main track switches must be kept lined in normal position, except while movement through them is being made:
 - (a) Crossover switches. Both switches of a crossover must be lined before movement is started. Movement must be completed and clear of other track involved before either switch is returned to normal position.
 - (b) Switches connecting other tracks with a siding.

- (13) Switches (other than spring or automatic switches) must not be run through. If a switch is run through, it is unsafe, must be protected, and must be spiked unless a trackman takes charge at once. If an engine or a car partially runs through such a switch, the entire movement must be continued.
- (14) Scale track switches must be lined for dead rails when scales are not in use.
- (15) At main track switches in ABS territory, where view is not clear for at least one mile in each direction, train and yard men will operate switch and wait 5 minutes at the switch before giving signal for train or engine movement to main track, except:
- Where switch is equipped with an electric lock.
 - Where block signals governing movement to main track indicate proceed, a block indicator indicates block clear.
 - Where signals on main track indicate proceed in direction of restricted view.
 - At meeting points where switch is operated before the train met has passed its next signal.
 - When entering the main track between signals to hostile engine or switch train standing between such signals.
 - When entering main track under TP Rule 402.

The 5-minute wait does not relieve employes from protecting the movement, when required.

- (16) Main track switch targets will show RED when switch is lined for movement to or from main track.

RULE 104(a), RULE 104(c), and interlocking rules and interlocking signals must be observed.

Trains and engines must be clear before expiration of the time granted.

If not clear by the time specified, protection must be afforded in both directions as prescribed by Rule 99.

If additional time is required, authority must be obtained from control operator before authorized time limit has expired.

Control operator must be notified when trains and engines are clear of the track limits granted, except when control operator authorizes by signal indication, a train or engine to move out of the track limits in the same direction in which it entered, it will be considered clear when it has passed such signal indication.

To hold track limits for the time authorized on track or tracks specified, such track or tracks must be occupied continuously, or a main track switch left open.

No movement may be made under this rule until engine-men have received and understand the track and time limits granted.

When requesting track and time limits, employe will state his name, occupation, location and when applicable, train or engine number, and will repeat limits and time granted, to the control operator, who will then give his "OK."

Definition of Low Speed: A speed that will permit stopping short of train, engine, obstruction or switch not properly lined and looking out for broken rail, but not exceeding twenty miles per hour.

RULE 105. MOVEMENT ON OTHER THAN MAIN TRACKS—Trains and engines using a siding, or any track other than a main track, must proceed at Restricted Speed.

Sidings of an assigned direction must not be used in a reverse direction unless authorized by the train dispatcher, or in an emergency under flag protection.

Cars must not be left on sidings when possible to avoid it. When a siding is obstructed, the train dispatcher must be notified at once.

When there is possibility of fouling main track, trains must not take slack on sidings or other tracks adjacent to main track nor make reverse movement, without proper protection, when necessary.

RULE 402. Track and Time Limits. Trains or engines may occupy the main track or a controlled siding within specified limits for time periods authorized by control operator specifying track and time limits and track or tracks to be used, to be worded, for example: "Track and time limits granted on North Track 1:10 AM until 1:25 AM between north and south switches of AB siding," or "between Signal No. 625 and Signal No. 655."

While occupying track limits within time granted, trains and engines may move in either direction without flag protection, but must move at Low Speed.

A train or engine granted track and time limits, after stopping, may pass a block signal indicating Stop or Stop, Then Proceed at Low Speed and then proceed at Low Speed.

- To enter track and time limits.
- Within track limits.

SPECIAL INSTRUCTIONS—CARRIZOZO SUBDIVISION

RULE 10-J. Speed signs to left of track:

Eastward	Reading
MP 1439.65	50

RULE 83-B. At open train order offices, trains may register by ticket as follows:

Conductors of trains terminating at Alfalfa unit of El Paso yard must leave register ticket with waybills.

RULE 93. Yard limits within which the provisions of Rule 93 will apply are established at the following points:

West MP	East MP
1319.87	El Paso (No. 2 Track)
1291.54	El Paso (No. 1 Track)
	El Paso (Carrizozo Subdivision)
	El Paso (T and L Lines Tracks)
1301.50	Fort Bliss-Planeport-Tobin
1343.30	Orogrande
1381.05	Alamogordo
1438.53	Carrizozo
1523.65	Vaughn
1567.79	Santa Rosa
1624.95	Tucumcari

RULE D-97. Applies between Anapra and Tower 47.

RULE 103-A. Alamogordo: Automatic crossing gates at Eighth St., will operate for continuous movement on main track or siding, but if stop is made within 150 feet of crossing, or movement is slow in switching, crossing must not be obstructed until it is known that crossing gates are down, or traffic has been protected by member of the crew. Movements on Rip No. 4 must not be made over Eighth St. crossing until member of crew has protected traffic at the crossing.

RULE 104. Tucumcari: Normal position of east switch Track No. 2 is lined for Track No. 2. Variable switch is installed on west end Track No. 2.

Normal position of east end balloon track is lined for No. 2 track. Switch point derail located 100 feet west of east switch No. 2 track.

RULE 105. Carrizozo: Siding is first track south of Main Track formerly known as No. 1 Track, capacity 5580 feet.

Tucumcari: Track No. 2 from west switch to crossover located east of depot is designated as siding.

RULE 221. El Paso (Cotton Ave.) is a train order office for trains operating on the Carrizozo Subdivision.

Train order delivery post for trains originating Alfalfa unit of El Paso Yard is located on east leg of Tucumcari Wye.

Unit for display of flashing light installed at the following locations:

Station	Location	Direction
Vaughn	On mast of Signal 15247	Eastward
Santa Rosa	On mast of Signal 15694	Westward

Display of flashing white light indicates that train-order signal is displaying proceed indication or that train-order operator has train orders ready for delivery, that such train orders do not restrict train at that station, and that train, provided it is not restricted by timetable or by train orders previously received, may pass fouling point of switch at which an opposing train may enter siding or place where time applies if there is no siding.

RULE D-251. Will apply as follows:

On No. 2 Track Anapra to El Paso (Cotton Ave.).

On No. 1 Track El Paso (Cotton Ave.) to Anapra.

On both main tracks between Tower 47 and Alfalfa unit, El Paso yard.

RULE 306. The following block signals equipped with triangular plate bearing the letter "P" have included in their control limits some special protective device. Absolute signals are listed "P-A" or "P-SA."

Eastward Signal	Protection	Westward Signal
P-A	Barricade Detector for dead end Streets Mile Post 1298.16	P-12989
P-SA	Spring switch, west end siding, Planeport	
P-12988	Barricade detector for dead end streets at MP 1300.20 and MP 1300.37	P-13037
	Spring switch, east end siding, Orogrande	P-13461
P-13468	High water detector, bridge 1349.60	P-13497
P-13738	High water detector, bridge 1374.15	P-13763
P-13788	High water detector, bridge 1378.96	P-13805
P-13838	High water detector, bridge 1384.35	P-13853
P-13804	High water detector, bridge 1381.50	P-13819
P-13886	High water detector, bridge 1389.06	P-13901
P-13922	High water detector, bridge 1393.43	P-13943
P-13972	High water detector, bridge 1399.23	P-13993
P-13994	High water detector, bridge 1399.61	P-14017
P-14068	High water detector, bridge 1407.15	P-14091
P-14092	High water detector, bridge 1409.75	P-14117
P-14364	High water detector, arch 1436.76	P-14379
P-14540	High water detector, bridge 1453.98	P-14559
P-14788	High water detector, arch 1479.90	P-14805
P-14900	Spring switch, west end siding, Corona	
	Spring switch, east end siding, Corona	P-14911
P-15070	High water detector, bridge 1508.08	P-15091
P-15578	Spring switch, west end siding, Arabella	
	Spring switch, east end siding, Arabella	P-15589
P-15616	High water detector, bridge 1561.65	P-15621
P-15616	Fire detector, bridge 1561.65	P-15621
P-15682	Spring switch, west end siding, Santa Rosa	
	Spring switch, east end siding, Santa Rosa	P-15693
	Spring switch, east end siding, Los Tanos	P-15781
	Spring switch, east end siding, Montoya	P-16073
P-15838	High water detector, bridge 1584.00	P-15855
P-15956	High water detector, bridge 1595.82	P-15969
P-16048	High water detector, bridge 1605.89	P-16063
P-16072	High water detector, bridge 1607.39	P-16087
P-16172	High water detector, bridge 1618.37	P-16197
P-16232	High water detector, bridge 1623.27	P-16249
P-16260	Spring switch, west end yard track, Tucumcari.	

RULE 505. Unless otherwise instructed, eastward trains arriving Tucumcari will use Main Track and westward trains arriving Tucumcari via Mater will use track No. 2.

Trains moving on main track in either direction will move between Southern Pacific MP 1626 and Rock Island MP 637 by block signal indications, which indications will supersede the superiority of trains.

Eastward Searchlight type signal 6380 equipped with flashing white light and must display flashing white light indication before Eastward movement may be made from east end of east lead or track No. 2 to Balloon Track.

Push buttons and pilot lights installed in box mounted on side of signal case, south side of track, opposite signal 6380 and signal 1626 with time-release feature, to clear signals on one track when the control circuit on the other track is occupied.

Push buttons and pilot lights installed in box mounted on side of relay case, north side of track, opposite signal 6379 with time-release feature, to clear signals on one track when the control circuit on the other track is occupied.

Refer to Rule 505 AUTOMATIC BLOCK SIGNAL SYSTEM (push buttons), all SUB-DIVISIONS.

SPRING SWITCHES

RULE 535. Spring switches equipped with facing point locks are located as follows:

Location	Normal Position
Planeport West end siding	Main track
Orogrande East end siding	Main track
Corona West end siding	Main track
Corona East end siding	Main track
Arabella West end siding	Main track
Arabella East end siding	Main track
Santa Rosa West end siding	Main track
Santa Rosa East end siding	Main track
Los Tanos East end siding	Main track
Montoya East end siding	Main track
Tucumcari West end yard track	Main track
Tucumcari East end yard track	No. 2 track

LETTER-TYPE INDICATORS

RULE 705. Indicators located as follows:

Illum. Letter	On Signal	Approaching	Authorizes and Requires Movement as follows:
M	13022	Planeport	Proceed to east end siding.
S	13022	Planeport	Enter siding.
M	13039	Planeport	Proceed to west end siding.
S	13039	Planeport	Enter siding.

HOT BOX DETECTORS

Illum. Letter	On Signal	Approaching	Location of Readout
W	13788	Alamogordo	
H	13789	Omlee	MP 1377.7 Omlee
W	13819	Omlee	
H	13820	Alamogordo	MP 1383.9 Alamogordo
H	15271	Vaughn	MP 1524.7 Vaughn
W	15292	Leoncito	
W	15319	Vaughn	
H	MP 1531.9	Leoncito	MP 1533.9 Leoncito
H	15879	Cuervo	MP 1585.4 Cuervo
W	15880	Newkirk	
W	15907	Cuervo	
H	15932	Newkirk	MP 1595.6 Newkirk

SCANNER SITES

MP	Type	Direction	Location
1305.9	D	West	*Newman-Planeport
1305.9	C	East and West	Newman-Planeport
1327.2	B	East and West	Newman-Desert
1380.4	A	East and West	Omlee-Alamogordo
1407.20	C	East and West	Three Rivers
1445.6	C	East and West	Robsart-Carrizozo
1476.5	C	East and West	Ancho-Gallinas
1530.3	A	East and West	Vaughn-Leoncito
1563.4	C	East and West	Arabella-Santa Rosa
1589.6	A	East and West	Cuervo-Newkirk
1622.6	D	East	**Hargis-Tucumcari

*Readout at El Paso Yard.

**Readout at Tucumcari Yard.

Refer to Rule 705, All Subdivisions.

ABSOLUTE-PERMISSIVE BLOCK

RULE 740. Limits extend between MP 1297.6 (east limit Tower 47), El Paso, and MP 1302.2 (west end siding), Planeport.

RULE 741. When absolute signal at either end of A-PB displays stop indication, train or engine must obtain authority from operator at Tower 47 to proceed. If signal cannot be cleared and there is no opposing train or engine causing signal to display stop indication, operator Tower 47 may authorize train or engine to proceed on main track to limit of A-PB as prescribed by Rule 507.

Trains or engines must not enter main track or use main track switches within A-PB limits without first obtaining permission from operator Tower 47.

If, for any reason, proceed indication of absolute signal cannot be acted upon at once, operator Tower 47 must be notified immediately.

Rule 744 will not apply within these limits.

GENERAL REGULATIONS

RULE 825. Alamogordo: Sufficient hand brakes must be set to prevent uncontrolled movement of cars set out on track serving Holloman Air Force Base and brakes must not be released until coupled to by engine with or without cars.

Portable rail skids are hung on posts at east end of siding at:

Arabella and Ancho and in telephone booth at east siding Hargis.

Portable rail skids are hung on post 100 feet east of stock pens on north side at Gallinas.

Refer to Rule 825 All Subdivisions.

RULE 827. Westward trains handling cars containing Flammable Compressed Gas (FCG) will stop at Newman and inspection will be given to entire train from both sides to determine that there is no obvious leakage of Flammable Compressed Gas (FCG) and that there is no other unsafe condition of equipment before proceeding.

Tucumcari: Trains arriving will reduce speed to 10 MPH prior to passing initial switch to permit rolling inspection by car inspectors.

First two paragraphs will not apply to crews of westward freight trains while departing Tucumcari.

LOOSE WHEEL DETECTOR

MP	Direction
1305.9	Westward

Train crew members must observe white light on side of hot box scanner house at MP 1305.9. If white light is observed flashing, train must be brought to a stop and El Paso Tower Yardmaster contacted to the type of indication and location of indication in train. If indication is for loose wheel, all wheels and journals must be checked on car indicated as well as on the car ahead and the car behind.

Dragging and/or derailed equipment detectors and indicators installed at the following locations:

MP	Location
1352.9	Between Dunes and Orogrande
1398.8	Between Alamogordo and Three Rivers
1428.5	Between Three Rivers and Polly
1457.6	Between Robsart and Ancho
1502.6	Between Corona and Vaughn
1551.4	Between Pastura and Arabella

Refer to Rule 827, All Subdivisions.

RULE 829. Agents and operators will inspect passing trains at their respective stations from side of trains as indicated:

- Vaughn—South side
- Carrizozo—North side
- Alamogordo—South side

AIR BRAKE RULES

RULE 24. Will apply at El Paso.

MISCELLANEOUS

1. Alamogordo: On track serving Holloman Air Force Base cars must not be moved beyond derail located 4975 feet from main track switch without proper authority.

2. Bunsen: Engines listed may operate as single units, but not in multiples on Rosebud Importing Company spur off industrial drill at Bunsen, MP 1312.6:

Classification	Unit Numbers
EF-425-1 thru 4	6500-6679
EF-425C-1 thru 3	6680-6681
EF-430C	7600-7607
EF-630-1	8400-8478

Engines listed must not operate on Rosebud Importing Company spur off industrial drill at Bunsen, MP 1312.6:

EF-850B-1	9900-9902
-----------	-----------

3. LOAD LIMIT (car and contents):

El Paso-Tucumcari, except 263,000 pounds

Gross weight of 263,000 pounds or less applies to uniformly loaded four-axle cars having trucks spaced 23 feet 0 inches or more center to center and minimum axle spacing of 5 feet 6 inches.

Gross weight uniformly loaded four-axle cars with minimum axle spacing of 6 ft. 0 in. and minimum distance 37 ft. 0 in. center to center of trucks; also, wheels 38 in. or more in diameter 315,000 pounds

El Paso-Tucumcari
Air dump cars SPMW 6400-6439 263,000 pounds

Unless authorized by Superintendent, heavier loads must not be handled.

4. SPEED RESTRICTIONS FOR OTHER THAN MAIN TRACKS

	With Caution Not Exceeding MPH
Through sidings, yard and other tracks, wyes, balloon tracks, crossovers and turnouts	15
Over slip switches, straight side	15
Over slip switches, turnout side	10
Bunsen spur track and team track	10
On all turnouts listed below:	
Planeport Water spur	10
Alamogordo Other tracks, except turnouts from main track	10
Pastura West turnout of siding	15
Tucumcari No. 2 track departing to Main Track, via east or west lead	30
Tucumcari Main track No. 20 turnout to west lead to No. 2 track	30
Tucumcari Main track No. 20 turnout to east lead to No. 2 track	20
On Balloon Track at Tucumcari	10
and all other tracks Tucumcari	10

5. Back Up Movements

Grades in excess of 1.0 percent.

- Eastbound MP 1296.4 to MP 1296.8
- MP 1383.9 to MP 1386.6
- MP 1432.2 to MP 1439

Refer to ALL SUBDIVISIONS, Page 17, 5—OTHER INSTRUCTIONS, R. Back Up Movements.

SPECIAL INSTRUCTIONS—CARRIZOZO SUBDIVISION

SPEED RESTRICTIONS FOR TRAINS: Maximum speed of trains in territory shown below is subject to further restrictions applicable to engines in the train as shown in **SPEED RESTRICTIONS FOR ENGINES**, and **MAXIMUM SPEED PERMITTED WITH CERTAIN EQUIPMENT** and **OTHER MAXIMUM SPEEDS** appearing on pages 16 and 17 of Special Instructions for All Subdivisions. Speed must be further reduced as prescribed by speed signs, except as specifically authorized by Special Instructions herein, or by timetable bulletin.

All trains must run carefully during and after heavy storms, particularly when the track is apt to be affected. When fog, storms or other conditions obscure track or signals, speed of trains must be so reduced as to permit strict observance of signals and **INSURE SAFETY, REGARDLESS OF TIME.**

TERRITORY		FREIGHT AND MIXED	TERRITORY		FREIGHT AND MIXED
MP	MP		MP	MP	
EASTWARD, EL PASO TO TUCUMCARI:			WESTWARD, TUCUMCARI TO EL PASO:		
1295.92 to 1297.50		20	1627.40 to 1626.00		30
1297.50 to 1297.76 except		15	1626.00 to 1561.81		55
via slip switch opposite Tower 47		10	1561.81 to 1555.00		40
1297.76 to 1298.83 (Wyoming and Piedras St.)		25	1555.00 to 1531.80		55
1298.83 to 1302.18 except		45	1531.80 to 1528.55		50
until engine passes Fred Wilson Road		35	1528.55 to 1519.85		55
1302.18 to 1400.00		50	1519.85 to 1514.10		40
1400.00 to 1414.00		55	1514.10 to 1492.00		55
1414.00 to 1463.70 except		50	1492.00 to 1487.60		40
until engine passes E Ave. Carrizozo		30	1487.60 to 1473.85		55
1463.70 to 1473.85		45	1473.85 to 1463.70		45
1473.85 to 1487.60		55	1463.70 to 1414.00 except until		50
1487.60 to 1492.00		40	engine passes E Ave. Carrizozo		30
1492.00 to 1514.10		55	1414.00 to 1400.00		55
1514.10 to 1519.85		40	1400.00 to 1302.18		50
1519.85 to 1528.55		55	1302.18 to 1298.83		45
1528.55 to 1531.80		50	except until engine passes Fred Wilson Road		35
1531.80 to 1555.00		55	1298.83 to 1297.76 (Piedras and Wyoming St.)		25
1555.00 to 1561.81		40	Via Slip Switch opposite Tower 47		10
1561.81 to 1626.00		55	1297.76 to 1297.50 except via slip switch		15
1626.00 to 1627.40		30	1297.50 to 1295.92		20

Maximum authorized speed for freight trains is 55 MPH except trains may be authorized by train order to operate at speeds not exceeding 65 MPH at locations showing 60 MPH on speed signs provided they contain no restricted cars, or empties except cabooses, and meet requirements of tons per operative brake as shown in table below.

Number of Cars	Tons Per Operative Brake
1 to 70	70
71 to 75	69
76 to 80	68
81 to 85	67
86 to 90	66
91 to 95	65
96 to 100	64
101 to 105	63
106 to 110	62
111 to 115	61
116 to 120	60
121 to 125	58
126 to 130	56
131 to 135	54
136 to 140	52
141 to 145	50

Trains handling cars containing Flammable Compressed Gas (FCG) must not exceed 55 MPH. Where maximum authorized speed is less than 55 MPH and more than 25 MPH, train must be operated at 5 MPH less than maximum authorized speed.

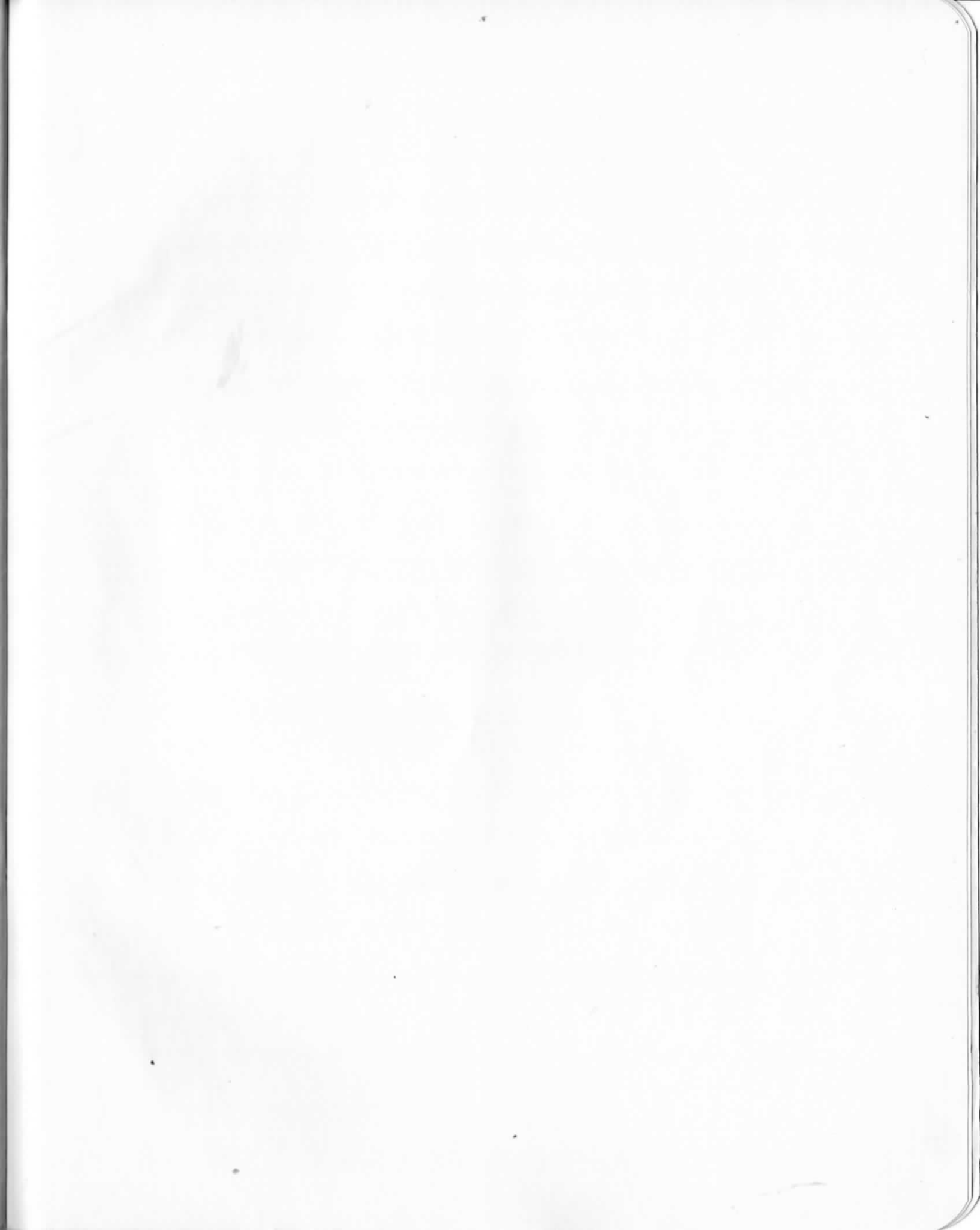
Trains handling cars containing Flammable Compressed Gas (FCG) departing Tucumcari Yard from MP 1627.70, East Switch at Tucumcari, to the West Switch at Tucumcari, MP 1626, must not exceed 15 MPH.

Trains handling cars containing Flammable Compressed Gas (FCG) must not exceed 30 MPH at the following locations:

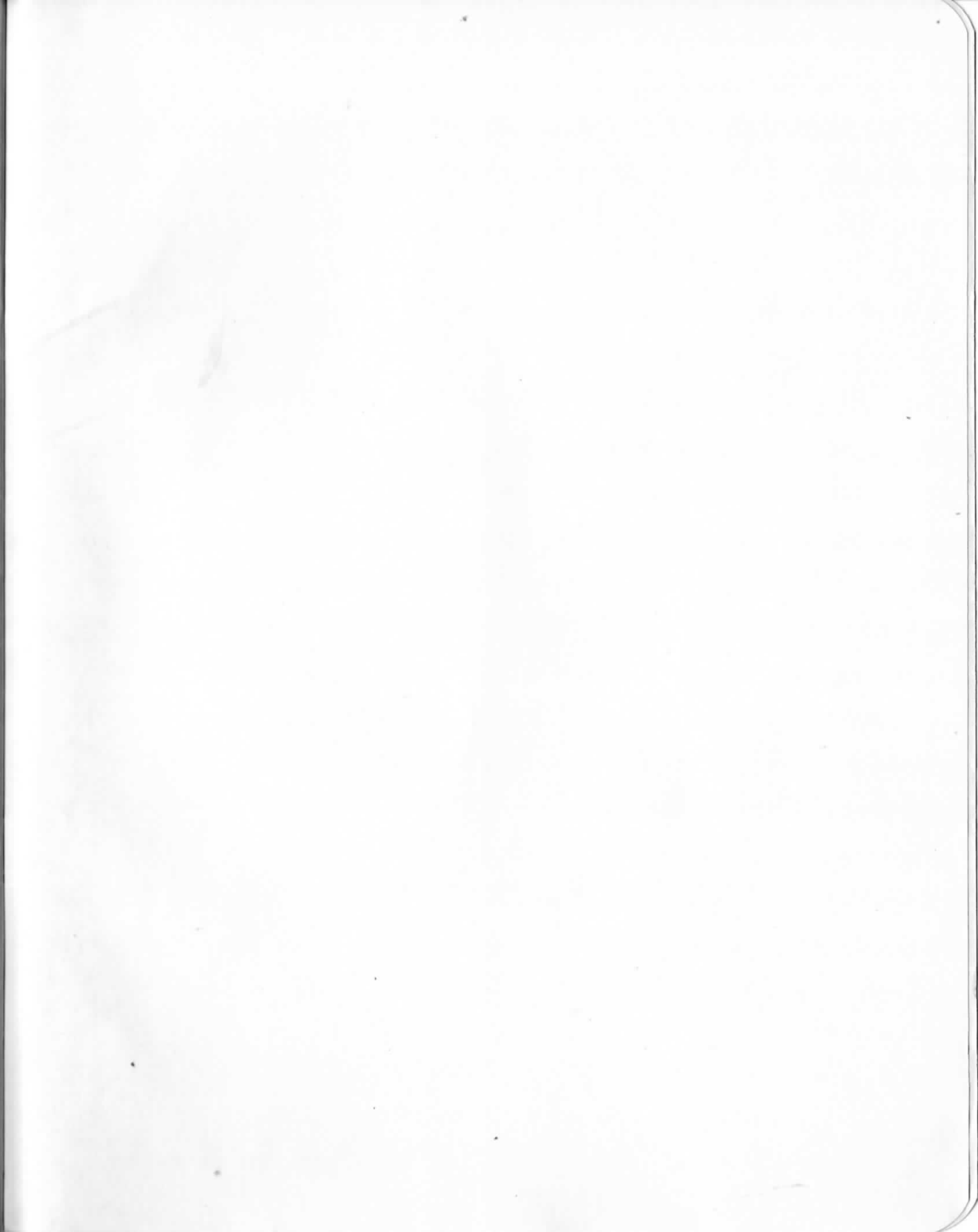
Santa Rosa	Between MP 1569 and MP 1568
Carrizozo	Between MP 1440.5 and MP 1439.5
Alamogordo	Between MP 1384 and MP 1382

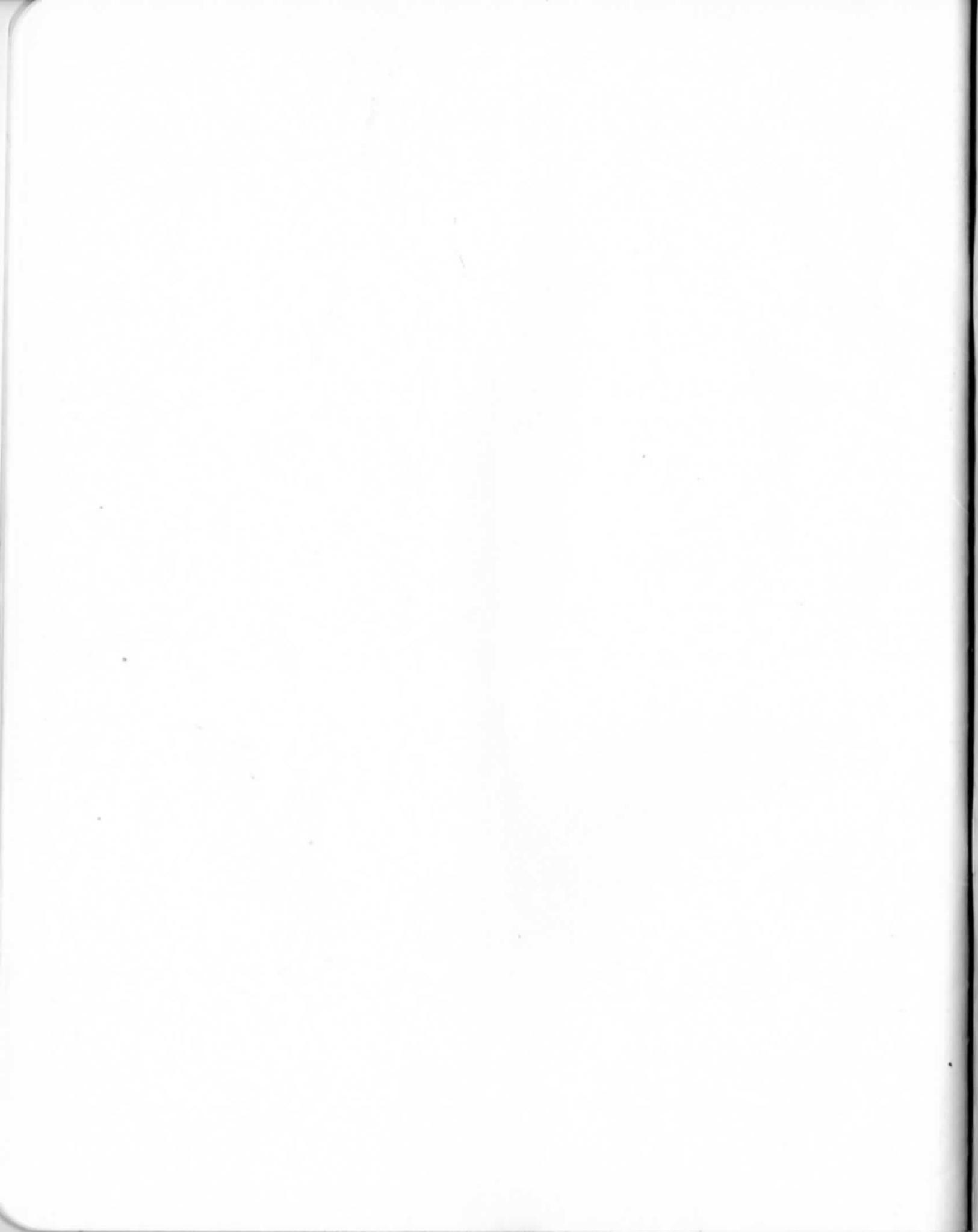
and are further restricted to 20 MPH between MP 1303 and MP 1298 and to 10 MPH between Tower 47 and MP 1298.

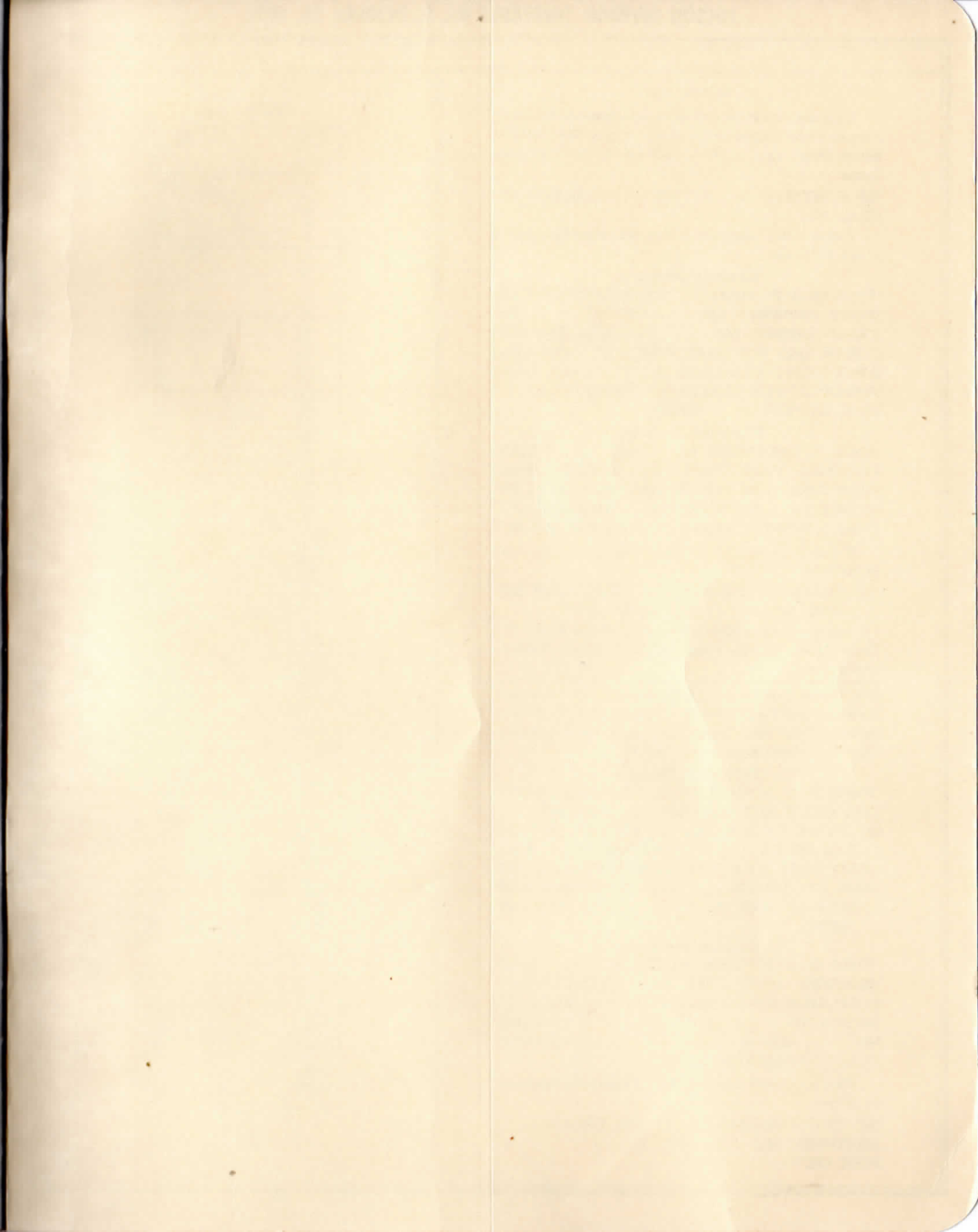
REFER TO SPEED RESTRICTIONS FOR OTHER THAN MAIN TRACKS ON PAGE 44.











RULE 10-I

Oral authorization and acknowledgments between Foremen and Engineers for trains to pass "Red Conditional Stop" signs must be worded in the following forms:

"SP FOREMAN AT MP CALLING SP (Train No.)"

(After train answers giving his identification):

(i. e.) SP Train

Foreman's Response

"THIS IS SP FOREMAN . . . IN CHARGE OF THE WORK BETWEEN MP . . . AND MP SP TRAIN ORDER NO. . . . WE ARE IN THE CLEAR AND YOU MAY PROCEED PAST THE RED CONDITIONAL STOP SIGN AND THROUGH THE LIMITS OF ORDER AT MPH, REPEAT MPH"*

Engineer's Response

"THIS IS ENGINEER SP TRAIN I MAY PROCEED PAST THE RED CONDITIONAL STOP SIGN AND THROUGH THE LIMITS OF ORDER NO. . . . BETWEEN MP . . . AND MP . . . AT (Speed). REPEAT (Speed) MILES PER HOUR."

Foreman must acknowledge Engineer's response as follows:

"SP TRAIN ORDER NO. . . . , BETWEEN MP AND MP MPH* OK."

*When no speed restriction account above Form "Y" Train Order, tell train engineer "At Maximum Authorized Speed."

Oral authorization and acknowledgments between Foremen and Engineers for trains to pass "Red Conditional Stop" signs in multiple main track territory must be worded in following forms:

Foreman's Response

"THIS IS SP FOREMAN IN CHARGE OF THE WORK BETWEEN MP AND MP SP TRAIN ORDER NO. . . . WE ARE IN THE CLEAR OF TRACK . . . AND YOU MAY PROCEED PAST THE RED CONDITIONAL STOP SIGN ON TRACK . . . AND THROUGH THE LIMITS OF ORDER AT MPH, REPEAT MPH."

Engineer's Response

"THIS IS ENGINEER SP TRAIN I MAY PROCEED PAST THE RED CONDITIONAL STOP SIGN AND THROUGH THE LIMITS OF ORDER NO. . . . ON TRACK BETWEEN MP AND MP AT (Speed). REPEAT (Speed) MILES PER HOUR."

Foreman must acknowledge Engineer's response as follows:

"SP TRAIN ORDER NO. . . . ON TRACK , BETWEEN MP AND MP MPH OK."

SPEED TABLE

TIME PER MILE	MILES PER HOUR
36"	100
37"	97.3
38"	94.7
39"	92.3
40"	90
41"	87.8
42"	85.7
43"	83.7
44"	81.8
45"	80
46"	78.3
47"	76.6
48"	75
49"	73.5
50"	72
51"	70.6
52"	69.2
53"	67.9
54"	66.7
55"	65.5
56"	64.3
57"	63.2
58"	62.1
59"	61
1'00"	60
1'01"	59
1'02"	58.1
1'03"	57.1
1'04"	56.2
1'05"	55.4
1'06"	54.5
1'07"	53.7
1'08"	52.9
1'09"	52.2
1'10"	51.4
1'11"	50.7
1'12"	50
1'13"	49.3
1'14"	48.6
1'15"	48
1'16"	47.4
1'17"	46.8
1'18"	46.2
1'19"	45.6
1'20"	45
1'25"	42.4
1'30"	40
1'35"	37.9
1'40"	36
1'45"	34.3
1'50"	32.7
1'55"	31.3
2'00"	30
2'15"	28.7
2'30"	24
2'45"	21.8
3'00"	20
3'30"	17.1
4'00"	15
5'00"	12
6'00"	10
7'00"	8.6
7'30"	8
8'00"	7.5
10'00"	6