
WORK SAFELY TODAY

EACH RULE VIOLATION IS A
POTENTIAL ACCIDENT

TRAINMASTERS

K. P. WOODMarysville
J. C. BANTA.....Oakland

CHIEF DISPATCHER

F. R. JUSTIS.....Sacramento

DISPATCHERS

J. W. JONES.....Sacramento
E. L. COKER.....Sacramento
I. S. BIGGS.....Sacramento
C. I. DAVIS.....Sacramento
J. E. TAYLOR.....Sacramento

SACRAMENTO NORTHERN RAILWAY

TIMETABLE

25

EFFECTIVE SUNDAY, SEPTEMBER 27, 1953

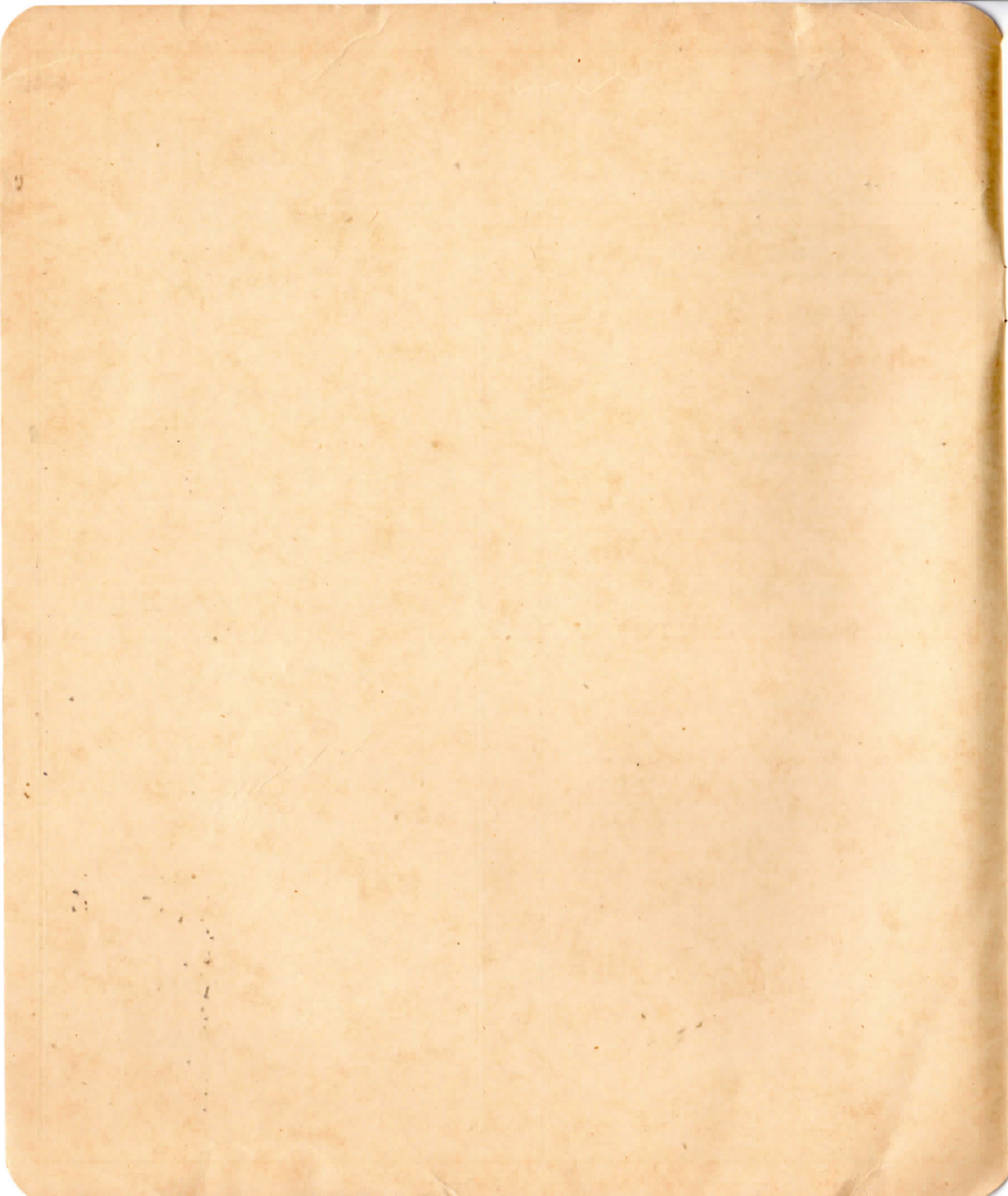
AT 12:01 A. M.

PACIFIC STANDARD TIME

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

R. T. KEARNEY,
President and General Manager

H. J. MULFORD,
Superintendent



FIRST SUBDIVISION

Eastward			Time Table No. 25 September 27, 1953		Westward	
Fone, Scales Wyes, Bulletin, Register Station, Standard Clocks, Interlocking Plant	SECOND CLASS 292 Sacramento Local Freight Leave Daily EX. SUN.	Distance from Oakland	STATIONS	Distance from Pittsburg	SECOND CLASS 293 Oakland Local Freight Arrive Daily EX. SUNDAY	Capacity of Sidings in Freight Cars
	6.00 AM				4.30 PM	
PBKIY	6.00 AM	0.00	2S OAKLAND 1.79	39.05	4.30 PM	Yard
P		1.79	ROCKRIDGE 1.20	37.26		1 (Spur)
P		2.99	TEMESCAL 2.51	36.06		16 (Spur)
P		5.50	HAVENS 3.30	33.55		9 10 (Spur)
P		8.80	PINEHURST 2.13	30.25		16
P		10.93	MORAGA 2.81	28.12		6 31 (Spurs)
P		13.74	BURTON 2.45	25.31		34
P		16.19	LAFAYETTE 1.82	22.86		10 10 (Spur)
P		17.81	SARANAP 1.73	21.24		42
PB		19.54	D WALNUT CREEK 2.02	19.51		11 56 (Spurs)
P		21.56	SPARKLE 0.10	17.49		7 (Spur)
		21.66	LAS JUNTAS (S.P.R.R. Crg.) 0.55	17.39		6 (Spur)
P		22.21	BANOROFT 0.82	16.84		11 (Spur)
P		23.03	MEINERT 2.81	16.02		47 15 (Spurs)
P		25.84	CONCORD 3.47	13.21		4 53 (Spurs)
PI		29.31	OLYDE (NAVAL R.R. Crg.) 1.82	9.74		26 (Spurs)
PBK		31.13	DN PORT CHICAGO 3.43	7.92		50 41 (Spurs)
P		34.56	McAVOY 1.13	4.49		18 16 (Spurs)
P		35.69	SHELL POINT 1.33	3.36		2 (Spur)
PY	11.00	37.02	WEST PITTSBURG 2.03	2.03	12.30	Yard
		38.34	AT&SF Crossing			
PB	11.30 AM	39.05	D PITTSBURG	0.00	12.01 PM	Yard
		39.49	AT&SF Crossing			
		40.02	AT&SF Crossing			
	Arrive Daily EX. SUNDAY		(39.05)		Leave Daily EX. SUN.	

Nos. 292 and 293 have no time-table superiority. Times shown are for information only.

At meeting points between extra trains, the train in the eastward direction must take the siding unless otherwise provided. At a meeting point between an extra and a work extra, the work extra must take the siding, unless otherwise provided.

Eastward		HOLLAND BRANCH		Westward	
Fone, Scales Wyes, Bulletin, Register Station, Standard Clocks	Distance from Oakland	Time Table No. 25 September 27, 1953		Distance from Oxford	Capacity of Sidings in Freight Cars
		STATIONS			
P	79.13	RIVERVIEW 3.92	15.77	23 10 (Spur)	
P	83.05	ARGENTA 0.82	11.85	19	
P	83.87	BERMUDA 1.15	11.03	19	
P	85.02	CLARKSBURG 0.45	9.88	33	
P	85.47	WILLOW POINT 0.90	9.43	18	
P	86.37	CONISTON 0.83	8.53	21 9 (Spur)	
P	87.20	NEWTOWN 0.59	7.70	42	
P*	87.79	CENTRAL 1.85	7.11	36 19 (Spurs)	
P	89.64	GREENDALE 1.52	5.26	25 14 (Spur)	
P	91.16	SILVERDALE 1.17	3.74	10 (Spur)	
P	92.33	SORROCA 1.06	2.57	29 12 (Spur)	
P	93.39	VALDEZ 1.51	1.51	23 12 (Spur)	
P	94.90	OXFORD	0.00	17 21 (Spur)	

FIRST SUBDIVISION

Eastward			Westward		
Fones, Scales, Wyes, Bulletins, Register Stations, Standard Clocks, Interlocking Plant	SECOND CLASS	Distance from Oakland	Time Table No. 25 September 27, 1953		Capacity of Sidings in Freight Cars
	292 Sacramento Local Freight		Distance from Sacramento	SECOND CLASS	
Leave Daily		293 Oakland Local Freight		Arrive Daily	
P. Y.	1.30 PM	37.02	STATIONS		Yard
		37.69	WEST PITTSBURG 0.67	47.83	12.30 PM
P		38.21	MALLARD	47.16	Yard
P		39.27	Suisun Bay Car Ferry CHIPPS 0.52	46.64	37
P		40.62	1.06	45.58	4 (Spur)
P		42.16	SPOONBILL 1.35	44.23	9 (Spur)
P		44.15	DUTTON 1.54	42.69	26 (Spur)
P		49.96	MONTEZUMA 1.99	40.70	68
P		53.19	MOLENA 5.81	34.89	24 (Spur)
P		55.87	RIO VISTA JCT. 3.23	31.66	37
P		56.73	CREED 2.63	28.98	12 (Spur)
P		59.67	OLCOTT 0.86	28.12	Yard
P		62.28	DOZIER 2.94	25.18	16
P		63.22	VALE 2.61	22.57	6 (Spur)
P		66.30	BUNKER 0.94	21.63	40 (Spur)
P		67.41	BELLEAIR 3.08	18.55	26 32 (Spur)
P		71.89	LIBFARM 1.11	17.44	46
P		76.21	YOLANO 4.48	12.96	8 (Spur)
P		79.13	SAXON 4.32	8.64	8 14 (Spur)
P		83.74	ARCADE 2.92	5.72	23 10 (Spur)
P		84.55	RIVERVIEW 4.61	1.11	Yard
P		84.85	WESTGATE 0.81	0.30	Yard
P.B.K.I.	4.30 PM	84.85	SACRAMENTO Front St. S.P.R.R. Crag.	0.00	6.30 AM Yard
	Arrive Daily		(47.83)	Leave Daily	

Eastward		WILLOTTA BRANCH		Westward	
Fones, Scales, Wyes, Bulletins, Register Stations, Standard Clocks	Distance from Oakland	Time Table No. 25 September 27, 1953		Distance from Willotta	Capacity of Sidings in Freight Cars
		STATIONS			
Y.P.	56.73	DOZIER 7.96	18.77	Yard	
P.Y.	64.69	CORDERO 0.75	10.81	Yard	
Y.P.	65.44	VACAVILLE JCT. 5.61	10.06		
	71.05	FAIRFIELD 1.94	4.45	10	
	72.99	OLIMA 0.18	2.51	9 (Spur)	
	73.17	SUVAL 0.36	2.33	12 (Spur)	
	73.53	CHADBOURNE 0.70	1.97	12 (Spur)	
	74.23	RUSSELL 0.95	1.27	15 (Spurs)	
	75.18	DANIELSON 0.32	0.32	6 4 (Spur)	
	75.50	WILLOTTA	0.00	22 (Spurs)	

Eastward		VACAVILLE BRANCH		Westward	
Fones, Scales, Wyes, Bulletins, Register Stations, Standard Clocks	Distance from Oakland	Time Table No. 25 September 27, 1953		Distance from Vacaville	Capacity of Sidings in Freight Cars
		STATIONS			
Y.P.	65.44	VACAVILLE JCT. 4.46	4.46		
	69.90	VACAVILLE	0.00	9 36 (Spurs)	

SECOND SUBDIVISION

Eastward			Westward			
Fones, Scales, Wyes, Bulletin, Register Stations, Standard Clocks, Interlocking Plant	SECOND CLASS	Distance from Oakland	Time Table No. 25 September 27, 1953	Distance from Marysville	SECOND CLASS	Capacity of Sidings in Freight Cars
	192 Chico-Colusa Local Freight				193 Sacramento Local Freight	
STATIONS						
P.B.Y.K.		90.88	SACRAMENTO, C ST.	40.18		Yard
P.O.	8.00AM	91.20	0.52 HAGGIN	39.66	4.00PM	Yard
P.I.		92.19	0.99 GLOBE, W.P.R.R. Cross.	38.67		Yard
P.		92.87	0.68 NORTH SACRAMENTO	37.99		9 (Spur)
P.		94.70	1.83 DEL PASO	36.16		8 (Spur)
P.		98.81	4.11 RIO LINDA	32.05		38
P.		100.12	1.31 ELVERTA	30.74		6 (Spur)
P.		103.05	2.93 RIEGO	27.81		9 (Spur)
P.I.		105.03	1.98 SANKEY, W.P.R.R. Cross.	25.83		27 (Spur)
P.		108.42	3.39 PLEASANT GROVE	22.44		36 12 (Spur)
P.		110.46	2.04 OATLETT	20.40		39 (Spurs)
P.		114.65	4.19 EAST NICOLAUS	16.21		19 34 (Spurs)
P.		118.06	3.41 RIO OSO	12.80		25 (Spur)
P.		124.94	6.88 ARBOGA	5.92		24 (Spur)
P.		125.41	0.47 PEARSON	5.45		14 44 (Spurs)
P.		128.07	2.66 ALICIA	2.79		9 (Spur)
P.		129.64	1.57 SOUTH YUBA	1.22		52
P.		130.55	0.91 OLIVER, W.P.R.R. Jct.	0.31		
P.	11.00AM	130.86	0.31 MARYSVILLE	0.00	1.00PM	Yard
			(40.18)			

Joint track Marysville: See special instructions on pages 14 and 15.

At meeting points between extra trains, the train in the eastward direction must take the siding unless otherwise provided. At a meeting point between an extra and a work extra, the work extra must take the siding, unless otherwise provided.

SECOND SUBDIVISION

Eastward				Westward				
Fone, Scales, Wyes, Bulletin, Register Stations, Standard Clocks Interlocking Plant	SECOND CLASS		Distance from Oakland	Time Table No. 25 September 27, 1953	Distance from Chico	SECOND CLASS		Capacity of Sidings in Freight Cars
	192 Chico- Colusa Local Freight	7.00 PM				193 Sacramento Local Freight	11.00 PM	
STATIONS								
P.			130.86	MARYSVILLE	48.35			Yard
P.O.K.B.			132.12	1.26 YUBA CITY S.P.R.R. Cross.	47.09			Yard
			133.42	1.30 PALORO	45.79			45 (Spurs)
P.			134.13	0.71 HARTER	45.08			31 (Spurs)
P. Y.			134.82	0.60 COLUSA JUNCTION	44.39			Yard
P.			137.17	2.35 NUESTRO	42.04			44
P.			138.48	1.31 SANDERS	40.73			7 (Spur)
P.			139.43	0.95 ENCINAL	39.78			26
P. I.			143.54	4.11 LIVE OAK S.P.R.R. Cross.	35.67			22 29 (Spurs)
P.			149.25	5.71 EAST GRIDLEY	29.96			24 (Spur)
P.			150.92	1.67 PEACHTON	28.29			8 (Spur)
P.			153.57	2.65 EAST BIGGS	25.64			17 (Spur)
P.			157.04	3.47 LOBBINE	22.17			10 (Spur)
P. Y.			159.86	2.82 OROVILLE JCT.	19.35			Yard
P.			162.66	2.80 SHIPPEE	16.55			14 (Spur)
P.			164.33	1.67 RAMADA	14.88			20
P.			166.09	1.76 BLAVO	13.12			27
P.			169.09	3.00 ESQUON	10.12			22 (Spur)
P.			172.14	3.05 DURHAM	7.07			27 (Spurs)
P.			176.40	4.26 SPEEDWAY	2.81			13
P.			176.97	0.57 STIRLING JCT., S.P.R.R. Cross.	2.24			Yard
P. Y.		3.00 AM	177.88	0.91 MULBERRY	1.33	7.00 PM		Yard
			178.22	0.34 OHIO 16TH ST.	0.99			
P. B. K.			179.21	0.99 D CHICO	0.00			Yard
		Arrive Tues., Thurs., Sat.		(48.35)		Leave Tues., Thurs., Sat.		

Nos. 192, 193, 194 and 195 have no timetable superiority. Times shown are for information only.

At meeting points between extra trains, the train in the eastward direction must take the siding unless otherwise provided. At a meeting point between an extra and a work extra, the work extra must take the siding, unless otherwise provided.

Eastward			OROVILLE BRANCH		Westward			
Fone, Scales, Wyes, Bulletin, Register Station, Standard Clocks	SECOND CLASS		Distance from Oakland	Time Table No. 25 September 27, 1953	Distance from Oroville	SECOND CLASS		Capacity of Sidings in Freight Cars
	194 Thermalito Local Freight	4.00 PM				195 Sacramento Local Freight	10.15 AM	
STATIONS								
P. Y.			159.86	OROVILLE JCT.	5.40			Yard
P.			163.08	3.22 THERMALITO	2.18			10 21 (Spurs)
P.			164.17	1.09 OROVILLE, Marysville Road	1.09			Yard
P. B.			165.26	1.09 OROVILLE	0.00			Yard
				(5.40)				

SECOND SUBDIVISION

Eastward		WOODLAND BRANCH			Westward			
Fone, Scales Wyes, Bulletin, Register Station, Standard Clocks, Interlocking Plant	SECOND CLASS	Distance from Oakland	Time Table No. 25 September 27, 1953	Distance from Woodland	SECOND CLASS	Capacity of Sidings in Freight Cars		
					196		197	
					Woodland Local Freight		Sacramento Local Freight	
			STATIONS					
P.	9.00AM	84.55	BRODERICK 1.52	16.56	2.00PM	Yard		
I.		86.07	MIKON, S.P.R.R. Cross. 1.04	15.04				
P.		87.11	LOVDAL 3.60	14.00		16 5 (Spurs)		
P.		90.80	BEATRICE 3.27	10.81		10 (Spur)		
P.		94.07	FREMONT 2.13	7.04		17		
P.		96.20	CONAWAY 2.90	4.91		28 (Spurs)		
P.		99.19	HEBRON 1.92	1.92		12 (Spurs)		
P.	11.00AM	101.11	D WOODLAND (16.56)	0.00	12.01 PM	Yard		

At meeting points between extra trains, the train in the eastward direction must take the siding unless otherwise provided. At a meeting point between an extra and a work extra, the work extra must take the siding, unless otherwise provided.

Eastward		COLUSA BRANCH			Westward			
Fone, Scales Wyes, Bulletin, Register Station, Standard Clocks, Interlocking Plant	SECOND CLASS	Distance from Oakland	Time Table No. 25 September 27, 1953	Distance from Colusa	SECOND CLASS	Capacity of Sidings in Freight Cars		
					190		191	
					Colusa Local Frt.		Marysville Local Freight	
			STATIONS					
P.Y.	7.30PM	134.82	COLUSA JUNCTION 1.34	21.55	11.59PM	Yard		
P.		136.16	ALMENDRA 3.71	20.21		7 (Spur)		
P.		139.87	D SUTTER 5.03	16.50		15 38 (Spurs)		
P.		144.90	TARKE 0.90	11.47		27		
P.		145.80	LIRA 0.95	10.57		24 (Spur)		
P.		146.75	BEET SPUR 1.39	9.62		27		
P.I.		148.14	MERIDIAN 1.63	8.23		63 (Spurs)		
P.		149.82	SYOAMORE 5.69	6.55		8 (Spur)		
P.		155.51	ARBEE 0.86	0.86		17 (Spur)		
P.	9.30PM	156.37	D COLUSA (21.55)	0.00	10.00PM	Yard		
					Leave Mon., Wed. & Fri.			

Nos. 190, 191, 196 and 197 have no timetable superiority.
Times shown are for information only.

“SAFETY FIRST”

SPEED RESTRICTIONS GENERAL

Oakland, Shafter Avenue.....	22 MPH	East Nicolaus—Road crossing.....	15 MPH
Oakland—College and Shafter, Traffic light signals....	Stop	Marysville city limits.....	12 MPH
Traffic light signals are not synchronized with rail traffic. After stopping trains will be governed by traffic signal indication.		Marysville—Highway crossing north end D Street Bridge, yard engines.....	Stop and flag
Temescal to Rockridge.....	10 MPH	Marysville—Arterials—Trains, yard engines.....	Stop
Westward trains approaching breakover of 4% grade at Temescal.....	5 MPH	Marysville, 4th and Orange streets.....	Stop and flag
Havens to Temescal.....	20 MPH	Feather River trestle between Marysville and Yuba City.....	10 MPH
Havens to Rockridge		Yuba City—City limits.....	12 MPH
Freight engines operated as single unit.....	10 MPH	Yuba City—Arterials—Trains, yard engines.....	Stop
Passenger motors operated as single unit.....	10 MPH	NOTE: At Plumas and Bridge Streets stop must be made even though a member of the train crew acts as a flagman.	
Between Havens and Eastport.....	15 MPH	Yuba City, Cooper Ave.....	Stop
Eastport to Pinehurst.....	20 MPH	Yuba City, Street Intersections, when Traffic Officer on duty all movements governed by Traffic Officer signal.	
Valle Vista curve between Pinehurst and Moraga....	10 MPH	Sanders—Road crossing.....	15 MPH
St. Marys to Burton, all curves.....	15 MPH	Encinal—Road crossing.....	15 MPH
Walnut Creek, Union Oil spur.....	15 MPH	Live Oak—Road crossings.....	15 MPH
Walnut Creek, Yard limits.....	15 MPH	Live Oak—City limits.....	15 MPH
Concord—City limits.....	20 MPH	Live Oak—Arterial stop sign at 18th Street.....	Stop
Ohmer—Eastward trains descending grade.....	20 MPH	Live Oak—Highway crossing east of Southern Pacific crossing.....	20 MPH
West Pittsburg—Under Pass Curve.....	20 MPH	East Biggs—Highway crossing.....	15 MPH
Between West Pittsburg and Pittsburg.....	15 MPH	Rio Bonito—Highway crossing.....	15 MPH
Pittsburg—City limits.....	15 MPH	Cut East of Hazelbusch—Road crossing.....	15 MPH
Pittsburg—All street crossings.....	10 MPH	Durham—Highway crossing.....	15 MPH
Pittsburg—Columbia St.....	Stop and flag	Savona—Highway crossing.....	15 MPH
Mallard—Eastward trains.....	Stop	Edgar Slough highway crossing.....	20 MPH
Ferry Ramon—All movements on and off Ferry.....	5 MPH	Chico city limits.....	12 MPH
Chippis—Westward trains.....	Stop	Chico—Arterials—Trains and yard engines.....	Stop
Between Chippis and Montezuma all long trestles....	10 MPH	Woodland city limits.....	12 MPH
Drawbridge—Montezuma Slough, Dutton.....	10 MPH	Woodland—Arterials—Trains and yard engines.....	Stop
Willotta Branch—Between Vacaville Jct. and Willotta.	20 MPH	Road crossing, Shell Oil Plant, Woodland.....	6 MPH
Highway—Highway crossing.....	Stop	Fremont Trestle.....	15 MPH
(See Special Rule on Page 9)		Rose Orchard—Trains must reduce to 20 MPH 300 feet from the road crossing and speed must not exceed 15 MPH when head end of train moves over the crossing.....	15 MPH
Clima—Highway crossing, protected by flashing light signals.....	Caution	Kiesel—Highway crossing.....	15 MPH
Vacaville Branch—Between Vacaville Jct. and Vacaville.....	20 MPH	Almendra—Road crossing.....	15 MPH
Vacaville—Highway crossing protected by flashing light signals.....	Caution	Sutter—Highway crossing.....	15 MPH
Holland Branch—All curves.....	15 MPH	Meridian Bridge.....	6 MPH
Tower Bridge, Sacramento.....	15 MPH	Highway crossing east of Sycamore.....	15 MPH
Highway crossing west end Tower Bridge, Sacramento.	10 MPH	Rowena road crossing.....	20 MPH
Sacramento city limits.....	20 MPH	Colusa city limits.....	12 MPH
Except—All street intersections.....	15 MPH	Colusa—Arterials—Trains and yard engines.....	Stop
Except—Other points covered by special timetable instructions.		Colusa, Bridge St.—Highway crossing.....	15 MPH
Sacramento—Arterials—All trains, yard engines....	Stop	Oroville city limits.....	10 MPH
Exception—Does not apply to the arterial stop sign located at Front and Capitol Avenue.		Approaching and passing over spring switches.....	12 MPH
Sacramento—Traffic Light Signals—All movements governed by signal indication or traffic officer signal.		Light motors splitting spring switches, except oil buffer switches.....	6 MPH
Sacramento, 19th and C streets, westward trains and yard engines.....	5 MPH	All trains splitting oil buffer switches.....	10 MPH
Del Paso—Highway crossing.....	15 MPH	Maximum Speed—All trains, and engines running light.....	30 MPH
Rio Linda—Road crossing.....	15 MPH	Speed restriction signs indicating speed of freight trains are located at various places where speed should be reduced. Maximum speeds permitted under city ordinance do not dispense with the observance of Rule 93.	
Riego—Road crossing.....	15 MPH		

MISCELLANEOUS

Test, inspection and understanding as required by Rule 1075 of the Rules and Regulations of the Transportation Department and "Terminal Train Brake Tests" of AAR Brake instructions, will be made on all westward freight and work trains before train is moved over any portion of descending grade between Havens and Oakland.

Tonnage rating and car limit as shown in schedule of locomotive ratings and in the following instructions must be observed. Upon instruction from proper officer car limit may be increased provided the total tonnage of train does not exceed the maximum permissible tonnage rating.

Conductor will fill in correct information on Test Card, Form 182, sign and submit Test Card to Car Inspector and Engineer handling train for completion and signatures. Conductor will place completed Test Card in box at Havens. Stop must be made at Havens for the purpose of turning up the retainers on all cars and placing the test card in the box.

Locomotives 643 and 644 are equipped with transfer valves, power and control connections so that these two locomotives when coupled can be handled as a single unit by one Engineer.

Locomotives 653, 654, 660, 661 and 670 are equipped with transfer valves but no power nor control connections so that any two of these locomotives when coupled will require two engineers for power operation but the engineer on the head locomotive will control the air brakes. This same method of operation will apply when either locomotive 643 or 644 is coupled with locomotive 653, 654, 660, 661 or 670.

When two locomotives coupled are used in handling trains, not less than three air compressors must be in service. When single locomotives are used both compressors must be in service.

Ninety (90) pounds brake pipe pressure must be carried at all times between Havens and Oakland with main reservoir pressure setting of 110-130 pounds.

Havens To Rockridge:

Trains having not less than 100% operative air brakes and total tonnage not exceeding 55 tons per operative brake may be handled by either two locomotives coupled or by one locomotive, provided they do not exceed the car limit below:

643	Two engines coupled.....	25 cars
644	Single engine	15 cars
645	Two engines coupled.....	20 cars
646	Single engine	10 cars
653		
654	Two engines coupled.....	25 cars
660	Single engine	15 cars
661		
670		

All compressors must be working with 25 cars using engines 650-660-670 class, or 643-644 class. If only 3 compressors working on 2 engines, not over 18 cars shall be handled. Using engines 645-646 all compressors working for 20 cars, and if only 3 compressors, not over 15 cars. With single locomotive both compressors shall be operating.

Service applications shall be made using short cycle method of grade braking—that is, small frequent applications instead of less frequent heavy applications, and thus avoiding excessive reductions in train line pressure.

The following speed limits must be strictly observed:

- 20 MPH: Havens to Temescal.
- 10 MPH: Temescal to Rockridge.
- 5 MPH: approaching break over of 4% grade at Temescal.

All trains must use at least 7 minutes moving from Temescal to Rockridge.

Retaining valves must be in service on all cars. On loaded cars, retainer handle must be placed in high pressure position, except that S. N. box cars in merchandise service may have retainer handle in low pressure position. Retainer handle on empty cars shall be placed in the low pressure position.

It is the responsibility of conductors to see that this special instruction is complied with fully and that retainers are set in accordance with the requirements contained herein.

No attempt should be made to handle any car or cars down this grade with the brake inoperative either from air brake failure or foundation rigging failure.

A.A.R. recommended practice, as covered by A.A.R. Rules Governing the Inspection and Maintenance of Train Air Brake and Signal Equipment, for air brake test and inspection shall be followed, except that piston travel on all freight cars shall be reduced to seven inches or as near as practical thereto.

Proper piston travel and retaining valve tests and maintenance must be strictly observed.

The position of the retainer handles and the pressure holds are as follows:

1. Handle straight down } Direct release retainer not in service.
2. Handle horizontal } Low pressure position.
3. Handle 45° below horizontal or halfway between Position 1 and 2..... } High pressure position.
4. Handle 45° above horizontal position..... } Slow release position.

NOTE—This position must not be used on any car between Havens and Rockridge.

No westward freight nor work train heavier than 55 tons per operative air brake will operate between Temescal and Rockridge unless permission is obtained from the proper officer.

Helper engine must be used on rear of all eastward freight and work trains between Oakland Yard and the summit of the grade east of Havens, except that when no helper is provided for an eastward freight or work train originating at Havens the Conductor must, after pulling out of the siding, see that the east switch of the siding is left open until rear of train passes the spur switch when it must be opened before lining the east switch of the siding back for the main track. The spur switch will then be left open until the rear of the train passes the summit of the grade. Engineer must then stop and sound the required whistle signal calling his flagman in from the west. The brakeman will then line the spur track switch for the main track and return to his train.

The same rule will apply when pulling off the spur instead of the siding.

Work trains in this territory not originating at Havens must not go west of the summit of the grade unless the locomotive is on the west end of the train.

The trolley or pantograph must be down before removing any jumpers, handling 600-1200 volt switches, or when the engineer is repairing electrical equipment.

Should the pantograph become damaged so as to render it inoperative it must be locked or tied down and the pole trolley used instead. Should the damaged pantograph require repairs in order to lock or tie it down, extreme caution must be used to prevent the pantograph coming in contact with the trolley wire while repairs are being made.

The old type whistle must be blown approaching each street intersection in Oakland and blasts must be so spaced that the last blast will continue in the intersection. The air gong may be used, but the engine bell should be used only in an emergency.

The use of the pneuphonic air horn between Temescal and Oakland, is prohibited.

Within the city limits of Pittsburg the use of the pneuphonic air horn is prohibited. The old type whistle must be used and, if inoperative, the air gong shall be used.

High cars when placed on the old Ice House spur at Concord must be left west of the sand bins, so that engineer will have a clear view of the highway crossing, switches and signals.

Cars must not be left standing on Willow Pass road crossing just east of Concord station.

Control operated by selector in the dispatcher's office is installed on color light signal at Burton and is used to stop trains. After the train has been cleared by the dispatcher, the conductor shall clear the signals by pressing a button which is located by the side of the telephone and must see that the signals are clear before leaving the station.

Signs reading—Cars must not be switched beyond this point by S. P. Co. - S. N. Ry. — are located on track 1 at the Shell Chemical Plant, Shell Point.

The yard limits of Pittsburg include all tracks in Pittsburg, and between Pittsburg and the yard limit signs at West Pittsburg and Mallard. All movements between Pittsburg and West Pittsburg will be made in accordance with Rule 93.

Loaded cars in excess of 169,000 pounds, gross weight, must not be accepted from connections nor handled in trains, except between Las Juntas and Lafayette the gross weight shall not exceed 200,000 pounds and between Pittsburg and Port Chicago the gross weight shall not exceed 210,000 pounds.

All freight engine pantographs should be lowered and mechanical lever left in down position before going on apron of boat and kept in that position during any operation over aprons at the Chipps and Mallard slips. When tying up freight engine the pantograph must be securely locked in the down position.

Engineers must shut off power at all sectional insulators in trolley except at places where insulators have been designed for pantograph operation.

The Captain, or his pilot, will have direct charge of train crews in loading and unloading the Ferry, and movements must be made in accordance with his instructions. 700 gross tons is the maximum load limit. Heavy and light cars must be placed on the Ferry so as to keep the load well balanced. Each track on the Ferry is approximately 220 feet long, but, only 210 track feet may be used. When shoving cars on the Ferry ahead of engine, no cars are to be coupled on to, or handled behind the engine.

Hand and air brakes must be set on all freight cars and air brakes set on freight engines. At night, all marker and classification lamps must be removed.

Blocks must not be removed until Ferry is against apron.

Engineers must move slowly and watch to the rear until entire train is moved off the Ferry.

Highway—State Highway crossing between Armijo and Fairfield—All trains, engines, motors or cars must come to a stop, and no movement made over the crossing until a member of the train crew or other competent employee acting as a flagman has protected traffic on the highway.

After stopping and when traffic on the highway permits and it is safe to proceed, the employee acting as flagman shall display lighted fusee from front end of the deck of the engine both during the daylight and at night, until the engine passes over the crossing.

The spur at Belleair is crossed by a County Road. At such times as cars are allowed to stand on this spur within a distance of two hundred (200) feet of either side of this county road, a member of the train crew or other competent employee shall protect the traffic on said road by acting as a human flagman for all trains, engines, motors or cars operating over the adjacent main line track. Cars which are stored on this spur must not be left standing within 200 feet of either side of the road crossing.

Inside switches of both crossovers at Riverview must be left lined and locked for Holland Branch.

The W. P. tracks on Front and R Streets leading to the C. P. C. Plant and P Street Dock may be used by S. N. yard crews under yard rules. W. P. yard engines have preference on these tracks.

City Ordinances require all trains and yard engines within one hundred feet of an intersection to stop immediately on the approach of any police, ambulance, or fire apparatus sounding siren or signal gong except they be at the time on, or crossing an intersection, in which event crossing must be cleared and then stop.

Civil, Military or Funeral processions must not be obstructed.

When trains and yard engines approach a street intersection simultaneously, except where traffic is controlled by traffic signals in service or traffic officer, the train, or yard engine, moving eastward must reduce speed, stopping if necessary, and must not enter the intersection until the train, or yard engine, moving in the westward direction has passed entirely out of the intersection and the engineer has a clear and unobstructed view.

Trainmen and Enginemen using Western Pacific tracks, Sacramento, will be governed by special instructions in current Western Pacific timetable and must have current Western Pacific, Western Division, timetable in their possession.

The tracks on X Street and Front Street, Sacramento, are operated jointly with the C. C. T. Company.

Account sharp curvature of turnout, do not attempt to put engines in track No. 1, 17th and D Streets, Sacramento.

The tracks in Haggin Yard are used by Western Pacific yard engines and crews when switching their cars to and from the Southern Pacific interchange. Crew must obtain a lineup of S. N. trains from the S. N. dispatcher before using the main track and obey yardmaster's instructions.

Spring switches, except tongue switches, are indicated by yellow lenses and targets on Sacramento Northern tracks. On the joint track at Marysville, all inside switches on the Western Pacific have yellow lenses and targets, but are not spring switches.

When throwing oil buffer switches by hand, sufficient time must be allowed for the point to fit the traffic rail before movement is made over the switch.

Except when using fan-tail type electric engines or 44-ton diesel engines, backup movements from the west end of the yard at Yuba City onto Bridge Street must be protected by a member of the train or yard crew acting as a flagman. Backup movements over other street intersections or around sharp curves in switching service when the engineer's view is obstructed must be protected in the same manner. The conductor or foreman of the crew is jointly responsible with the engineer for this protection being given.

Back-up hose must be used by yard crews when shoving cars ahead of engine over city streets.

Yard crews must be cleared by Dispatcher for movements between Haggin and Globe.

Cars of gasoline when spotted for unloading at any oil spur must be left between the insulated joints and the end of the spur. No cars are to be left standing over the insulated joints or coupled to cars spotted between the insulated joints and end of spur.

Where power switches are installed on gasoline unloading tracks, they must not be closed until it has first been ascertained by a member of the crew that all cars have been disconnected and are ready to move. The power switches must be left open after switching has been completed.

Freight trains are limited to engine and six cars on Main Street, Chico.

Trainmen must not ride on top or side of cars in the area between Sacramento Avenue and 5th Avenue on the Esplanade, Chico.

Color light signal which indicates red is installed on the train order mast at East Nicolaus, and is used for stopping trains for train orders. After receiving train order Conductor will clear the signal by pressing a button located near the telephone.

To reduce automobile accidents, special care should be used when approaching grade crossings known to be obscured or hazardous. Where vehicles are moving in public streets in the same direction as the train and are not clear of the track on which train is operating, speed should be so controlled as to permit train being stopped in case vehicle makes a sudden or unexpected stop or turn. When about to pass a vehicle moving in the same direction as train, the engineer should satisfy himself that the driver is aware of approach of the train.

The following instructions cover the use of push poles:

(a) The use of push poles in freight operations is prohibited, except in emergencies when poling of cars cannot otherwise be avoided.

(b) When such emergencies arise and it becomes absolutely necessary to pole cars, as quickly as pole is in position, member of crew placing pole must move into the clear a sufficient distance to insure his personal safety; being careful to place pole in pole pocket or in such position that pole will not slip. Such poling movements must be executed with great care and without cars coupled to engine, being careful to avoid misunderstandings of signals or damage to equipment. The use of non-standard push poles is strictly prohibited.

RULE 10 (H). When a yellow signal is required it will be displayed to the right of track in the direction of approach, one-quarter mile from structure or track over which speed of trains must be restricted. Where two or more main tracks are affected the signal will be displayed on each track the same as if it were a single track.

A green signal will be displayed similarly on each track immediately beyond the structure or track affected.

Trains must not exceed the speed specified by train order or bulletin, or fifteen miles an hour if no different speed is specified, while passing over the structure or track affected, until the rear of train clears the limit, which shall be indicated by a green signal. Slow boards, where used, will be similarly placed and observed.

RULE 14-L. Engineers will sound signal 14 (L) in such a manner so as to prolong the last blast of the whistle until the train enters the road crossing. On slow speed movements the signal 14 (L) should be repeated if necessary.

RULE 14 (m)—Amended.

14 (m)—Approaching stations, junctions, drawbridges, railroad crossings at grade, and mail cranes located between stations. When standing, apply air from rear of train, such application to be answered by 14 (g). After stopping at a railroad crossing not protected by an interlocking plant, engineman must give signal 14 (b) before proceeding.

RULE 17—Amended. The headlight will be displayed at the front of every train both by day and by night. The headlight must be concealed when a train turns out to meet another and has stopped clear of main track, or is standing to meet trains at the end of two or more tracks or at junctions.

RULE 17-C. Headlights must be dimmed while moving within city limits.

RULE 18—Modified. Yard engines when making a continuous movement along city streets will not display the headlight at the rear by night. A red light must be displayed to the rear, and on the rear of the last car when cars are being handled.

It shall be the responsibility of the rear brakeman to see that a red light is continuously displayed at the rear until movement is completed, after which the light must be removed and placed in the box on the engine.

Red lights displayed on rear of a cut of cars being moved on city streets must be clean and wick adjusted to burn brightly.

When stop is made and train or yard engine is left standing in street, trainman will place lighted fusee in street at rear of cut. When necessary for trainman to leave rear of cut and go ahead one or more lighted fusee will be dropped in street.

Rule 21 of the Rules and Regulations of the Transportation Department is suspended.

RULE S-88—Fourth paragraph modified as follows: At meeting point when it is necessary for train which takes siding to back in, train will be brought to a stop before it proceeds over the switch, and in obscure places, or when other conditions require, flagman must precede train a sufficient distance to insure full protection before going over the switch to back in.

RULES S-90 (A) and 104 (C) are abrogated and the following will govern:

Trainmen and other employes must not unlock derails or main track switches to enter main track until the trains which are to be met or passed have cleared the switch, and must not place themselves in the vicinity of a main track switch or between fouling point and main track switch until expected trains have been met or passed.

When a superior train arrives at a meeting point in advance of the opposing train a member of the crew may proceed to and throw switch for opposing train to enter the siding but must immediately return to a position at the head end of his train where he must remain until the train to be met has passed the switch. Proceed signal must not be given to approaching train.

When a switch is thrown, the employe using it must see that both points have moved to proper position. A switch must be fastened as soon as thrown either way and when locked, the chain pulled to insure that lock is securely fastened.

Both switches of a cross-over to or from main track must be kept closed and secured when there is a car or engine on or immediately approaching either switch, except for a direct crossover movement.

RULE 93. Second paragraph of Rule 93 is abrogated, and the following will govern:

Second and inferior class trains, extra trains and engines must approach and move with caution within yard limits.

When not protected by block signals or when moving against the current of traffic, first-class trains must approach and move with caution within yard limits.

RULE 99-A. The interpretation of this rule is that when a flagman is either sent to hold a train or is left at a point to hold a train, that his instructions must be in writing on Flagman's Hold Order, form 27.

RULE 104 (D) is abrogated and the following will govern:

Employes in alighting from trains to change switches must get off on opposite side of train from switch stand when to do so will not endanger their safety.

Unless there be ample time to do so without risk of accident, employes must not attempt to throw a switch until train has stopped, nor may a switch be closed until the last wheels have passed off the switch rails.

When a train backs in on a siding to be met or passed by another train, when his engine is clear, engineer must see that the switch is set for main track; but this does not relieve the trainmen from responsibility as to the proper position of the switch.

RULE 105—Amended. The conductor and engineer and anyone acting as pilot are responsible for the safety of the train and observance of the rules, and under conditions not provided for by the rules, must take every precaution for protection. This does not relieve other employes of their responsibility under the rules.

RULE 219—Amended. A Conductor taking a train order over the telephone circuit must not repeat or give the "X" response to a train order if the train has been cleared or of which the engine has passed the telephone booth or other point where the order is being received until he has obtained the signature of the engineer.

RULE 511—Amended. Both switches of a crossover between main tracks must be opened before a movement is started through the crossover, and one or both of the switches must be kept open until the movement is completed.

RULE 821—Amended. Employees are not permitted to ride on pilot or leading footboard of any engine in the direction of movement. When getting off rear footboard, do so to one side, being sure there is no obstruction, or wait until engine has stopped.

RULE 838. Cars must not be left standing on any spur or siding within 200 ft. of any highway crossing, if possible to avoid it.

RULE 890. This rule provides in part that the conductor will see that trainmen are so distributed over the train as to control it most effectually and be able to pass signals from any part of it to the enginemen. This rule applies to continuous movements over and along city streets and in yards, and where required a trainman must take a position at the rear of yard cuts. Trainmen will be expected to comply fully with the requirements of this rule.

RULE 895—Amended: Freight trains must not be run more than 30 miles without stop for inspection, except that when an additional stop can be avoided thereby, the distance may be increased to 50 miles.

RULE 970 must be observed by train crews before passing through tunnel No. 1, over ferry slips, and all long trestles and bridges.

RULE 973 is amended to read:

Know that cars which are left on side tracks clear street, highways or private crossings. Do not leave cars on sidings (passing tracks) when there is room for them on other tracks; if left so, notify Train Dispatcher immediately by wire. See that a sufficient number of hand brakes are set to hold the cars on side tracks. If brakes are inoperative, secure cars in some other manner. When the side track is on grade, if practicable, couple the cars together, and in addition to setting the brakes, block the wheels. When cars are set out on siding or spurs where there is a derail, leave them as near the derail as possible, and be sure the brakes are set.

RULE 1011. When wigwags, bells or flashing lights are found inoperative, train or engine must stop and be preceded over the crossing by a flagman. When a reverse movement is made on Main track or on siding or spur which is not in wigwag circuit a flagman must protect the crossing before the movement is made.

Flasher signals which operate in conjunction with wigwag signals are installed in advance of all wigwags which swing parallel with the tracks.

RULE 1070. Applies to two or more freight engines coupled and operated as one unit. Air-brake test must be made before the unit is moved and when engineer changes his operating position from one engine to the other.

RULE 1076 is amended to read as follows:

1076. Rear End Test Between Terminals:

When locomotive has been coupled to a train, or when two or more parts of a train have been coupled together, all brake pipe and signal pipe connections must be connected up and cocks in signal and brake pipes opened except on the rear end of the last car, which must be closed. After train is charged properly the engineman will apply the brakes with a 10-pound brake pipe reduction and signal the crew by one blast of the whistle. The conductor or the rear brakeman then will open the angle cock gently at the rear end of the last car, allowing only enough air to escape to cause brake pipe gauge hand in cab to fall without making an emergency application. When the engineman notes the brake pipe gauge hand falling he will answer with two blasts of the whistle. The conductor or the brakeman then will close the angle cock, and when the pressure has stopped falling, the engineman will release the brakes by placing the brake valve handle in release position until the brake pipe pressure is restored sufficiently to stand within 5 pounds of the pressure carried after handle is returned to running position. Two short releases then must be made. This must not be done until brake pipe pressure has settled.

On passenger trains, after the conductor or the brakeman has closed the angle cock, he will signal the engineman immediately by four blasts of the air signal whistle (using the signal cord on the rear car) to release the brakes, which must be done in the same manner as stated above for freight trains.

This rear end test will be made in the manner prescribed, at times and points designated by special instructions from the Superintendent.

This rule will apply at terminals where a yard test plant is available and the brakes have been tested by car inspectors by the use of such yard air plant.

RULE 1089—Amended. In case of power or air brake failure and there exists the possibility of not being able to hold the train with the air brakes, sufficient hand brakes must be set to hold the train.

Air must be cut in, and air brakes in operation, on all yard cuts, and trains moving within yards, under the following conditions:

When movements are made through towns or cities or when crossing streets within city limits (except when switching).

When movements are made on grades where air brakes are necessary to keep cars under control.

INTERLOCKING AND BLOCK SIGNALS

The Interlocking Plant at 40th and Shafter governs all movements to and from 40th Street. Limits extend from Home Signal located 100 feet east of Manila Street to Home Signal located 15 feet west of Webster Street. Dwarf semaphore signals govern movements from tracks in Oakland Yard to 40th Street.

The standard color of the masts supporting home signals is white, and the masts supporting distant signals is yellow.

Trains finding a Home Block Signal dark will make a test and if the Red Signal is working may proceed. In making this test train must be backed out of circuit after getting "Red" indication before proceeding.

At meeting points, the train taking the siding, may back out after the train has been met without waiting for the switch indicator to clear and if the facing Home Block Signal is clear may proceed.

Southern Pacific Crossing at Las Juntas is protected by Stop Boards. All trains, engines, motors and cars must stop at stop boards and signal 14-B sounded before proceeding over the crossing, providing that there is no locomotive, motor, train or car of the Southern Pacific approaching the crossing from either direction.

When view is obscured by fog or inclement weather, a member of the crew must go forward to the crossing and ascertain that no train is approaching on the Southern Pacific Railway before proceeding over the crossing.

AUTOMATIC INTERLOCKER, CLYDE

Automatic Interlocking color light signals govern movement of Sacramento Northern trains and U. S. Naval Magazine, Port Chicago, California Railroad trains.

Sacramento Northern: Home signal located 610 feet east of crossing governs movement of trains over the crossing westward. Home signal located 578 feet west of crossing governs movement of trains over the crossing eastward. The westward distant signal is located 2410 feet in advance of the home signal and the preliminary circuit begins at a point 4938 feet east of the home signal. The eastward distant signal is located 3269 feet west of the home signal and the preliminary circuit begins at a point 5635 feet west of the home signal.

U. S. Naval Magazine, Port Chicago, California Railroad: Home signal located 509 feet east of crossing governs movement of trains over the crossing westward. Home signal located 500 feet west of crossing governs movement of trains over the crossing eastward.

The westward distant signal is located 2350 feet in advance of the home signal and the preliminary circuit begins at a point 2900 feet east of the home signal.

The eastward distant signal is located 2530 feet in advance of the home signal and the preliminary circuit begins at a point 4913 feet west of the home signal.

All signals are approached lighted.

Movement of Trains:

When train approaches the crossing and enters approach circuit, the home and distant signals should indicate—PROCEED.

When home signal indicates PROCEED, or PROCEED WITH CAUTION, the speed of engine must not exceed fifteen (15) miles per hour between the home signal and the crossing.

If no cause for signals being at STOP is seen or if there is a train on intersecting track standing outside of the home signals, with no indications that it is to immediately proceed, flagman must be sent ahead to operate a release located in box at the crossing. Box is provided with standard switch lock. Instructions for the operation of release are posted inside the box and are as follows:

Clockwork Time Release:

To Operate Clockwork Time Release:

(a) The release must not be operated when trains or engines are between the home signals or seen to be approaching on the intersecting tracks.

(b) To operate clockwork time release, turn knob to right to extreme position about one-quarter turn, then let go of knob and allow automatic release mechanism to run down, which will require four minutes. When knob is turned to extreme position and release mechanism has completed its operation, a red indicator light located in box with this clock release should light up indicating that home signals on intersecting track are in "STOP" position. The home signal on S.N. Ry. should then change from "STOP" to "PROCEED" or "PROCEED WITH CAUTION."

Note: In automatic block signal territory, flagman, upon receiving a red indicator light, must lock box and proceed in accordance with Rule 509.

In case indicator light fails to appear, the movement must be protected in each direction on the intersecting line.

(c) In case operation of time release does not change the home signal indication from "STOP" to "PROCEED" or "PROCEED WITH CAUTION" after the expiration of the four-minute time interval, a repeater red indicator light located on the home signal mast below the home signal should light up. If this repeater red indicator is lighted it indicates two conditions: (1) It indicates that the home signals on the intersecting line are in "STOP" position and, (2) It indicates that the reason the home signals did not change from "STOP" to "PROCEED" or "PROCEED WITH CAUTION" is because the block or track ahead of the train is occupied or at fault.

The tracks at the Shell Chemical Company's plant at Shell Point are used jointly by the Sacramento Northern and Southern Pacific. All movements over these tracks must be made with caution. The tracks leading from the Sacramento Northern and from the Southern Pacific cross at grade. All trains, motors, engines or cars of the Sacramento Northern shall stop at the "STOP" signs located at each approach to the crossing, and shall not proceed over the crossing until it has been ascertained that it is safe to do so. Several derails, properly signed, are installed on the various tracks.

A gate has been installed on the Santa Fe track which crosses the Sacramento Northern main track approximately $\frac{3}{4}$ mile west of Pittsburg. This gate is equipped with a Santa Fe switchlock and a switch lamp is mounted at the top of the mast supporting the gate.

This gate normally shall be locked in position across the line of railroad of The Atchison, Topeka & Santa Fe Railway Company and all trains, motors, engines and cars of The Atchison, Topeka & Santa Fe Railway Company shall stop before proceeding across said crossing and said gate shall not be unlocked and moved from its normal position until a member of the train crew or other competent employe has gone upon the crossing to ascertain that it is safe to do so. As soon as trains, motors, engines and cars of The Atchison, Topeka & Santa Fe Railway Company have proceeded across said crossing, such gate shall be returned to its normal position.

Trains, motors, engines and cars of Sacramento Northern Railway shall approach said crossing at speeds not in excess of fifteen (15) miles per hour, prepared to stop in the event such crossing is occupied by trains, motors, engines or cars of The Atchison, Topeka & Santa Fe Railway Company or in the event such gate is in other than its normal position, and one long blast of the engine whistle shall be sounded by the Sacramento Northern Railway when approaching said crossing in accordance with Rule 14 (M) of the Rules and Regulations of the Transportation Department, effective January 1, 1929.

Distance warning signs located 1000 feet from crossing.

Sacramento Northern industrial lead taking off of the main track approximately $\frac{3}{4}$ mile west of Pittsburg crosses industrial lead track of A. T. & S. F. R. R. at grade.

All engines, motors, cars or trains approaching the crossing shall come to a stop not less than ten (10) nor more than fifty (50) feet from nearest rail of the crossing and shall not proceed thereafter until receiving an appropriate signal from a flagman or other qualified employee. Such signal shall not be given until it has been definitely ascertained that no engines, motors, cars or trains are approaching from either direction on the conflicting route under conditions which will render it possible for an interference to occur with the movement about to be made over the crossing.

The A. T. & S. F. R. R. have precedence in the use of the crossing.

A. T. & S. F. R. R. crossing east of Harbor Street, Pittsburg is protected by stop boards. All engines, trains, motors and cars must come to a stop at the "STOP" boards located on either side of the crossing and no movement made over this crossing until a flagman has preceded over the crossing and ascertained that it is safe to proceed. A. T. & S. F. R. R. have the preference at this crossing.

At a point 360 feet east from the curb line of Columbia Street, a rail crossing at grade over the Atchison, Topeka & Santa Fe Railway lead track is installed. The following instructions will govern in operating over this crossing:

All trains, motors, engines and cars of the Sacramento Northern Railway, the Atchison, Topeka & Santa Fe Railway, and Columbia Steel Company shall come to a stop not less than ten feet (10') nor more than fifty feet (50') from the nearest rail of the crossing, and shall not proceed thereafter until a member of the train crew or other competent employe has gone upon the crossing and has ascertained that it is safe so to do and shall have given a suitable signal to proceed. In event the trains, motors, engines and cars of either railroad have approached the crossing and made the stop, as herein-before required, and any trains, motors, engines and cars are approaching upon the conflicting route within a distance which will render them in any way liable to conflict with the movement over the crossing about to be made, such movement shall not be made until the trains, motors, engines and cars approaching upon the conflicting route have been brought to a stop.

The Sacramento-Yolo Port Belt Railroad crosses the Soule spur track of Sacramento Northern Railway at grade in Westgate, Sacramento Yard.

All engines, cars or trains of the Port Belt Railroad shall come to a stop not less than ten (10) feet nor more than fifty (50) feet from the nearest rail of said crossing and shall not thereafter proceed until it has been observed or it is known that no engines or cars are approaching from either direction on the conflicting route under conditions which will render it possible for an interference to occur with the movement about to be made over the crossing. The engines or cars of Sacramento Northern Railway shall have precedence in the use of this crossing.

These regulations apply to Sacramento Northern Railway engines and cars when movements are made on the Port Belt Railroad.

Stop boards are located in advance of crossing on the Port Belt Railroad.

Southern Pacific Railroad crossing at Front and Capitol Ave., Sacramento, is protected by flagman.

Southern Pacific trains moving on Front Street, Sacramento, and yard engines switching on Front Street, shall stop before reaching the crossing at Front and Capitol Ave., and will proceed on hand signals from flagman on the ground at the crossing, flagman using a green flag by day and green light by night.

Sacramento Northern trains and yard engines moving over the crossing shall stop before reaching the crossing at Front and Capitol Ave., and will proceed on hand signals from the flagman using a yellow flag by day and a yellow light by night.

Rules governing movements over the SP crossing at Front and Capitol Avenue and movements through the interlocking plant on the Tower Bridge require that all movements over the SPRR. crossing are authorized by the flagman, using a yellow flag by day and a yellow light by night, and Rule 628 authorizes the signalman (tower operator) to use yellow signals whenever the interlocking signals are inoperative, therefore, when the interlocking signals are inoperative, engineers must receive a hand signal from the signalman (tower operator) in addition to the hand signal from the flagman, both using yellow signals.

Trains and yard cuts must stop and flag before crossing the SP. and WP. tracks at Front and R Streets except when a proceed signal is received from flagman. This rule means that trains must actually stop and be flagged over the crossing by a member of the crew unless a flagman is at the crossing in advance of the arrival of the train.

When Sacramento Northern trains and engines are moving on WP. tracks on Front Street and R Street, they must stop before crossing the SN. tracks on Front Street as provided for in WP. Transportation Rule 98, which reads as follows:

"Trains must approach the end of double track, junctions, railroad crossings at grade, and drawbridges, with caution. Where required by rule or by law, trains must stop."

"At railroad crossing at grade, unprotected by interlocking, trains must stop, and if view is obstructed one of the crew must go to the crossing and give signal when safe to proceed."

AUTOMATIC INTERLOCKER X STREET SACRAMENTO

Automatic Interlocking Color Light Signals governing movements of Western Pacific trains and Sacramento Northern trains are located at the crossing on "X" Street, Sacramento.

MOVEMENT OF TRAINS OVER "X" STREET CROSSING, SACRAMENTO

WESTERN PACIFIC—Home signal located 450 feet east of crossing governs movement of trains over the crossing westward; Home signal located 450 feet west of crossing governs movement of trains over the crossing eastward. One distant signal 1480 feet west of home signal.

MOVEMENT OF TRAINS OVER "X" STREET CROSSING, SACRAMENTO

SACRAMENTO NORTHERN—Home signals governing movement of trains with the current of traffic over the crossing located at the curb line 72.5 feet on either side of crossing; back-up signals governing reverse train movements over the crossing are located at the curb line 72.5 feet on either side of crossing. No distant signals.

Cars must not be left standing between the home signals unless coupled to another car or an engine which is standing outside of the home signals.

Cars or trains finding the home signals at "STOP," will stop clear of signal to permit it to change to "PROCEED" position when train on the Western Pacific has passed out of home signal limits.

CLOCKWORK TIME RELEASE

If no cause for signals being at "STOP" is seen, or if there is a train on the Western Pacific tracks standing outside of the home signals with no indication that it is to immediately proceed, trainman must be sent ahead to operate a release located in a box mounted on a post on the opposite side of the intersecting track, one release for each track. Box is provided with standard switch locks. Instructions for the operation of release are posted inside box. The instructions follow:

To operate clockwork time release, turn knob to right about one-quarter ($\frac{1}{4}$) turn; hold knob to right about two (2) seconds, and then let go of knob, allowing release mechanism to run down, which will require four (4) minutes.

After release has run down, a red pilot light located inside of the release box should light up. This pilot light indicates home signals on intersecting tracks are in "STOP" position. Sacramento Northern signal should then change to "PROCEED."

The release must not be operated when Western Pacific trains or engines are between the home signals, or seen to be approaching.

Before operating release, permission must be obtained from Western Pacific Dispatcher to use the crossing.

If signals remain in STOP position be governed by Rule 663. Speed of cars or trains over automatic interlocker must not exceed ten (10) miles per hour.

Note: The word Trains includes Yard Engines.

INTERLOCKER, GLOBE

Eastward—Home signal 459 feet west of crossing. Normal indication STOP. Derail 409 feet west of crossing.

Westward—Home signal 460 feet east of crossing. Normal indication STOP. Derail 409 feet east of crossing.

Inoperative distant signals located 1400 feet east and west of crossing.

Swanston Branch

Eastward—Home signal and derail same as for main track.

Westward—Home signal 380 feet east of crossing. Normal indication STOP. Derail 329 feet east of crossing.

Inoperative distant signal located 1300 feet east of crossing.

Interlocking signals are semi-automatic two-position color light signals permanently lighted.

Hand Throw Switch Mechanism:

This is a manually operated electrically locked switch mechanism, pipe connected to the three derails and is located near the crossing. The normal position of the switch lever is down with the handle pointing east and the foot pedals locked down with switch locks. If switch mechanism is not left in normal position with locks in pedal hasps, Western Pacific signals will not clear.

Indicator:

The indicator located on a mast at the hand throw switch mechanism is a single-light type indicator; normal indication **DARK**.

Instructions for Operation of Electric Lock:

1. Secure permission from Western Pacific dispatcher by telephone to use the crossing. Identify yourself by engine number, direction and location.

2. Remove padlock from electric lock on derail operating device. Dispatcher will then complete the release of the electric lock.

3. When green indicator is illuminated, depress foot pedal to release the derails.

4. Operate the same as any hand throw switch. When movement is completed and all wheels of train are known to have passed over derails, return derails to normal position and secure with padlock. **If green indicator is not extinguished Western Pacific Dispatcher must be notified at once.**

5. When movement is completed and train has passed over derail and switch mechanism has been restored to normal position advise Western Pacific Dispatcher.

Note: Foot pedal must be raised to remove or insert padlock.

CAUTION: Derails are pipe connected. Before operating the throwing device, care must be taken to insure that all wheels have passed over derail. When instructed to do so by the Western Pacific Dispatcher or if unable to contact the Western Pacific Dispatcher due to failure of the telephone circuit, the door of the box marked "Push Button" is to be opened and instructions posted there are to be followed if no Western Pacific train is known to be approaching.

INSTRUCTIONS FOR USE OF SEALED PUSH BUTTON

1. Remove padlock from electric lock on throwing device.

2. Look and listen for approaching Western Pacific trains.

3. If no Western Pacific trains are seen or heard approaching push button firmly until indicator light appears.

4. Close door of push button box. After a time interval of three to five minutes green indicator light will be illuminated.

5. Follow the instructions under Steps 3 and 4 in the instructions for the operation of the electric lock.

INTERLOCKER, SANKEY

Eastward—Home signal located 327 feet west of crossing. Normal indication STOP. Distant signal 3,273 feet west of home signal. Preliminary circuit extends 3,000 feet in advance of distant signal. Derail 300 feet west of crossing.

Westward—Home signal located 327 feet east of crossing. Normal indication STOP. Distant signal 3,273 feet east of home signal. Preliminary circuit extends 3,000 feet in advance of distant signal. Derail 300 feet east of crossing.

Interlocking signals are two-indication color-light signals approach lighted.

Hand Throw Switch Mechanism:

This is a manually operated electrically locked switch mechanism, pipe connected to the derails and is located near the crossing. The normal position of the derail operating device is down with the handle pointing toward the track and derails in derailing position.

Indicator:

The indicator located at the derail operating device on a dial type indicator; normal indication "Padlocked."

INSTRUCTIONS FOR OPERATION OF ELECTRIC LOCK:

1. Secure permission from Western Pacific Dispatcher by telephone to use the crossing. Identify yourself by engine number, direction and location.

2. Remove padlock from latch on derail operating device. Indicator will change from "Padlocked" to "Locked." Dispatcher will then complete the release of the electric lock.

3. When indicator shows "Unlocked," depress foot pedal to release the derails.

4. Operate the same as any hand thrown switch. When movement is completed and all wheels of train are known to have passed over derail, return derails to normal position and secure with switch padlocks. If indicator fails to show "padlocked," Western Pacific Dispatcher must be advised at once.

5. When movement is completed and train has passed over derail and switch mechanism has been restored to normal position advise Western Pacific Dispatcher.

Note: Foot pedal must be raised to remove or insert padlock.

CAUTION: Derails are pipe connected. Before operating the throwing device, care must be taken to insure that all wheels have passed over derail. When instructed to do so by the Western Pacific Dispatcher or if unable to contact the Western Pacific Dispatcher due to failure of the telephone circuit, the door of the box marked "Push Button" is to be opened and instructions posted there are to be followed if no Western Pacific train is known to be approaching.

INSTRUCTIONS FOR USE OF SEALED PUSH BUTTON

1. Remove padlock from electric lock on throwing device.

2. Look and listen for approaching Western Pacific trains.

3. If no Western Pacific trains are seen or heard approaching push button firmly until indicator light appears.

4. Close door of push button box. After a time interval of three to five minutes, indicator on electric lock will display the word "Unlocked."

5. Follow the instructions under Steps 3 and 4 in the instructions for the operation of the electric lock.

AUTOMATIC INTERLOCKER, LIVE OAK

Live Oak automatic interlocking plant crossing the Southern Pacific tracks is located one-half mile east of Live Oak.

Interlocking limits on the S. P. track extend from home light signal SA-1522, 517 feet west of crossing, to home light signal SA-1523, 523 feet east of crossing, and on S. N. Railway track between home light signals located 600 feet on both sides of crossing.

The westbound distant signal is located 3000 feet in advance of the home signal and the preliminary circuit begins at a point 4800 feet east of the home signal. The eastbound distant signal is located 1300 feet in advance of the home signal, and the preliminary circuit begins at a point 2500 feet west of the home signal.

Normal Indication of Interlocking Home Signals—"STOP":

When train approaches the crossing and enters approach circuit, the home and distant signals should change to "PROCEED."

When home signal indicates "PROCEED" or "PROCEED WITH CAUTION" the speed of engine must not exceed thirty (30) miles per hour between the home signal and the crossing.

If no cause for signals being at "STOP" is seen or if there is a train on intersecting tracks standing outside of the home signals, with no indication that it is to immediately proceed, flagman must be sent ahead to operate a release located in box at the crossing. Box is provided with standard switch lock. Instructions for the operation of release will be posted inside box. The instructions follow:

CLOCKWORK TIME RELEASE**To Operate Clockwork Time Release:**

(a) The release must not be operated when trains or engines are between the home signals or seen to be approaching on the intersecting tracks.

(b) To operate clockwork time release, turn knob to right to extreme position about one-quarter turn, then let go of knob and allow automatic release mechanism to run down, which will require four minutes. When knob is turned to extreme position and release mechanism has completed its operation, a red indicator light located near this clock release should light up immediately indicating that home signals on intersecting track are in "STOP" position. The home signal on S. N. Ry. should then change from "STOP" to "PROCEED WITH CAUTION."

Note: Flagman, upon receiving a red indicator light, must lock box and will remain at the crossing until train arrives.

In case indicator light fails to appear, the movement must be protected in each direction on the intersecting line.

(c) In case operation of release does not change the home signal indication from "STOP" to "PROCEED WITH CAUTION" after predetermined time has elapsed, a repeater red indicator light located at home signal should then light up, indicating that home signals on intersecting line are in "STOP" position.

JOINT TRACK MARYSVILLE

Sacramento Northern trains operate over Western Pacific main track between junction switch at Oliver (W.P. MP 178.13) and west siding switch, and over W.P. siding between west switch and switch leading to Sacramento Northern track opposite Western Pacific passenger station, Marysville. These tracks are designated as Joint Tracks.

Junction switch at Oliver must be locked for Western Pacific main track and junction switch on siding must be locked for siding when not in use.

Movement of trains between junction switch Oliver and west siding switch are governed by signal indication. All movements on siding must be made with caution.

Note: WITH CAUTION, means—To run at restricted speed, according to conditions, prepared to stop short of a train, engine, car, misplaced switch or other obstruction, or before reaching a stop signal. Where circumstances require, train must be preceded by a flagman.

Special Instructions Governing Sacramento Northern Crews, Marysville:

(A) All switches for entrance to W.P. main track are covered by absolute signals or electric locks. Movements of S. N. trains and switch engines will be by signal indication or by permission of W. P. train dispatcher. Western Pacific rules will apply.

(B) **RULE 547.** Governs switching operations. Block limits are: Junction switch Oliver (W. P. MP 178.13) to west siding switch. West Siding switch to east siding switch. East Siding switch to Binney Junction.

Conductor must obtain authority from train dispatcher whenever switching is to be done in a block or blocks and, when switching is completed, conductor personally must release block or blocks to the train dispatcher.

A yard engine may be granted work authority including a block in which a train is standing (provided such train has not been granted block work authority) for the purpose of switching such train.

Work authority is not required for straight moves across W.P. main track through switches protected by electric locks.

(C) **Junction Switch Oliver (W.P. MP 178.13)** protected by electric lock. Absolute signal on Sacramento Northern track with "S" unit on mast. When "S" unit is illuminated electric lock is released and must be released before switch is changed by hand operation. After switch is changed signal will display aspect for movement over the route lined. After move is completed electric lock must be locked by member of crew and train dispatcher notified.

For movement leaving W.P. main track permission must be obtained from train dispatcher before operating electric lock.

(D) Instructions for operating electric locks are posted in telephone booths adjacent thereto.

Permission must be obtained from train dispatcher before electric locks can be released (except when entering W.P. main track at junction switch Oliver, W.P. MP 178.13, by signal indication) and he must be notified after movement is completed and electric lock has been locked.

Telephones for communicating with train dispatcher are located adjacent to all electric locks and absolute signals.

All Sacramento Northern trains and yards engines must have permission from the Western Pacific dispatcher to enter the siding at Marysville.

Trains moving from Yuba City to Oliver must stop to clear the passing track at Marysville and contact the Western Pacific dispatcher before entering the siding.

Trainmen must not leave master switch or crossovers at Marysville in other than normal position on Western Pacific control system unless they are working in the immediate vicinity.

Trainmen and enginemen using Western Pacific tracks, Marysville, will be governed by special instructions in current Western Pacific timetable and must have current Western Pacific, Western Division, timetable in their possession.

The following instructions govern the use of Western Pacific telephone circuits: When calling the train dispatcher at Sacramento on either the train dispatcher's circuit or code line telephone, discontinue the practice of first saying "Dispatcher." The person calling, as well as the dispatcher, should follow the formula outlined below: Person Calling—"West Merlin," Dispatcher's reply—"Dispatcher," Person Calling—"Conductor Jones, West Merlin, Exa. 905 West."

Before calling on any telephone, first listen to make sure the dispatcher is not busy on the line; if he is not busy, then follow the procedure outlined above, except on 1st, 2nd and 4th subdivisions—where the dispatcher works on 2 different circuits—if after listening you do not hear dispatcher on the line, blow steadily into transmitter for at least 3 seconds. This is necessary to actuate signal in the dispatcher's office calling his attention to the fact that you desire to communicate with him on the line other than the one on which he is working or listening.

The single track between Marysville and Yuba City is protected by Automatic Block Signals. Movement of Trains and Yard Engines will be made over this track in accordance with the indication of signals.

Southern Pacific Crossing—Mikon. Interlocked. Home Signals 300 feet east and west of crossing. Inoperative approach signals located 2000 feet from home signals display aspect per Rule 602 A, figure 6, "Proceed with caution."

DRAWBRIDGE SIGNALS

Montezuma Slough Drawbridge, Dutton. Home Signals located 659 feet east and 840 feet west indicate position of draw. Distant Signals 2119 feet east and 1740 feet west of Home Signals.

Except when an operator is on duty, the normal position of the drawspan will be OPEN for river traffic and signals governing movements over the drawbridge will be in the STOP position.

Until all train movements are completed, an operator will be on duty at the drawbridge.

TOWER BRIDGE, SACRAMENTO

Bridge Interlocking Signals and Derails:

Note: Directions used are those applicable to the Main Track to Oakland.

Signals and derails are located 413 feet east of Bridge on Capitol Ave., 305 feet east of Bridge on Front Street, and 500 feet west of Bridge. The switch leading to the River Spur serves as a derail west of the Bridge.

The interlocking home signal at River Spur derailing switch is a three-unit signal; the upper signal governs movements to Front Street, the middle signal governs movements to Capitol Ave., and the lower signal governs movements to the River Spur.

Signal located at the east end of the Bridge governing eastward movements is a three-indication light signal. Green indication governs movements to Front Street. Yellow indication governs movements to Capitol Ave. The red indication is a stop signal.

The switch at the east end of the Bridge is electrically operated from the tower.

Switch Indicator:

The switch leading into the main track from Westside Spur is protected by switch indicator. The switch leading from the River Spur to the main track is protected by light signals operated from the tower.

Movements of Trains and Yard Engines:

Movements through interlocking plant shall be made in accordance with signal indication. In case of signal failure, be governed by Rule 663.

Trains and yard engines must not exceed a speed of 15 miles per hour over the bridge and 10 miles per hour over the highway crossing west of the bridge.

Telephones:

Telephones are installed in the tower, at Interlocking Home Signal on Capitol Ave., Front Street, in the shelter house at Broderick Junction, and on a post half way between River Spur and Westside Spur for trainmen to communicate with the towerman. The telephones on Front Street and Broderick Junction have a double-throw switch to connect the phone on the dispatcher's line.

Whenever there is switching to be done on the River Spur or Westside Spur, which requires several movements from the main track to these spurs, the conductor shall communicate with the towerman and advise him so that there shall be no delay in the operation of signals or switches.

There is a signal box located on the interlocking home signal on Front Street which is operated by using a switch key. Operation of this signal box gives the towerman an indication in the tower that a train is on Front Street, and ready to move through the plant. This signal box is to be used when whistle signal cannot be heard.

Route Whistle Signals:

From Capitol Ave. or Front Street to Oakland	o
From Capitol Ave. to Front or in reverse direction	o o o o
From Oakland to Capitol Ave.	o o o
From Oakland to Front Street	o
From Oakland to River Spur	o o
From River Spur to Main Track	o o

Meridian Bridge. Interlocked. Home signals and derails 300 feet east and west of the bridge. Trains will approach and pass through the interlocking limits WITH CAUTION.

Enginemen of eastward trains approaching Meridian Bridge after sounding whistle signal 14 (M) will also sound signal 14 (G) if train is to proceed over the bridge.

FIRST AID STATIONS

(Supplied with First Aid Cabinets and Stretchers)

Oakland	Dozier
Eastport	
Concord	Vacaville Jct.
Ferry Ramon	
Drawbridge	Oroville Jct.

ELECTRIC LOCOMOTIVE RATING IN TONS

15

Engine	Working Voltage	Car Limit	Tons Per Operative Brake	Oakland to Rockridge	Rockridge to Temescal	Temescal to Havens	Havens to Concord	Concord to Las Juntas	Las Juntas to Havens	Concord and Clyde	Clyde and Sacramento	W. Pitts. to Pittsburg	Col. Steel to Pittsburg	Riverview and Oxford	Dozier and Cordero (See Note)	Cordero and Vaca Jct.	Marysville to Yuba City	Yuba City to Marysville
410	600	Havens to Rockridge	Havens to Oakland	...	...	...	...	...	...	...	...	...	...	...	...	...	1240	800
430	600			...	...	...	...	...	...	...	...	...	...	...	...	...	1240	840
440	600			...	...	...	...	...	...	...	...	...	...	...	...	...	1000	500
441	600			...	...	...	...	...	...	...	...	...	...	...	...	...	1180	680
442	600			...	...	...	...	...	...	...	...	...	...	...	...	...	1180	680
643	600-1400	15	55	170	170	240	340	1000	310	270	1000	500	340	1000	730	520	1000	500
644	600-1400	15	55	170	170	240	340	1000	310	270	1000	500	340	1000	730	520	1000	500
645	600-1400	10	55	200	200	270	350	1100	350	280	1000	500	340	1000	730	520	1000	500
646	600-1400	10	55	180	180	270	310	990	350	250	800	450	300	800	600	430	800	400
650	600-1400	15	55	300	300	430	550	1650	560	450	1650	720	480	1650	1140	800	1240	840
651	600-1400	15	55	300	300	430	550	1650	560	450	1650	720	480	1650	1140	800	1240	840
652	600-1400	15	55	300	300	430	550	1650	560	450	1650	720	480	1650	1140	800	1240	840
653	600-1400	15	55	300	300	430	550	1650	560	450	1650	720	480	1650	1140	800	1240	840
654	600-1400	15	55	300	300	430	550	1650	560	450	1650	720	480	1650	1140	800	1240	840
660	600-1400	15	55	300	300	430	550	1650	560	450	1650	720	480	1650	1140	800	1240	840
661	600-1400	15	55	300	300	430	550	1650	560	450	1650	720	480	1650	1140	800	1240	840
670	600-1400	15	55	300	300	430	550	1650	560	450	1650	720	480	1650	1140	800	1240	840

TWO ENGINES IN TRAIN IN SERVICE

650-660-670 Class	840	540	840	1000	2970	1000	800
650							
660							
670							
645-646 Class	530	350	540	600	1800	700	480
643-644 Class	510	340	480	680	2000	620	540

THREE ENGINES IN TRAIN IN SERVICE

645							
646							
650							
660							
670							
645							
646							
650-660-670 Class	1200	840	1200	1500	4400	1350	1200

44 TON DIESEL ELECTRIC LOCOMOTIVE RATINGS IN TONS

FIRST SUBDIVISION

Sacramento	And	Chipps	800
Dozier (see note)	To	Vacaville Jct.	550
Vacaville Jct.	And	Vacaville	800
Vacaville Jct.	And	Willotta	800
Vacaville Jct.	To	Sacramento	800
Holland Branch			700

SECOND SUBDIVISION

Sacramento	To	Chico	800
Chico	To	Yuba City	800
Yuba City	To	Marysville	550
Marysville	To	Sacramento	800
Woodland Branch			800
Colusa Branch			800

Note:—Tonnage rating from Dozier to a point 6 miles east of Dozier on the Willotta Branch is 800 tons.

NOTE:—Tonnage ratings from Pittsburg to West Pittsburg westward same as between Port Chicago and Sacramento.
Tonnage ratings between Dozier and a point 6 miles east of Dozier on the Willotta Branch are the same as between Port Chicago and Sacramento.

The following regulations will govern the handling of trains and power waits in the territory between Oakland and Lafayette:

College Ave., Oakland, to Temescal:

EASTWARD

Power Waits

Trailing Tonnage
200 Tons or Less..... All engines, except engines 645 and 646, use series parallel position. Engines 645 and 646 use full series position.
Over 200 Tons..... All engines use full series position.

No power wait required.

No power wait required.

Temescal to summit east of Havens:

350 Tons or Less..... All engines use series parallel position.
Over 350 Tons to 540 Tons... All engines, except engines 643 and 644 (see Note), use full series position.
Over 540 Tons..... All engines, except engines 643 and 644 (see Note), use full series position.

No power wait required.

Wait at Temescal 15 minutes or until the even hour or half hour.

Wait at Temescal not less than 15 minutes and leave only between the 15 and 20 or 45 and 50 minutes of the hour.

Lafayette to St. Marys:

WESTWARD

Less than 500 Tons..... Normal operation for type of power in use.
500 to 650 Tons..... All engines, except 643 and 644 (see Note), use full series position.
Over 650 Tons..... All engines, except 643 and 644 (see Note), use full series position.

No power wait required.

No power wait required.

Wait at Burton 15 minutes or until the even hour or half hour.

Moraga to Havens:

650 Tons or Less..... Normal operation for type of power in use.
Over 650 Tons..... Normal operation for type of power in use.

No power wait required.

Wait at Moraga not less than 15 minutes and leave only between 15 and 20 or 45 and 50 minutes of the hour, except that it is permissible to leave Moraga at any time after 15 minutes wait, provided a wait of 15 minutes or until the even hour or half hour is observed at Pinehurst.

GENERAL

No power waits are required between the hours of 11:00 PM and 6:00 AM or on Sundays and Holidays.

With three engines in train in service use full series position and the second helper will work power only when required to comply with schedule of tonnage rating for three engine trains.

Conductor will advise engineers of number of loads and empties in train and trailing tons.

The Conductor and train Engineer will be jointly responsible for observing regulations governing handling of trains and power waits.

Note: Engines 643 and 644 coupled in multiple control and operated in combination with other engines, use series parallel position. When so operated will be classed as two separate engines and power waits applicable to three engine combinations will govern.

16 The following is a list of all Steam and Electric Railroad crossings and junctions, protection provided for movements over them, and the name of the Railroad having prior right in the use of the crossing or Junction not protected by signals or flagman:

LOCATION	NAME OF RR.	PROTECTION	RESTRICTION	RIGHT
Oakland—40th & Shafter	Oakland Terminal	Interlocking Signals	5 mi. per hr.	Governed by Signal
Las Juntas	S. P. Co.	No Signals	Stop	S. P. Co.
Clyde	U. S. Naval Magazine Port Chicago, Calif. R.R.	Automatic Interlocking Signals	15 mi. per hr.	Governed by Signal
Shell Point	S. P. Co.	No Signals	Stop	S. N. Ry.
Shell Chem. Co.	S. P. Co.	No Signals	Stop	S. N. Ry.
Sacramento:				
Front St. & Capitol Ave.	S. P. Co.	Flagman	Stop	Governed by Flagman
Globe	W. P. R. R.	Interlocking Signals	30 mi. per hr.	Governed by Signal
Sankey	W. P. R. R.	Interlocking Signals	30 mi. per hr.	Governed by Signal
Marysville—Joint Track	W. P. R. R.	T. C. S.	25 mi. per hr.	Governed by Signal
Yuba City	S. P. Co.	No Signals	Stop—Except when proceed signal is received from flagman	S. P. Co.
Live Oak	S. P. Co.	Automatic Interlocking Signals	30 mi. per hr.	Governed by Signal
Stirling Jct.	S. P. Co.	No Signals	Stop	S. P. Co.
Pittsburg:				
East of Harbor St.	A. T. & S. F. R. R.	No Signals	Stop and Flag	A. T. & S. F. R. R.
East of Columbia St.	A. T. & S. F. R. R.	No Signals	Stop and Flag	(See instructions on page 7)
S. N. Ry. industrial track between West Pittsburg and Pittsburg	A. T. & S. F. R. R. Industrial Track	No Signals	Stop. See instructions on page 7.	A. T. & S. F. R. R.
Between West Pittsburg and Pittsburg	A. T. & S. F. R. R.	Crossing Gate	15 mi. per hr.	S. N. Ry.
Sacramento:				
Front St. N. to "Q" Inc.	S. P. Co. & W. P. R. R. Industrial Tracks	No Signals	Caution	S. P. Co. & W. P. R. R.
Front & "R" Sts.	S. P. Co. & W. P. R. R.	No Signals	Stop and Flag—Except when proceed signal is received from flagman	S. P. Co. & W. P. R. R.
Front & "X" Sts.	C. C. T. Co.	No Signals	Caution	S. P. Co. & W. P. R. R.
19th & "X" Sts.	W. P. R. R.	Automatic Interlocking Signals	10 mi. per hr.	Governed by Signal
Alhambra Blvd. & "X" St. Jct. Joint Track	C. C. T. Co.	No Signals	Stop	C. C. T. Co.
Alhambra Blvd. & "R" St.	S. P. Co.	No Signals	Stop and Flag—Except when proceed signal is received from flagman	S. P. Co.
Third & "R" Sts., Jct. Joint Track	W. P. R. R.	No Signals	Obtain permission from WP Dispatcher to enter Joint Track.	Caution
"F" St., Jct. Joint Track	W. P. R. R.	T. C. S.	See instructions on page 7.	Signal indication
Sacramento, Westgate Yard	Port Belt R. R.	No Signals		S. N. Ry.
Mikon	S. P. Co.	Interlocking Signals	20 mi. per hr.	Governed by Signal
D. M. Yard, all crossings	D. M. Co.	No Signals	Stop	D. M. Co.

YARD LIMITS DEFINED BY YARD LIMIT SIGNS

Oakland	South Yuba	} Marysville Yard
Moraga	Marysville	
Walnut Creek	Yuba City	
Concord	Paloro	
Port Chicago	Harter	
McAvoy		
Pittsburg	Colusa Jct.	} Pittsburg Yard
West Pittsburg	Colusa	
Mallard	Arbee	
Chippis	Live Oak	
Dozier	East Gridley	
Cordero	Oroville Jct.	
Vacaville		
Libfarm	Oroville	} Oroville Yard
Riverview	Marysville	
Woodland	Road	
Westgate		
Broderick	Stirling Jct.	} Chico Yard
Sacramento	Mulberry	
Haggin	Chico	
Globe		
N. Sacramento		

SIDE AND OVERHEAD OBSTRUCTIONS
(Not Standard Clearance)

Tunnel No. 1—Side and overhead. Protected by Signal Bell Tell Tale.

Concord—Hay Warehouse side and overhead.

Ferry Ramon—End towers outside tracks—side and overhead.

General—All loading platforms—side.

General—Bulk loading chutes—side.

General—Receiving pipes at oil company spurs—side.

Chico—Chico Vecino, Trees, side.

Crane Spur—Marysville Road, Oroville.

Marysville—Diamond Match Warehouse—side.

Marysville—Orange St. track—two dwellings—side.

Clarksburg—Sugar plant eaves—side.

Sacramento—Subway, side and overhead. Trainmen must not ride on top or side of cars when going through subway.

Sacramento—Tracks serving Freight House, 2nd and Capitol Ave.—Side (when cars are standing on tracks which are adjacent.)

Trainmen will at all times look out for low hanging trolley and span wires.

INTERCHANGE TRACKS

Oakland —Oakland Terminal Ry.

Las Juntas —S. P. R. R.

Clyde —U. S. Naval Magazine, Port Chicago, Calif., Railroad.

Port Chicago—A. T. & S. F. R. R.

McAvoy —S. P. R. R.

Sacramento —W. P. R. R.

S. P. R. R.

C. C. T. Co.

Chico —S. P. R. R.

Oroville —W. P. R. R.

Marysville —W. P. R. R.

S. P. R. R.

STOCK CORRALS

Moraga—DD	Olcott—DD
Montezuma—SD	Colusa—DD
Dozier—DD	Sutter—SD
Molena—DD	Peethill—DD
Hebron—SD	Durham—SD
Sankey—DD	Vale—DD
Arboga—SD	Bunker—DD
Sycamore—SD	Yolano—SD
Rio Vista Jct.—DD	Shippee—SD

ADDITIONAL COMMERCIAL STATIONS

Stations	Facilities for Handling	Distance from Oakland	Capacity in Freight Cars
Eastport	LCL	6.60	..
Wilcox	LCL	7.09	..
Redwood Inn	LCL	7.75	..
Canyon	LCL	8.07	..
Valle Vista	LCL	9.72	..
St. Marys	LCL	11.84	..
Nichols	LCL	33.13	..
Greenspot	CL	34.64	2
Honker	LCL	40.29	..
Dudley	CL	84.01	23
West Sacramento	CL & LCL	84.42	Yard
Peethill	CL	85.02	15
Pencilwood	CL & LCL	93.49	30
Swanston	CL & LCL	93.71	9
Reed	CL & LCL	126.79	26
Barber	CL	178.22	10

CL—Carload freight.
LCL—Less Carload Freight.



MAP OF SACRAMENTO NORTHERN RAILWAY AND CONNECTIONS

