



**CPUC Public Agenda 3286**  
**Thursday, December 15, 2011, 9:00 a.m.**  
**505 Van Ness Ave, San Francisco**



**Commissioners:**  
**Michael R. Peevey**  
**Timothy Alan Simon**  
**Michel Peter Florio**  
**Catherine J.K. Sandoval**  
**Mark J. Ferron**

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# CPSD Safety Report: Rail Safety Inspections



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***Supervisor, Southern California  
Railroad Operations Safety Branch, CPSD***

**California Public Utilities Commission**

December 15, 2011





## Presentation Overview

# Focused Rail Safety Joint Inspection November 8 and 9, 2011

- Focused inspection
- Railroad / Rail Transit “temporal separation”
  - North County Transit District (NCTD)
  - San Diego Northern Railroad (SDNR)
  - NCTD “Sprinter”
- Joint inspection
  - Railroad Operations Safety Branch inspectors
  - Rail Transit Safety Section inspectors
- Inspection results





## Focused Inspections

- Focused inspection: A comprehensive inspection focused on a particular concern.
- Public Utilities Code Section 765.5(e):

...in addition to the minimum inspections undertaken pursuant to subdivision (d), the Commission shall conduct focused inspections of railroad yards and track, either in coordination with the Federal Railroad Administration, or as the Commission determines to be necessary. The focused inspection program shall target railroad yards and track that pose the greatest safety risk, based on inspection data, accident history, and rail traffic density.





# Focused Inspection

- On November 8 & 9, 2011, CPUC Rail Transit Safety Section (RTSS) and Rail Operations Safety Branch (ROSB) staff participated in a joint cross-discipline training and rail safety audit on the North County Transit District (NCTD), encompassing operations on the San Diego Northern Railway (SDNR) and the Escondido Subdivision (Sprinter).
- Exercise purposes:
  - Enhance railroad inspection and investigation practices and procedures contrasted between railroad and rail transit systems for RTSS and ROSB staffs.
  - Provide cross-training.
  - Focus on unique issues raised in **temporal separation** operations.
- Due to the high daily passenger and freight train traffic volume by Amtrak, Coaster, BNSF and Sprinter, this location was chosen.





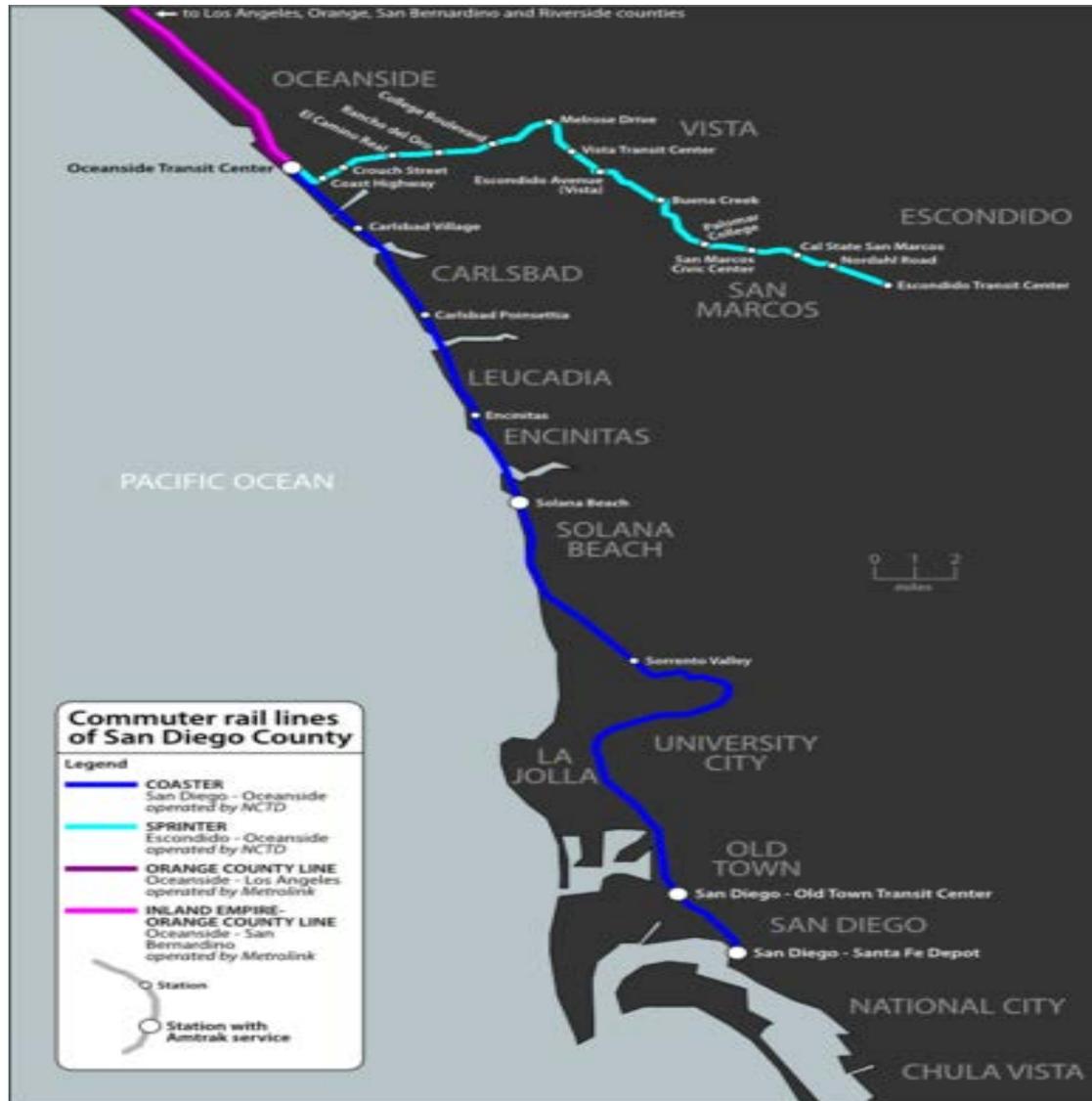
# Temporal Separation

- *Temporal separation*: Different train systems operating during different time periods on the same track.
- Light-Rail Vehicles (LRVs) would need to comply with FRA crashworthiness standards to run as mixed traffic on tracks with FRA-regulated trains during the same time period.
- Given the light weight of LRVs, it is virtually impossible for them to meet FRA crashworthiness standards.
- An LRV collision with a freight train would be devastating to the lighter LRV.
- So, light-rail transit traffic must either be physically separated (different tracks), or must be operated at times when no standard heavy railroad traffic runs, “temporal separation.”
- In this instance, freight railroad operations occur at night and LRV operations occur during the day.
- In addition to CPUC regulations for LRV operations, the track structure must comport to all CPUC General order and PU Codes applicable to heavy freight operations.





# Map of NCTD (SDNR) Coaster and Sprinter Operations





## Sprinter

Siemens VT624 Desiro Class Diesel Multiple Units (DMU) during rail transit temporal separation daytime operations







Example: Sprinter Station Platforms in lowered position during transit temporal separation operations





**Example:** Sprinter Station Platforms in up position for heavy freight temporal separation operations





*Watco Companies Inc.* - Pacific Sun Railroad local freight train used on Escondido Subdivision for heavy freight temporal separation operations





# Participation and Scope

- All five disciplines participated:
  - Operating Practices (OP),
  - Motive Power & Equipment (MP&E),
  - Track (Track),
  - Signal & Train Control (S&TC), and
  - Hazardous Materials (HM).
- Focus on compliance with:
  - CPUC General Orders (GO)
  - Public Utilities Code sections (Pub.Util.)
  - Code of Federal Regulations (CFR) Title 49, for each specific discipline.



# Sprinter Oceanside Transit Center Maintenance Facility – Inspection Bays





Sprinter Oceanside Transit Center Maintenance Facility, DMU undercarriage inspection



1. Mechanical - The Sprinter fleet of 12 trains have had 12 axle center flex couplings replaced, just this year, in the axle drive unit. The outer Polly gears are separating from the metal fastening core, causing vibration to train unit.





Coaster Stuart Mesa Maintenance Facility – wheel assembly inspection



2. Track – Coaster Stuart Mesa Yard - Tracks 3 & 4 do not provide positive protection for both tracks with the existing switch and derail. The derail is for trains entering main line, but not for a train entering the yard. Only one train is protected with blue flag/light protection. If cars were placed on tracks 3 & 4 for maintenance at the same time, a portable derail would be placed on track, according to what we were told. However, no portable derail was found in this area. Is there a standard operating procedure for this two-track usage?





3. Track. Heavy-point (HP) frog in turnout installation on Class 5 track with 54 3/8" Guard Check. There must be inventory list for these frogs to comply with Federal railroad Administration (FRA) waiver requirement for HP frogs.





# Track Safety Standards Compliance Manual

# Chapter 5, Classes 1-5, April 1, 2007

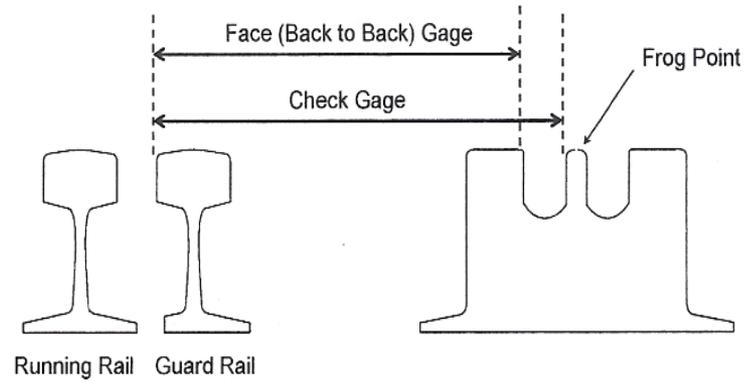
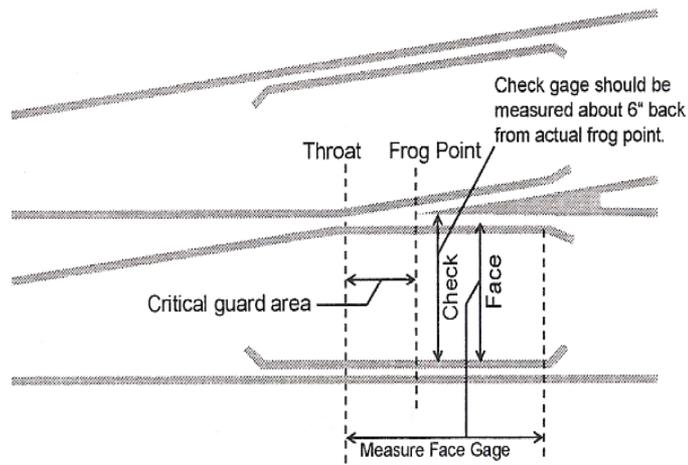


Figure 40





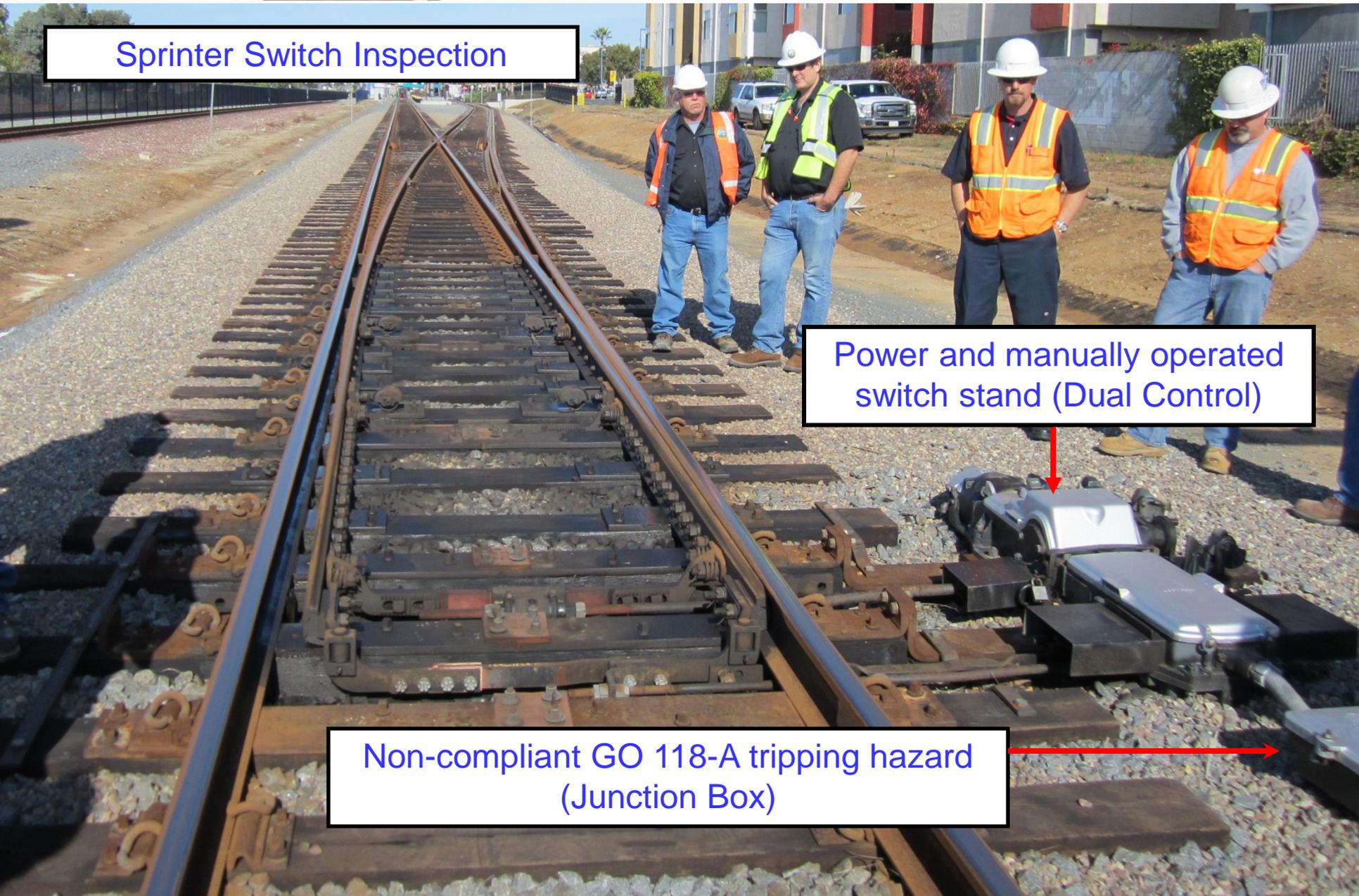
## Waiver for Heavy-Point Frogs

- The Federal Railroad Administration (FRA) has conditionally approved the petition of the Association of American Railroads (AAR) for a waiver of certain provisions of the Federal Track Safety Standards (Title 49 CFR, Part 213).
- Specifically, the waiver permits the operation of trains at speeds prescribed for **Class 5** track over certain “heavy point” frogs at which the guard-check gage conforms to the standards applicable to **Class 4** track.
- **FRA Class 5** Track maximum speed is: 80 Freight; 90 Passenger.
- **FRA Class 4** Track maximum speed is: 60 Freight; 80 Passenger.
- Each owner of track operating under the provisions of this waiver must maintain a record of the location and description of each turnout over which trains are operated under the terms of the waiver. The record must be maintained and made available to the Federal Railroad Administration in accordance with the provisions of Section 213.241 of the Federal Track Safety Standards.



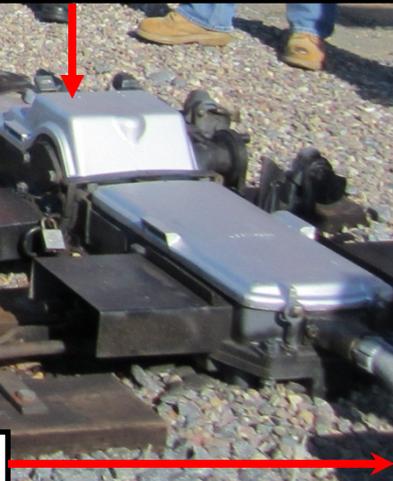


# Sprinter Switch Inspection



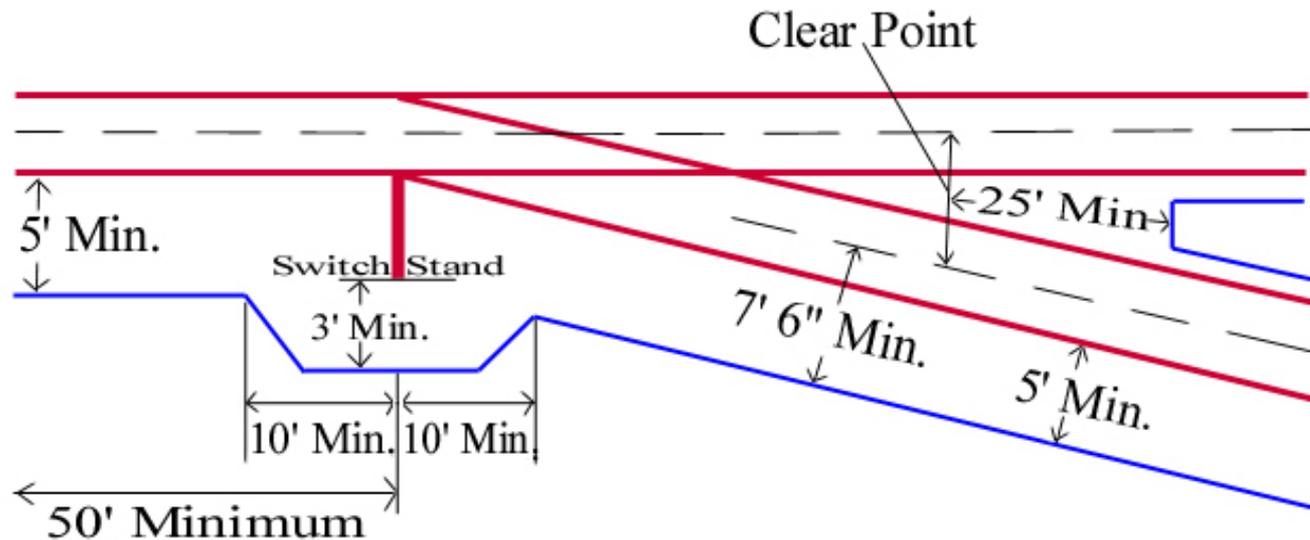
Power and manually operated switch stand (Dual Control)

Non-compliant GO 118-A tripping hazard (Junction Box)





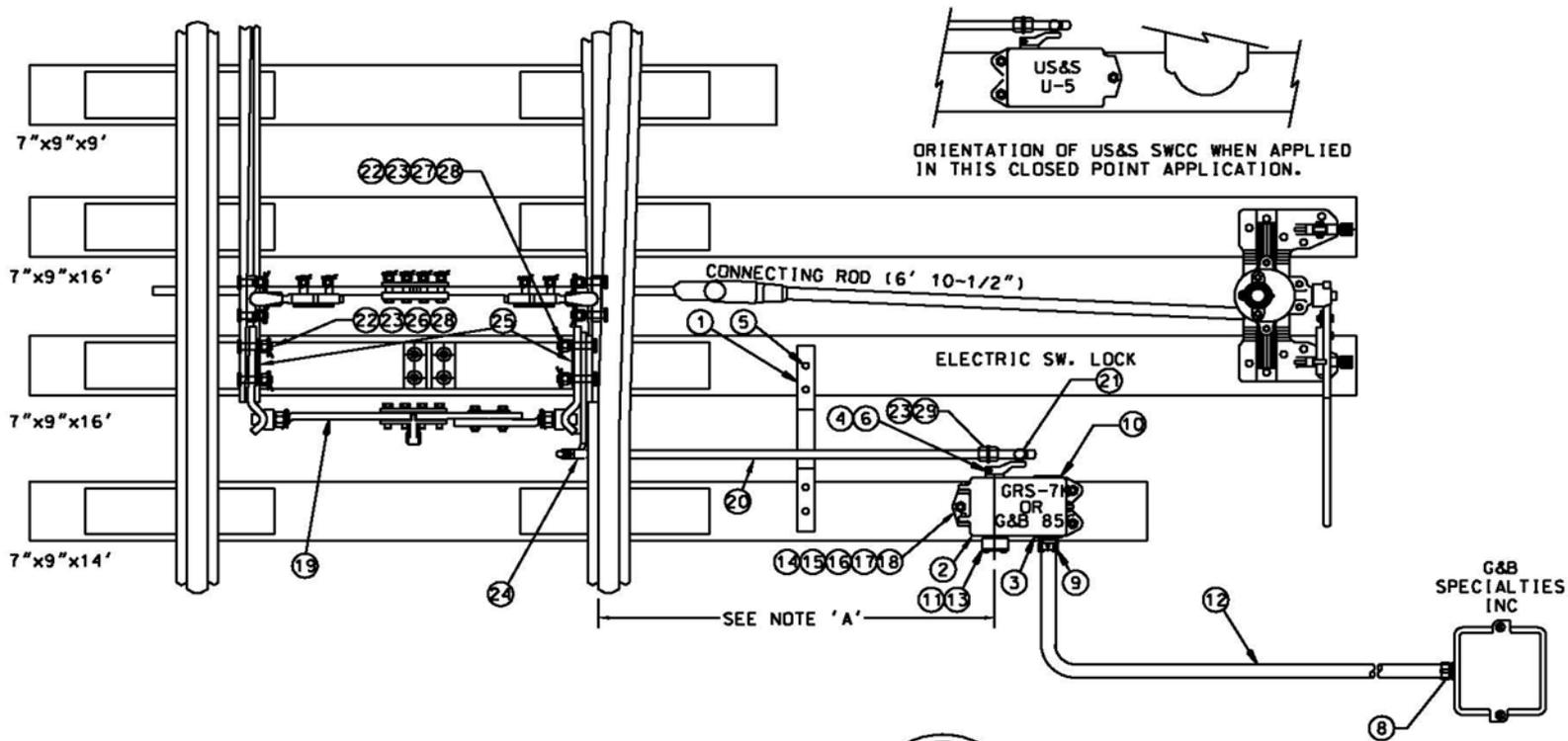
## CPUC General Order 118-A, Standard No. 5



### STANDARD No. 5

Walkways at short line and branch line switches,  
And locations where switches are power operated





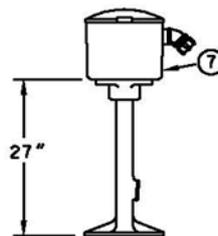
ORIENTATION OF US&S SWCC WHEN APPLIED IN THIS CLOSED POINT APPLICATION.

SEE NOTE 'A'

**NOTE "A"**

**SWCC INSTALLATION PROCEDURE**

- 1) CENTER SCREW JAWS ON THREADED PORTION OF POINT DETECTOR ROD.
- 2) POSITION SWCC ON HEADBLOCK TIE INSURING AMPLE CLEARANCE FOR OPERATING CRANK TO MOVE FREELY, WITH SWITCH CIRCUIT CRANK POINTED VERTICALLY DOWNWARD.
- 3) WITH THE SWITCH POINTS IN MID-POSITION INSTALL THE SWITCH CIRCUIT ROD ON THE POINT LUG AND CRANK.  
NOTE: IT MAY BE NECESSARY TO MOVE SWCC SLIGHTLY AHEAD OR BACK TO ACCOMPLISH THIS.
- 4) WITH CRANK VERTICALLY DOWNWARD AND SWITCH POINTS CENTERED, MARK HOLES AND DRILL.
- 5) **ALL CALIFORNIA CIRCUIT CONTROLLERS ARE TO BE INSTALLED SO THAT THE CENTER LINE OF THE CRANK SHAFT IS 25" FROM GAGE. POINT DETECTOR ITEM # T.B.D.**



JUNCTION BOX DETAIL

LOCATE JUNCTION BOX OUTSIDE BALLAST LINE AND BURY CONDUIT TO PREVENT TRIPPING HAZARD.

**DRAFT**

DB0005.00

<b>BNSF RAILWAY</b>			
SIGNAL DEPARTMENT			
HANDTHROW SWITCH WITH LEAVING SIGNAL WITHOUT ELECTRIC LOCK			
A] MINOR CHANGES	DRAWN: PAR	SCALE: NA	STANDARD
DATE: 02-07-07	DATE: 03/24/03	1 SHEET OF 2	PLAN
			DRAWING NO: <b>DB0005.00</b>



Focused monitoring of specific operations, attending to state General Orders and PU Codes and federal regulations, along with prompt remedial action when deficiencies are found, is a mandated and important tool to provide public and employee safety.

CPSD staff participating in November 8 - 9 focused joint inspection:

### **ROSB**

- Roger Clugston - Supervisor
- Sherman Boyd - Senior
- Jay Ellis, Darrell Fizer, Matt Cardiff - Operations
- Dale Clugston, Mike Stewart, Ron Pettitt, Lance Self - Track
- Randy McCaul, Carlos Tapia, Boguslaw Wrzesien, Robert Walden - Equipment
- Heidi Estrada - Signal
- Robert Grimes, Michael Max - HazMat/Security
- Brent Cooper - HazMat

### **RTSS**

- Joey Bigornia - Utilities Engineer, RTSS representative for NCTD systems
- Don Filippi - Senior, Operations
- John Madriaga - Track
- Michael Borer - Equipment
- Thomas Govea - Signal and Train Control

