

Welcome to Caltrain **Roadway Worker Protection** (RWP) Training



Safety Briefing

- Evacuation Route
- Place of Safety
- Calling 911
- CPR/First Aid/AED
- First Aid and AED locations
- Fire Extinguisher locations
- Head Count







Agenda

- 1) Introduction to Caltrain
- 2) The Rules of the Railroad
- 3) On-Track Protection
- 4) Working in the Field
- **5) Other Important Information**





The Test

- > There will be a test of 15 questions.
- > You can only miss 3 questions.
- Take notes, because you may use your notes during the test.
- If you need special accommodations, please see the instructor privately during one of the breaks.
 - Ask questions at any time.







Why Am I Taking This Class?

- You are a Roadway Worker if you:
 - Inspect Build
 - Construct
 Maintain
 - Repair
- If you will be working within 15 feet of the tracks
- Your equipment could shift and be within
 15 feet of the tracks

- Caltrain requires that all contractors working on the Caltrain property must have roadway worker protection (RWP) training.
 - RWP training expires and the class must be taken once every calendar year (annually).
- You are responsible for ensuring that you have ontrack safety.



What is Caltrain?

- > Owned by: The Peninsula Corridor Joint Powers Board (JPB)
 - City and County of San Francisco
 - County of San Mateo
 - County of Santa Clara
- Administered by: San Mateo County Transit District (SamTrans)
- Operated and Maintained by: TransitAmerica Services, Inc. (TASI)
 - RWIC, Watchman, Train Crew, etc.



The Caltrain System

San Francisco to Gilroy

- 52 miles of Caltrain owned track
- 25 Mile of Union Pacific owned track
- 32 Passenger Stations



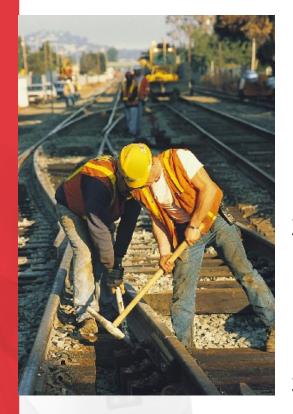


- Caltrain
- Union Pacific Freight
- ACE
- Amtrak (Capitol Corridor and Coast Starlight)





The Purpose of This Training



- 1. Prevent workers from being struck by trains and on-track equipment.
- 2. Know the inherent danger of working near tracks.
- 3. Know your protection.





Main Goal





Don't get hit by a train! Don't hit a train!



Be Alert!

- Expect a train at any time,
- On any track and in either direction,
- At any speed,
- > What looks like the back may actually be the front.





Locomotive can be either in the front (pull) or in the back (push). Trains in push mode are harder to hear.



Trains Can't Stop Quickly

Trains can travel at speeds up to <u>79 MPH</u> on Caltrain property.



Under ideal conditions, it can still take more than <u>1/2 mile</u> to stop a train.



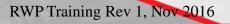
What Do I Need to Know?

- You should expect a train at any time, on any track, in any direction, at any speed.
- You can't always hear a train coming, especially if it is being pushed by the locomotive.
- You need supervision any time you or your equipment is within 15 feet of the nearest rail.
- The JPB may require supervision outside of 15 feet at their own discretion
- > You are responsible for your safety!



Roadway Worker Responsibilities

- Wear your safety gear. (PPE)
- > Attend the On-Track Safety Briefing.
- Know your on-track safety protection.
- Never foul the tracks except when authorized by TASI RWIC / Watchman.
- Refuse any directive in violation of the on-track safety manual. Ask RWIC questions when you don't understand.





Basic Rules

You May Only Work On or Near the Caltrain Right of Way (ROW) when:

- 1. Your <u>RWP training is current;</u>
- 2. You have an <u>Approved Site Specific</u> <u>Work Plan (SSWP)</u>;
- 3. <u>You have On-Track Safety Protection</u> and understand your protection;
- 4. Your work has been scheduled and approved through the Right To Work (RTW) process.
- **5. You are wearing the required <u>RWP-PPE.</u>**





Railroad Terms

- <u>Right of Way</u> the land that is used for transportation purposes which includes the Caltrain's rails, track, crossties, ballast, bridges, underpasses, tunnels, wayside signals, communication, overhead catenary system, and substation facilities adjacent to or extending into the track zone, and station areas in or adjacent to the track zone.
- Grade Crossing anywhere another form of transportation legally crosses the railroad
- Train any combination of locomotives and rail cars
- On-track equipment any non-train equipment that operates on the tracks
- Adjacent track a track next to another track



- Roadway Worker any employee or contractor to a railroad that is working on the right of way (YOU!)
- Roadway worker in Charge (RWIC) the TASI employee in charge of providing on-track safety to a work group
- Subgroup Coordinator (SGC) the TASI employee who assists the RWIC in large work groups that are spread out
- Watchman the TASI employee in charge of providing warning to roadway workers on the tracks



Railroad Terms – Protection and On-Track Safety

- Protection also known as On-Track Safety (OTS) the way to make sure that everyone is safe from being hit by a train.
- Positive Protection a form of protection that prevents trains or on-track equipment from entering a track segment







Reviewing Module One: Introduction

- > Why are you taking this class?
 - Keep from being hit by a train
 - Know the danger of working near tracks
 - Understand your on-track protection
 - Required by federal law and by Caltrain





Reviewing Module One: Introduction

- > What are the basics that you need to know?
 - Expect a train any time, on any track, in any direction, at any speed
 - Trains operate in push/pull mode
 - When working within 15 feet of the rail:
 - TASI supervision is required.
 - OTS may be required, depending on type of work.
- When working within 4 feet of the rail:
 - **OTS** is required (provided by an RWIC)
 - Positive protection is required when equipment is within 4 feet of the rail (Train Approach Warning is not sufficient).









Cell Phones & Electronic

Devices

>Are a distraction!

What if you need it for work?

Personal cell phones and electronic devices are <u>NEVER</u> allowed on the right of way, at all, ever!

Electronic devices include Apple Watch and Fitbit and similar technologies.



- You can use it if it was company issued, and
- You are clear of the OTS Envelope (i.e., need to be more than 15 feet from the nearest rail)



The Result of Distracted Railroading





Arriving to Work "Fit for Duty"

- Sober: On Caltrain property there is Zero Tolerance towards the use of Alcohol and Drugs that may affect your judgement, including prescription and some over the counter drugs.
- Well-rested, alert and attentive



 Trained for your job assignment (this includes any employer provided training)



Roadway Worker Program

RWP	9-10-16
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To stop tr	ains in an emergency:
	800-872-4660
	or Medical Emergency:
1-	877-723-7245
	D MUST BE IN YOUR
	N AT ALL TIMES WHILE
WORKING ON	I CAL TRAIN PROPERTY.



To be qualified and be able to work on Caltrain Right of Way, each roadway worker must attend and pass RWP Training annually.



Required Personal Protective Equipment



YOU WILL NOT BE ALLOWED TO BEGIN WORK WITHOUT THESE ITEMS!

RWP Training Rev 1, Nov 2016



Other PPE – as Required



Hearing Protection
Wet Weather Gear
Gloves
Face Shields



Walking Across Tracks

Crossing Tracks - LOOK BOTH WAYS!!!





Other Rules

Do not use metallic measuring tapes or drag other metallic objects across tracks.





Park your vehicle as far from the tracks as possible and leave room for passing vehicles.



Grade Crossing Rules



Do not direct traffic to and from your site in a way that would back traffic up to the tracks.



Report any traffic problems on the tracks to the RWIC or Watchman.

Never depend on crossing gates as your on-track protection



Power Lines



Be aware of overhead power lines and signals when crane/ boom are in use.



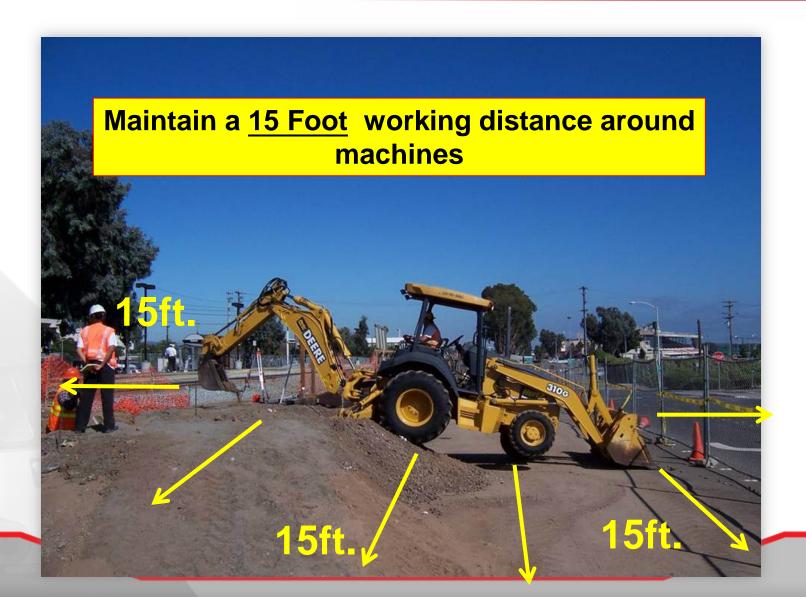
Heavy Equipment Near Overhead Lines

Power line voltage Phase to phase (kV)	Minimum Safe Clearance (ft)
50 or below	10
Above 200 to 350	20
Above 350 to 500	25
Above 500 to 750	35
Above 750 to 1,000	45

- Equipment operators must observe this table when working close to power lines.
- Always use nonconductive tag lines, power tools, etc. when near power lines
- If the voltage is unknown, the minimum clearance is 45 feet.



Zone of Safety for Equipment





Video: Grade Crossing





Reviewing Module Two: Rules of the Railroad

What are some of the rules that we went over?

- No personal cell phones
- No company cell phones within 15' safety envelope
- No drugs and alcohol
- Overhead cranes and power lines
- Don't cross at switches or step on the rails
- What kind of PPE is needed?
 - Hard hat, orange vest, safety shoes, safety glasses

> What is the circle of safety around equipment?

15 feet around any heavy equipment











Types of Tracks

Main Tracks

- Almost all of Caltrain tracks, including stations
- Dispatcher <u>CONTROLS</u> who is on the tracks (trains and equipment)

Other than main tracks

- Trains and equipment can move without permission from the dispatcher/ <u>NON-CONTROLLED</u>
- Example of Other than Main locations on Caltrain
 - San Francisco (yard)
 - South San Francisco
 - Redwood Junction
 - Dumbarton
 - ✤ CEMOF



What is **Protection?**

- Protection is also known as On-Track Safety.
- On-track safety is the freedom from the danger of being hit by a train or other on-track equipment.
- It is your responsibility to know if OTS is required when working on Caltrain property and if so, the method and procedures to be followed.
- PROTECTION IS ALWAYS REQUIRED WITHIN 4 FEET OF THE RAIL!!



When do you need protection?

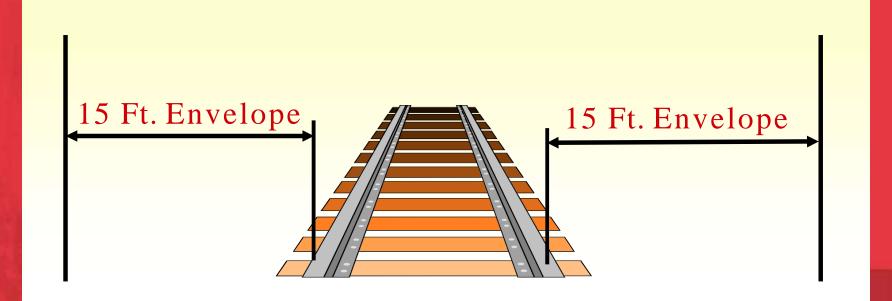
- > Anytime you will "foul" the track.
 - Foul = you are working within 4 feet of the nearest rail.

Protection may also be required when working further than 4 feet from the nearest rail, depending on site conditions and scope of work



On Track Safety Envelope

Operation of equipment within this zone MUST BE DISCUSSED WITH THE RWIC AT THE JOB BRIEFING



OTS may be required, depending on site conditions and scope



Types of Protection

Protection = On-Track Safety

- 1. Train Approach Warning (TAW)
- 2. Form B
- 3. Form C
- 4. Track and Time (T&T)

Positive Protection



1. Train Approach Warning (TAW)

Train Approach Warning is provided by a Watchman (always a TASI employee)

> The Watchman only warns workers of approaching trains.

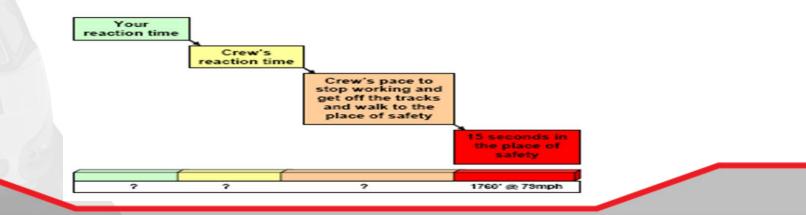
- The Watchman must give enough advance warning for you to be at your place of safety at least 15 seconds prior to the arrival of the train.
- Watchman cannot be involved in any other task.
- Warning can be an air horn, a whistle, a tap on the shoulder
- TAW can only be used for MINOR work and inspections only!

 NO EQUIPMENT!

1. Train Approach Warning Cont.

Caltrain

- Every roadway worker who depends on TAW needs to be able to receive the warning
- Watchman will communicate the warning in a way that does not require workers to be looking in a particular direction and can be detected regardless of noise or distraction of work.





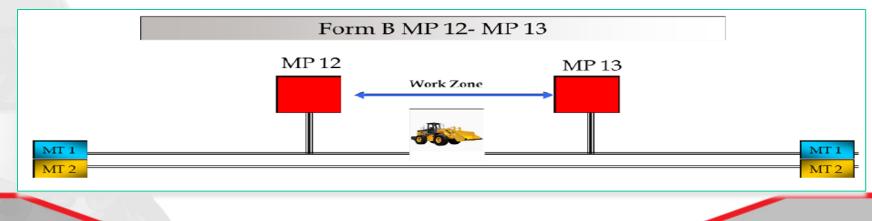
Positive Protection

- Positive Protection: a form of protection that prevents trains or on-track equipment from entering a track segment
- Positive Protection is MANDATORY when there is potential to foul with machinery or equipment
 - Form B
 - Form C
 - Track & Time
 - Or a combination of the three above



2. Form B

- A train is not allowed to pass the red flags without permission from the RWIC/Flagman
- All trains must stop at the limits until given permission from the RWIC/Flagman to enter the area
- Used most frequently for major projects with work on or near the tracks
- Can only use equipment off the tracks within Form B limits



4. Track & Time

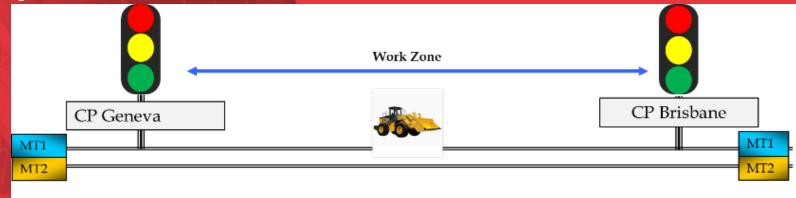


> The dispatcher gives an RWIC/Flagman a specific amount of time to work between two Control Points.

>Trains cannot enter the work zone during this time.

>Used mainly for short durations.

Can use machinery or equipment on the tracks within your track and time limits.



• A train cannot pass the signals until the work group has cleared the track.

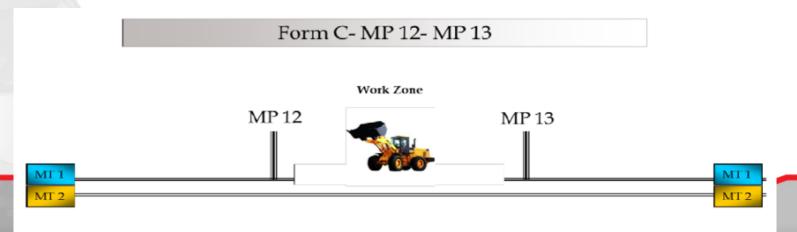
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3. Form C – Track Out of Service

- ➤ A train is prohibited from entering the "track out of service" area without permission from the RWIC.
- Track is removed from service and identified by times, i.e. 9:30am-3:15pm.Track and Time is also requested as an extra precaution.
- > Trains may "single track" on the other main track.
- The remaining track in-service will be typically be protected with a Form B or Track and Time or both.

> You can use equipment on the tracks within Form C limits





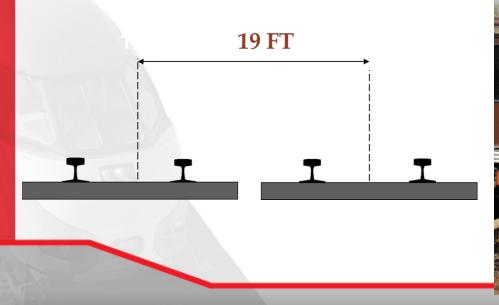
Types of Protection Summary

Type of Protection	Positive Protection?	Use of Equipment?
Train Approach Warning (TAW)	Not Positive Protection	No Equipment
Form B	Positive Protection	Yes Equipment
Form C	Positive Protection	Yes Equipment
Track and Time (T&T)	Positive Protection	Yes Equipment



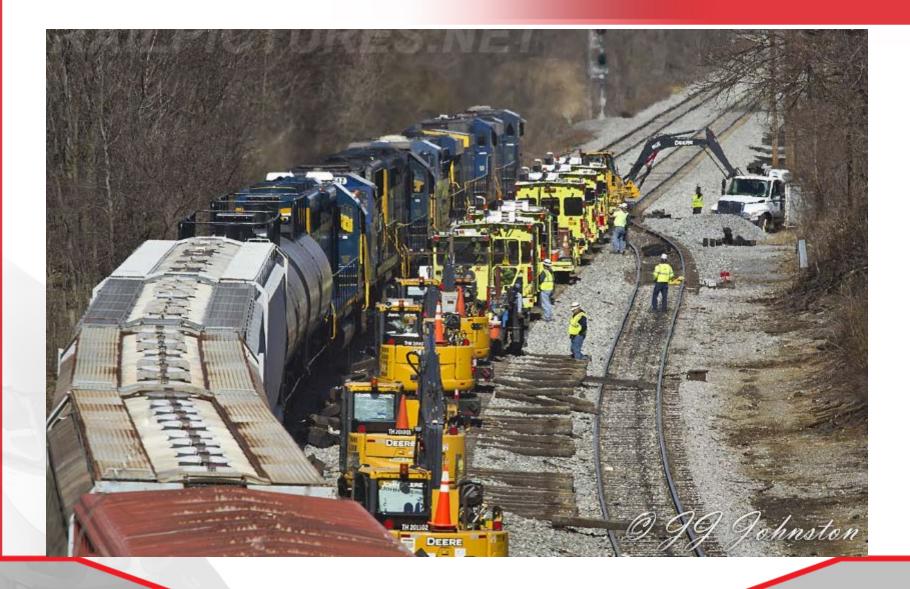
Adjacent Track Protection

- Adjacent controlled tracks are controlled by the dispatcher and have 19 foot track centers or less.
- This rule is applied when work is being performed on the ground alongside on-track equipment
- When working with adjacent controlled tracks, the RWIC will establish on-track safety on the adjacent tracks as well as the track being worked on.









Calitair On-Track Equipment and Adjacent Controlled Track

- Operators of on-track equipment working on adjacent controlled tracks will have a sign reading "Danger – Live Track" across the entrance/exit on the live track side of their machines.
- This includes using a removable sticker on hyrail vehicles.



Do not operate on-track equipment while a train is passing on the adjacent track:

- Stop the equipment
- Secure the equipment against movement
 - **Observe the passing train for hazards**



Working on the Ground with Adjacent Controlled Track

Any on-ground workers who are within 25 feet of any on-track, self-propelled equipment, or couple equipment permitted to move on the occupied track also fall under the Adjacent Controlled Track rules

> Your RWIC will tell you what your protection is.



Protection for Non-Controlled Tracks

- Cannot use any of the previously mentioned types of protection.
- > Only a few areas on Caltrain where this applies.
- > Several ways to provide protection:
 - Flagman able to stop all trains and equipment from entering the work zone.
 - A manual or controlled switch or derail lined to prevent access to the track.
 - Remove section of rail.



Derail









Reviewing Module Three: On-Track Protection

- What is protection?
 - On-Track Safety
 - Freedom from being hit by a train
- What are the type of protection?
 - TAW, Form B, Form C and Track and Time
- Which is not a form of positive protection?
 - Train Approach Warning (TAW)
- Who will tell you what your form of protection is?
 - RWIC or Watchman
- Can you use equipment with TAW? With Track and Time?
 - No equipment with TAW
 - Yes equipment with Track and Time











People in the Field

Roadway worker in Charge (RWIC)

 A qualified employee who is assigned the duty of being responsible for the protection and direction of his/her self and/or co-workers in any engineering work activity.

Subgroup Coordinator (SGC)

• Assists the RWIC when the work area is very spread out.

> Watchman

Used during Train Approach Warning (TAW)

Advanced Watchman

Extends the "view" of watchman.



Roadway Worker in Charge (RWIC)

- > Always a TASI employee
- Provides Protection (On-Track Safety)
- Communicates with Train Engineer and Dispatch to authorize trains to enter Work Zone Limits.
- Establish Protection Limits and Work Zone Limits.
- Everyone in the work group is wearing (PPE) Hard Hat, Safety Glasses, Safety Vest, and Safety Boots;
- Provides On-Track Safety Briefing prior to start of any work that requires track protection.



On-Track Safety Briefing

Occurs at the beginning of the shift or whenever work conditions change.



- Work conditions that can change:
 - New people on the work site
 - New RWIC or watchman on the work site
 - A change in the type of work use of hand tools to the use of heavy equipment
 - A change in the location of the work from beside the track to on to the track
 - When protection changes or is released
- The On-Track Safety Briefing is complete only when each roadway worker has acknowledged understanding of the on-track safety procedures and instructions.



The On-Track Safety Briefing



- The Roadway worker in Charge (RWIC) will conduct the On-Track Safety Briefing
- The RWIC will be a TASI employee and must have an RWIC qualification card
- Discuss your work with the RWIC
- Identify the On-Track Safety Protection
- Identify the Warning to be used
- Identify the Designated Area of Safety



Contractor Safety Briefings

Contractors are <u>required</u> to have their own job safety briefings on a daily basis and document those briefings. TASI will give a briefing which includes the type of On-Track protection in effect.



- Contractor briefings should include the following:
 - Tasks to be accomplished;
 - Discuss potential hazards;
 - Determine tool, equipment, material needs and applicable safety rules and procedures;
 - Establish the 15 foot Circle of Safety around mobile construction equipment and tool operations.



On-Track Safety Briefing Form – Handout

	<u>Pocke</u>	et Job Brief	ing Form	
Date:			_	
ocation:				
EIC;				,
Watchman:			-	
	Туре	e of OTS to	be used	
🗌 Form B	🛛 Track	and Time	🗆 Form C	🗆 TAW
Innacces	sible Track			
Permit #:		p-		-
Track(s):	🗆 MT1	🗇 MT2	🗅 MT3	🗆 MT4
	🗆 Other			
	P	rotection L	imits:	
From:				
To:				
Time:	From:			
	то:			·····
			(Time and Da	te)
Ok Time:		_ inititals		<u> </u>
Work Zone	e: From:			
	Тo	:		
Discussed W	orking Around	l MW Equipm	ent.	🗆 Yes 🗆 N/A
Rule of the	e Day:			
Notes:				
				-



Watchman Signals



- Stop work and Clear to the predetermined place of safety discussed in the On-Track Safety Briefing.
- The Watchman will point the white disk up warning you to clear track.
- The warning given by a Watchman must be heard, seen, &/ or felt (whistle, air horn, or tap on shoulder).



Watchman Signals



- OK to go back to work.
- The Watchman will point the white disk at the tracks to signify all clear, return to work.



When Trains Are Passing

- > When working close to tracks with equipment:
 - Stop all movements.
 - Dismount the machine/equipment when practical.
- When working close to the tracks NOT with equipment: Clear the "foul" of the track to the pre-designated area of safety.
 - Acknowledge approaching train by facing the train and raising your hand.
- Wait until the last car of the train has passed and you receive an "all clear" signal.
 - It is important to wait for an "all clear" signal because another train might be coming.
- All workers in equipment and around the job site should face the train to watch for flying debris.



Good Faith Challenge

- 1. On-Track Safety: When you believe the On-Track Protection provided is insufficient
- 2. On-Track Equipment: When you believe the equipment does not comply with FRA regulations or has a condition that inhibits its safe operation.

An individual that files a Good Faith Challenge must not be forced to do the task until the issue is resolved. However the individual may continue to work on tasks not related to the challenge.

Any worker may file a right to challenge "in good faith" without retaliation or retribution from their employer or Caltrain



On-Track Safety Rules

CALTRAIN ON-TRACK PROTECTION / RMM SAFETY GOOD FAITH CHALLENGE FORM

Employee Name:	Position	n:	Date:	
		1 challenge)		
Employer:		f Equipment:	Time:	
Mark Landiana		Equipment Number:		
Work Location:	Track #.	Mile Post:		
OTO and a second second second	Line (DMN 5	in the second		
OTS procedure applied or lac	king at work locations / RMM Eq	uipment Safety Issue		
A # 11 A A 4 4000B				
Caltrain's Safety/GCOR not b	eing complied with, give Rule # i	f known:		
Reason for Challenge:				
Employee's Signature			Date:	
Determination by EIC			Date.	
EIC Signature			Date:	
Determination by Employee's	Supervisor		Date:	
Employee's Supervisor's Sigr	nature		Date:	

INSTRUCTIONS: READ the Caltrain ROADWAY WORKER PROTECTECTION GOOD FAITH CHALLENGE AND DISPUTE RESOLUTION PROCEDURE IN THE OTS MANUAL! The employee making challenge shall complete this form, sign and date it, and give it to the EIC who shall document his/her determination, sign and date it, and give it to the employee's supervisor who shall document his/her determination, sign and date it, and forward it to the Caltrain Safety Officer or his/her designee. If immediate resolution cannot be reached, the EIC must contact the San Jose Control Center who will contact the Caltrain Safety Officer or his/her designee.



Digging on Caltrain Property



Underground Service Alert (USA Dig Alert) must be notified prior to ANY digging on Caltrain property



Know what's below. Call before you dig. In addition to notifying USA Dig Alert, Communication and Signals department at TASI will need to be notified.



Heavy Equipment Best Practices

- Prevent unauthorized access to worksite.
 - Always secure gates and entry points into construction zones if applicable
 - Lock and secure construction vehicles both during and after shift. WHY?

- Encourage operators of heavy equipment and construction vehicles to:
 - Move equipment only after positive visual contact (seeing each others eyes) has been made and confirmed with workers on the ground.
 - Always observe jobsite stop signs and speed limits and reduce speed when workers are nearby



Working Around Equipment

- > Maintain a 15 foot working distance around machines.
- The work zone of on track equipment extends 25 feet in front of and behind the equipment. Any additional work zone requirements must be discussed at the job briefing.
- Do not enter a machine's work zone without first communicating with the operator to establish safe procedures.



Operating Equipment

- Equipment operators must be trained and certified by their employer on the manual and any specific safety instructions that pertain to the equipment.
- The manual must be followed and it must be kept on the equipment if the equipment is large enough to carry it.
- Operation of equipment within 15 feet of the track must be discussed with the RWIC at the job briefing specifically in regards to OTS.



Operating On-Track Equipment

- The minimum distance between on track equipment while working is 40 feet, unless otherwise established at the job briefing.
- If a machine is approaching workers who are foul of the track, the operator must communicate with the workers before getting closer than 25 feet.
- Proceed towards hazardous conditions cautiously and prepared to stop. If you cannot proceed safely, stop until it is safe to do so.
- Operators of Hy-rail equipment must be territory qualified, or supervised by someone who is.



<u>Reviewing Module Four:</u> Working in the Field

- How many On-Track Safety Briefings should you attend?
 - At least two one with the TASI RWIC and one with the Contractor
- When do On-Track Safety Briefings need to be held?
 - At the beginning of the shift
 - Any time conditions change
 - When there is a change in RWIC
- What can you challenge?
 - On-Track Safety
 - On-Track Equipment Safety
- What should you do as a train passes you?
 - Face the train, Acknowledge train, Watch for flying debris







Emergencies

- > Always notify the RWIC about the emergency
- The violent movement of arms will be taken as an indication by train Engineers to stop
- > To stop trains in an emergency 800-872-4660
- Police, Fire, Medical emergency 877-723-7245
- Emergency Telephone Numbers are printed on your RWP ID Card



Security

Security for Caltrain is provided by:



Transit Division



RWP Enforcement

Enforcement Done By:

- FRA (Federal Railroad Administration)
- CPUC (California Public Utilities Commission)
- Caltrain Staff (JPB/TASI)

- You will be asked:
 - Who your RWIC is.
 - What your working limits are
 - What type of protection you have, (time limits, what track if multiple, track speed, place of safety, method of warning, etc.)

Failure May Result in

- Ejection from the Property
- Work Stoppage
- Personal Fines
- Employer Fines



Compliance with the On-Track Safety Manual

TASI safety assessment teams, safety and rules personnel, project representatives WILL conduct unannounced and unscheduled assessments.

On-site contractor and JPB Project Managers will be notified of assessment findings.



Video: Train vs. Car





Reviewing Module Five: Other Important Information

- How do you handle emergencies?
 - Notify RWIC
 - Wave hands violently to stop the train
- Who enforces the rules in the On-Track safety Manual?
 - Caltrain (JPB/TASI), FRA, CPUC
- Can you be personally fined for violating the rules in the On Track safety manual?
 - Yes
- Can your company be fined for your actions?
 - Yes



Preparing for the Test

- Any questions?
- Now is the time to ask Better to feel embarrassed for a moment than seriously injured or dead later...
- No cell phones.
- Anyone caught cheating will automatically be failed and dismissed from the classroom.
- 15 Questions You can only miss three.
- You may use your notes.





