



EXHIBIT C OPERATING SYSTEM INTERFACE (OSI)

PART 1 - GENERAL

1.01 DESCRIPTION

Outline for Contractor's interface with Caltrain's operating system, including track work, train control, and communications.

1.02 DEFINITIONS

- A. **Caltrain:** AKA, The Peninsula Corridor Joint Powers Board (PCJPB) is a public agency comprised of three counties; San Francisco, San Mateo and Santa Clara, and is otherwise known as Caltrain.
- B. **Railroad Contract Operator:** Under contract with the PCJPB to operate and maintain the Caltrain system.
- C. **Operating System:** Includes, but is not limited to, the tracks on which trains and on-track equipment operate or may potentially operate, and in addition any facilities closely related to the operation of the railroad system including signal and communication masts, bridges, poles, cables, signal houses, tunnels, culverts, grade crossings and station platforms and facilities.
- D. **Operating Envelope:** Anywhere within Caltrain property including any area that is an essential component of the operating system.
- E. **Work Window:** A designated period of time with a specific beginning and ending time for which the track, signals, bridges and other Operating System elements within the Operating Envelope are modified or temporarily removed from service to allow construction or maintenance work to occur. Written authority from Caltrain, and an approved Weekly Site Specific Work Plan (SSWP), is required before a Contractor is granted a Work Window. The Contractor's Work Window shall have specific geographic limits, which are defined in the approved SSWP. Modifications or suspension of train and on-track equipment movements resulting from a Work Window involves written changes to the Railroad's Rules of Train and On-Track Equipment Operations. These written changes are known as Track Bulletins and are categorized as follows.
 - (a) **Multiple Track Window:** An approved Work window in which passenger/ commuter and freight train service on two or more adjacent main tracks is suspended or halted. However, trains and on-track equipment associated with construction and maintenance activities may still operate on the tracks with suspended service but subject to the control of the Employee-in-Charge/ Flagman. Within rail corridors with three or more main tracks passenger/ commuter and freight train service may operate on the remaining main tracks subject to "Form B" restrictions. A "Form C" Track Bulletin will be issued by the Owner's Railroad Contract Operator/ Operating Railroad of Record to suspend or modify the train service on the two or more adjacent main tracks.

- (b) **Single Track Window:** An approved Work Window in which passenger/ commuter and freight service on a single main track is suspended or halted. However, trains and on-track equipment associated with construction and maintenance activities may still operate on the single main track with suspended service subject to the control of the Employee-in-Charge/ Flagman. Additionally, passenger/ commuter and freight train service will operate on the single main track or main tracks remaining in service subject to “Form B” restrictions. A “Form C” Track Bulletin will be issued by the Owner’s Railroad Contract Operator/ Operating Railroad of Record to suspend or modify the train service on the single main track removed from service. The limits of Single Track Windows will be a segment of track situated between the two nearest crossovers (universal or single). Single Track Windows within a track segment will not be allowed to extend beyond the limits of the two nearest crossovers, and in the case of more than one Single Track Window construction work will not be allowed on two adjacent track segments.
- (c) **“Form B” Work Window:** An approved Work Window in which passenger/ commuter, freight and all other trains and on-track equipment movements can be prohibited from entering the defined limits of a segment of track. The “Form B” Work Window does not allow the Contractor to remove from service or modify the tracks, signals, bridges, stations or other elements of the Operating System in a manner which will delay or in any way affect the safe operation of the trains. The “Form B” Work Window allows the Contractor the ability to enter the Operating Envelope and perform construction activities subject to the conditions above. An Employee-in-Charge/ Flagman from the Contract Operator will exercise strict control over the Contractor’s construction activities in conjunction with Roadway Worker Protection requirement to assure that the Contractor’s activities do not delay or impact train service.
- (d) **“Track and Time”:** A period of time on a particular segment of track for which the Control Operator (Train Dispatcher) grants exclusive usage to a qualified employee of the Railroad.
- (e) **Track and Time** will be granted by the Control Operator specifying the authority number, track limits and time. An employee (Flagman) granted Track and Time may occupy a track or tracks within the specified limits for the time period authorized. The limits of Track and Time are normally designated by Control Points (CPs). Track and Time is not normally used to protect work or trains for extended periods of time unless there are no other means readily available to do so.
- (f) **Exclusive Track Occupancy:** This refers to a method, such as those above, of establishing working limits on controlled track in which movement authority of trains and other equipment is withheld by the Control Operator or Train Dispatcher or restricted by a Flagman.

F. Work Plan (WP): A document submitted by the Contractor, detailing the activities associated with a particular element of work. The Work Plan must include a description of the activity as well as the number of men and a list of the equipment required in the performance of the activity.

- G. Site Specific Work Plan (SSWP):** A program, plan, and schedule prepared and submitted by the Contractor three weeks prior to the proposed work and approved by the Engineer that accurately describes and illustrates the manner in which Work within the Operating Envelope will be accomplished, the impacts on any elements of the Operating System and the manner in which Work will be accomplished with the allotted Work Windows or protected period.
- H. Engineer/Project Manager:** Caltrain Engineer/Project Manager or other authorized representative.

1.03 WORK PLAN (WP)

- A.** The Contractor will prepare a detailed Work Plan for each and every task associated with the work that is required by the Contract or any associated Field Instructions or Change Notices. The Caltrain Project Manager will provide directions and assistance to the Contractor in the preparation and submittal of the Work Plan.
- B.** WP's shall include all activities necessary to perform construction tasks within the PCJPB Right of Way, including use of stations, sidings, temporary construction easements and proposed storage areas.
- C.** WP's shall include a description of any proposed changes to the Operating System between start and finish of the work, including any requested Work Windows.
- D.** The WP shall conform to all other requirements applicable to the Contract Documents.
- E.** The WP must contain a basic schedule of the work showing each activity and where and how it affects normal operation of the Operating System. Each activity in the plan shall include all labor, materials and equipment required to complete the activity within the PCJPB allotted time period.
- F.** The WP must include Contingency Plans for putting the Operating System back in operation in case of an emergency or in case the Contractor fails to complete the work within the Work Window. The Contingency Plans shall address the various stages of activities to restore the System.
- G.** The WP's must be of sufficient detail, clarity and organization to permit efficient review by the Engineer and approval at least 10 calendar days before the proposed work is performed. The WP shall be submitted to the Engineer as follows.
 - a) At least 21 calendar days prior to start of the subject work within the PCJPB Right of Way for work other than signal and overhead wire installation.
 - b) At least 30 calendar days prior of the start of the work for work involving signal and overhead wire installation, such as signal system cutover, overhead wire involving third parties, etc.

- H. The Engineer may request explanations and changes to the WP to ensure that it conforms to the requirements of the Contract Documents. If the WP is not acceptable, Contractor shall revise the WP to make it acceptable. The Contractor is responsible for submitting a revised WP that can be reviewed and approved by the Engineer at least seven (7) days in advance of any work within PCJPB Right of Way.
- I. The Contractor will be informed if the WP is acceptable not less than seven (7) calendar days prior to the scheduled start of work within the PCJPB Right of Way. Once the plan is accepted, Contractor shall muster the resources necessary to perform the work represented by the SSWP, so that necessary resources are available and ready for use, in general on the day which begins the week in which the work is to be accomplished. At this time, the Engineer will make a final decision as to whether or not the work is to proceed as planned or will be canceled. The prime consideration will be the stage of readiness of the Contractor, which the Contractor shall demonstrate to the Engineer.

1.04 WEEKLY SITE SPECIFIC WORK PLAN (SSWP)

- A. In addition to Work Plans, the Contractor shall submit a Site Specific Work Plan (SSWP) on a weekly basis three weeks in advance of the proposed work. All SSWPs shall detail the proposed weekly events and activities, and include the Contractor's request for Work Windows. Approval of a WP or SSWP by the Engineer may require the placement of an appropriate protective divider (k-rail, snow fence, etc.) between construction operations and the operating system. Contractor shall furnish and install protective dividers as specified by the Engineer. The Caltrain Project Manager will provide directions and assistance to the Contractor in the preparation and submittal of the Site Specific Work Plan.
- B. The Contractor shall furnish all labor, materials, and equipment as required to perform and complete the work within the approved work window. The Contractor shall maintain the approved schedule in the SSWP.
- C. All work outlined in the SSWP with a potential to impact normal functioning of any part of the operating system shall include a detailed schedule of events indicating the expected hourly progress of each activity that has a duration of one hour or longer. The schedule shall include a time at which all activities planned under the SSWP will be completed. The SSWP shall also include the mobile phone numbers of individuals responsible for compliance with the approved SSWP. Failure of the Contractor to complete the scheduled activities by the planned time or to put in place an approved contingency plan may adversely impact the operations of Caltrain. In the event that Caltrain service is delayed by Contractor's actions, damage will be incurred and liquidated damages will be assessed.
- D. The SSWP shall be a plan that describes the activities necessary to perform the work within the Operating Envelope and indicates which Work Plans will be utilized. The plan shall explain each activity along with the proposed schedule to complete each item. Each activity in the plan shall include all material and equipment required to complete the activity within the scheduled time period.
- E. The SSWP shall also include contingency plans for putting the system back in operation in case of an emergency or in case the Contractor fails to perform and complete the work on time. Contingency plans shall address the various stages of construction.

- F. The contractor shall have a copy of the current Caltrain schedule. Schedules are available at Caltrain Stations or on the Internet at www.caltrain.com.
- G. The SSWP will be submitted to the Engineer for review no later than the opening of the business day on the Monday three (3) weeks before the proposed start of work within the Caltrain property. The Engineer may request explanations and changes to the SSWP, if the plan is not acceptable, the Contractor shall revise the plan accordingly.
- H. The Contractor will be informed if the SSWP is acceptable not less than three (3) calendar days prior to the scheduled start of work. Once the plan is accepted, the Contractor will be prepared to perform the work represented by the SSWP.
- I. References herein to weeks mean the week starting with Monday, and the next six (6) days of the proposed work schedule.
- J. All work within Caltrain's property requires an SSWP approval by Caltrain.
- K. No work will be permitted during weekday commute hours less than fifteen (15) feet horizontally from of the nearest rail until after 9:00 AM and prior to 3:00 PM. Work closer than fifteen (15) feet from the nearest rail may require a night or weekend schedule. Some work performed more than fifteen (15) feet horizontally from the nearest rail may be restricted to night and weekends when so required by the approved SSWP.
- L. Materials and equipment shall not be piled, stored or parked when not in use closer than twenty-five (25) feet horizontally from the centerline of the nearest operating track.
- M. The placement of piles, forms, braces, shoring, falsework or other construction supports shall be in accordance with the current State of California, Department of Transportation (Caltrans) Falsework Manual, PCJPB Standards Volumes 1 and 2, PCJPB Engineering Standards for Excavation Support Systems, and PUC General Orders 26-D and 118 as applicable.
 - i. Temporary overhead structures shall have a minimum vertical clearance of twenty-two (22) feet, six (6) inches above top of rail for all tracks and at any location under the structure. Temporary overhead structures with proposed vertical clearance less than twenty-two (22) feet, six (6) inches above top of rail must have an exemption from the California Public Utilities Commission (CPUC) and approval of Caltrain.
- N. In general, open excavation areas shall be protected per OSHA regulations. Open excavation areas adjacent to operating tracks shall be protected by walkways with handrails no closer than eight (8) feet, six (6) inches horizontally from the nearest operating track, if tangent, and nine (9) feet, six (6) inches if track is curved.

1.05 AVAILABILITY OF ACTIVE TRACKS:

- A. Active main line tracks and sidings are only available during Work Windows as approved by the Engineer.
- B. The Contractor does not have exclusive rights to the Work Windows. The Contractor must share these Work Windows with other Contractors and current Owner's Contract Operator.

1.06 CURRENT AND FUTURE CORRIDOR TRAFFIC

The following is a general summary of train traffic in the rail corridor:

- A. Mainline - Current Owner Commuter Operations and UPRR freight traffic**
1. Weekday train service, both directions
 - Caltrain commute service per current timetable
 - 4 to 6 UPRR freight trains between 9 PM to 4 AM
 2. Saturday train service, both directions
 - Caltrain commute service per current timetable
 - 2 to 3 UPRR freight trains
 3. Sunday train service, both directions
 - Caltrain commute service per current timetable
 - 2 to 3 UPRR freight trains
 4. Special Event Service
 - 3 to 4 trains each direction on days of San Francisco Giants Baseball home games
 - 3 to 4 trains each direction on days of Stanford Football home games
 - 3 to 4 trains each direction for other special events.
 5. Other passenger rail carriers in accordance with their published timetables, including but not limited to Amtrak Intercity, Altamont Commuter Express (ACE), and Capital Corridor all of which operates in Santa Clara County segment.
- B. Mainline - Future Owner Commuter Operations and UPRR freight traffic**
1. Owner's and other operator's commuter train traffic may vary in time and frequency over the course of the contract per published revisions to timetables.
 2. UPRR freight traffic is subject to change without notice at the discretion of UPRR.

1.07 SAFETY

- A.** Employees of the Contractor scheduled or expected to perform work within Caltrain Property are required to have successfully completed, within the last twelve (12) months, Caltrain's Roadway Worker Protection training program. The Contractor shall forward to Caltrain records of those successfully completing the course.
- B. Roadway Worker Protection Act:** Contractor shall at all times comply with provisions of the Federal Rail Administration Regulation 49CFR214 (Roadway Worker Protection) as well as to the Permitter (Licensor) On-Track Safety Program.
- C. Zero Tolerance:** The Caltrain Zero Tolerance Policy is attached and made a part hereof.

APPENDIX – D



***Zero Tolerance Procedure
OTS Rules Enforcement***

Amended 6/5/11

Every individual performing work on the Peninsula Corridor Joint Powers Board (PCJPB) right-of-way is both entitled to and responsible for a safe working environment. The objective of this “Zero Tolerance Procedure” statement is to establish clear and concise standards for Roadway Worker Protection (RWP) compliance on the Caltrain system.

This is a minimum requirement and any supervisor or manager of any group or organization working on the PCJPB right of way may set more stringent standards for their own employees.

A. General

1. The Zero Tolerance Procedure applies to all employees and contractors of the PCJPB and its contract operator or any other entity entering upon the Caltrain right-of-way for the purpose of performing work as a Roadway Worker, as defined in the Caltrain On-Track Safety Rules.
2. The EIC will be responsible for overseeing the enforcement of Caltrain RWP requirements and all other applicable right-of-entry requirements for workers in his group. The EIC will not allow anyone to work within his/her workgroup until all RWP requirements are met.

B. Roadway Worker Protection Infractions

Individual who are determined to be non-compliant with Caltrain’s RWP requirements will be subject to the following procedures:

- First infraction – A written notice will be delivered to the non-compliant individual, the individual’s supervisor and the Caltrain Supervising Safety Officer – Rail. A copy will be forwarded to the appropriate JPB manager. The individual or work group must leave the right-of-way until the reason for the infraction is corrected.

- **Second infraction – The individual or work group will be banned for 5 days from the Caltrain right-of-way with re-training within 7 days of infraction. Notification procedures will be the same as with the first infraction.**
- **Third infraction – The individual or work group will be banned for 1 year from the Caltrain right-of-way. Notification procedures will be the same as with the first infraction**
- **Fourth infraction – The individual or work group will be permanently banned from Caltrain right-of-way. Notification procedures will be the same as with the first infraction.**

In addition, any persons in a position of RWP responsibility (EIC, Watchman, etc.) will forfeit their Advanced RWP certification and will be required to re-train at the next scheduled Advanced RWP class following an infraction.

Any infraction in which the individual cannot provide evidence of training will result in immediate removal from PCJPB right-of-way.

Each infraction will be automatically removed from Caltrain records 3 years from the date of occurrence.

C. Accountability

Infractions to this procedure will be referred to and handled by Caltrain Department of Safety and Risk Management. Refer by phone immediately, and then written follow up within 24 hours to the Project Manager and Rail Safety Officer – Construction/Engineering.

Corrective actions or other follow up resulting from infractions covered by this procedure are the responsibility of the Resident Engineer, reporting back to the Rail Safety Officer – Construction/Engineering and the Project Manager.