

Section 1 Safety

2-101 General

Federal and state laws have established occupational safety and health standards with which all employers must comply. These laws require an employer to provide a safe place of employment that is reasonably free from danger to life or health.

The *Caltrans Safety Manual* is the basis for the official Caltrans injury and illness prevention program. Use the *Caltrans Safety Manual* in conjunction with the *Construction Manual* (manual). The *Caltrans Safety Manual* lists mandatory safety policies and procedures, provides a centralized reference to operational safety advisories, and standardizes instructions related to reporting employee occupational injuries, vehicular accidents, and claims against Caltrans.

Federal Highway Administration (FHWA) requirements and the *Standard Specifications* establish compliance with safety regulations as a condition of the contract. As a contract requirement, compliance with safety regulations is enforceable by contract administration procedures, as are all other specifications.

2-102 Duties and Responsibilities

The following describes the district's responsibilities for safety on Caltrans construction projects:

2-102A District Construction Deputy Director

The district construction deputy director must ensure that a training program is maintained to acquaint all Caltrans construction personnel with the basics of construction safety.

2-102B Construction Safety Coordinator

The district's construction safety coordinator must act as technical advisor and coordinate the district's administration of contractors' compliance with safety requirements. The construction safety coordinator must also do the following:

- Be familiar with highway construction procedures, equipment, and construction zone traffic management, and also be able to recognize and anticipate unsafe conditions created by a contractor's operation.
- Visit projects periodically to observe the contractor's operation and any traffic conditions affected by construction activity. The frequency of these visits will depend upon the type and complexity of the work. When requested by the resident engineer, the coordinator must make additional visits. However, during the life of shorter contracts, one visit may be sufficient.
- Make a written report of each visit, and file a copy of the report with the project records. The purpose of the visit is not to perform a complete safety inspection, but to observe the contractor's overall efforts and answer questions or look at specific areas as requested by the resident engineer.

Section 1 Safety

2-101 General

2-102 Duties and Responsibilities

- Be the district's primary contact with the Division of Construction safety engineer and the local Division of Occupational Safety and Health (Cal/OSHA), except for emergencies involving imminent hazards.
- Be responsible for administering the district's construction safety training program. Structure the training program to meet the district's needs. This mandatory training must take place at a frequency of a minimum of four hours per employee per year and must be included in the district's annual training plan. Safety training will include orientation training to all employees at the time of their first assignment to construction. Employees returning to construction following an absence of five years or more must also receive safety orientation training.
- Be the advisor for the construction safety portion of the preconstruction conference. If the coordinator does not take part in the discussion, the coordinator must be involved in reviewing the specifications and determining what specific areas of safety will be discussed with the contractor.

2-102C Construction Engineer

The district construction engineer must review construction projects to ensure that the resident engineer is monitoring the contractor's construction safety program adequately and that an effective safety program is being performed. While the construction safety coordinator acts as a technical advisor on construction safety, the construction engineer is responsible for advising the resident engineer on construction safety as it relates to contract administration.

District construction engineers are also accountable for the performance of employees under their supervision. They should document their reviews of employee safety programs.

2-102D Resident Engineer

The resident engineer must ensure that the contractor complies with all aspects of the contract including the applicable *Construction Safety Orders*. In doing so, the resident engineer must also do the following:

- Identify an unsafe condition as well as the specific regulation involved, if known. Under no circumstances instruct the contractor verbally or in writing on how to correct a deficiency.
- In a special safety report using Form CEM-4601, "Assistant Resident Engineer's Daily Report," document the construction safety activities of both the contractor and Caltrans project personnel. At least weekly, complete this report and file it in Category 6, "Safety," of the project records.
- Ensure the contractor complies with all safety orders through normal contract administration procedures. The state-enforcing agency for safety regulations is Cal/OSHA.
- Give project safety deliberate attention, both at preconstruction conferences and throughout the duration of the contract. In the project files, document safety discussions at preconstruction conferences and cover at least the following items:
 1. The contractor's accident prevention program required by Cal/OSHA.
 2. The contractor's code of safe practices, also required by Cal/OSHA. This code must be developed for each contract and reviewed by either the resident engineer or the construction safety coordinator.
 3. Various permits that may be required before starting specific work items, such as excavation, trench shoring, falsework, and scaffolding.

4. Other safety items that may be pertinent to the contract, related to items such as blasting operations, work in confined spaces, personal protective equipment, back-up alarms, rollover protective structures, traffic control, and access to elevated work.
 5. The reporting of disabling or fatal accidents to the resident engineer and Cal/OSHA.
 6. The contractor's safety training program.
- Develop the code of safe practices for the project and ensure they are followed.

2-102E Project Safety Coordinator

The resident engineer may delegate safety responsibilities to an assistant who will act as the project safety coordinator. Usually this delegated work will be in addition to other assigned duties, but on large contracts it may be full time. The project safety coordinator must monitor and document the contractor's compliance with safety requirements and must keep the resident engineer informed. The project safety coordinator also acts as a safety advisor to Caltrans project personnel.

2-102F Project Staff

Caltrans does not intend that the resident engineer and the project safety coordinator carry the total load of monitoring the contractor's construction safety activities. All construction personnel must consider the safety of the operations in conjunction with their normal inspections.

2-103 Managing Safety Hazards

In carrying out Caltrans' responsibilities for ensuring safety compliance as a contract requirement, use the following guidelines:

2-103A Imminent Hazards

Imminent hazards are dangerous conditions that, if not corrected, would likely result in an accident causing severe or permanently disabling injury, or causing death. When an imminent hazard is found to exist or when the contractor permits repeated occurrences of a hazardous condition, the resident engineer must take the following steps:

- Immediately advise the contractor verbally of the condition and the need for immediate correction.
- Remove all Caltrans and consultant employees from the hazardous exposure.
- Order the contractor to remove all personnel not needed to make the corrections.
- If the contractor complies, document the incident in the project's safety report with appropriate references in the resident engineer's daily report.
- If the contractor does not comply, suspend the affected operation. Confirm the suspension order with written notice to the contractor.
- Document the incident and the action taken in the resident engineer's daily report.

Whenever it is necessary to suspend a contractor's operation, notify the construction safety coordinator and Cal/OSHA of the hazardous condition and the actions taken. By fax, e-mail, or telephone, notify the Division of Construction safety engineer of the actions taken. Safety reports, giving all details leading up to the suspension, and copies of orders by the resident engineer, Cal/OSHA, or both, must be placed in Category 6, "Safety," of the contract files.

2-103 Managing Safety Hazards

2-103B Dangerous Conditions (Serious Hazards)

Dangerous conditions (sometime referred to as serious hazards) are those that do not present an immediate danger to workers, but if not corrected could result in a disabling injury and possibly death, or could develop into an imminent hazard. When a dangerous condition is found to exist, the resident engineer must take the following steps:

- Advise the contractor verbally of the condition and the need for timely correction. If appropriate, set a compliance deadline.
- Remove all Caltrans and consultant employees from the hazardous exposure.
- If the contractor does provide timely correction, consider ordering a suspension of the affected operation. Confirm the suspension order with written notice to the contractor.
- Document the incident in the project's safety report with appropriate references in the resident engineer's daily report.

2-103C Minor or Nonserious Conditions

Minor or nonserious conditions are ones that could result in minor injuries or that may be classified as a minor threat to health. When a nonserious or minor condition is found to exist, the resident engineer must take the following steps:

- Advise the contractor verbally of the condition and the need for correction.
- Document the incident in the project's safety report.
- Protect Caltrans and consultant employees from exposure.

If the contractor fails to correct the condition or permits a repeated occurrence, notify the construction safety coordinator.

2-104 Division of Occupational Safety and Health

Division of Occupational Safety and Health

This section provides information about the organization of Cal/OSHA, its enforcement powers, and Cal/OSHA inspections.

2-104A Authority and responsibility

The law requires Cal/OSHA to enforce the safety orders and to promote safe workplaces and practices. Cal/OSHA achieves this function through three separate agencies, a rule-making function, an enforcement function, and an independent appeals board, described as follows:

- The Occupational Safety and Health Standards Board (standards board) adopts, amends, and repeals the safety orders. Both state and federal law require that these safety orders be no less restrictive than the federal Occupational Safety and Health safety orders.
- Cal/OSHA is responsible for administering the safety orders as adopted by the standards board.
- Citations issued by Cal/OSHA for violations may be appealed to the Occupational Safety and Health Appeals Board for a hearing, and in rare instances, then appealed to a superior court.

To allow Cal/OSHA to accomplish its mission, the Labor Code gives Cal/OSHA the authority to enter and inspect any place of employment to ensure that safe conditions and practices are being observed. If necessary, this right of entry can be enforced by warrant.



2-104B Citations and Civil Penalties

Cal/OSHA has the duty to issue citations if unsafe conditions or work practices are documented during an inspection. Civil penalties are proposed consistent with the severity of the violations cited. The amount of the penalty is determined by procedures established in the regulations. Public agencies are not exempt from these penalties.

Violations are classified by severity, as either general or serious. Under specific circumstances, these classifications will be expanded to willful, repeat, or both. Violations result in monetary penalties. Penalties are also mandatory for failing to abate hazards and for making false statements.

In addition to the civil penalties noted above, managers can be held criminally responsible. To be held criminally responsible, the manager must knowingly or negligently allow a serious violation, repeatedly violate the safety orders, or directly refuse to correct a known, unsafe condition. The criminal penalties can be as severe as six months to one year in jail and may include fines.

Occasionally, Cal/OSHA will issue an informational memorandum when a condition, or potential condition, is encountered in which no employee has been exposed, but if an employee were to be exposed, a safety violation would exist. Violations of an informational memorandum are always classified as willful violations.

2-104C Classes of Employers

California recognizes four different types of employers, any of which can be cited by Cal/OSHA for safety violations. This classification of different types can result in more than one employer being cited for the same violation. The following are the recognized classes of employers as defined by the Labor Code:

- Exposing employer—The employer whose employees were exposed to the hazard.
- Creating employer—The employer who actually created the hazard.
- Controlling Employer—The employer who was responsible by contract or through actual practice for the safety and health conditions on the work site. This employer is the one who had the authority for ensuring the hazardous condition was corrected.
- Correcting Employer—The employer who had the responsibility for actually correcting the hazard.

With regard to Caltrans employees, Caltrans (not the resident engineer) may be the exposing employer if a Caltrans employee is allowed to work in an unsafe location or to participate in an unsafe act. Because Caltrans has given resident engineers and their staff engineers the authority to intervene when they believe a condition or act to be unsafe, the possibility also exists that Caltrans may be considered by Cal/OSHA to be a controlling employer.

2-104D Procedures During Division of Occupational Safety and Health Inspections

This section describes what takes place during a Cal/OSHA inspection and what resident engineers and their assistants should do during a Cal/OSHA inspection.

2-104D (1) Elements of a Cal/OSHA Inspection

Every Cal/OSHA inspection has three elements, the opening conference, the walk-through inspection, and the closing conference, described as follows:

- Opening conference—The Cal/OSHA inspector will ask for the highest level of management on-site. Introductions will be made, and the inspector will state the

reason and purpose of the inspection. At this time, the inspector will ask questions about the employer, such as the size of the organization, number of employees on-site, addresses and phone numbers, and other information. Questions may also be asked about the employer's injury and illness prevention program. The basis for Caltrans' program is the *Caltrans Safety Manual*. The employer will be asked for permission to make a walk-through inspection of the site, and the employer will be invited to accompany the inspector.

- Walk-through inspection—The inspector will tour the site observing the work in progress, the condition of the site, and the work practices being followed. Employees may be interviewed concerning the training they have received, work procedures, and protective equipment they are using. The inspector may take photographs and measurements during the inspection. If this is a post-accident investigation, witnesses will be identified and interviewed. Witness contact information, such as name, address and telephone number, may be requested. The inspector will identify any violations that are observed. Any such violation probably will become a citation during the closing conference.
- Closing conference—After the walk-through inspection has been completed, the inspector will meet with management, supervisors, and employee representatives to discuss the violations and any proposed citations. Citations may be based on the inspector's observations and also on statements made by managers, supervisors, and employees. This conference may be held immediately after the walk-through inspection or may be deferred. Although this conference is usually conducted in person, it may sometimes be conducted by telephone.

2-104D (2) *Participation in the Inspection*

- As a matter of policy, Caltrans will cooperate and participate with Cal/OSHA. If you are asked questions that you are uncomfortable with, politely decline to answer. Caltrans employees are not required to make any statement that may be harmful to their interests or those of Caltrans. In the event of an inspection, do the following:
- Opening conference—Notify the construction safety coordinator that Cal/OSHA is planning to make an inspection. If the construction safety coordinator is not available, notify the district safety officer of the pending inspection. At the same time, notify the construction engineer. If the construction safety coordinator or safety officer can arrive in a reasonable length of time, request that the walk-through inspection be delayed pending their arrival. The resident engineer or representative must participate in the inspection. The construction engineer should participate.
- Walk-through inspection—Participate and document the inspection. Record what areas were inspected, who was interviewed, and what violations were mentioned by the Cal/OSHA inspector. If the inspector takes photographs, take the same photograph for Caltrans records. Also, if any measurements are taken, independently take the same measurements.
- Closing conference—The resident engineer must participate in the closing conference, and the construction engineer or a representative (other than the resident engineer) should participate. If the district safety officer or construction safety coordinator is not present, insist that the closing conference be delayed until the district safety officer is present. If citations are proposed, remain open and noncommittal.

2-104D (3) Procedures If Citations Are Received

If citations are received either by personal delivery or by mail, take the following actions:

- Notify the district safety officer and your construction engineer that the citations have been served.
- Fax a copy of the citation to the Office of Safety and Health in the Administrative Service Center.
- For citations related to structure work, structure representatives must notify the Office of Structure Construction of the citations.

The district safety officer, and in most instances the Office of Safety and Health, will work with the resident engineer to resolve the citations. If necessary, arrangements for legal support will also be made.

2-105 Specific Safe Practices

Every employee has the responsibility to be informed of and to follow the specific policies and practices discussed in the *Caltrans Safety Manual*.

2-105A Code of Safe Practices

The Construction Safety Orders require that every employer adopt a written code of safe practices. The resident engineer must ensure that this code is prepared for every project. Pay particular attention to ensure the code includes those items unique to a specific project as well as those portions of the contractor's code that affect Caltrans employees and consultants. The project file must contain documentation that all employees and consultants have read and understood the code of safe practices and have received a project safety orientation.

2-105B Tailgate Safety Meetings

The Construction Safety Orders also require tailgate or toolbox safety meetings. As stated in Construction Safety Order 1509, "Injury and Illness Prevention Program," these meetings must be held at least once every 10 working days.

Section 2-05, "Tailgate Safety Meetings for Field Personnel," of the *Caltrans Safety Manual*, contains specific instructions for tailgate meetings. Follow this section and district policy.

2-106 Accident Reports and Investigations

Chapter 19, "Special Reporting of Serious Injury, Illness, or Fatality," of the *Caltrans Safety Manual*, explains the reporting requirements for the serious injury, illness, or fatality of Caltrans employees and non-Caltrans employees working on a Caltrans project. This chapter also explains the reporting requirements for major property damage or fatal accidents that occur in construction zones. Part 4, "The Investigative Processes," of Chapter 19, "Special Reporting of Serious Injury, Illness, or Fatality," of the *Caltrans Safety Manual*, discusses and describes accident committee investigations.

Report to the Division of Construction accidents with no injuries, but with a high potential for being fatal or disabling. These types of accidents include the following:

- Falsework or guying system failures
- Overturned cranes
- High-voltage contacts

2-105 Specific Safe Practices

2-106 Accident Reports and Investigations

- Trench excavation or shoring failures
- Gas or fuel line fires or explosions
- Hazardous utilities breaks
- Collisions with structures under construction or with their supporting falsework that cause displacement of a major member

For all accidents occurring in construction zones, the resident engineer should take sufficient photographs or videotapes to document the conditions that existed at the time of the accident, including all signing and traffic control features that may have been in effect at the time of the accident. Depending on district policy and the nature and severity of the accident, additional documentation may be required. For additional information on accident investigation and documentation, consult the construction safety coordinator.

2-107 2-107 Safety Precautions for the Public in Construction Areas

Safety Precautions for the Public in Construction Areas

Many construction activities and areas have a tendency to attract onlookers. Children, especially, are attracted to observe construction operations. Moving construction equipment poses a potential danger to onlookers.

Resident engineers and assistant resident engineers must be aware of these potential hazards to the general public and work with the contractor to take reasonable precautions to exclude the public from the construction area. Fencing, if practical, and “no trespassing” signs should be provided at all sites that may be potentially dangerous.

2-108 2-108 Hazardous Waste

Hazardous Waste

If hazardous waste is encountered on the project, notify the district hazardous waste coordinator immediately. The coordinator will advise and may assist in the disposal procedures and may also suggest extra safety measures the resident engineer can take to protect the public and workers.

See Chapter 7, “Environmental,” of this manual for additional guidelines for dealing with hazardous waste.

