Chapter 42

Subcontractor Construction Safety

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1 Overview

To ensure that subcontracted construction work is completed in compliance with established California/Occupational Safety and Health Administration (Cal/OSHA) and industry standards and Department of Energy (DOE) health and safety requirements, such work at the SLAC National Accelerator Laboratory will be executed according to established and approved procedures.

Safety, which includes all environment, safety, and health (ESH) considerations, must be integral to the planning and execution, at all phases, of subcontracted construction work done for SLAC. Contracted personnel and subcontractors at all tiers must be fully aware of their legal and contractual responsibility to prevent occupational accidents and injuries.

The purpose of this chapter is to provide SLAC employees involved with construction projects, in particular the *project manager (PM)*, *university technical representative (UTR)*, and ESH staff, with guidance on SLAC's overall requirements with respect to subcontractor construction safety.

2 Scope

This chapter addresses the controls for all *construction work* performed by *subcontractors* at all tiers. (See Section 5, "Definitions", for explanations of terms used in this chapter.)

The chapter applies to all construction activities performed by subcontractors.

This chapter is intended to be used in concert with the following documents:

1. SLAC General Terms and Conditions for Fixed Price Construction Subcontractors. The purpose of this document is to state clearly the legal obligations of the construction subcontractor in performing construction work at SLAC.

2. SLAC University Technical Representative Requirements and Procedures for Construction. The purpose of this document is to compile all the information necessary for project managers and UTRs to execute their job responsibilities faithfully.
3. The hazard-specific chapters of this SLAC Environment, Safety, and Health Manual (see Section 6.3, "Related Documents")

2.1 Exemptions

There are no exemptions to the requirements of this chapter.

3 Implementation

The requirements of this chapter take effect August 5, 2009.

4 Requirements

4.1 General

4.1.1 Managing

The management of subcontracted construction work is a specialized discipline. Detailed guidance for managing this work can be found in the SLAC University Technical Representative Requirements and Procedures for Construction. All contracted construction work performed at SLAC will be managed following this document. SLAC Support Organizations

There are four SLAC organizations responsible for managing construction subcontractors. These four organizations are

1. Facilities Department
2. Experimental Systems and Research Department (ESRD)
3. Linac Coherent Light Source (LCLS) Construction Directorate
4. Environment, Safety, and Health (ESH) Division

These four organizations assign project managers to the various construction projects sponsored by their respective organizations. In turn, the project managers draw on the UTR pools from within their own organizations and also have the ability to use UTRs from other organizations, as the specific technical nature of the work and resource availability dictate. The Facilities Department and the ESH Division, in particular the Field Safety and Building Inspection (FSBI) Office, have additional responsibilities related to construction subcontracts, as noted in Section 4.4, "Roles and Responsibilities".

4.1.2 Planning

Safety requirements are part of the project planning process almost from inception. How the subcontractor is to meet these requirements is documented through a hierarchy of plans required by SLAC, described below (listed from general to specific).

If it does not have reviewed copies on file in SLAC Purchasing not more than 12 months old, the subcontractor is required to submit its company illness and injury prevention plan, company code of safe work practices, and employee training documentation, directly related to the scope of work to be performed at SLAC, at least 10 days before mobilization on SLAC property, along with the project-specific site-specific safety plan.

4.1.2.1 Injury and Illness Prevention Plan

The subcontractor *illness and injury prevention plan (IIPP)* is a general safety document, required by Cal/OSHA, governing the subcontractor's approach to safety and work practices for the trades the subcontractor employees will be using. Subcontractors are required to submit a current IIPP.

Note *A model IIPP is available on the Cal/OSHA web site. The long list of training and inspection topics at the end need not be included in your IIPP, only the items that pertain to your company scope of work.*

Review and Approval

IIPPs must be reviewed and approved by the construction safety program manager.

4.1.2.2 Code(s) of Safe Work Practices

Subcontractors are required to submit a *code of safe work practice* for each type of work they do. The code must be specifically applicable to the type of work the subcontractor will be performing at SLAC.

Review and Approval

Code(s) of safe work practice must be reviewed and approved by the construction safety program manager.

4.1.2.3 Safety Qualification Criteria Form

Subcontractors are required to submit a completed safety qualification criteria form.

Review and Approval

Subcontractor safety qualifications are reviewed by Purchasing, the PM, and the construction safety program manager as part of pre-bid evaluations.

4.1.2.4 Site-specific Safety Plan

Subcontractors are required to submit a *site-specific safety plan (SSSP)*. The SSSP is intended to provide specific information on the hazards, contact people, and emergency response for a particular project.

The SSSP must

- Identify persons with authority and responsibility for implementing the safety program and appropriate subcontractor contacts (superintendent, PM, safety officer, and competent persons)
- Include an acknowledgment of the requirements of 10 CFR 851
- Describe the work to be performed, outline the hazards anticipated to be encountered with each task, and the specific mitigation
- Describe the system used to ensure personnel will comply with safe and healthy work practices, including
  - Safety indoctrination and safety meetings
  - Worker training in hazard recognition
  - Disciplinary policy
  - Means of communicating with personnel, including notification of hazards

Additional specific requirements must be included for projects that include SLAC-required permits, such as excavations. Subcontractor employees must be trained in the contents of the SSSP and the training documented

Review and Approval

SSSPs are approved jointly by the PM, UTR, and the line management safety coordinator, departmental safety coordinator, or an FSBI staff member.

Any changes to the SSSP must be approved by the subcontractor competent person and SLAC as above and all employees must be trained on those changes.

4.1.2.5 Job Safety Analysis

Job safety analysis (JSA) is critical at the start and throughout a project. The process takes hazards identified already for a given project in the statement of work, contractor site visit, SSSP, and related documents and provides details of how to control them for specific tasks. The analysis and results are discussed with workers before beginning the task and documented using JSA forms.

Review and Acknowledgment

JSAs must be prepared by the subcontractor prior to the start of any on-site work, before initiating any new phase or task, and before modifying an existing phase or task resulting in a change in hazards.

The JSA must be reviewed, acknowledged, and signed by the UTR. If the hazard involved with the work is beyond the knowledge of the UTR, the UTR must consult with a subject matter expert before signing. If the subject matter expert believes the JSA is insufficient or incomplete, he or she must inform the UTR and the subcontractor so the necessary improvements can be made.

JSAs must be reviewed and discussed by subcontractor employees as part of daily briefings. Employees must sign the form, acknowledging they understand the contents.

JSAs are to be made available for reviewed to SLAC or DOE personnel whenever conducting job-site walkthroughs of work areas. The completed forms become training tools and documentation of completed hazard analyses and employee training, to be checked as part of daily inspections. The necessary ESH

permits are posted with the JSA. A copy of the approved drawings and specifications are also key documents to be kept on the job site.

4.1.2.6 Permits

In addition to controls documented in the above plans, permits are required for activities typically recognized to have significant safety and/or environmental consequences if not executed properly. Examples of such permits include excavation permits, (SLAC and Cal/OSHA issued) confined space entry permits, hot work (welding/cutting) permits, and the notice of intent (NOI) permit required by the regional water quality control board whenever a construction site will disturb an area greater than one acre in size. Such permits will be completed and approved by the appropriate program managers, or their delegates, before start of work and will be attached to the JSA and posted conspicuously at the work site. See *ESH Manual*, Chapter 2, "Work Planning and Control", and the respective hazard chapters of this manual.

4.1.2.7 Demolition

Prior to permitting employees to start demolition operations, a qualified person will make a survey of the structure to determine the condition of the framing, floors, and walls, and the possibility of an unplanned collapse of any portion of the structure. Any adjacent structure where employees may be exposed will also be similarly checked. The survey will be in written form, kept on the job site, and made available to the ESH Field Safety and Building Inspection Office upon request. The written survey will be maintained for the duration of the demolition project.

The SSSP must ensure that demolition work plans are reviewed by the Field Safety and Building Inspection Office or their designees prior to commencement of work.

Demolition work will at all times be under the immediate supervision of a qualified person with the authority to secure maximum safety for employees engaged in demolition work.

All demolition will comply with Cal/OSHA (8 CCR 1733–1737).

Asbestos

A demolition notice to air quality authorities is required for all demolitions, whether or not asbestos is involved. (See Air Quality: Construction Project Air Permit Requirements and Air Quality: Asbestos Notification Procedure for details.)

4.1.3 Performing

Work must be performed according to

1. Submitted and approved plans and permit conditions
2. The requirements of this chapter and related chapters

These conditions will be implemented through the preparation of job safety analyses and daily briefings, and verified by inspections

4.1.3.1 Job Safety Analysis and Task-specific Orientation

The job safety analyses that subcontractors are required to develop provide the basis for the UTR and subcontractor's job foremen to brief their employees daily on the work to be performed, the hazards specific to the task they are being assigned to perform, and the specific work assignments.

On completion of the daily task-specific briefing every employee engaged in the task must sign the JSA acknowledging that they understood the briefing and their assignments.

4.1.3.2 Site Access

Access to SLAC

Subcontractor access to SLAC will follow the requirements in Section 4.1.7.2, "Badging".

Note *The Field Operations group leader of the Radiation Protection Department must be notified before subcontracted construction work begins in areas where workers may be exposed to ionizing radiation. The UTR will make this determination during the pre-bid site walkthrough. Additional access restrictions, including training and the wearing of personal dosimeters, will apply. (See* ESH Manual, *Chapter 9, "Radiological Safety".)*

Access to Construction Sites

Only authorized and qualified personnel are allowed in construction sites. Subcontractors are required to maintain daily lists of all personnel on site, including sub-tier personnel.

Other personnel desiring access to a construction area must do the following:

- Except for emergencies, in the case of subcontractors' work sites, obtain approval to enter the construction premises from the subcontractor's superintendent or UTR. Visitors must be escorted by the UTR or the subcontractor's superintendent while on the job site.
- Obey all safety regulations, wear appropriate protective equipment, and follow special instructions given by the escort
- Not discuss contractual or technical matters with subcontractor representatives unless authorized by the UTR or project manager
- Notify the UTR when the visit is completed

4.1.3.3 Inspections

Throughout all phases of construction, PMs, UTRs, ESH program managers, and/or other SLAC personnel overseeing the work being performed by construction subcontractors will monitor field activities on a regular basis to ensure that work is being conducted in a safe manner. They will assess the effectiveness of the safety measures being implemented by their subcontractors to minimize the possibility of injury to personnel, damage to property, adverse effects to the environment, and program disruptions or delays resulting from accidents, fires, or hazardous material incidents.

The frequency of work site inspections will depend on

- The number and type of hazards involved (for example, trenching and excavating, work at elevations, confined spaces)

- The level of risk to the workforce, property, and the environment
- The presence of qualified safety and health personnel assigned to the work crew
- Previous experience with the work crew (subcontractor)

Safety Oversight by the ESH Division

Inspections by the ESH program managers may take place at any time to ensure compliance with applicable codes, standards, and regulations. Inspection of subcontractor's construction sites must be coordinated through the PM or UTR. All inspections will be discussed with the PM/UTR promptly and results documented so that any identified hazards can be addressed.

The SLAC PM and/or UTR will formally notify the subcontractor of any deficiencies and verify that appropriate corrections are made.

Safety Oversight by the Department of Energy

The SLAC Site Office (SSO) of the United States Department of Energy (DOE) employs several ESH professionals. Any of these individuals have both the authority and the responsibility to conduct operational awareness walkthroughs of construction projects taking place at the SLAC facility, in a manner similar to that used for issues identified during inspections performed by SLAC employees.

Safety Inspections

SLAC PMs and/or UTRs, the construction safety program manager, and subcontractors must perform daily inspections of activities and work sites relevant to the work being performed that day to ensure that the subcontractor is working within identified controls and has effectively controlled identified hazards and that subcontractor employees are wearing appropriate PPE. If immediate corrective action is not possible where uncontrolled hazards are identified, the affected workers must be notified, warning signs posted, and interim control measures established to guard against the hazards. All inspections, findings, and corrective measures must be documented and be available for review by the Field Safety and Building Inspection Office and contract administrator. The daily inspection records must be kept at the job site along with any corrective actions taken in a binder accessible to SLAC PM/UTR.

The subcontractor's competent person will conduct regular inspections of the work place and maintain a log certifying compliance with accepted safe work conditions. For example, the "Scaffolding Entries" section on subcontractor-supplied scaffold tags should include evidence of daily inspections and/or configuration change approvals.

4.1.3.4 Stop Activity/Work

Hazards must be abated as soon as possible after they have been identified. Imminent-hazard activities must be stopped and corrected immediately. Work posing imminent hazards must be stopped and corrected prior to resumption of the associated activity.

SLAC has granted authority to UTRs, PMs, and ESH representatives to stop any person at a job site (whether SLAC employee, subcontractor, or other form of non-employee) from continuing an activity. This authority is an essential tool that will be used when safety, environmental, and code requirements are not being followed. UTRs, PMs, and ESH representatives will utilize a *stop activity order* to accomplish this. Furthermore, if warranted by the severity or frequency of the violations, the contract administrator has the authority to shut down an entire project by issuing a *stop work order*.

For details on stop activity/stop work for subcontractors, see Work Planning and Control: Stop Work Procedure.

4.1.3.5 Incident Reporting

Subcontractor construction personnel must report immediately all incidents that occur at SLAC in the course of their work to their foreman/superintendent, who will report to the PM or UTR (see Incident Investigation: Investigation Procedures).

4.1.4 Emergency Work

[to be determined]

4.1.5 Recordkeeping

Federal acquisition regulations (48 CFR 900–999) require safety-related documentation for construction work to be retained for a period of six years except as otherwise specified below. These documents are

- Subcontractor site-specific safety plan and IIPP
- Job safety analysis (JSA)
- Accident investigations
- Written authorization to use tools or equipment owned by the laboratory, not otherwise specified in the subcontract documents
- SLAC-specific training
- Subcontractor evaluation (contract administrator)
- Safety violation notices (contract administrator)

At the completion of each subcontract these documents will be compiled and provided to the contract administrator to be archived with the contract documents. The project manager is responsible for providing this information to the contract administrator.

4.1.6 Equipment

Subcontractors will

- Provide the suitable equipment required for the project
- Ensure the safety of their and their sub-tier subcontractors' equipment

4.1.7 Personnel

4.1.7.1 Qualifications

University Technical Representative

A UTR must be qualified. Baseline qualifications for SLAC construction UTRs include

- Commitment to safe construction activities at SLAC

- Successful completion of required training courses (see Section 4.3, “Training”, below)
- General knowledge of commercial building, grounds, and utilities construction
- Ability to communicate effectively with construction workers, supervisors, project managers, internal customers (for example, researchers, department heads, contract administrators), and ESH personnel

The ideal candidate would also have at least three years of hands-on construction or construction management experience.

The lead UTR is chosen by the PM at the beginning of a project for his/her expertise in the technical, safety, and environmental aspects of the particular project. Multiple UTRs may be required for a given project with a lead UTR selected to coordinate the efforts of the others. When the UTR’s experience is insufficient he/she must bring in appropriate experienced assistance such as a UTR with specialized training/experience or a subject matter expert (SME). On less complex projects, the PM can also serve as UTR.

Project Manager

Project managers (PMs) are chosen by supervisors for their project management expertise and experience for a particular project. Project managers determine and approve the technical, safety, and environmental compliance guidance required to achieve successful completion of the project.

Subcontractor

Subcontractors are responsible for ensuring that their workers are trained and qualified according to federal, state, and SLAC requirements. (See sections 4.1.3.2, “Site Access”, and 4.3, “Training”.) When contracted personnel arrive at SLAC they must

- Be skilled in their specific trade
- Be knowledgeable of the applicable safety requirements for that trade
- Be equipped with the proper PPE and tools to safely perform their work
- Be physically ready to work
- Have completed all administrative requirements such as medical exams

For subcontracted work where Cal/OSHA requires a *competent person*, the subcontractor will designate such an individual in writing and be prepared to demonstrate to the SLAC PM and the ESH construction safety program manager the basis for the individual’s competency.

The following are activities that typically require a competent person:

- Excavation
- Scaffold erection (This must have a qualified scaffold erector to assemble, disassemble or modify any scaffolding)
- Fall protection
- Confined space entry
- Respiratory protection
- Hoisting and rigging

4.1.7.2 Badging

UTRs will ensure that service subcontracting company employees are badged in accordance with the Site Access and Identification Badges Policy and Procedures.

Only subcontractors with employees who have met the training requirements in Section 4.3, “Training”, are allowed to perform work on SLAC property. They will carry a current SLAC-issued badge or be escorted by an authorized SLAC-trained escort.

The subcontractor will maintain a list of badge holders. A copy of the list will be submitted to the contract administrator whenever a change is made. The subcontractor is responsible for the return of each badge/dosimeter to the guard at the Sector 30 Gate when each individual completes his or her activity under the subcontract. All badges must be returned or otherwise accounted for in writing prior to final payment.

4.1.7.3 Disciplinary Program

The subcontractor is required to implement a disciplinary program to control poor performance, misconduct, negligence and safety violations by both its own employees and by any of its respective subcontractors. If it is determined that the subcontractor has not implemented such a program, the laboratory will enforce its own disciplinary program, found in the construction contract supplemental conditions.

4.1.8 Personal Protective Equipment

Individuals working in areas designated as construction sites must wear personal protective equipment (PPE) appropriate for their work and job location. The minimum requirements are wearing the following:

- Hard hat (ANSI Z89.1-2003)
- Safety-toe shoes (ASTM F2412-2005 and ASTM F2413-2005)
- Protective eyewear (ANSI Z87.1-2003)
- Safety vest (class 2 or class 3, fluorescent yellow-green, ANSI/ISEA 107-2004)
- Work shirt (long or short sleeve), work pants (long)

Other PPE requirements may apply, as described in hazard-specific chapters of this manual. Additional PPE requirements may be determined to be appropriate and necessary by the subcontractor and/or SLAC project manager or university technical representative.

All PPE requirements will be documented in the task-specific JSAs and posted at the job site.

4.2 Procedures and Specific Requirements

The following procedures are required. For the full procedures, see Section 6.1, “Program Documents”.

4.2.1 Planning

Required qualifications and safety-related plans. See

- ISEMS Summary for Construction Subcontractors

- Subcontractor Construction Safety: Construction and High-hazard Service Work Safety and Environmental Submittal Requirements
- Subcontractor Construction Safety: Subcontractor Safety Qualification Form (pdf or Word)
- Subcontractor Construction Safety: Site-specific Safety Plan Guideline and Form (pdf or Word)
- Subcontractor Construction Safety: Job Safety Analysis Guideline and Form (pdf or Word)

4.2.2 Performing

Requirements for daily work. See

- Subcontractor Construction Safety: Job Safety Analysis Guideline and Form [pdf or Word]
- Subcontractor Construction Safety Tailgate Meeting Guide
- All project-specific permits and requirements

4.2.3 Stopping Unsafe Work

Requirements for stopping unsafe work (see Work Planning and Control: Stop Work Procedure)

4.2.4 Incident Reporting

Incident reporting procedure (see Incident Investigation: Investigation Procedures)

4.3 Training

4.3.1 University Technical Representatives

University technical representatives will meet the training requirements contained in the SLAC University Technical Representative Requirements and Procedures for Construction.

4.3.2 Subcontractors

Subcontractor training requirements will vary depending on the duration, location, and type of type of work they are performing at SLAC.

4.3.2.1 Safety Orientation for Construction Subcontractors

Before starting work at SLAC, each construction subcontractor employee must complete this course:

- ESH Course 375, Safety Orientation for Construction Subcontractors (SOC) (ESH Course 375)

This construction safety orientation covers basic SLAC safety information such as emergency response and reporting, location of shelters, emergency exits, handling of spills, safety procedures, SLAC site safety rules, and the requirement for job safety analyses (JSAs). The training is web-based and can be completed prior to subcontractor personnel arriving onsite. On completion of SOC, a card attesting to course completion will be issued to each subcontractor employee. The card is valid for one year.

A challenge examination for SOC is available for those subcontractor employees whose annual training is within 30 days of expiration. Arrangements to take the examination must be made 48 hours in advance with the UTR. The employee will be asked to produce their previous orientation card for validation.

4.3.2.2 Site-specific Safety Orientation

Individuals working at locations with specific hazards (such as those identified in area hazard analyses [AHAs]) not covered in ESH Course 375, Safety Orientation for Construction Subcontractors (SOC), will also complete a site-specific safety orientation. The UTR will coordinate this training and will engage the services of the building or area managers as appropriate. This includes confirming that additional training identified by PM in the statement of work is completed prior to starting work. In general, building managers will be asked to conduct site-specific orientation within buildings, and the area manager or the UTR will be asked to conduct the orientation for work conducted outside of buildings.

4.3.2.3 Employee Orientation to Environmental Safety and Health

All subcontractors who work at SLAC for more than 60 days during a given year, and/or who need to take general employee radiological training (GERT) in order to enter radiological control areas unescorted, must take this course:

- ESH Course 219, Employee Orientation to Environment, Safety, and Health (EOESH) (ESH Course 219)

4.3.2.4 General Employee Radiological Training

Any subcontractor who will need to enter a radiological control area (RCA) without an escort must take this course:

- ESH Course 115, General Employee Radiological Training (GERT) (ESH Course 115)

4.3.2.5 Other SLAC Courses

Based on the tasks and hazards identified during planning (see Section 4.1.2, “Planning”), subcontractors may be required to complete additional SLAC ESH training courses as determined by the project manager. (See Training: Training Needs Assessment Procedures.)

4.3.2.6 Trade-related Safety Training

Subcontractors are responsible for their employees’ trade-related safety training. The basic safety rules applicable to each trade should already been known and understood by those contracted parties. SLAC’s ESH training is directly related to the unique SLAC-specific hazards that contracted personnel may encounter. SLAC-specific training will not absolve contracted parties from ensuring their employees have the general training, skill level, and safety knowledge needed to work safely and competently.

4.3.2.7 Competent Person

Subcontractor employees serving as *competent persons* must have specific training in the area where they will perform the competent person role. The training and experience must be documented by the subcontractor and the documentation submitted before mobilization on SLAC property.

4.3.3 Recordkeeping

Subcontractors must certify in writing that they have safety training records for each employee at the start of the project. When an employee completes additional training or a new employee arrives on site, additional training certification must be provided to the UTR. SLAC-specific training records will be maintained in a SLAC database. The subcontractor may be required to submit training certifications if any doubt about an employee's qualifications is raised.

4.4 Roles and Responsibilities

4.4.1 Facilities Department

Subcontractor construction work is managed by the Project Engineering and Construction Group of the Facilities Department. Facilities' project managers and UTRs oversee the majority of the subcontractor construction work performed at SLAC. Facilities is specifically responsible for developing and maintaining the SLAC University Technical Representative Requirements and Procedures for Construction and providing input to the Business Services Division (BSD) with respect to the SLAC construction contract terms and conditions.

4.4.2 Environment, Safety, and Health Division

In addition to the oversight responsibilities described below, ESH's project managers and UTRs oversee work related to environmental cleanup, such as waste site remediation.

4.4.3 Construction Safety Program Manager

The ESH construction safety program manager is responsible for

- Preparing this manual chapter and assisting the Facilities Department with developing and maintaining the *SLAC University Technical Representative Requirements and Procedures for Construction*
- Reviewing specific subcontractor safety-related submittals
- Coordinating ESH review of construction safety
- Performing field inspections of construction work for compliance with construction safety regulations

4.4.4 Field Safety and Building Inspection Office

The Field Safety and Building Inspection Office is responsible for

- Reviewing specific subcontractor safety-related submittals
- Performing field inspections of construction work for compliance with construction safety, building code, and fire code requirements
- Administering a plan check process for proposed new construction

4.4.5 Contract Administrator

The SLAC Purchasing Department contract administrator holds the contract with the construction subcontractors and as such is the legal representative for the laboratory for the contracts. The contract administrator is the only individual who may negotiate the contract, change orders, or add addenda to the contract. This person ensures subcontractor compliance with the administrative, business, and contractual requirements of the subcontract.

4.4.6 University Technical Representative

The role of the university technical representative (UTR) is to act as the project manager's (PM) "eyes and ears" in the field to ensure, by physical oversight, that the technical, safety and environmental requirements specified in the contract are met by the subcontractor.

UTRs enforce SLAC procedures and requirements and ensure compliance with the SLAC Integrated Safety and Environmental Management System (ISEMS) for each project.

The following is a list of key responsibilities for the UTR:

- Advises the PM and design engineers starting at the conceptual phase of a project
- Oversees the technical, safety, and environmental compliance aspects of the project as established by the PM and defined in the project documents
- Reviews the project schedule with the PM
- Arranges for subcontractor and visitor access to the work site
- Arranges for SLAC-specific subcontractor training and badging as identified by the PM
- Reviews the subcontractor's required safety plans and documentation. Ensures that the plans are up to date and compliant with standards. This includes reviewing the SSSP and JSA.
- Oversees the subcontractor's performance at meeting safety, environmental, and technical goals, although the conduct of the job is the responsibility of the subcontractor
- Provides documentation of any subcontractor deficiencies to the PM, ESH Division, and contract administrator
- Attends subcontractor meetings (for example, kick-off, pre-work, JSA, tailgate)
- Meets at least daily with subcontractor to discuss the JSA for that day and any changes in the safety or environmental compliance procedures. The discussion is to include a determination and assurance that the scope of work on job relevant documents adequately describes all activities.
- Documents activities at the job site in a daily log, including safety violations, corrective actions, and non-compliance with subcontractor safety plans and SLAC-issued permits
- Coordinates traffic control, road closures, and so on with the SLAC Site Security
- Identifies the need for deviation from the contract documents and communicates the need for a change or field order to PM
- Initiates stop activity, if required
- Participates in stop work determinations

- Verifies that appropriate permits and approvals are in place for each phase of work. Verifies that the subcontractors are working within the parameters of those permits.
- Verifies work has been documented or approved by ESH Building Inspection Office, if they request, prior to covering up of any phase of construction
- Monitors and documents tests such as bolt torque, welding, concrete strength, pressure certification, fire systems, and electrical testing as required by the PM
- Verifies special inspection reports are forwarded to the ESH Building Inspection Office. The ESH building inspector will put the report in the project file kept in the ESH Building Inspection Office.
- Coordinates utility outages and impairments. Observes the conditions at the job site and consults regularly with the subcontractor to be aware in advance of any required outages or interference with normal SLAC activity. Notifies any affected SLAC personnel about the potential interference and makes any and all necessary arrangements to minimize or eliminate conflicts. This must take place in advance of the subcontractor's schedule to prevent additional costs or delay in the project. The majority of utility shutoffs will be coordinated with the Facilities Department.
- Reviews hazardous materials list provided by subcontractor(s), as necessary
- Provides additional rigorous oversight of high risk activities as determined by the PM
- Reports all incidents/injuries to the ESH incident investigation program manager
- Attends close-out meetings
- Works with PM to ensure that accurate as-built drawings are submitted to the Mechanical Design Department, Facilities Design Services (MD-FDS) Group before permit and job close-out, within 30 days of completion of job

4.4.7 Project Manager

The following is a list of the key responsibilities for the PM:

- Documents the scope and requirements of the project from the requester
- Selects the lead UTR to assist with the design
- Ensures UTRs and ESH program managers/subject matter experts (SMEs) are included in conceptual and actual design reviews so that accurate input regarding operational, environmental, and safety implications of the project is provided
- Determines that the design meets the project requirements
- Arranges for milestone design reviews as required from the requesters, Budget Office, Architectural Review Committee, ESH Building Inspection Office, and appropriate ESH program managers/subject matter experts, safety officers, and citizen committees (as specified by the Safety Oversight Committee)
- Conveys reviewer comments to the engineering/architectural design team
- Provides 100 percent design drawings and technical specifications to the ESH Building Inspection Office and any citizen committee that is required to review and approve them (as specified by the Safety Oversight Committee)
- Identifies potential hazards that affect the project and ensures that appropriate hazard mitigations are planned

- Reports progress and problems upward to accountable line management
- Develops cost estimate and schedule for the requestor and Budget Office
- Prepares scope of work and technical specification portion of the bid package for submission to the Purchasing Department
- Prepares statement of work (SOW) for inclusion in the bid documents including SLAC-specific training requirements for subcontractors
- Assists the Purchasing Department in evaluating and selecting qualified bidders
- Provides all project-related documentation (design, technical, safety, and contractual) to UTR for review prior to processing
- Notifies UTR when it is time to bring the subcontractor on site to execute the project
- Coordinates construction activities with the ESH construction safety program manager, including appropriate submittals, reviews, and approvals in order to comply with ESH requirements (for example, required permits and SLAC-specific procedures)
- Reviews and signs off on submittals, including SSSPs, and safety qualification forms; provides copies to Purchasing and the ESH Field Safety and Building Inspection Office

Note Only Purchasing can approve change orders, overtime, and other contractual matters.

- Submits change order requests to Purchasing; provides copies to ESH Field Safety and Building Inspection Office
- Visits the job site regularly including frequent unannounced visits and documents findings
- Communicates issues, as needed, to UTR and subcontractor. Ensures that required corrective actions are identified and implemented.
- Authorizes phases of the project as they are met and approved by his/her signature
- Authorizes completion of a project subject to completion of punch list and required inspections
- Responsible to ensure final project documents are accurate and complete
- Approves progress payments based on work completed
- Provides progress, schedule, and financial reports
- Reviews project at completion with requester, UTRs, and contract officer
- Conducts post-mortem review and disseminates lessons learned with suggestions for improvement for future projects

4.4.8 Subcontractor

Subcontractors are responsible for their workers' safety and for meeting all requirements of the contract by ensuring compliance with the SLAC General Terms and Conditions and other SLAC project documents. This includes compliance with DOE and OSHA regulations (such as 10 CFR 851), applicable standards, and SLAC and ESH requirements.

The following is a list of key responsibilities for the subcontractor:

- Provides required documentation to Purchasing to verify license, insurance, employee qualifications, and training as defined in the subcontract documents

- Provides a company illness and injury prevention plan (IIPP) meeting Cal/OSHA requirements (regardless of the number of employees) and ensures all employees have had training on the plan
- Prepares site-specific safety plan (SSSP) for the scope of work that they will be performing and provides it to the contract administrator and the project manager
- Provides and updates a hazardous materials list of all substances to be used or stored on-site
- Ensures that the job safety analyses (JSA) are completed to include all safety-related details daily and signed by all workers on the job site
- Coordinates their personnel to ensure they have all appropriate SLAC-specific training in advance of the work
- Provides *competent person* with training documentation when required by OSHA
- Provides submittals for recommended changes
- Takes corrective action when an ESH concern is identified. Corrective action taken must be documented in writing by the subcontractor.
- Reports all work-related injuries and illnesses to the UTR. Any work-related injury or illness must be reported to the SLAC Medical Department. Provides a detailed incident report when required (see Incident Investigation: Investigation Procedures).
- Provides field supervision by a qualified person at all times
- Provides daily progress reports to the PM and UTR as per the SLAC General Terms and Conditions
- Takes primary responsibility for the safety of their personnel, their subs, and their equipment
- Holds daily tailgate meetings. Documents meeting topic and attendance. Submits documentation to project management team
- Provides marked up drawings to reflect as-built conditions, new installations, terminations and upgrades according to the requirements listed in the respective chapters of the *ESH Manual*
- Provides all manufacturer instruction and operating literature, including material safety data sheets, for any chemicals used on the job
- Provides chemical usage report at end of job to quantify amounts of hazardous materials actually used in performing the work
- Provides the equipment required for the project

5 Definitions

Accelerator Area. The area containing the main accelerator and SSRL housings and associated equipment (see Site Access and Identification Badges Policy and Procedures). The Accelerator Area is surrounded by a control fence. This area is considered an industrial area (see *industrial area*).

Area hazard analysis (AHA). A process for analyzing hazards, focused on the hazards an individual faces in his/her work area as opposed to hazards of individual work activities (see *job hazard analysis and mitigation*, below)

Casual visitor. Individual coming to the SLAC campus for a period of no more than 30 days per visit, whose visit does not involve unescorted entry to industrial/accelerator or other areas where unique SLAC hazards warrant limited access, and whose visit is for the following types of purposes: attending public lectures, public tours, or other activities open to the public; attending workshops, conferences, and collaboration meetings; use of the Linear Cafe (SLAC cafeteria); use of the Stanford Guesthouse; and meetings with SLAC personnel.

Code of safe practices. 29 CFR 1926.21(b)(2) requires employers to instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury. *Codes of safe practice* are often used to meet this requirement for construction activities.

Contract administrator. The SLAC Purchasing Department representative for business matters. This person ensures subcontractor compliance with the administrative, business, and contractual requirements of the subcontract.

Confined space. A space that is large enough and so configured that an employee can enter bodily, has limited or restricted means for entry or exit (for example, tanks, vessels, vaults, pits), and is not designed for continuous occupancy

Facilities Department. One of the lead SLAC organizations for managing and executing construction projects

Construction. Any combination of engineering, purchasing, erection, installation, assembly, demolition, or fabrication used to create a new facility, or to alter, add to, rehabilitate, dismantle, or remove an existing facility. It also includes any construction and excavation activities conducted as part of environmental remediation efforts.

Construction subcontractor. An individual or firm hired by SLAC to execute a construction project. Includes any lower tiers of contractors hired by a construction subcontractor (sub-subcontractors) to assist with the execution of a specific construction contract.

Contracted personnel. Non-employees who are provided by a third party to perform work at SLAC

ESH Building Inspection Office. The group within the ESH Division responsible for oversight of building code compliance by conducting plan and specification reviews and on-site inspections

ESH Construction Safety Office. The group within ESH Division primarily responsible for construction safety oversight

Heat illness. A serious medical condition resulting from the body's inability to cope with a particular heat load and including heat cramps, heat exhaustion, heat syncope, and heat stroke

Imminent hazard. Any activity or situation that is likely to result in serious injury, death, or significant environmental or property damage (see *ESH Manual*, Chapter 2, "Work Planning and Control")

Incident. An unintended and undesired event that resulted in (or had the potential to result in) any number of conditions, such as injury or illness, environmental impact, property damage

Industrial area. An area where some level of hazard may exist, such as moving machinery, noise, high voltage, hazardous materials/waste (see Site Access and Identification Badges Policy and Procedures)

Injury and illness prevention plan (IIPP). A general safety document governing a subcontractor's approach to safety and work practices for the trades the subcontractor employees will be using (a model IIPP is available on the Cal/OSHA web site)

Job safety analysis (JSA). The process of planning, detailing, and communicating the safety controls for specific activities to be performed by the subcontractor (See *ESH Manual*, Chapter 2, "Work Planning and Control".)

Line management. Officially designated managers and supervisors who have been entrusted with traditional authorities to make hiring decisions, manage employee performance, and provide a safe and environmentally sound workplace. Scientific programs are often built on people matrixed to a team. This creates shared responsibility for individuals by the supervisor of record and the matrixed supervisor that must be addressed through consultation between the two supervisors. Line management also includes other persons such as area and facility managers, responsible for administration of the line functions in both science and operations programs. Line management may designate another qualified person to perform specific duties, but remains responsible for that person's conduct.

Project manager. SLAC's representative with overall responsibility for a project. This person ensures the project is in compliance with all requirements and meets its goals, including performance, schedule, budget, and safety.

Primary subcontractor. The subcontractor named in the contract to SLAC

Person, authorized. A person at SLAC who has completed the required training and is authorized to perform the work. (For the purposes of the chapter, authorized person can also refer to persons authorized by the UTR or PM to access the construction site.)

Person, competent. The federal Occupational Safety and Health Administration (OSHA) defines a competent person as "one who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them"

Person, designated. An individual selected or assigned as being qualified to perform specific duties

Person, qualified. A person who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated an ability and competence to solve or resolve problems relating to the subject matter and work. (For the purposes of the chapter, qualified persons include relevant ESH program managers, for example, the electrical safety officer, fire marshal, and building inspector.)

Radiologically controlled area (RCA). An area where an annual occupational exposure may be greater than 100 mrem. RCAs may also contain radioactive material. RCAs are located throughout SLAC, both inside and outside accelerator areas. (See *ESH Manual*, Chapter 9, "Radiological Safety".)

Safety Overview Committee (SOC). The SOC coordinates environment, safety, and health reviews by citizen committees or safety officers (SOs) of designs and plans for major new activities including experiments, projects or operations, test beams, facility construction and facility modifications. The SOC reviews the submitted information and determines which other committees must review and approve the project. (See *ESH Manual*, Chapter 31, "Institutional ESH Committees".)

Serious incident. An unintended and undesired event that resulted in (or had the potential to result in) any number of conditions, such as a life-threatening injury or illness, broken or severed bone, severe bleeding, loss of consciousness, electric shock, overexposure to radiation, fall greater than four feet, explosion, hazardous material spill, property damage.

Site-specific safety plan. A project/work site specific written plan addressing anticipated/potential hazards that will be encountered while performing the contracted work. The plan is to identify the procedures and methods for controlling the project-specific safety and environmental hazards. It will include emergency contact information, emergency response, required permits, personal protective equipment (PPE) requirements and so on for the entire scope of the project.

Stop activity order. An order to stop specific activities in the immediate area where an imminent hazard has been identified (see *imminent hazard*)

Stop work order. An order to stop all work on a subcontract

Subcontractor. Individual or firm that has responsibility for execution of subcontracted work related to a project. Subcontractors are responsible for compliance with all safety, health, and environmental codes, standards, and regulations.

Sub-tier subcontractor. A subcontractor hired and under contract to the prime subcontractor

Subject matter expert (SME). Staff possessing special expertise in an ESH program, for example, industrial hygiene, confined space entry, or lead abatement. Some SMEs may be outside the ESH Division, for example, hoisting and rigging SMEs reside within the Facilities Department.

University technical representative (UTR). SLAC representative, designated in writing, responsible for overseeing the execution of the subcontracted work, including safety and health management of subcontractor activities. The role of the university technical representative (UTR) is to act as the project manager's (PM) "eyes and ears" in the field to ensure, by physical oversight, that the technical, safety, and environmental requirements specified in the contract are met by the subcontractor.

6 References

6.1 Program Documents

- ISEMS Summary for Construction Subcontractors (SLAC-I-730-0A21T-011)
- Subcontractor Construction Safety: Construction and High-hazard Service Work Safety and Environmental Submittal Requirements (SLAC-I-730-0A21S-049)
- Subcontractor Construction Safety: Subcontractor Safety Qualification Form (SLAC-I-730-0A21J-027) pdf or Word
- Subcontractor Construction Safety: Site-specific Safety Plan Guideline (SLAC-I-730-0A21T-010)
- Subcontractor Construction Safety: Site-specific Safety Plan Form (SLAC-I-730-0A21J-025) pdf or Word
- Subcontractor Construction Safety: Job Safety Analysis Guideline (SLAC-I-730-0A23T-002)

- Subcontractor Construction Safety: Job Safety Analysis Form (SLAC-I-730-0A23R-003) pdf or Word
- Subcontractor Construction Safety Tailgate Meeting Guide (SLAC-I-730-0A21T-012)
- Air Quality: Construction Project Air Permit Requirements (SLAC-I-730-0A16S-003)
- Air Quality: Asbestos Notification Procedure (SLAC-I-730-0A16C-001)
- Stormwater: Construction Site Requirements (SLAC-I-750-0A16S-009)
- Stormwater: BMP Category 13 – Building Repair, Remodeling, and Construction (SLAC-I-750-0A16E-013)
- SLAC University Technical Representative Requirements and Procedures for Construction (SLAC-I-720-0A03Z-002)

6.2 Standards

SLAC adheres to the following standards for subcontractor construction safety:

- Title 10, *Code of Federal Regulations*, "Energy"
  - Part 851, "Worker Safety and Health Program" (10 CFR 851)[1]
- Title 29, *Code of Federal Regulations*, "Labor"
  - Part 1910, "Occupational Safety and Health Standards" (29 CFR 1910)
  - Part 1926, "Safety and Health Regulations for Construction" (29 CFR 1926)
- Title 48, *Code of Federal Regulations*, "Federal Acquisition Regulations System", Chapter 9, "Department of Energy" (48 CFR 900–999)
- Title 8, *California Code of Regulations*, "Industrial Relations", Division 1, "Department of Industrial Relations", Chapter 3.2, "California Occupational Safety and Health Regulations (CAL/OSHA)"
  - Subchapter 1, "Regulations of the Director of Industrial Relations", Article 4.5. "Multi-employer Worksites" (8 CCR 336.10–336.11)
- Title 8, *California Code of Regulations*, "Industrial Relations", Division 1, "Department of Industrial Relations", Chapter 4, "Division of Industrial Safety"
  - Subchapter 4, "Construction Safety Orders" (8 CCR 1500–1938)
  - Subchapter 5, "Electrical Safety Orders" (8 CCR 2299–2974)
  - Subchapter 7, "General Industry Safety Orders" (8 CCR 3200–6184)
- Related DOE directives:
  - Department of Energy Order 231.1A, "Environment, Safety, and Health Reporting" (DOE O 231.1A)
- The following third-party standards:

1 Additional information on 10 CFR 851 and its implementation is available from the following site: "Worker Safety and Health Program Final Rule - 10 CFR 851", http://www.hss.energy.gov/healthsafety/WSHP/rule851/851final.html

- American National Standards Institute (ANSI) Z87.1-2003, "Practice for Occupational and Educational Eye and Face Protection" (ANSI Z87.1-2003)
- ANSI Z89.1-2003, "Personal Protection Protective Headwear for Industrial Workers" (ANSI Z89.1-2003)
- ANSI/International Safety Equipment Association (ISEA) 107-2004, "High Visibility Safety Apparel" (ANSI/ISEA 107-2004)
- ASTM International (ASTM) F2412-2005, "Standard Test Methods for Foot Protection" (ASTM F2412-2005)
- ASTM F2413-2005, "Standard Specification for Performance Requirements for Foot Protection" (ASTM F2413-2005)

6.3 Related Documents

Management Systems

- SLAC Integrated Safety and Environmental Management System Description (SLAC-I-720-0A008-001)
- SLAC Worker Safety and Health Program Description (SLAC-I-720-0A21B-001)

SLAC Environment, Safety, and Health Manual (SLAC-I-720-0A29Z-001)

- Chapter 2, "Work Planning and Control"
- Chapter 6, "Confined Space"
- Chapter 8, "Electrical Safety"
- Chapter 9, "Radiological Safety"
- Chapter 11, "Excavation Safety"
- Chapter 12, "Fire and Life Safety"
- Chapter 24, "Training"
- Chapter 26, "Stormwater"
- Chapter 28, "Incident Investigation"
- Chapter 30, "Air Quality"
- Chapter 41, "Hoisting and Rigging"
- Chapter 44, "Penetration Safety"
- Chapter 45, "Fall Protection"
- Chapter 49, "Service Subcontractor Safety"

Other SLAC Documents

- "Purchasing Department – Terms and Conditions"
- Site Access and Identification Badges Policy and Procedures (SLAC-I-720-0A0Z-002)

7 Document Information

Title: Subcontractor Construction Safety
URL: http://www-group.slac.stanford.edu/esh/eshmanual/pdfs/ESHch42.pdf
Revision Record: https://www-internal.slac.stanford.edu/esh/docreview/reports/revisions.asp?ProductID=11
Department: Field Safety and Building Inspection
Program: Subcontractor Construction Safety
Date Effective: 5 August 2009

Notes

Contact Information

PM / UTR to complete

Project name

SLAC PM name / phone

SLAC UTR name / phone

Life-threatening Emergency
Dial 911
then call SLAC Site Security
(ext. **5555** or cell **650-926-5555**) and
contact your supervisor / foreman immediately

Non-life-threatening Incident
Contact your supervisor / foreman immediately
then call SLAC Site Security
(ext. **5555** or cell **650-926-5555**)

Notify the UTR of any incident

Stanford Linear Accelerator Center

ISEMS Summary for Construction Subcontractors

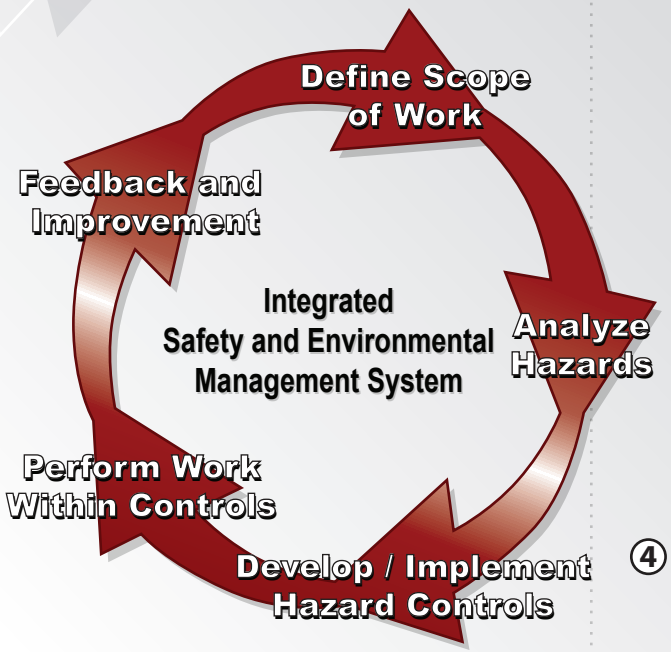
What you need to know to comply with SLAC environment, safety and health requirements

Integrated Safety and Environmental Management System (ISEMS)

To successfully manage risk and continually improve work processes, SLAC incorporates ISEMS into every work process. Adherence to the five core functions is expected.

① Define Scope of Work

The site visit is an opportunity for you to become familiar with the scope of work provided by the SLAC project manager (PM) / university technical representative (UTR).



② Analyze Hazards

During the site visit you will be identifying and discussing hazards associated with the scope of work and become familiar with hazards you may encounter on site or in the course of your work.

③ Develop / Implement Hazard Controls

You will develop and implement controls for identified hazards.

④ Perform Work Within Controls

All workers are expected to work within established controls. Any work that is not described in the scope is considered not authorized and shall be reviewed for hazards and controls prior to commencing that activity. All workers have the authority to stop any unsafe activities.

⑤ Feedback and Improvement

The central question is: "How can I do better next time?" Tell your UTR or PM both what went wrong and what worked well. This will support SLAC's efforts to continuously improve the work planning process in order to minimize the risk of accident, illness, or injury.

General ES&H Requirements

To be considered for a construction contract you must submit the following:

- ☐ Safety qualification form
- ☐ Injury and illness prevention program (IIPP)
- ☐ Code of safe practices

Project-specific Requirements

Once a contract is awarded, these are required:

- ☐ Site-specific safety plan (SSSP)
- ☐ Job safety analysis (JSA)
- ☐ Completion of SLAC safety training
- ☐ Any other requirements specific to scope of work

Your UTR / PM will help identify additional permits, plans, or safety precautions that must be in place before work can begin. Examples of high-hazard work that may involve additional requirements include:

- ☐ Electrical work
- ☐ Work involving hazardous energy (lockout/tagout)
- ☐ Hoisting and rigging
- ☐ Work at unprotected height greater than six feet
- ☐ Hot work
- ☐ Confined space entry
- ☐ Excavation
- ☐ Work in a controlled or radiologically controlled area or on accelerator shielding
- ☐ Hazardous waste generation (requires storage or treatment)
- ☐ Demolition
- ☐ Penetration of a floor, wall, or ceiling
- ☐ Work that requires a mobile elevated work platform and/or powered industrial truck

Accidents and Emergencies

Facility or equipment damage and accidents must be reported to your supervisor / foreman and UTR / PM.

For More Information

See "Worker Safety and Health Program",
http://www-group.slac.stanford.edu/esh/general/wshp/

Subcontractor Construction Safety: Construction and High-hazard Service Work Safety and Environmental Submittal Requirements

URL: http://www-group.slac.stanford.edu/esh/eshmanual/references/subconstructReqSubmittal.pdf
Division: Environment, Safety and Health
Department: Field Safety and Building Inspection
Program: Subcontractor Construction Safety
Authority: ESH Manual, Chapter 42, Subcontractor Construction Safety
Date Effective: 5 August 2009

1 Purpose

SLAC takes worker safety and health and environmental protection seriously. Work must always be completed safely and in a manner that protects the environment, in compliance with SLAC's integrated safety and environmental management system (ISEMS) and worker safety and health program (WSHP), which implements Title 10, *Code of Federal Regulations*, "Energy", Part 851, "Worker Safety and Health Program" (10 CFR 851).

It is essential that subcontractors understand our expectations and requirements up front in order to be fully prepared to meet them. Understanding and complying with SLAC's safety requirements are critical in ensuring a successful partnership between SLAC and its subcontractors.

The purpose of these submittal requirements is to ensure subcontractors interested in working at the SLAC National Accelerator Laboratory submit adequate documentation related to the programs, plans, and training necessary to comply with SLAC's environment, safety, and health (ESH) requirements.

Any questions may be directed to the staff of the Field Safety and Building Inspection Office at 650-926-4324.

2 Scope

These requirements cover pre- and post-award subcontractor safety and environmental submittals. For all requirements, including those that apply during the performance of the work, see Chapter 42, "Subcontractor Construction Safety", and Chapter 49, "Service Subcontractor Safety". For a summary, see ISEMS Summary for Construction Subcontractors (SLAC-I-730-0A21T-011).

3 Applicability

These requirements apply to all construction and high-risk service subcontractors, general and sub-tier, bidding on work at SLAC. (For a definition of high-risk service work, see Chapter 49, "Service Subcontractor Safety").

4 Prerequisites

Not applicable

5 Requirements

5.1 Pre-award

Each subcontractor submitting a bid, working with another subcontractor, or performing work at SLAC must

1. Submit a Subcontractor Construction Safety: Subcontractor Safety Qualification Form (SLAC-I-730-0A21J-027) (SQF) that contains, among other information, occupational injury experience data:
    1. Occupational Safety and Health Administration (OSHA) total recordable case rate (TRC)
    2. OSHA days away/restricted/transferred case rate (DART)
    3. Insurance experience modification rate (EMR). (The subcontractor's worker compensation insurance provider must issue a letter that certifies the calculation of the employer-specific rate.)

    Please see the SQF form for evaluation criteria and additional detail.
2. Designate a superintendent or foreman, who will be on-site whenever work is being executed at SLAC, with OSHA 30-hour construction safety training. Evidence of this training must be submitted with the SQF.
3. In addition to the previous requirement, the subcontractor must have a safety professional, not the superintendent or foreman, who will be on-site whenever work is being executed at SLAC, with **OSHA 30-hour training** (OSHA Training Institute course 510). Evidence of this training must be submitted with the SQF. Depending on the number of workers, this person must be either dedicated or designated.
    1. **Dedicated**

        Any subcontractor, including sub-tiers, with a personnel count of 30 or more, at SLAC, must have a person 100 percent of whose work at SLAC is dedicated to safety management.
    2. **Designated**

        Any subcontractor, including sub-tier, with a personnel count of less than 30, at SLAC, must have a person at least 50 percent of whose work at SLAC is dedicated to safety management. This may be a collateral duty assignment; that is, be assigned to another member of the work group other than the superintendent.
4. Submit a comprehensive health and safety program that includes a section for each applicable regulatory aspect of its work. The program should also include environmental protection should potential environmental impacts be associated with the work. A general subcontractor who will be supervising the work of one or more sub-tier contractors must have safety/health program elements for each area of its work and the work of its sub-tier contractors. Table 1shows an example of the elements that would be expected in the program of a painting subcontractor.
    1. Each subcontractor must submit a Cal/OSHA compliant injury and illness prevention plan (IIPP) that meets the requirements of 8 CCR 3203 and 1509. Guidance on the development of an IIPP can be found on the Cal/OSHA web site.
    2. Each subcontractor who will conduct work defined as construction must submit a code of safe practices as required by Cal/OSHA.

        Cal/OSHA (8 CCR 1509 [b] and [c]) requires every employer to adopt a written code of safe practices that relates to the employer's operations. The code must contain language equivalent to the relevant parts of Plate A-3 of the appendix. However, that material is only a suggested code. It is general in nature and intended as a basis for preparation by the subcontractor.

Each subcontractor must submit a code of safe practices that is specific to each area of the work it will perform at SLAC. General subcontractors overseeing the work of sub-tier subcontractors must submit a code of safe practices that covers not only its own work, but also the work of its sub-tiers.

Table 1 Example of a suggested Comprehensive Health and Safety Program Elements for a Painting Subcontractor

Element	Regulatory Source
Injury Illness Prevention Program	*California Code of Regulations (CCR)*, Title 8, Section 3203 (8 CCR 3203)
Emergency Action Plan	8 CCR 3220
Hazard Communication Program	8 CCR 5194
Fire Protection Plan	8 CCR 3221 or 1920
Heat Illness Prevention Program	8 CCR 3395
Fall Protection Program	8 CCR 1669
Ladder Safety Program	8 CCR 3203
Aerial Lift Safety	8 CCR 3636
Scaffold Safety	8 CCR 1635
Waste Disposal	22 CCR, Chapter 10-16
Transportation Safety	22 CCR, Chapter 13
Respiratory Protection Program	8 CCR 5144
Medical Surveillance Program	8 CCR 3204
Ergonomics	8 CCR 5110
Control of Hazardous Energy	8 CCR 3314
Stormwater Protection	California's Industrial Activities, Stormwater General Permit, and Federal Water Pollution Prevention Act (Title 33, *United States Code*, Section 1344 [33 USC 1344])

Table 2 Other Common Program Elements for Different Trades

Element	Regulatory Source
Excavation	8 CCR 1539
Haulage and Earth Moving	8 CCR 1590
Vehicle and Traffic Control	8 CCR 5194
Construction Hoisting	8 CCR 1604

Note *If a subcontractor wishes to be considered for general subcontractor work at SLAC and is submitting its comprehensive health and safety program for review not in association with a particular project, then that subcontractor should include program elements for every area of work in which it or its sub-tier contractors could be involved.*

5.1.1 Summary of Pre-award Submittals

1. Subcontractor safety qualification form
2. A superintendent or foreman, with documented OSHA 30-hour training
3. A safety professional, dedicated or designated, with documented OSHA 30-hour training
4. Comprehensive health and safety plan
    1. Injury and illness prevention plan
    2. Code of safe practices

5.2 Post-award

5.2.1 SLAC Site-Specific Safety Plan

A SLAC site-specific safety plan (SSSP) is a document that outlines how safety and environmental protection are managed during a contract or on a specific worksite. It is a living document, updated throughout the project, which must be available to all persons involved. Each individual must understand and comply with the requirements included in the plan. The SSSP should be compatible with each subcontractor's safety program, including the comprehensive health and safety plan, injury and illness prevention plan, and code of safe practices.

5.2.1.1 SSSP Submittal

1. After the bid award, a subcontractor working as a prime or general subcontractor, with or without sub-tier contractors on the same project, must submit a site-specific safety plan (SSSP) and provide training documentation for each employee who will be working at SLAC. (See the Subcontractor Construction Safety: Site-specific Safety Plan Form [SLAC-I-730-0A21J-025] and Subcontractor Construction Safety: Site-specific Safety Plan Guideline [SLAC-I-730-0A21T-010]).
2. If sub-tier contractors are involved, they should be listed on the SSSP form with the prime subcontractor and all of the hazards, including environmental hazards, associated with the prime and sub-tier contractors' work must be listed and addressed.
3. The SSSP should address environmental protection on the job site including protection of stormwater runoff through use of best management practices, proper handling of hazardous materials and waste, and spill prevention and response.
4. Evidence of training must be submitted with the SSSP as requested in the "Training Documentation" section of the SSSP form.
5. SSSPs must be approved jointly by the project manager, university technical representative (UTR), and the line management safety coordinator, departmental safety coordinator, or an Field Safety and Building Inspection staff member before the notice to proceed is issued by the SLAC Purchasing Department.
6. Any subcontractor added to the work, after award, must be included on the SSSP, amended to include their hazards. The subcontractor must also submit their Safety Program and a SQF prior to their acceptance by SLAC.

5.2.2 OSHA Competent Person

In several specialties OSHA requires a competent person to be present whenever that type of work is being performed.

Some examples frequently used at SLAC are

- Excavation/trenching/shoring (inspections daily and after rain)
- Fall protection (supervise implementation of fall protection plan)
- Scaffolding (supervise erection and dismantling, perform daily inspections)

Therefore, whenever a subcontractor is performing work within any specialty area where a competent person is required to be on-site, it must provide the name and title of its competent person along with documentary evidence of that person's qualifications.

5.2.3 Job Safety Analysis

Before work begins, one or more job safety analyses (JSA) must be written that contain specific information about the work tasks, the associated hazards including environmental hazards, and the mitigation and control measures for the hazards. The JSA(s) must be updated as conditions in the field change. The JSA must be reviewed and signed daily by each member of the work crew and each visitor to the job site, indicating his/her understanding of the work and the hazards and controls. Signing the JSA will usually occur during the required daily tailgate meetings.

5.2.3.1 Daily Tailgate Meetings

Daily safety tailgate meetings must take place, at which the work and associated hazards are discussed.

5.2.4 Incident Investigation

When there is an incident resulting in an OSHA recordable injury or significant near miss, the subcontractor must cooperate with SLAC in investigating the incident, identifying the *root cause(s)*, and formulating a corrective action plan aimed at preventing recurrence. The subcontractor will be required to implement that corrective action plan.

5.2.5 Summary of Post-award Submittals

1. Site specific safety plan (SSSP)
2. Name and title of any required competent person along with evidence of that person's qualifications (if applicable)
3. Job safety analysis (JSA), to be reviewed at required daily tailgate meetings
4. Incident investigation report

6 References

- SLAC Integrated Safety and Environmental Management System Description (SLAC-I-720-0A00B-001)
- SLAC Worker Safety and Health Program Description (SLAC-I-720-0A21B-001)
- *SLAC Environment, Safety, and Health Manual* (SLAC-I-720-0A29Z-001), Chapter 42, "Subcontractor Construction Safety"
- ISEMS Summary for Construction Subcontractors (SLAC-I-730-0A21T-011)
- Subcontractor Construction Safety: Subcontractor Safety Qualification Form (SLAC-I-730-0A21J-027) pdf or Word

- Subcontractor Construction Safety: Site-specific Safety Plan Guideline (SLAC-I-730-0A21T-010)
- Subcontractor Construction Safety: Site-specific Safety Plan Form (SLAC-I-730-0A21J-025) pdf or Word
- Subcontractor Construction Safety: Job Safety Analysis Guideline (SLAC-I-730-0A23T-002)
- Subcontractor Construction Safety: Job Safety Analysis Form (SLAC-I-730-0A23R-003) pdf or Word
- Subcontractor Construction Safety: Tailgate Meeting Guide (SLAC-I-730-0A21T-012)
- *SLAC Environment, Safety, and Health Manual* (SLAC-I-720-0A29Z-001), Chapter 49, "Service Subcontractor Safety"
- Title 10, *Code of Federal Regulations*, "Energy", Part 851, "Worker Safety and Health Program" (10 CFR 851). Additional information on 10 CFR 851 and its implementation is available from "Worker Safety and Health Program Final Rule - 10 CFR 851".
- Title 29, *Code of Federal Regulations*, "Labor", Part 1904, "Recording and Reporting Occupational Injuries and Illness" (29 CFR 1904)
- "Division of Occupational Safety and Health: Title 8 Regulations"
- "Division of Occupational Safety and Health: Cal/OSHA Guide to Developing Your Workplace Injury and Illness Prevention Program"
- "Division of Occupational Safety and Health: Cal/OSHA Safety and Health Training and Instruction Requirements"
- "Industry Injury and Illness Data"
- "North American Industry Classification System (NAICS)"

7 Definitions

Experience modification rate (EMR). Rate reflecting the workers compensation claims history of a particular employer based on three years of experience, excluding the most recent year

Incidence rate. Refers to the OSHA recordkeeping requirements established in Title 29, *Code of Federal Regulations*, "Labor", Part 1904, "Recording and Reporting Occupational Injuries and Illness" (29 CFR 1904). The incidence rates are communicated through the Department of Labor using the Bureau of Labor Statistics (BLS). Incidence rate data, categorized by NAICS code, may be obtained online.

North American Industry Classification System (NAICS). Industries in North America are identified by a six-digit code (replaces the former four-digit SIC code). The longer code accommodates the larger number of sectors and allows more flexibility in designating sub-sectors. The system was developed by the United States, Canada, and Mexico to provide comparable statistics across the three countries. It also provides for additional detail not necessarily appropriate for all three NAICS countries. NAICS is organized in a hierarchical structure much like the existing SIC.

Root cause. A cause of an incident that, if removed, will prevent recurrence of such an incident in the future

Subcontractor Construction Safety:
Subcontractor Safety Qualification Form

All subcontractors, including sub-tier, must complete and submit this form with their offer. If the contract's duration is longer than one year, the subcontractor must resubmit this form annually, from the date of the contract inception.

This form addresses the criteria firms must meet to qualify to bid the project and /or receive award at the SLAC National Accelerator Laboratory. Failure to provide the required substantiating submittals with the offer may result in the offer being considered non-responsive. (See Subcontractor Construction Safety: Construction and High-hazard Service Work Safety and Environmental Submittal Requirements [SLAC-I-730-0A21S-049] for more information on submittals.) SLAC reserves the right to accept or reject any offer based on the qualification criteria. OSHA ratings and insurance experience modification ratings will be included as an evaluation factor in SLAC's selection decision. If the subcontractor acts as the general subcontractor, SLAC will evaluate whether it has adequate knowledge and experience to supervise lower tier subcontractors.[1]

Project Name				
Request for Proposal # / Purchase Order #				
Company Name				
Scope of Work				
Acting as general subcontractor?	Yes ☐	No ☐	If acting as the general sub-contractor, list all trades involved in the scope of work and names of sub-tier contractors:	

Professional Qualification Criteria

Contractor to fill out this section		*Filled out by SLAC ESH*	
	Date Submitted	Acceptable	Not Acceptable
1. Firm has satisfactorily completed at least three or more projects similar to the offer, as a general or specialty contractor. If bidding as a general subcontractor, demonstrate that firm has adequate knowledge and experience to supervise lower tier subcontractors. *Please attach a list of at least three (3) relevant projects meeting these criteria (include project title, contract amount, project description, project manager name, superintendant name, and name, address, and telephone number of owner or contracting official).*			
2. Proposed subcontractor project manager and superintendent have managed three or more projects for work identified in item 1. *Please include evidence as such per instructions in item 1*			
3. Does the firm have a dedicated/designated safety professional assigned to the project? **Dedicated.** Any subcontractor, including sub-tiers, with a personnel count of 30 or more, at SLAC, must have a person 100 percent of whose work at SLAC is dedicated to safety management. **Designated.** Any subcontractor, including sub-tier, with a personnel count of less than 30, at SLAC, must have a person at least 50 percent of whose work at SLAC is			

1 As SLAC is a contractor to the Department of Energy, all outside contractors working at SLAC are considered to be subcontractors. Consequently, a contractor considered a "general contractor" outside of SLAC is considered a "general subcontractor" at SLAC.

Contractor to fill out this section				*Filled out by SLAC ESH*	
			Date Submitted	Acceptable	Not Acceptable
dedicated to safety management. This may be a collateral duty assignment; that is, be assigned to another member of the work group other than the superintendent.					
4. Firm is properly licensed within the state of California to perform the bid work. List the license class and number.					
License Class(es)		#			
License Class(es)		#			

Safety Scorecard

Contractor to fill out this section		*Filled out by SLAC ESH* [1]			
	Date Submitted	Acceptable	Conditional 1	Conditional 2	Not Acceptable
1. Firm has submitted a written comprehensive company health and safety program.[2]			[redacted]		
2. Firm has submitted evidence that the site superintendent or foreman and dedicated/designated safety professional have taken the OSHA 30-Hour Construction Safety Training Course (OSHA 510).					

Submit the following rating information for review							
NAICS code[3]	Most current year	Previous Year 1	Previous Year 2	*Filled out by SLAC ESH*			
	20__	20__	20__	Acceptable	Conditional 1	Conditional 2	Not Acceptable
OSHA Recordable Case Rate[4]				At or below the BLS rate for the company's NAICS	Up to 10% above NAICS with ESH Div. approval	10-20% above NAICS with ESH Division approval	>20% above NAICS
DART (Days Away Restricted or Transferred) Case Rate[5]				At or below the BLS rate for the company's NAICS	Up to 10% above NAICS with ESH Div. approval	10-20% above NAICS with ESH Division approval	>20% above NAICS
Fatalities				0	[redacted]	1	>1
OSHA (or state OSHA) Citations[6]					[redacted]		
Worker's Comp Experience Modification Rate		[redacted]		EMR at or below 1.0	1.0 <EMR< 1.1 with ESH Division approval	1.1<EMR< 1.2 with ESH Division approval	1.2> EMR

Notes

1. Categories. Note if any of the above rates are Conditional 1 or Conditional 2, please include supporting documentation for all of the above information (insurance carrier letter stating Experience Modification Rate, OSHA 300 Log, and 300A Summary).
    1. **Acceptable:** SLAC safety specialists will exercise periodic oversight of the work on the project.
    2. **Conditional 1:** The subcontractor's offer may be accepted with SLAC approval of a written explanation of the causes of the high rate(s) and the measures the company has taken and/or is taking to correct these causes. SLAC safety specialists will exercise close oversight of the work on the project
    3. **Conditional 2:** The subcontractor's offer may be accepted upon (1) submittal and SLAC approval of a formal corrective action plan addressing the causes of the high rate(s) and the corrective measures taken and in progress, and (2) successful completion of OSHA 10-Hour Training by all company workers who will be working at SLAC. SLAC Safety Specialists will exercise close oversight of the work on the project.
    4. **Not Acceptable:** The subcontractor cannot work at SLAC until its safety metrics are within the range defined for Acceptable, Conditional 1, or Conditional 2 criteria.
2. Each subcontractor must submit a comprehensive health and safety program that includes a section for each phase of its work, to include scope, hazards, controls, and required training. The program should also include environmental protection if potential environmental impacts are associated with the work. A general subcontractor who will be supervising the work of one or more sub-tier contractors must have safety/health program elements for each phase of its work and the work of its sub-tier contractors. The program must be accompanied by an injury and illness prevention plan and applicable codes of safe practices.
3. "North American Industry Classification System (NAICS)"
4. For each of the past three years, rate = # of OSHA recordable cases x 200,000 ÷ total hours worked by all employees; refer to "OSHA's Recordkeeping Page" for determination of "recordable".
5. For each of the past three years; rate = # of DART cases x 200,000 ÷ total hours worked by all employees. A DART is a work-related injury which results in an employee missing work, being put on restricted work or being placed into an alternate job.
6. Any willful or repeat OSHA violations will result in disqualification.

Acknowledgement

Firm attests that the information presented here is accurate and truthful. Failure to provide accurate information may result in disqualification from bidding. Firm also acknowledges that it is responsible for the safety of its workers and represents that all employees and subcontractors have, or will have, the required training to perform their contracted work safely. Upon contract award, records of current training must be presented with the site-specific safety plan. All individuals must participate in a daily pre-work tailgate meeting before starting work.			
Submitted by *Company Name*			
Title *Of author or company representative*			
Name			
Signature		Date	

Filled out by SLAC ESH		Qualified	Qualified-Conditions Met	Not Qualified
Safety Qualification Results				
ESH Reviewer Name				
Signature		Date		

URL: http://www-group.slac.stanford.edu/esh/eshmanual/references/subconstructFormSafetyQuals.pdf | .doc (Word)
Department: Field Safety and Building Inspection
Program: Subcontractor Construction Safety
Authority: ESH Manual, Chapter 42, Subcontractor Construction Safety
Date Effective: 5 August 2009

Subcontractor Construction Safety: Site-specific Safety Plan Guideline

Department: Chemical and General Safety
Program: Subcontractor Construction Safety
Owner: Program Manager
Authority: ES&H Manual, Chapter 42, Subcontractor Construction Safety[1]

Purpose

This document provides contractors with clarification on safety requirements for proposed contract activities while working at SLAC and as a subcontractor to the US Department of Energy (DOE).

All subcontracted projects must have a complete, detailed site-specific safety plan before operations commence. The plan must be kept current as part of the project. In conjunction with job safety analysis (JSA),[2] a site-specific safety plan describes how to identify and analyze safety risks dealing with major process steps, operations and facilities, approaches for mitigating identified risks, and the process for reporting safety events to the necessary parties.

Introduction to Site-specific Safety Plans

A site-specific safety plan (SSSP) is a document that outlines how safety is managed during a particular contract or on a particular worksite. It is a dynamic document, which must be available to all persons involved. They must understand and comply with the requirements included in the plan. The plan should be compatible with the sub-contractors safety program(s), their health and safety manual(s) and other safety documents, such as injury and illness prevention plan, code of safe practices, and heat illness prevention program.

Site-specific Safety Plan Form

The SSSP form is available on the SLAC ES&H web site.[3]

Preparing to Write the SSSP

Employers developing an SSSP need to consider their particular workplace and organizational needs to ensure plan relevance.

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1 *SLAC Environment, Safety, and Health Manual* (SLAC-I-720-0A29Z-001), Chapter 42, "Subcontractor Construction Safety", http://www-group.slac.stanford.edu/esh/hazardous_activities/subcon_construction/policies.htm

2 Subcontractor Construction Safety: Job Safety Analysis Form (SLAC-I-730-0A23R-003) http://www-group.slac.stanford.edu/esh/eshmanual/references/subconstructFormJSA.pdf | .doc

3 Subcontractor Construction Safety: Site-specific Safety Plan Form (SLAC-I-730-0A21J-025), http://www-group.slac.stanford.edu/esh/eshmanual/references/subconstructFormSSSP.pdf | .dot (Word)

SSSP Form Elements

At a minimum, an SSSP should

- Be signed by the subcontractor project manager (PM), superintendent, or foreman drafting the plan
- Detail key on-site staff (names and titles) and the organizational structure responsible for the management (names, titles, and contact numbers) of safety for this specific project
- Identify the hazards associated with the work
- Explain methods of hazard identification including any checklists and other methods
- Detail risk assessment and control measures
- Identify how hazards will be controlled and mitigated (for example, lock out/tag out, human performance initiative)
- List training and experience of the contractor's employees (rosters or sign-in sheets required)
- Include the types of records that will be kept and who is to keep them
- State the monitoring and safety requirements that will be used
- Outline safety meeting protocols and the means of resolving safety issues
- Include written work procedures or copies of applicable existing procedures
- Include emergency procedures (contact names, titles, and phone numbers)

Getting Started Using ISEMS

The Integrated Safety and Environmental Management System (ISEMS) is a key function of SLAC, one which must be incorporated into the work process. All site-specific safety plans will utilize this process as follows:

1. Define scope of work
2. Analyze hazards
3. Develop/implement controls
4. Perform the work
5. Obtain feedback

For more information, see the ISEMS web site.[4]

Define Scope of work

Where to start

- Review the scope and type of work as it relates to safety performance by the contracted organization and the sub-tiered contractors.

4 "Integrated Safety and Environmental Management Systems", http://www-group.slac.stanford.edu/esh/general/isems/

- Conduct an inspection of the premises or work site and discuss the implementation of a safety plan with workers and others who may be affected (including sub-tier contractors, SLAC personnel, and others in the affected area).
- List the major activities and equipment to be used by contractors during all phases of the project. If unknown at the start of the project, provide a copy of this document to all subsequent sub-tier contractors. Have the sub-tier contractors review and comment on the plan. Note these comments, as they apply to the work to be performed, in the SSSP. Incorporate sub-tier contractor comments and revisions as needed, resulting in one comprehensive document.

Analyze the Hazards

- Identify all hazards and assess the risks at the workplace.

Control the Hazards

- List how those risks are to be managed. If unknown, provide a copy of this document to the sub-tier contractors. Have the sub-tier contractors review and comment on the hazards. Incorporate sub-tier contractor comments and revisions as needed; resulting in one comprehensive document.
- Develop and implement hazard mitigation and control procedures.
- Review lessons learned that apply to the work to be performed to assist in risk identification and mitigation of those risks.[5]

Perform the Work

The SSSP must be monitored during the course of the work to ensure designated responsibilities and provisions are completed. Regular meetings must be held to discuss issues associated with the plan (Cal/OSHA specifies a “tailgate” safety meeting every 10 days or less). Where an SSSP is found to be deficient, it must be reviewed to assess the system breakdown and modified to prevent a recurrence. If the situation endangers the life or safety of workers, that activity must cease immediately until a resolution has been agreed upon by all involved parties. Stop activity authority is extended to all those involved with the project.[6]

Obtain Feedback

For an SSSP to be effective it must be reviewed periodically and at the end of the contract. Items to be considered include

- Were the objectives achieved?
- Was the plan appropriate to the specific project?
- Was it effective at ensuring safe outcomes?
- Were responsibilities carried out?

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5 “DOE | Office of Health, Safety and Security | Corporate Safety Analysis”, https://www.hss.energy.gov/CSA/Analysis/DOEll/index.asp

6 Work Authorization: Subcontractor Stop Activity/Work Requirement (SLAC-I-720-0A21S-004), http://www-group.slac.stanford.edu/esh/eshmanual/references/workReqSubStopWork.pdf

- Can it be improved?
- Add the plan and comments to the database for future reference.

Summary

An SSSP is developed to prevent accidents by anticipating and eliminating hazards. Through the SSSP process the scope of work and potential hazards are identified and safe work practices are defined to control and mitigate those hazards.

Advantages of using a SSSP include

- Giving a clear, written representation of the hazards and risks that will be anticipated
- Creating a systematic and organized outline that connects specific activities to associated hazards and hazard control and mitigation procedures
- Incorporating all trade and subcontract work to make a comprehensive project that is safe for everyone involved
- Identifying additional information that may be needed to complete the job, for example, permits, notifications, job to be performed in a controlled access area, that is, radiological controlled area

It is important to involve the sub-tiered contractors in the SSSP process. Subcontractors familiar with the tasks can combine their experience to help develop the SSSP. This results in a more thorough analysis of the job, increased buy-in to the process, and greater accountability to the details of the work process

SSSPs should be reviewed frequently and updated when the work scope is altered or other necessary changes become apparent.

Implementation of the SSSP process will mean continuous safety improvement, with the **goal of zero accidents**.

SLAC Site-specific Safety Plan

This is the PDF version of this form.

For online use, a Word 2003 version of this form is also available, http://www-group.slac.stanford.edu/esh/eshmanual/references/subconstructFormSSSP.dot

For guidance on completing this form, see Subcontractor Construction Safety: Site-specific Safety Plan Guideline (SLAC-I-730-0A21T-010), http://www-group.slac.stanford.edu/esh/eshmanual/references/subconstructGuideSSSP.pdf

Introduction

A complete, approved site-specific safety plan (SSSP) is required for all subcontracted projects at SLAC before operations commence. A separate SSSP is required for each contract or worksite.

In conjunction with a job safety analysis (JSA), a site-specific safety plan describes the methodologies for identifying and analyzing safety risks dealing with major process steps, operations, and facilities; approaches for mitigating identified risks; and the process for reporting safety events to the necessary parties.

The plan must be kept current as part of the project and available to all persons involved, who must understand and comply with its requirements.

The plan should be compatible with the subcontractor safety program(s), health and safety manual(s) and other safety documents (such as injury illness prevention plan, code of safe practices, heat illness prevention plan).

Project Description

Subcontract / Purchase Order Number	Enter subcontract or purchase order number		
Project Name	Enter the name assigned to the project		
Project Start / End Dates	Enter as 9/19/1999	Enter as 9/19/1999	
Project Location	Enter the location of actual work area (building number, sector, IR)		
Project Contacts	Name	Phone Number	Email
SLAC Project Manager	Enter the name of SLAC project manager (obtain from SLAC point of contact)	Enter number: xxx-xxx-xxxx	Enter: user@domain
SLAC Project UTR	Enter the name of SLAC UTR (obtain from SLAC point of contact)	Enter number: xxx-xxx-xxxx	Enter: user@domain
Subcontractor Safety Officer	Enter the name of subcontractor safety officer	Enter number: xxx-xxx-xxxx	Enter: user@domain
Subcontractors	Company Name		
General	Enter company name		
Sub-tier	Enter company name		
Sub-tier	Enter company name		
Sub-tier	Enter company name		

10 CFR 851 Acknowledgment

As a subcontractor to SLAC, while your workers are physically located at SLAC you must meet the requirements of Title 10, *Code of Federal Regulations*, "Energy", Part 851, "Worker Safety and Health Program" (10 CFR 851). As such, you must be aware of, and comply with, the requirements of this regulation.

Note SLAC is a DOE facility and therefore primarily subject to the health and safety requirements of the DOE, as opposed to Cal/OSHA. However, compliance with Cal/OSHA safety and health requirements will provide equivalent protection.

You can find further details about these requirements at SLAC's Worker Safety and Health Plan (WSHP) web site: http://www-group.slac.stanford.edu/esh/general/wshp/subcontractors.htm.

This information is provided only as a guide – it is your responsibility to ensure you have read and understand the actual regulatory requirements.

Occupational Medicine	Will you have any employees that will work on-site at SLAC for 30, eight-hour days in a 12-month period, or are enrolled for any length of time in a medical or exposure monitoring program required by federal, state, or local regulations (including hearing conservation, respiratory protection, lead exposure, beryllium exposure)?	Yes ☐	No ☐
	If yes, you will need to 1. Comply with the occupational medicine requirements of 10 CFR 851, Appendix A §8 (see SLAC's Worker Safety and Health Plan (WSHP) web site, http://www-group.slac.stanford.edu/esh/general/wshp/subcontractors.htm). 2. Provide your occupational medicine provider contact information		

Clinic / Physician	Name	Phone	Email
	Enter the name of the provider	Enter number: xxx-xxx-xxxx	Enter: user@domain

Acknowledgment	I (the author of this SSSP) certify that that I have read the requirements of 10 CFR 851 and attest that my firm and its sub-tier contractors will comply with the requirements of 10 CFR 851 and the SLAC WSHP.	Yes ☐	No ☐

Project Tasks and Hazards		
Scope of Work	Describe scope of work:	
Job Safety Analysis	Attach a completed job safety analysis for each of tasks listed below. Use Subcontractor Construction Safety: Job Safety Analysis Form (SLAC-I-730-0A23R-003), http://www-group.slac.stanford.edu/esh/eshmanual/references/subconstructFormJSA pdf | .doc (Word)	
Tasks	Hazard	Equipment
Enter task	List associated hazards	List equipment that will be used
Enter task	List associated hazards	List equipment that will be used
Enter task	List associated hazards	List equipment that will be used
Enter task	List associated hazards	List equipment that will be used
Enter task	List associated hazards	List equipment that will be used
Enter task	List associated hazards	List equipment that will be used
Enter task	List associated hazards	List equipment that will be used
Enter task	List associated hazards	List equipment that will be used
Enter task	List associated hazards	List equipment that will be used
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Enter task	List associated hazards	List equipment that will be used
Enter task	List associated hazards	List equipment that will be used
Enter task	List associated hazards	List equipment that will be used
Enter task	List associated hazards	List equipment that will be used

Project Controls			
Controls	Applicable	N/A	Action If Applicable
Demolition SLAC procedures and additional information as appropriate	☐	☐	Attach demolition plan Refer to ESH Chapter 42 (Sec 5.1.2.7)
Traffic Control Flaggers / lane closure or access restricted	☐	☐	Attach traffic control plan, including diagram, identifying how flaggers will be used and specifying signage, clothing, and illumination as appropriate Refer to SLAC UTR Manual, Security Protocols
Environmental Protection / Stormwater Potential for spills, protection of storm drains	☐	☐	Describe what releases might be anticipated and how mitigation will occur. Describe: Refer to ESH Chapters 16, 26, and 30
Dust Control Sheet rock, soil, asbestos, etc	☐	☐	Describe how dust control is managed throughout project and identify what type of dusts and any special monitoring/equipment that will occur. Describe: Refer to ESH Chapter 30
Barricades / Signage Powder actuated tools, lasers, constructionsite, danger tape, caution tape, fencing, hole and wall openings, trenches	☐	☐	Describe what signage will be used and where it will be located. Describe: Refer to SLAC requirements in each ESH chapter pertaining to the work to be performed
Material / Equipment Staging Location for materials, location for contractor vehicles	☐	☐	Attach diagram identifying locations where materials or equipment that is delivered or staged onsite will be located Refer to SLAC UTR Manual
Waste Disposal General debris, recycled materials, contaminated and hazardous wastes	☐	☐	List wastes that will be generated while working at SLAC and determine location and size of debris boxes/recycling containers, or how waste material is to be managed. List: Refer to ESH Chapters 17, 22, 43, and SLAC UTR Manual
Control of Hazardous Energy Radiation controls: shielding, monitoring; lock out/tag out: electrical, chemical, pneumatic, pressure, thermal, mechanical	☐	☐	Describe how hazardous energy is controlled throughout the project: identify what type of energies and any special monitoring/equipment that will occur/be used. Describe: Refer to ESH Chapter 8

Emergency Response	
Accidents / Injury Response Trained responders, first aid supplies, use of EMS, nearest medical facility, radiation exposure procedures	List the medical facility that injured workers will be transported to, method of notifying EMS and what onsite resources are available. This might include first aid kits, fire extinguishers, trained responders etc. List: Refer to ESH Chapters 3, 28, 37
Fire Protection / Prevention Building fire systems coordination, hot work, general construction, storage of flammable materials	List any fire system impairment needed for this project. Identify if hot work permits are needed and for what type of operation. List any combustible/flammable materials used and how they will be managed (coordinate with PM and UTR). List: Refer to ESH Chapters 12 and 42
Evacuation Assembly areas, egress routes	Identify under what conditions evacuation of the immediate work site would occur. List: Specify who can issue evacuation notice or how evacuation will occur. List: List where assembly areas are located and who will be responsible for ensuring head count and accountability exists. List: Provide explanation or diagram. List: Refer to ESH Chapters 37 and 38 and the Consolidated Chemical Contingency Plan
Hazardous Materials Release Spoil piles, refrigerants, chemicals brought onsite, vehicles, product transfer, asbestos, etc	Describe what hazardous materials will be brought onsite or what may be generated as part of the work process. Describe: Attach current (no more than two (2) year old MSDS for all materials brought onto SLAC property. Include methods to control release, spills, off gassing or other unwanted exposures to work crew or SLAC occupants. Refer to SLAC requirements in each ESH chapter pertaining to the material to be used
Other	List any other emergency procedures that pertain to the are or type of work being done that are not covered under the above categories. List:

Emergency Contacts	Name	Mobile Phone	Pager	Work Phone
SLAC Project Manager	Enter name	Enter number: xxx-xxx-xxxx	Enter number: xxx-xxx-xxxx	Enter number: xxx-xxx-xxxx
SLAC Project UTR	Enter name	Enter number: xxx-xxx-xxxx	Enter number: xxx-xxx-xxxx	Enter number: xxx-xxx-xxxx
Subcontractor (including sub-tier)	Enter name	Enter number: xxx-xxx-xxxx	Enter number: xxx-xxx-xxxx	Enter number: xxx-xxx-xxxx

SLAC Special Work Permits / Plans			
Permit	Applicable	N/A	Action If Applicable
Hot Work (Welding) Permit	☐	☐	Attach permit Refer to ESH Chapter 12
Confined Space Permit	☐	☐	Attach permit Refer to ESH Chapter 6
Hoisting and Rigging Plan	☐	☐	Attach plan Refer to ESH Chapter 41
Elevated Surface Work Plan	☐	☐	Attach plan Refer to ESH Chapters 15, 45, 47
Energized Electrical Work Permit	☐	☐	Attach permit Refer to ESH Chapter 8
Excavation Permit	☐	☐	Attach permit Refer to ESH Chapter 11
Work Authorization Permit SSRL, B-44, Gallery	☐	☐	Attach permit Refer to ESH Chapter 2
Work in Radiation Area	☐	☐	Attach permit Refer to ESH Chapter 9
Penetration Permit	☐	☐	Attach permit Refer to ESH Chapter 44

Notification			
Party	Applicable	N/A	Action If Applicable
Bay Area Air Quality Management District	☐	☐	Notify BAAQMD Provide date of notification: Enter as 9/19/1999 Refer to ESH Chapter 30
Building / Area Manager	☐	☐	Provide name of building or area manager (obtain from SLAC project manager) Provide date of notification: Enter as 9/19/1999 Refer to ESH Chapter 2

Training Documentation

Employer to certify that employees have been trained in the following safety procedure and in accordance with company safety program (e.g. manual, IIPP, etc)

Training documents/licenses with employees names must be submitted to ESH with this SSSP

Qualification	Yes	N/A	Reference
Aerial Lift Operator	☐	☐	Refer to ESH Chapter 47
Confined Space Entry	☐	☐	Refer to ESH Chapter 6
Crane Operator (NCCO Certification)	☐	☐	Refer to ESH Chapter 41
Excavation Competent Person	☐	☐	Refer to ESH Chapter 11
Fall Protection Competent Person	☐	☐	Refer to ESH Chapter 45
Fire Extinguisher	☐	☐	Refer to ESH Chapter 12
First Aid / CPR	☐	☐	Refer to ESH Chapters 3 and 37
Forklift Operator Certification	☐	☐	Refer to ESH Chapters 47 and 48
Heat Illness Prevention	☐	☐	Refer to ESH Chapter 42
Scaffold User / Erector Competent Person	☐	☐	Refer to ESH Chapter 45

Review and Approval

Position	Name	Signature	Date
Subcontractor			
Author	Enter name		Enter as 9/19/1999
SLAC Approval			
Project UTR			
Project Manager			
One of the following: ☐ Line Safety Coordinator ☐ Department Safety Coordinator ☐ ESH CGS			
If plan is not approved, explain			

Subcontractor Construction Safety: Site-specific Safety Plan Form
Department: Chemical and General Safety
Program: Subcontractor Construction Safety
Owner: Program Manager
Authority: ES&H Manual, Chapter 42, Subcontractor Construction Safety, http://www-group.slac.stanford.edu/esh/hazardous_activities/subcon_construction/policies.htm

5 October 2009

Chapter 42, “Subcontractor Construction Safety”, and Chapter 49, “Service Subcontractor Safety”, are being revised. In the meantime the following document changes have been made:

1. Subcontractor Construction Safety: Job Safety Analysis Form (SLAC-I-730-0A23R-003) has been replaced by the standard JSA form, available from “WPC Forms and References”.
2. Subcontractor Construction Safety: Job Safety Analysis Guideline (SLAC-I-730-0A23T-002) has been replaced by the standard JSA guidance, available from “Job Safety Analysis”.

All other requirements of the published revision of Chapter 42 and 49 remain in effect. For questions, contact Jim Healy (ext. 5798, jchealy@slac.stanford.edu)

Potentially High-hazard Activities That May Require Permits or Controls

- ☐ Hoisting and rigging
- ☐ Work at unprotected height greater than six feet
- ☐ Hot work
- ☐ Confined space entry
- ☐ Excavation
- ☐ Demolition
- ☐ Work in radiologically controlled area or on accelerator shielding
- ☐ Electrical work
- ☐ First beam in a new accelerator or transport line
- ☐ First operation of a new device
- ☐ Electrical energizing of equipment or system for the first time
- ☐ Generation of hazardous waste that requires storage or treatment
- ☐ Initial introduction of an oxygen depleting hazard to area
- ☐ Pressurizing or testing a system for the first time
- ☐ Work with nanoscale materials
- ☐ Planned utility interruption
- ☐ Introduction of any biohazardous material or experiment
- ☐ First use of a Class 3b or 4 laser system

Sept 15, 2008

SLAC-I-730-0A21T-012-R000

Contact Information

Project name

Subcontractor representative name / phone

SLAC PM name / phone

SLAC UTR name / phone

Life-threatening Emergency
Dial 911
then call SLAC Site Security
(ext. **5555** or cell **650-926-5555**) and
contact your supervisor / foreman immediately

Non-life-threatening Incident
Contact your supervisor / foreman immediately
then call SLAC Site Security
(ext. **5555** or cell **650-926-5555**)

Notify the UTR of any incident

Stanford Linear Accelerator Center

Subcontractor Construction Safety
Tailgate Meeting Guide

Integrated Safety and Environmental Management System (ISEMS)

To continually improve the work process, SLAC incorporates the ISEMS into every work process. Adherence to the five core functions is expected.

① Define Scope of Work

- Translate mission into work
- Set expectations
- Prioritize tasks and allocate resources

② Analyze Hazards

- Identify and analyze hazards
- Categorize hazards

③ Develop / Implement Hazard Controls

- Identify standards and requirements
- Identify controls to prevent/mitigate hazards
- Establish safety envelope
- Implement controls

④ Perform Work Within Controls

- Confirm readiness
- Perform work safely

⑤ Feedback and Improvement

- Collect feedback information
- Identify improvement opportunities
- Make changes to improve
- Exercise oversight and enforcement
- Institute reinforcement and accountability

Subcontractor Representative Responsibilities

Before beginning work the subcontractor representative, with assistance from the SLAC project manager (PM) or university technical representative (UTR), must verify that all workers fully understand the following:

- ☐ Area hazards
- ☐ Hazards that may be created as a result of today's activities
- ☐ How work will be coordinated with other activities in the area
- ☐ Emergency procedures, including evacuation routes and emergency contact information

SLAC PM / UTR Responsibilities

The UTR or PM must verify that

- ☐ All required permits are in place
- ☐ High-hazard operations will be controlled according to established requirements (usually issuance of a permit)
- ☐ Notice to proceed (NTP) has been issued by the Purchasing Department

Worker Responsibilities

All workers are expected to

- ☐ Review work taking place today or during the current shift
- ☐ Review the job safety analysis (JSA) at the job site
- ☐ Adhere to the five core functions of ISEMS
- ☐ Work within established controls. Any work not described in the scope is considered not authorized and must be reviewed and approved prior to continuing.
- ☐ If necessary, exercise your authority to stop any activity if there is any question about the scope, potential hazards, or controls being used
- ☐ Follow emergency procedures

For More Information

See "Worker Safety and Health Program",
http://www-group.slac.stanford.edu/esh/general/wshp/