**Stanford Linear Accelerator Center**

**Integrated Safety and Environmental Management System (ISEMS)**

**ES&H Manual, Chapter 1 - General Responsibilities and Policy**

Line management is responsible and accountable for:
- Protecting workers, public, environment, and property
- Integrating ES&H into work
- Complying with laws, standards, and SLAC ES&H Policy and requirements
- Authorizing work

The ES&H Division’s role
- Support line management by providing services, counsel, and expertise
- Select ES&H standards and ensure an even implementation
- Provide essential central services, e.g. radiation safety, environmental monitoring, Dosimetry, waste management, etc.

Supervisors’ requirements
- Complete JHAMS with individuals
- Set ISMS goals for individuals and specify training requirements
- Hold individuals accountable for ES&H performance, including training completion
- Make safety a prominent topic at all-hands meetings
- Evaluate safety aspects of each position, ensure incumbents have competence
- Conduct self-assessments, walk-throughs
- Have dialogue with staff on ES&H

- Respond to injuries
  - Get injured individual to the Medical Department, Building 41, room 135
  - Call 9911 if not ambulatory
  - Investigate and determine root cause
  - Propose corrective action
- Understand DOE Occurrence Reporting

Individuals’ requirements
- Responsibility and accountability of each individual is no less important than that of line management.
- Complete the JHAM and STA processes with supervisor
- Complete required ES&H and job-specific training
- Understand the Five ISM Core Functions (described in later sections) and how they apply to all work
- Demonstrate an understanding of ES&H Manual chapters 1 and 2 and other chapters applicable to their work
- Understand “stop activity” responsibility
- Proceed with work only after line management has authorized it

Project Managers’ requirements
- Responsible and accountable for all ES&H aspects of projects
- Oversee UTRs, esp. ES&H aspects
- Authorize commencement of project work (Chapter 2, Work Authorization)
- Document/implement technical/safety requirements
- Control change process, ensure ES&H are reassessed with new work scope

UTRs’ (University Technical Representatives) requirements
- Oversee field operations, effect rigorous ES&H oversight
- Ensure sub-contractor has required work permits and approvals

- Reviews work hazard analyses
- Attends sub-contractor safety meetings

**General** elements of Chapter 1
- ES&H Policy Development process
- Balanced Priorities
- Variance Process
- Directorate ISMS plans co-signed by SLAC Director and Program Director

**ES&H Manual, Chapter 2 - Work Authorization**

ISMS implemented at five different levels of work authorization
1. Work for individuals - JHAM process done by supervisor and employee
2. Work requiring hazard-specific permits and approvals, for example
   - Confined space
   - Burn permits
   - Electrical Work Plans
   - Excavation and Penetration permits
   - Etc.
3. Activities requiring SOC and CC approvals (Chapter 31 of ES&H Manual)
4. Accelerator operations requiring Safety Assessment Documents (DOE Accelerator Facility Safety Order 420.2B)
5. Joint work approval
   - Line management appoints facility/area/building managers
   - When CEF or another SLAC element must enter a facility, area, or building, managers must jointly authorize the work

“Stop activity” responsibilities, authorities
- Individuals responsible and empowered to stop an activity they are involved in if it presents an “imminent hazard”
- Imminent hazard – likely to result in
  - Death
  - Serious injury
  - Significant environmental/property damage

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• The individual can tell others to stop as well. If no response, can communicate to:
  » Management chain of unsafe worker
  » Project Manager or UTR if a sub-contractor is involved
  » Any manager or supervisor
  » Security
• Line management must investigate and, if warranted, re-authorize work.
• Individuals may also raise concerns for hazards not rising to “imminent”:
  » Try to resolve with line management
  » ES&H Hotline (x4641)
  » ES&H Director at any time
  » Local Safety Committee is available for represented employees
• Broad “stop activity” authority given to:
  » All managers and supervisors
  » Safety Officers (limited by designation letters and applicable ES&H Manual chapters)
  » Project Managers and UTRs limited to sub-contractor activities they oversee

New emphasis related to EMS:
• Environmental stewardship affects SLAC’s sustainability
• Must be a core value and priority
• JHAMs not just for safety issues:
  » How job impacts environment
  » Controls for safety also protect the environment
    – Chemical storage to prevent release
    – Materials substitution
    – Mini/micro scale experiments where possible
  » Common sense expectations for all:
    – Print double-sided, use scrap paper
    – Turn off lights
  – Energy-efficient choices in equipment
  – Recycling
  – Build to “green” standards

Key Elements of ISEMS:
• Five ISM Core Functions:
  1. Define work scope
  2. Assess hazards
  3. Control hazards following this hierarchy
    1st. Engineering controls
    2nd. Administrative controls
    3rd. Personal Protective Equip. (PPE)
  4. Do work within controls
  5. Feedback and continuous improvement
• Seven ISM Guiding Principles:
  1. Line Management is responsible for safety
  2. Roles and Responsibilities are clearly defined
  3. Competence commensurate with responsibility
  4. Balanced priorities
  5. Identification of ES&H standards
  6. Tailored controls
  7. A system of operations authorization

Key Definitions:
• AHA = Area Hazard Analysis, describes hazards and controls in a given area. Each AHA is reviewed annually or when the level or type of hazards changes.
• EMS = Environmental Management System
• ES&H = Environment, Safety and Health
  • With a “D” it denotes the ES&H Div.
• ES&H Coordinator = A person within your directorate, division, department, or group that serves as your first point-of-contact on ES&H matters
• Hazard = A threat to workers, public, environment, or property.
• Individuals = Employees and all classes of non-employees
• Institutional Safety Officer (SO) = A person designated by the SLAC Director having “special” ES&H authorities
• ISMS = Integrated Safety Management System, a DOE safety system demonstrating ES&H is integrated into all programs
• JHAM = Job Hazard Analysis and Mitigation, a process to assess and control hazards faced by individuals
• Line Management = Managers/supervisors who oversee programs, facilities, people and have a responsibility for safety of all three.
• OSHA Recordable Accident = An accident rising to a defined level of severity that must be recorded on SLAC’s OSHA log
  » TRC – Total recordable case rate defined as the number of cases per 200,000 person-hours worked per year
  » DART – Subset of the TRC in which accidents result in Days Away from work, work Restrictions, or Transfer
• SME = Subject Matter Expert, a person in the ES&H Division or elsewhere at SLAC with special ES&H expertise and authority
• SOC = Safety Overview Committee, one of SLAC’s Citizen Committees. Coordinates efforts of other Citizen Committees.
• STA = SLAC Training Assessment, a process matching training with hazards an individual faces in his/her work.

Questions?

Contact the ES&H Division Safety Service line, X4554.