



## **THE SANFORD UNDERGROUND LABORATORY AT HOMESTAKE**

### **ENVIRONMENT, HEALTH, AND SAFETY**

### **EHS TRAINING**

**EHS-9000-L1-01**

**Version 2**  
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## Version Control

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Responsible Person	Document Control Number	Document Version	Publication Date	Description of Change
John Seabury	EHSDoc261	1	09/01/10	
Tom Regan	Document-73354	2	01/26/11	Page 8: Statement added that non-causal visitors may need other documents and or training.

## 1.0 POLICY

All personnel physically present on the Sanford Underground Laboratory at Homestake (Sanford Laboratory) property must be trained to safely execute their work commensurate to the hazards to which they are exposed.

Specific training requirements for individuals are developed using documented processes. The processes vary depending upon the individual's role at the property.

## 2.0 SCOPE

This policy applies to all individuals (Casual Visitors, Non-casual Visitors, Vendors, Contractors and Lab Workers) when present on the Sanford Laboratory property.

## 3.0 RESPONSIBILITIES

All Casual Visitors, Non-casual Visitors, Contractors, Vendors and Lab Workers are responsible for adhering to the requirements of this policy.

### 3.1. *Supervisors* are responsible for

- assuring that their employees are properly assessed and trained in accordance with this policy;
- assuring that their employees do not perform any activity until proper training for that activity has been determined and completed;
- assuring that their employees adhere to this policy
- taking appropriate corrective actions where necessary.; and
- approving safety analyses (JHAs, SOPs, etc.) prepared by their employees.

### 3.2. *Non-supervisory Points of Contact (including Project Managers)* are responsible for

- assuring that individuals for whom they are responsible are properly assessed and trained in accordance with this policy;
- assuring that individuals for whom they are responsible do not perform any activity until proper training for that activity has been determined and completed;
- monitoring the number of annual hours that the individuals for whom they are responsible spend on property;
- assuring that individuals for whom they are responsible adhere to this policy; and
- approving safety analyses (JHAs, SOPs, etc.) prepared by individuals for whom they are responsible.

### 3.3. The *Director of Environmental, Health and Safety* is responsible for

- assuring that training required by OSHA regulations is available and current,
- assuring that completion of training is recorded;
- authorizing individuals to provide Site Specific Hazard Awareness assessment and training

### 3.4. The *Sanford Lab Manager* is responsible to ensure resources are available for personnel to adhere to this policy.

## 4.0 DEFINITIONS

**Class:** as used in this policy, the term “Class” means the assignment of an individual as Casual Visitor, Non-casual Visitor, Contractor, Vendor or Lab Worker as defined here.

**Contractor:** a person, partnership, corporation, subsidiary of a corporation, firm, association or other organization that contracts to perform construction at the Sanford Laboratory property. As used in this policy, this term includes employees, all tiers of subcontractors, and employees of all tiers of subcontractors of Contractors.

**Deminimus activities:** Activities that are performed entirely within the Administration building, are primarily intellectual, and are performed in a manner and to the extent commonly performed by the general public. Examples include reading; writing; attending meetings, seminars, and presentations; and other similar activities. *NOTE: foot travel between the Administration building and a vehicle parked in the adjacent parking lot is included in “Deminimus activity”.*

**Escorted:** under line of sight visible and direct conversational control and responsibility of a Sanford Lab Worker. Escorts must not oversee more escorted individuals than they can control. Subject to procedures elsewhere in policy, guidelines include

- Underground visits not deeper than 300’ level: 6 escorted individuals per escort
- Underground visits deeper than 300’ level: 4 escorted individuals per escort
- Surface visits: per Trip Action Plan

**Functional Role:** a set of activities or tasks, hazards and controls performed in the usual course of duties related to an occupational responsibility and generally shared by multiple individuals. Any individual may have one or more Functional Roles that describe all or part of his/her activities.

**Lab Worker:** an individual who is on the Sanford Laboratory property AND is

- receiving compensation from Sanford Underground Lab at Homestake, the South Dakota Science and Technology Authority, an institution participating in the Deep Underground Science and Engineering Laboratory (DUSEL) project (e.g., “Employee”), or an institution collaborating with the Sanford Laboratory;
- Contracted to perform primarily intellectual services that may include hands-on work (e.g., “Consultant”); or
- performing investigations of a scientific nature (e.g., “Scientist”).

**Responsible Person:** the person who determines the training requirements for individuals under his/her responsibility. Responsible individuals may be either supervisors or non-supervisory points of contact.

- **Supervisor:** any individual having authority, in the interest of the employer, to hire, transfer, suspend, lay off, recall, promote, discharge, assign, reward, or discipline other employees, or responsibly to direct them, or to adjust their grievances, or effectively to recommend such action, if in connection with the foregoing the exercise of such authority is not of a merely routine or clerical nature, but requires the use of independent judgment.
- **Non-supervisory Point of Contact:** an Employee exercising supervisor-like oversight and authority over a non-employee.

**Training:** acquiring of a skill; the process of teaching or learning a skill or job.

- **Equipment Training:** training that provides the student with instruction and the means to safely and effectively operate a specific piece of equipment.
- **Safety Training:** training that is focused on safety or regulatory compliance. Generally safety training is higher level training that describes safe ways of accomplishing many tasks. Examples of safety training include emergency plans, site orientations, Hazard Communication, and the like. Often safety training is driven by a specific regulatory requirement.
- **Task Training:** training that addresses efficient and effective means to accomplish a given task. The safe ways to accomplish this task are an essential part of task training, but the focus of Task Training is job performance. Task Training may be documented or it may be delivered through one-on-one On the Job Training.

**Vendor:** a person, partnership, corporation, subsidiary of a corporation, firm, association or other organization that provides services at or materials to the Sanford Laboratory property. Vendors have defined scopes of services, defined deliverable products or services, and defined durations of agreements. In general, consultants who provide primarily intellectual work products or services are not considered “Vendors” but rather are “Lab Workers”.

**Visitor, casual:** an individual who is on the Sanford Laboratory property for forty cumulative hours or less per calendar year, AND

- Performs only Deminimus activities (no “hands on” work); or
- Remains above ground and is escorted<sup>1</sup> whenever outside of the Administration building.

**Visitor, non-casual:** an individual who is on the Sanford Laboratory property for forty cumulative hours or less per calendar year, but does not otherwise meet the definition of a Casual Visitor (e.g., any individual going underground is by definition a “Non-casual Visitor” regardless of the number of hours spent onsite).

## 5.0 PROCEDURE

### 5.1. *General Description of Training Assessment Process*

- A. Upon an individual’s initial arrival at the Sanford Laboratory property, the Responsible Person determines if the individual is a “Casual Visitor” as defined above. If so, no further training assessment is required provided that the individual’s activities continue to meet the definition of “Casual Visitor”.
- B. If the individual is other than a Casual Visitor, or if the individual’s activities change such that they fall outside of the definition of a Casual Visitor, then the Responsible Person assures that the individual’s training needs are assessed commensurate with his/her class and specific work activities.
- C. A summary of the requirements for training needs assessment is given in Appendix A *Summary of Assessment Methods*.

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<sup>1</sup> Escort is not required when an individual travels on foot directly between the Sanford Underground Lab administration building and a vehicle parked in the adjacent parking lot.

## 5.2. *Assessment Tools and Forms*

A number of tools and forms are used to assess training needs. Their use is described below.

5.2.1. The [Site Specific Hazard Training Checklist](#) aids in preparing the participant to recognize and avoid hazards in the area he/she will visit or perform work. This orientation is scope-refined to suit the activities of the participant by means of a checklist defining the information/training available.

A. [General Orientation](#) provides the participant with general information about Sanford Lab and insures the participant is aware of hazards relating to accessing the Administration Building. This may be developed as a “canned” presentation (video) that can be available to participants off-site. Personal Protective Equipment (PPE), Driving, and Environmental requirements specific to the activity are reviewed.

B. Additional checklists for [Surface](#) and [Underground](#) address those areas and a space for [Other Items](#).

5.2.2. [Standard Operating Procedure](#) is a stepwise analysis of the actions that must be taken to complete an ongoing or recurring process or procedure, including the specific steps that must be taken to complete the process or procedure. Individuals using the SOPs to perform a task must be trained on the content and requirements of the SOPs, and in addition an SOP may specify safety or equipment training as a prerequisite to utilizing that SOP. SOPs may be used by Lab Workers or by Vendors.

5.2.3. [Job Hazards Analysis](#) is a process that analyzes a project or process, assesses the hazards and prescribes the controls necessary to mitigate the hazards. Job Hazards Analysis is an integral part of Work Planning. Job Hazards Analyses prescribe training as administrative controls to be used to mitigate hazards.

A. JHAs are used by Vendors and Contractors to analyze specific focused activities of limited and clearly defined scope and location or to analyze significant non-recurring deviations from the vendor/ contractor’s own Standard Operating Procedures.

B. JHAs are used by Lab Workers to analyze unique or non-recurring projects or processes, or to analyze significant non-recurring deviations from Standard Operating Procedures. Different operating units within the Sanford Lab use different formats for job hazards analysis, but the end result is equivalent.

C. A list of currently [approved JHA’s](#) is kept in DocuShare.

5.2.4. [Lab Worker Orientation Checklist](#) is used as an “umbrella” document to assure that the new Lab Worker obtains the required items necessary to begin work at Sanford Lab. Completion of training assessment is one component of worker orientation.

5.2.5. The [Contractor Safety Policy](#) addresses the safety issues pertaining to contractor workers in their area and outlines their employee training and training documentation. Specific



Safety Plans are project documents and are maintained by the Project Manager for the duration of the project, and filed with the project file at closeout.

**5.2.6.** Training Assessment Worksheet determines the training appropriate to each individual. This worksheet includes a checklist of Functional Roles. Generally the Training Assessment Worksheet, the Site Specific Hazard Training Checklist and the Lab Worker Orientation Checklist are completed at the same time by the Supervisor in discussion with the Lab Worker. Training Assessment Worksheets are supported by the following tools:

- A. HAT – Job Functional Role Hazard Activity and Training documents list the activities associated with each job functional role, and identify the hazards, mitigation controls, and training (including qualifications, skills, certifications, etc.) to address those hazards. These will be kept on file by EHS and in the training documentation.
- B. The Training Matrix lists training (courses, SOPs, JHAs, equipment, etc.) assigned to a Functional Role. The Training Matrix also lists suggested completion times, refresher training intervals for selected training, and provides a way to document completed training. The Training Matrices are developed for the Functional Roles by the means of HAT (Hazard Activity and Training) forms.

Training Matrices for each individual are maintained in the EHS Training Department training management software. Periodically this system is queried and the training deficiencies and upcoming retraining requirements are generated. The EHS Training Department refers these lists to the applicable Responsible Person(s).

Training Assessment Worksheets apply to the individual Lab Worker. The Training Assessment Worksheet for a given Lab Worker summarizes training driven by one or more Training Matrices (which in turn summarizes training driven by JHAs, SOPs, and the like), plus any training the individual may need that is not included in a Functional role.

**5.2.7.** Training ID List provides reference numbers for the Safety Training, Task Training, Equipment Training, Standard Operating Procedures, and other courses of instruction that will satisfy the training requirements. A course of instruction is generally provided with a reference number if it has documented content and some sort of proficiency determination (exam, demonstration) at the conclusion. Minor training sessions such as toolbox training or pre-job daily briefings are generally not provided with reference numbers and are not tracked through administrative systems.

**5.2.8.** Certificate of Completion of Training records the completed training. The training course instructor completes the Certificate of Completion of Training and hands it in to the EHS Training Department to record and made available in the system. This information can then be accessed by name or task with the completion date.

### **5.3. Completion of Training**

The Responsible Person (Supervisor, non-supervisory Point of Contact) assures that the individual completes training as prescribed in the Training Assessment Worksheet, Job Hazards Analysis, Standard Operating Procedure, or other applicable assessment document. Refresher training must be completed per the schedule defined by the Training Matrix.

### **5.4. Reassessment of Training**

At least annually, or whenever the Individual's work changes, the Responsible Person must review the Individual's training assessment documentation and

- A. Verify that the assessment remains valid; or
- B. Update the results of the assessment.

If the reassessment shows additional training needs then the Responsible Person assures that the Individual acquires the additional training prior to performing the tasks that require that training (see #3 above).

## **6.0 REFERENCE AND RELATED DOCUMENTS**

### **6.1. Related Documents**

- Individuals authorized to provide Site-Specific Training (under development)
- [Site Specific Hazard Training Checklist](#)
- Standard Operating Procedures
  - Policy (under development)
  - Form (under development)
- Job Hazard Analysis / Work Action Planning
  - [Policy](#)
  - [Form](#)
  - [Currently approved JHA's](#)
- Laboratory Worker Orientation Checklist (under development)
- [Contractor Safety](#)
- Training Assessment Worksheet (under development)
- HAT- Job Functional Role Hazard Activity and Training (under development)
- Training Matrix
  - Template (under development)
  - Completed Training Matrices (under development)
- Training ID List (under development)
- [Certificate of Completion of Training](#)

### **6.2. Appendices**

- Appendix A: [Summary of Assessment, Training and Documentation Requirements](#)

## 7.0 SIGNATURE/APPROVAL PAGE


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## SUMMARY OF ASSESSMENT, TRAINING AND DOCUMENTATION REQUIREMENTS

Class of Participant	Assessment and Training Required	Documentation of Assessment and Training	Who Prepares Documentation?	Who Maintains Documentation?
<b>Casual Visitor</b> <ul style="list-style-type: none"> <li>• &lt;40 hr/year</li> <li>• Deminimus work inside Administration Building only, or Escort required outside of Administration Building</li> <li>• Above-ground only</li> <li>• Visitor badge only</li> </ul>	<ul style="list-style-type: none"> <li>• Site orientation pamphlets</li> <li>• No formal assessment required</li> </ul>	<ul style="list-style-type: none"> <li>• Visitor log/sign-in</li> </ul>	<ul style="list-style-type: none"> <li>• Responsible Person assures that Individual remains a “casual visitor”</li> <li>• Individual signs in daily</li> </ul>	<ul style="list-style-type: none"> <li>• Site Security</li> </ul>
<b>Non-Casual Visitor</b> <ul style="list-style-type: none"> <li>• &lt;40 hr/year</li> <li>• Visitor badge only</li> <li>• Any underground Visitor</li> </ul>	<ul style="list-style-type: none"> <li>• Site orientation pamphlets</li> </ul>	<ul style="list-style-type: none"> <li>• Visitor log/sign-in</li> </ul>	<ul style="list-style-type: none"> <li>• Individual signs in daily</li> </ul>	<ul style="list-style-type: none"> <li>• Site Security</li> </ul>
	<ul style="list-style-type: none"> <li>• Site-specific Hazard Training Checklist</li> <li>• Other documents and or training</li> </ul>	<ul style="list-style-type: none"> <li>• Completed and Signed Site-specific Hazard Training Checklist</li> </ul>	<ul style="list-style-type: none"> <li>• Authorized Person<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Responsible Person (maintain minimum 1 year after last day on site)</li> </ul>
<b>Vendor</b> <ul style="list-style-type: none"> <li>• Defined scope of work and location</li> <li>• Above-ground only</li> </ul>	<ul style="list-style-type: none"> <li>• Site-specific Hazard Training Checklist</li> </ul>	<ul style="list-style-type: none"> <li>• Completed and Signed Site-specific Hazard Training Checklist</li> </ul>	<ul style="list-style-type: none"> <li>• Authorized Person<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>• EHS Training Department</li> </ul>
	<ul style="list-style-type: none"> <li>• JHA or SOP for area and scope of work</li> </ul>	<ul style="list-style-type: none"> <li>• Completed and signed JHA or SOP</li> </ul>	<ul style="list-style-type: none"> <li>• Responsible Person</li> </ul>	<ul style="list-style-type: none"> <li>• JHA/SOP: Responsible Person for that Document</li> <li>• Training: EHS Database</li> </ul>

<sup>2</sup> The Director of Environment, Health and Safety authorizes individuals who may deliver Site Specific Hazard Training

Class of Participant	Assessment and Training Required	Documentation of Assessment and Training	Who Prepares Documentation?	Who Maintains Documentation?
<b>Contractor</b> <ul style="list-style-type: none"> <li>Defined scope of work and location</li> <li>Responsible Lab Worker as sponsor/Project Manager</li> </ul>	<ul style="list-style-type: none"> <li>Site-specific Hazard Training Checklist</li> </ul>	<ul style="list-style-type: none"> <li>Completed and Signed Site-specific Hazard Training Checklist</li> </ul>	<ul style="list-style-type: none"> <li>Authorized Person<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>EHS Training Department</li> </ul>
	<ul style="list-style-type: none"> <li>Specific Safety Plan</li> </ul>	<ul style="list-style-type: none"> <li>Approved Specific Safety Plan</li> </ul>	<ul style="list-style-type: none"> <li>Contractor</li> <li>Reviewed &amp; approved by Responsible Person, EH&amp;S</li> </ul>	<ul style="list-style-type: none"> <li>Responsible Person in Project Files</li> </ul>
<b>Lab Worker</b> <ul style="list-style-type: none"> <li>All other than above</li> <li>Includes employees, consultants, scientists, etc.</li> <li>Required for any non-contractor performing hands-on work</li> </ul>	<ul style="list-style-type: none"> <li>Lab Worker Orientation Checklist</li> </ul>	<ul style="list-style-type: none"> <li>Sign-off at each topic as applicable</li> </ul>	<ul style="list-style-type: none"> <li>Supervisor</li> </ul>	<ul style="list-style-type: none"> <li>Supervisor</li> </ul>
	<ul style="list-style-type: none"> <li>Site-specific Hazard Training Checklist</li> </ul>	<ul style="list-style-type: none"> <li>Completed and Signed Site-specific Hazard Training Checklist</li> </ul>	<ul style="list-style-type: none"> <li>Authorized Person<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>EHS Training Department</li> </ul>
	<ul style="list-style-type: none"> <li>Training Assessment Worksheet (TAW)</li> </ul>	<ul style="list-style-type: none"> <li>Completed Training Assessment Worksheet</li> </ul>	<ul style="list-style-type: none"> <li>Supervisor</li> </ul>	<ul style="list-style-type: none"> <li>TAW: Supervisor</li> <li>Training: EHS Training Department</li> </ul>
	<ul style="list-style-type: none"> <li>JHA or SOP for area and scope of work (referenced from the Training Assessment Worksheet or HAT)</li> </ul>	<ul style="list-style-type: none"> <li>Completed and signed JHA or SOP</li> </ul>	<ul style="list-style-type: none"> <li>Supervisor</li> </ul>	<ul style="list-style-type: none"> <li>JHA/SOP: Responsible Person for that Document</li> <li>Training: EHS Training Department</li> </ul>
	<ul style="list-style-type: none"> <li>Other Documents that may be required on a project- or individual basis</li> </ul>			

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