5. PERSONAL PROTECTIVE EQUIPMENT

This section provides guidance for the selection and use of PPE to be worn for project tasks and contingencies for upgrading and downgrading PPE. Types of PPE are generally divided into two broad categories: (1) respiratory protective equipment and (2) PPE. Both of these categories are incorporated into the standard two levels of protection (Levels C and D).

The purpose of personal protective clothing and equipment is to shield or isolate individuals from the chemical, physical, radiological, and safety hazards that may be encountered during project tasks when engineering and other controls are not feasible or cannot provide adequate protection. It is important to realize that no one PPE ensemble can protect against all hazards under all conditions and that proper work practices and adequate training will serve to augment PPE to provide the greatest level of protection to workers.

The environmental restoration (ER) PPE policy requires that field workers wear, as a minimum, sturdy leather boots above the ankles, safety glass with side shields, and hard hats. The HSO or Safety Professional will determine where and when this requirement will be invoked for each project.

The type of PPE will be selected, issued, used, and maintained in accordance with PRD-2001 or PRD-5121. Selection of the proper PPE is based on the following considerations:

- Specific conditions and nature of the tasks
- Potential contaminant routes of entry
- Physical form and chemical characteristics of hazardous materials, chemicals, and waste
- Toxicity of hazardous materials, chemicals, or waste that may be encountered
- Duration and intensity of exposure (acute or chronic)
- Compatibility of chemical(s) with PPE materials and potential for degradation or breakthrough
- Environmental conditions (e.g., humidity, heat, cold, rain)
- The hazard analysis (Section 2) evaluation of this HASP.

If radiological contamination is encountered at levels requiring the use of anticontamination (Anti-C) clothing, a task-specific RWP will be developed and MCP-432 will be followed.

The PPE requirement for specific project tasks is identified in Table 5-1. This list may be augmented by an SWP or RWP. Potential exposures and hazards will be monitored (as discussed in Section 3) during the course of the project to evaluate changing conditions and to determine PPE level adequacy and modifications.

Table 5-1. Task-based personal protective equipment requirements and modifications.

Task	Initial Level of Personal Protective Equipment	Upgrade Contingency	Downgrade Contingency	Upgrade or Downgrade Criteria	Personal Protective Equipment Modifications and Comments
Waste loading	D+	C	D	Upgrade to Level C if airborne concentrations exceed action limits. Downgrade to Level D if contact with waste containers can be avoided or surveys show no detectable contamination on surfaces.	Level C respiratory protection defined by the IH, based on airborne contaminant. Leather gloves for all material handling tasks.
Waste transport at task site	D	D+	N/A	Upgrade to Level D+ when attaching or removing straps if contamination is detected on the outside of waste containers.	D+ protective clothing consists of Tyvek hooded coveralls (or equivalent). Leather gloves.
Waste offloading in cells	D+	C	D	Upgrade to Level C if airborne levels exceed action limits. Downgrade to Level D if contact with waste containers can be avoided or surveys show no detectable contamination on surfaces.	Level C respiratory protection defined by the IH, based on airborne contaminant. Leather gloves for all material handling tasks.
Heavy equipment operations	D	D+	N/A	Upgrade to Level D+ if contact with waste material cannot be avoided.	D+ protective clothing consists of Tyvek hooded coveralls (or equivalent). Leather gloves.
Cell grading	D	C	N/A	Upgrade to Level C if airborne concentrations exceed the action limits.	Level C respiratory protection defined by the IH, based on airborne contaminant. Level C protective clothing consists of Tyvek hooded coveralls (or equivalent). Leather gloves for all material handling tasks.

Table 5-1. (continued).

Task	Initial Level of Personal Protective Equipment	Upgrade Contingency	Downgrade Contingency	Upgrade or Downgrade Criteria	Personal Protective Equipment Modifications and Comments
Equipment decontamination	C	C+	D+	Upgrade to Level C+ if splashing during decontamination of lead, cadmium, radiologically contaminated equipment cannot be avoided. Downgrade to Level D+ for decontamination of small items using spray and wipe decontamination methods.	Level C respiratory protection defined by the IH, based on airborne contaminant. Level C protective clothing consists of Tyvek (or equivalent) hooded coverall. Level C+ protective clothing consists of Saranex (or equivalent coated, hooded coverall). Leather gloves over nitrile for equipment and material handling before or after decontamination tasks. Double pair nitrile gloves during decontamination tasks.
Drilling, Sampling, Field Screening	D+	C	D	Upgrade to Level C if airborne concentrations exceed action limits. Downgrade to Level D if contact with waste containers can be avoided or surveys show no detectable contamination on surfaces.	Level C respiratory protection defined by IH, based on airborne contaminant. Leather gloves for all material handling tasks.

5.1 Respiratory Protection

In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective will be to prevent atmospheric contamination. This will be accomplished as far as feasible by accepted engineering control measures (e.g., enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators will be selected and used.

Required task-based respiratory protection and protective clothing are listed on Table 5-1. Respirators will or will not be required for specific project tasks. All personnel required to wear respirators will complete training and be fit-tested before being assigned a respirator in accordance with the training and documentation requirements in Section 6. Requirements for respirator use, emergency use, storage, cleaning, and maintenance, as stated in the MCP-2726, "Respiratory Protection," will be followed.

5.2 Personal Protective Equipment Levels

Table 5-2 lists PPE requirements for the two levels of PPE that may be worn during the course of the project. Applicable PPE levels (Level D) will be required for conducting project tasks. Modifications to these levels will be made under the direction of the HSO in consultation with the project Industrial Hygiene and RadCon personnel, as appropriate. Such modifications are routinely employed during HAZWOPER site activities to maximize efficiency and to meet site-specific needs without compromising personnel safety and health.

5.2.1 Level D Personal Protective Equipment

Level D PPE will only be selected for protective clothing and not on a site with respiratory or skin absorption hazards requiring whole-body protection. Level D PPE provides no protection against airborne chemical hazards, but rather is used for protection against surface contamination and physical hazards. Level D PPE will only be allowed in areas that have been characterized as having limited contamination hazards.

5.2.2 Level C Personal Protective Equipment

Level C PPE will be worn when the task site (chemical or radiological) contaminants have been well-characterized indicating that personnel are protected from airborne exposures by wearing an air-purifying respirator with the appropriate cartridges, no oxygen-deficient environments exist (less than 19.5% at sea level), and that there are no conditions that pose immediate danger to life or health (IDLH).

Table 5-2. Levels and options of personal protective equipment.

Personal Protective Equipment Level	Personal Protective Equipment Required	Optional Personal Protective Equipment or Modifications
D	Coveralls or standard work clothes (coverall material type based on IH determination) Hard hat (unless working indoors with no overhead or falling debris hazards) meeting ANSI Z89.1 requirements Eye protection (safety glasses meeting ANSI Z87.1 requirements as a minimum) Hand protection (material based on type of work and hazardous materials being handled) Safety footwear (steel or protective toe and shank) meeting ANSI Z41 requirements or sturdy leather above the ankle for construction tasks.	Chemical or radiological protective clothing (Tyvek or Saranex) by the IH or RCT Chemically resistant hand and foot protection (e.g., inner and outer gloves and boot liners) Radiological modesty garments under outer protective clothing (as required by the RWP) Any specialized protective equipment (e.g., hearing protection, cryogenic gloves, face shields, welding goggles, and aprons).
C	Level D ensemble with the following respiratory and whole-body protection upgrades:[a] • Full-facepiece air purifying respirator equipped with a National Institute of Occupational Safety and Health-approved high-efficiency particulate air (HEPA) filter or chemical combination cartridge (IH to specify cartridge type) **OR** • An air hood operating at a minimum pressure of 6 cfm or a full-facepiece supplied air respirator with a 10-minute escape bottle, a self-contained breathing apparatus (SCBA) or an escape air-purifying combination HEPA or chemical cartridge (supplied air respirator hose length no more than manufacturer's specification and, under no circumstances, greater than 91m [300 ft]) • Standard Tyvek (or equivalent) coverall **OR** • Chemical-resistant coveralls (e.g., Tyvek QC, Tychem 7500, or Saranex-23-P) (IH to specify material).	Chemical-resistant outer shoe or boot cover (IH or RCT to specify material) Inner chemical-resistant gloves with cotton liners (as determined by the IH and RWP) Outer chemical-resistant gloves (as determined by the IH) Radiological modesty garments under outer protective clothing (as required by RWP) Any specialized protective equipment (e.g., hearing protection, welding lens, and aprons).

a. Upgrades are determined by the industrial hygienist (IH) in conjunction with other environment, safety, and health professionals.

Note: Personnel must inspect all PPE before donning and entry into any work zone. Items found to be defective or that become unserviceable during use, will be doffed and disposed of in accordance with posted procedures and placed into the appropriate waste stream. The PPE inspection guidance is provided in Table 5-3.

5.3 Personal Protective Clothing Upgrading and Downgrading

The project HSO, in consultation with the project IH (and RadCon personnel), will be responsible for determining when to upgrade or downgrade PPE requirements. Upgrading or downgrading of PPE based on changing site conditions or activities is a normal occurrence. Action levels listed in Table 3-2 serve as the initial basis for making such decisions. Additional reasons for upgrading or downgrading are listed in the following subsections.

5.3.1 Upgrading Criteria for Personal Protective Equipment

The level of PPE required will be upgraded for the following reasons and work will halt until PPE upgrading has been completed:

- Identification of new, unstable, or unpredictable site hazards
- Temporary loss or failure of any engineering controls
- Contaminants that present difficulty in monitoring or detecting
- Known or suspected presence of skin absorption hazards
- Identified source or potential source of respiratory hazard(s) not anticipated
- Change in the task procedure that may result in an increased contact with contaminants or meeting any of the criteria listed above.

5.3.2 Downgrading Criteria

The level of PPE will be downgraded under the following conditions:

- Elimination of hazard or completion of task(s) requiring specific PPE
- Implementation of new engineering or administrative controls that eliminate or significantly mitigate hazard
- Sampling information or monitoring data that show the contaminant levels to be stable and lower than established action limits
- Elimination of potential skin absorption or contact hazards.

5.4 Inspection of Personal Protective Equipment

All PPE ensemble components must be inspected before use and when in use within project work zones. Self-inspection and the use of the buddy system, once PPE is donned, will serve as the principle

forms of inspection. If PPE should become damaged or degradation or permeation is suspected, the individual wearing the PPE will inform others of the problem and proceed directly to the work zone exit point to doff and replace the unserviceable PPE. (In addition, all PPE that becomes grossly contaminated or presents a potential source for the spread of such contamination will be required to be decontaminated or replaced). Table 5-3 provides an inspection checklist for common PPE items. Where specialized protective clothing or respiratory protection is used or required, the manufacturer's inspection requirements in conjunction with regulatory or industry inspection practices will be followed. Consult the project IH, safety professional, and RCT about PPE inspection criteria.

Table 5-3. Inspection checklist for personal protection equipment.

Personal Protection Equipment Item	Inspection
Respirators (full-facepiece air-purifying)	**Before use:** Check condition of the facepiece, head straps, valves, fittings, and all connections for tightness. Check cartridge to ensure proper type or combination are being used for atmospheric hazards to be encountered, and inspect threads and O-rings for pliability, deterioration, and distortion.
Level D and C clothing	**Before use:** Visually inspect for imperfect seams, nonuniform coatings, and tears Hold PPE up to the light and inspect for pinholes, deterioration, stiffness, and cracks. **While wearing in the work zone:** Inspect for evidence of chemical attack such as discoloration, swelling, softening, and material degradation Inspect for tears, punctures, and zipper or seam damage Check all taped areas to ensure they are still intact.
Gloves	**Before use:** Pressurize rubber gloves to check for pinholes: blow in the glove, then roll until air is trapped and inspect. No air should escape. **Leather gloves:** Inspect seams and glove surface for tears and splitting and verify no permeation has taken place.

6. PERSONNEL TRAINING

All INEEL personnel will receive training, as specified in 29 CFR 1910.120 and INEEL companywide manuals as applicable. Table 6-1 summarizes the project-specific training requirements for personnel-based access requirements, responsibilities at the project site, potential hazards, and training level requirements.

Modifications (e.g., additions to or elimination of) to training requirements listed in Table 6-1 may be necessary based on changing field conditions. Any changes to the requirements listed in Table 6-1 must be approved by the HSO, with concurrence from the FTL, project manager, RCT, and IH, as applicable. These changes should be based on site-specific conditions and will generally be considered a minor change to the HASP, as defined by instructions from Form 412.11, "Document Management Control Systems (DMCS) Document Action Request (DAR)," because they are administrative in nature.

6.1 General Training

All project personnel are responsible for meeting training requirements including applicable refresher training. Evidence of training will be maintained at the project site, field administrative location, or electronically (e.g., Training Records and Information Network [TRAIN] [INEEL 2001]). Nonfield team personnel and visitors must be able to provide evidence of meeting required training for the area of the site they wish to access before being allowed into a project area. As a minimum, all personnel who access project locations must receive a site-specific briefing, are required to wear PPE, and must provide objective evidence of having completed INEEL computer-based PPE training (00TRN 288, "Personal Protective Equipment") or equivalent, in accordance with 29 CFR 1910.132, "Personal Protective Equipment."

6.2 Project-Specific Training

Before beginning work at the project site, field team members will receive project-specific HASP training that will be conducted by the HSO (or designee). This training will consist of a complete review of (1) a controlled copy of the project HASP, attachments, and document action requests, (2) applicable job safety analyses (JSAs) and SWPs (if required), (3) work orders, and (4) other applicable work control and work authorization documents, with time for discussion and questions. Project-specific training can be conducted in conjunction with, or separately from, the required formal prejob briefing (MCP-3003).

At the time of project-specific HASP training, personnel training records will be checked and verified to be current and complete for all the training requirements shown in Table 6-1. After the HSO (or designee) has completed the site-specific training, personnel will sign Form 361.25, "Group Read and Sign Training Roster," or equivalent, indicating that they have (1) received this training, (2) understand the project tasks, associated hazards and mitigations, and (3) agree to follow all HASP and other applicable work control and safety requirements. Form 361.25 (or equivalent) training forms are available on the INEEL Intranet under "Forms."

A trained HAZWOPER 8-hour supervisor (FTL or other person who has been trained by the HAZWOPER supervisor) will monitor the performance of each newly 24-hour or 40-hour trained worker to meet the 1 or 3 days of supervised field experience, respectively, in accordance with 29 CFR 1926.120(e). Following the supervised field experience period, the supervisor will complete Form 361.47, "HAZWOPER Supervised Field Experience Verification," or equivalent, to document the supervised field experience.

Table 6-1. Required project-specific training.

Required Training	Field Team Leader, Health and Safety Officer, and Samplers	Other Field Team Members	Access into the Designated or Controlled Work Area	Access to Project Areas Outside Designated or Controlled Work Area
40-hour hazardous waste operations (HAZWOPER)[a] - operations	Yes	b	b	
24-hour HAZWOPER[a] - operations		b	b	
Project-specific health and safety plan training[c]	Yes	Yes	Yes	
Project-site orientation briefing[d]				Yes
Fire extinguisher training (or equivalent)	e	e		
Cardiopulmonary resuscitation, medic first-aid	e	e		
Respirator training (contingency only)	f	f		
Lead and cadmium awareness training	Yes	g	g	

Note: Shaded fields indicate specific training is not required or applicable.

a. Includes 8-hour hazardous waste operations (HAZWOPER) refresher training as applicable, and supervised field experience as follows: 40-hour HAZWOPER = 24-hour supervised field experience and 24-hour HAZWOPER = 8-hour supervised field experience.

b. 40-hour or 24-hour HAZWOPER training requirement will be determined by the HSO based on the nature of the project tasks and potential for exposure to contaminants or safety hazards.

c. Includes project-specific hazards communications (29 CFR 1910.120), site-access and security, decontamination and emergency response actions, as required by 29 CFR 1910.120(e).

d. Orientation includes briefing of site hazards, designated work areas, emergency response actions, and PPE requirements. Personnel receiving project-site orientation briefing only are limited to the areas outside designated work areas and must be escorted by a project supervisor or designee who is fully trained on the requirements of the health and safety plan.

e. At least one trained person onsite when field team is working and the health and safety officer will determine appropriate number of personnel requiring training.

f. Only required if entering area requiring respiratory protection (e.g., action levels exceeded or the industrial hygienist sampling shows respirators required).

g. Only if entering areas where initial exposure determination indicates exposure above the action limit is possible.

Note 1: Supervised field experience is only required if personnel have not previously completed this training at another Comprehensive Environmental, Response, Compensation and Liability Act (CERCLA) (42 USC § 9601) site (documented), or they are upgrading from 24- to 40-hour HAZWOPER training. A copy of the training record must be kept at the project site as evidence of training or be available electronically.

Note 2: Completed training project forms (Form 361.47, or equivalent) should be submitted to the Environmental Restoration (ER) Program training coordinator for inclusion in the Training Records and Information Network system within 5 working days of completion.

6.3 Plan of the Day Briefing, Feedback, and Lessons Learned

A daily plan-of-the-day (POD) or equivalent meeting will be conducted by the FTL or designee. During this meeting, daily tasks are to be outlined; hazards identified; hazard controls, mitigation, and work zones established; PPE requirements discussed; and feedback from personnel solicited. At the completion of this meeting, any new work control documents will be reviewed and signed (e.g., SWP, JSA, or RWP).

Note: If a formal MCP-3003 prejob briefing is conducted during the work shift, a POD is not required.

Particular emphasis will be placed on lessons learned from the previous workday's activities and how tasks can be completed in the safest, most efficient manner. All personnel are encouraged to contribute ideas to enhance worker safety and mitigate potential exposures at the project sites. This POD will be conducted as an informal meeting and the only required record will be to document the completion of the POD in the FTL or construction engineer or subcontractor technical representative logbook.

Safety and health topic-specific training or safety meetings may also be conducted during the course of the project to reinforce key safety topics. They may be conducted by project safety and the industrial hygienist or any field team member and should be performed in conjunction with the POD. Credit for a safety meeting can be received for such topic-specific training if a tailgate training form (INEEL Form 361.24, "Tailgate Attendance Roster," or equivalent) is completed and submitted to the appropriate training coordinator for Training Records and Information Network.

7. SITE CONTROL AND SECURITY

Site control and security will be maintained at the project site during all activities to prevent unauthorized personnel from entering the work area. Entry into and exit out of these areas will be controlled through the appropriate use of barriers, signs, and other measures in accordance with PRD-2022, "Safety Signs, Color Codes, and Barriers," or PRD-5117, "Accident Prevention Signs, Tags, Barriers, and Color codes."

The HSO and Safety Professional should be consulted regarding equipment layout at the project site (in conjunction with the Subcontractor Superintendent for subcontractor-owned equipment) to minimize personnel hazards from equipment. The focus should be on equipment with stored energy (electrical, pressurized systems, elevated materials/equipment, chemical), moving and rotating parts (equipment that is guarded and that has open rotating parts such as a drill rig), and other equipment with the potential to result in personnel injuries from being struck-by, caught-between, or entangled in such equipment. The layout at the project site of equipment should reflect the nature of the hazard presented and should be mitigated through the use of engineering controls (barriers, guards, isolation), administrative controls (roped off restricted areas or controlled entry access), and qualifications of operators and those assisting in the operation of the equipment, when required.

Good housekeeping will be maintained at all time during the course of the project to include maintaining working and walking surfaces to minimize tripping hazards, stacking or storing materials and equipment in a centralized location when not in use, and regular cleanup of debris and trash that may accumulate at the project site.

Both radiological and nonradiological hazards (including industrial safety hazards will be evaluated when establishing the initial work zone size, configuration, and location. Figure 7-1 illustrates an example of work zones that may be established at the project task site, based on HSO/RCT/IH recommendations. Common barriers may be used to delineate both radiological and nonradiological work-zone postings, depending on the nature and extent of contamination. If common barriers are used, they will be delineated and posted in accordance with both sets of requirements (29 CFR 1910.120 and 10 CFR 835), using appropriately colored rope and postings. These zones may change in size and location as project tasks evolve, based on project monitoring data, and as wind direction changes. Additionally, entrance and egress points will change based on these same factors. Work zones may include:

- Support Zone (SZ) (controlled area)
- Contamination Reduction Zone (CRZ), Radiological Buffer Area (RBA), including a contamination reduction corridor (CRC) if radiological hazards are present
- Exclusion Zone (EZ), Radiation Area (RA), High Radiation Area (HRA), Contamination Area (CA), HIgh Contamination Area (HCA), or Very High Radiation Area (VHRA).

Visitors may be admitted into work areas provided they (1) are on official business; (2) have received site-specific training or orientation by the FTL or designee; (3) have met all the site-specific training requirements for the area they have a demonstrated need to access (including PPE training), as listed on 6-1; and (4) wear all required PPE.

Note: Visitors may not be allowed into controlled work areas during certain tasks to minimize risks to workers and visitors. The determination as to any visitor's need for access into the controlled work area will be made by the FTL in consultation with the HSO.

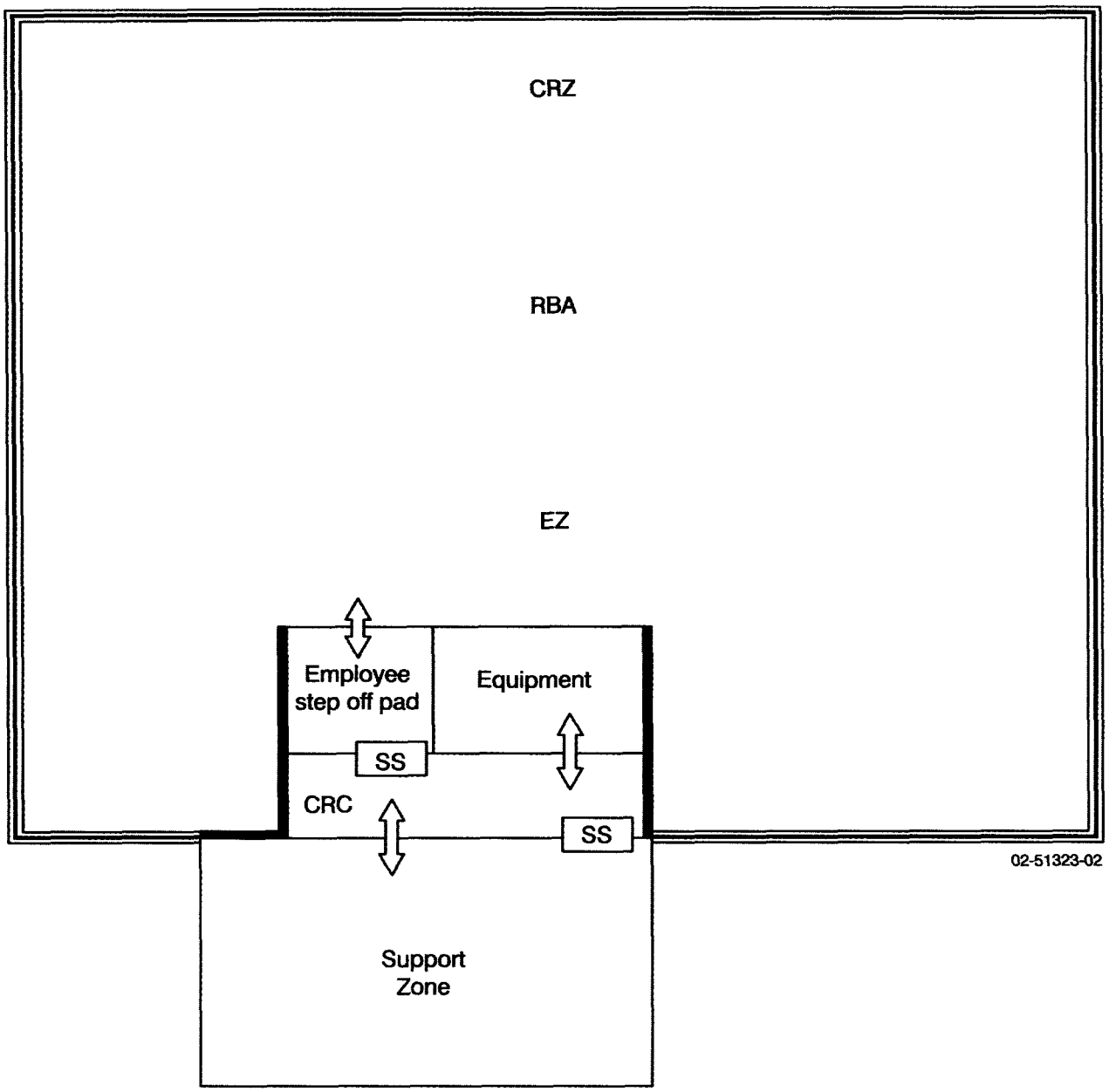

Figure 7-1. Work zone example.

7.1 Exclusion Zone

The exclusion zone (EZ) will be large enough to encompass the primary task area for sampling and to allow equipment and personnel to move about freely and conduct necessary tasks. The minimum number of personnel required to safely perform project tasks will be allowed into the EZ. If the EZ will be relocated to another site or reconfigured, it will be delineated in a configuration large enough to prevent nonfield team personnel in the support zone (SZ) from being exposed to potential safety and health hazards. The EZ shape and size will be based on the tasks being conducted, existing structures and facilities, and potential for impact to adjacent areas from project tasks or contaminants.

The EZ is a controlled access zone at all times. An entry and exit point will be established at the periphery of the EZ and the contamination reduction corridor (CRC) to regulate the flow of personnel and equipment. The EZ boundary will be delineated with rope or printed hazard ribbon and posted with signs in accordance with PRD-5117 or PRD-2022.

Factors that will be considered when establishing the EZ boundary include (1) tasks being conducted, (2) air monitoring data, (3) radiological contamination data, (5) radiation fields, (6) equipment in use, (7) the physical area necessary to conduct site operations, and (8) the potential for contaminants to be blown from the area. The boundary may be expanded or contracted as these factors change or additional monitoring information becomes available. All personnel who enter the EZ will wear the appropriate level of PPE for the hazards present and have required training as listed in Sections 5 and 6 of this HASP, respectively.

7.2 Contamination Reduction Zone and Corridor

The contamination reduction zone (CRZ) and the contamination reduction corridor (CRC) are transition areas surrounding the EZ and are located between the EZ and SZ. The CRC may not be formally delineated, but will be designated by the travel path from the established CRZ-controlled entry and exit point and the EZ entry and exit point. The CRZ and CRC will serve to buffer the SZ from potentially contaminated EZ areas. The CRZ and CRC may serve as staging areas for equipment and temporary rest areas for personnel.

7.3 Support Zone

The support zone (SZ) will be considered a "clean" area. The location of the SZ will be in a prevailing upwind direction from the EZ (where possible) and readily accessible from the nearest road. The SZ is a designated area or building outside the CRZ and does not have to be delineated. Support trailers, vehicle parking, additional emergency equipment, extra PPE, and stored monitoring and sampling equipment may be located in the SZ. Visitors who do not have appropriate training to enter other project areas will be restricted to this zone.

7.4 Radiological Control and Release of Materials

Potential radiologically contaminated items or equipment will not be released until required radiological surveys have been completed (e.g., hand-held instruments and swipes) in accordance with MCP-139, "Radiological Surveys," MCP-425,"Radiological Release Surveys, and the Disposition of Contaminated Materials," as stated in the RWP, and as directed by RadCon personnel.

7.5 Site Security

All project site areas will be secured and controlled during normal work hours as described in the previous sections. These include TSF-06/26 Sites at WAG 1, OU 1-10. During nonworking hours, the general project sites located inside INEEL facilities are controlled by the facility fence and normal security access requirements. However, additional project site security and control will be required to prevent unauthorized personnel from entering the project area and being exposed to potential safety or health hazards. This will be accomplished by delineating project areas with rope boundaries and posting where hazards are left unmitigated (e.g., open trenches, exposed contaminated soils, or equipment left onsite). Signage will be left in place during off-hours and weekends to prevent personnel from inadvertently entering the area.

The FTL has the primary responsibility for ensuring that the project area is secured. The HSO and RadCon (where required) will ensure that all health and safety and radiological postings of the area are intact when leaving the site and will be responsible for maintaining them for the duration of the project. Project personnel are trained about site access and control requirements during project-specific HASP training and will not cross roped areas without the proper training and authorization, regardless of whether a sign is in place or not.

Note: Signs are routinely lost because of high winds and will be replaced as soon as possible the next working day following discovery.

7.6 Wash Facilities and Designated Eating Areas

Ingestion of hazardous substances is possible when workers do not practice good personal hygiene habits. It is important to wash hands, face, and other exposed skin thoroughly after completion of work and before smoking, eating, drinking, and chewing gum or tobacco. For project personnel, designated eating area and wash facilities will be provided.

7.7 Designated Smoking Area

Smoking areas will be designated and personnel will comply with all INEEL smoking polices including disposing of smoking materials in the proper receptacle. Smoking will not be permitted outside facilities without establishing a designated smoking area. The project safety professional in consultation with the designated fire protection engineer will be the single point of contact for establishing any smoking area outside facilities and such areas may not be permitted at certain times of the year because of high or extreme fire danger.

8. OCCUPATIONAL MEDICAL SURVEILLANCE

Task-site personnel will participate in the INEEL occupational medical surveillance program (or equivalent subcontractor program), as required by DOE Order 440.1, "Worker Protection Management for DOE Federal and Contractor Employees," and 29 CFR 1910.120. Medical surveillance examinations will be provided before assignment, annually, and after termination of HAZWOPER duties or employment. This includes:

- Personnel who are, or may be, exposed to hazardous substances at or above the OSHA permissible exposure limit (PEL), or published exposure limits, without regard to respirator use for 30 or more days per year

- All employees who are injured, become ill, or develop signs or symptoms because of possible overexposure involving hazardous substances or health hazards from an emergency response or hazardous waste operation

- All employees who wear a respirator for 30 days or more a year or as required by "Respiratory Protection (29 CFR 1910.134)."

Personnel who wear a respirator in performance of their job, or who are required to take respirator training to perform their duties under this plan, must participate in the medical evaluation program for respirator use at least annually, as required by MCP-2726, "Respiratory Protection."

A single copy of the project HASP, job hazard analysis requirements, required PPE, confined space entry requirements (as applicable), and other exposure-related information will be made available, upon request, to the INEEL OMP physician (and subcontractor physician) conducting medical surveillance for employees participating in this project. Exposure monitoring results and hazard information furnished to the OMP physician will be supplemented or updated annually (as stated in Section 12) as long as the employee is required to maintain a hazardous waste and material employee medical clearance. The OMP physician will then evaluate the physical ability of an employee to perform the work assigned.

A documented medical clearance (e.g., a physician's written opinion) will be provided to the employee and line management stating whether the employee has any detected medical condition that would place him or her at increased risk of health impairment from working in hazardous waste operations, emergency response operations, respirator use areas, and confined space areas, as applicable. The physician may impose restrictions on the employee by limiting the amount and type of work performed.

Personnel are responsible for communicating any work or medical restrictions to their supervisor so modified work assignments can be made if necessary. During the MCP-3003 prejob briefing, the supervisor conducting the briefing should ask workers if they have any work restrictions. However, it is the employees' responsibility to inform the supervisor of any work or medical restrictions.

8.1 Subcontractor Workers

Subcontractor project personnel will participate in a subcontractor medical surveillance program that satisfies the applicable requirements of 29 CFR 1910.120. This program must make medical examinations available before assignment, annually, and after termination of hazardous waste duties as stated above. The physician's written opinion, as defined by 29 CFR 1910.120(f)(7) (or equivalent), will serve as documentation that subcontractor personnel are fit for duty or will list work restrictions.

Medical data from the subcontractor employee's private physician, collected pursuant to hazardous material worker qualification, will be made available to the INEEL OMP physician on request.

8.2 Injuries on the Site

It is the policy of the INEEL that an INEEL OMP physician examine all injured personnel for the following reasons:

- An employee is injured on the job
- An employee is experiencing signs and symptoms consistent with exposure to a hazardous material
- An employee is believed to have been exposed to toxic substances or physical or radiological agents in excess of allowable limits during the course of a project at the INEEL.

Note: In the event of an illness or injury, the decision to provide first aid and transport to the nearest medical facility or whether to immediately request an ambulance and continue to stabilize and provide first aid should be based on the nature of the injury or illness and likelihood that transporting the individual may cause further injury or harm. Most likely, the person making this decision will only be trained to the medic first/CPR level and should contact the Test Area North (TAN) medical facility at 777 or 526-6263, or the Central Facilities Area (CFA) medical facility (777 or 526-1515), for further guidance if there is any question as to the extent of injury or potential to cause further harm by movement of the injured individual.

In the event of a known or suspected injury or illness caused by exposure to a hazardous substance or physical or radiological agent, the employee will be transported to the nearest INEEL medical facility for evaluation and treatment, as necessary. The HSO and FTL are responsible for obtaining as much of the following information as is available to accompany the individual to the medical facility:

- Name, job title, work (site) location, and supervisor's name and phone number
- Substance, physical or radiological agent exposed to (known or suspected), and material safety data sheet, if available
- Nature of the incident and injury or exposure and associated signs or symptoms of exposure
- First aid or other measures taken
- Locations, dates, and results of any relevant personal or area exposure monitoring or sampling
- List of PPE worn during this work (e.g., type of respirator and cartridge used).

Further medical evaluation will be determined by the treating or examining physician in accordance with the signs and symptoms observed, hazard involved, exposure level, and specific medical surveillance requirements established by the OMP director in compliance with 29 CFR 1910.120.

Note: In the event of an illness or injury, subcontractor employees will be taken to the closest INEEL medical facility (if doing so will not cause further injury or harm) or be transported by INEEL ambulance to have an injury stabilized before transport to the subcontractor's treating physician or off-Site medical facility.

The TAN shift supervisor will be contacted if any injury or illness occurs at a project site. As soon as possible after an injured employee has been transported to the INEEL medical facility, the FTL or designee will make notifications as indicated in Section 10.

9. PROJECT ORGANIZATION AND RESPONSIBILITIES

The organizational structure illustrated in Figure 9-1 presents an overview of the general resources and expertise required to perform the work while minimizing risks to worker health and safety. The following sections outline responsibilities of key site personnel.

9.1 Key Personnel Responsibilities

Responsibilities for key personnel associated with the field activities described in this HASP are described in the following sections and the organizational chart (Figure 9-1).

9.1.1 TAN Closure Completion Project Director (or designee)

The TAN Closure Completion Project Director has ultimate responsibility for the technical quality of all projects, the maintenance of a safe environment, and the safety and health of all personnel during field activities performed by or for the ER program. The project director provides technical coordination and interfaces with DOE-ID. The project director ensures the following:

- Project/program activities are conducted in accordance with the Occupational Safety and Health Administration (OSHA), DOE, EPA, and IDEQ requirements and agreements
- Program budgets and schedules are approved and monitored to be within budgetary guidelines
- Personnel, equipment, subcontractors, and services are available
- Direction is provided for tasks development, findings evaluation, conclusions and recommendations development, and reports production.

The TAN site Project Director (or designee) is responsible for several functions and processes in the TAN area, including the following:

- Overseeing all work processes and work packages performed at TAN
- Establishing and executing a monthly, weekly, and daily operating plan for TAN
- Executing the Environmental, Safety, Health, and Quality Assurance program for TAN
- Executing the Integrated Safety Management System for TAN
- Executing the Enhanced Work Planning for TAN
- Executing the Voluntary Protection Program at TAN
- Ensuring environmental compliance within TAN
- Executing the portion of the voluntary compliance order that pertains to TAN
- Correcting the root cause functions of accident investigations at TAN
- Correcting the root cause functions of the voluntary compliance order for TAN.

9.1.2 Project Manager

The WAG 1 project manager (PM) or designee (e.g., OU 1-10 RD/RA PM) will ensure that all project activities are in compliance with the following guidelines and regulations:

- INEEL MCPs and program requirements directives (PRDs)
- The Quality Assurance Project Plan (QAPjP) (DOE-ID 2000a), and the project HASP
- All applicable OSHA, EPA, DOE, DOT, and State of Idaho requirements.

The PM is responsible for the overall work scope, schedule, and budget, including such tasks as the following:

- Developing resource loaded, time-phased control account plans based on the project's technical requirements, budgets, schedules, and project tasks
- Coordinating all document preparation, field, laboratory, and modeling activities
- Implementing the project requirements and ensuring that work is performed as planned.

The PM will ensure that employee job function evaluations (INEEL Form 340.02) are completed for all project employees, reviewed by the project industrial hygienist (IH) for validation, and submitted to the Occupational Medical Program (OMP) for determination of necessary medical evaluations.

Other functions and responsibilities of the PM include:

- Developing the documentation required to support the project
- Ensuring the technical review and acceptance of all project documentation
- Developing the site-specific plans required by the ER program, such as work plans, environmental, safety, and health (ES&H) plans, and sampling and analysis plans (SAPs)
- Ensuring that project activities and deliverables meet schedule and scope requirements, as described in the FFA/CO, Attachment A, "Action Plan for Implementation of the Federal Facility Agreement and Consent Order," (DOE-ID 1991) and applicable guidance
- Supporting the CERCLA and National Environmental Policy Act (NEPA) public review and comment processes by identifying their requirements and scheduling and organizing required review and comment activities
- Identifying the subproject technology needs
- Coordinating and interfacing with the units within the program support organization on issues relating to quality assurance, ES&H, and NEPA support for the project
- Coordinating site-specific data collection, review for technical adequacy, and data input to an approved database
- Coordinating and interfacing with subcontractors to ensure milestones are met, adequate management support is in place, technical scope is planned and executed appropriately, and project costs are kept within budget.

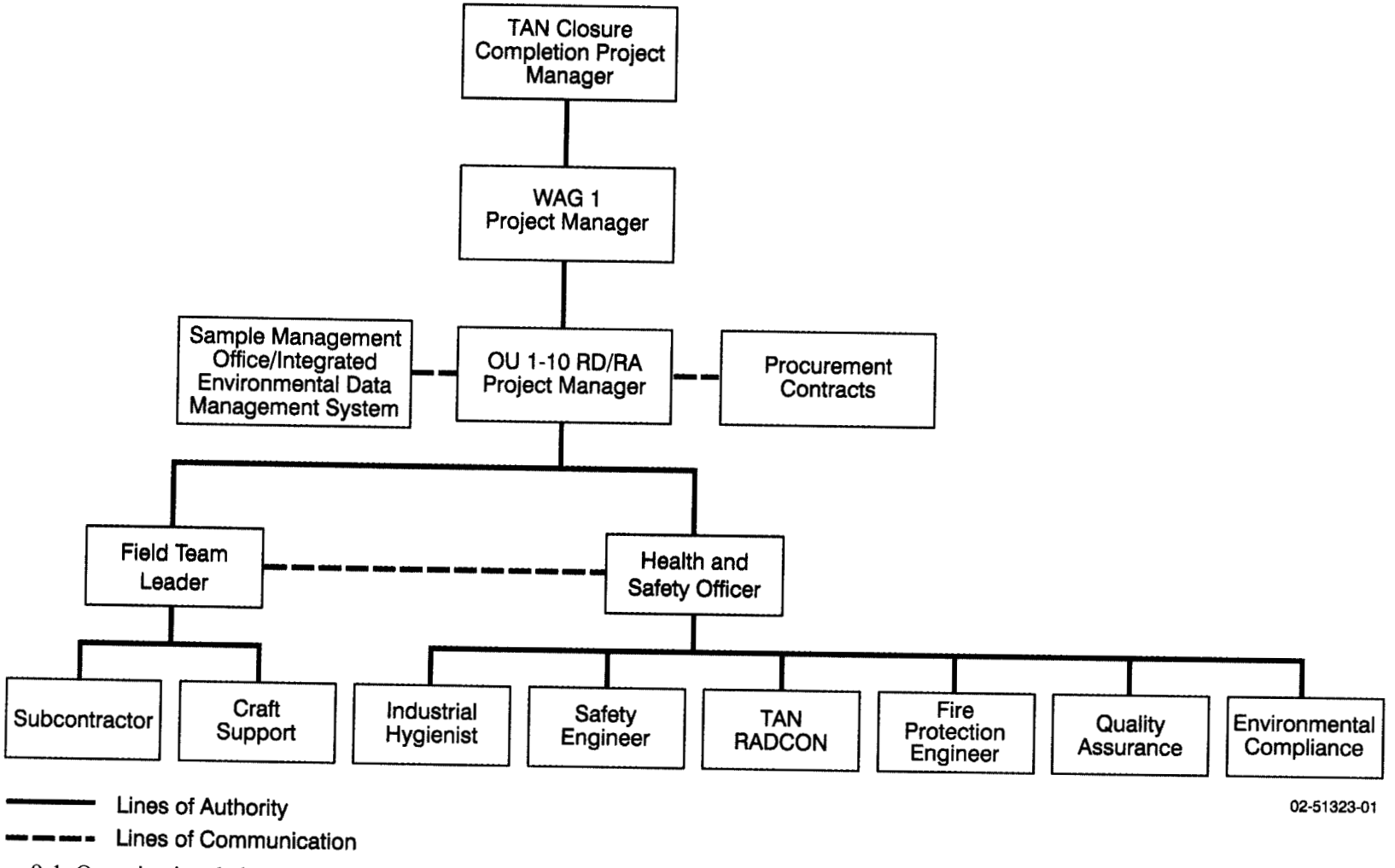

Figure 9-1. Organizational chart.

9.1.3 Health and Safety Officer

The health and safety officer (HSO) assigned to the task site serves as the primary contact for all health and safety issues. The HSO advises the FTL on all aspects of health and safety, and is authorized to stop work at the site if any operation threatens worker or public health and/or safety. As appropriate, the HSO is authorized to verify compliance to the HASP to conduct conformance inspections and self-assessments, require and monitor corrective actions, and monitor decontamination procedures. The HSO may be assigned other specific responsibilities, as stated in other sections of the project HASP, as long as they do not interfere with the primary responsibilities.

Other ES&H professionals at the task site, such as the safety engineer (SE), IH, RCT, environmental coordinator, and facility representative, support the HSO as necessary.

Personnel assigned as the HSO, or alternate HSO, must be qualified (per the OSHA definition) to recognize and evaluate hazards, and will be given the authority to take or direct actions to ensure that workers are protected. While the HSO may also be the IH, SE, or, in some cases, the FTL (depending on the hazards, complexity, and size of the activity involved, and required concurrence from the ER safety and health compliance officer), other task-site responsibilities of the HSO must not conflict (philosophically or in terms of significant added volume of work) with the role of the HSO at the task site.

If it is necessary for the HSO to leave the site, an alternate individual will be appointed by the HSO to fulfill this role, and the identity of the acting HSO will be recorded in the FTL logbook and communicated to task-site personnel.

Note: *The HSO will ensure the appropriate Environmental, Safety, Health, and Quality Assurance personnel participate in the development and verification of the hazards screening profile checklist in accordance with relevant INEEL work control processes.*

9.1.4 Industrial Hygienist

The industrial hygienist (IH) is the primary source of information regarding nonradiological hazardous and toxic agents at the work site. The IH will be present at the task site during any work operations involving either existing or anticipated chemical hazards to operations personnel.

The IH assesses the potential for worker exposure to hazardous agents in accordance with INEEL procedures and the project HASP, assesses and recommends appropriate hazard controls for protection of work site personnel, reviews the effectiveness of monitoring and PPE required in the project HASP, and recommends changes as appropriate.

Following an evacuation, the IH will assist in determining whether conditions at the task site are safe for reentry. Personnel showing health effects resulting from possible exposure to hazardous agents will be referred to the OMP by the IH, their supervisor, or the HSO. The IH may have other duties at the task site, as specified in other sections of the project HASP, or company procedures and manuals. During emergencies involving hazardous material, members of the Emergency Response Organization will perform IH measurements.

9.1.5 Safety Engineer

The assigned safety engineer (SE) reviews work packages, observes work site activity, assesses compliance with the project HASP, signs safe work permits, advises the FTL on required safety equipment, answers questions on safety issues and concerns, and recommends solutions to safety issues and concerns that arise at the task site. The SE may conduct periodic inspections, and have other duties at

the task site as specified in other sections of the project HASP, or in PRDs and/or MCPs. Copies of inspections will be kept in the project field file.

9.1.6 Fire Protection Engineer

The assigned fire protection engineer reviews the work packages, conducts preoperational and operational fire hazard assessments, and is responsible for providing technical guidance to site personnel regarding all fire protection issues.

9.1.7 Radiological Control Technician

The radiological control technician (RCT) is the primary source of information and guidance on radiological hazards that may be encountered during drilling and sampling tasks. The RCT will be present at the task site during any work operations when a radiological hazard to operations personnel may exist or is anticipated. In addition to other possible duties at the site specified in other sections of the project HASP, the PRDs, and/or MCPs, RCT responsibilities include radiological surveying of the work site, equipment, and samples; providing guidance for radiological decontamination of equipment and personnel; and accompanying the affected personnel to the nearest INEEL medical facility for evaluation if significant radiological contamination occurs.

The RCT must notify the HSO and FTL of any radiological occurrence that must be reported as directed by the INEEL *Radiological Control Manual* (PRD-183).

9.1.8 TAN Facility Authority/Operations Manager

The TAN Facility Authority/Operations Manager, or designee, is responsible for maintaining the assigned facility and must be cognizant of work being conducted in the facility. The TAN facility manager is responsible for the safety of personnel and the safe completion of all project activities conducted within the area in accordance with the area director concept.

- The facility manager and TAN site project director will be kept informed of all activities performed in the area. The facility manager and FTL will agree on a schedule for reporting work progress and plans for work. The facility manager may also serve as an advisor to task-site personnel with regard to TAN operations.

9.1.9 Quality Assurance Engineer

The quality assurance (QA) engineer provides guidance on task-site quality issues, when requested. The QA engineer observes task site activities, verifies that these operations comply with quality requirements pertaining to these activities, identifies activities that do not comply or have the potential for not complying with quality requirements, and suggests corrective actions.

9.1.10 Field Team Leader

The field team leader (FTL) has ultimate responsibility for the safe and successful completion of the sampling project, and all health and safety issues at the work site must be brought to the FTL's attention. In addition to managing field operations, executing the field sampling plan (FSP), enforcing site control, documenting work site activities, and conducting daily safety briefings, the FTL's responsibilities include, but are not limited to, the following:

- Performing the technical and operational requirements of the sampling activities
- Conducting field analysis and decontamination activities

- Complying with equipment removal procedures
- Packaging and shipping samples
- Determining, in conjunction with the site IH and RCT, the level of PPE necessary for the task being performed
- Ensuring compliance with field documentation, sampling methods, and chain-of-custody requirements
- Ensuring the safety of personnel conducting the activities associated with the HASP
- Ensuring the "fit for duty" medical evaluation forms are completed for all project employees, reviewed by the project IH for validation, and then incorporated into the project field file.

The FTL may be a member of the sampling team and FTL responsibilities may be transferred to a designated representative who satisfies all FTL training requirements.

9.1.11 Field Team Members

All field team members, including field team, sampling team, and subcontractor personnel, will understand and comply with the requirements of the project HASP. The FTL or HSO will conduct a plan of the day (POD) briefing at the start of each shift. During the POD briefing, all daily tasks, associated hazards, hazard mitigation (engineering and administrative controls, required PPE, work control documents), and emergency conditions and actions will be discussed. The project HSO, IH, and RCT personnel will provide input to clarify task health and safety requirements, as deemed appropriate. All personnel are encouraged to ask questions regarding site tasks and to provide suggestions for performing required tasks in a more safe and effective manner based on the lesson learned from the previous day's activities.

Once at the site, personnel are responsible for identifying any potentially unsafe situations or conditions to the FTL or HSO for corrective action. **If it is perceived that an unsafe condition poses an imminent danger, site personnel are authorized to stop work immediately, then notify the FTL or HSO of the unsafe condition.**

9.1.12 Sampling Team Leader

The sampling team leader (STL) reports to the FTL and has ultimate responsibility for the safe and successful completion of assigned project tasks, including:

- Overseeing the sampling team
- Ensuring that the samples are collected from appropriate locations
- Ensuring that proper sampling methods are employed, chain-of-custody procedures are followed, and shipping requirements are met.

If the STL leaves the task site, an alternate individual will be appointed to act in this capacity. An acting STL on the task site must meet all the same training requirements as the FTL, as outlined in the project HASP. The identity of the acting STL shall be conveyed to task-site personnel, recorded in the daily force report, and communicated to the FTL and TAN site Area Director, or designee, when appropriate. The STL may also be the FTL for the sampling event.

9.1.13 Sampling Team

The sampling team will consist of a minimum of two members (including the STL) who will perform the on-Site tasks necessary to collect the samples. The buddy system will be implemented for all tasks, and no team member will enter the contamination zone alone. The members of the sampling team will be led by a FTL, who may also serve as the project STL. The IH and RCT will support the sampling team, as warranted, based on sight-specific hazards and task evolutions.

9.1.14 Non-Field Team Members/Visitors

All persons on the work site who are not part of the field team (e.g., surveyor, equipment operator, or other craft personnel not assigned to the project) are considered non-field team members or visitors for the purposes of this project. A person will be considered "on-Site" when they are present in or beyond the designated support zone. Under 29 CFR 1910.120 and 29 CFR 1926.65, non-field team members are considered occasional site workers and must comply with the following:

- Receive any additional site-specific training identified in the HASP prior to entering beyond the support zone of the project site
- Meet all required training based on the tasks taking place, as identified in the HASP
- Meet minimum training requirements for such workers as described in the OSHA standard
- Meet the same training requirements as the workers if the non-worker's tasks require entry into the work control zone.

Training must be documented and a copy of the documentation must be incorporated into the project field file. A site supervisor (e.g., HSO or FTL) will supervise all non-field team personnel who have not completed their three days of supervised field experience, in accordance with the hazardous waste operations standard.

Note: *Visitors may not be allowed beyond the support zone during certain project site tasks (drilling) to minimize safety and health hazards. The determination as to any visitor's "need" for access beyond the support zone at the project site will be made by the HSO in consultation with TAN RadCon personnel (as appropriate).Training requirements in Table 6-1 continue to apply.*

9.2 Points of Contact

Table 9-1 lists the key points of contact for the TAN, WAG 1, OU 1-10 field activities conducted at the Soil Contamination Area South of the Turntable (TSF-06, Area B) and the PM-2A Tanks (TSF-26). The points of contact listed in the table are those expected to be contacted as a part of sampling operations; an exhaustive contact list of all personnel with responsibilities listed in Section 9.1 is not provided.

Table 9-1. Points of contact.

Name	Title	Telephone Number
Al Jantz	WAG 1 Project Manager	(208) 526-8517
Dave Eaton	WAG 1 Environmental Compliance	(208) 526-7002
Gary McDannel	WAG 1 Project Engineer	(208) 526-5076
Jim Bruce	OU 1-10 RD/RA Project Manager	(208) 526-4370
Todd Lewis	Health and Safety Officer	(208) 526-6856
Jody Landis	Field Team Leader	(208) 526-6311
Cory Stolworthy	Industrial Hygienist	(208) 526-3430
Craig Johnson	Safety Engineer	(208) 526-6477
TBD	Fire Protection Engineer	TBD
TBD	Radiological Control Technician	TBD
Kevin Streeper	TAN Facility Contact	(208) 526-6151
Bob Thompson	QA Engineer	(208) 526-9618
Donna Kirchner	Sample Management Office Contact	(208) 526-9873

TBD = to be determined

10. EMERGENCY RESPONSE PLAN

This emergency response plan defines the roles and responsibilities of project personnel during an emergency. Such an emergency could be at the project site, on a tenant facility or collocated facility, or a Site-wide emergency. This section provides details of the INEEL Emergency Response Organization (ERO) and "INEEL Emergency Plan RCRA Contingency Plan" (PLN-114) information. Plan-114 describes the overall process developed to respond to and mitigate consequences of emergencies that might arise at the INEEL.

Plan-114 may be activated in response to events occurring at the project site, at the INEEL, or at the discretion of the emergency coordinator or emergency action manager. Once the INEEL plan is activated, project personnel will follow the direction and guidance communicated by the emergency coordinator.

Note: The OSHA HAZWOPER definition of an emergency is not defined the same as classified by DOE Orders 151.1A, "Comprehensive Emergency Management System," and 232.1, "Occurrence Reporting and Processing of Operations Information." For this reason, the term "event" will be used in this section when referring to project HAZWOPER emergencies.

10.1 Pre-Emergency Planning

The "INEEL Emergency Plan RCRA Contingency Plan" (PLN-114) provides the basis for preplanning all INEEL emergency events. This base plan is supplemented with INEEL facility-specific addendums. This preplanning makes it possible for the project to anticipate and appropriately respond to abnormal events that can affect project activity. Preplanning also ensures that the project emergency response program is integrated with that of the INEEL. Specific procedures for addressing emergency events and actions to be taken are further described in the facility-specific emergency implementing procedures. Finally, the HASP addresses project-specific hazards, potential emergency events, and the actions to take following such events.

10.2 Emergency Preparation and Recognition

The sections for hazards identification and mitigation and accident prevention provide the strategy that will be followed at the project site to prevent accidents. Similarly, emergency preparation and recognition also will require project personnel to be constantly alert for potentially hazardous situations and signs and symptoms of chemical exposure or releases. All field personnel should be familiar with the techniques for hazard recognition and the assigned action levels and associated actions to be taken as identified in Section 3.

MCP-2725, "Field Work at the INEEL," requirements for training, emergency actions, and notifications will be followed for all projects conducted outside facility boundaries as described in MCP-2725.

Preparation and training on emergencies will include proper site access and egress procedures in response to project events and INEEL emergencies as part of the project-specific HASP training and facility access training where applicable. Visitors also will receive this training on a graded approach based on their site access requirements. Visitor training will include alarm identification, location and use of communication equipment, location of site emergency equipment, and evacuation. Emergency phone numbers and evacuation route maps will be located in the project trailer.

On-scene response to and mitigation of site emergencies could require the response from both project personnel and INEEL fire department personnel. Emergencies could include the following scenarios:

- Accidents resulting in injury
- Fires
- Spills of hazardous or radiological materials
- Tornadoes, earthquakes, or other adverse natural phenomena
- Vehicle or transportation emergencies
- Safeguard and security emergencies
- Emergencies at nearby facilities that could prompt evacuation or take-cover actions at the task site.

10.3 Emergency Alerting, Responses, and Sheltering

10.3.1 Alarms

Alarms and signals are used at the project site and the INEEL to notify personnel of abnormal conditions that require a specific response. Responses to these alarms are addressed in general employee training. Emergency sirens located throughout the INEEL serve as the primary means for signaling emergency TAKE COVER or EVACUATION protective actions. To signal site personnel of a project-initiated emergency event, a separate set of emergency signals has been established based on horn blasts (e.g., vehicle or air horn).

Depending on the field location (inside or outside a facility), facility alarms may not be able to be heard at the project site. If the project site is outside the audible range of the facility alarms, then the notification to take cover or evacuate should be received on the field radio. The project signals will then be used to alert personnel of the emergency actions.

10.3.1.1 Take Cover—Continuous Siren. Radiation or hazardous material releases, adverse weather conditions, or other event or emergency conditions may require that all personnel take cover indoors in the nearest building. A TAKE COVER protective action may be initiated as part of a broader response to an emergency situation and may precede an evacuation order. The order to TAKE COVER is usually announced by activating the emergency siren. The signal to take cover is a CONTINUOUS SIREN.

STEADY = STAY

However, the order to take cover also can be given by word of mouth, radio, or voice paging system. When ordered to TAKE COVER, project personnel will place the site and equipment in a safe configuration (as appropriate) and then seek shelter in the project trailer or vehicle (if outside the facility). Eating, drinking, and smoking are not permitted during take-cover conditions.

10.3.1.2 Total Area Evacuation—Alternating Siren. A total area evacuation is the complete withdrawal of personnel from the project site and the entire facility area. The evacuation signal is an

ALTERNATING SIREN. When ordered to EVACUATE, project personnel will place equipment and the site in a safe configuration (as appropriate) and then proceed along the specified evacuation route to the designated assembly area or as directed by the emergency coordinator.

ALTERNATE = EVACUATE

For total area evacuations, the facility command post is activated and all personnel will gather at the primary facility evacuation assembly area or the location designated by the emergency coordinator (EC) or FTL if outside a facility. The FTL or trained alternate will then complete the personnel accountability using the attendance log. In this situation, the project area warden will report the result of the accountability process to the facility emergency coordinator.

10.3.1.3 Local Area Evacuation—Vehicle Horn Blast. A local area evacuation is the complete withdrawal of personnel from the project site but it does not require the complete evacuation of the entire facility or INEEL area. A single long horn blast (e.g., vehicle) will serve as the project's primary emergency evacuation signal (as listed on Table 10-1). However, the order to evacuate also can be given by word of mouth, radio, or voice paging system. When ordered to evacuate the project site, personnel will place the site in a safe condition (as appropriate) and then proceed along the specified evacuation route to the assembly area designated for local area evacuations or as directed by the FTL. Eating, drinking, and smoking are not permitted during emergency evacuations.

Table 10-1. Project internal emergency signals.

Device or Communication Method	Signal and Associated Response
Vehicle horn blasts	**One long blast**—Emergency evacuation. Evacuate project site immediately. Proceed in an upwind direction to designated assembly area as specified by the field team leader (FTL).
	Two short blasts—Nonemergency evacuation of immediate work area. Proceed to designated assembly area as specified by the FTL.
	Three long blasts or verbally communicated—All clear. Return to project site.

10.4 Personnel Roles, Lines of Authority, and Training

10.4.1 The Idaho National Engineering and Environmental Laboratory Emergency Response Organization

The INEEL ERO structures are based on the incident command system and are described in PLN-114 and facility-specific addendums to that plan.

10.4.2 Role of Project Personnel in Emergencies

Depending on the event, a graded response and subsequent notifications will take place. FTL and project personnel responsibilities are described below. Personnel will respond to emergencies only within the limits of their training and designated by their position. All personnel are trained to the facility-specific emergency actions as part of the access training or will be escorted by someone who has been trained. Emergency response actions will also be covered as part of the HASP briefing as stated in Table 6-1.

10.4.2.1 Field Team Leader. The FTL (or designated alternate) is responsible for initiating all requests for emergency services (e.g., fire and medical) and for notifying the TAN shift supervisor of abnormal (or potential emergency) events that may occur during the project. The FTL may also serve as the area warden (or designate that responsibility to another person who has been trained as area warden) and conduct personnel accountability. Personnel accountability will then be reported to the shift supervisor. Additionally, the FTL will control the scene until a higher-tiered incident command system authority arrives at the scene to take control. When relinquishing this role, the FTL (or designated alternate) will provide all information about the nature of the event, potential hazards, and other information requested.

10.4.2.2 Project Personnel. Every person at the project site has a role to play during a project event or INEEL emergency. Each employee must be constantly aware of potential problems or unexpected hazardous situations and immediately report these situations to the FTL. All personnel are expected to watch out for their fellow workers, to report their concerns to the FTL, and to take emergency actions as described in this section. Roles and responsibilities are further detailed in Table 10-2.

Table 10-2. Responsibilities during an emergency.

Responsible Person	Action Assigned
Field team leader (or designee)	Signal evacuation.
	Report spill to shift supervisor and take mitigative actions.[a]
	Contact shift supervisor or Warning Communications Center (if the shift supervisor cannot be contacted).
Field team leader (or trained designee)	Serve as area warden and conduct accountability and report to shift supervisor.
Health and safety officer and medic and first-aid trained personnel	Administer first-aid to victims (voluntary basis only).

a. The environmental affairs spill response categorization and notification team will be contacted by the shift supervisor or emergency coordinator.

10.4.2.3 Personnel Accountability and Area Warden. Project personnel are required to evacuate the site in response to TAKE COVER, EVACUATION, and local evacuation alarms. In all cases, the FTL (or trained designee) will account for the people present on the project site. The FTL (or trained alternate) will serve as the area warden for the project and will complete the personnel accountability (following positive sweeps of the project site) based on the attendance log. The results of this accountability will then be communicated to the FTL for reporting to the shift supervisor or emergency coordinator (if the command post has been formed).

10.4.2.4 Spills. If the material spilled is known and is small enough to be safely contained at the task site, task-site personnel will handle spill control using spill supplies at the site and immediately report the incident to the shift supervisor or Warning Communications Center (WCC) if the shift supervisor cannot be contacted. Reporting requirements will be determined by the facility emergency coordinator in accordance with MCP-190, "Event Investigation and Occurrence Reporting." If any release of a hazardous material occurs, task site personnel will comply with the following immediate spill response actions.

10.4.2.4.1 Untrained Initial Responder—The requirements for the untrained initial responder (or if the material characteristics are unknown) are listed below:

- Place equipment in a safe configuration
- **Evacuate** and **isolate** the immediate area
- Notify and then **seek help** from and **warn** others in the area
- Notify the FTL.

10.4.2.5 Trained Responder. The requirements for the trained responder where material characteristics are known and no additional PPE is required are listed below:

- Place all equipment in a secure configuration
- **Seek help** from and **warn** others in the area
- **Stop** the spill if it can be done without risk (e.g., returning the container to the upright position, closing valve, and shutting off power)
- **Provide** pertinent information to the FTL
- **Secure** any release paths if safe to do so.

10.5 Medical Emergencies and Decontamination

Medical emergencies and responses to injuries or suspected exposures will be handled as stated in Section 8.2. Decontamination of personnel and equipment is described in Section 11.2.

10.6 Emergency Communications

In the event of an emergency, the capability to summon INEEL emergency response resources to immediately notify site personnel and inform others of site emergencies is required. Communications equipment at the task site will be a combination of radios, telephones (e.g., mobile, cellular, or facility), and pagers. Communication methods described below will be used during emergency situations.

10.6.1 Notifications

During emergency situations, the facility shift supervisor will be notified of any project emergency event. The shift supervisor will then make the required ERO notification. The following information should be communicated, as available, to the shift supervisor:

Note: If the shift supervisor cannot be contacted then the WCC will be notified of the event and the information listed below communicated. The WCC also must be told that notification to the facility shift supervisor and emergency coordinator has not been made.

- The caller's name, title (e.g., FTL or HSO), telephone number, and pager number

- Exact location of the emergency
- Nature of the emergency including time of occurrence, current site conditions, and special hazards in the area
- Injuries, if any, including numbers of injured, types of injuries, and conditions of injured
- Emergency response resources required (e.g., fire, hazardous material, and ambulance)
- Additional information as requested.

10.7 Emergency Facilities and Equipment

Emergency response equipment maintained at the project site includes the items listed in 10-3. The TAN facility-specific addendum to PLN-114 lists emergency equipment available at the facility. This includes the command post, self-contained breathing apparatus, dosimeters, air samplers, decontamination and first-aid equipment, and an emergency response trailer). The INEEL fire department maintains an emergency hazardous material response van that can be used to respond to an event or emergency at the project. Fire department personnel also are trained to provide immediate hazardous material spills and medical services. Additionally, the TAN and CFA-1612 medical facilities are manned by medical personnel to evaluate and stabilize injured personnel or those experiencing signs and symptoms of exposure.

Table 10-3. Emergency response equipment to be maintained at the project site during operations.

Equipment Name and Quantity Required	Location at Task Site	Responsible Person	Frequency of Inspection or Verification[a]
First-aid kit	Project vehicle or near designated work area (DWA) or controlled work area (CWA)	Health and safety officer (HSO)	Monthly: check seal only unless broken
Eyewash bottles[b] Eyewash station[b]	In or near DWA or CWA	HSO	Monthly
Hazardous materials spill kit	Project vehicle	HSO	Daily verification
Extra personal protective equipment	Project vehicle or support trailer	HSO	Daily verification
Communication equipment (operational)	Onsite	Field team leader	Daily radio check
Fire extinguishers[c]	In or near DWA or CWA	HSO	Monthly

a. This is verification that equipment is present at the project location before starting tasks and no inspection tag is required.

b. An eyewash bottle will be used to provide an immediate eye flush if required. The location of the eyewash station will be identified by the HSO during the prejob briefing.

c. A minimum of one 10A/60BC extinguisher is required. If it is discharged, it will be returned for servicing and recharging.

10.8 Evacuation Assembly Areas and Test Area North Medical Facility

Test Area North maintains primary and secondary evacuation routes, assembly areas, and a medical facility route (see Figures 10-1 and 10-2). These routes may be used in response to a total facility area evacuation as directed by the emergency coordinator. Copies of the evacuation assembly areas and the TAN medical facility route will be available at the project site.

Note: If the project is conducted outside of a facility then the INEEL evacuation routes listed in PLN-114 will be used.

10.9 Reentry, Recovery, and Site Control

All reentry and recovery activities will follow general site security and control requirements identified in Section 7 unless conducted as part of an emergency response action. All entries to the project site performed in support of emergency actions will be controlled by the on-scene commander.

10.9.1 Reentry

During an emergency response it is sometimes necessary to reenter the scene of the event. Reasons for performing a reentry may include:

- Performing personnel search and rescues
- Responding to medical first-aid needs
- Performing safe shutdown actions
- Performing mitigating actions
- Evaluating and preparing damage reports
- Performing radiation or hazardous material surveys.

Reentries will be carefully planned to ensure that personnel are protected from harm and to prevent initiating another emergency event. Reentry planning is undertaken as a graded approach depending on the nature of the initiating event.

10.9.2 Recovery

After the initial corrective actions have been taken and effective control established, response efforts will shift toward recovery. Recovery is the process of assessing post-event and post-emergency conditions and developing a plan for returning to pre-event and pre-emergency conditions, when possible, and following the plan to completion. The emergency coordinator and emergency action manager are responsible for determining when an emergency situation is sufficiently stable to terminate the emergency and enter the recovery phase. The project manager, with concurrence from the TAN Facility Authority/Operations Manager, will appoint the recovery manager.

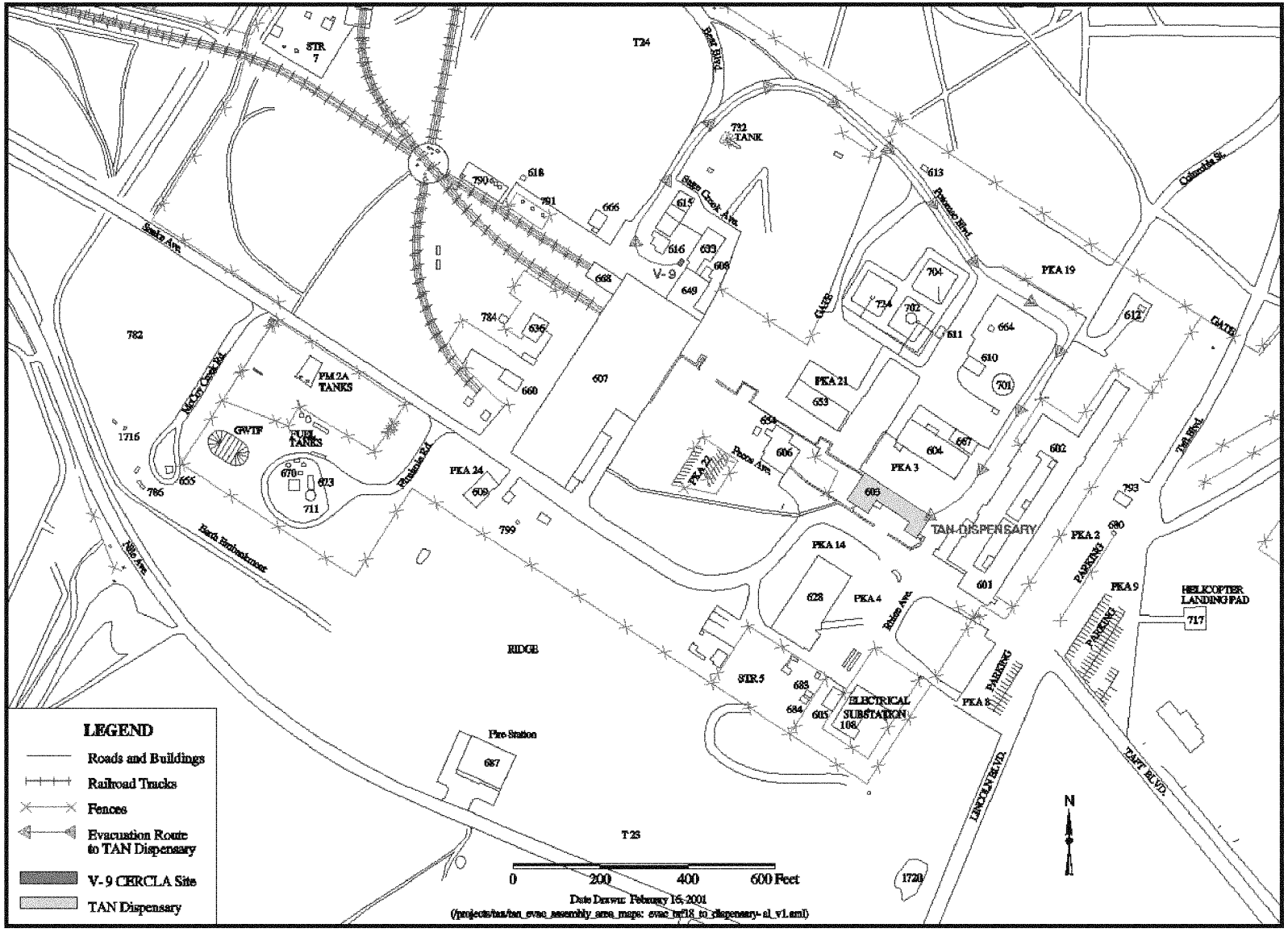

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Figure 10-1. Routes to the Test Area North Dispensary from the TSF-06/26 Sites at Waste Area Group 1, Operable Unit 1-10 project.

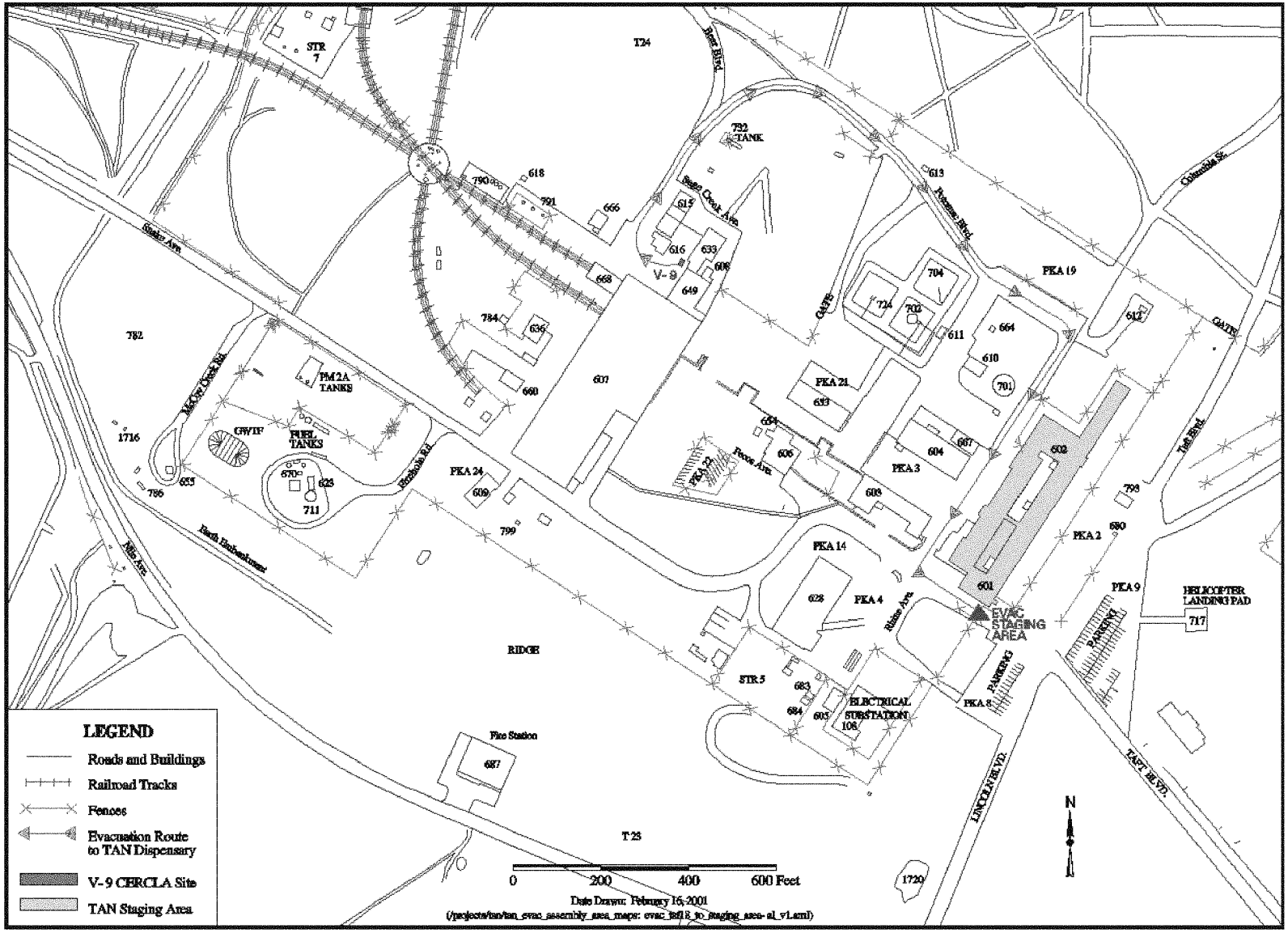

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Figure 10-2. Primary evacuation routes for TSF-06/26 Sites at Waste Area Group 1, Operable Unit 1-10 project.

10.10 Critique of Response and Follow up

A review and critique will be conducted following all emergency events, drills, and exercises at the INEEL. In some cases, an investigation may be required before commencing recovery actions. For this reason care should be exercised to preserve evidence when appropriate.

10.11 Telephone and Radio Contact Reference List

Table 10-4 lists the points of contact for the project. A copy of this list will be kept in the FTL logbook. Because personnel listed may change frequently, working copies of this list will be generated as required to note new positions and changes of personnel assigned. This HASP should not be revised with a document action request to note these changes.

Table 10-4. Project emergency contact list.

Name	Title	Telephone Number
Al Jantz	WAG 1 Project Manager	(208) 526-8517
Dave Eaton	WAG 1 Environmental Compliance	(208) 526-7002
Gary McDannel	WAG 1 Project Engineer	(208) 526-5076
Jim Bruce	OU 1-10 RD/RA Project Manager	(208) 526-4370
Todd Lewis	Health and Safety Officer	(208) 526-6856
Jody Landis	Field Team Leader	(208) 526-6311
Cory Stolworthy	Industrial Hygienist	(208) 526-3430
Craig Johnson	Safety Engineer	(208) 526-6477
TBD	Fire Protection Engineer	TBD
TBD	Radiological Control Technician	TBD
Kevin Streeper	TAN Facility Contact	(208) 526-6151
Bob Thompson	QA Engineer	(208) 526-9618
Donna Kirchner	Sample Management Office Contact	(208) 526-9873

TBD = to be determined

11. DECONTAMINATION PROCEDURES

Every effort will be made to prevent contamination of personnel and equipment through the use of engineering controls, isolation of source materials, contaminant monitoring, personnel contamination control training, and by following material handling requirements and procedures for contaminated or potentially contaminated materials. If contact with potentially contaminated surfaces cannot be avoided, then additional engineering controls, in combination with PPE upgrades, may be necessary to control the contact hazard. However, if chemical or radiological contamination is encountered at levels requiring decontamination, this section provides guidance on how it will be performed.

11.1 Contamination Control and Prevention

Contamination control and prevention procedures will be implemented to minimize personnel contact with contaminated surfaces if such surfaces are encountered or may be contacted during project tasks. The following contamination control and prevention measures will be employed if contamination is encountered or anticipated:

- Identify potential sources of contamination and design containment, isolation, and engineering controls to eliminate or mitigate any potential for contact or release of contaminants
- Limit the number of personnel, equipment, and materials that enter the contaminated area
- Implement immediate decontamination procedures to prevent the spread of contamination (if contamination is found on the outer surfaces of equipment)
- Use only the established control entry and exit point from the contaminated area to minimize the potential for cross-contamination and expedite contamination control surveys
- Wear disposable outer garments and use disposable equipment (where possible)
- Use hold points defined in procedures and work orders to monitor for contamination where anticipated.

11.2 Equipment and Personnel Decontamination

Personnel and equipment decontamination procedures are necessary to control contamination and to protect personnel should contamination be encountered. Both chemical and radionuclide contamination will be decontaminated from surfaces of a contaminated area at the exit and other designated work area boundaries.

If radionuclide decontamination operations are required for equipment or areas, they will be performed in accordance with Chapter 4 of the INEEL Radiological Control Manual. Nonradionuclide decontamination will be evaluated by the HSO and project industrial hygienist, on a case-by-case basis, to determine the most appropriate level of PPE to be worn. An RWP will be generated if radiological contamination is encountered. Specific equipment and personnel decontamination methods are provided in the following subsections.

11.2.1 Equipment Decontamination

Decontamination of sampling equipment will be conducted in accordance with TPR-6541, "Decontamination of Sampling Equipment," and TPR-6575, "Decontamination of Sampling Equipment in the Field." If contact with potentially contaminated surfaces cannot be avoided, then additional engineering controls in combination with PPE upgrades may be necessary to control the contact hazard. Equipment will be decontaminated based on the source of contamination.

If radionuclide decontamination operations are required for equipment or areas, they will be performed in accordance with Chapter 4 of INEEL Radiological Control Manual. Nonradionuclide decontamination will be evaluated on a case-by-case basis by the HSO and project industrial hygienist to determine the most appropriate PPE (Level C protective clothing will initially be selected if airborne contaminants may be generated until site monitoring can demonstrate downgrading is warranted).

A decontamination pad may be established if nonradionuclide decontamination is required before equipment can be released. If it is deemed necessary and appropriate by the project industrial hygienist, then a wet wiping with an amended water solution (e.g., amended with a nonphosphate detergent such as Alconox) or a potential steam cleaning of this equipment may be conducted before it is allowed to leave the decontamination area. A drainage system that allows for a single collection point will be established if steam cleaning is performed. Decontamination wastewater will be collected using a submergible pump and containerized and characterized in accordance with companywide *Manual 17—Waste Management*, and relevant MCPs.

11.2.2 Personnel Decontamination

Project activities will be conducted in Level D PPE unless upgrading is warranted. Engineering controls in conjunction with work controls and proper handling of samples will serve as the primary means to eliminate the need for personnel decontamination. If modified Level D protective clothing is required, all items will be inspected following the list in Section 5.

11.2.3 Decontamination in Medical Emergencies

If a person is injured or becomes ill, that person will be immediately evaluated by first-aid trained personnel (on a voluntary basis) at the project task site. If the injury or illness is serious, then the FTL will contact the TAN shift supervisor or WCC (if the shift supervisor cannot be reached) to summon emergency services (i.e., fire department and TAN or CFA medical services) to the project site.

Medical care for serious injury or illness will not be delayed for decontamination. In such cases, gross decontamination may be conducted by removing the injured person's outer protective clothing (if possible) and other contaminated areas may be contained with a bag or glove. If contaminated PPE cannot be removed without causing further injury (except for the respirator, which must be removed), the individual will be wrapped in plastic, blankets, or other available material to help prevent contaminating the inside of the ambulance, medical equipment, and medical personnel.

The industrial hygienist or the RCT (depending on the type of contamination) will accompany the employee to the medical facility to provide information and decontamination assistance to medical personnel. Contaminated PPE then will be removed at the medical facility and carefully handled to prevent the spread of contamination. The INEEL Radiation Protection Manual, Chapter 5, and MCP-148, "Personnel Decontamination," contains information on proper handling of radionuclide-contaminated wounds.

11.3 Doffing Personal Protective Equipment and Decontamination

As stated earlier, no personnel decontamination beyond doffing of PPE is anticipated for this project. Careful removal of the outer PPE will serve as the primary decontamination method.

The specific doffing sequence of modified Level D or C PPE, and associated decontamination procedures, will be based on the nature of the contamination. A general approach for doffing modified Level D or C PPE is described below. However, no one doffing strategy works for all circumstances. Modifications to this approach are appropriate if site conditions change or at the discretion of the project HSO in consultation with the project industrial hygienist and RCT.

If contamination is detected on outer PPE layers, careful removal of these outer PPE layers will generally eliminate more than 99% of contamination and will serve as the primary decontamination method for protective clothing that is contaminated. Removal of contaminated protective clothing using standard radiological-doffing techniques (i.e., rolling outer surfaces inward while being removed) provides the most effective method for containing and isolating the contaminants and greatly reduces the potential for exposure to other personnel who would be put at risk of cross-contamination from other decontamination methods (e.g., washing and brushing).

Some preliminary surface decontamination of protective clothing may be required if the clothing is grossly contaminated and the potential exists for the generation of airborne radioactivity or organic vapor emissions. This will involve assistance from other personnel inside the contamination area and at the doffing station, as described below. The ultimate goal of all decontamination methods is to effectively and efficiently isolate the source of contamination through the removal of protective clothing and by containing the contaminant in a sealed bag or waste container.

The specific doffing sequence of modified Level D or C PPE, and any other required decontamination-doffing procedures, will be based on the nature of the contamination and specific site configuration. A general approach for doffing modified Level D or C PPE is described below. However, no one doffing strategy works for all circumstances, and modifications to this approach are appropriate if site conditions change or at the discretion of the project HSO, in consultation with the project industrial hygienist and RadCon personnel. Both radiological and nonradiological (chemical) hazards will be evaluated.

11.3.1 Modified Level D Personal Protective Equipment Doffing and Decontamination (if required)

If required to be worn, modified Level D protective clothing (e.g., disposable coveralls) will be doffed following standard radiological removal techniques (rolling outside surface inward and down) and will constitute the initial decontamination step. All PPE will be placed in the appropriately labeled containers.

11.3.2 Level C Personal Protective Equipment Doffing and Decontamination (if required)

If respiratory protection is worn in conjunction with protective clothing (e.g., Level C PPE), then the modified Level D sequence will be followed with one additional step. That additional step is to remove the respirator and place it in a separate container from the discarded protective clothing. Depending on the type of contamination encountered, this step will be followed by a radiological survey or industrial hygienist evaluation.

11.4 Personnel Radiological Contamination Monitoring

An automated whole-body radiological survey may be required before exiting the affected area of project site, as determined appropriate by RadCon personnel or as stated in the RWP. If required, this survey will be conducted using an existing personnel contamination monitor or other available hand-held instrument as directed by RadCon personnel.

11.4.1 Storage and Disposal of Investigative Derived Waste Materials

Waste also will include PPE and miscellaneous sampling materials (e.g., paper towels, plastic bags, and gloves). Based on previous sampling at the RWMC wells, it is not anticipated that any miscellaneous sampling materials will become contaminated. If contaminated, the waste will be bagged, secured with duct tape, and labeled in accordance with instructions from the RCT. The waste can be stored in the WAG 7 CERCLA-approved cargo container pending laboratory analyses if necessary. It is expected that the waste will be handled as conditional industrial waste to comply with the waste disposal and disposition form. Free release surveys of suspected radiologically contaminated waste will be conducted in compliance with MCP-425.

Cold (nonradiological) waste is sent to the Central Facilities Area (CFA) landfill or another INEEL-designated solid-waste landfill. Low-level radioactive waste is stored in the WAG 7 CERCLA cargo container in the radioactive material area in accordance with MCP-3475, "Temporary Storage of CERCLA-Generated Waste at the INEEL." The waste will be evaluated for additional characterization and managed as low-level waste. Final disposition will be coordinated with Waste Generator Services.

11.4.2 Site Sanitation and Waste Minimization

Site personnel will use the portable toilet facilities provided in the RWMC WMF-657 or other RWMC area. Potable water and soap is available in these areas for personnel to wash their hands and face upon exiting the DWA or CWA.

Waste materials will not be allowed to accumulate at routine monitoring sites. Appropriately labeled containers for industrial waste and CERCLA waste (as required) will be maintained at the project site, as stated in the *Field Sampling Plan for Groundwater Monitoring of Operable Unit 7-13/14* (Bukowski, Flynn, and Gilbert 2001). Personnel should make every attempt to minimize waste through the judicious use of consumable materials. All site personnel are expected to make good housekeeping a priority at the job site.

12. RECORDKEEPING REQUIREMENTS

12.1 Industrial Hygiene and Radiological Monitoring Records

When Industrial Hygiene support is required, the industrial hygienist will record airborne monitoring and sampling data (both area and personal) collected for exposure assessments in the INEEL Hazards Assessment and Sampling System database. All monitoring and sampling equipment will be maintained and calibrated in accordance with INEEL procedures and the manufacturer specifications. Industrial hygiene airborne monitoring and sampling exposure assessment data are treated as limited access information and maintained by the industrial hygienist in accordance with INEEL Companywide Safety and Health Manual procedures.

The RCT maintains a logbook of radiological monitoring, daily project operational activities, and instrument calibrations. Radiological monitoring records are maintained in accordance with companywide *Manual 15B—Radiation Protection Procedures*.

Project personnel or their representatives have a right to the monitoring and sampling data (both area and personal) from both the industrial hygienist and the RCT. Results from monitoring data also will be communicated to all field personnel during daily POD meetings and formal prejob briefings, in accordance with MCP-3003.

12.2 Field Team Leader and Sampling Logbooks

Logbooks will be maintained in accordance with MCP-231, "Logbooks." The FTL will keep a record of daily site events in the FTL logbook and will maintain accurate records of all personnel (e.g., workers and nonworkers) who are onsite each day in a site attendance logbook. Logbooks must be obtained from the field data coordinator for the INEEL Sample Management Office. The completed logbooks must be returned to the INEEL Sample Management Office within 6 weeks of project completion. The logbooks are then submitted to ER Document Control.

12.3 Environmental Restoration Document Control

The ER Document Control organizes and maintains data and reports generated by ER Program field activities. The ER Document Control maintains a supply of all controlled documents and provides a documented system for the control and release of controlled documents, reports, and records. Copies of the project plans for ER, this HASP, the ER Project Management Plan (PLN-694), the *Quality Assurance Project Plan for Waste Area Groups 1, 2, 3, 4, 5, 6, 7, 10 and Inactive Sites* (DOE-ID 2002), and other project-specific documents are maintained in the project file by ER Document Control.

Completed sample logbooks are submitted to the Sample Management Office within 6 weeks of project completion. All other project records and logbooks, except Industrial Hygiene logbooks, must be forwarded to the Administrative Record and Document Control within 30 days after completion of field activities.

12.4 Site Attendance Record

If required to be maintained separately, the site attendance record will be used to keep a record of all personnel (i.e., field team members and nonfield team members) onsite each day, and to assist the area warden with conducting personnel accountability should an evacuation take place (see Section 10 for emergency evacuation conditions). Personnel will only be required to sign in and out of the attendance record once each day. The FTL is responsible for maintaining the site attendance record and for ensuring that all personnel on the project site sign in (if required).

12.5 Administrative Record and Document Control Office

Administrative Record and Document Control (ARDC) will organize and maintain data and reports generated by ER Program field activities. The ARDC maintains a supply of all controlled documents and provides a documented system for the control and release of controlled documents, reports, and records. Copies of the management plans for the ER Program, this HASP, the ER Project Management Plan (PLN-694), the quality assurance project plan, and other documents pertaining to this work are maintained in the project file by the ARDC.

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Appendix A

PM-2A Tank Sampling

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PM-2A Tank Sampling

PURPOSE

This appendix to the Health and Safety Plan for Remedial Action Sampling, Field Screening, Soil Excavation, Backfill, Packaging, and Shipment of TSF-06/26 Sites at Waste Area Group (WAG) 1, Operable Unit (OU) 1-10. It establishes the procedures and requirements that will be used to eliminate or minimize health and safety hazards to personnel sampling the contents of the PM-2A Tanks for Test Area North (TAN) Operable Unit 1-10.

SCOPE

This appendix has been written to address the unique hazards associated with entry into and sampling the contents of the PM-2A tanks. It supplements and does not replace the original information contained in the Health and Safety Plan for Remedial Action Sampling, Field Screening, Soil Excavation, Backfill, Packaging, and Shipment of TSF-06/26 Sites at Waste Area Group 1, Operable Unit 1-10. Tank residue sampling will be accomplished by personnel entry into the PM-2A Tanks using supplied air respiratory protection. The sampler will descend a ladder and employ a variety of grab sampling techniques. A mechanical/drill-powered auger may be used to facilitate loosening and homogenization of sampling material. Augering is potentially hazardous with the most common injuries being cuts, bruises, and cumulative trauma disorders. All operators should read and follow MCP 2692, "Preventing Ergonomic and Back Disorders."

This work will be covered under a safety envelope including a confined space permit (CSP) and a radiological work permit (RWP).

HAZARD IDENTIFICATION AND MITIGATION

Potential chemical, physical, and biological hazards may be encountered during this work. Most of these hazards are discussed in the main body of this HASP in Sections 2 through 12. The tank contains several inches of sludge covered by diatomaceous earth. The waste remaining in the tank is Resource Conservation and Recovery Act (RCRA) F001-listed hazardous waste containing radionuclides, polychlorinated biphenyls (PCBs), and inorganic substances including a variety of heavy metals. (Refer to Table 2-1, evaluation of health-based contaminants of concern at the TAN site.) All personnel associated with this entry must be knowledgeable of the HASP and this addendum. The unique potential hazards of this work will be covered here and specified on the CSP and the RWP. Personal protective equipment (PPE) will include but not necessarily be limited to anticontamination (anti-C) ensemble specified in the RWP, supplied air respiratory protection, and a retrieval system. This additional PPE will reduce stay times for heat/cold stress and cause additional tripping hazards to the entrant. Atmospheric monitoring for total volatile organic compounds (VOCs), oxygen deficiency, and explosivity will be conducted prior to and during entry. The TAN fire department will be notified 24 hours in advance of this entry, just prior to entry, and when the work is complete. Positive communication will be required between the attendant and the confined space entry attendant.