UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated July 2023
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SECTION 01 35 29.13

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11/15, CHG 1: 08/22

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USACE / NAVFAC / AFCEC / NASA	**UFGS-01 35 29.13 (November 2015)**
	Change 1 - 08/22

Preparing Activity: USACE	**Superseding**
	UFGS-01 35 29.13 (January 2008)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

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SECTION 01 35 29.13

HEALTH, SAFETY, AND EMERGENCY RESPONSE PROCEDURES FOR CONTAMINATED SITES
11/15, CHG 1: 08/22

****
NOTE: This guide specification covers requirements for safety and health documents and procedures for hazardous toxic radioactive waste (HTRW) site cleanup projects. Use this section as a supplement to Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS. Include this section when section 02 65 00 UNDERGROUND STORAGE TANK REMOVAL is used.

Adhere to UFC 1-300-02 Unified Facilities Guide Specifications (UFGS) Format Standard when editing this guide specification or preparing new project specification sections. Edit this guide specification for project specific requirements by adding, deleting, or revising text. For bracketed items, choose applicable item(s) or insert appropriate information.

Remove information and requirements not required in respective project, whether or not brackets are present.

Comments, suggestions and recommended changes for this guide specification are welcome and should be submitted as a Criteria Change Request (CCR).
****

PART 1 GENERAL

****
NOTE: This guide specification addresses requirements specified in 29 CFR 1910.120/29 CFR 1926.65 for safety and occupational health (SOH) at HTRW site cleanup projects.

Use this section to assure employee protection (and regulatory compliance) from all hazards, traditional hazards associated with all construction as well as the special chemical, physical, radiation and biological hazards that are associated with work on

(HTRW) site cleanup projects.
****

1.1 REFERENCES

****
NOTE: This paragraph is used to list the publications cited in the text of the guide specification. The publications are referred to in the text by basic designation only and listed in this paragraph by organization, designation, date, and title.

Use the Reference Wizard's Check Reference feature when you add a Reference Identifier (RID) outside of the Section's Reference Article to automatically place the reference in the Reference Article. Also use the Reference Wizard's Check Reference feature to update the issue dates.

References not used in the text will automatically be deleted from this section of the project specification when you choose to reconcile references in the publish print process.
****

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN PETROLEUM INSTITUTE (API)

API RP 2219	(2016) Safe Operation of Vacuum Trucks Handling Flammable and Combustible Liquids in Petroleum Service

INTERNATIONAL SAFETY EQUIPMENT ASSOCIATION (ISEA)

ANSI/ISEA Z358.1	(2014; R 2020) American National Standard for Emergency Eyewash and Shower Equipment

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH 85-115	(1985) Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2014) Safety -- Safety and Health Requirements Manual
EM 385-1-97	(2013) Explosives -- Safety and Health Requirements Manual
ER 385-1-92	(2018) Safety -- Safety and Occupational Health Requirements for Environmental Cleanup Projects

ER 385-1-95	(2014) Safety -- Safety and Health Requirements for Operations and Activities Involving Munitions and Explosives of Concern

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

10 CFR 20	Standards for Protection Against Radiation
29 CFR 1904	Recording and Reporting Occupational Injuries and Illnesses
29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1910.120	Hazardous Waste Operations and Emergency Response
29 CFR 1926	Safety and Health Regulations for Construction
29 CFR 1926.65	Hazardous Waste Operations and Emergency Response
49 CFR 171	General Information, Regulations, and Definitions
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements

1.2 PRECONSTRUCTION SAFETY CONFERENCE

****

NOTE: Specify safety and occupational health issues to be addressed in the preconstruction safety conference. Confer with the construction District's Installation's Safety and Occupational Health Office representatives to make this determination. If this conference is addressed in another specification section, reference the appropriate section.

****

Conduct a preconstruction safety conference prior to the start of site activities and after submission of the Accident Prevention Plan/Site Safety And Health Plan (APP/SSHP). The objective of the meeting is to discuss health and safety concerns related to the impending work, discuss project health and safety organization and expectations, review and answer comments and concerns regarding the APP/SSHP or other health and safety concerns . Ensure that those individuals responsible for health and safety at the project level are available and attend this meeting.

1.3 SUBMITTALS

****

NOTE: Review submittal description (SD) definitions in Section 01 33 00 SUBMITTAL PROCEDURES and edit the following list, and corresponding submittal items in the text, to reflect only the submittals

required for the project. The Guide Specification technical editors have classified those items that require Government approval, due to their complexity or criticality, with a "G." Generally, other submittal items can be reviewed by the Contractor's Quality Control System. Only add a "G" to an item, if the submittal is sufficiently important or complex in context of the project.

For Army projects, fill in the empty brackets following the "G" classification, with a code of up to three characters to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy, Air Force, and NASA projects.

The "S" classification indicates submittals required as proof of compliance for sustainability Guiding Principles Validation or Third Party Certification and as described in Section 01 33 00 SUBMITTAL PROCEDURES.

Choose the first bracketed item for Navy, Air Force and NASA projects, or choose the second bracketed item for Army projects.

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Government approval is required for submittals with a "G" or "S" classification. Submittals not having a "G" or "S" classification are [for Contractor Quality Control approval.][for information only. When used, a code following the "G" classification identifies the office that will review the submittal for the Government.] Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Work Zones; G[, [_____]]

Decontamination Facilities; G[, [_____]]

SD-03 Product Data

Amendments to the APP/SSHP; G[, [_____]]

Exposure Monitoring/Air Sampling Program

Site Control Log

SSHO's Daily Inspection Logs

SD-07 Certificates

Certificate Of Worker/Visitor Acknowledgement

SD-11 Closeout Submittals

Safety And Health Phase-Out Report; G[, [_____]]

1.4 ACCIDENT PREVENTION PLAN/SITE SAFETY AND HEALTH PLAN (APP/SSHP)

Develop and implement a Site Safety and Health Plan in accordance with Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS, and attach to the Accident Prevention Plan (APP) as an appendix (APP/SSHP). Address all occupational safety and health hazards (traditional construction as well as contaminant-related hazards) associated with cleanup operations within the APP/SSHP. Cover each SSHP element in sections 28.A.01 and 33.B of EM 385-1-1 and each APP element in Appendix A of EM 385-1-1. There are overlapping elements in Section 28.A.01 and Appendix A of EM 385-1-1. SSHP appendix elements that overlap with APP elements need not be duplicated in the APP/SSHP provided each safety and occupational health (SOH) issue receives adequate attention and is documented in the APP/SSHP. The APP/SSHP is a dynamic document, subject to change as project operations/execution change. Modify the APP/SSHP to address changing and previously unidentified health and safety conditions. Ensure that the APP/SSHP is updated accordingly. Submit amendments to the APP/SSHP to the Contracting Officer as the APP/SSHP is updated. For long duration projects resubmit the APP/SSHP to the Contracting Officer annually for review. The APP/SSHP must contain all updates.

1.4.1 Acceptance and Modifications

Prior to submittal, the APP/SSHP must be signed and dated by the Safety and Health Manager and the Site Superintendent. Submit for review [_____] days prior to the Preconstruction Safety Conference. Deficiencies in the APP/SSHP will be discussed at the preconstruction safety conference, and must be revised to correct the deficiencies and resubmitted for acceptance. Onsite work must not begin until the plan has been accepted. Maintain a copy of the written APP/SSHP onsite. Changes and modifications to the APP/SSHP must be made with the knowledge and concurrence of the Safety and Health Manager, the Site Superintendent, and the Contracting Officer. Bring to the attention of the Safety and Health Manager, the Site Superintendent, and the Contracting Officer any unforeseen hazard that becomes evident during the performance of the work, through the Site Safety and Health Officer (SSHO) for resolution as soon as possible. In the interim, take necessary action to re-establish and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public, and the environment. Disregard for the provisions of this specification or the accepted APP/SSHP is cause for stopping work until the matter has been rectified.

1.4.2 Availability

Make available the APP/SSHP in accordance with 29 CFR 1910.120, (b)(1)(v) and 29 CFR 1926.65, (b)(1)(v).

1.5 STAFF ORGANIZATION, QUALIFICATION AND RESPONSIBILITIES

****

NOTE: Select the options below so that the Contractor's safety and health manager meets the following professional certification requirements.

Certified Industrial Hygienist - for cleanup of

uncontrolled HTRW sites where cleanup is for the control of chemicals released into the environment and the chemical contamination presents occupational health hazards.

Certified Safety Professional - for cleanup of uncontrolled HTRW sites where cleanup is for the control of chemicals released into the environment and the chemical contamination presents occupational safety hazards.

Certified Health Physicist - for cleanup of uncontrolled HTRW sites where cleanup is for the control of radioactive isotope contamination.

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Provide hazardous waste operations and emergency response organization in accordance with EM 385-1-1, Section 33.

1.5.1 Safety and Health Manager

Safety and Health Manager must be [an Industrial Hygienist certified by the American Board of Industrial Hygiene] [a safety professional certified by the Board of Certified Safety Professionals] [a health physicist certified by the American Board of Health Physicists].

Apply the following in conjunction with the required qualifications and responsibilities stated in EM 385-1-1, Section 33.C.01.

1.5.1.1 Additional Qualifications

The Safety and Health Manager must have the following qualifications:

a. A minimum of [3] [_____] years experience in developing and implementing safety and occupational health programs [at HTRW sites] [in the HTRW disposal industry] [in the chemical industry] [in the petroleum processing industry] [at underground storage tank removal projects].

b. Documented experience in supervising professional and technician level personnel.

c. Documented experience in developing worker exposure assessment programs and air monitoring programs and techniques.

d. Documented experience in managing personal protective equipment (PPE) programs and conducting PPE hazard evaluations for the types of activities and hazards likely to be encountered on the project.

e. Working knowledge of state and Federal occupational safety and health regulations.

1.5.1.2 Responsibilities and Duties

a. Development, implementation, oversight, and enforcement of the APP/SSHP.

b. Provide onsite consultation as needed to ensure the APP/SSHP is fully

implemented.

c. Conduct initial site-specific training.

d. Be [present onsite] [available for consultation] during the [first 3 days] [_____] of remedial activities and at the startup of each new major phase of work.

e. Visit the site as needed and at least [once per week] [once per month] [_____] for the duration of activities, to audit the effectiveness of the APP/SSHP.

f. Be available for emergencies.

g. Coordinate any modifications to the APP/SSHP with the Site Superintendent, the SSHO, and the Contracting Officer.

h. Be responsible for evaluating air monitoring data and recommending changes to engineering controls, work practices, and PPE.

i. Provide continued support for upgrading/downgrading of the level of personal protection.

j. Serve as a member of the quality control staff.

k. Review accident reports and results of daily inspections.

l. Sign and date the APP/SSHP prior to submittal.

1.5.2 Site Safety and Health Officer

Designate an individual and [one alternate][[_____] alternates] as the Site Safety and Health Officer (SSHO). Include the name, qualifications (education and training summary and documentation), and work experience of the Site Safety and Health Officer and [alternate][alternates] in the APP/SSHP.

The Apply the following in conjunction with the required qualifications and responsibilities stated in EM 385-1-1, Section 33.C.02.

1.5.2.1 Qualifications

The following requirements are in addition to those in Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS.

a. A minimum of 1 year experience in implementing SOH programs [at HTRW sites][in the HTRW disposal industry][at underground storage tank removal projects][in the chemical or petroleum processing industry][radioactive waste cleanup projects] where [Level B][Level C] personal protective equipment was required.

b. Meet 29 CFR 1910.120/29 CFR 1926.65 requirements for 40-hour initial and 8-hour supervisor training and, maintain 8-hour refresher training requirements.

c. Specific training in personal and respiratory protective equipment, confined space entry and in the proper use of air monitoring instruments and air sampling methods including monitoring for ionizing radiation.

d. Documented experience in construction techniques and construction safety procedures.

e. Working knowledge of Federal and state occupational SOH regulations.

1.5.2.2 Responsibilities and Duties

The following requirements are in addition to those in Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS.

a. Assist and represent the Safety and Health Manager in onsite training and the day to day onsite implementation and enforcement of the accepted APP/SSHP.

b. Be assigned to the site on a full time basis for the duration of field activities. The SSHO [will have no duties other than] [can have collateral duties in addition to] SOH related duties. If operations are performed during more than 1 work shift per day, a site Safety and Health Officer must be present for each shift and when applicable, act as the radiation safety officer (RSO) as defined in paragraph 06.F.02 of EM 385-1-1 on radioactive waste cleanup projects.

c. Have authority to stop work if unacceptable health or safety conditions exist, and take necessary action to re-establish and maintain safe working conditions.

d. Have authority to ensure site compliance with specified SOH requirements, Federal, state and OSHA regulations and all aspects of the APP/SSHP including, but not limited to, activity hazard analyses, air monitoring, monitoring for ionizing radiation, use of PPE, decontamination, site control, standard operating procedures used to minimize hazards, safe use of engineering controls, the emergency response plan, confined space entry procedures, spill containment program, and preparation of records by performing a daily SOH inspection and documenting results on the Daily Safety Inspection Log in accordance with 29 CFR 1904.

e. In coordination with site management and the Safety and Health Manager, recommend corrective actions for identified deficiencies and oversee the corrective actions.

f. Consult with and coordinate any modifications to the APP/SSHP with the Safety and Health Manager, the Site Superintendent, and the Contracting Officer.

g. Conduct daily safety inspection and document SOH findings into the Daily Safety Inspection Log. Track noted SOH deficiencies to ensure that they are corrected.

h. Conduct accident investigations and prepare accident reports.

i. Serve as a member of the quality control staff on matters relating to SOH.

1.5.3 Additional Certified Health and Safety Support Personnel

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NOTE: Review project hazards and the safety and

health manager's certification requirements and select the paragraphs below requiring the Contractor to retain services from a Certified Industrial Hygienist (CIH), Certified Safety Professional (CSP) or Certified Health Professional (CHP) if project hazards warrant and if the safety and health manager will not possess the certification, knowledge and experience to address all occupational safety and occupational health problems expected to be encountered. Delete the paragraphs below if they do not apply to the project and the use of additional safety and health professionals (beyond the safety and health manager) is not necessary.
****

Retain [health physics support from a health physicist certified by the American Board of Health Physics to develop radiation protection requirements of the APP/SSHP and, when necessary, visit the site to help implement ionizing radiation protection requirements of the APP/SSHP.][safety support from a safety professional certified by the Board of Certified Safety professionals to develop written occupational safety procedures for the APP/SSHP and, when necessary, visit the site to help implement APP/SSHP requirements.][industrial hygiene support from an industrial hygienist certified by the American Board of Industrial Hygiene to develop occupational health practices for the APP/SSHP and, if necessary, visit the site to help implement APP/SSHP requirements.]

1.5.4 Occupational Physician

Utilize the services of a licensed physician, who is certified in occupational medicine by the American Board of Preventative Medicine, or who, by necessary training and experience is Board eligible. The physician must be familiar with the site's hazards and the scope of this project. Include the medical consultant's name, qualifications, and knowledge of the site's conditions and proposed activities in the APP/SSHP. The physician is responsible for the determination of medical surveillance protocols and for review of examination/test results performed in compliance with 29 CFR 1910.120, (f) and 29 CFR 1926.65, (f) and paragraph MEDICAL SURVEILLANCE PROGRAM.

1.5.5 Persons Certified in First Aid and CPR

At least two persons who are currently certified in first aid and CPR by the American Red Cross or other approved agency must be onsite at all times during site operations. They must be trained in universal precautions and the use of PPE as described in the Bloodborne Pathogens Standard of 29 CFR 1910, Section .1030. These persons may perform other duties but must be immediately available to render first aid when needed.

1.5.6 Safety and Health Technicians

For each work crew in the exclusion zone, one person, designated as a Safety and Health technician, must perform activities such as air monitoring, decontamination, and safety oversight on behalf of the SSHO. They must have appropriate training equivalent to the SSHO in each specific area for which they have responsibility and report to and be under the supervision of the SSHO.

1.6 EMERGENCY RESPONSE AND CONTINGENCY PROCEDURES

****

NOTE: It is the designers responsibility to contact and meet with local emergency response planning agencies to assure that emergency response services will be available to the Contractor during remedial action construction. Inform the Government Project Manager if special procedures/arrangements or equipment have to be included in the design to accommodate local emergency responder needs.

****

Develop and implement an Emergency Response Plan, that meets the requirements of EM 385-1-1 Section 33.G, 29 CFR 1910.120 (l) and 29 CFR 1926.65 (l), as a section of the APP/SSHP. In the event of any emergency associated with remedial action, without delay, alert all onsite employees and as necessary offsite emergency responders that there is an emergency situation; take action to remove or otherwise minimize the cause of the emergency; alert the Contracting Officer; and institute measures necessary to prevent repetition of the conditions or actions leading to, or resulting in, the emergency. Train employees that are required to respond to hazardous emergency situations to their level of responsibility according to 29 CFR 1910.120 (q) and 29 CFR 1926.65 (q) requirements. Rehearse the plan regularly as part of the overall training program for site operations. Review the plan periodically and revised as necessary to reflect new or changing site conditions or information. Provide copies of the Emergency Response Portion of the accepted APP/SSHP to the affected local emergency response agencies. Address, as a minimum, the following elements in the plan:

a. Pre-emergency planning. Coordinate with local emergency response providers during preparation of the Emergency Response Plan. At a minimum, coordinate with local fire, rescue, hazardous materials response teams, police and emergency medical providers to assure all organizations are capable and willing to respond to and provide services for on-site emergencies. Ensure the Emergency Response Plan for the site is compatible and integrated with the local fire, rescue, medical and police security services available from local emergency response planning agencies.

b. Personnel roles, lines of authority, communications for emergencies.

c. Emergency recognition and prevention.

d. Site topography, layout, and prevailing weather conditions.

e. Criteria and procedures for site evacuation (emergency alerting procedures, employee alarm system, emergency PPE and equipment, safe distances, places of refuge, evacuation routes, site security and control).

f. Route maps to nearest prenotified medical facility. Site-support vehicles must be equipped with maps. At the beginning of project operations, drivers of the support vehicles must become familiar with the emergency route and the travel time required.

g. Specific procedures for decontamination and medical treatment of injured personnel.

h. Emergency alerting and response procedures including posted instructions and a list of names and telephone numbers of emergency contacts (physician, nearby medical facility, fire and police departments, ambulance service, Federal, state, and local environmental agencies; as well as Safety and Health Manager, the Site Superintendent, the Contracting Officer and their alternates).

i. Criteria for initiating community alert program, contacts, and responsibilities.

j. Procedures for reporting incidents to appropriate government agencies. In the event that an incident such as an explosion or fire, or a spill or release of toxic materials occurs during the course of the project, the appropriate government agencies must be immediately notified. In addition, verbally notify the Contracting Officer and the local district safety office immediately and submit a written notification within 24 hours. Include within the report the following items:

(1) Name, organization, telephone number, and location of the Contractor.

(2) Name and title of the person(s) reporting.

(3) Date and time of the incident.

(4) Location of the incident, i.e., site location, facility name.

(5) Brief summary of the incident giving pertinent details including type of operation ongoing at the time of the incident.

(6) Cause of the incident, if known.

(7) Casualties (fatalities, disabling injuries).

(8) Details of any existing chemical hazard or contamination.

(9) Estimated property damage, if applicable.

(10) Nature of damage, effect on contract schedule.

(11) Action taken to ensure safety and security.

(12) Other damage or injuries sustained, public or private.

k. Procedures for critique of emergency responses and follow-up.

1.7 CERTIFICATE OF WORKER/VISITOR ACKNOWLEDGEMENT

A copy of a certificate of worker/visitor acknowledgement must be completed and submitted for each visitor allowed to enter contamination reduction or exclusion zones, and for each employee, following the Example Certificate Of Worker/Visitor Acknowledgement at the end of this section.

1.8 INSPECTIONS

Attach to and submit with the Daily Quality Control reports the SSHO's Daily Inspection Logs. Include with each entry the following: date, work

area checked, employees present in work area, PPE and work equipment being used in each area, special SOH issues and notes, and signature of preparer.

1.9 SAFETY AND HEALTH PHASE-OUT REPORT

Submit a Safety and Health Phase-Out Report in conjunction with the project close out report, prior to final acceptance of the work. Include the following minimum information :

a. Summary of the overall performance of SOH (e.g., accidents or incidents including near misses, unusual events, lessons learned).

b. Final decontamination documentation including procedures and techniques used to decontaminate equipment, vehicles, and on site facilities.

c. Summary of exposure monitoring and air sampling accomplished during the project.

d. Signatures of Safety and Health Manager and SSHO.

PART 2 PRODUCTS

2.1 REGULATORY REQUIREMENTS

Comply with EM 385-1-1, 29 CFR 1926.65, 29 CFR 1910.120, OSHA requirements in 29 CFR 1910 and 29 CFR 1926 with work performed under this contract, and state specific OSHA requirements where applicable. Submit to the Contracting Officer for resolution matters of interpretation of standards before starting work. The most stringent requirements apply where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary.

2.2 PERSONAL PROTECTIVE EQUIPMENT

2.2.1 Site Specific PPE Program

****
NOTE: The last sentence of the first text paragraph is tailored for use in Army projects only.
****

Provide onsite personnel exposed to contaminants with appropriate personal protective equipment. Components of levels of protection (B, C, D and modifications) must be relevant to site-specific conditions, including heat and cold stress potential and safety hazards. Use only respirators approved by NIOSH. Commercially available PPE, used to protect against chemical agent, must be approved by [the director of Army Safety through the Chemical Agent Safety and Health Policy Action Committee (CASHPAC)][_____].

Keep protective equipment and clothing clean and well maintained. Include site-specific procedures to determine PPE program effectiveness and for onsite fit-testing of respirators, cleaning, maintenance, inspection, cartridge change out, and storage of PPE within the PPE section of the APP/SSHP.

2.2.2 Levels of Protection

The Safety and Health Manager must establish and evaluate as the work progresses the levels of protection for each work activity. Also establish action levels for upgrade or downgrade in levels of PPE. Describe in the SSHP the protocols and the communication network for changing the level of protection. Address air monitoring results, potential for exposure, changes in site conditions, work phases, job tasks, weather, temperature extremes, and individual medical considerations within the PPE evaluation protocol.

2.2.2.1 Initial PPE Components

****

NOTE: Specify all components of each minimum initial level of protection that will be required for this site. Consult industrial hygiene staff and the following references to determine appropriate components for levels of protection:

NIOSH, OSHA, USCG, EPA, Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, October 1985, NIOSH 85-115; EM 385-1-1, Section 5 and Appendix L; 29 CFR 1910.120, Appendix B; and 29 CFR 1926.65, Appendix B.

Components must be included that provide protection for the respiratory system, skin, eyes, face, hands, feet, head, body, and hearing. Specify the types of materials (e.g., neoprene, nitrile) for gloves and boots and types of cartridges for air purifying respirators based on site-specific contaminants. Include types and thicknesses of radiation shielding, if applicable.

Cotton and cotton/polyester blend coveralls rented from local textile rental and laundering services provide dermal protection equivalent to uncoated disposable coveralls for a significantly reduced cost and offer superior personnel heat stress control performance. Require the Contractor to consider substituting cotton or cotton/polyester blend coveralls for disposables for Level D or Level C if site conditions warrant use of minimal dermal protection (tasks do not require manual handling of wet sloppy contaminated material and there are no chemical splash hazards). Check with the Textile Rental Services Association (tsra.org) or the Uniform Textile Services Organization (utsa.com) to determine likelihood of the Contractor finding local textile rental and laundering services.

****

The following items constitute initial minimum protective clothing and equipment ensembles.

Level D	[_____]
Modified Level D	[_____]
Level C	[_____]
Level B	[_____]

2.2.3 PPE for Government Personnel

****

NOTE: Confer with the Government construction oversight agent, Construction Division or Resident or Area Engineer in the Construction oversight Distric for USACE,, FEAD or ROICC for NAVFAC, to determine the appropriate number of sets of PPE and personal dosimeters required.

****

[Three] [_____] clean sets of personal protective equipment and personal dosimeters for work on radioactive waste cleanup sites and clothing (excluding air-purifying negative-pressure respirators and safety shoes, which will be provided by individual visitors), as required for entry into the Exclusion Zone and Contamination Reduction Zone, must be available for use by the Contracting Officer or official visitors. The items must be cleaned, maintained and stored [in the clean room of the decontamination facility] [_____] and clearly marked: "FOR USE BY GOVERNMENT ONLY." Provide basic training in the use and limitations of the PPE provided.

2.3 EMERGENCY EQUIPMENT AND FIRST AID REQUIREMENTS

Maintain, as a minimum, the following items onsite and available for immediate use:

a. First aid equipment and supplies approved by the consulting physician.

b. Emergency eyewashes and showers that comply with ANSI/ISEA Z358.1.

c. Emergency-use respirators. For escape purposes, supply [_____] 5- to 15-minute emergency escape masks. For rescue purposes, Supply [2] [_____] positive pressure self-contained breathing apparatus (SCBA). Dedicate these for emergency use only and maintained onsite in the Contamination Reduction Zone.

d. Provide fire extinguishers of sufficient size and type at site facilities and in all vehicles and at any other site locations where flammable or combustible materials present a fire risk.

[

e. [_____].]

PART 3 EXECUTION

3.1 SITE DESCRIPTION AND CONTAMINATION CHARACTERIZATION

3.1.1 Project/Site Conditions

****

NOTE: Review all available site records and reports and direct the Contractor to the reports with the information which can be used to guide development of the APP/SSHP. These reports are likely to be: the Remedial Investigation/Feasibility Study (RI/FS); Record of Decision (ROD); Engineering Evaluation/Cost Analysis (EE/CA) and Action Memorandums for CERCLA projects; the RCRA Facility Investigation (RFI); Corrective Measures Study (CMS) and Statement of Basis for RCRA facility sites; and Site specific investigative documents for UST removals. There may also have been predesign studies performed which can be valuable sources of occupational safety and health information. Direct the Contractor where to find the documents if they are not incorporated into the design.

Refer to the following reports and information for the site description and contamination characterization. They are located at [_____].

3.1.1.1 CERCLA Documents

[_____].

3.1.1.2 RCRA Documents

[_____].

3.1.1.3 UST Documents

[_____].

3.1.2 Ordnance and Explosives (OE)

NOTE: Retain this paragraph if there is a possibility that Ordnance and Explosives (OE), explosive media or Chemical Agent Contaminated Media (CACM) may be discovered while performing HTRW site cleanup activities. The definitions for OE, explosive media and CACM are in ER 385-1-95.

NOTE: The first text paragraph and the last sentence of this second text paragraph are tailored for use in Army projects only.

Establish the site Munitions and Explosives of Concern (MEC) probability assessment prior to starting work in accordance with EM 385-1-97 and ER 385-1-92. Produce a probability assessment to establish the MEC support requirements. Brief personnel on Recognize, Retreat and Report (3R's) and the POC list. EM 385-1-97, Chapter 1 provides follow-on actions necessary before going back to work status.

Stop work and contact the Contracting Officer if ordnance and explosives (OE), explosive media or chemical agent contaminated media (CACM) are

discovered during HTRW site cleanup activities. Proceed with work after the Contracting Officer gives permission and, according to ER 385-1-95 requirements.

3.2 TASK SPECIFIC HAZARDS, INITIAL PPE, HAZWOPER MEDICAL SURVEILLANCE AND TRAINING APPLICABILITY

****

NOTE: Evaluate and specify all the major tasks to be performed by the Contractor on the Task Hazard and Control Sheets at the end of this section. Specify the following for each task:

1. 29 CFR 1910.120/29 CFR 1926.65 (HAZWOPER) Medical Surveillance and Training applicability.

2. Safety, chemical, physical and radiological hazards associated for each task.

3. Initial PPE and operational requirements to mitigate the hazards for each activity.

****

Task specific occupational hazards, task specific HAZWOPER medical surveillance and training applicability and task specific initial PPE requirements for the project are listed on the Task Hazard and Control Sheets at the end of this section. Reevaluate occupational safety and health hazards as the work progresses and to adjust the PPE and onsite operations, if necessary, so that the work is performed safely and in compliance with occupational safety and health regulations.

3.3 TRAINING

In conjunction with EM 385-1-1, Section 33D, meet the training program requirements for workers performing cleanup operations and who will be exposed to contaminants.

3.3.1 General HTRW Operations Training

All Personnel performing duties with potential for exposure to onsite contaminants must meet and maintain the following 29 CFR 1910.120/ 29 CFR 1926.65 (e) training requirements:

a. 40 hours of off site HTRW instruction.

b. 3 days actual on-the-job field experience under the direct supervision of a trained, experienced supervisor.

c. 8 hours refresher training annually.

Onsite supervisors must have an additional 8 hours management and supervisor training specified in 29 CFR 1910.120/29 CFR 1926.65 (e) (4).

3.3.2 Pre-Entry Briefing

Prior to commencement of onsite field activities, all site employees, including those assigned only to the Support Zone, must attend a site-specific SOH training session. This session will be conducted by the Safety and Health Manager and the Site Safety and Health Officer to ensure that all personnel are familiar with requirements and responsibilities for maintaining a safe and healthful work environment. Thoroughly discuss procedures and contents of the accepted APP/SSHP and Sections 01.B.02 and

28.D.03 of EM 385-1-1 . Each employee must sign a training log to acknowledge attendance and understanding of the training. Notify the Contracting Officer at least [5] [_____] days prior to the initial site-specific training session so government personnel involved in the project may attend.

3.3.3 Periodic Sessions

Conduct periodic onsite training by the SSHO at least [weekly] [daily] for personnel assigned to work at the site during the following [week] [day]. Address SOH procedures, work practices, any changes in the APP/SSHP, activity hazard analyses, work tasks, or schedule; results of previous week's air monitoring, review of safety discrepancies and accidents. Convene a meeting prior to implementation of the change should an operational change affecting onsite field work be made, to explain SOH procedures. Conduct a site-specific training sessions for new personnel, visitors, and suppliers by the SSHO using the training curriculum outlines developed by the Safety and Health Manager. Each employee must sign a training log to acknowledge attendance and understanding of the training.

3.3.4 Other Training

****

NOTE: If site conditions warrant additional special training, specify requirements below.

For sites where employees will be required to work with radiation, determine and specify applicable training requirements (Federal and state).

****

[Special site specific training requirements: [_____]] [Site specific training for sites where radioactive wastes are to be cleaned up include:

a. Site specific procedures for handling and storing radioactive materials;

b. Health and safety hazards associated with exposure to the radioactive material that will be cleaned up or otherwise handled and the purpose and function of protective devices and precautions used to minimize exposures;

c. Elements of the APP/SSHP and company specific procedures intended to provide protection from radiation exposure;

d. Worker responsibility to report any unsafe acts which might result in exposure to ionizing radiation;

e. Appropriate worker response procedures to events that may result in worker exposure to ionizing radiation;

f. Worker rights and responsibilities with respect to ionizing radiation exposure.] [Provide training as specified by 29 CFR 1910 Section .146, by the Safety and Health Manager for employees who are required to supervise, standby, or enter permit-required confined spaces.] [Train in accordance with 49 CFR 172, persons involved in any aspect of the transportation of hazardous materials.]

3.4 MEDICAL SURVEILLANCE PROGRAM

Meet all requirements of 29 CFR 1910.120/29 CFR 1926.65 medical surveillance program and EM 385-1-1, Section 33.G for workers performing cleanup operations and who will be exposed to contaminants. Ensure the Occupational Physician or the physician's designee performs the physical examinations and reviews examination results. Participation in the medical surveillance program is without cost to the employee, without loss of pay and at a reasonable time and place.

3.5 EXPOSURE MONITORING/AIR SAMPLING PROGRAM

****

NOTE: Exposure monitoring for the protection of workers must be representative of the chemical and physical hazards presented by the onsite activities. Evaluate physical properties of hazardous materials and how they will be managed/handled and specify initial occupational exposure monitoring requirements which will assess initial personal protective equipment adequacy. Consult local industrial hygiene staff to select appropriate initial monitoring instruments and exposure monitoring methods.

****

Prepare and implement by the Safety and Health Manager an exposure monitoring/air sampling program to identify and quantify SOH hazards and airborne levels of hazardous substances in order to assure proper selection of engineering controls, work practices and personal protective equipment for affected site personnel. Include action levels for upgrading/downgrading PPE in the program. Submit personnel exposure monitoring/sampling results. Monitor for the following gasses and vapors [_____]. Monitor for the following aerosolized contaminants[_____].

[3.5.1 Ionizing Radiation Sampling and Dosimetry

****

NOTE: Check with local health physics staff or members of the radiation safety support team to determine the appropriate air sampling, dosimeters and instruments to determine occupational exposure/dose to radioactive isotopes and ionizing radiation fields. If radioactive isotopes and ionizing radiation fields are not a part of the project this paragraph and its subparagraphs can be eliminated from the specification.

****

3.5.1.1 Air Sampling and Dosimetry

3.5.1.1.1 Instruments

Use the following instrument[s] to evaluate occupational exposure to radioactive isotopes and ionizing radiation fields: [_____]

3.5.1.1.2 Sampling Methods

Use the following sampling method[s] to evaluate occupational exposure to

radioactive isotopes and ionizing radiation fields: [_____]

3.5.1.1.3 Dosimeters

Use the following dosimeter[s] to evaluate occupational exposure to radioactive isotopes and ionizing radiation fields: [_____]

3.5.1.2 Evaluation

Radiation dosimetry must be evaluated by an individual or company holding current personnel dosimetry accreditation from the National Voluntary Laboratory Accreditation Program (NVLAP). Electronic dosimetry may be used to assign external dose if approved by the Contracting Officer. Internal intake assessment and applicable monitoring must be evaluated by the Certified Health Professional (CHP).

3.5.1.3 Documentation

Document employee exposure to external radiation. Include reviewing each employee's radiation exposure history in accordance with 10 CFR 20 Section .2104, for compliance with exposure standards prior to allowing the employee access to a restricted area. If the employee has no exposure history, the employee must provide a signed written statement to that effect.

3.5.1.4 Reporting

Furnish reports of exposure to ionizing radiation to the Contracting Officer as soon as available and to each employee annually, upon termination, and within 30 days of any personal request.

]3.6 HEAT STRESS MONITORING AND MANAGEMENT

Document in the APP/SSHP and implement the procedures and practices in section 06.J. in EM 385-1-1 to monitor and manage heat stress.

3.7 SPILL AND DISCHARGE CONTROL

****

NOTE: If requirements for spill and discharge control are described in a separate section, reference the appropriate section. Determine local notification requirements and include them in the following paragraph.

****

Develop and implement written spill and discharge containment/control procedures. Address radioactive wastes, shock sensitive wastes, laboratory waste packs, material handling equipment, as well as drum and container handling, opening, sampling, shipping and transport. Describe prevention measures, such as building berms or dikes; spill control measures and material to be used (e.g. booms, vermiculite); location of the spill control material; personal protective equipment required to cleanup spills; disposal of contaminated material; and who is responsible to report the spill. Storage of contaminated material or hazardous materials must be appropriately bermed, diked and contained to prevent any spillage of material on uncontaminated soil. If the spill or discharge is reportable, or human health or the environment are threatened, notify the National Response Center, the state, and the Contracting Officer as soon as possible. Provide control as required by Section 01 57 19 TEMPORARY

ENVIRONMENT CONTROLS. Reporting requirements must be in accordance with [Section 02 65 00 UNDERGROUND STORAGE TANK REMOVAL][_____].

3.8 MATERIALS TRANSFER SAFETY

Remove liquids and residues from the tanks using explosion-proof or air-driven pumps. In accordance with EM 385-1-1, Section 9, electrically bond the tank and ground pump motors and suction hoses to prevent electrostatic ignition hazards. Use of a hand pump will be permitted to remove the last of the liquid from the bottom of the tanks. If a vacuum truck is used for removal of liquids or residues, the area of operation for the vacuum truck must be vapor free. Locate the truck upwind from the tank and outside the path of probable vapor travel. Discharge the vacuum pump exhaust gases through a hose of adequate size and length downwind of the truck and tank area. Vacuum truck operating and safety practices must conform to API RP 2219. Collect tank residues in drums, tanks, or tank trucks labeled according to 49 CFR 171 and 49 CFR 172 and disposed of as specified. Disconnect and drain fittings and lines of their contents after the materials have been transferred and the tanks have been exposed. Do not spill contents into the environment during cutting or disconnecting of tank fittings. Transfer materials drained into DOT-approved drums for storage and transportation. Use only non-sparking or non-heat producing tools to disconnect and drain or to cut through tank fittings. Electrical equipment (e.g., pumps, portable hand tools) used for tank preparation must be explosion-proof. Following cutting or disconnecting of the fittings, plug openings leading to the tanks.

3.9 SITE CONTROL MEASURES

Coordinate site control measures with Section 01 57 19 TEMPORARY ENVIRONMENT CONTROLS.

3.9.1 Work Zones

****

NOTE: Utilize the contamination characterization information and the preliminary hazard/risk analysis to delineate work zone boundaries on the drawings. Include a note on the drawings that these are only initial anticipated work zone boundaries and they must be modified by the Contractor to show the actual zones.

On sites where ionizing radiation or radioactive material may be encountered, specify that the Contractor designates restricted areas (Radiation Areas, High Radiation Areas and Airborne Radioactive Contamination Areas as defined in 10 CFR 20).

****

Initial anticipated work zone boundaries (exclusion zone, contamination reduction zone, support zone, all access points and decontamination areas) are to be clearly delineated on the site drawings. Base delineation of work zone boundaries on the contamination characterization data and the hazard/risk analysis to be performed as described in EM 385-1-1 06.A.02. As work progresses and field conditions are monitored, work zone boundaries may be modified (and site drawings modified) with approval of the Contracting Officer. Clearly identify work zones and mark in the field (using fences, tape, or signs). Submit and post a site map, showing

work zone boundaries and locations of decontamination facilities in the onsite office. Work zones must consist of the following:

3.9.1.1 Exclusion Zone (EZ)

The exclusion zone is the area where hazardous contamination is either known or expected to occur and the greatest potential for exposure exists. Control entry into this area and exit may only be made through the Contamination Reduction Zone (CRZ).

3.9.1.2 Contamination Reduction Zone (CRZ)

The CRZ is the transition area between the Exclusion Zone and the Support Zone. The personnel and equipment decontamination areas must be separate and unique areas located in the CRZ.

3.9.1.3 Support Zone (SZ)

The Support Zone is defined as areas of the site, other than exclusion zones and contamination reduction zones, where workers do not have the potential to be exposed to hazardous substances or dangerous conditions resulting from HTRW operations. Secure the Support Zone against active or passive contamination. Site offices, parking areas, and other support facilities must be located in the Support Zone.

3.9.2 Site Control Log

A log of personnel visiting, entering, or working on the site must be maintained. Include the following: date, name, agency or company, time entering and exiting site, time entering and exiting the exclusion zone (if applicable). Before visitors are allowed to enter the Contamination Reduction Zone or Exclusion Zone, they must show proof of current training, medical surveillance and respirator fit testing (if respirators are required for the tasks to be performed) and fill out a Certificate of Worker or Visitor Acknowledgment. Record this visitor information, including date, in the log.

3.9.3 Communication

****

NOTE: Specify the appropriate communication systems (i.e., air horns, walkie talkies, radios, telephones) based on site-specific conditions.

****

Provide and install an employee alarm system that has adequate means of on and off site communication in accordance with 29 CFR 1910 Section .165. The means of communication must be able to be perceived above ambient noise or light levels by employees in the affected portions of the workplace. The signals must be distinctive and recognizable as messages to evacuate or to perform critical operations. This includes: [_____].

3.9.4 Site Security

****

NOTE: Specify the appropriate type of site security (i.e., warning signs, fences, 24-hour security guard, site access procedures) based on site-specific conditions.

On sites where ionizing radiation or radioactive material may be encountered, specify and post signs that meet the requirements of 10 CFR 20 for restricted areas.
****

Provide the following site security: [_____]. Print signs in bold large letters on contrasting backgrounds. Signs must be visible from all points where entry might occur and at such distances from the restricted area that employees may read the signs and take necessary protective steps before entering.

3.10 PERSONAL HYGIENE AND DECONTAMINATION

Personnel entering the Exclusion or Contamination Reduction Zones or otherwise exposed to hazardous chemical vapors, gases, liquids, or contaminated solids must decontaminate themselves and their equipment prior to exiting the contamination reduction zone (CRZ) and entering the support zone. Consult Chapter 10.0 of NIOSH 85-115 when preparing decontamination procedures. Submit a detailed discussion of personal hygiene and decontamination facilities and procedures to be followed by site workers as part of the APP/SSHP. Train employees in the procedures and enforce the procedures throughout site operations.

3.10.1 Decontamination Facilities

Submit drawings showing the layout of the personnel and equipment decontamination [areas] [facilities].

3.10.2 Personnel Decontamination

****
NOTE: Evaluate project specific tasks and contaminants to be handled and select appropriate initial personnel decontamination techniques and procedures below. Add appropriate decontamination techniques if not included. Select the showering option below when specific OSHA standards (29 CFR 1910.1003, 13 Carcinogens for example) require shower use or if industrial hygiene staff recommend showering for personnel decontamination. Specify the equipment necessary to perform personnel decontamination on this project.
****

Initially set up a decontamination line in the CRZ. Employees must exit the exclusion zone through the CRZ and implement the following decontamination procedures and techniques: [Scrub and rinse water proof outer garments] [remove all outer garments] [hand and face wash] [shower]. Showers, if needed, must comply with 29 CFR 1910, Section.141 and EM 385-1-1, 02 F, Washing Facilities. Following are additional decontamination procedures personnel are to follow: [_____]. It is the Site Safety and Health Officer's responsibility to recommend techniques to improve personnel decontamination procedures, if necessary. Initial personnel decontamination equipment includes the following: [_____].

3.10.3 Equipment Decontamination

Decontaminate the vehicles and equipment used in the EZ in the CRZ prior to leaving the EZ.

3.10.3.1 Facilities for Equipment and Personnel

****

NOTE: Other sections of the specifications and drawings should contain detailed requirements for the vehicle or equipment decontamination pad. As an alternative, the design of the decontamination pad may be a Contractor submittal. The language in this paragraph provides general requirements for the Contractor's submittal. Edit as necessary for project.

****

Provide a [vehicle][/][equipment] decontamination station within the CRZ for decontaminating vehicles and equipment leaving the EZ. [Construct a decontamination station pad, which meets the site decontamination needs for all vehicles and larger equipment decontamination. Construct the pad to capture decontamination water, including overspray, and allow for collection and removal of the decontamination water using sumps, dikes and ditches as required.] [Provide a high pressure, low volume, water wash area for equipment and vehicles.] [Provide a steam cleaning system for use after the mud or site material has been cleaned from the equipment.] [Perform dry decontamination using a broom to remove dry/loose spilled materials on accessible surfaces.] [Provide a designated "clean area" in the CRZ for performing equipment maintenance. Use this area when personnel are required by normal practices to come in contact with the ground, i.e., crawling under a vehicle to change engine oil. Equipment within the EZ or CRZ must be decontaminated before maintenance is performed.]

3.10.3.2 Procedures

****

NOTE: Specify necessary procedures. Include any special procedures and methods to determine adequacy of decontamination.

****

Procedures for equipment decontamination must be developed and utilized to prevent the spread of contamination into the SZ and offsite areas. These procedures must address disposal of contaminated products and spent materials used on the site, including, as a minimum, containers, fluids, and oils. Assume any item taken into the EZ to be contaminated and perform an inspection and decontaminate. Vehicles, equipment, and materials must be cleaned and decontaminated prior to leaving the site. Handle construction material in such a way as to minimize the potential for contaminants being spread or carried offsite. Prior to exiting the site, vehicles and equipment must be monitored to ensure the adequacy of decontamination.

Task Hazard and Control Requirements Sheet	
Task	
Initial Anticipated Hazards	
Initial PPE	
Initial Controls	
Initial Exposure Monitoring	
[Yes][No]	HAZWOPER Medical Surveillance Required
[Yes][No]	HAZWOPER Training Required

-- End of Section --