

## WERS-005.01

### DATA ITEM DESCRIPTION

**Title:** Accident Prevention Plan

**Number:** WERS-005.01

**Approval Date:** 20100428

**AMSC Number:**

**Limitation:**

**DTIC Applicable:** No

**GIDEP Applicable:** No

**Office of Primary Responsibility:** CEHNC-SO

**Applicable Forms:** ENG Form 3394

**Use/Relationship:** This Data Item Description contains instructions for preparing an Accident Prevention Plan (APP) for conventional ordnance and explosives projects.

**Requirements:**

1. The contractor shall develop an Accident Prevention Plan (APP) as the safety and health policy program. The APP shall interface with the contractor's overall safety and health program. The APP shall be prepared in the format shown and address all the elements in EM 385-1-1, Appendix A. Where a specific element is not applicable, list the element in the plan and state that the element is not applicable with a brief justification for its omission. The APP shall be an implementing document with emphasis on "who" will have each of the specific responsibilities and "how" and "when" each of the applicable requirements will be performed. The prime contractor shall integrate all subcontractor work activities into the APP, make the APP available to all contractor and subcontractor employees, and ensure that all subcontractors integrate provisions of the APP in their work activities.

1.1. SIGNATURE SHEET. Title, signature, and phone number of the following:

1.1.1. Plan preparer (qualified person such as corporate safety staff person, QC).

1.1.2. Plan must be approved, by company/corporate officers authorized to obligate the company (e.g., owner, company president, regional vice president, etc.).

1.1.3. Plan concurrence (e.g., Chief of Operations, Corporate Chief of Safety, Corporate Industrial Hygienist, project manager or superintendent, project safety professional, project QC) (provide concurrence of other applicable corporate and project personnel (Contractor)).

1.2. BACKGROUND INFORMATION. List the following:

1.2.1. Contractor;

1.2.2. Contract number;

1.2.3. Project name;

1.2.4. Brief project description, description of work to be performed, and location shown on a legible map;

1.2.5. Contractor accident experience (provide information such as experience modification rate (EMR), OSHA 300 Forms, corporate safety trend analyses); and

1.2.6. Listing of phases of work and hazardous activities requiring AHA.

1.3. STATEMENT OF SAFETY AND HEALTH POLICY. Provide a copy of your current corporate/company Safety and Health Policy Statement. NOTE: In addition to the corporate/company policy statement, your corporate/company safety program may provide a significant portion of the information required by the APP.

1.4. RESPONSIBILITIES AND LINES OF AUTHORITIES.

1.4.1. Identification and accountability of personnel responsible for safety - at both corporate and project level.

## **WERS-005.01**

1.4.2. Lines of authority.

1.5. SUBCONTRACTORS AND SUPPLIERS. Provide the following:

1.5.1. Identification of subcontractors and suppliers (if known);

1.5.2. Means for controlling and coordinating subcontractors and suppliers; and

1.5.3. Safety responsibilities of subcontractors and suppliers.

1.6. TRAINING.

1.6.1. List subjects to be discussed with employees in safety indoctrination.

1.6.2. List mandatory training and certifications that are applicable to this project (e.g., explosive actuated tools, confined space entry, crane operator, diver, vehicle operator, HAZWOPER training and certification, PPE) and any requirements for periodic retraining/recertification.

1.6.3. Identify requirements for emergency response training. See paragraph 1.12.2. below for a list of requirements that may require emergency response training.

1.6.4. Outline requirements (who attends, when given, who will conduct, etc.) for supervisory and employee safety meetings.

1.7. SAFETY AND HEALTH INSPECTIONS. Provide details on:

1.7.1. Who will conduct safety inspections (e.g., PM, safety professional, QC, supervisors, employees), proof of inspector's training/qualifications, when inspections will be conducted, how the inspections will be recorded, deficiency tracking system, follow-up procedures, etc. The names of competent and/or qualified person(s) and proof of competency/qualification to meet specific OSHA competent/qualified person(s) requirements must be attached.

1.7.2. Any external inspections/certifications that may be required (e.g., USCG).

1.8. SAFETY AND HEALTH EXPECTATIONS, INCENTIVE PROGRAMS, AND COMPLIANCE.

1.8.1. Provide your company's written safety program goals, objectives, and accident experience goals for this contract shall be provided.

1.8.2. A brief description of the company's safety incentive programs (if any) shall be provided.

1.8.3. Policies and procedures regarding noncompliance with safety requirements (to include disciplinary actions for violation of safety requirements) shall be identified.

1.8.4. Provide written company procedures for holding managers and supervisors accountable for safety.

1.9. ACCIDENT REPORTING. The Contractor shall identify who, how, and when the following will be completed:

1.9.1. Exposure data (man-hours worked);

1.9.2. Accident investigations, reports, and logs;

1.9.3. Immediate notification of major accidents.

## **WERS-005.01**

1.10. MEDICAL SUPPORT. Outline on-site medical support and offsite medical arrangements including rescue and medical duties for those employees who are to perform them, and the name(s) of onsite Contractor personnel trained in first aid and CPR.

1.11. PERSONAL PROTECTIVE EQUIPMENT. Outline procedures (who, when, how) for conducting hazard assessments and written certifications for use of PPE. Outline procedures to be followed to assure the proper use, selection, and maintenance of personal protective and life saving equipment (e.g., protective footwear, protective gloves, hard hats, safety glasses, hearing protection, body harnesses, lanyards).

1.12. PLANS (PROGRAMS, PROCEDURES) REQUIRED BY EM 385-1-1, as noted in the ( ),as applicable.

1.12.1. Layout plans (04.A.01)

1.12.2. Emergency response plans:

1.12.2.1. Procedures and tests (01.E.01)

1.12.2.2. Spill plans (01.E.01, 06.A.02)

1.12.2.3. Firefighting plan (01.E.01, 19.A.04)

1.12.2.4. Posting of emergency telephone numbers (01.E.05)

1.12.2.5. Wild land fire prevention plan (09.K.01)

1.12.2.6. Man overboard/abandon ship (19.A.04)

1.12.3. Hazard communication program (01.B.06). Provide the location of MSDS, records of Contractor employee training, and inventory of hazardous materials (including approximate quantities and a site map) that will be brought onto Government project by the Contractor and subcontractor.

1.12.4. Respiratory protection plan (05.E.03)

1.12.5. Health hazard control program (06.A.02)

1.12.6. Lead abatement plan (06.B.05 & specifications)

1.12.7. Asbestos abatement plan (06.B.05 & specifications)

1.12.8. Abrasive blasting (06.H.01)

1.12.9. Confined space (06.I)

1.12.10. Hazardous energy control plan (12.A.07)

1.12.11. Critical lift procedures (16.C.18)

1.12.12. Contingency plan for severe weather (19.A.03)

1.12.13. Access and haul road plan (8.D.1)

1.12.14. Demolition plan (engineering and asbestos surveys)(23.A.01)

1.12.15. Emergency rescue (tunneling) (26.A.05)

1.12.16. Underground construction fire prevention and protection plan (26.D.01)

## **WERS-005.01**

- 1.12.17. Compressed air plan (26.I.01)
- 1.12.18. Formwork and shoring erection and removal plans (27.B.02)
- 1.12.19. Jacking plan (lift) slab plans (27.D.01)
- 1.12.20. Blasting plan (29.A.01)
- 1.12.21. Diving plan (30.A.13)
- 1.12.22. Plan for prevention of alcohol and drug abuse (Defense Federal Acquisition Regulation Supplement (DFARS) Subpart 252.223-7004)
- 1.12.23. Fall protection plan (Section 21)
- 1.12.24. Steel erection plan (27.E.01)
- 1.12.25. Night operations lighting plan (16.C.19.d)
- 1.12.26. Site sanitation plan (Section 02)
- 1.12.27. Fire Prevention Plan (09.A.01)

**1.13. CONTRACTOR INFORMATION.** The Contractor shall provide information on how they will meet the requirements of applicable Sections of this manual in the APP. As a minimum, excavations, scaffolding, medical and first-aid requirements, sanitation, PPE, fire prevention, machinery and mechanized equipment, electrical safety, public safety requirements; and chemical, physical agent, and biological occupational exposure prevention requirements shall be addressed as applicable.

**1.14. SITE-SPECIFIC HAZARDS AND CONTROLS.** Detailed site specific hazards and controls shall be provided in the AHA for each activity of the operation.

**2. Site Safety and Health Plan (SSHP).** The Contractor shall develop a SSHP as an attachment to the APP. The SSHP shall address all occupational safety and health hazards associated with the site munitions and explosive constituents removal operations. The SSHP shall address the requirements of 29 CFR 1910.120(b)(4)(ii), 29 CFR 1926.65(b)(4)(ii), Corps of Engineers Manual, EM 385-1-1, Section 28, ER 385-1-95 and any other applicable Federal, state, and local safety and health requirements. The level of detail provided shall be tailored to the type of work, complexity of operations to be accomplished, and the hazards anticipated. The SSHP shall address those elements, which are specific to the site, and have the potential for negative effects on the safety and health of workers. Where a specific element is not applicable, list the element in the plan and state that the element is not applicable with a brief justification for its omission. The following is provided as additional instruction for preparation of the SSHP. The SSHP shall cover the elements listed in 2.1 through 2.14 in project specific detail. SSHP elements adequately covered elsewhere in the APP need not be duplicated. When a specific element is repeated, list the element in the plan and state that the element is addressed in the APP.

**2.1 Site description and contamination characterization.** Provide a description of the site based on results of previous studies, site history, and prior uses and activities. The SSHP shall provide a description of the contamination with the exposure potential to adversely affect safety and occupational health and likely to be encountered by the on-site work activities. Include ordnance and chemical/biological, concentration ranges, media in which found, locations onsite, and estimated quantities/volumes to be impacted by this work.

**2.2 Hazard/Risk analysis.** An AHA shall be developed for each task/operation to be performed. The AHA shall comply with the requirements in 01.A.13. The AHA shall account for all hazards (classic safety, explosive ordnance, chemical, physical, biological, ionizing radiation) likely to be encountered while performing the work. The tasks and hazard/risk analyses shall be modified and approved as needed to address changing work conditions.

## **WERS-005.01**

2.2.1. Classic Safety. Evaluate the potential for injury from all site conditions and activities (e.g., munitions, excavations, slips, trips, and falls, electricity, equipment, machinery, etc.).

2.2.2. Explosive Ordnance. Identify potential munitions items that may be encountered and the necessary steps to mitigate the hazards.

2.2.3. Chemical. List the chemical hazards that may be encountered during site activities and evaluate the chemical, physical, and toxicological properties of the chemicals. Describe the sources and pathways of employee exposure and anticipated on-site and off-site exposure levels. Address Federal, state and local regulations or recommended exposure standards. Address employee exposure to hazardous substances bought on site for the execution of site activities.

2.2.4. Physical. Evaluate the potential for injury from physical agents such as noise, heat and cold stress, vibration, etc., that may be present.

2.2.5. Ionizing Radiation. Evaluate the risk to human health caused by radioactive materials or ionizing radiation fields in the area where work is to be performed. Consider the presence of radioactive isotopes and the type of ionizing radiation they emit. Describe the sources and pathways of employee internal exposure and anticipated on and off-site internal and external levels. Address Federal, state and local regulations or recommended exposure standards.

2.2.6. Biological. Evaluate the potential for illness or injury due to biological agents (e.g., poisonous plants, animals, insects, microorganisms.).

2.2.3. Establish and discuss action levels and methods to mitigate the hazards noted above for the situations listed below. Action levels and required actions shall be presented in text and tabular forms.

2.2.3.1. Implementation of engineering controls and work practices.

2.2.3.2. Upgrades/downgrades in levels of personal protective equipment.

2.2.3.3. Work stoppage and/or emergency evacuation of on-site personnel.

2.2.3.4. Prevention and/or minimization of public exposures to hazards created by site activities

2.3 Staff organization, qualifications, and responsibilities. The following personnel are required for implementation of safety and occupational health requirements at cleanup operations. Each person assigned specific safety and health responsibilities shall have their responsibilities identified and his/her qualifications and experience documented by a resume attached to the SSHP.

2.3.1 Safety and Health Manager (SHM). The SHM must be a Certified Industrial Hygienist (CIH), Certified Safety Professional (CSP), or Certified Health Physicist (CHP), dependent upon the contaminant-related hazards on the project (CIH for occupational health hazards, CSP for safety hazards, and CHP for ionizing radiation hazards). The SHM shall have 3 years of experience managing safety and occupational health at hazardous waste site cleanup operations. The SHM shall enlist the support of safety and occupational health professionals with appropriate education and experience when working on sites with multiple (chemical, safety, ionizing radiation) hazards. The SHM is responsible for the following actions:

2.3.1.1 Develop, maintain, and oversee implementation of the SSHP.

2.3.1.2 Visit the project as needed to audit the effectiveness of the SSHP.

2.3.1.3 Remain available for project emergencies.

2.3.1.4 Develop modifications to the SSHP as needed.

## **WERS-005.01**

2.3.1.5 Evaluate occupational exposure monitoring/air sampling data and adjust SSHP requirements as necessary.

2.3.1.6 Serve as a QC staff member.

2.3.1.7 Approve the SSHP by signature.

2.3.2. Site safety and health officer (SSHO). The SSHO shall have 1 year of experience implementing safety and occupational health procedures at cleanup operations, and have the training and experience to conduct exposure monitoring/air sampling and select/adjust protective equipment use. The Unexploded Ordnance Safety Officer (UXOSO) who meets these qualifications may also serve as the Site Safety and Health Officer (SSHO). The SSHO shall have the authority and is responsible for the following actions: The SSHO also must have completed the 10-hour OSHA construction safety class or an equivalent course applicable to the work to be performed and given by qualified instructors. Such training shall have been within the last three (3) years.

2.3.2.1. Be present during operations to implement the SSHP.

2.3.2.2. Inspect site activities to identify safety and occupational health deficiencies and correct them.

2.3.2.3. Coordinate changes/modifications to the SSHP with the SHM, site superintendent, and contracting officer.

2.3.2.4. Conduct project specific training.

2.3.2.5. A UXO qualified individual, meeting the personnel qualification requirements for a UXOSO shall review the APP and SSHP and sign their concurrence along with the SHM.

2.4 Training. Personnel shall comply with the following general and project specific training requirements:

2.4.1. General training. General training requirements apply to project personnel exposed to contaminant related health and safety hazards. General training must comply with the following requirements:

2.4.1.1. 40-hour off-site hazardous waste site instruction. Off-site instruction must comply with the 40-hour training requirements in OSHA standards 29 CFR 1910.120 and 29 CFR 1926.65.

2.4.1.2. 8-hour annual refresher training. Refresher training must comply with the requirements in OSHA standards 29 CFR 1910.120 and 29 CFR 1926.65. USACE employees must comply with local district hazardous waste refresher training policies.

2.4.1.3. 3 days of field experience under the direct supervision of a trained, experienced supervisor.

2.4.2. Supervisory training. On-site supervisors must comply with the 8-hour supervisory training requirements in OSHA standards 29 CFR 1910.120 and 29 CFR 1926.65.

2.4.3. Project-specific training. The following project-specific training shall be provided to workers before onsite work begins:

2.4.3.1. Training specific to other sections of this manual or OSHA standards in 29 CFR 1910 and 29 CFR 1926 that are applicable to site work and operations.

2.4.3.2. Training covering each element in the SSHP.

2.4.3.3. The Contractor shall maintain copies of the required training certificates on site and shall make them available for government inspection upon request.

## **WERS-005.01**

2.5. Personal Protective Equipment. PPE used to protect workers from site-related hazards (explosive ordnance, construction safety and health and contaminant related) shall comply with requirements specified in Section 5.

2.6. Medical surveillance. All personnel performing on-site work that will result in exposure to contaminant-related health and safety hazards shall be enrolled in a medical surveillance program that complies with OSHA standards 29 CFR 1910.120 (f) and 29 CFR 1926.65 (f). Minimum specific exam content and frequency based on probable site conditions, potential occupational exposures, and required protective equipment shall be specified. Certification of medical surveillance program participation shall be appended to the SSHP. The certification shall include: employee name, date of last examination, and name of examining physician(s). The required written physician's opinion shall be made available upon request to the government's designated authority. All medical records shall be maintained in accordance with 29 CFR 1910.1020.

2.7. Exposure monitoring/Air sampling program. Exposure monitoring and air sampling shall be performed to evaluate effectiveness of prescribed PPE and to evaluate worker exposure to site-related contaminants and hazardous substances used in the cleanup process. Project-specific exposure monitoring/air sampling requirements shall comply with requirements specified Section 6. Where perimeter monitoring is not deemed necessary, provide suitable justification for its exclusion. All monitoring and sampling protocols shall be specified to include instrumentation to be used and calibration of instruments.

2.8. Heat and cold stress. The procedures and practices for protecting workers from heat and cold stress shall comply with the requirements 06.J.

2.9. Standard operating safety procedures, engineering controls, and work practices. Safety and occupational health procedures, engineering controls and work practices shall be addressed for the following as appropriate:

2.9.1. Site rules/prohibitions (buddy system, eating/drinking/smoking restrictions, etc.).

2.9.2. Work permit requirements (radioactive work, excavation, hot work, confined space, etc.).

2.9.3. Material handling procedures (soil, liquid, radioactive materials, spill contingency).

2.9.4. Drum/container/tank handling (opening, sampling, overpacking, draining, pumping, purging, inerting, cleaning, excavation and removal, disassembly and disposal, spill contingency).

2.9.5. Comprehensive Activity Hazard Analysis of treatment technologies employed at the site.

2.10. Site control measures. The contractor shall describe site control measures, which include site maps, the work zone delineation and access points, the on/off-site communication system, general site access controls, and security procedures (physical and procedural). Work zones shall be established so that on-site activities do not spread contamination. The site shall be set up so that there is a clearly defined exclusion zone (EZ) and a clearly defined support zone (SZ) with a contamination reduction zone (CRZ) as a transition between the EZ and SZ.

2.11. Personal hygiene and decontamination. A personal hygiene and decontamination station shall be set up in the CRZ for personnel to remove contaminated PPE and to wash when exiting the EZ. The contractor shall develop and specify decontamination procedures in accordance with 29 CFR 1910.120 for personnel, PPE, monitoring instruments, sampling equipment, and other equipment used on site. Decontamination procedures shall address specific measures to ensure that contamination is confined to the work site. Necessary facilities and their locations, detailed standing operating procedures (SOPs), frequencies, supplies, and materials to accomplish decontamination of site personnel and to determine adequacy of equipment decontamination shall be discussed.

2.12. Equipment decontamination. An equipment decontamination station shall be set up in the CRZ for equipment to be decontaminated when exiting the EZ.

2.13. Emergency equipment and first aid. The equipment and personnel required for first aid and CPR shall comply with the requirements in Section 3. Emergency equipment required to be on-site shall have the capacity to

## **WERS-005.01**

respond to project-specific emergencies. Site emergencies may require (but should not be limited to) PPE and equipment to control fires, leaks and spills, or chemical (contaminant or treatment process) exposure.

2.14. Emergency response and contingency procedures. An Emergency Response Plan (ERP) shall be developed that addresses the following emergency response and contingency procedures:

2.14.1. Pre-emergency planning. An agreement shall be established between the Contractor, local emergency responders, and the servicing emergency medical facility that specifies the responsibilities of on-site personnel, emergency response personnel, and the emergency medical facility in the event of an on-site emergency.

2.14.2. Personnel and lines of authority for emergency situations.

2.14.3. Criteria and procedures for emergency recognition and site evacuation (e.g., emergency alarm systems, evacuation routes and reporting locations, site security).

2.14.4. Decontamination and medical treatment of injured personnel.

2.14.5. A legible route map with written instructions to emergency medical facilities and phone numbers for emergency responders (physician, pre-notified nearby medical facility, fire and police departments, ambulance service, state/local/Federal agencies, CIH, CSP, CHP, and CO).

2.14.6. Criteria for alerting the local community responders.

2.14.7. Material Safety Data Sheets (MSDS) for each hazardous substance anticipated to be encountered on site shall be made accessible to site personnel at all times and shall be maintained on site.

### **2.15. Emergency Response Plan.**

2.15.1. Operations. Identify the operations requiring the use of hazardous substances.

2.15.2. Pre-emergency planning with local emergency responders. Describe emergency response agreements, including roles and responsibilities, made with local emergency responders for hazardous material response, fire, rescue, emergency medical care, and security and law enforcement.

2.15.3. Personnel roles, lines of authority, training, and communication. Describe key personnel roles, command structure/lines of authority and communications requirements for responding to construction site or facility specific hazardous substance releases.

2.15.4. Emergency recognition and prevention. Explain the likely emergency scenarios for the construction project or facility, and explain how employees can expect to identify and recognize emergency scenarios.

2.15.5. Safe distances and places of refuge. Select safe places of refuge to be used in emergency situations, identify these locations in the ERP, and require employees to report to selected places of refuge during emergencies.

2.15.6. Site security and control. Describe how the facility will be secured and describe access to the site controlled during emergencies.

2.15.7. Evacuation routes and procedures. Describe and map out the evacuation routes to safe places of refuge and any special safety and health procedures employees must follow while evacuating the facility.

2.15.8. Decontamination. Develop and describe plans and procedures for decontaminating personnel if/when they come in contact with leaking hazardous substances.

2.15.9. Emergency medical treatment and first aid. Explain how emergency medical treatment and first aid will be provided in the event of a hazardous substance spill.

## **WERS-005.01**

2.15.10. Emergency alerting and response procedures. Describe how personnel will be alerted in the event of a hazardous substance spill, and describe how facility personnel must respond after emergency alerting procedures are initiated.

2.15.11. Critique of response and follow-up. Describe how lessons learned from emergency response will be documented and used to improve future emergency response actions.

2.15.12. PPE and emergency equipment. Describe the PPE and emergency equipment to be made available and how it is to be used by employees for evacuation. Describe the PPE and emergency response equipment that will be available for use by response personnel at the facility.

2.16. Emergency Response Team. Designate a facility-specific ERT. Describe the team's emergency responsibilities. Describe the team's responsibilities for interacting with local emergency response providers (i.e., where the facility team's responsibilities end and the local response providers begin).

2.16.2. Personnel training requirements. At a minimum, ERT personnel at the facility or construction project shall be trained to the "First Responder Operations Levels" specified in 29 CFR 1910.120 (q)(6)(ii). Response above and beyond defensive requires additional training and highly qualified supervision under 29 CFR 1910.120(q) and 29 CFR 1926.65(q) and must be specified on a project specific basis.

2.16.3. ERT responsibilities. The ERT shall, at a minimum, respond in a defensive manner to hazardous substance releases at the facility or construction project using the equipment and procedures specified in the ERP for defensive response. The ERT shall only provide response services beyond defensive if qualified and only according the procedures specified in the facility or construction project-specific ERP.

2.17. Confined Space Entry. The Contractor shall develop and include procedures for confined space entry in IAW 29 CFR 1910.146. If no confined spaces exist on site and there are no planned excavations that could result in a confined space, this section may be omitted.

### **2.18. Logs, Reports, and Record Keeping.**

2.18.1. Record keeping procedures for training logs, daily safety inspection logs, employee/visitor registers, medical surveillance records and certifications, air monitoring results, and personal exposure records shall be specified.

2.18.2. All personal exposure and medical monitoring records shall be maintained IAW applicable OSHA standards, CFR 1904, 1910, and 1926.

2.18.3. The Contractor shall develop, retain, and submit, as part of the final report, all visitor registration logs, training logs, and daily safety inspection logs (as part of the daily QC Reports).

3. Should any unforeseen hazard become evident during the performance of work, the SSHO shall bring such hazard information to the attention of the SHM and the on-site government representative (both verbally and in writing) for resolution as soon as possible. In the interim, necessary action shall be taken to reestablish and maintain safe working conditions.

4. Accidents/incidents shall be reported IAW DID WERS-011 and EM 385-1-1. If there is an accident involving radiation, the RPO for the USACE Geographic District or the Radiation Protection Staff Officer shall be notified.

5. The Safety Exposure Report, a tabulation of field labor hours, lost workday accidents, and number of lost workdays shall be submitted monthly in accordance with DIDWERS-016.

6. End of DID WERS-005.