

DATA ITEM DESCRIPTION

Title: Site Safety and Health Plan for Recovered Chemical Warfare Materiel (RCWM) Sites

Number: OE-005-15.01

Approval Date: 20021001

AMSC Number:

Limitation:

DTIC Applicable: No

GIDEP Applicable: No

Office of Primary Responsibility: CEHNC-ED-SY

Applicable Forms:

Use/Relationship: This Data Item Description contains instructions for preparing a Site Safety and Health Plan (SSHP) for RCWM projects and it discusses the requirement of a Contractor's Safety and Health Program (SHP).

Requirements:

1. Safety and Health Program. The Contractor is required by regulation to develop and maintain a written safety and health program in compliance with the requirements of OSHA standard 29 CFR 1910.120 (b) / 29 CFR 1926.65 (b). The Contractor shall have this program available for review if requested by the Contracting Officer (CO).

2. Site Safety and Health Plan (SSHP). The Contractor shall develop a SSHP in accordance with (IAW) the requirements of 29 CFR 1910/29 CFR 1926, ER 385-1-92, EM 385-1-1, and Army Regulation (AR) 385-61 and 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. The SSHP shall address all elements required by 29 CFR 1910.120(b)(4)(ii), 29 CFR 1926.65(b)(4)(ii), ER 385-1-92, Appendix B, and Corps of Engineers Manual, EM 385-1-1. 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 SSHP 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 SSHP, make the SSHP available to all contractor and subcontractor employees, and ensure that all subcontractors integrate provisions of the SSHP in their work activities. Daily safety and health inspections shall be conducted to determine if site operations are conducted IAW the accepted plans and contract requirements. The SSHP may serve as the Accident Prevention Plan provided it addresses all content requirements of 29 CFR 1910.120 and EM 385-1-1.

2.1 Staff Organization, Qualifications, and Responsibilities.

a. The operational and safety responsibilities of each key person shall be identified. The organizational structure, with lines of authority and overall responsibilities for the safety and health of the contractor employees and all subcontractors, shall be discussed. An organizational chart showing the lines of authority for safety shall be provided. Each person assigned specific safety and health responsibilities shall be identified and his/her qualifications and experience documented by a resume in the SSHP.

b. The contractor shall summarize the operational and health and safety responsibilities and the qualifications for each key person identified.

c. The Contractor is responsible for having as many of the professionals – Certified Industrial Hygienist (CIH), Certified Safety Professional (CSP), or Certified Health Physicist (CHP) (with qualifications and responsibilities as identified in OE-025.01), involved in the design, review and approval (in their respective fields of expertise) of the SSHP. The approving individual(s) will sign and date the SSHP attesting to their approvals. Not all of these professionals may be required to review and approve the SSHP. It is a corporate responsibility and liability to ensure the appropriate review is done and signatures obtained.

d. A UXO individual, meeting the personnel requirements of DID OE-025.01 for a UXO Safety Officer (UXOSO) or Senior UXO Supervisor (SUXOS), shall also sign the SSHP. The SUXOS should have experience on RCWM projects commensurate with the specific site.

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e. A UXOSO, meeting the personnel requirements of OE-025.01, shall be used on all RCWM project sites. In addition, the UXOSO should have experience on RCWM projects commensurate with the specific site. The Contractor shall provide the UXOSO's resume as requested by the CO.

f. At least two persons currently certified in First Aid/CPR by the American Red Cross or equivalent agency, in accordance with EM 385-1-1, shall be present on site at all times during site operations. During operations when two medical support personnel such as paramedics or emergency medical technicians and an ambulance are dedicated to the project and are onsite, the contractor does not have to have the two first aid attendants/CPR qualified persons onsite. During the operations when the medical support is not required to be onsite, the Contractor must have two first aid/CPR trained persons onsite.

2.2 Site Description and Contamination Characterization. Provide a description of the site based on results of previous studies, site history, and prior uses and activities. Compile a summary of hazardous substances and safety and health hazards likely to be encountered onsite. Include ordnance and chemical/biological, concentration ranges, media in which found, locations onsite, and estimated quantities/volumes to be impacted by this work. The site descriptions shall be based on results of previous studies and the history of prior uses and activities conducted under the Site Visit task of the Statement of Work.

2.3 Hazard Analyses and Risk Assessment.

a. Identify each task and/or operation to be performed. Identify the ordnance, safety, chemical, physical, radiological and/or biological hazards of concern presented by each task and/or operation as indicated below. EM 385-1-1, Section 01.A.10, provides details concerning activity hazard analysis preparation. The tasks and hazard/risk analyses shall be modified as needed to address changing work conditions.

(1) Ordnance. Identify potential ordnance/UXO items that may be encountered and necessary steps to mitigate the hazards. If there is the potential for UXO and UXO disposal is part of the assigned tasks, identify the hazards associated with the explosive disposal of the UXO.

(2) Safety. Evaluate the potential for injury from all site conditions and activities (e.g., excavations, slips, trips and falls, electricity, equipment and machinery, etc.). Reference EM 385-1-1.

(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.

(4) Physical. Evaluate the potential for injury from physical hazards such as noise, heat and cold stress, vibration, etc., that may be present.

(5) Radiological. 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.

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

b. Establish 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.

(1) Implementation of engineering controls and work practices.

(2) Upgrades/downgrades in levels of personal protective equipment.

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- (3) Work stoppage and/or emergency evacuation of on-site personnel.
- (4) Prevention and/or minimization of public exposures to hazards created by site activities.

c. On some projects, a site may be determined to be “non-RCWM” by a risk assessment IAW the applicability Memorandum of the Interim Guidance for Biological Warfare (BWM) and Non-Stockpile CWM Response Activities (Interim Guidance). Sites that are determined not to be suspect CWM sites by the applicability memorandum may still have chemical agent contamination present. On these sites the Contractor must determine the probability of worker exposure to chemical agent and make a recommendation as to whether agent monitoring and onsite medical support is necessary. If the Contractor is tasked to perform the chemical agent monitoring, they must recommend the type of monitoring to be performed, the instrument(s) to be used, the frequency of monitoring, the action levels, actions to be taken and other requirements of Section 2.9 of this DID.

2.4 Training. All personnel performing on-site work activities, wherein they may be exposed to hazards resulting from hazardous waste site operations, shall have completed applicable training in compliance with 29 CFR 1910/29 CFR 1926, 29 CFR 1910.1200, AR and DA Pam 385-61, DA Pams 40-8 & 173 and EM 385-1-1. Prior to performing on-site activities in contaminated areas (Contamination Reduction Zone and Exclusion Zone), personnel shall successfully complete the following:

- a. A minimum of 40 hours of HTRW health and safety instruction of the site.
- b. Three days of actual field experience under the direct supervision of a trained, experienced supervisor, and 8 hours of refresher training annually.
- c. All on-site supervisors shall complete the above requirements and an additional 8-hour supervisor’s course.
- d. Additional site-specific training covering site hazards, procedures, and all contents of the approved SSHP shall be conducted by the UXOSO for all onsite employees, including those assigned only to the Support Zone, prior to the commencement of work, and for visitors prior to entering the site.
- e. The UXOSO shall be responsible for maintaining a list of training records, and expiration dates of applicable training, for all onsite personnel (including government workers).
- f. The UXOSO shall notify each organization’s on-site supervisor if a site worker’s training has expired.
- g. Each agency shall be responsible for maintaining a copy of the training certification(s) onsite. The CO or a representative of the CO may request to review the training certification at any time.

2.5 Personal Protective Equipment.

a. Personal Protective Equipment (PPE) Program shall be included in the SSHP. The contractor shall describe in detail and provide appropriate PPE to ensure workers, official visitors and government employees are not exposed to levels greater than the action level for identified hazards for each operation and work zone. The program shall address:

- (1) All the elements of 29 CFR 1910.120(g)(5), 29 CFR 1910.134, and 29 CFR 1910.132.
- (2) Minimum levels of protection necessary for each task/operation to be performed at each site based on probable site conditions, potential occupational exposure, and the hazard analysis/risk assessment required above. Levels of protection must be relevant to site-specific conditions including heat stress and associated PPE safety hazards. Include specific types and materials for protective clothing and respiratory protection.
- (3) Establish and justify upgrade/downgrade criteria based upon the action levels established as required by paragraph 2.3 (b) (as a minimum) and as appropriate.

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(4) Provide site-specific procedures to determine PPE program effectiveness and for on-site fit-testing of respirators, proper cleaning, maintenance, inspection, and storage of all PPE.

b. DA Safety has issued a blanket approval that has several types of respirators and protective suits that are approved for use against agent under certain conditions. A copy of this blanket approval is found on the CEHNC website. If the Contractor's PPE or task is not listed in this blanket approval, the Contractor shall prepare and submit for approval a PPE matrix. In this matrix, the Contractor shall discuss Level A & B suits and respirators to use on site and the scenarios. The format for this matrix can be obtained from the CEHNC Safety Office. The PPE matrix will be a separate submittal and is not part of the Safety Submission. Several level A & B suits, and respirators, have already been approved by the Army for use at RCWM project sites.

2.6 Medical Support.

a. This section shall discuss the medical support arrangements made for the treatment of chemical casualties. The signed Memorandum of Agreement (MOA)/Contract for hospital and onsite medical support shall be maintained onsite by the UXOSO. The UXOSO shall also maintain a roster of the medical support personnel who have been trained in chemical agent casualty care.

b. All personnel performing onsite activities shall participate in an ongoing medical surveillance program meeting with the requirements of 29 CFR 1910.120. If chemical agent is a suspect site contaminant, the requirements in DA PAM 40-8 and/or 40-173 shall apply. The medical examination protocols and results shall be overseen by a licensed physician who is certified in Occupational Medicine by the American Board of Preventive Medicine, or who by necessary training and experience is board eligible. Minimum specific exam content and frequency, based on probable site conditions, potential occupational exposures, and required protective equipment shall be specified.

c. Each agency shall be responsible for maintaining a copy of the physician's medical opinion assessing the fitness to perform work onsite. The written medical opinion from the examining physician as to fitness to perform the required work shall be made available to the CO upon request for any site employee.

d. The UXOSO shall be responsible for maintaining a list of medically qualified personnel and the exam dates for all onsite personnel.

2.7 UXO Safety.

a. If explosively configured RCWM or conventional OE is expected, the provisions of EP 385-1-95a, EP 1110-1-18, and EM 1110-1-4009 will be adhered to concerning personnel qualifications, demolition activities, safety, use and storage of explosives, and disposal of same (if tasked in the SOW).

b. See appropriate DIDs for the Explosives Safety Submission, Explosives Siting Plan, and Explosives Management Plan formats.

2.8 Radiation Dosimetry.

a. All employees working within a radiological restricted area shall receive appropriate dosimetry monitoring for radiation exposure.

b. Radiation dosimetry shall be evaluated by an individual 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 Qualified Health Physics personnel.

c. All employers shall document employee exposure to external radiation. In order to do this, employers shall review each employee's radiation exposure history per 10 CFR 20.2104 for compliance with exposure standards prior to allowing the employee access to a restricted area. If the employee has no exposure history, the employee shall provide a signed written statement to that effect.

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d. When there exists the possibility of internal radioactive contamination, employers shall estimate exposure with a bioassay program. The bioassay program will provide sampling of employees' nasal passages, urine and /or feces, or whole body counting, as appropriate to evaluate the suspected radionuclides. Air monitoring will be used to estimate inhalation exposure to suspected radionuclides.

e. Reports of Exposure to Ionizing Radiation will be furnished:

(1) To each employee -

- (a) Annually
- (b) Upon termination, and
- (c) Within 30 days of any personal request.

(2) To the Radiation Safety Officer (RSO) as soon as available.

2.9 Environmental and Personal Monitoring.

a. This section shall include all information on air monitoring (agent and industrial) to be conducted on site. Chemical agent monitoring shall use ECBC protocols and the action levels will be in accordance with AR and DA PAM 385-61. If SBCCOM is responsible for conducting the agent monitoring, the Contractor shall coordinate with them.

b. An air-monitoring summary shall be included in this section. This table shall include, but is not limited to, the following: contaminant of concern (agent and industrial), instrument to monitor, location of instrument, frequency, agency conducting monitoring, action level and actions to be taken.

c. Where it has been determined that there may be employee exposures to on and/or off site migration potentials of hazardous airborne concentrations of hazardous substances, appropriate direct reading (real-time) air monitoring and integrated (time weighted average) air sampling shall be conducted IAW applicable Federal, state, and local requirements. Both air monitoring and air sampling must accurately represent concentration of air contaminants encountered on and leaving the site. The types and frequency of monitoring/sampling to be performed shall be specified for on-site and perimeter, where applicable. Where perimeter monitoring is not deemed necessary, provide suitable justification for its exclusion. When applicable, NIOSH and /or EPA sampling and analytical methods shall be used. Laboratories successfully participating in and meeting the requirements of the American Industrial Hygiene Association's (AIHA) Proficiency Analytical Test (PAT) or laboratory Accreditation Program, where necessary, shall analyze personal samples. Include, as appropriate, real-time (direct-read) monitoring and integrated Time Weighted Average (TWA) sampling for specific contaminants of concern, meteorological, noise, and radiation monitoring shall be conducted, as needed depending upon the site hazard assessment. All monitoring and sampling protocol shall be specified to include instrumentation to be used and calibration of instruments. All monitoring and sampling protocol shall be specified to include instrumentation to be used and calibration of instruments. All monitoring results shall be compared to action levels to determine the need for corrective actions.

2.10 Site Control. 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 physical security procedures. See CEHNC Interim Guidance Document 02-02 for additional information and guidance on work zone considerations.

2.11 Personnel and Equipment Decontamination. The Contractor shall develop and specify decontamination procedures with 29 CFR 1910.120 for personnel, personal protective equipment, monitoring instruments, sampling equipment, and other equipment used onsite. 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.

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2.12 Emergency Response and Contingency Procedures (Onsite and Off-site). An Emergency Response Plan, as required by 29 CFR 1910.120 shall be developed and implemented. As a minimum, it shall address the following elements.

- a. Pre-emergency planning and procedures for reporting incidents to appropriate government agencies for potential chemical exposure, personal injuries, fire/explosions, environmental spills and releases, and discovery of radioactive materials.
- b. Personnel roles, lines of authority, communications.
- c. Posted instructions and list of emergency contacts: physician, notified nearby medical facility, fire and police departments, ambulance service, state/local/federal agencies, CIH, CSP, CHP, and CO.
- d. Emergency recognition and prevention.
- e. Site topography, layout, and prevailing weather conditions.
- f. Criteria and procedures for site evacuation, emergency alerting procedures/employee alarm system, emergency PPE and equipment, safe distance, place of refuge, evacuation routes, and site security and control.
- g. Specific procedures for decontamination and medical treatment of injured personnel.
- h. Route maps to nearest pre-notified medical facility.
- i. Public Safety. This section shall include a discussion on the maximum credible event (MCE), No Significant Effects (NOSE) distance (also known as the Public Withdrawal Distance) and the procedures to be used to keep the public out of the NOSE. The Contractor, based on historical records, shall recommend an MCE to CEHNC. If a site has several operable units, an MCE shall be determined for each site. Documentation (downwind hazard calculations) from the D2PC modeling program shall be provided by CEHNC for inclusion into the plan. Criteria for initiating a community alert program, contacts, and follow-up shall also be discussed. The contractor shall discuss site methodology used to protect the public against site contaminants. This shall include, but is not limited to, air monitoring and evacuation procedures. Information regarding meteorological monitoring and daily D2PC calculations shall also be included in this section.
- j. 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. Each agency shall be responsible for having and maintaining the required MSDS for the hazardous substances they bring onsite. The UXOSO shall ensure that all required MSDS are onsite and available to all onsite workers.

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

2.14 Spill Containment. Where major spills may occur, a spill containment program shall be implemented to contain and isolate the entire volume of the hazardous substance being transferred or stored. The program will be designed IAW 29 CFR 1910.120(j) and will be required for hazardous substances on the site as well as hazardous materials brought on to the site for use during the work process.

2.15 Heat/Cold Stress Monitoring. Heat and cold stress monitoring protocols, as appropriate, shall be described in detail. Work/rest schedules shall be determined based upon ambient temperature, humidity, wind speed (wind chill), solar radiation intensity, duration and intensity of work, and protective equipment ensembles. Minimum required physiological monitoring protocols, which will affect work schedules, shall be developed. In cases where impervious clothing is worn, the NIOSH/OSHA/USCG/EPA "Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities" protocol for prevention of heat stress shall be followed and heat stress monitoring shall commence at temperatures of 70 degrees Fahrenheit and above. Where impervious clothing is not worn, the American Conference of Governmental Industrial Hygienists (ACGIH) heat stress standard (TLV) shall be used.

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For cold stress monitoring to help prevent frostbite and hypothermia, the ACGIH cold stress standard shall be referenced and followed, as a minimum.

2.16 Standing Operating Procedures, Engineering Controls, and Work Practices. The Contractor shall develop SOPs to protect field personnel, prevent accidents, minimize hazards, and to take action to correct hazards where necessary. Site rules and prohibitions for safe work practices shall be discussed and shall include such topics as use of the buddy system, smoking restrictions, material handling procedures, confined space entry, excavation safety, physiological and meteorological monitoring for heat/cold stress, illumination, sanitation, daily safety inspections, etc. This list of topics is not intended to be all-inclusive.

2.17 Accident Prevention.

- a. The minimum basic outline for an Accident Prevention Plan is identified in EM 385-1-1, Appendix A. The plan shall be site specific and address any unusual or unique aspects of the project.
- b. Daily safety and health inspections shall be conducted to ensure the effectiveness of the SSHP and determine if operations are being performed in accordance with the SSHP, USACE and OSHA regulations, and contract requirements.
- c. In the event of an accident/incident, the CO shall be notified in accordance with EM 385-1-1.
- d. The Contractor shall complete and submit required accident reports within two (2) working days of any reportable accident.
- e. If there is an accident involving radiation, the Radiation Protection Officer (RPO) for the USACE Geographic District or the Radiation Protection Staff Officer shall be notified.

2.18 Emergency Equipment and First Aid Requirements. The following items, as appropriate, shall be immediately available for onsite use:

- a. First aid equipment and supplies IAW the recommendation of a licensed physician.
- b. Emergency eyewashes/shower (per ANSI Z – 358.1).
- c. Emergency-use respirators, (escape and rescue).
- d. Spill control materials and equipment (see paragraph 2.14).
- e. Fire extinguishers (specify type, size and locations).

2.19 Logs, Reports, and Record Keeping.

- a. 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.
- b. All personal exposure and medical monitoring records shall be maintained IAW applicable OSHA standards, and CFR 1904, 1910, and 1926.
- c. 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).
- d. The Contractor shall maintain copies of the required training and medical certificates onsite and shall make them available for government inspection upon request.
- e. Accidents/incidents will be reported IAW DID OE-015.01 and EM 385-1-1.

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f. 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 DID OE-080.01.

3. End of DID OE-005-15.01.