
 USACE / NAVFAC / AFCEA / NASA UFGS-01 35 26 (February 2012)

 Preparing Activity: CESAJ Superseding
 UFGS-01 35 26 (February 2010)
 UFGS-01 35 26 (August 2009)
 UFGS-01 35 26 (February 2009)
 UFGS-01 35 29 (November 2008)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated January 2012

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04/14

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SECTION 01 35 26

GOVERNMENTAL SAFETY REQUIREMENTS
04/14

NOTE: This guide specification covers the requirements for safety and occupational health requirements for the protection of Contractor and Government personnel, property and resources.

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 items(s) or insert appropriate information.

Remove information and requirements not required in respective project, after consulting with Command Safety staff 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).

This guide specification is intended for use in contracts that specify Federal Acquisition Regulation (FAR) clause 52.236-13, "Accident Prevention", and/or it's Alternate I, to include contracts for construction, dismantling, renovation and demolition; dredging; environmental restoration (investigation, design, remediation); asbestos abatement or lead hazard control; projects in the continental U.S. and overseas.

NOTE: The requirements of this guide specification supplement U.S. Army Corps of Engineers (USACE) Safety and Health Requirements Manual, EM 385-1-1, and clarify safety concerns for high-risk

construction activities. All contracts that include FAR clause 52.236-13 require the Contractor to prepare and execute a written Accident Prevention Plan (APP) in accordance with Appendix A of EM 385-1-1 to include Activity Hazard Analyses (AHAs).

Some contracts, based upon the work to be performed (environmental restoration, asbestos abatement or lead hazard control), require additional special safety and health plans to be made part of and appended to the APP. Pertinent UFGS contract sections include UFGS 01 35 29.13 HEALTH, SAFETY, AND EMERGENCY RESPONSE PROCEDURES FOR CONTAMINATED SITES for environmental restoration project; UFGS 02 82 14.00 10 ASBESTOS HAZARD CONTROL ACTIVITIES (Army), or 02 82 16.00 20 ENGINEERING CONTROL OF ASBESTOS CONTAINING MATERIALS (Navy), for asbestos abatement; and, UFGS 02 83 19.00 10 LEAD BASED PAINT HAZARD ABATEMENT, TARGET HOUSING AND CHILD OCCUPIED FACILITIES (Army), or 02 83 13.00 20 LEAD IN CONSTRUCTION (Navy), for lead hazard control activities. For Navy environmental restoration contracts, an APP is required with the overall contract and a site specific Health and Safety Plan is required for each task order (contact the FED Safety Manager for applicability).

In addition, when any work under a service, supply or research and development contract is to be performed on Government-owned, leased or controlled real property, or on board Government-owned, leased or controlled plant or equipment, a determination must be made whether to use FAR clause 52.236-13, and/or its Alternate I, and this specification. The need for the use of FAR clause 52.236-13, and/or its Alternate I, and this specification must be determined from the hazards presented by the supplies to be delivered, the services to be provided or the research and development to be performed. The Contracting Officer in consultation with the technical proponent and safety and health personnel will make the determination.

Many states and municipalities have more stringent or additional requirements and this section should be modified as required to meet local conditions and regulations.

PART 1 GENERAL

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 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 NATIONAL STANDARDS INSTITUTE (ANSI/ASSE)

- ANSI/ASSE A10.32 (2004) Fall Protection
- ANSI/ASSE A10.34 (2001; R 2005) Protection of the Public on or Adjacent to Construction Sites
- ANSI/ASSE Z359.1 (2007) Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components

AMERICAN NATIONAL STANDARDS INSTITUTE/AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ANSI/ASME)

- ANSI/ASME B30.22 (2010) Articulating Boom Cranes
- ANSI/ASME B30.3 (2009) Tower Cranes
- ANSI/ASME B30.5 (2007) Mobile and Locomotive Cranes
- ANSI/ASME B30.8 (2010) Floating Cranes and Floating Derricks

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)

- NASA-STD 8719.12 (2010) Safety Standard for Explosives, Propellants, and Pyrotechnics

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

- NFPA 10 (2013) Standard for Portable Fire Extinguishers
- NFPA 241 (2013) Standard for Safeguarding Construction, Alteration, and Demolition Operations
- NFPA 306 (2009) Standard for Control of Gas Hazards on Vessels

- NFPA 51B (2009; TIA 09-1) Standard for Fire Prevention During Welding, Cutting, and Other Hot Work
- NFPA 70 (2011; Errata 2 2012) National Electrical Code
- NFPA 70E (2012; Errata 2012) Standard for Electrical Safety in the Workplace

U.S. ARMY CORPS OF ENGINEERS (USACE)

- EM 385-1-1 Safety and Health Requirements Manual

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

- 29 CFR 1910 Occupational Safety and Health Standards
- 29 CFR 1910.146 Permit-required Confined Spaces
- 29 CFR 1910.147 Control of Hazardous Energy (Lock Out/Tag Out)
- 29 CFR 1915 Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment
- 29 CFR 1919 Gear Certification
- 29 CFR 1926 Safety and Health Regulations for Construction
- 29 CFR 1926.1400 Cranes & Derricks in Construction
- 29 CFR 1926.500 Fall Protection
- 29 CFR 1926.1427 Operator Qualification and Certification, Cranes and Derricks in Construction
- CPL 2.100 (1995) Application of the Permit-Required Confined Spaces (PRCS) Standards, 29 CFR 1910.146

1.2 DEFINITIONS

- a. Competent/Qualified Person for Fall Protection. A person who is capable of identifying hazardous or dangerous conditions in the personal fall arrest system or any component thereof, as well as their application and use with related equipment, and has the authority to take prompt corrective measures to eliminate the hazards of falling.
- b. High Visibility Accident. Any mishap which may generate publicity or high visibility.
- c. Medical Treatment. Treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment even through provided by a physician or registered personnel.

- d. Operating Envelope. The area surrounding any crane. Inside this "envelope" is the crane, the operator, riggers and crane walkers, rigging gear between the hook and the load, the load and the crane's supporting structure (ground, rail, etc.).
- e. Qualified Person for Fall Protection. A person with a recognized degree or professional certificate, and with extensive knowledge, training and experience in the field of fall protection; who is capable of performing design, analysis, and evaluation of fall protection systems and equipment.
- f. Recordable Injuries or Illnesses. Any work-related injury or illness that results in:
 - (1) Death, regardless of the time between the injury and death, or the length of the illness;
 - (2) Days away from work (any time lost after day of injury/illness onset);
 - (3) Restricted work;
 - (4) Transfer to another job;
 - (5) Medical treatment beyond first aid;
 - (6) Loss of consciousness; or
 - (7) A significant injury or illness diagnosed by a physician or other licensed health care professional, even if it did not result in (1) through (6) above.
- g. "USACE" property and equipment specified in USACE EM 385-1-1 should be interpreted as Government property and equipment.
- h. Weight Handling Equipment (WHE) Accident. A WHE accident occurs when any one or more of the six elements in the operation envelope fails to perform correctly during operation, including operation during maintenance or testing resulting in personnel injury or death; material or equipment damage; dropped load; derailment; two-blocking; overload; and/or collision, including unplanned contact between the load, crane, and/or other objects. A dropped load, derailment, two-blocking, overload and collision are considered an accident even though no material damage or injury occurs. A component failure is not considered an accident solely due to material or equipment damage unless the component failure results in damage to other components.

1.3 SUBMITTALS

NOTE: Review Submittal Description (SD) definitions in Section 01 33 00 SUBMITTAL PROCEDURES and edit the following list to reflect only the submittals required for the project.

The Guide Specification technical editors have designated 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 submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation 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.

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

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES. Submit the following preconstruction submittal items no later than 20 calendar days after award or 5 calendar days after Notice to Proceed, whichever is later.

SD-01 Preconstruction Submittals

Accident Prevention Plan (APP); G, DO

*Activity Hazard Analysis (AHA); G, DO

*Crane Critical Lift Plan; G, DO

*Note: Only for activities required to start work. Remaining AHA's shall be submitted in accordance with paragraph ACTIVITY HAZARD ANALYSIS (AHA) below. Remaining Crane Critical Lift Plans shall be submitted in accordance with paragraph ACCIDENT PREVENTION PLAN (APP) below.

SD-06 Test Reports

Notifications and Reports

Submit reports as their incidence occurs, in accordance with the requirements of the paragraph, "Notifications and Reports."

Accident Reports

Crane Reports

SD-07 Certificates

Confined Space Entry Permit

Hot work permit

License Certificates

Proof of qualification for Crane Operators; G, DO

Third Party Certification of Barge-Mounted Mobile Cranes

Certificate of Compliance (Crane)

Submit one copy of each permit/certificate attached to each Daily Quality Control Report.

1.4 REGULATORY REQUIREMENTS

NOTE: For bracketed items, edit and insert additional requirements which apply to the work to be performed including Federal, state and local laws, regulations and statutes; Host Nation requirements; and Navy, Air Force and Army installation or US Army Corps of Engineers District requirements by authority and document number. Consult with the supporting local safety and occupational health office for assistance in identifying local requirements.

In addition to the detailed requirements included in the provisions of this contract, comply with the most recent edition of USACE EM 385-1-1, and all Federal, State, and local laws, ordinances, criteria, rules and regulations. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements govern. The most recent USACE EM 385-1-1 can be viewed at <http://www.publications.usace.army.mil/USACEPublications/EngineerManuals.aspx>.

1.5 SITE QUALIFICATIONS, DUTIES AND MEETINGS

1.5.1 Safety Personnel Training

- a. The 30-hour OSHA Construction Course will not substitute nor qualify any personnel in meeting the competent or qualified person training or work requirements. On-line 30-hour OSHA Construction Course will not be accepted to meet training requirements.
- b. Additional training, experience, hands-on and practical knowledge are required to meet the competent and qualified person requirements in various work activities, fall protection, scaffolding, excavation, trenching, confined space, hazardous communications/hazardous materials, LOCKOUT/TAGOUT (LOTO), respiratory protection, hearing protection, steel erection, spills, lead abatement, asbestos, blasting, critical lifts, and additional work activities listed in the EM 385-1-1. Verification of training will be required and submitted with the Accident Prevention Plan.

1.5.2 Personnel Qualifications

NOTE: Coordinate with the supporting local safety and occupational health office and NAVFAC PWD or ROICC to determine the level of qualifications required for the Site Safety and Health Officer (SSHO) based on the hazards of the project , job complexity, size, and any other pertinent factors. For limited service contracts, the Contracting Officer and Safety Office may modify SSHO requirements and waive the more stringent elements of this section, EM 381-1-1, Section 1, and shall utilize the guidance of EM 381-1-1 Appendix A, paragraphs 4 and 11. For complex or high hazard projects, the SSHO shall have a minimum of ten (10) years of safety-related work with at least five (5) years experience on similar type projects.

1.5.2.1 Site Safety and Health Officer (SSHO)

The contractor shall provide a Safety oversight team that includes a minimum of one (1) Qualified Person at each project site to function as the Safety and Health Officer (SSHO). The SSHO shall be at the work site at all times, unless specified differently in the contract, to perform safety and occupational health management, surveillance, inspections, and safety enforcement for the Contractor, and their training, experience, and qualifications shall be as required by EM 385-1-1 paragraph 01.A.17 and all associated sub-paragraphs. Experience shall be as stated in EM 385-1-1 paragraph 01.A.17, item "e" for complex or high hazard projects.

A Competent/Qualified Person shall be provided for all of the hazards identified in the Contractor's Safety and Health Program in accordance with the accepted Accident Prevention Plan, and shall be on-site at all times when the work that presents the hazards associated with their professional expertise is being performed. The credentials of the Competent/Qualified Persons(s) shall be approved by the Contracting Officer in consultation with the Safety Office.

The Competent/Qualified Person may be the SSHO provided the person meets all the requirements for both SSHO and Competent/Qualified Person.

1.5.2.1.1 Contractor Quality Control (QC) Person:

The Contractor Quality Control Person cannot be the SSHO on this project, even though the QC has safety inspection responsibilities as part of the QC duties.

1.5.2.2 Dredging Requirements

Note: The paragraphs below are specific only for USACE Dredging Contracts. Dredging contracts may include several project sites. The project site and SSHO staffing requirements are determined by District, considering size of contract, organization of dredging operation requirements, dispersion of

operations, and travel time to associated sites by SSHO. The SSHO must be able to travel to all areas within project site within 45 minutes using equipment maintained on-site.

1.5.2.2.1 SSHO Staffing

- a. Dredging contracts may include several project sites; this contract will require a minimum of one full time SSHO(s) assigned per project site. SSHO may be collateral duty in specific conditions listed below.
- b. Example of one dredging project site is reflected in each of the following:
 - (1) a mechanical dredge, tug(s) and scow(s), scow route, and material placement site; or
 - (2) a hydraulic pipeline dredge, attendant plant, and material placement site; or,
 - (3) a hopper dredge (include land-based material placement site - if applicable.)
- c. Individual dredging project sites with work force less than 8 employees, the SSHO may be a collateral duty, with the same responsibilities of a full time SSHO.
- d. Hopper dredges with USCG-Documented crews may designate an officer as a collateral-duty SSHO instead of having a full-time SSHO if the officer meets the SSHO training and experience requirements.

1.5.2.2.2 SSHO Requirements

- a. In addition to requirements stated elsewhere in this specification, the SSHO shall be present at the project site, located so they have full mobility and reasonable access to all major work operations, for at least one shift in each 24 hour period when work is being done. The SSHO, or Alternate SSHO, shall be available during all shifts for immediate verbal consultation and notification, either by phone or radio. The SSHO shall be a full-time, dedicated position, except as noted above. The SSHO shall report to a senior project (or corporate) officials.
- b. The SSHO shall inspect all work areas and operations during initial set-up and at least monthly observe and provide personal oversight on each shift during dredging operations for projects with many work sites, more often for those with less work sites.
- c. For projects with multiple shifts or when SSHO is temporarily off-site, an Alternate SSHO will be assigned to ensure SSHO coverage for the project at all times work activities are conducted. The Alternate SSHO must meet the same requirements and assume the responsibilities of the project SSHO. The Alternate SSHO position may be a collateral duty.
- d. If the SSHO is off-site for a period longer than 24 hours, a qualified replacement SSHO shall be provided and shall fulfill the same roles and responsibilities as the primary/initial SSHO.

1.5.2.2.3 Designated Representative (DR) Requirements

- a. Designated Representatives (DR) are collateral duty safety personnel, with safety duties in addition to their full-time occupation, and support and supplement the SSHO efforts in managing, implementing and enforcing the Contractor's Safety and Health Program. DRs shall be individual(s) with work oversight responsibilities, such as masters, mates, fill foremen, and superintendents. DRs should not be positions requiring continuous mechanical or equipment operations, such as equipment operators.
- b. A DR shall be appointed for all remote work locations more than 45 minutes' travel time from the SSHO's duty location, typically including dredged material placement sites, towing and scow operations, and other operations.
- c. The DRs will perform safety program tasks as designated by the SSHO and report safety findings to the SSHO/Alternate SSHO. The SSHO shall document results of safety findings and provide information for inclusion in the CQC reports to the Government Representative.

1.5.2.2.4 Safety Personnel Training Requirements

- a. The SSHO, Alternate SSHO, and Designated Representatives for dredging contracts shall take either the OSHA 30-hour Construction Safety Course or an equivalent 30 hours of formal safety and health training covering the subjects of the OSHA 30-hour Course (see EM 385-1-1 Appendix A, paragraph 4.b) applicable to dredging work and given by qualified instructors.
- b. The SSHOs shall also have taken 24 hours of formal classroom or online safety and health related coursework in the past four (4) years. Hours spent as an instructor in such courses will be considered the same as attending them, but each course only gets credit once (ie. Instructing a 1-hour asbestos awareness course 5 times in the past 4 years provides one hour credit for training).
- c. The SSHO, Alternate SSHO, and Designated Representatives shall have a minimum of three years' continuous experience within the past 5 years in supervising/ managing dredging, marine or land-based construction, work managing safety programs or processes, or conducting hazard analyses and developing controls in activities or environments with similar hazards. This is in lieu of the construction experience required by paragraph 01.A.17.b, EM 385-1-1.

1.5.2.3 Qualified Person for Confined Space Entry

Provide a "Qualified Person" to supervise the entry into each confined space. That individual must meet the requirements and definition of Qualified Person as contained in EM 385-1-1.

If the work involves marine operations that handle combustible or hazardous materials, this person shall have the ability to understand and follow through on the air sampling, PPE, and instructions of a Marine Chemist, Coast Guard authorized persons, or Certified Industrial Hygienist. All confined space and enclosed space work shall comply with NFPA 306, OSHA 29 CFR 1915, Subpart B, "Confined and Enclosed Spaces and Other Dangerous Atmospheres in Shipyard Employment" or as applicable, 1910.147 for general

industry.

1.5.2.4 Crane Operators

Meet the crane operators requirements in USACE EM 385-1-1, Section 16, Appendix I and 29 CFR 1926.1427. In addition, for lifting devices (not including those exempted by EM 385-1-1, Paragraph 16.B.02) rated 2,000 pounds or more, mobile cranes with Original Manufacturer (OEM) rated capacity of 50,000 pounds or greater, designate crane operators qualified by a source that qualifies crane operators (i.e., union, a government agency, or an organization that tests and qualifies crane operators). Provide proof of current qualifications. Conduct a review of all licenses, training, certifications and the medical certifications required by EM 385-1-1, Paragraph 16.B.06, every 30 days. Document and maintain a record of each review. Make this review a part of the APP.

1.5.3 Personnel Duties

1.5.3.1 Site Safety and Health Officer (SSHO)

The SSHO shall:

- a. Conduct daily safety and health inspections and maintain a written log which includes area/operation inspected, date of inspection, identified hazards, recommended corrective actions, estimated and actual dates of corrections. Attach safety inspection logs to the Contractors' daily quality control report.
- b. Conduct mishap investigations and complete required reports. Maintain the OSHA Form 300 and Daily Production reports for prime and sub-contractors.
- c. Maintain applicable safety reference material on the job site.
- d. Attend the pre-construction conference, pre-work meetings including preparatory inspection meeting, and periodic in-progress meetings.
- e. Implement and enforce accepted APPS and AHAs.
- f. Maintain a safety and health deficiency tracking system that monitors outstanding deficiencies until resolution. Post a list of unresolved safety and health deficiencies on the safety bulletin board.
- g. Ensure sub-contractor compliance with safety and health requirements.
- h. Maintain a list of hazardous chemicals on site and their material safety data sheets.
- i. Review all licenses, training, certifications and medical evaluations will be conducted every 30 days. These inspections are to be documented and maintained for record. This requirement shall be part of the Accident Prevention Plan submittal.
- j. Report any mishaps involving crane operations to the Government Designated Authority (GDA) and USACE Safety Office immediately. All crane operations mishap information must be completed, reviewed and forwarded to the USACE Safety Officer within 4 hours of the incident.
- k. Ensure smoking or tobacco use on USACE worksite is in designated areas

only.

- l. Perform daily safety tool box meetings for all activities for the day prior to beginning work.
- m. Above ground storage tank (AST) shall be coordinated with the local fire department. Any permit or paperwork required shall be documented and provided to the GDA.
- n. Lightning protection/detection devices are required on all WHE, cranes and cranework.

Failure to perform the above duties will result in dismissal of the superintendent, QC Manager, and/or SSHO, and a project work stoppage. The project work stoppage will remain in effect pending approval of a suitable replacement.

1.5.4 Meetings

1.5.4.1 Preconstruction Conference

- a. Contractor representatives who have a responsibility or significant role in accident prevention on the project shall attend the preconstruction conference. This includes the project superintendent, site safety and health officer, quality control supervisor, or any other assigned safety and health professionals who participated in the development of the APP (including the Activity Hazard Analyses (AHAs) and special plans, program and procedures associated with it).
- b. Discuss the details of the submitted APP to include incorporated plans, programs, procedures and a listing of anticipated AHAs that will be developed and implemented during the performance of the contract. This list of proposed AHAs will be reviewed at the conference and an agreement will be reached between the Contractor and the Contracting Officer's representative as to which phases will require an analysis. In addition, establish a schedule for the preparation, submittal, review, and acceptance of AHAs to preclude project delays.
- c. Deficiencies in the submitted APP will be brought to the attention of the Contractor at the preconstruction conference, and the Contractor shall revise the plan to correct deficiencies and re-submit it for acceptance. Do not begin work until there is an accepted APP.

 NOTE: Use the following paragraph for Army
 Design-Build Projects only.

- d. The functions of a Preconstruction conference may take place at the Post-Award Kickoff meeting for Design Build Contracts.

1.5.4.2 Safety Meetings

Conduct and document meetings as required by EM 385-1-1. Attach minutes showing contract title, signatures of attendees and a list of topics discussed to the Contractors' daily quality control report.

1.6 ACCIDENT PREVENTION PLAN (APP)

Use a qualified person to prepare the written site-specific APP. Prepare the APP in accordance with the format and requirements of USACE EM 385-1-1 and as supplemented herein. Cover all paragraph and subparagraph elements in USACE EM 385-1-1, Appendix A, "Minimum Basic Outline for Accident Prevention Plan". Specific requirements for some of the APP elements are described below. The APP shall be job-specific and address any unusual or unique aspects of the project or activity for which it is written. The APP shall interface with the Contractor's overall safety and health program. Include any portions of the Contractor's overall safety and health program referenced in the APP in the applicable APP element and made site-specific. The Government considers the Prime Contractor to be the "controlling authority" for all work site safety and health of the subcontractors. Contractors are responsible for informing their subcontractors of the safety provisions under the terms of the contract and the penalties for noncompliance, coordinating the work to prevent one craft from interfering with or creating hazardous working conditions for other crafts, and inspecting subcontractor operations to ensure that accident prevention responsibilities are being carried out. The APP shall be signed by the person and firm (senior person) preparing the APP, the Contractor, the on-site superintendent, the designated site safety and health officer, the Contractor Quality control Manager, and any designated CSP or CIH.

Submit the APP to the Contracting Officer no later than 20 calendar days after award or 5 calendar days after Notice to Proceed, whichever is later. Work cannot proceed without an accepted APP.

Once accepted by the Contracting Officer, the APP and attachments will be enforced as part of the contract. Disregarding the provisions of this contract or the accepted APP will be cause for stopping of work, at the discretion of the Contracting Officer, until the matter has been rectified.

Once work begins, changes to the accepted APP shall be made with the knowledge and concurrence of the Contracting Officer, project superintendent, SSO and quality control manager. Should any severe hazard exposure, i.e. imminent danger, become evident, stop work in the area, secure the area, and develop a plan to remove the exposure and control the hazard. Notify the Contracting Officer within 24 hours of discovery. Eliminate/remove the hazard. In the interim, take all necessary action to restore and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public (as defined by ANSI/ASSE A10.34,) and the environment.

All certifications and/or training certificates will be reviewed by SAJ-SO to include third party training certificates. All third party training will be reviewed and verified. Training certifications for the third party trainer shall be provided. These documents shall be submitted in the Accident Prevention Plan (APP) and the AHA prior to work activity commencing.

Copies of the accepted plan will be maintained at the Contracting Officer's office and at the job site. Continuously reviewed and amended the APP, as necessary, throughout the life of the contract. Incorporate unusual or high-hazard activities not identified in the original APP as they are discovered. The activities shall be detailed and outlined in the APP and AHAs. Qualified person credentials on each safety office activity shall be submitted the the Safety Office for review.

1.6.1 EM 385-1-1 Contents

a. Confined Space Entry Plan. Develop a confined and/or enclosed space entry plan in accordance with USACE EM 385-1-1, applicable OSHA standards 29 CFR 1910, 29 CFR 1915, and 29 CFR 1926, OSHA Directive CPL 2.100, and any other federal, state and local regulatory requirements identified in this contract. Identify the qualified person's name and qualifications, training, and experience. Delineate the qualified person's authority to direct work stoppage in the event of hazardous conditions. Include procedure for rescue by Contractor personnel and the coordination with emergency responders. Identify and provide a listing and map of all confined space(s) located on site. If there is no confined space work, include a statement that no confined space work exists and none will be created.

b. Crane Critical Lift Plan. Prepare and sign weight handling critical lift plans for lifts over 75 percent of the capacity of the crane or hoist (or lifts over 50 percent of the capacity of a barge mounted mobile crane's hoists) at any radius of lift; lifts involving more than one crane or hoist; lifts of personnel; and lifts involving non-routine rigging or operation, sensitive equipment, or unusual safety risks. Submit 30 calendar days prior to on-site work and include the requirements of USACE EM 385-1-1, paragraph 16.H. and the following:

(1) For lifts of personnel, demonstrate compliance with the requirements of 29 CFR 1926.1400.

(2) For barge mounted mobile cranes, barge stability calculations identifying barge list and trim based on anticipated loading; and load charts based on calculated list and trim. The amount of list and trim shall be within the crane manufacturer's requirements. Submit a job specific Naval Architecture Survey for review by the Safety Office.

NOTE: Keep the Articulated Concrete Block Mattress (ACBM) subparagraph below if there is any possibility that the Contractor may use this system for temporary slope protection (dewatering dikes, etc.) or in construction.

(3) For installation of Articulated Concrete Block Mattress (ACBM), the Contractor shall submit a detailed lift plan outlining all equipment (including crane, spreader bar, rigging, etc.), layout and procedures that will be used. The plan shall also include documentation showing that the proposed equipment and procedures are in accordance with the manufacturer's recommendations and procedures. The plan shall include all personnel and subcontractors that will be involved in the ACBM installation, their qualifications, and the Contractor's designated safety officer. The lift plan, and all lift operations, shall be in accordance with the requirements outlined in EM 385-1-1, Section 16. The Contractor is responsible for all safety associated with the installation of ACBM.

1.7 ACTIVITY HAZARD ANALYSIS (AHA)

The Activity Hazard Analysis (AHA) format shall be in accordance with USACE EM 385-1-1, Section 1. Submit the AHA for review at least 30 calendar days prior to the start of each phase. Format subsequent AHAs as amendments to the APP. The analysis should be used during daily inspections to ensure the implementation and effectiveness of the activity's safety and health controls.

The AHA list will be reviewed periodically (at least monthly) at the Contractor supervisory safety meeting and updated as necessary when procedures, scheduling, or hazards change.

Develop the activity hazard analyses using the project schedule as the basis for the activities performed. Any activities listed on the project schedule will require an AHA. The AHA for each activity shall be prepared by personnel qualified for that activity. The AHAs will be developed by the Contractor, supplier or subcontractor and provided to the prime contractor for submittal to the Contracting Officer.

1.8 DISPLAY OF SAFETY INFORMATION

Within one calendar day after commencement of work, erect a safety bulletin board at the job site. Where size, duration, or logistics of project do not facilitate a bulletin board, an alternative method, acceptable to the Contracting Officer, that is accessible and includes all mandatory information for employee and visitor review, shall be deemed as meeting the requirement for a bulletin board. Include and maintain information on safety bulletin board as required by EM 385-1-1, section 01.A.06. Additional items required to be posted include:

- a. Confined space entry permit.

NOTE: Item b. is for work on Military sites only.

- b. Hot work permit.

1.9 SITE SAFETY REFERENCE MATERIALS

Maintain safety-related references applicable to the project, including those listed in the article "References." Maintain applicable equipment manufacturer's manuals.

1.10 EMERGENCY MEDICAL TREATMENT

Contractors will arrange for their own emergency medical treatment. Government has no responsibility to provide emergency medical treatment.

1.11 NOTIFICATIONS and REPORTS

1.11.1 Accident Reports

Conduct an accident investigation for recordable injuries and illnesses, for Medical Treatment defined in paragraph DEFINITIONS, property damage accidents resulting in at least \$2,000 in damages, and near misses as defined in EM 385-1-1, to establish the root cause(s) of the accident. Complete the applicable USACE Accident Report Form 3394, and provide the

report to the Contracting Officer within 5 calendar day(s) of the accident. The Contracting Officer will provide copies of any required or special forms. Any mishap involving crane operations will be reported to the GDA and SAJ-SO office immediately. All crane operation mishaps information shall be completed, reviewed and forwarded to SAJ-SO within four (4) hours of the incident. The incident shall be documented in the Contractor's Significant Incident Report (CSIR). Provide to the SO a crane and/or rigging incident/accident notification form within 24 hours of the incident. Do not proceed with crane operations until cause is determined and corrective actions have been implemented to the satisfaction of the Contracting Officer. All "near misses" shall be reported to SAJ-SO and investigated. A preliminary action notification shall be forwarded to SAJ-SO.

1.11.2 Crane Reports

Submit crane inspection reports required in accordance with USACE EM 385-1-1, Appendix I and as specified herein with Daily Reports of Inspections.

1.11.3 Certificate of Compliance

**NOTE: Include this requirement in all Navy projects;
this is an option for Army projects.**

Provide a Certificate of Compliance for each crane entering an activity under this contract). State within the certificate that the crane and rigging gear meet applicable OSHA regulations (with the Contractor citing which OSHA regulations are applicable, e.g., cranes used in construction, demolition, or maintenance comply with 29 CFR 1926 and USACE EM 385-1-1 Section 16 and Appendix I. Certify on the Certificate of Compliance that the crane operator(s) is qualified and trained in the operation of the crane to be used. For cranes at DOD activities in foreign countries, certify that the crane and rigging gear conform to the appropriate host country safety standards. Also certify that all of its crane operators working on the DOD activity have been trained in the proper use of all safety devices (e.g., anti-two block devices). Post certifications on the crane.

1.11.4 Third Party Certification of Barge-Mounted Mobile Cranes

**NOTE: Include this paragraph for barge mounted
cranes or derricks.**

Certify barge-mounted mobile cranes in accordance with 29 CFR 1919 by an OSHA accredited person.

1.12 HOT WORK

Submit permits required by state and local laws and regulations prior to performing "Hot Work". The Contractor shall provide at least two (2) twenty (20) pound 4A:20 BC rated extinguishers for normal "Hot Work". All extinguishers shall have current inspection tagged, approved safety pin and tamper resistant seal. It is also mandatory to have a designated FIRE WATCH for any "Hot Work" done at this activity. The Fire Watch shall be trained in accordance with NFPA 51B and remain on-site for a minimum of 30

minutes after completion of the task or as specified on hot work permits.

NOTE: This is for work on a Military Installation only.

Submit and obtain a written permit prior to performing "Hot Work" (welding, cutting, etc.) or operating other flame-producing/spark producing devices, from the [Fire Division] [_____]. A permit is required from the Explosives Safety Office for work in and around where explosives are processed, stored, or handled. CONTRACTORS ARE REQUIRED TO MEET ALL CRITERIA BEFORE A PERMIT IS ISSUED. Provide at least two (2) twenty (20) pound 4A:20 BC rated extinguishers for normal "Hot Work". All extinguishers shall be current inspection tagged, approved safety pin and tamper resistant seal. It is also mandatory to have a designated FIRE WATCH for any "Hot Work" done at this activity. The Fire Watch shall be trained in accordance with NFPA 51B and remain on-site for a minimum of 30 minutes after completion of the task or as specified on the hot work permit.

When starting work in the facility, require personnel to familiarize themselves with the location of the nearest fire alarm boxes and place in memory the emergency [Fire Division] [_____] phone number. ANY FIRE, NO MATTER HOW SMALL, SHALL BE REPORTED TO THE RESPONSIBLE [FIRE DIVISION] [_____] IMMEDIATELY.

NOTE: Include the following paragraph in USACE marine operation projects involving fuel tank/pipes that have the potential for explosive atmospheres, and Navy projects as applicable.

Obtain services from a NFPA Certified Marine Chemist for "HOT WORK" within or around flammable materials (such as fuel systems, welding/cutting on fuel pipes) or confined spaces (such as sewer wet wells, manholes, vaults, etc.) that have the potential for flammable or explosive atmospheres.

1.13 RADIATION SAFETY REQUIREMENTS

License Certificates for radiation materials and equipment shall be submitted to the Contracting Officer and Radiation Safety Office (RSO) for all specialized and licensed material and equipment that could cause fatal harm to construction personnel or to the construction project.

1.14 FACILITY OCCUPANCY CLOSURE

Streets, walks, and other facilities occupied and used by the Government shall not be closed or obstructed without written permission from the Contracting Officer.

1.15 SEVERE STORM PLAN

The Contractor shall submit, as part of the Accident Prevent Plan, a Severe Storm Plan, which fulfills all the requirements of Paragraph 19.A.03, USACE EM 385-1-1.

1.16 CONFINED SPACE ENTRY REQUIREMENTS.

Contractors entering and working in confined spaces while performing general industry work are required to follow the requirements of OSHA 29 CFR 1926 and comply with the requirements in Section 34 of EM 385-1-1, OSHA 29 CFR 1910, and OSHA 29 CFR 1910.146.

PART 2 PRODUCTS (NOT APPLICABLE)

NOTE: Use this paragraph for Army and NASA projects only.

2.1 CONFINED SPACE SIGNAGE

NOTE: Use this paragraph for Navy projects only.

Provide permanent signs integral to or securely attached to access covers for new permit-required confined spaces. Signs wording: "DANGER--PERMIT-REQUIRED CONFINED SPACE - DO NOT ENTER -" in bold letters a minimum of one inch in height and constructed to be clearly legible with all paint removed. The signal word "DANGER" shall be red and readable from 5 feet.

PART 3 EXECUTION

3.1 CONSTRUCTION AND OTHER WORK

Comply with USACE EM 385-1-1, NFPA 70, NFPA 70E, NFPA 241, the APP, the AHA, Federal and State OSHA regulations, and other related submittals and activity fire and safety regulations. The most stringent standard prevails.

PPE is governed in all areas by the nature of the work the employee is performing. Use personal hearing protection at all times in designated noise hazardous areas or when performing noise hazardous tasks. Safety glasses must be carried/available on each person.

Mandatory PPE includes:

- a. Hard Hat
- b. Appropriate Safety Boots
- c. Reflective Vests

3.1.1 Hazardous Material Exclusions

Notwithstanding any other hazardous material used in this contract, radioactive materials or instruments capable of producing ionizing/non-ionizing radiation (with the exception of radioactive material and devices used in accordance with USACE EM 385-1-1 such as nuclear density meters for compaction testing and laboratory equipment with radioactive sources) as well as materials which contain asbestos, mercury or polychlorinated biphenyls, di-isocyanates, lead-based paint are prohibited. The Contracting Officer, upon written request by the Contractor, may consider exceptions to the use of any of the above excluded

materials. Low mercury lamps used within fluorescent lighting fixtures are allowed as an exception without further Contracting Officer approval.

3.1.2 Unforeseen Hazardous Material

The design should have identified materials such as PCB, lead paint, and friable and non-friable asbestos and other OSHA regulated chemicals (i.e. 29 CFR Part 1910.1000). If additional material, not indicated, that may be hazardous to human health upon disturbance during construction operations is encountered, stop that portion of work and notify the Contracting Officer immediately. Within 14 calendar days the Government will determine if the material is hazardous. If material is not hazardous or poses no danger, the Government will direct the Contractor to proceed without change. If material is hazardous and handling of the material is necessary to accomplish the work, the Government will issue a modification pursuant to "FAR 52.243-4, Changes" and "FAR 52.236-2, Differing Site Conditions."

3.2 PRE-OUTAGE COORDINATION MEETING

Apply for utility outages at least 10 days in advance. As a minimum, the request should include the location of the outage, utilities being affected, duration of outage and any necessary sketches. Special requirements for electrical outage requests are contained elsewhere in this specification section. Once approved, and prior to beginning work on the utility system requiring shut down, attend a pre-outage coordination meeting with the Contracting Officer and the Public Utilities representative to review the scope of work and the lock-out/tag-out procedures for worker protection. No work will be performed on energized electrical circuits unless proof is provided that no other means exist.

3.3 CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT)

The Contractor is required to review, ensure that each employee is familiar with, and comply with all areas of the LOTO program referenced in [EM 385-1-1](#), Section 12. Additionally, the Contractor must meet all OSHA requirements of [29 CFR 1910.147](#). The complete Accident Prevention Plan must include electrical, mechanical and mechanized equipment to include all construction heavy equipment, power tools, batteries, etc.

3.4 FALL HAZARD PROTECTION AND PREVENTION PROGRAM

Establish a fall protection and prevention program, for the protection of all employees exposed to fall hazards. Within the program include company policy, identify responsibilities, education and training requirements, fall hazard identification, prevention and control measures, inspection, storage, care and maintenance of fall protection equipment and rescue and evacuation procedures.

3.4.1 Training

Institute a fall protection training program by a qualified person. As part of the Fall Hazard Protection and Prevention Program, provide training for each employee who might be exposed to fall hazards. Provide training by a qualified person for fall protection in accordance with USACE [EM 385-1-1](#), Section 21.B.

3.4.2 Fall Protection Equipment and Systems

Enforce use of the fall protection equipment and systems designated for

each specific work activity in the Fall Protection and Prevention Plan and/or AHA at all times when an employee is exposed to a fall hazard. Protect employees from fall hazards as specified in EM 385-1-1, Section 21. In addition to the required fall protection systems, safety skiff, personal floatation devices, life rings etc., are required when working above or next to water in accordance with USACE EM 385-1-1, Paragraphs 21.N through 21.N.04. Personal fall arrest systems are required when working from an articulating or extendible boom, swing stages, or suspended platform. In addition, personal fall arrest systems are required when operating other equipment such as scissor lifts if the work platform is capable of being positioned outside the wheelbase. The need for tying-off in such equipment is to prevent ejection of the employee from the equipment during raising, lowering, or travel. Fall protection must comply with 29 CFR 1926.500, Subpart M, USACE EM 385-1-1 and ANSI/ASSE A10.32.

3.4.2.1 Personal Fall Arrest Equipment

Personal fall arrest equipment, systems, subsystems, and components shall meet ANSI/ASSE Z359.1. Only a full-body harness with a shock-absorbing lanyard or self-retracting lanyard is an acceptable personal fall arrest body support device. Body belts may only be used as a positioning device system (for uses such as steel reinforcing assembly and in addition to an approved fall arrest system). Harnesses shall have a fall arrest attachment affixed to the body support (usually a Dorsal D-ring) and specifically designated for attachment to the rest of the system. Only locking snap hooks and carabiners shall be used. Webbing, straps, and ropes shall be made of synthetic fiber. The maximum free fall distance when using fall arrest equipment shall not exceed 6 feet. The total fall distance and any swinging of the worker (pendulum-like motion) that can occur during a fall shall always be taken into consideration when attaching a person to a fall arrest system.

3.4.3 Fall Protection for Roofing Work

Implement fall protection controls based on the type of roof being constructed and work being performed. Evaluate the roof area to be accessed for its structural integrity including weight-bearing capabilities for the projected loading.

a. Low Sloped Roofs:

- (1) For work within 6 feet of an edge, on low-slope roofs, protect personnel from falling by use of personal fall arrest systems, guardrails, or safety nets.
- (2) For work greater than 6 feet from an edge, erect and install warning lines in accordance with 29 CFR 1926.500 and USACE EM 385-1-1.

b. Steep-Sloped Roofs: Work on steep-sloped roofs requires a personal fall arrest system, guardrails with toe-boards, or safety nets. This requirement also includes residential or housing type construction.

3.4.4 Horizontal Lifelines

Design, install, certify and use under the supervision of a qualified person horizontal lifelines for fall protection as part of a complete fall arrest system which maintains a safety factor of 2 (29 CFR 1926.500).

3.4.5 Guardrails and Safety Nets

Design, install and use guardrails and safety nets in accordance with EM 385-1-1 and 29 CFR 1926 Subpart M.

3.4.6 Rescue and Evacuation Procedures

When personal fall arrest systems are used, ensure that the mishap victim can self-rescue or can be rescued promptly should a fall occur. Prepare a Rescue and Evacuation Plan and include a detailed discussion of the following: methods of rescue; methods of self-rescue; equipment used; training requirement; specialized training for the rescuers; procedures for requesting rescue and medical assistance; and transportation routes to a medical facility. Include the Rescue and Evacuation Plan within the Activity Hazard Analysis (AHA) for the phase of work, in the Fall Protection and Prevention (FP&P) Plan, and the Accident Prevention Plan (APP).

3.5 SCAFFOLDING

Provide employees with a safe means of access to the work area on the scaffold. Climbing of any scaffold braces or supports not specifically designed for access is prohibited. Access scaffold platforms greater than 20 feet maximum in height by use of a scaffold stair system. Do not use vertical ladders commonly provided by scaffold system manufacturers for accessing scaffold platforms greater than 20 feet maximum in height. The use of an adequate gate is required. Ensure that employees are qualified to perform scaffold erection and dismantling. Do not use scaffold without the capability of supporting at least four times the maximum intended load or without appropriate fall protection as delineated in the accepted fall protection and prevention plan. Stationary scaffolds must be attached to structural building components to safeguard against tipping forward or backward. Give special care to ensure scaffold systems are not overloaded. Side brackets used to extend scaffold platforms on self-supported scaffold systems for the storage of material is prohibited. The first tie-in shall be at the height equal to 4 times the width of the smallest dimension of the scaffold base. Place work platforms on mud sills. Scaffold or work platform erectors shall have fall protection during the erection and dismantling of scaffolding or work platforms that are more than six feet. Delineate fall protection requirements when working above six feet or above dangerous operations in the Fall Protection and Prevention (FP&P) Plan and Activity Hazard Analysis (AHA) for the phase of work.

3.6 EQUIPMENT

3.6.1 Material Handling Equipment

- a. Material handling equipment such as forklifts shall not be modified with work platform attachments for supporting employees unless specifically delineated in the manufacturer's printed operating instructions.
- b. The use of hooks on equipment for lifting of material must be in accordance with manufacturer's printed instructions.
- c. Operators of forklifts or power industrial trucks shall be licensed in accordance with OSHA.

3.6.2 Weight Handling Equipment

- a. Equip cranes and derricks as specified in EM 385-1-1, section 16 and in accordance with 29 CFR 1926.1427.
- b. Notify the Contracting Officer 30 days in advance of any cranes entering the activity so that necessary quality assurance spot checks can be coordinated. Contractor's operator shall remain with the crane during the spot check.
- c. Comply with the crane manufacturer's specifications and limitations for erection and operation of cranes and hoists used in support of the work. Perform erection under the supervision of a designated person (as defined in ANSI/ASME B30.5). Perform all testing in accordance with the manufacturer's recommended procedures.
- d. Comply with ANSI/ASME B30.5 for mobile and locomotive cranes, ANSI/ASME B30.22 for articulating boom cranes, ANSI/ASME B30.3 for construction tower cranes, and ANSI/ASME B30.8 for floating cranes and floating derricks.
- e. Under no circumstance shall a Contractor make a lift at or above 90 percent of the cranes rated capacity in any configuration.
- f. When operating in the vicinity of overhead transmission lines, operators and riggers shall be alert to this special hazard and follow the requirements of USACE EM 385-1-1 Section 11 and ANSI/ASME B30.5 or ANSI/ASME B30.22 as applicable.
- g. Do not crane suspended personnel work platforms (baskets) unless the Contractor proves that using any other access to the work location would provide a greater hazard to the workers or is impossible. Do not lift personnel with a line hoist or friction crane.
- h. Inspect, maintain, and recharge portable fire extinguishers as specified in NFPA 10, Standard for Portable Fire Extinguishers.
- i. All employees must keep clear of loads about to be lifted and of suspended loads.
- j. Use cribbing when performing lifts on outriggers.
- k. The crane hook/block must be positioned directly over the load. Side loading of the crane is prohibited.
- l. A physical barricade must be positioned to prevent personnel from entering the counterweight swing (tail swing) area of the crane.
- m. Certification records which include the date of inspection, signature of the person performing the inspection, and the serial number or other identifier of the crane that was inspected shall always be available for review by Contracting Officer personnel.
- n. Written reports listing the load test procedures used along with any repairs or alterations performed on the crane shall be available for review by Contracting Officer personnel.
- o. Certify that all crane operators have been trained in proper use of all safety devices (e.g. anti-two block devices).

- p. Lightning Protection/Devices are required on all WHE, Cranes, Crane Work.

3.6.3 Equipment and Mechanized Equipment

- a. Proof of qualifications for operator shall be kept on the project site for review.
- b. Manufacture specifications or owner's manual for the equipment shall be on-site and reviewed for additional safety precautions or requirements that are sometimes not identified by OSHA or USACE EM 385-1-1. Incorporate such additional safety precautions or requirements into the AHAs.

3.6.4 USE OF EXPLOSIVES

NOTE: Use tailored, last paragraph for NASA projects only.

Explosives shall not be used or brought to the project site without prior written approval from the Contracting Officer. Such approval shall not relieve the Contractor of responsibility for injury to persons or for damage to property due to blasting operations.

Storage of explosives, when permitted on Government property, shall be only where directed and in approved storage facilities. These facilities shall be kept locked at all times except for inspection, delivery, and withdrawal of explosives.

Explosive work shall be performed in accordance with NASA-STD 8719.12. This document is available at:

<http://www.hq.nasa.gov/office/codeq/doctree/871912.htm>

3.7 EXCAVATIONS

Soil classification must be performed by a competent/qualified person in accordance with 29 CFR 1926 and EM 385-1-1.

3.7.1 Utility Locations

All underground utilities in the work area must be positively identified by a third party, independent, private utility locating company in addition to any station locating service and coordinated with the station utility department.

3.7.2 Utility Location Verification

Physically verify underground utility locations, including utility depth, by hand digging using wood or fiberglass handled tools when any adjacent construction work is expected to come within three feet of the underground system.

3.7.3 Utilities Within and Under Concrete, Bituminous Asphalt, and Other Impervious Surfaces

Utilities located within and under concrete slabs or pier structures, bridges, parking areas, and the like, are extremely difficult to identify. Whenever contract work involves chipping, saw cutting, or core drilling through concrete, bituminous asphalt or other impervious surfaces, the existing utility location must be coordinated with station utility departments in addition to location and depth verification by a third party, independent, private locating company. The third party, independent, private locating company shall locate utility depth by use of Ground Penetrating Radar (GPR), X-ray, bore scope, or ultrasound prior to the start of demolition and construction. Outages to isolate utility systems must be used in circumstances where utilities are unable to be positively identified. The use of historical drawings does not alleviate the contractor from meeting this requirement.

3.8 ELECTRICAL

3.8.1 Conduct of Electrical Work

Underground electrical spaces must be certified safe for entry before entering to conduct work. Cables that will be cut must be positively identified and de-energized prior to performing each cut. Positive cable identification must be made prior to submitting any outage request for electrical systems. Arrangements are to be coordinated with the Contracting Officer and Station Utilities for identification. The Contracting Officer will not accept an outage request until the Contractor satisfactorily documents that the circuits have been clearly identified. Perform all high voltage cable cutting remotely using hydraulic cutting tool. When racking in or live switching of circuit breakers, no additional person other than the switch operator will be allowed in the space during the actual operation. Plan so that work near energized parts is minimized to the fullest extent possible. Use of electrical outages clear of any energized electrical sources is the preferred method. When working in energized substations, only qualified electrical workers will be permitted to enter. When work requires Contractor to work near energized circuits as defined by the [NFPA 70](#), high voltage personnel must use personal protective equipment that includes, as a minimum, electrical hard hat, safety boots, insulating gloves with leather protective sleeves, fire retarding shirts, coveralls, face shields, and safety glasses. In addition, provide electrical arc flash protection for personnel as required by [NFPA 70E](#). Insulating blankets, hearing protection, and switching suits may also be required, depending on the specific job and as delineated in the Contractor's AHA.

3.8.2 Portable Extension Cords, Generators and Tools

Size portable extension cords in accordance with manufacturer ratings for the tool to be powered and protected from damage. Immediately remove from service all damaged extension cords. Portable extension cords shall meet the requirements of [EM 385-1-1](#), [NFPA 70E](#), and OSHA electrical standards. All portable generators shall be in compliance with National Electrical Code ([NFPA 70](#)) Article 250-34. All portable energized power tools shall be connected to Ground Fault Interrupter GFI receptacles or Ground Fault Circuit Interrupter (GFCI). At the disposal site, portable equipment, floodlights, and work lights shall be grounded to comply with [EM 385-1-1](#), Section 11.D.01.f. The protective ground shall be maintained during relocation unless circuits are de-energized.

3.9 WORK IN CONFINED SPACES

Comply with the requirements in Section 34 of USACE EM 385-1-1, OSHA 29 CFR 1910, OSHA 29 CFR 1910.146, OSHA Directive CPL 2.100 and OSHA 29 CFR 1926. Any potential for a hazard in the confined space requires a permit system to be used.

- a. Entry Procedures. Prohibit entry into a confined space by personnel for any purpose, including hot work, until the qualified person has conducted appropriate tests to ensure the confined or enclosed space is safe for the work intended and that all potential hazards are controlled or eliminated and documented. (See Section 34 of USACE EM 385-1-1 for entry procedures.) All hazards pertaining to the space shall be reviewed with each employee during review of the AHA.
- b. Forced air ventilation is required for all confined space entry operations and the minimum air exchange requirements must be maintained to ensure exposure to any hazardous atmosphere is kept below its' action level.
- c. Sewer wet wells require continuous atmosphere monitoring with audible alarm for toxic gas detection.

-- End of Section --