
 USACE / NAVFAC / AFCEA / NASA UFGS-01 35 26 (February 2012)
 Change 1 - 08/12

 Preparing Activity: NAVFAC Superseding
 UFGS-01 35 26 (February 2010)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated January 2013

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02/12

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SECTION 01 35 26

GOVERNMENTAL SAFETY REQUIREMENTS
02/12

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 SOCIETY OF SAFETY ENGINEERS (ASSE/SAFE)

- ASSE/SAFE A10.32 (2012) Fall Protection
- ASSE/SAFE A10.34 (2001; R 2012) Protection of the Public on or Adjacent to Construction Sites
- ASSE/SAFE Z359.1 (2007) Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components

ASME INTERNATIONAL (ASME)

- ASME B30.22 (2010) Articulating Boom Cranes
- ASME B30.3 (2009) Tower Cranes
- ASME B30.5 (2011) Mobile and Locomotive Cranes
- ASME B30.8 (2010) Floating Cranes and Floating Derricks

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)

- NASA NPG 8621.1 (2004a) NASA Mishap Reporting, Investigating and Record Keeping Policy
- NASA NPG 8715.3 (2004) NASA Safety Manual
- NASA-STD 8719.12 (2011; Change 2) Safety Standard for Explosives, Propellants, and Pyrotechnics

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

- NFPA 10 (2010; Errata 2012) Standard for Portable Fire Extinguishers
- NFPA 241 (2009) 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 (2008; Errata 1-2010; Changes 1-3 2010; Changes 4-6 2011; Change 7 2012) Safety and Health Requirements Manual

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

10 CFR 20 Standards for Protection Against Radiation

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 1926.16 Rules of Construction

29 CFR 1926.450 Scaffolds

29 CFR 1926.500 Fall Protection

CPL 2.100 (1995) Application of the Permit-Required Confined Spaces (PRCS) Standards, 29 CFR 1910.146

U.S. NAVAL FACILITIES ENGINEERING COMMAND (NAVFAC)

NAVFAC P-307 (2009; Change 1 Mar 2011; Change 2 Aug 2011) Management of Weight Handling Equipment

1.2 DEFINITIONS

NOTE: Include the following item (a) in Navy projects only.

- a. Competent 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.

NOTE: Include the following item in Navy projects only.

- 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. 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.
- f. "USACE" property and equipment specified in USACE EM 385-1-1 should be interpreted as Government property and equipment.

NOTE: Include the following item on all Navy projects; Item is optional on ARMY projects. Edit as appropriate if paragraph is used for Army.

Last sentence is tailored for Navy only.

[g. Weight Handling Equipment (WHE) Accident. A WHE accident occurs when any one or more of the eight elements in the operating 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; or collision, including unplanned contact between the load, crane, or other objects. A dropped load, derailment, two-blocking, overload and collision are considered accidents even though no material damage or injury occurs. A component failure (e.g., motor burnout, gear tooth failure, bearing failure) is not considered an accident solely due to material or equipment damage unless the component failure results in damage to other components (e.g., dropped boom, dropped load, roll over, etc.) Any mishap meeting the criteria described above shall be documented in both the Contractor Significant Incident Report (CSIR) and using the NAVFAC prescribed Navy Crane Center (NCC) form submitted within five days both as provided by the Contracting Officer. Comply with additional requirements and procedures for accidents in accordance with NAVFAC P-307, Section 12.]

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 Contractor Quality Control approval.][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:

**NOTE: A "G" followed by "A" indicates that the
submittal requires Government acceptance as defined
in EM-385-1.**

Government acceptance, as defined in EM 385-1-1, is required for submittals
with a "G, A" designation.

SD-01 Preconstruction Submittals

- Accident Prevention Plan (APP) [; G, A] [; G, A [_____]]
- Activity Hazard Analysis (AHA) [; G, A] [; G, A [_____]]
- Crane Critical Lift Plan [; G, A] [; G, A [_____]]
- Proof of qualification for Crane Operators [; G, A] [; G, A [_____]]

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

Gas Protection for NASA projects

SD-07 Certificates

Confined Space Entry Permit

Hot work permit

License Certificates

Contractor Safety Self-Evaluation Checklist [; G, A] [; G, A [_____]]

[Third Party Certification of Barge-Mounted Mobile Cranes]

[Certificate of Compliance (Crane)]

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

[Machinery & Mechanized Equipment Certification Form]

1.4 CONTRACTOR SAFETY SELF-EVALUATION CHECKLIST

NOTE: Include this paragraph in Navy projects

only. Do not use on ARMY projects.

Contracting Officer will provide a "Contractor Safety Self-Evaluation checklist" to the Contractor at the pre-construction conference. Complete the checklist monthly and submit with each request for payment voucher. An acceptable score of 90 or greater is required. Failure to submit the completed safety self-evaluation checklist or achieve a score of at least 90 may result in retention of up to 10 percent of the voucher. Additionally, provide a Monthly Exposure Report and attach to the monthly billing request. This report is a compilation of employee-hours worked each month for all site workers, both prime and subcontractor. Failure to submit the report may result in retention of up to 10 percent of the voucher. The Contracting Officer will submit a copy of the Contractor Safety Self-Evaluation and Monthly Exposure Report to the local safety and occupational health office.

1.5 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 the following [federal, state, and local] [host nation] 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.

1.6 SITE QUALIFICATIONS, DUTIES AND MEETINGS

1.6.1 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.

1.6.1.1 Site Safety and Health Officer (SSHO)

The SSHO must meet the requirements of EM 385-1-1 section 1 and ensure that the requirements of 29 CFR 1926.16 are met for the project. Provide a Safety oversight team that includes a minimum of one (1) person at each project site to function as the Site Safety and Health Officer (SSHO). The SSHO or an equally-qualified Designated Representative/alternate shall be at the work site at all times to implement and administer the Contractor's safety program and government-accepted Accident Prevention Plan. The SSHO's training, experience, and qualifications shall be as required by EM 385-1-1 paragraph 01.A.17, entitled SITE SAFETY AND HEALTH OFFICER (SSHO), and all associated sub-paragraphs.

A Competent 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. Provide the credentials of the Competent Persons(s) to the the Contracting Officer for acceptance in consultation with the Safety Office.

1.6.1.1.1 Contractor Quality Control (QC) Person:

NOTE: Choose one of the bracketed items below. When this safety specification allows the use of the QC person as the SSHO in the following paragraph, tailor the QC specification Section 01 45 00.00 10 01 45 00.00 20 01 45 00.00 40 QUALITY CONTROL to ensure consistency.

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.][can be the SSHO on this project.]

1.6.1.1.2 Additional Site Safety and Health Officer (SSHO) Requirements and Duties

NOTE: Use this paragraph and the next two paragraphs for NAVFAC PACIFIC PROJECTS only.

The SSHO shall have completed the "40 Hour Construction Safety Hazard Awareness Training Course for Contractors".

[1.6.1.1.3 40 Hour Construction Safety Hazard Awareness Training Course for Contractors

The training requirements for the SSHO must include the successful completion of the course entitled "40 Hour Construction Safety Hazard Awareness Training Course for Contractors". If the SSHO does not have a current certification, they shall obtain the course certification within

sixty (60) calendar days from award.]

1.6.1.1.4 Qualified Trainer Requirements

Qualified Trainer Requirements for 40 Hour Construction Safety Hazard Awareness Training Course for Contractors and 16 hours of classroom training on the requirements of the latest version of the EM 385-1-1:

Completed the following courses:

- a. OSHA 510, Occupational Safety and Health Standards for Construction
- b. OSHA 500, Trainer Course in OSHA Standards for Construction
- c. OSHA 3095, Electrical Standards
- d. OSHA 7115, Lockout/Tagout
- e. OSHA 3110, Fall Arrest Systems
- f. OSHA 2264, Permit-Required Confined Space Entry
- g. OSHA 3010, Excavation, Trenching and Soil Mechanics
- h. Scaffolds in accordance with 29 CFR 1926.450, Subpart L
- i. NAVFAC 40-hour Construction Safety Hazard Awareness Training

Responsibilities of Authorized Trainers:

- a. Prepare class presentations that cover construction-related safety requirements and includes topics covered in the NAVFAC Construction Safety Hazard Awareness Course for Contractors.
- b. Ensure that all attendees attend all sessions by using a class roster signed daily by each attendee. Maintain copies of the roster for at least five (5) years. This is a certification class and must be attended 100 percent. In cases of emergency where an attendee cannot make it to a session, the attendee can make it up in another class session for the same subject.
- c. Update training course materials whenever an update of the EM 385-1-1 becomes available.
- d. Provide a written exam of at least 50 questions. Students shall be required to answer 80 percent correctly to pass.

Copies of test and student answers shall be retained for five (5) years and will be made available for inspection by the NAVFAC Pacific, Site Safety and Health Manager upon request.

1.6.1.1.5 The Contractor Quality Control (QC) Personnel

 NOTE: Use this paragraph and the next paragraph for NAVFAC MARIANAS PROJECTS only. Coordinate first paragraph with paragraph, Contractor Quality Control (QC) Person.

The Contractor Quality Control (QC) person cannot be the SSHO on this project, although the QC has safety inspection responsibilities as part of the QC duties.

The Project Superintendent or other Contractor personnel may act on behalf of the SSHO for a period of no more than thirty (30) days annually, provided that the individual meets the same competency level of the SSHOs,

demonstrates the proficiency required, and is approved by the Contracting Officer in consultation with the NAVFAC MARIANAS Site Safety and Health Manager.

1.6.1.1.6 Requirements for all Contractor Jobsite Personnel Holding H-1B or H-2B Visas:

All Contractor jobsite workers holding an H-1B or H-2B visa shall complete a minimum 16 hours of classroom training on the requirements of the latest version of the U.S. Army Corps of Engineers Safety & Health Requirements Manual (EM 385-1-1) prior to their first day on the jobsite to include but not limited to the following topics: Sanitation; Medical and First Aid Requirements; Temporary Facilities; Personal Protective Equipment; Electrical; Hand and Power Tools; Material Handling and Storage; Motor Vehicles; Fall Protection; Work Platforms and Scaffoldings; Demolition; Safe Access, Ladders, Floor & Wall Openings, Stairs and Railing Systems; Excavations and Trenching; and Confined Spaces, prior to reporting to the jobsite.

Submit a list of workers who have completed the training to the Contracting Officer prior to them reporting to the jobsite. Update the list as additional workers are added. Maintain the updated list at the jobsite for review by the government's designated authority. Include the qualifications of qualified trainer(s) that provided the training. Personnel who have taken the 40 Hour Construction Safety Hazard Awareness Training Course for Contractors are not required to take the 16 hours of classroom training on the requirements of the latest version of the EM 385-1-1.

The 16 hours classroom training may be provided by the Guam Contractors Association Trades Academy (GCA Trades Academy) or other qualified trainers as outlined in the subpart titled "Qualified Trainer Requirements".

1.6.1.2 USACE Dredging Contract 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.

1.6.1.2.1 SSHO Staffing for USACE Dredging Contracts

- 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.

1.6.1.2.2 SSHO Requirements for Dredging

- 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 insure 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.

1.6.1.2.3 Designated Representative (DR) Requirements for Dredging

- 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.

1.6.1.2.4 Safety Personnel Training Requirements for Dredging

- 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.

1.6.1.3 Competent Person for Confined Space Entry

**NOTE: Use this paragraph for Navy projects only
when confined space(s) are identified in the scope
of work.**

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

[Since this 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, 29 CFR 1910.147 for general industry.]

1.6.1.4 Crane Operators

**NOTE: Use bracketed item in paragraph below for
Navy projects only.**

Meet the crane operators requirements in USACE EM 385-1-1, Section 16 and Appendix I. In addition, for mobile cranes with Original Equipment Manufacturer (OEM) rated capacities of 50,000 pounds or greater, designate crane operators as 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 qualification. [In addition, the Contractor shall comply with Contractor Operated Crane Requirements included in the latest revision of document NAVFAC P-307 Section 1.7.2 "Contractor Operated Cranes," and Appendix P, Figure P-1 and with 29 CFR 1926, Subpart CC.]

NOTE: Add the following paragraph for projects in
the State of Hawaii only.

[Also meet the crane operator requirements of the State of Hawaii for Crane certification.
]

1.6.2 Personnel Duties

1.6.2.1 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 [production] [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.

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.

1.6.3 Meetings

1.6.3.1 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.

1.6.3.2 Safety Meetings

 NOTE: Use this paragraph for Navy projects only.

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 [production] [quality control] report.

1.7 ACCIDENT PREVENTION PLAN (APP)

 NOTE: In third sentence, include bracketed item only for NASA projects.

 NOTE: In second paragraph, include brackets for Army projects only.

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" [and show compliance with NASA NPG 8715.3]. 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 [15] [_____] calendar days prior to the date of the preconstruction conference for acceptance. 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, SSHO 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 ASSE/SAFE A10.34,) and the environment.

NOTE: In first sentence below, choose first option for Navy and NASA projects.

Copies of the accepted plan will be maintained at the [Contracting Officer's] [resident engineer's] office and at the job site. Continuously review and ammend 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.

1.7.1 EM 385-1-1 Contents

NOTE: Use items a, b and e below for Navy projects only.

NOTE: Use item c and d below for both Navy and NASA projects. Item d is optional for Army projects.

In addition to the requirements outlined in Appendix A of USACE EM 385-1-1, the following is required:

- a. Names and qualifications (resumes including education, training, experience and certifications) of all site safety and health personnel designated to perform work on this project to include the designated site safety and health officer and other competent and qualified personnel to be used such as CSPs, CIHs, STSSs, CHSTs. Specify the duties of each position.
- b. Qualifications of competent and of qualified persons. As a minimum, designate and submit qualifications of competent persons for each of the following major areas: excavation; scaffolding; fall protection; hazardous energy; confined space; health hazard recognition, evaluation and control of chemical, physical and biological agents; personal protective equipment and clothing to include selection, use and maintenance.
- c. 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. (If there is no confined space work, include a statement that no confined space work exists and none will be created.)
- [d. 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 15 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.]
- e. Fall Protection and Prevention (FP&P) Program Documentation. The program documentation shall be site specific and address all fall hazards in the work place and during different phases of construction. Address how to protect and prevent workers from falling to lower levels when they are exposed to fall hazards above 1.8 m 6 feet. A qualified person for fall protection shall prepare and sign the program documentation. Include fall protection and prevention systems, equipment and methods employed for every phase of work,

responsibilities, assisted rescue, self-rescue and evacuation procedures, training requirements, and monitoring methods. Revise the Fall Protection and Prevention Program documentation [every six months] for lengthy projects, reflecting any changes during the course of construction due to changes in personnel, equipment, systems or work habits. Keep and maintain the accepted Fall Protection and Prevention Program documentation at the job site for the duration of the project. Include the Fall Protection and Prevention Program documentation in the Accident Prevention Plan (APP).

The FP&P Plan shall include a Rescue and Evacuation Plan in accordance with USACE EM 385-1-1, Section 21.M. The plan shall 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 in the Fall Protection and Prevention (FP&P) Plan, and as part of the Accident Prevention Plan (APP).

NOTE: The following paragraphs contain tailoring options for UFGS sections that are Army and Navy only.

- [f. Occupant Protection Plan. The safety and health aspects of lead-based paint removal, prepared in accordance with Section 02 83 19.00 10 LEAD BASED PAINT HAZARD ABATEMENT, TARGET HOUSING & CHILD OCCUPIED FACILITIES 02 82 33.13 20 REMOVAL/CONTROL AND DISPOSAL OF PAINT WITH LEAD.]
- [g. Lead Compliance Plan. The safety and health aspects of lead work, prepared in accordance with Section 02 83 13.00 20 LEAD IN CONSTRUCTION.]
- [h. Asbestos Hazard Abatement Plan. The safety and health aspects of asbestos work, prepared in accordance with Section 02 82 14.00 10 ASBESTOS HAZARD CONTROL ACTIVITIES 02 82 16.00 20 ENGINEERING CONTROL OF ASBESTOS CONTAINING MATERIALS.]
- [i. Site Safety and Health Plan. The safety and health aspects prepared in accordance with Section 01 35 29.13 HEALTH, SAFETY, AND EMERGENCY RESPONSE PROCEDURES FOR CONTAMINATED SITES.]
- [j. PCB Plan. The safety and health aspects of Polychlorinated Biphenyls work, prepared in accordance with Sections 02 84 33 REMOVAL AND DISPOSAL OF POLYCHLORINATED BIPHENYLS (PCBs) and 02 61 23 REMOVAL AND DISPOSAL OF PCB CONTAMINATED SOILS.]

NOTE: Include last bracketed sentence for Navy only.

- [k. Site Demolition Plan. The safety and health aspects prepared in accordance with Section 02 41 00 [DEMOLITION] [AND] [DECONSTRUCTION] and referenced sources.[Include engineering survey as applicable.]]
- [l. Excavation Plan. The safety and health aspects prepared in accordance with Section 31 00 00 EARTHWORK.]

1.8 ACTIVITY HAZARD ANALYSIS (AHA)

NOTE: In second sentence, bracketed option is for
Army projects only.

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 [15] [_____] 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 AHAs will be developed by the contractor, supplier or subcontractor and provided to the prime contractor for submittal to the Contracting Officer.

1.9 DISPLAY OF SAFETY INFORMATION

NOTE: In first sentence, bracketed option is for
Army projects only.

Within [one] [_____] calendar day(s) 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.
- b. Hot work permit.

1.10 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.

1.11 EMERGENCY MEDICAL TREATMENT

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

1.12 NOTIFICATIONS and REPORTS

1.12.1 Accident Notification

NOTE: For Navy projects with Crane Involvement only, any deviation from the 4-hour notification requirement must be approved by the Navy Crane Center.

Use bracketed item in first sentence for NASA projects only. Item is tailored for NASA.

Notify the Contracting Officer as soon as practical, but no more than four hours after any accident meeting the definition of Recordable Injuries or Illnesses or High Visibility Accidents, property damage equal to or greater than \$2,000, or any weight handling equipment accident [in accordance with NASA NPG 8621.1]. Within notification include contractor name; contract title; type of contract; name of activity, installation or location where accident occurred; date and time of accident; names of personnel injured; extent of property damage, if any; extent of injury, if known, and brief description of accident (to include type of construction equipment used, PPE used, etc.). Preserve the conditions and evidence on the accident site until the Government investigation team arrives on-site and Government investigation is conducted.

1.12.2 Accident Reports

NOTE: Bracketed items below are tailored. Use first bracketed item for Navy projects, and second bracketed item for Army and NASA projects.

- a. Conduct an accident investigation for recordable injuries and illnesses, for Medical Treatment defined in paragraph DEFINITIONS, property damage accidents resulting in at least \$20,000 in damages, and near misses as defined in EM 385-1-1, to establish the root cause(s) of the accident. Complete the applicable [NAVFAC Contractor Incident Reporting System (CIRS), and electronically submit via the NAVFAC Enterprise Safety Applications Management System (ESAMS.) [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.

NOTE: Use the following paragraph for Navy Projects.

- b. Near Misses: Complete the applicable documentation in NAVFAC Contractor Incident Reporting System (CIRS), and electronically submit via the NAVFAC Enterprise Safety Applications Management System (ESAMS).

NOTE: Include following paragraph for all Navy projects; paragraph is optional for Army projects.

[c. Conduct an accident investigation for any weight handling equipment accident (including rigging gear accidents) to establish the root cause(s) of the accident, complete the WHE Accident Report (Crane and Rigging Gear) form and provide the report to the Contracting Officer within 30 calendar days of the accident. Do not proceed with crane operations until cause is determined and corrective actions have been implemented to the satisfaction of the contracting officer. The Contracting Officer will provide a blank copy of the accident report form.]

1.12.3 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.

[1.12.4 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 (see Contracting Officer for a blank certificate). 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.

]1.12.5 Third Party Certification of Barge-Mounted Mobile Cranes

NOTE: Include this paragraph for Navy projects only.

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

]1.13 HOT WORK

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.]

1.14 RADIATION SAFETY REQUIREMENTS

NOTE: Use bracketed item for Navy projects only.

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

Workers shall be protected from radiation exposure in accordance with 10 CFR 20. Standards for Protection Against Radiation

Loss of radioactive material shall be reported immediately to the Contracting Officer.

Actual exposure of the radiographic film or unshielding the source shall not be initiated until after 5 p.m. on weekdays.

In instances where radiography is scheduled near or adjacent to buildings or areas having limited access or one-way doors, no assumptions shall be made as to building occupancy. Where necessary, the Contracting Officer will direct the Contractor to conduct an actual building entry, search, and alert. Where removal of personnel from such a building cannot be accomplished and it is otherwise safe to proceed with the radiography, a fully instructed employee shall be positioned inside such building or area to prevent exiting while external radiographic operations are in process. Transportation of Regulated Amounts of Radioactive Material will comply with 49 CFR, Subchapter C, Hazardous Material Regulations. Local Fire authorities and the site Radiation Safety officer (RSO) shall be notified of any Radioactive Material use.

Transmitter Requirements: The base policy concerning the use of transmitters such as radios, cell phones, etc., must be adhered to by all contractor personnel. They must also obey Emissions control (EMCON) restrictions.

1.15 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.

1.16 GAS PROTECTION

NOTE: Include this paragraph for NASA projects only.

Contractor shall have one or more employees properly trained and experienced in operation and calibration of gas testing equipment and formally qualified as gas inspectors who shall be on duty during times workers are in confined spaces. Their primary functions shall be to test for gas and operate testing equipment. Unless equipment of constant supervisory type with automatic alarm is employed, gas tests shall be made at least every 2 hours or more often when character of ground or experience indicates gas may be encountered. A gas test shall be made before workmen are permitted to enter the excavation after an idle period exceeding one-half hour.

Readings shall be permanently recorded daily, indicating the concentration of gas, point of test, and time of test. Submit copies of the gas test readings to the Contracting Officer at the end of each work day.

Special requirements, coordination, and precautions will apply to areas that contain a hazardous atmosphere or, by virtue of their use or physical character, may be oxygen deficient. A check by Government is required prior to entering confined space. Surveillance and monitoring shall be required in these types of work spaces by both Contractor and Government personnel.

1.17 HIGH NOISE LEVEL PROTECTION

NOTE: Include the this paragraph for NASA projects only.

Operations performed by the Contractor that involve the use of equipment with output of high noise levels (jackhammers, air compressors, and explosive-actuated devices) shall be scheduled for [weekends] [after duty working hours] during the hours [_____] at [_____]. Use of any such equipment shall be approved in writing by the Contracting Officer prior to commencement of work.

1.18 SEVERE STORM PLAN

In the event of a severe storm warning, the Contractor must:

- a. Secure outside equipment and materials and place materials that could be damaged in protected areas.
- b. Check surrounding area, including roof, for loose material, equipment, debris, and other objects that could be blown away or against existing facilities.

c. Ensure that temporary erosion controls are adequate.

1.19 CONFINED SPACE ENTRY REQUIREMENTS.

NOTE: Use last sentence for Navy only as applicable.

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. [Contractors entering and working in confined spaces while performing shipyard industry work are required to follow the requirements of OSHA 29 CFR 1915 Subpart B.]

PART 2 PRODUCTS

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

Not used.

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 25 mm one inch in height and constructed to be clearly legible with all paint removed. The signal word "DANGER" shall be red and readable from 1520 mm 5 feet.

PART 3 EXECUTION

3.1 CONSTRUCTION AND OTHER WORK

NOTE: Include the following text for Navy projects only.

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 Shoes
- c. Reflective Vests

3.1.1 Hazardous Material Use

NOTE: Use this paragraph for Navy projects only.

Each hazardous material must receive approval from the Contracting Office or their designated representative prior to being brought onto the job site or prior to any other use in connection with this contract. Allow a minimum of 10 working days for processing of the request for use of a hazardous material.

3.1.2 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. Notify the Radiation Safety Officer (RSO) prior to excepted items of radioactive material and devices being brought on base.

3.1.3 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

NOTE: Use and edit bracketed, tailored items in third sentence for Army projects only.

Apply for utility outages at least [_____] 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[Installation representative][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)

Ensure that each employee is familiar with and complies with these procedures and USACE EM 385-1-1, Section 12, Control of Hazardous Energy.

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. 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 competent 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 ASSE/SAFE A10.32.

3.4.2.1 Personal Fall Arrest Equipment

Personal fall arrest equipment, systems, subsystems, and components shall meet ASSE/SAFE 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 1.8 m 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:

NOTE: Use last, tailored sentence of (1) for Navy only.

- (1) For work within 1.8 m 6 feet of an edge, on low-slope roofs, protect personnel from falling by use of personal fall arrest systems, guardrails, or safety nets. A safety monitoring system is not adequate fall protection and is not authorized.
- (2) For work greater than 1.8 m 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 SHIPYARD REQUIREMENTS

NOTE: Use this paragraph for projects at the Norfolk Naval Shipyard (NNSY) and Portsmouth Naval Shipyard (PNSY) only.

All personnel who enter the Controlled Industrial Area (CIA) shall wear mandatory personal protective equipment (PPE) at all times and comply with PPE postings of shops both inside and outside the CIA.

3.6 SCAFFOLDING

NOTE: Use this paragraph on Navy projects only.

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 6 m 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 6 m 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.

3.7 EQUIPMENT

3.7.1 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.

NOTE: Second sentence is tailored; use on Navy projects only.

- b. The use of hooks on equipment for lifting of material must be in accordance with manufacturer's printed instructions. Additionally, when material handling equipment is used as a crane it must meet NAVFAC P-307 requirements in Sections 1.7.2, "Contractor Operated Cranes," and 12, "Investigation and Reporting of Crane and Rigging Gear Accidents."

- c. Operators of forklifts or power industrial trucks shall be licensed in accordance with OSHA.

3.7.2 Weight Handling Equipment

- a. Equip cranes and derricks as specified in EM 385-1-1, section 16.

NOTE: Include the following item in Navy projects only. Use the bracketed sentences for NAVFAC Marianas Projects only.

- b. Notify the Contracting Officer 15 days in advance of any cranes entering the activity so that necessary quality assurance spot checks can be coordinated. [Prior to cranes entering federal activities, a Crane Access Permit must be obtained from the Contracting Officer. A copy of the permitting process will be provided at the Preconstruction Conference.] 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 ASME B30.5). Perform all testing in accordance with the manufacturer's recommended procedures.
- d. Comply with ASME B30.5 for mobile and locomotive cranes, ASME B30.22 for articulating boom cranes, ASME B30.3 for construction tower cranes, and 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.

NOTE: Use tailored reference to NAVFAC P-307 for Navy projects only.

- 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, NAVFAC P-307 Figure 10-3 and ASME B30.5 or 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).

 NOTE: Include the following item in Navy projects only.

- p. Take steps to ensure that wind speed does not contribute to loss of control of the load during lifting operations. Prior to conducting lifting operations set a maximum wind speed at which a crane can be safely operated based on the equipment being used, the load being lifted, experience of operators and riggers, and hazards on the work site. This maximum wind speed determination shall be included as part of the activity hazard analysis plan for that operation.

3.7.3 Equipment and Mechanized Equipment

 NOTE: This paragraph is tailored for use on Navy projects only. Not required in ARMY projects.

- 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.

 NOTE: Include the following item in NAVFAC Marianas projects only.

- [c. Submit a Machinery & Mechanized Equipment Certification Form for acceptance by the Contracting Officer prior to being placed into use. A copy of the certification form will be provided during the Pre-construction Conference.]

3.7.4 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>

3.8 EXCAVATIONS

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

3.8.1 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.

3.8.2 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.

3.8.3 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.

3.9 ELECTRICAL

3.9.1 Portable Extension Cords

Size portable extension cords in accordance with manufacturer ratings for the tool to be powered and protected from damage. Immediately removed from service all damaged extension cords. Portable extension cords shall meet the requirements of EM 385-1-1, NFPA 70E, and OSHA electrical standards.

3.10 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 --