DEPARTMENT OF THE ARMY
Jacksonville District, Corps of Engineers
P. O. Box 4970
CESAJ-SO Jacksonville, Florida 32232-0019

CESAJ SOP 385-1-1
Change 3

Regulation
No. CESAJR 385-1-1

14 February 2004

Safety and Occupational Health
General Policy

1. This change to CESAJR 385-1-1 changes wording and procedures for items in Appendix I.

2. Substitute the attached pages as indicated below:

Insert-pages

I-48 thru I-52

3. File this change sheet in front of the publication for reference purposes.

FOR THE COMMANDER:

RANDY L. TURNER
LTC, Corps of Engineers
Deputy Commander

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DEPARTMENT OF THE ARMY CESAJR 385-1-1
Jacksonville District, Corps of Engineers
P. O. Box 4970
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Regulation
No. 385-1-1

1 September 1998

Safety
SAFETY AND OCCUPATIONAL HEALTH GENERAL POLICY

1. Purpose. To apprise all personnel of the policy of the District Commander for the administration of a comprehensive Safety and Occupational Health program, to identify the various responsibilities of management, and to provide guidance and procedures for policy compliance.

2. Applicability. The policies and procedures herein are applicable to all Jacksonville District activities.

3. References.

a. AR 385 Series.

b. ER 385 Series.

c. EM 385 Series.

d. AR 40-14.

e. AR 600-55.

f. Parts 1910, 1926, and 1960, Title 29, Code of Federal Regulations.

g. ER 1125-2-309.

h. ER 1130-2-400.

i. SADvR 385-1-1.

j. 40 CFR Parts 300-399

k. DOD Dir 1010.10, Health Promotion.

l. AR 1-8, Smoking in DA Occupied Building and Facilities.

m. 41 CFR 101.10.109.10, Regulation of Smoking.

n. U.S. Army Tobacco Cessation Game Plan.

This regulation supersedes CESAJR 385-1-1, dated 1 Apr 94, and CESAJR 385-1-5, dated 31 Jan 91

4. Objectives. To reduce to a minimum, losses of manpower and material resources due to accidental occurrences by eliminating or controlling physical conditions and personal acts which may result in injuries/illnesses to personnel and members of the public and/or destruction/damage to property and equipment.

5. General Safety Policy.

a. No individual shall be required or allowed to expose himself or herself to unsafe conditions in the performance of his or her work. It shall be the responsibility of the employee to perform his or her work in a safe manner.

b. Supervisors are directly responsible for the safe conduct of any and all work under their control. They shall be familiar with all recognized codes, standards and regulations relevant to their work and ensure that such are strictly enforced. These include all applicable OSHA Act Standards; Parts 1910, 1926, and 1960, Section 29 of the Code of Federal Regulations, as well as EM 385-1-1 as changed and amended.

c. The integration of accident prevention measures in all activities and operational procedures is the basic concept of the Corps of Engineers' accident prevention program. Safety engineers will provide staff supervision and advisory service, but the accident prevention program will be applied by all in such a manner as to provide for the maximum utilization of accident prevention controls in engineering, operational, and administrative procedures within the regular organizational framework.

d. All nongovernment and noncontractor service personnel, such as tire repairmen, equipment dealer representatives, mechanics, manufacturers representatives, or servicemen performing services or visiting Corps projects will be required to comply with all applicable Corps safety requirements while on the project. Nongovernment or noncontractor personnel who may be permitted in areas where heavy equipment is operating will be accompanied by a responsible employee of the government on hired labor operations or a representative of the contractor on contractor operations. The accompanying employee will be responsible for seeing that such personnel comply with the safety requirements applicable to the area. Contractor organizations will also be appraised of this requirement at prework conferences and the requirement will be included in the contractor's Accident Prevention Plan.

e. At the Corps of Engineers' facilities where public recreation is afforded, the Commander and his operating elements will, in addition to their normal administrative and operating safety responsibilities, provide for the recreation activities. Where feasible, local civilian safety councils will be formed and guided for the specific purpose of assisting the operating personnel with the public safety program.

f. Imminent danger use of "Stop Work Order." It is the policy of the Commander that the Area Engineers and construction personnel as representatives of the Contracting Officer, shall have authority to issue a "Stop Work Order" to a contractor if a condition on the site presents an immediate danger to life or property. Use of the "Stop Work Order provisions of the accident prevention article of "Construction Contracts" will be enforced if necessary to achieve corrective action on unsafe acts or conditions. Care must be taken to secure complete evidence that the provisions of the contract have been and are being violated prior to issuance of such an order. It is the policy of the Corps of Engineers to suspend work under contract when all attempts to secure compliance have failed and after noncompliance has been discussed with the contractor's chief representative on the project, and it is evident that suspension of work is the only means through which compliance can be secured. The Contracting Officer has the authority to withhold payment and to assign an unsatisfactory safety evaluation to contractors who fail to comply with safety requirements.

g. Smoking is prohibited in all District occupied space. Employees and visitors who wish to smoke in the Jacksonville Federal Building must go outside the building. Smoking is not permitted in any Jacksonville District Area/Resident/Project or Field Office, or any other facility. Smoking is not permitted in any Jacksonville District motor vehicle. Carrying a lit cigar, cigarette or pipe is considered a violation of the no smoking policy and is prohibited. Failure to comply with this policy may subject military and civilian personnel to corrective administrative action. The immediate supervisors will ensure that all employees in their area of responsibility will comply with this policy.

6. Procedures.

a. All plans, specifications, designs, technical publications, and operating and training procedures will be reviewed by the District Design Safety Subcommittee prior to their approval for conformance with established safety codes, standards, and principles. Responsibility for this review rests

with the recommending officials. The Safety and Occupational Health (S&OH) Office will provide assistance in the review process where needed and shall be consulted when undertaking has particularly hazardous implications.

b. Radiological safety matters will be executed in strict compliance with ER 385-1-80. Deviations from ER 385-1-80 are prohibited without prior approval of the Division Engineer and the Chief of Engineers. The S&OH Office will be kept informed of all matters involving radioactive materials.

c. Explosive and Other Dangerous Articles. The S&OH Office will coordinate matters involving the Corps of Engineers' position in the application of safety regulations, codes, and standards issued by other agencies which apply to Corps of Engineers' missions, such as those issued by the Department of Transportation, the U.S. Coast Guard, and the Armed Services Explosive Safety Board. (Reference AR 75-1, AR 75-14, AR 75-15, AR 385-63 and AR 55-228.) A plan will be submitted to the S&OH Office prior to the beginning of any operation requiring the use of explosives or any other dangerous materials, outlining the method of operation and precautions taken to control hazards. Prior to lease, change of status, or disposal of real estate, a careful inspection will be made to assure the property is not contaminated with radioactive, toxic, or explosive materials. (Reference AR 405-90)

d. Loan of Plant. The responsibility for accident prevention on loaned plant will remain with the loaning district when its personnel are performing the operation.

e. Health Hazards. Potential health hazards from toxic materials, noise, waste disposal, or work environment will be thoroughly evaluated, and special preventative measures, surveys, and inspections will be required for control of such hazards. Proposed plans, designs, operations, or use of new materials which involve potential health hazards, not previously evaluated, will be brought to the attention of the S&OH Office, which will coordinate investigation and evaluation of the hazards. Special assistance on environmental hygiene and research into health hazards by the Surgeon General will be coordinated with the District S&OH Office and requested through the Safety and Occupational Health Office, USACE.

f. Hazardous Material Review. Managers and Contracting personnel are to provide for review, procurement documents to ensure that hazardous materials which, when introduced into the

workplace, are identified and that proper precautions are taken during their use. As a minimum, a Material Safety Data Sheet (MSDS) is required for all recognized toxic materials, i.e., chemicals, pesticides, explosives, carcinogens (asbestos), etc., prior to use.

g. Safety Surveys and Inspections. Each element of the District Headquarters, when making inspections of subordinate offices and projects, will evaluate safety performance within their areas of responsibility, discuss observed deficiencies and provide advice.

h. Safety Plans. Each field project manager or supervisor will develop a safety plan which will include safety procedures covering Government employees and, when applicable, Contractor employees and/or members of the public, as required by OCE supplement 1 to AR 385-10.

7. Occupational Safety and Health Act (OSHA) Programs for Federal Employees.

a. Executive Order 12196, Occupational Safety and Health Programs for Federal Employees, made each Federal agency head responsible for establishing and maintaining an effective and comprehensive Occupational Safety and Health Program. The Occupational Safety and Health Act is, therefore, applicable to all elements of the Jacksonville District and will be complied with in applicable workplaces. The rights and responsibilities of employees as developed in Title 29 CFR, Part 1960, Federal Employee Safety and Occupational Health, will be implemented. The Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, is consistent with OSHA Construction Safety and Health Requirements, 29 CFR 1926, and will be complied with. Those operations not covered by EM 385-1-1, or OSHA standards, will comply with appropriate DA, DOD, or National Consensus Standards.

b. Corps of Engineers personnel have implied authority to require Contractor OSHA compliance. Department of Labor (OSHA) compliance personnel may visit contractor sites for a compliance inspection and are to be extended full cooperation when requested.

c. The following paragraph is to be inserted in all Architect-Engineer design contracts where appropriate: "Health and Safety Standards. The facilities, systems, and equipment design standards of the Occupational Safety and Health Act, Code of Federal Regulations, Title 29, Chapter XVII, Parts 1910 and

1926 as applicable will be incorporated by the Architect-Engineer into all engineering design and analyses furnished pursuant to this contract. Any problems in incorporating these standards due to conflict with other technical criteria will be promptly submitted to the Contracting Office for decision."

8. Safety and Occupational Health Accountability.

a. SOP 385-1-1 (Safety and Occupational Health Job Performance Standard and Program Management Evaluation) requires a specific measurable SOH job performance standard be incorporated into senior GM and GS supervisor's job performance plans, and measurement of that standard by an annual SOH Program Management Evaluation.

b. Evaluation results are furnished to the appropriate rating supervisor for use in assigning a tangible SOH job performance rating, the evaluated supervisor and an informational copy is sent to the Commander.

FOR THE COMMANDER:

MICHAEL A. MOORE
LTC, Corps of Engineers
Deputy Commander

25 Appendixes:

App A - Organization, Staffing, & Responsibilities
App B - Occupational Safety & Health Committee
App C - Safety and Occupational Health Awards
App D - Position Hazard Analysis for Government Employees
App E - Occupational Health, Medical Surveillance and Industrial Hygiene Program
App F - Contract Accident Prevention
App G - Accident Investigation & Reporting Policy & Procedures
App H - Report of Hazard, Unsafe Condition, or Practice
App I - Safety Checklists
App J - Hazardous, Toxic, and Radioactive Waste
App K - Fire Prevention and Protection
App L - Pesticide Safety
App M - Personal Protective Equipment
App N - Respirator Program Guidelines
App O - Hearing Conservation

App P - Contractor Diving Operations
App Q - Government Personal Diving Operations
App R - Qualification, Examination, and Certification of Motorboat Operators
App S - Bloodborne Pathogens Program
App T - Asbestos Operations and Management Plan
App U - Confined Space Entry Procedures
App V - Control of Hazardous Energy (Lockout/Tagout)
App W - Hazard Communication Program
APP X - Public Safety

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APPENDIX A
ORGANIZATION, STAFFING AND RESPONSIBILITIES

Organization Responsibilities. Efficient implementation of the Safety and Occupational Health (SOH) Program requires that every element of the Jacksonville District assume continuous accident prevention techniques in all of its operations and apply every practical means for the promotion of Safety and Occupational Health in the guidance, assistance, criteria, facilities, and equipment provided to users. Below are some specific safety responsibilities.

a. Safety and Occupational Health Office (SOHO):

(1) Provide safety and health engineering advisory service and data necessary for achieving the objectives of the program.

(2) Develop a safety and health program, execute staff supervision, and coordination of all safety activities within their respective jurisdictions.

(3) Make continuous studies of anticipated operations for preplanning for safety.

(4) Act as the Safety and Occupational Health designer for the District. Provide leadership, direction, and accountability to assure a meaningful Safety and Health Program.

(5) Study, survey, and evaluate the efforts expended toward the prevention of accidents on all phases of the activities being conducted.

(6) Keep the commander advised as to findings and make recommendations for changes or improvements where conditions warrant.

(7) Act as technical advisor to the Board of Investigation, Safety Council, and Committees.

b. Engineering Division. Engineering Division personnel are responsible for identifying and scheduling training according to regulations (HTRW, PPE, HAZCOM, etc.) and functional responsibilities. Also, familiarizing themselves with pertinent safety standards, codes, and regulations and for applying the same analytical approach to potential hazards and appropriate safety measures as are applied to any other engineering problem

and for inclusion in the plans and specifications those safety standards, codes, and regulations as are applicable to the facilities being designed. Engineering Division survey crews, core drill parties, and other personnel when in the field, will act as safety inspectors. Any unsafe act or condition that is noticed on any work being done by Corps of Engineers' employees or contractors shall be immediately reported to the responsible government employee most accessible. If circumstances permit, the Area Engineer under whose supervision the unsafe condition exists shall also be notified.

c. Construction/Operations Division. Con-Ops personnel are responsible for identifying and scheduling training according to regulations (HTRW, PPE, Diving Operations, Asbestos, HAZCOM, etc.) and functional responsibilities. Also, familiarizing themselves with the safety policies, procedures, and requirements applicable to their work; for identifying hazards likely to be brought about by the actions/movement of men, equipment, and materials during the construction and/or operations and maintenance of the facilities; for determining that appropriate Activity Hazard Analyses (AHA's) are prepared for work performed by either hired labor or by contract; and for observing work methods during field surveys to ensure that acceptable safety standards are being maintained. Construction/Operations personnel shall act as safety inspectors in the field. Unsafe conditions noted shall be reported in writing to the Area Engineer or Project Manager. Quality Control Reports (ENG Form 2538) shall include a list of unsafe conditions noted. The Area/Resident Engineer has the primary responsibility to ensure that the requirements under the clause "Accident Prevention" of the General Provisions of the contract are met on work under his jurisdiction. This includes the requirement that an Accident Prevention Plan and an Activity Hazard Analysis be submitted and updated as conditions change. Such plans shall be coordinated with the SOHO Office for examination and comments. The SOHO will conduct periodic safety surveys and in general act as technical advisor.

d. Area Engineers. Safety responsibilities of the Area Engineer are included in Part X of Resident Engineers' Management Guide, EP 415-1-260, dated December 1990. In general, it is the Area Engineer's responsibility to ensure that all operations are performed in a safe manner and IAW EM 385-1-1. Safety responsibilities of dredging and construction inspectors are included in the Dredge Inspector's Instruction Manual, EP 1130-2-310, and the latest edition of volumes I through IV of the Construction Inspector's Guide, respectively.

e. Line Supervisors. The first-line supervisors will:

(1) Be responsible for the safety of all their employees. The supervisor should be authorized to take any reasonable action required to prevent an accident where an immediate danger exists. The supervisor should be expected to carry out the responsibilities described hereafter.

(2) Share responsibility for personnel not assigned to his or her area, but who may be working in the area. The supervisor should become acquainted with the nature of their work and see that they take precautions to protect any employees in the area from hazards associated with their work. When such employees work without supervision of their own, the supervisor is responsible for their adherence to safe working procedures and District Safety rules.

(3) Ensure assigned personnel know District and site safety rules and regulations, established safe job procedures, and identify all major hazards associated with their work and work areas. Toward this objective, the supervisor is responsible for the initial safety orientation and job instruction of subordinate employees newly assigned to job positions.

(4) Develop a cooperative safety attitude in subordinate employees through the application of approved methods of preventative and corrective discipline. It is expected that each supervisor will rely primarily on education and friendly persuasion, as well as setting the right example for employees.

(5) Apply approved methods of preventative and corrective discipline to enforce compliance with District and project/area office safety rules and approve safe working procedures. Under no circumstances are unsafe practices to be ordered or condoned.

(6) Carefully prepare all Position Hazard Analysis (PHA) assigned to their area of responsibility. The supervisor is responsible for using the approved results in such studies for safety observation. The supervisor is also expected to promptly correct all observed unsafe practices.

(7) Conduct planned safety inspections in the assigned area of responsibility. The supervisor is expected to maintain approved inspection records. When confronted with an unsafe condition, the supervisor must order corrective action or report

the condition, together with recommendations, to higher authority. If necessary, the supervisor must take suitable temporary precautions to remedy unsafe conditions until corrective measures are implemented.

(8) Maintain satisfactory standards of housekeeping in the assigned area.

(9) See that injured employees receive prompt medical treatment, no matter how slight. Supervisors should prohibit self-treatment of injuries by employees and should not administer such treatment themselves unless trained to perform emergency first aid. Injured person(s) should be evaluated by an approved medical facility.

(10) Investigate all accidents brought to their attention. Supervisors are also expected to investigate potentially serious near-misses occurring in their assigned areas. Accidents must be reported on the approved forms, in accordance with Appendix G of this regulation.

(11) See that all employees are issued safety apparel and equipment and are trained in properly using and maintaining the equipment. Moreover, supervisors are expected to inspect safety equipment periodically for defects.

(12) Know how to operate emergency equipment installed in their area of responsibility. This includes the operation of fixed and portable fire fighting equipment, gas-rescue equipment, and other emergency equipment and procedures.

(13) See that applicable employees are monitored and placed on the District Medical Surveillance Program. When hazards are changed the SOHO is properly notified.

(14) Regularly schedule, attend and document safety meetings for all employees under his/her supervision.

(15) To provide Material Safety Data Sheets (MSDSs) for all hazardous materials in his area of responsibility. The MSDSs will be posted where they are readily available to employees.

f. Employees Responsibilities. All personnel will:

(1) Comply with Safety and Occupational Health standards in accordance with EM 385-1-1, CESAJR 385-1-1 and all other applicable SOH regulations.

(2) Report suspect hazards and unsafe conditions in accordance with Appendix H of this regulation.

(3) Promptly report occupational injuries and illnesses.

(4) Obtain medical care when an injury or illness occurs.

(5) Cooperate with SOH personnel during inspections, surveys, and investigations.

(6) Utilize appropriate personal protective equipment (PPE) when prescribed or otherwise directed.

APPENDIX B
OCCUPATIONAL SAFETY AND HEALTH COMMITTEE

1. Purpose. To provide advice and support to the Commander on matters of Safety and Health for all government and contract operations within the Jacksonville District.

2. Reference. AR 385-1-10.

3. Responsibilities and Duties.

a. Discusses and formulates policy that, with the Commander's approval, is adopted for District use.

b. Analyze the District safety posture in order to pinpoint problems and recommend corrective action.

c. Formulates, develops, and forwards to the commander for approval, promotional programs aimed at reducing accidents. This may include special incentive programs for contractor and government operations.

d. Decides on criteria for safety awards within the scope of existing regulations and recommends candidates to the Commander.

4. Membership will be by appointment letter from the District Commander and as recommended by the Safety and Occupational Health Office. Individuals need not all be management, however, equal representation of management and non-management is necessary. One individual must be a GM, who will also be appointed as the Chairperson. As a minimum, the committee shall consist of the following personnel:

a. Chairperson, senior individual.

b. SOH Professional, Technical Advisor, (Non-voting).

c. One Representative, Real Estate Division.

d. One Representative, Planning Division.

e. One Representative, Construction-Operation Division.

f. One Representative, Engineering Division.

g. One Representative, Office of Counsel.

h. Nurse, Technical Advisor, (Non-Voting).

i. One Representative, Resource Management Office.

j. One Representative, Contracting Division.

k. One Representative, Logistics Management Office.

l. One Representative, Information Management Office.

m. One Representative, Con-Ops Division, Operations.

n. Human Resources, Technical Advisor (non-Voting).

5. Meetings will be on call of the chairperson.

6. Minutes of the meetings shall be recorded and submitted to the Commander.

APPENDIX C
SAFETY AND OCCUPATIONAL HEALTH AWARDS

1. Purpose. The purpose of the appendix is to recognize exemplary achievement in Safety and Occupational Health. It is applicable to all activities performed by government or contractor personnel within this District.

2. Reference.

a. AR 672-74

b. CESAJ Suppl to CESADvR 690-1-16

c. DR 385-1-24

3. Policy. The District Commander's Safety and Occupational Health Awards provide recognition for significant safety and occupational health program achievement in the Jacksonville District. Individuals are recognized for outstanding achievements and contributions to efficiency, economy, and/or improvement of agency operations through accident prevention.

4. Types of Awards and Criteria.

a. Certificate of Merit for Safety (DA Form 1118).

(1) Certificate may be presented to an office, branch, section, or group of employees based on completion of one year of accident-free experience or an outstanding contribution to the District Safety and Occupational Health Program.

(2) May be presented after completion of one year of accident-free experience to individual operators of self-propelled equipment, other mechanical equipment, and to individuals who make outstanding contributions to the District SOH Program. Examples are performing a life saving act, development of a new safety SOP, and outstanding results on a specific contract being completed accident-free (Contractor Safety Award).

(3) May be used as a Contractor Safety Award to recognize contractors and CE inspectors for completing a quality and timely job without a recordable accident. Recommendations for this award will be submitted by the COR to SOHO on a memorandum at the project completion.

(4) Supervisors may submit nominations by memorandum to SOHO as appropriate for instant recognition. Memo should provide name(s), office or address, period to be recognized, and a brief description of accomplishment(s) to be recognized to include contract number and description. A certificate will be prepared by SOHO and signed by the District Commander. Once signed, appropriate presentation will be made.

b. Safety and Occupational Health Program Management Award (SAJ Form 1169). This award is applicable to elements receiving an Exceptional Rating of 96% or higher on four or more applicable tasks on their annual Safety and Occupational Health Program Management Evaluation, will be presented this award.

c. Incentive Award (DA Form 2443).

(1) Award may be presented to motor vehicle or mechanical equipment operators and to other deserving personnel upon completion of three consecutive accident-free years of work. Refer to Table below for monetary award scale.

(2) Employees' immediate supervisor is responsible for initiating nomination on DA Form 1256 through the district chain of command to SOHO by 10 December each year. Nomination must include justification statement, job description, and citation for certificate (DA Form 2443).

(3) Monetary award can progress each consecutive year up to ten years. Monetary award for consecutive years of accident-free performance after ten years, will stay at ten year scale.

(4) A lost time or property damage accident places employee back to year one on the Table.

MONETARY AWARD TABLE

YEARS:	SCALE:
1	Certificate
2	Certificate
3	up to $100 & certificate
4	up to $150 & certificate
5	up to $200 & certificate
6	up to $250 & certificate
7	up to $300 & certificate
8	up to $350 & certificate
9	up to $400 & certificate
10	up to $400 & certificate

(Table prepare IAW scale for Awards based on Intangible Benefits, CESADvR 690-1-16).

d. On-the-Spot Cash Award (OTS). This award should be utilized to instantly recognize deserving employees in the area of Safety and Occupational Health. Criteria for the OTS Cash Award is found in Appendix E of reference 2.b. above. A copy of the nomination shall be provided to the SOHO Office.

e. Time Off Award (TOA). This award is an excellent tool for supervisors to reinforce the safe behavior of an individual. The TOA is appropriate for employee achievement or performance that contributes to the Districts' mission. This award may be used alone or in combination with monetary or nonmonetary awards and may be granted in amounts ranging from one hour to 40 hours for a single contribution. Criteria and guidance for the TOA is found in Appendix J of reference 2.b. above. A copy of the nomination shall be provided to the SOHO Office.

f. Commander's Safety and Occupational Health Performance Award (Government). This annual award is presented in the form of a Commander's plaque to an office with the best government safety and occupational health record in the District. Nominations must be received in SOHO by 10 December each year for review by the SOH Committee. The committee will submit its recommendations to the Commander for his approval. Nominations will contain the following information:

(1) Name of Office and person in charge.

(2) Period of time covered by award.

(3) Man-hours of exposure.

(4) Amount and number of property/equipment/vehicle damage losses.

(5) Nature of work activities, major hazards, safety program effectiveness, cooperativeness, number and content of office safety meetings, special initiatives in safety and occupational health, training, and any other pertinent information necessary to provide a sound justification as the overall assessment of the office's safety program accomplishments.

(6) Review.

(a) Upon receipt of the nominations, SOHO will review each nomination to verify each meets above requirements.

Nominations failing to meet requirements will be returned to nominating official for revision.

(b) Nominations meeting requirements will be forwarded to the District Safety and Occupational Health Committee for consideration. The committee will review all award nominations and submit its recommendations to the District Commander for final action.

(7) Approval. The approving official for this award is the District Commander. Award will then be presented at an appropriate ceremony.

h. Commander's Safety and Occupational Health Performance Awards (Contractor). This annual award is presented in the form of Commander's plaque to the Area, Resident, or Project Office with the best contractor SOH record in the District. Nominations must be received in the SOHO by 10 December each year for review by the SOH Committee. The committee will submit its recommendations to the Commander for his approval. Nominations will contain the following information:

(1) Office name.

(2) Person in charge.

(3) Period of time covered by award.

(4) Man-hours of exposure.

(5) Injury frequency and severity rate.

(6) Amount and number of property/equipment/vehicle damage losses.

(7) Nature of work activities, major hazards, safety program effectiveness, cooperativeness, special initiatives in SOH, SOH training, and any other pertinent information necessary to provide a sound justification to properly evaluate the nominees.

5. Other. Division Commander's Safety and Occupational Health Awards. These awards recognizes exemplary achievement in accident prevention and significant contributions to the safety and occupational health program. This program recognizes

effective safety and health management, team member safety performance, and excellence in accident prevention.

a. Awards will be considered each fiscal year for each category in which they met or exceed below criteria and are due in SAD no later than 15 December each year.

(1) District - For a district award, the district as a minimum must be below maximum tolerance rates in at least four of the five statistical areas. A reduction from the past year's rates in at least three areas is desired. A government or contractor fatality shall normally disqualify a district for this award. District safety and occupational health programs and accident experience will be reviewed and analyzed. Districts with outstanding safety and occupational health programs and exceptional accident experience for the year will receive an award.

(2) Special Recognition - Nominees in the special recognition award category will be selected at the discretion of the District Engineer.

(3) Public Safety Program

(4) Hydropower Project

(5) Civil Works Project

(6) Area and/or Resident Office

(7) Contractor

b. For field level awards (categories a.(3) - (7) above), the nominees shall be the best project in the appropriate category for the past fiscal year from a safety perspective. All projects shall be significantly below the maximum tolerance rates in all accident categories. Award selection will not be based on accident statistics alone. Emphasis will be placed on implementation of safety and occupational health program requirements, the nature of work activities, level of hazards encountered, and on safety initiatives. It is important that supporting information such as the last safety management action plan of the project and project safety plan be provided.

c. Nomination will be analyzed and must contain as a minimum (where applicable) the following information:

(1) Category of award.

(2) Name, address, and phone number of nominee.

(3) Name and phone number of person (POC) initiating nomination.

(4) Names of persons reviewing nomination within the district.

(5) Name of person responsible for or in charge of project or office being nominated.

(6) Period of time covered by award if not the previous FY.

(7) Previous safety awards won by nominee.

(8) Manhours of exposure both government and contractor.

(9) Number of accidents and frequency rate.

(10) Amount/number of property damage losses/accidents.

(11) Motor vehicle mileage.

(12) Motor vehicle accident frequency rate.

(13) Visitation and recreational related fatality data will be included for lake projects.

(14) Description of nature of work activities, major hazards, safety and occupational health program initiatives, and pertinent information necessary to properly evaluate nominee.

(15) Copy of District SOHO's Safety Management Evaluation of nominated project for FY.

(16) Copy of nominated project's accident prevention plan, activity hazard analyses, and safety policy letter.

d. Each District will furnish the same information above, in consideration for the best District in the Division, plus the following:

(1) Examples of command and staff leadership as manifested in support of the District Safety Management Action Plan.

(2) Significant accomplishments.

(3) Extraordinary accident prevention efforts, effective initiatives, innovative successes, training efforts, recognition, evaluation, and control of accident/illness-producing acts and conditions.

e. Nomination for awards will be reviewed by the Safety and Occupational Health Committee in the South Atlantic Division. After the committee has selected those nominees most worthy of recognition, the Division Commander will make final approval.

6. Responsibilities:

a. The Safety and Occupational Health office will send out reminders to all district elements in sufficient time to allow supervisors to meet deadlines.

b. Staff Chiefs and Area/Resident Engineers will give full support to the program and encourage full utilization of award program.

c. Supervisors will review employee performance and submit full documentation to support award nominations.

APPENDIX D
POSITION HAZARD ANALYSIS FOR GOVERNMENT EMPLOYEES

1. Purpose. The purpose of the Position Hazard Analysis (PHA) is to systematically identify hazards and potential accidents associated with each job requiring medical surveillance that may cause injury or occupational illness and specify controls to minimize their effect or guard against them in each job task.

2. References.

a. ER 385-1-85.

b. ER 385-1-88.

c. ER 385-1-40.

d. EM 385-1-1.

3. Development. A PHA shall be written for each employee with potential exposure to position hazards using CESAJ FORM 1254, MAR 97. An example form for your reference is enclosed. The form may also be accessed electronically through the District Applications, Forms Menu. Note that lower section of the form (Medical Surveillance, Personal Protection Certification, Certification/Training) will be filled in by the S&OH Office. Employees who are not included in the District Medical Surveillance Program **do not** need a PHA for their position. A review of potential office hazards and the controls used to eliminate them, should be discussed with the employee at orientation and during performance evaluation. Examples of positions included in the District Medical Surveillance Program requiring "position specific" Position Hazard Analysis forms include but are not limited to; Quality Assurance personnel, Construction Representatives, HTRW qualified personnel, Surveyors, Lock and Dam personnel, Rangers, Maintenance personnel, Aquatic Plant Control personnel, Boat Operators, and any employee with potential occupational health hazards. The activities, equipment, materials, hazards and controls should be specific to the individual employee, so that when the position hazard analysis is reviewed with employees they may be aware of the potential hazards of their specific position and the controls to protect themselves. To provide sufficient detail, standard operating procedures (SOP's) may need to be written for specific routine tasks. These should be referenced in the activity section of the PHA. The PHA for each employee should result from

mutual input and discussion between supervisors and employees to ensure complete and concise coverage. It should address required safety and health training/certifications, participation in medical surveillance, adequate procedural and physical safeguards, and required protective equipment. It should be as comprehensive as practical but need not/cannot address every hazard/control for every employee.

4. Uses. The PHA will assist supervisors in providing a safe workplace for employees as required through systematic identification and control of hazards. It may be used as a guide for selecting individual training requirements and as a tool for use in safely conducting jobs which occur infrequently. Supervisors may want to use it as an aid in determining whether employees are following safety requirements. The PHA can also be used as an important tool in deciding how to control employee exposure to potential hazards through installing engineering controls, finding a new way to do the task, changing physical conditions (e.g., tools, equipment, materials or locations), changing the task procedures, or reducing the necessity for or frequency of a task, i.e., reducing exposure time. When the employee leaves his/her position the Position Hazard Analysis will be the basis for the replacement Position Hazard Analysis.

5. Responsibilities.

a. Managers are responsible for:

(1) Assuring that the evaluation of supervisor's performance includes the preparation and utilization of a PHA for all employees included in the District Medical Surveillance Program.

(2) Ensuring that hazardous operations are regularly reviewed to develop engineering/administrative controls to reduce and/or eliminate employee exposure to hazards.

b. Supervisors are responsible for completing a PHA for each employee which they supervise that have potential occupational exposures and are included in the District Medical Surveillance Program. Each analysis should be discussed jointly with the employee and should be updated as position changes occur. For new employees that require the use of a PHA, the PHA should be reviewed when completing the On-the-Job Orientation section of ENG Form 3529, Employee Orientation Checklist. The original of the analysis shall be maintained by the employees supervisor or the office chief. Copies shall be provided to the employee, to

the Personnel Office for filing in the employee's official personnel file, and to the District S&OH Office. Updates shall be provided in the same manner. Supervisors will assure that controls are adequate for the hazards identified, that employees comply with controls such as wearing personal protective equipment, attending required training, and that medical surveillance physicals are conducted.

c. Employees are responsible for bringing to the supervisor's attention such changes in work conditions that may affect exposure to hazards, for following safe procedures, for wearing personal protective equipment where required, and for keeping their scheduled medical surveillance examinations.

d. The S&OH Office is responsible for maintaining an inventory of the PHA's, for providing technical assistance for preparation of the PHA's, for assigning medical surveillance requirements, and for certifying personal protective equipment. They will review the analysis and provide suggestions as appropriate. The S&OH Office will provide input to managers regarding their evaluation of supervisor's safety performance with regard to the Position Hazard Analysis Program.

e. Human Resources Office is responsible for reviewing vacant positions to ensure announcements include requirements for medical surveillance, training, and the use of personal protective equipment. The job description should include the hazards listed in the Position Hazard Analysis.

APPENDIX E
OCCUPATIONAL HEALTH, MEDICAL SURVEILLANCE AND INDUSTRIAL HYGIENE PROGRAM

1. Purpose.

a. This appendix establishes procedures to insure that safe, healthful work environments are provided, and that staff and operating officials concerned are trained to recognize, evaluate, and control hazards caused by inadequate ventilation, poor lighting, excessive noise, and exposure to hazardous materials such as toxic chemicals, toxic gases and vapors.

b. This appendix also establishes procedures for determining the need for medical surveillance for employees potentially exposed to certain occupational health hazards and their relationship to the Position Hazard Analysis.

2. Applicability. This appendix shall apply to all employees and activities of the Jacksonville District.

3. References.

a. 29 CFR 1910.

b. 29 CFR 1960.

c. EO 12196.

d. AR 40-5.

e. ER 385-1-40.

f. ER 690-1-792.

g. EM 385-1-1.

h. EP 385-1-58.

i. SADvR 385-1-23.

4. Surveys and Inspections. Regular and special surveys and inspections will be made by an Industrial Hygienist from the Safety and Occupational Health Office of all operations and industrial processes to insure that:

a. Adequate natural or forced ventilation is provided to keep atmospheres within allowable limits wherever toxic materials and agents (vapors, gases, dusts, etc.) are used.

b. Lighting is provided in accordance with American Standard Practice for Industrial Lighting.

c. Noise exposure can be controlled by shielding noise sources, limiting the duration of exposure, and/or providing exposed personnel with adequate ear protection.

d. A favorable thermal environment is provided.

e. Adequate measures are taken to prevent occupational skin diseases.

f. Adequate sanitation in occupied areas is provided including general sanitation of eating facilities, toilet facilities, and wash and change rooms.

g. Potable water is obtained from approved sources.

h. Sewage and industrial waste is disposed of in accordance with sanitary regulations.

i. When engineering or administrative control methods are not feasible, appropriate personal protective equipment and apparel, such as special clothing, air-purifying and air supplied respirators, goggles, and protective creams and ointments will be provided as required by exposure.

j. Employees are given initial indoctrination and continuing instructions in occupational health measures commensurate with their occupational assignments.

5. Atmosphere Deficiency Tests. Tests for explosive, flammable, toxicological, and other atmospheric deficiencies which may be detrimental to health or safety will be conducted by the Industrial Hygienist whenever and wherever there are potential hazards to provide reasonable assurance that the atmospheres are within allowable limits.

6. Contract Work. Special safety requirements pertaining to control of occupational health hazards on specific projects which are not included in EM 385-1-1 will be included in the contract specifications.

7. Material Safety Data Sheets (MSDS). MSDS are required at worksites where hazardous materials are being handled. The data on these sheets is required to inform users of special precautions to be taken to ensure safe and healthful working conditions. It is the supervisor's responsibility to see that his employees are provided this information. MSDS should be in language of area, i.e., English, Spanish or both.

8. Position Hazard Analysis. Position Hazard Analysis will be written by the supervisor for all employees who have potential exposure to chemical, biological, and physical agents. A periodic review will be made to take into account hazardous or toxic materials which are introduced into or deleted from the worksite. It will be the responsibility of the supervisor to notify the S&OH Office, through channels, of any changes in the Position Hazard Analysis. The S&OH Office will schedule Industrial Hygiene Surveys to assist in hazard identification.

9. Job Hazard Inventory. Attachment 1 is a listing of positions identified during Industrial Hygiene Surveys as having a potential to expose employees to safety and health hazards.

10. Medical Surveillance.

a. Per references 3a and 3d periodic survey of all jobs at that installation shall be conducted by the Industrial hygienist to determine the types and amount of exposure each job may produce. All employees in the District who are potentially exposed to hazardous chemicals or physical hazards shall be considered for inclusion in the medical surveillance program. Employees will be included if measured exposure is of sufficient duration that physiological damage could occur. The determining criteria will be based on the type of exposure and the (PEL) Permissible Exposure Limit for the material, as set by OSHA (Occupational Safety and Health Administration).

b. When the PEL is expressed as an 8-hour time-weighted average, the following criteria will be used. If the concentration of the material is one-half of the PEL, the employee must work with the material at least 120 hours over any continuous 6-month period in order to require medical surveillance. If exposure is less than one-half of PEL, no medical surveillance is required.

c. When an employee is working with a material which has a PEL ceiling value, that employee shall be included in the Medical Surveillance Program regardless of duration of exposure.

d. Medical surveillance will be provided as required by Federal regulations. Employees working with regulated substances covered by 29 CFR 1910.1001-1045 will be included in the Medical Surveillance Program regardless of duration or level of exposure. Medical Surveillance will be provided for employees whose jobs include certain physical requirements identified in the Federal Personnel Manual or other pertinent regulations as deemed appropriate. Attachment 2 provides detail of physical examination requirements for various positions identified as requiring medical surveillance.

e. Respirator Program Guidelines are detailed in Appendix N of this regulation.

f. Hearing Conservation.

(1) All employees in the District that are exposed to excessive noise will be included in the Medical Surveillance Program for hearing conservation (Appendix O). When information indicates that an employee's exposure may equal or exceed 85 dBA, medical surveillance will begin.

(2) A representative of the District S&OH Office will conduct the noise survey.

(3) Each employee exposed at or above 85 dBA TWA shall be so notified.

(4) A baseline audiogram shall be established within 6 months of an employee's first exposure.

(5) Audiometric testing will be conducted once annually by qualified medical personnel and compared to the baseline test to determine validity and to determine if a standard threshold shift has occurred.

(6) Results of the noise survey will be used to determine the appropriate type of hearing protection for that operation. Proper hearing protection will be supplied by the supervisor at no cost to the employee.

g. Medical support will be provided in accordance with applicable regulations. Where Army Medical Support Facilities are reasonably available and accessible, arrangements will be made through those facilities. Otherwise, medical support will be obtained through contractual agreements with local private

medical facilities. Arrangements for such support will be made by appropriate District elements.

h. Employees occupying positions which have been identified as requiring medical surveillance, will receive a pre-placement examination and periodic examinations. Procedures will be established by the Safety and Occupational Health Office to insure that medical surveillance is conducted. Employees in the Medical Surveillance Program to include the Hearing Conservation Program, will receive an audiogram at the time of examination. The S&OH Office will maintain a file of Position Hazard Analysis, and a list of the type of medical examinations required for specific chemical, biological and physical hazards.

i. Upon completion of a medical examination, documentation from the examining physician stating the medical condition of the employee will be returned to the District Occupational Health Unit for coordination and filing into the individual's medical file. When infirmities are noted, the matter will be referred to the S&OH Office for investigation and action to eliminate or reduce the hazard. When an employee is found to be physically unfit to perform job duties, the Personnel Office will take appropriate action to ensure that the employee is considered for assignment to available positions for which they are physically and otherwise qualified.

j. Pregnancy Surveillance

(1) Employees of child bearing age have the potential for exposures to chemicals and physical agents which may effect reproduction ability. Reproductive hazards include mutagens which cause chromosome damage and teratogens which effect the development of the fetus. Supervisors shall review all MSDS's and notify the SOHO of any chemicals listed as reproductive hazards.

(2) Employees shall notify the Health Unit as soon as pregnancy is known. Any limitations of work due to pregnancy will be treated like any other medically certified temporary disability.

(3) Upon the introduction of chemicals identified as reproductive hazards, the SOHO shall be immediately notified and shall educate employees with potential exposure, including males, to the hazards associated with these chemicals.

10. Supervisor Responsibilities.

a. Ensure the appropriate employees receive job related exam as scheduled by the SOHO.

b. Notify the S&OH Office, through channels, of any change of job assignment, purchase of new chemicals or other action that would affect the potential exposure of workers. This action includes notify the S&OH Office upon removal or termination of job assignment.

c. Be knowledgeable of those employees under his supervision requiring medical surveillance.

d. Minimize employees exposure to hazardous materials.

e. Keep employees appraised of actions regarding their medical surveillance.

f. Maintain Material Safety Data Sheets for all chemicals stored or used at in the workplace.

g. Ensure employee are given training in hazard communication with annual update.

APPENDIX F
ACCIDENT PREVENTION PROVISIONS FOR CONTRACTORS AND IDENTIFIED GOVERNMENT ACTIVITIES

1. Purpose. This appendix prescribes guidelines and requirements for implementing the Accident Prevention provisions for construction/service contracts and identified government activities.

2. Policy and Scope. This policy is applicable to all such activities accomplished by Government and Contractor forces within the Jacksonville District. The loss prevention provisions for those identified government activities are essential to ensure that applicable safety requirements are adhered to during these operations. The loss prevention provisions for Contractor forces are as much a part of the contract as any other provision set forth in the contract for control of work. After signing the contract, it is mandatory that the Contractor vigorously comply with all pertinent safety requirements during the duration of the contract.

3. General. The administration of the Safety and Accident Prevention requirements is necessary to ensure that Government and Contractor employees doing work within the Jacksonville District provide controls for the protection of life and health of their employees and the exposed public, prevention of property damage, and for the avoidance of work interruptions in the performance of their work requirements. For contracts involving construction and dismantling, demolition, or removal of improvements, attention is called to the contract clause entitled "Accident Prevention (Alternate 1)," Defense Federal Acquisition Regulation supplement (DFAR), which requires Architect/Engineer and other services contracts involving work of a long duration or of a hazardous character to comply with the applicable provisions of 29 CFR 1910 (OSHA industrial standards), 29 CFR 1926 (OSHA construction standards), and EM 385-1-1 (Safety and Health Requirements Manual). Appendix A of EM 385-1-1, 3 Sep 96, provides guidance on developing an Accident Prevention Plan.

4. Contract Specifications. In addition to EM 385-1-1, "Safety and Health Requirements Manual," the specifications for all identified government activities and contract work will include such additional requirements as are necessary to insure a high standard of physical protection and safety performance by those individuals performing these operations. Field office personnel, Construction/Operations, and Engineering Division personnel will

take cognizance of all hazards inherent in the location, terrain, or other precautionary measures.

5. Contractor's Accident Prevention Plan and Preconstruction Conference.

a. After award of a contract, the Authorized Representative of the Contracting Officer (ARCO) will forward a letter to the contractor calling his attention to the clause in the contract which requires a written proposal for carrying out the accident prevention provisions of the contract. The letter will stress the importance of the contractual safety obligations of the contract and will include as enclosures the latest edition of the Safety and Health Requirements Manual, EM 385-1-1 and Safety and Occupational Health Program, CESAJR 385-1-1. Attention is called to Sections 1, 2, 3, and 4 of this appendix for guidance on developing an Accident Prevention Plan and Activity Hazard Analysis.

b. The contractor will be informed when and where the proposed plan is to be submitted and with whom those arrangements should be made for the Preconstruction Conference. **The Contractors written Accident Prevention Plan, to include blasting and diving plans when necessary, will be carefully reviewed by the ARCO subject to comments from the S&OH Office.** Following this review and prior to initiation of work, the Contractor will meet in conference with appropriate Corps personnel to discuss the Accident Prevention Plan, inherent and specific hazards of the contemplated operations, and other aspects of the contracted work as necessary. Written minutes containing the understanding reached at the Preconstruction Conference will be furnished the Contractor and a copy will be provided to the S&OH Office. The Contractor will keep a copy of said minutes on file and readily available at the work site.

c. The S&OH Office will be informed of all Preconstruction Conferences in sufficient time to permit their attendance.

d. The Preconstruction Conference agenda should be developed to meet the specific problems and unusual features of the job. Consideration should be given to any previous experience of the contractor on Corps of Engineers work. The following safety topics are suggested for the agenda where applicable.

(1) Identification and accountability of Contractor personnel responsible for accident prevention.

(2) The establishment of a mutual understanding relating to the purpose and function of an activity hazard analysis.

(3) A review and discussion of the hazards and remedies submitted by the contractor, leading to an agreement upon the methods used in recognition, evaluation, and methods to control the hazards.

(4) Purpose and advantages of the Safety Program.

(5) A review of the Accident Prevention clause of the contract and the General and Special Conditions of the specifications with special emphasis on the contractors regular safety inspections and records required by General and Special Provisions of the contract.

(6) A list of local site specific requirements which must be complied with (noise control, traffic problems, etc.).

(7) How the Contractor proposes controlling and coordinating work of his subcontractors.

(8) Discussion of overstatements, omissions, and irrelevant items in the contractors proposed plan. Where not clearly indicated in the proposed plan, the following items should be developed as a minimum:

(a) Method(s) to be implemented by the contractor to **enforce** safety on site.

(b) Plans for dust control.

(c) Methods that the contractor, or activity, proposes using to control and coordinate work with others having operations at the same location.

(d) Plans for layout of temporary construction buildings and facilities, including how contractor plans to control those of his subcontractors.

(e) Plans for initial indoctrination and continued safety education for all employees.

(f) Plans for traffic control and marking of hazards to cover haul roads, highways, intersections, railroads, utilities, bridges, restricted areas, etc.

(g) Plans for maintaining continued job cleanup.

(h) Plans for fire protection and dealing with emergencies (ambulance service, fires, man overboard, etc.).

(i) Arrangements for providing adequate lighting, ventilation, personal protective equipment, and medical care.

(j) Plans for inspection of the job site by competent persons including reports to be kept, results of the inspections, and corrective actions taken.

(k) Plans for prompt action by contractor to correct deficiencies reported by Government representatives.

6. Contractor Activity Hazard Analysis (AHA).

a. A supplemental activity hazard analysis will be developed at the beginning of any "major phase" of construction that previously has not been reviewed with the Contractor and been documented. The phase activity hazard analysis will be submitted to the S&OH Office for inclusion in the official contract safety file. The purpose of the activity hazard analysis will be to review the specific hazards anticipated and the specific measures planned to eliminate them. Guidance for developing an AHA is given in Section 2 of this Appendix.

b. "Major Phase" pertains to items of work such as drilling, land clearing, excavation, tunneling, road relocations, pile driving, concrete placement, quarrying, dredging, building construction, installation of equipment, steel erection, use of hazardous materials, electrical work, installation of heating, ventilating and air conditioning, demolition, paving, use of explosives, cableway operations, quarrying, etc.

7. Activity Hazard Analysis (AHA) for Identified Government Activities.

a. A supplemental activity hazard analysis will be developed for all identified government activities. This activity hazard analysis will be submitted to the S&OH Office for monitoring in accordance with EM 385-1-1, 01.A.10. The purpose of the activity hazard analysis will be to review the specific hazards anticipated and the specific measures planned to eliminate them. Guidance for developing an AHA is given in Section 2 of this appendix.

b. "Major Phase" pertains to items of work such as drilling, land clearing, excavation, tunneling, road relocations, pile driving, concrete placement, quarrying, dredging, building construction, installation of equipment, steel erection, use of hazardous materials, electrical work, installation of heating, ventilating and air conditioning, demolition, paving, use of explosives, cableway operations, quarrying, etc.

8. Contract Safety Files.

a. Contracting Division is designated to maintain the official contract files in the District. Copies of contract files relating to Safety and the Accident Prevention Program will be maintained within the S&OH Office.

b. Safety and Accident Prevention Program documents to be maintained in the Contract Safety Files include but are not limited to notices of contract award, notice to proceed, contract changes, or modifications having implications on previously confirmed safety procedures or devices, correspondence to Contractors relating safety inadequacies or deficiencies, Contractor blasting plan submittals, and Contractor Accident Prevention Plan submittals with any changes thereto and any documents changing or accepting the submitted plan, etc.

9. Inspection and Approval of Plant and Equipment. Work shall not commence until the contractors plant and operating equipment has been inspected and tested for compliance with the "Safety and Health Requirements Manual," EM 385-1-1, and other applicable contract requirements. Safety Inspection Checklist, as appropriate, will be completed by the government Quality Assurance (QA) personnel. Prior to the QA inspection, the contractor shall submit the required inspection records and test on Section 16.A.01 of EM 385-1-1. Equipment failing to meet the requirements will not be used pending compliance therewith. Whenever defects are noted that will render the equipment unsafe, the Contractor will be promptly notified of the specific corrective action required and directed to withhold equipment operation until corrective action has been taken and the ARCO advised of the completed action.

10. Use of "Stop Work Order." If all attempts to secure voluntary compliance with safety requirements are not successful, the ARCO may issue a "Stop Work Order." It is important that the order applies only to that portion of the work that is affected by the actions of or lack of actions by the Contractor and that all of the facts of the proceedings be documented in writing;

including notation of uncorrected safety violations on the reverse side of the Daily Log of Construction, ENG Form 2538. The Contractor shall be informed in writing of the extent of the stoppage of the work, the date and hour work has stopped, the reason for the action, and the conditions under which work may proceed again. The S&OH Office will be notified immediately of such action.

11. Responsibility for Enforcement. Full and complete responsibility for enforcement of the safety provisions of all contracts rests with the ARCO. Prompt and positive action at the field level will be taken to correct deficiencies.

12. Responsibility of Inspectors in Cases of Immediate Hazard.

a. Whenever the Government inspector observes that a condition or work situation is being performed at the risk of life or limb, the inspector will immediately take the following measures:

(1) Require Contractors representative to immediately remove workers from the area of danger and refrain from the dangerous practices.

(2) If the Contractors representative is not at the location of the dangerous condition, the inspector will direct the workers to remove themselves from the dangerous location and cease the hazardous operation.

(3) The inspector will see that work is not resumed in the area of danger and the defective methods, SOPs, equipment, tools, scaffolds, etc., are not used further until recommended corrective action is taken.

b. The inspector will immediately report any of the above actions and any noncompliance with his recommendations to his immediate supervisor and also document observations on the Daily Log Construction, ENG Form 2538. The inspector must be consistent and practicable.

12. Reckless Employees. When a Contractors employee endangers his/her own well-being, or the well-being of others, by flagrant disregard of safety regulations, the Contractor will be requested to discharge the offender or to place the employee on work where his/her action will not constitute a hazard.

SECTION 1
GUIDE FOR PREPARATION OF ACCIDENT PREVENTION PLANS FOR CONTRACTS ADMINISTERED BY JACKSONVILLE DISTRICT CORPS OF ENGINEERS

1. Instruction and Training. Set forth initial indoctrination and continuing training, such as "tool box" safety meetings. Such meetings to be recorded on reverse side of daily quality control report, under section headed "safety."

2. Accident Reporting.

a. Plan must state that all lost time injuries and property damage accidents (excluding on-the-road vehicle accidents) in which the property damage exceeds $2,000 will be reported to the Area Engineer (AE) within 48 hours of the accident/incident, using ENG Form 3394. AE must also be furnished a copy of the first Report of Injury. **ALL ACCIDENTS MUST BE INVESTIGATED.**

b. Plan must also state that in the event of an employee being sent to the doctor for treatment, a release will be obtained from the doctor on the date of treatment stating either: (1) employee not fit for duty; (2) employee fit for light duty; or (3) employee fit for duty. Copy of this release must accompany accident report.

c. The following reporting procedures apply to all contractor activities performed in the Jacksonville District.

(1) In the event of an accident which results in a lost work day or $2,000 or more in property damage, an ENG Form 3394 will be completed and submitted within five (5) workdays. Should an accident occur resulting in a fatality, $100,000 or more in property damage, three or more persons being hospitalized, or any incident which would result in adverse publicity to the Corps of Engineers, immediate notification must be made to the Corps representative. The reporting requirement of submitting ENG Form 3394 within five (5) working days still applies.

(2) The following signature chain is to be used on the ENG Form 3394 on Construction accidents. After each signature the name must be typed or printed legibly.

(a) Item 15c. Corps Construction Representative **and** Contractor Representative.

(b) Item 16. Area/Resident Engineer.

(c) Item 17. Division Chief (for Antilles - Chief, DS-CO).

(d) Item 18. Chief, Safety and Occupational Health Office (SOHO) (for Antilles - Chief, DS-SO).

(e) Item 19. Commander. (Antilles - **Also** initialed by DS).

(3) These forms are available in FormFlow or can be requested through normal distribution channels and stocked in each office.

3. Sanitation.

a. Plan must set forth where drinking water will be obtained, type of dispenser, and provisions for receptacle for disposable cups.

b. What type of toilets, and how many will be provided. Also how will they be kept clean.

4. Medical Facilities.

a. Plan must set forth name, address, and telephone number for doctor, hospital, and ambulance service to be used. These emergency numbers must be posted on the bulletin board.

b. First aid requirements for plan should show type and number of first aid kits and set forth requirement that at least two employees on each shift and at each differing location, will be qualified to administer First Aid and CPR (Cardiopulmonary Resuscitation). Minimum qualification for these employees is current certification from American Red Cross, United States Bureau of Mines, or equivalent training that can be verified by documentary evidence.

5. Emergency Plans. Plans must set forth provisions for preparation of action in the event of severe weather, i.e., hurricane, blizzard, high seas, etc.

6. Personal Protective Equipment.

a. Set forth requirement for all employees to wear "T-shirt" as minimum on upper part of body. Shorts are not permitted. No tennis shoes or sandals are permitted.

b. Hard hats must meet requirements for Type A or Type B as defined by American National Standards Institute. (No metal hard hats or bump caps.) How you plan to mark HARD HAT AREAS.

c. Provisions for other protective equipment.

7. Housekeeping.

a. Daily job site cleanup required.

b. Nails must be removed from scrap lumber.

c. All stairways, passageways, gangways, and accessways must be kept free of material, supplies, and obstructions at all times.

8. Fire Prevention. Cover use of fire extinguishers, cleanup, heating devices, and flammable and combustible liquids (including safety cans and precautions to be taken with bulk gasoline storage).

9. Ropes, Slings, and Chains. Cover condition of same and usage; when slings and chains will be replaced; mouses on hooks, etc.

10. Machinery and Mechanized Equipment.

a. Before any machinery or mechanized equipment is brought onto the job it must be inspected by a qualified employee using SAD form 1666-R. A completed copy of this form, setting forth discrepancies noted and corrective action taken, must be furnished to the ARCO. Hoisting equipment must be inspected and tested in accordance with the manufacturer's recommendations and Section 16.K of EM 385-1-1.

b. Set forth operating rules.

c. Before any piece of equipment required by paragraph 16.B.12 of EM 385-1-1, to be equipped with Roll-Over Protective Structures (ROPS), is brought onto the job, a certificate from: (1) the manufacturer of the piece of equipment; (2) the manufacturer of the ROPS; or (3) a registered professional engineer, attesting that the ROPS and method of attachment

satisfy the requirements of paragraph 16.B.12 must be furnished to the ARCO.

11. Floor and Wall Openings. If your contract covers erection, maintenance, or alteration of buildings, then your plan must set forth precautions you will take to guard floor, wall or roof openings. These provisions are set forth in Section 24 of EM 385-1-1.

12. Noise Control. Provisions of Section 05.C in EM 385-1-1, in respect to provisions of hearing protection must be complied with.

13. Hot Substances. Set forth measures to be used with tar kettles (temperature gauges, etc.).

14. Welding, Cutting and Grounding of Machinery. Cover precautions to be used in these operations (fire extinguishers, shields, grounding of electric welders, insulation of welding leads, etc.).

15. Electrical.

a. All temporary electrical work must be done in accordance with Section 11 of EM 385-1-1 (special emphasis on weekly inspection, use of NEMA configuration on all plugs and connections, and type extension cords).

b. Portable generators must be grounded as required by the National Electric Code (NEC).

c. The use of GFCIs **is required** in addition to appropriate grounding.

16. Hand Tools and Power Tools. Cover condition of same and use safety lashing on pneumatic lines; and authorization for use of explosive actuated tools.

17. Compressed Gas Cylinders. Your plan must set forth the precautions you will utilize to prevent accidents from these cylinders. The precautions are set forth in Section 20.D of EM 385-1-1 include such things as:

a. Separation of different gases.

b. Protection of cylinders.

c. Utilization of valve caps.

d. Securing cylinders in upright position.

18. Ramps, Runways, Platforms, and Scaffolds. Include in this section of your plan those items in Sections 21 and 22 of EM 385-1-1 that apply to work under your contract. This will include, but not be limited to:

a. Safety factors of all such devices.

b. Use of ladders as working platforms.

c. Method of erecting, supporting, and using scaffolding.

d. Means of access to working surfaces--climbing of end pieces of scaffolds is prohibited.

e. Roofing devices and practices--particular attention must be paid to Section 27.H.

19. Excavations. If there will be excavation (footings, trenches, etc.) as part of your contract, then set forth procedures you will follow. Provisions of Section 25 of EM 385-1-1 will govern. Special attention must be paid the following:

a. Excavations over 5 feet deep must have sides sloped to an angle of repose or be shored.

b. Excavated material must be stored at least 2 feet from side of excavation.

c. Guardrails or barricades must be provided as required by Section 25.B of EM 385-1-1.

d. Access facilities as required by 25.A.01 (b), 25.B.05, and 25.B.07 will be provided.

20. Access Facilities. Provisions of Section 21 of EM 385-1-1 apply to almost all contracts. Particular attention must be paid to the following:

a. Clear accessways and guarding of the same.

b. Physical condition of portable ladders.

c. Provision for stairways.

21. Clearing. Plan must set forth actions you will take to assure safe operation of chain saws and other clearing devices as prescribed in Section 13.F of EM 385-1-1.

22. Material Handling, Storage and Disposal. Plan should address the location of storage facilities, compatibility of materials, and disposal of materials.

23. Hazardous Materials. Plan should state method of providing workers with access to Material Safety Data Sheets, method of disposal, and compliance with federal, state, and local laws and regulations.

24. General. It is probable that all of the above areas will not apply to your contract. By the same token, there probably are other sections of EM 385-1-1 that have not been discussed in this guide that will apply to work under your contract. These can include diving, blasting, etc. No attempt has been made to cover all eventualities. This guide is intended only to serve as just that -- a guide to assist you in preparing an Accident Prevention Plan that will be acceptable for work to be performed under your contract.

SECTION 2
GUIDE FOR PREPARATION OF AN ACTIVITY HAZARD ANALYSIS (AHA)

1. Purpose. Provides guidance in preparing an Activity Hazard Analysis in accordance with EM 385-1-1.

2. Applicability. This applies to the Jacksonville District.

3. References.

a. AR 385 series.

b. ER 385 series.

c. EM 385-1-1.

4. Policy. An Activity Hazard Analysis for each major phase of work is required by EM 385-1-1 (Safety and Health Requirements Manual). This analysis, utilized correctly, will have favorable affects on your safety record. This section provides guidance for preparing an Activity Hazard Analysis through a step-by-step procedure giving an example, explanations, and definitions. By showing this procedure, we hope to increase your understanding of how and why the analysis is used.

5. Overview.

a. An Activity Hazard Analysis is a procedure used to review job methods and identify hazards. These hazards may have been overlooked from the start or they may have developed after production work has started. Once the hazards are known, the best solution or control can then be developed.

b. The person best suited to develop the analysis is the foreman or line supervisor. The reasons being that the foreman has more than likely put in 5-10 years of doing the work that he is now supervising. He has made the mistakes, seen the hazards, and probably has the best suggestions on how to make the job safer and most beneficial. In addition, he is best qualified to break the job down into successive steps.

c. Once the analysis' rough draft is completed, we suggest that it be reviewed by a safety person.* The safety person should review the analysis on a technical level, check to see that no hazards were overlooked, and examine the control measures to see that the most effective measures are being used.

* A safety person is intended to mean any person within your organization that has safety responsibilities within their job duties.

6. Procedures.

a. Step 1 - Selecting an activity to analyze.

(1) An activity is a sequence of separate steps that together accomplish a work goal. Some activities can be too broadly defined in general terms of what is accomplished. Making paper, building a new dorm, mining ore, are examples. Such broadly defined activities are not suitable for an activity hazard analysis. Similarly, an activity can be too narrowly defined in terms of a single action. Pulling a switch, tightening a screw, pushing a button are examples. Such narrowly defined activities are also not suitable for an AHA.

(2) Activities suitable for a hazard analysis are those assigned generally to a line supervisor and related to a particular phase of work. Erecting block walls, placing a roof and painting are good subjects for an activity hazard analysis.

(3) Once an activity or major phase has been selected we recommend completing the analysis using the format shown in Section 4 of this appendix. Note that the activity chosen for the example is Interior Demolition of the US Army Reserve Center.

b. Step 2 - Break Activity Down Into Successive Steps

(1) Now the activity is broken down into its principal steps. Usually you, the line supervisor or foreman, will rely on past experience with the type of work being analyzed. You know your work goal (end point), the beginning point, and what you have to do to accomplish the work goal (steps). You should be able to visualize a logical procession step by step.

(2) Record the steps in their natural order of occurrence. Describe what is done, but not the details of how it is done. Usually three or four words are sufficient. Number the steps consecutively.

(3) In the example, our progression of principal steps include the following: remove furniture from office; remove plumbing, electrical and HVAC duct work from partitions; demolish interior; and clean up. This shows a logical progression from

point A (an old deteriorated interior) to point B (the state of final preparation for the next activity - Creating A New Interior).

c. Step 3 - Identify Hazards and Potential Accidents

(1) Once the principal steps have been identified and logged on the form, identify the potential hazards encountered in each of the principal steps listed. Once again past experience will be relied upon heavily. Also, talking with workers about past accidents or near misses will be of help to you. Checking with first aid logs or accident investigations will also help. At this point, evaluate hazards presented by other activities working adjacent to the activity being analyzed.

(2) The following is a list of questions that will also help you identify most of the hazards:

(a) Is there danger of striking against, being struck by or otherwise making injurious contact with the object?

(b) Can the employee be caught on, in, or between the object?

(c) Can the employee slip or trip? Can the employee fall on the same level or to another level?

(d) Can the employee strain themselves by pushing, pulling or lifting?

(e) Is there a possibility of electrical, health, or fire hazards associated with that principal step?

(3) It is estimated that with these questions you should be able to uncover 90% of the potential hazards. What about the other 10%? The other 10% is what makes the activity hazard analysis so unique. This is why the so called "generic analysis" is so incomplete. Factors which are unique to an activity (elevation, terrain, weather, etc.) may add to or change the potential hazards. All this must be taken into consideration when doing the analysis.

(4) In the example, we have listed most of the hazards associated with the principal steps. These are very general due to the lack of specific project information. The purpose of this is to keep the analysis simple and easy to follow. Had a foreman or line supervisor prepared the analysis in accordance with all

the specific information available, it would be more complete and extensive.

d. Step 4 - Develop a Control for Each Hazard Identified.

(1) This is where you come up with the methods of controlling the hazards identified in Step 3 of this procedure. There may be several solutions to controlling the hazard; we want the best solution (that which is most beneficial). Ask yourself "What are the benefits to this solution?" Sometimes the solution will solve that particular problem but create a new hazard for that step or another step. Once again it is useful to ask workers for suggestions.

(2) The following are suggestions to help you come up with ideas for the best solution to your particular hazard:

(a) Change the physical conditions that create the hazard. "What change in physical condition will eliminate the hazard or prevent the accident?" A good example of this would be changing the surface in a work area to a non-slip type surface. Supplying ear muffs to a worker who must travel through an area in which noise levels exceed the standard would be another.

(b) Change the procedures of the Step. "What should the employee do or not do to eliminate the hazard or prevent this potential accident?" For example, "Is there another way for the employee to reach the work station other than going through the noisy area?" If there is, will it be more or less hazardous for the employee? You should consider work saving tools or equipment. For example, say an employee must lift and carry a heavy object to a workbench. All you need do is supply the worker with a workbench that has casters. Also, if two workers were to lift the object you would reduce the risk of back injury.

(c) Reduce the frequency that a task must be performed. Every task has some potential for an accident to occur. Therefore when you increase the times that the task is performed you increase the probability of an accident occurring.

(d) Training. If none of the previous suggestions are applicable, then the answer may be training the employees to do a task safely. Quite often we hear of accidents caused by lack of knowledge of proper safe procedures. This could mean a simple instruction from a foreman or line supervisor or could involve specialized training from an outside source. The latter is recommended for irregular work which may be unique.

(3) We have found that special attention should be given to newer employees (1 to 1 1/2 years). These employees have proven to be among the most likely to have an accident. This is why it is good practice for employers to give new employees good initial safety training.

(4) Once you have decided on a control for the hazard you must put it into a positive statement; i.e. Dust respirators will be supplied to the workmen. Electricity will be locked out by a mechanical device. In other words you will be committing yourself to perform the action you chose to control the hazard.

(5) If you now turn to the example, you will find a copy of our completed analysis. As an exercise, go back through Step 1 through Step 4. See if you can come up with anything that we left out.

7. Update as Needed. It should be noted that the completed analysis is not set in stone. We all know that field changes take place every day. With these changes a new hazard may arise. Also, a delay in a different activity could have you working next to that operation. This could add numerous hazards to your job. For an Activity Hazard Analysis to be most effective it must be updated as the activity progresses.

8. Benefits.

a. A properly completed activity hazard analysis will reap many rewards. How much does your organization spend for worker's compensation insurance premiums? What you pay in premiums largely depends on your past accident history. If you can reduce your number of accidents using the activity hazard analysis process, then you can expect to see a reduction in your worker's compensation premiums. With lower premiums follows a lower quotation or bid. This means that your organization could be more competitive for various jobs.

b. Accidents cost money. For every accident there are obvious costs (doctor, hospitals, etc.) as well as hidden costs (training a new employee, drop in morale, wages lost in reacting to the accident, etc.). By reducing the accidents you can save money, thereby increasing your profit margins on each job.

c. Safety training benefits your organization. Establishing safety contacts between line supervisor and worker (one on one) promotes good safety awareness and increases morale. This is very important for new employees.

d. Training on the proper methods of performing certain tasks will in most cases increase productivity. An increase in productivity should turn into an increase in profits.

SAMPLE ACTIVITY HAZARD ANALYSIS (AHA)

ACTIVITY: _____ **ANALYZED BY/DATE:** _____

NOTE: For additional guidance, reference EM 385-1-1 (3 Nov 03), Section 01.A.13, page 8

PRINCIPAL STEPS	POTENTIAL SAFETY/ HEALTH HAZARDS	RECOMMENDED CONTROLS
Identify the principal steps involved and the sequence of work activities	***Analyze each principal step for potential hazards***	***Develop specific controls for potential hazard***
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**
List equipment/machinery to be used in the work activity	***List inspection requirements for the work activity***	***List training requirements, including hazard communication***

SAMPLE ACTIVITY HAZARD ANALYSIS (AHA)

ACTIVITY: Interior Demolition, Army Reserve Center, Your City, Fl **ANALYZED BY/DATE:** John Doe. Project Foreman 8/30/2004

NOTE: For additional guidance, reference EM 385-1-1 (3 Nov 03), Section 01.A.13, page 8

PRINCIPAL STEPS	POTENTIAL SAFETY/ HEALTH HAZARDS	RECOMMENDED CONTROLS
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**

SAMPLE ACTIVITY HAZARD ANALYSIS (AHA)

ACTIVITY: Interior Demolition, Army Reserve Center, Your City, Fl **ANALYZED BY/DATE:** John Doe. Project Foreman 8/30/2004

NOTE: For additional guidance, reference EM 385-1-1 (3 Nov 03), Section 01.A.13, page 8

PRINCIPAL STEPS	POTENTIAL SAFETY/ HEALTH HAZARDS	RECOMMENDED CONTROLS
1. Remove furniture from work area 2. Disconnect plumbing, electrical, and HVAC duct work from interior 3. Demolish Interior 4. Clean Up		
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**

SAMPLE ACTIVITY HAZARD ANALYSIS (AHA)

ACTIVITY: Interior Demolition, Army Reserve Center, Your City, Fl **ANALYZED BY/DATE:** John Doe. Project Foreman 8/30/2004

NOTE: For additional guidance, reference EM 385-1-1 (3 Nov 03), Section 01.A.13, page 8

PRINCIPAL STEPS	POTENTIAL SAFETY/ HEALTH HAZARDS	RECOMMENDED CONTROLS
1. Remove furniture from work area	1. Back injury 2. Foot injury 3. Hand injury	
2. Disconnect plumbing, electrical, and HVAC duct work from interior	1. Electrocution or shock from wires 2. Workers or tools falling from elevated work area 3. Asbestos from hot water pipe insulation 4. Slips, trips, or falls 5. Noise 6. Dust 7. Materials falling on workers 8. Fire/explosion 9. Cuts from pipes or ducts	
3. Demolish Interior	1. Dust 2. Eye injury 3. Debris falling on workers 4. Workers, debris, or tools falling from elevated work area 5. Cuts/puncture wounds 6. Fire/explosion 7. Noise	
4. Clean Up	1. Dust 2. Fire/explosion	

SAMPLE ACTIVITY HAZARD ANALYSIS (AHA)

ACTIVITY: Interior Demolition, Army Reserve Center, Your City, Fl **ANALYZED BY/DATE:** John Doe. Project Foreman 8/30/2004

NOTE: For additional guidance, reference EM 385-1-1 (3 Nov 03), Section 01.A.13, page 8

PRINCIPAL STEPS	POTENTIAL SAFETY/ HEALTH HAZARDS	RECOMMENDED CONTROLS
1. Remove furniture from work area	1. Back injury	1. Use furniture dolly for large or bulky furniture. Two workers required for placing large or bulky furniture onto dolly and moving large furniture 2. Workers to use proper lifting techniques to prevent back injury
	2. Foot injury	1. Wear steel toed safety boots
	3. Hand injury	1. Wear leather gloves to prevent cuts and abrasions
2. Disconnect plumbing, electrical, and HVAC duct work from interior	1. Electrocution or shock from wires	1. Have licensed electrician ensure electrical system is locked/tagged out
	2. Workers or tools falling from elevated work area	1. Provide scaffold with standard railing with toe boards
	3. Asbestos from hot water pipe insulation	1. Have asbestos removed by qualified licensed source prior to disconnecting hot water pipe
	4. Slips, trips, or falls	1. Ensure spills from removal of plumbing have been cleaned up to prevent slips and falls. Keep work areas such as aisles, stairs, and exits clear of debris
	5. Noise	1. Ensure earplugs are worn in designated areas
	6. Dust	1. Wear dust respirators and safety glasses with side-shields or dust goggles 2. Provide fans for ventilation

SAMPLE ACTIVITY HAZARD ANALYSIS (AHA)

ACTIVITY: Interior Demolition, Army Reserve Center, Your City, Fl ANALYZED BY/DATE: John Doe. Project Foreman 8/30/2004

NOTE: For additional guidance, reference EM 385-1-1 (3 Nov 03), Section 01.A.13, page 8

PRINCIPAL STEPS	POTENTIAL SAFETY/ HEALTH HAZARDS	RECOMMENDED CONTROLS
	7. Material falling on workers	1. Wear hard hats at all times while in the construction zone.
	8. Fire/explosion	1. Prohibit smoking in work area. 2. Ensure an adequate number of fire extinguishers of the correct size and type are provided and that workers are trained in using extinguishers.
	9. Cuts from pipes and ducts	1. Wear leather gloves to prevent cuts and abrasions. Tape sharp edges if possible.
3. Demolish interior	1. Dust	1. Wear dust respirators and safety glasses with side-shields or dust goggles.
	2. Eye injury	1. Wear safety glasses with side-shields or dust goggles. For more severe conditions, wear face shield over safety glasses or dust goggles.
	3. Debris falling on workers	1. Rope off areas and post signs when demolition begins. 2. Post watch person during demolition. 3. Workers shall wear hard hats at all times while in the construction zone.
	4. Workers or tools falling from elevated work area.	1. Provide scaffold with standard railing and toe boards. 2. Supply 15 gauge U.S. standard wire 1/4" mesh between toe board and guardrail around entire perimeter scaffold.

SAMPLE ACTIVITY HAZARD ANALYSIS (AHA)

ACTIVITY: Interior Demolition, Army Reserve Center, Your City, Fl **ANALYZED BY/DATE:** John Doe. Project Foreman 8/30/2004

NOTE: For additional guidance, reference EM 385-1-1 (3 Nov 03), Section 01.A.13, page 8

PRINCIPAL STEPS	POTENTIAL SAFETY/ HEALTH HAZARDS	RECOMMENDED CONTROLS
	5. Cuts/puncture wounds	1. Remove nails from scrap lumber. 2. Wear steel-toed safety boots. 3. Wear leather gloves.
	6. Fire/explosion	1. Remove all scrap lumber after every shift. 2. Vacuum dust from work area after every shift. 3. Prohibit smoking in work area. 4. Ensure an adequate number of fire extinguishers of the correct size and type are provided and that workers are trained in using extinguishers.
	7. Noise	1. Ensure earplugs are worn in designated areas.
4. Clean up	1. Dust	1. Wear dust respirators and safety glasses with side-shields or dust goggles. For more severe conditions, wear face shield over safety glasses or dust goggles. 2. Provide fans for ventilation.
	2. Fire/explosion	1. Prohibit smoking in work area. 2. Vacuum dust from work area after every shift. 3. Ensure an adequate number of fire extinguishers of the correct size and type are provided and that workers are trained in using extinguishers.

SAMPLE ACTIVITY HAZARD ANALYSIS (AHA)

ACTIVITY: Construct Access & Haul Road, Your City, Fl **ANALYZED BY/DATE:** John Doe. Project Foreman 8/30/2004

NOTE: For additional guidance, reference EM 385-1-1 (3 Nov 03), Section 01.A.13, page 8

PRINCIPAL STEPS	POTENTIAL SAFETY/ HEALTH HAZARDS	RECOMMENDED CONTROLS
1. Establish work zone per DOT & State requirements	Vehicle traffic/accident potential	**WARNING** **ALL VEHICLES THAT WILL BE PARKED OR MOVING SLOWER THAN NORMAL TRAFFIC SHALL HAVE A YELLOW FLASHING LIGHT OR FOUR-WAY FLASHERS VISIBLE FROM ALL DIRECTIONS (REFERENCE EM 385-1-1, SECTION 16.A.13, PAGE 294)** ➢ Comply with access/haul road plan that has been accepted by the Area Engineer ➢ Brief all workers on hazards/AHA prior to startup ➢ Install construction zone signs, barricades, and lights ➢ Establish speed limits ➢ Establish right-hand traffic pattern on two-way haul roads with adequate number of turn-outs on single lane roads with two-way traffic ➢ Post trained flaggers to control traffic Flaggers, spotters, and other individuals exposed to vehicular traffic shall wear high visibility orange reflectorized vests ➢ All self-propelled construction equipment shall be equipped with a reverse signal alarm ➢ No vehicle shall be driven at a speed greater than the posted speed limit, with due regard to weather, traffic, intersections, width and character of the roadway, type of motor vehicle, and any other existing conditions The operator must at all times have the vehicle under such control as to be able to bring it to a complete stop within the assured clear distance ahead
	Vehicles entering and exiting highway from haul road.	➢ Post flaggers to control traffic ➢ Contact local law enforcement agency to control speeding on highway

SAMPLE ACTIVITY HAZARD ANALYSIS (AHA)

ACTIVITY: Construct Access & Haul Road, Your City, Fl **ANALYZED BY/DATE:** John Doe. Project Foreman 8/30/2004

NOTE: For additional guidance, reference EM 385-1-1 (3 Nov 03), Section 01.A.13, page 8

PRINCIPAL STEPS	POTENTIAL SAFETY/ HEALTH HAZARDS	RECOMMENDED CONTROLS
	Drowning-Potential to drive into canal due to view being obstructed by vegetation	➢ **Comply with Safety Checklist for Access and Haul Roads (section on haul roads adjacent to canals) CESAJR 385-1-1, Appendix I, to include:** o staying a safe distance form canal o posting canal warning signs, fencing, or other high visibility flagging along edge of haul road o Providing training on self-rescue to equipment operators o Providing breakout hammers or self-centering punches for vehicles with side windows for self-rescue
	Back injury from heavy & repetitive lifting	➢ Use proper lifting techniques ➢ Avoid twisting body ➢ Get additional help when the load is too heavy or bulky for one person ➢ Use mechanical lifting devices for heavy or bulky loads.
	Foot injuries	➢ Wear safety toed boots to prevent foot injuries
	Hand injuries from cuts, abrasions, punctures, and wood splinters	➢ Wear leather gloves to prevent injuries to the hand
	Slips, trips, falls	➢ Watch where you step and avoid stepping on debris to prevent slips, trips, falls, and punctures
	Flying debris, dirt, dust, etc.	➢ Wear safety glasses/goggles ➢ Ensure emergency eye wash is in proper working condition
	Falling objects	➢ Stay alert and clear of materials suspended overhead ➢ Wear hard hat ➢ Wear steel toed safety boots
	Bees, spiders, and snakes	➢ Inspect work area carefully and avoid placing hands and feet into concealed areas

SAMPLE ACTIVITY HAZARD ANALYSIS (AHA)

ACTIVITY: Construct Access & Haul Road, Your City, Fl **ANALYZED BY/DATE:** John Doe. Project Foreman 8/30/2004

NOTE: For additional guidance, reference EM 385-1-1 (3 Nov 03), Section 01.A.13, page 8

PRINCIPAL STEPS	POTENTIAL SAFETY/ HEALTH HAZARDS	RECOMMENDED CONTROLS
	Drowning-Potential to drive into canal due to view being obstructed by vegetation	➢ **Comply with Safety Checklist for Access and Haul Roads (section on haul roads adjacent to canals) CESAJR 385-1-1, Appendix I, to include:** o staying a safe distance form canal o posting canal warning signs, fencing, or other high visibility flagging along edge of haul road o Providing training on self-rescue to equipment operators o Providing breakout hammers or self-centering punches for vehicles with side windows for self-rescue
	Back injury from heavy & repetitive lifting	➢ Use proper lifting techniques ➢ Avoid twisting body ➢ Get additional help when the load is too heavy or bulky for one person ➢ Use mechanical lifting devices for heavy or bulky loads.
	Foot injuries	➢ Wear safety toed boots to prevent foot injuries
	Hand injuries from cuts, abrasions, punctures, and wood splinters	➢ Wear leather gloves to prevent injuries to the hand
	Slips, trips, falls	➢ Watch where you step and avoid stepping on debris to prevent slips, trips, falls, and punctures
	Flying debris, dirt, dust, etc.	➢ Wear safety glasses/goggles ➢ Ensure emergency eye wash is in proper working condition
	Falling objects	➢ Stay alert and clear of materials suspended overhead ➢ Wear hard hat ➢ Wear steel toed safety boots
	Bees, spiders, and snakes	➢ Inspect work area carefully and avoid placing hands and feet into concealed areas

SAMPLE ACTIVITY HAZARD ANALYSIS (AHA)

ACTIVITY: Construct Access & Haul Road, Your City, Fl **ANALYZED BY/DATE:** John Doe. Project Foreman 8/30/2004

NOTE: For additional guidance, reference EM 385-1-1 (3 Nov 03), Section 01.A.13, page 8

PRINCIPAL STEPS	POTENTIAL SAFETY/ HEALTH HAZARDS	RECOMMENDED CONTROLS
	Ticks	➢ Wear light colored clothing (can see ticks better). ➢ Apply insect repellant. ➢ Wear long sleeves and long plants. ➢ Visually check yourself for ticks promptly and frequently after exiting the work area.
	Poison ivy/oak/sumac	➢ Avoid plant areas if possible. ➢ Wear long sleeves and long plants. ➢ Promptly wash clothing that has contacted poisonous plants. ➢ Wash affected areas immediately with soap and water. ➢ A good rule to follow for identifying poison ivy and poison oak is "Leaves of three, let them be!"
	Fire	➢ Fire extinguishers shall be suitably placed, distinctly marked, readily accessible, and fully charged
	Hazard Communication	➢ Label all containers as to contents and dispose of properly ➢ Ensure Material Safety Data Sheets (MSDS) are available for hazardous chemicals on site
	Thunderstorms, Tornadoes, Hurricanes	➢ Monitor weather channel for current information ➢ Cease field activities during thunderstorms, tornado, or hurricane warnings and follow instructions contained in Severe Storm and Weather Plan
	Lightning strikes	➢ Halt activities and take cover. ➢ If outdoors, stay low to the ground. ➢ Limit the body surface area that is in contact with the ground (I.e., kneeling on one knee is better than lying on the ground). ➢ Seek shelter in a building if possible ➢ Stay away from windows
	Hot weather	➢ Take frequent brakes in a shaded area or shelter ➢ Drink plenty of fluids during hot periods to prevent dehydration
	Cold weather	➢ Take frequent brakes in warm shelter during cold periods & drink plenty of warm liquids

SAMPLE ACTIVITY HAZARD ANALYSIS (AHA)

ACTIVITY: Construct Access & Haul Road, Your City, Fl **ANALYZED BY/DATE:** John Doe. Project Foreman 8/30/2004

NOTE: For additional guidance, reference EM 385-1-1 (3 Nov 03), Section 01.A.13, page 8

PRINCIPAL STEPS	POTENTIAL SAFETY/ HEALTH HAZARDS	RECOMMENDED CONTROLS
2. Clear & Grub haul road area and borrow pit	SAME AS FOR STEP 1 ABOVE AND THE FOLLOWING:	➢ SAME AS FOR STEP 1 ABOVE AND THE FOLLOWING:
	Vehicles entering and exiting highway from haul	➢ Post flaggers to control traffic. ➢ Contact county sheriff, highway patrol or other law enforcement agency to control speeding on highway
	Chainsaws and other cutting tools	➢ Wear work shirt and long pants, chaps, safety boots, hard hat and gloves
	Being struck by heavy equipment & equipment backing up	➢ Stay clear of heavy equipment such as loader equipped with brush fork ➢ Ensure backup alarms are fully functional
	Being struck while seated in cab of loader by debris protruding from bucket	➢ Operator of loader must use caution when loading debris to ensure debris (such as long branches) does not come into cab area and cause injury
	Roll-over of loader or dump truck	➢ Ensure ROP and safeguards are in place and seat belt is worn while operating loader ➢ Ensure seat belt is worn while operating dump truck ➢ Ensure truck is level while being loaded to avoid roll-over ➢ Ensure truck & loader are operated at safe speed for conditions ➢ Ensure truck is level while being loaded
	Dust	➢ Use water trucks where possible to control dust

SAMPLE ACTIVITY HAZARD ANALYSIS (AHA)

ACTIVITY: Construct Access & Haul Road, Your City, Fl **ANALYZED BY/DATE:** John Doe. Project Foreman 8/30/2004

NOTE: For additional guidance, reference EM 385-1-1 (3 Nov 03), Section 01.A.13, page 8

PRINCIPAL STEPS	POTENTIAL SAFETY/ HEALTH HAZARDS	RECOMMENDED CONTROLS
3. Grade/level haul road with dozer	Roll-over of dozer	➢ Ensure dozer is equipped with roll-over protection (ROPS) ➢ Wear seat belt
	Drowning-Potential to drive into canal due to view being obstructed by vegetation	➢ **Comply with Safety Checklist for Access and Haul Roads (section on haul roads adjacent to canals) CESAJR 385-1-1, Appendix I, to include:** o staying a safe distance form canal o posting canal warning signs, fencing, or other high visibility flagging along edge of haul road ➢ Providing training on self-rescue to equipment operators
4. Excavating borrow pit and stockpiling material with excavator/track hoe	Excavator could roll into pit or roll off embankment while working on stockpile causing serious injury to operator and damage to machine	➢ Ensure operators wear seat belts ➢ Ensure excavator is equipped with ROPS ➢ Ensure excavator sits on firm and level ground and does not get too close to pit or embankment ➢ Post warning signs, fencing, or other high visibility flagging along edge of embankment to mark boundary
	Obstructed view causing collision with other vehicles	➢ Use spotter when view is obstructed
	Drowning	➢ Use dewatering pumps to keep water out of borrow pit
5. Haul material from borrow pit to haul road with dump truck	Loss of control of dump truck due to excessive speed or inattention/distraction to driving	➢ Drive with caution and concentrate strictly on driving ➢ Wear seat belt ➢ Grasp steering wheel with both hands ➢ Do not use cellular telephone or walkie talkie or be distracted by other things ➢ Observe speed limit and slow down when conditions dictate

SAMPLE ACTIVITY HAZARD ANALYSIS (AHA)

ACTIVITY: Construct Access & Haul Road, Your City, Fl **ANALYZED BY/DATE:** John Doe. Project Foreman 8/30/2004

NOTE: For additional guidance, reference EM 385-1-1 (3 Nov 03), Section 01.A.13, page 8

PRINCIPAL STEPS	POTENTIAL SAFETY/ HEALTH HAZARDS	RECOMMENDED CONTROLS
		➢ Do not attempt to pass other vehicles except where allowed. ➢ Be especially cautious while driving adjacent to canals. ➢ Observe canal warning signs, fencing, high visibility flagging and caution lights ➢ Follow precautions contained in haul road checklists, especially for haul roads adjacent to canals. ➢ Get training on how to get out of submerged vehicle. Rehearse steps often in your mind. ➢ Have breakout hammer or self-centering punch readily available for breaking side window in order to get out of vehicle. ➢ Conduct daily safety inspection of vehicle
	Failing brakes due to lack of required maintenance	➢ Ensure periodic maintenance is performed on vehicle
6. Compact material with vibe roller	Loss of control of vibe roller	➢ Operate vibe roller at safest speed for conditions ➢ Wear seat belt if required (depends on type)
	Running over workers or equipment	➢ Be aware of surroundings and especially of other workers ➢ Ensure area is clear of people and vehicles, especially when backing
	Noise	➢ Wear hearing protection while operating vibe roller
	Drowning	➢ Stay safe distance from canal. Observe canal warning signs, fencing, high visibility flagging and caution lights

SAMPLE ACTIVITY HAZARD ANALYSIS (AHA)

ACTIVITY: Construct Access & Haul Road, Your City, Fl **ANALYZED BY/DATE:** John Doe. Project Foreman 8/30/2004

NOTE: For additional guidance, reference EM 385-1-1 (3 Nov 03), Section 01.A.13, page 8

PRINCIPAL STEPS	POTENTIAL SAFETY/ HEALTH HAZARDS	RECOMMENDED CONTROLS
7. De-water borrow pit	Pump rolling into pit	➢ Ensure pump is placed on a firm foundation a safe distance from pit. ➢ Ensure parking brake is set. If parked on an incline, ensure parking brake is set and wheels are chocked
8. Grade haul road with road grader	Loss of control of grader due to excessive speed or inattention/distraction to driving	➢ Operate grader at safest speed for conditions and concentrate strictly on driving ➢ Ensure grader is equipped with ROPS ➢ Wear seat belt ➢ Grasp steering wheel with both hands ➢ Do not use cellular telephone or walkie talkie or be distracted by other things ➢ Beware of workers, vehicles, and other activities around you ➢ Be especially cautious while driving adjacent to canals and observe canal warning signs, fencing, high visibility flagging and caution lights ➢ Follow precautions contained in haul road checklists, especially for haul roads adjacent to canals ➢ Provide training on self-rescue to equipment operators
	Backing over other workers	➢ Ensure backup alarms are fully functional ➢ Use a spotter when view is obstructed

APPENDIX G
ACCIDENT INVESTIGATION AND REPORTING POLICY AND PROCEDURES

1. Purpose. This appendix establishes the policies, procedures, and requirements which will govern the reporting of accidents occurring on District activities in compliance with OCE Supplement 1 to AR 385-40 and the basic regulation.

2. Applicability. This appendix applies to all Jacksonville District employees, activities and Contractors.

3. Scope. A typed, completed, and properly executed ENG Form 3394, September 1989 (Accident Investigation Report) will be forwarded to the Safety and Occupational Health (S&OH) Office within five workdays after knowledge of occurrence for each type accident listed below:

a. Injuries to personnel. Accident reports are required covering injuries to civilian employees, contractor employees, and military personnel, with consequences as follows:

(1) Fatal Injuries.

(2) Permanent Total Disability. The complete loss of any member or part of a member of the body, or any permanent impairment of functions of the body or part thereof, to the extent that he or she cannot follow gainful employment.

(3) Temporary Total Disability. An injury which does not result in death, permanent total, permanent partial disability, but which does result in 1 or more days of disability (other than the day of the injury).

(4) Permanent Partial Disability. The complete loss of any member or part of a member of the body, or any permanent impairment of the functions of the body or part thereof.

(5) Other Injuries. Also all injuries/illnesses to Federal employees that result in filing a Worker's Compensation claim with the Department of Labor, either traumatic (CA-1) or occupational (CA-2).

b. Injuries to Public Persons. Accident reports are required for injuries to public persons, as follows:

(1) Drownings, other accidents, and permanent disability involving public persons which occur on Corps of Engineers administered property.

(2) Drownings, occurring in waters to navigation and power structures under control of the Corps of Engineers.

(3) Injury in any degree, to a public person, incident to a Corps of Engineers activity, or occurring on premises under control of the Corps of Engineers, which might result in a claim against the United States.

c. Motor Vehicle Accidents. All accidents involving the operation (whether moving or halted) of any Army Vehicle that results in injury, damage to vehicle, or damage to any other property REGARDLESS OF THE AMOUNT OF DAMAGE. For the purpose of this regulation, "Army Vehicles" will include the following:

(1) All Corps of Engineers vehicles, regardless of whom was operating the vehicle at the time of the accident.

(2) Vehicles leased or rented and operated by Corps of Engineers personnel.

(3) Privately owned vehicles when used for official business, authorized by travel orders, and operated by Corps of Engineers personnel.

(4) General Service Administration (GSA) vehicles operated by Corps of Engineers personnel.

d. Private Property Damage. Accidental damage to private property, equipment, or material incident to a Corps of Engineers activity, regardless of the amount of damage, will be reported.

e. Other Accidents. Accident reports must be submitted covering accidental explosions; fires involving ammunition and other explosives; exposure to microwave or ionizing radiation; chemical exposures, and contamination or damage of property from biological, radiological, or chemical agents.

4. Safeguarding Accident Information. The completed ENG Form 3394 and any attachments or copies and extracts will not be appended to or enclosed in any report or document, unless the sole purpose of the other report or document is to aid in accident prevention. Requests for copies of completed accident reports will be in writing and forwarded to the S&OH Office.

5. Immediate Notification.

a. Immediate telephonic notification will be made to the S&OH Office of any accident resulting in any of the following consequences:

(1) Fatality or permanent total disability to or involving on-duty military, government, or contractor personnel; also off-duty if on the premises or incident to a Corps of Engineers' activity or operation.

(2) Accidents in which three or more persons are hospitalized.

(3) Damage of more than $100,000.00 or more to Corps of Engineers or contractor property and/or equipment.

(4) Any mishap, regardless of the consequences, if it is suspected that it will result in unfavorable criticism of the Corps of Engineers or the Army, or provoke questions at the Washington level.

(5) Drivers of motor vehicles (para. 3c) when involved in a motor vehicle accident will make telephonic/radio report of the accident to their supervisor as soon as possible after the accident occurs. Supervisors, upon notification, will make an immediate report through supervisory channels to the appropriate functional Division/Staff Office. Division/Staff Office Chiefs will then ensure that the S&OH Office is notified immediately.

b. Notification will include, but will not be limited to the following:

(1) Name of the employee(s) killed or injured, job classification, and installation or activity.

(2) Identification of property (ownership) and/or equipment damaged and dollar estimate of damage.

(3) Date and time of accident.

(4) Location of accident to include project name.

(5) If contractor accident, the contract number and the name of contractor.

(6) Description, (who, what, when, where why, and how) in as much detail as possible.

(7) Immediate actions taken to control the hazard to prevent further injuries.

(8) Any other information considered pertinent.

c. Drivers of GSA vehicles will follow the 11 accident reporting steps outlined in the vehicle operators packet placed in the glove compartment of each vehicle, which includes the notification required above, and notification to the GSA motor Pool relative to repair or disposition of the damaged vehicle.

d. When reporting an accident which requires immediate telephonic notification after duty hours, or on weekends or holidays, one of the following persons, in the order listed, is to be notified:

(1) James W. Woodey, Jr., Chief, S&OH Office 904-241-8836.

(2) Girlamo (Jerry) DiChiara, Chief, Con-Ops Div. 904-737-1909.

e. Regardless of when notification is received, the information will be immediately reported to one of the following in the order listed:

(1) LTC Tony Buitrago, Deputy Commander and Deputy District Engineer for Antilles, 787-723-0133.

(2) LTC Michael A. Moore, Deputy Commander and Deputy District Engineer 904-232-2242.

(3) COL Joe R. Miller, Commander and District Engineer 904-232-2241.

6. Accident Reports.

a. GOVERNMENT: The following accident reporting procedures apply to government employees sustaining an occupational illness or disease, on-the-job traumatic injuries, or property damage.

(1) EMPLOYEE. An employee who sustains a job-related injury or illness shall obtain from their supervisor and complete the employee portion of an OWCP Form CA-1 (for traumatic injury) or a CA-2 (for occupational diseases). After completion, return form to the immediate supervisor. **A CA-1 must be submitted on all injuries regardless of how insignificant they seem.**

(2) SUPERVISOR.

(a) The supervisor shall provide the appropriate CA form to the injured employee. After completion of the employee's section, the supervisor shall complete the supervisor's portion. There is also a receipt portion which the supervisor must complete and give to the injured employee.

(b) In addition, the supervisor of the injured employee shall complete the USACE Accident Investigation Report, ENG Form 3394, dated Sept 1989, through block 15. A copy of the ENG Form 3394 must then be attached to the original CA Form. The two forms shall be forwarded to the Safety and Occupational Health Office within five (5) working days from the date of the accident. The original ENG Form 3394 will be forwarded with its instructions, through management channels as indicated on the form for signature.

(c) The original CA-1 will be reviewed by the Safety and Occupational Health Office and handcarried to Human Resources within two working days of receipt.

(d) An ENG Form 3394 must be completed on any accident resulting in a lost workday (other than the day of injury), medical expenses incurred (when a CA-16 is utilized), property damage of $2,000.00 or more, or **ANY** motor vehicle accident.

(e) Items 15a and 15b are required entries which are often overlooked on the ENG Form 3394. These must be completed.

(f) The following signature chain is to be used on the ENG Form 3394. **After each signature the name, title and date must be typed or printed legibly.**

Item 15c, First line supervisor completing form.

Item 16, Second line supervisor.

Item 17, Staff Chief.

Item 18, Chief, SOHO. (Antilles - DS-SO)

Item 19, Commander. (Antilles - **ALSO** initialed by DS.)

(g) When an accident produces damage to a vehicle, an SF 91 (Standard Form 91) will be completed at the scene of the accident by the government vehicle operator involved in the

accident if he/she is physically able. It is of the utmost importance that this form be fully completed. The completed SF 91 will be forwarded to the supervisor of the vehicle operator who will complete an ENG Form 3394 accident report and follow the procedures stated in paragraph 6a. above. The SF-91 will be forwarded to LM-T for all vehicle accidents/damage.

b. CONTRACTOR: The following reporting procedures apply to all contractor activities in the Jacksonville District.

(1) In the event of an accident which results in a lost work day or $2,000.00 or more in property damage, an ENG Form 3394 will be completed and submitted within five (5) workdays. Should an accident occur resulting in a fatality, $100,000.00 or more in property damage, three or more persons being hospitalized, or any incident which would result in adverse publicity to the Corps of Engineers, immediate notification must be made to the Safety and Occupational Health Office. Reporting requirements of ENG Form 3394 within five (5) working days still apply.

(2) The following signature chain is to be used on the ENG Form 3394 on Contractor accidents. **After each signature, the name, title and date must be typed or printed legibly.**

Item 15c, Corps representative **and** Contractor representative.

Item 16, Area/Resident Engineer.

Item 17, Division Chief (Antilles - Chief, DS-CO).

Item 18, Chief, SOHO (Antilles - DS-SO).

Item 19, Commander. (Antilles - **ALSO** initialed by DS.)

(3) These forms must be requested through normal distribution channels and stocked in each office.

(4) Any questions concerning these reporting procedures should be directed to Mike Scholl, CESAJ-SO, ext. 2554, or for specific information on CA forms, the Human Resources Office at ext. 1153.

7. Board of Investigation.

a. Report of accidents involving a fatality, a permanent total disability, a permanent partial disability, hospitalization of three or more people to government, contractor, or military personnel or damage of $100,000.00 or more will be investigated by a Board of Investigation appointed by the Division Commander. Members to serve on the Board of Investigation will be composed of technical and management specialists appointed by Division. A representative of the S&OH will be appointed as a technical advisor, but not as a member.

b. The Board of Investigation report will include photos, sketches, diagrams, and other exhibits essential to presenting a clear picture. The original and three copies of the report will be submitted as soon as practicable, but in no event later than 30 days after the day of the accident. Basic requisites of investigations for accidents are outlined in AR 385-40 dated 1 November 1994.

c. A SOH professional shall travel as soon as possible to all accidents that result in a fatality.

d. Guidance on Board of Investigation procedures are provided in Section 1 of this document.

8. Disciplinary Action (Vehicle Accidents).

a. In each case where accident circumstances, as determined by the accident investigation, indicate NEGLIGENT FAILURE on part of a government employee as a primary accident causative factor, the supervisor will forward through the proper channels, to the Chief, Directorate of Human Resources, his recommendation as to disciplinary action recommended, or reasons why such action is not recommended. Division heads shall review such recommendations and indicate their concurrence or nonconcurrence in writing.

b. Negligent failure shall include, but not be limited to:

(1) Willful violation of known or established safety regulations or requirements.

(2) Improper operation of an assigned motor vehicle resulting in an accident in which the driver is found at fault.

(3) Conviction of traffic violations (other than parking).

(4) Driving government vehicles while under the influence of intoxicating liquor or drugs.

(5) Violation of a safety regulation that contributed to the accident.

c. Disciplinary action recommended shall be in accordance with criteria contained in AR 690-700, Discipline, Chapter 751.

9. Accident Reporting Integrity. It shall be the responsibility of operating officials to take reasonable steps to insure that all accidents are being properly reported. In any case, where there is doubt as to who is chargeable in an accident, the operating official shall submit an accident report to the S&OH Office, with memorandum outlining facts pertinent to the case, and the decision as to whom is chargeable will be rendered by the proper authority.

10. Exposure Reports. The District is responsible for submitting a combined Safety and Occupational Health Exposure Report each month to HQ USACE by the 12th of each month. Individual office cut-offs should be the 1st of the month to enable your submittal of these statistics to CESAJ-SO no later than the 8th of each month.

a. Report of Government employee manhours. If a temporary office is established (EOC), manhours must be maintained and submitted by that office. The SOH Office obtains all standard government labor from the Resource Management Office.

b. Government civil vehicle mileage. Provided by Logistics Management Office.

c. Rented and Private vehicle mileage for vehicles used on official business. Provided by RM. (F&A Office, Mobile).

d. Report of Contractor Manhours. All field and district staff offices supervising Construction, Service, Dredging, Military contract work or volunteers are required to submit reports of manhours worked by these personnel each month. Manhours worked during the month by each individual prime contractor shall be listed separately on this report with contract number and name of contractor. Specify whether the contract is a construction, service, military, or dredging contract.

e. Man-days for military personnel. Provided by RM-M.

f. Hours of flight and number of landings for owned, leased or contracted (civil/military) aircraft in the Jacksonville District provided by Field Office arranging flights and LM.

g. Visitation days to CE recreation areas. Provided by Natural Resource Management, Con-Ops Division.

h. Man Days of reservists on Active Duty. Provided by Emergency Management, Con-Ops Division.

NOTE: When a report cannot be submitted by mail to reach the S&OH Office in time to meet the deadline date, submit a report by telephone, electronic mail, or facsimile.

SECTION 1
BOARD OF INVESTIGATION (BOI) PROCEDURES

1. A BOI will be appointed on orders by the Division Engineer in the event of:

a. Any accident involving a fatality, permanent partial or permanent total disability or hospitalization of 3 or more Government, contractor, or military personnel or damage of $100,000.00 or more.

b. Any accident that the Chief of the Safety and Occupational Health Office, USACE, Chief of Division or Laboratory S&OH Office, or the FOA Commander determines a Board of Investigation is warranted.

2. The Division Commander appoints BOI members on orders with S&OH Office input. The board will consist of at least three voting members; in addition, non-voting technical advisors will be appointed to facilitate the investigation:

a. The president of the board may be either a field grade officer or DA civilian in the grade of GS-13 or higher.

b. The selection of board members will be based on their ability to analyze accident circumstances, causes, and develop corrective measures to prevent future similar accidents.

c. Board members will not be selected from the element incurring the accident, and members will be screened to ensure no member of the board has an interest in the investigation. However, members from the FOA element may be designated as advisors (non-voting) to facilitate the investigation of the accident.

d. The SOH Specialist for the Antilles office will serve on the board as technical (non-voting) advisor for board investigations in Antilles in all instances except for fatalities. The District SOH Officer will serve on all BOI when a fatality occurs.

e. Counsel for Antilles office is a technical advisor for Board Investigations in Antilles.

f. Both members and advisors will be appointed on orders that specify:

(1) Board members are to be relieved of their regular duties, so they may give first priority to the accident investigation, until such time as the board report is submitted to the FOA Commander for final approval.

(2) Board members and advisors are responsible for following AR 385-40 in safeguarding limited use accident investigation reports.

g. Investigation, analysis, and preparation of board reports will involve only those members and advisors, including their clerical support, specified in the appointment orders. The Board report will not be staffed through or reviewed by other FOA (at any level) elements or individuals.

h. Appointment of the board shall be immediate and the board provided a list of objectives to accomplish. The Board of Investigation report shall be attached to ENG Form 3394 and forwarded through channels within 45 days to SOH office, USACE.

i. The Board of Investigation shall have authority to contact an outside expert to assist with the investigation where warranted. Board members shall be provided open-ended travel orders which shall include provisions for rental vehicles, excess baggage, purchase of materials and supplies and consulting fee authorization.

3. Instructions to government personnel who witness or immediately respond to an accident resulting in a fatality, $100,000.00 or greater property damage, injuries sustained by five or more persons, or as directed by District Engineer.

a. Attend to the injured and notify emergency response personnel.

b. Perform necessary action required to prevent further injury/damage.

c. Do not alter accident scene.

d. Immediately notify element supervisor and S&OH Office.

e. Identify all principal witnesses.

f. Advise witnesses not to discuss the accident amongst themselves.

g. Await further instructions.

4. Action to be taken by S&OH Office personnel in case of accidents as described in paragraph 1 of Section 1 of this appendix.

a. Immediately notify Jacksonville District S&OH Office Chief who in turn notifies District Commander, Division, USACE and U.S. Army Safety Center (USASC).

b. For Antilles; immediately notify DDE.

c. Complete a Report of Serious Accident (ROSA) and transmit to Division and USACE. See sample in Section 3.

d. Provide any necessary input regarding selection of BOI members and advisors.

e. Notify Public Affairs Office (PAO). All media inquiries shall be directed to PAO.

f. Notify government employees at accident site of the arrival date/time of the members of the BOI.

g. Ensure that point of contact (POC) has been identified by name to assist BOI at the accident scene.

h. Serve as technical advisor on BOI.

5. BOI Equipment.

a. BOI members will take the appropriate equipment to conduct the investigation. The BOI accident investigation kit will be provided by the S&OH Office and should contain the following as a minimum:

(1) Camera, film, flash unit and appropriate batteries for both.

(2) Cassette recorder, blank tapes, and batteries.

(3) Directional compass.

(4) 100 feet tape measure.

(5) 12 inch ruler.

(6) Marking pencils, chalk or crayons (suitable for marking pavement).

(7) Tags (adhesive and tie-on type).

(8) Baggies.

(9) Engineering tape (to mark off area).

(10) Writing supplies (pens, pencils, and paper).

(11) Flashlight (spare batteries and bulb).

(12) Appropriate personal protective equipment (PPE) if warranted.

6. Instructions for a Board of Investigation.

a. Essential steps to be taken and reported on in the investigation will include, but not be limited to, the following:

(1) The board will visit the scene of the accident as soon as possible after the accident occurs. A reconstruction of the circumstances is highly desirable if the scene cannot be kept intact from the time of the accident.

(2) Clearly illustrate on drawing or chart all pertinent information of the vicinity.

(3) Take photographs, if practicable. Accompany each with an accurate description.

(4) Statements from witnesses and supervisors should include:

(a) Where the witness was at the time of the accident.

(b) What action, operation, etc., was taking place immediately prior to the time of the accident.

(c) How the accident happened.

(d) Written statements should be signed.

(5) As a minimum, establish the following facts about the accident:

(a) How long employee(s) involved, had been employed on the job.

(b) Was employee(s) qualified to perform his/her assigned duties?

(c) Did employee(s) have any known physical impairments?

(d) Was employee(s) familiar with safety requirements covering his/her work? If so, were safety requirements violated?

(e) What unsafe act or condition caused the accident?

(f) What safety instructions had been given by the supervisor?

(g) Had hazard or safety violation been called to the attention of the supervisor? If so, by whom and when?

(h) Was the equipment involved in safe operating condition? If not, by and to whom had this condition been reported and what action was taken?

(i) How could the accident have been prevented? (Include systematic weaknesses that contributed to mishap).

(j) Describe direct and indirect causes.

(k) Had hazard analysis been completed and accepted for this particular phase of construction?

(6) If conflicting evidence is obtained, secure enough additional evidence from reliable sources to resolve the conflict.

7. Instruction for preparing BOI report.

a. Summarize testimony of witness in the discussion and do not include verbatim statements.

b. The board will resolve conflicts in testimony based on the best available evidence.

c. Identify witnesses only by job title or assignment, such as Area Engineer, carpenter, etc.

d. Conclusions and recommendations each shall be printed on separate pages to facilitate their removal in the event the Board Report is released.

8. Reports of the Board are to include the following information that is applicable to the particular type of accident investigated:

a. General

(1) Board of Investigation authorization and board members.

(2) Classification of accident; name, age, and occupation of deceased; equipment involved; date of accident; name of employer; name and location of project.

b. Description. Give scenario of accident, describing the factual details.

c. Findings. List all relevant factual findings of the investigation.

d. Conclusions. List the board's conclusions as to the causes, direct and indirect, of the accident. With regards to standards and operation procedures, reports will identify the following:

(1) Standards or procedures were incomplete, unclear, impractical, or did not exist.

(2) Standards or procedures exist but were not known or ways to achieve them were not known.

(3) Standards or procedures were known but were not enclosed, and the reasons the standards were not enforced.

(4) Standards or procedures were known but were not followed, and the reasons the standards were not followed.

e. Recommendations. For each causal factor, direct or indirect, the board will recommend actions to preclude their future occurrence. As appropriate, recommendations will target all levels of involvement, i.e., employee, supervisory, managerial; FOA, division, or headquarters, USACE levels; Corps and contractor.

f. Signatures. All members of the Board.

g. Abstract Report. An abstract of the accident in the following format, which will only include factual information:

(1) Type of location (construction site-trench, highway-four lane, maintenance yard-flammable storage area, etc.).

(2) Date and Time of the accident.

(3) Agent directly causing the accident (trench, passenger vehicle, flammable liquid, etc.).

(4) Personnel and equipment categories (USACE, contractor, etc.).

(5) Description of the Accident.

(6) Nature and number of injuries and property damage.

(7) Causes, direct and indirect.

(8) Remarks.

(9) Recommendations for corrective actions to preclude future occurrences of similar accidents (one for each direct and indirect cause identified in (7).

h. Appendices. The report should include photographs, sketches, diagrams and other exhibits such as inspection reports, accident prevention programs, training documents, etc., necessary to present a clear picture.

9. The Board chairperson will send all reports of Board of Investigation to the Chief, S&OH Office. Four copies are required.

10. Recommendations and Findings. The Chief, S&OH Office is designated to review and make recommendations on the findings and recommendations of the Board. He will ensure that each report meets the following criteria:

a. Was the true cause of the accident identified?

b. Were the necessary significant engineering factors and system errors brought to light?

c. Was realistic corrective action recommended?

d. Has recommended corrective action been taken by the responsible personnel?

e. If the major reason/cause of the accident was human error the following will be identified:

(1) Required safety or health standards were not clear or practical, or did not exist.

(2) Standards exist but were not known, or ways to achieve them were not known.

(3) Standards were known but not enforced.

(4) Standards were known but not followed.

11. Disposition. The Chief, S&OH Office will submit the report of the board in it's final form to the District Commander for review, comments, and approval before forwarding with final ENG Form 3394 through channels to the Chief of Engineers. The original and two copies of the report will be forwarded to reach HQ USACE (CESO) WASH DC 20314-1000 not later than 45 calendar days following the accident. The report is to reach the Division Commander within 30 calendar days of the accident in order to reach USACE within the 45 day limit. NTSB (National Transportation Safety Board) or CG (Commanding General) reports will be forwarded no later than 10 calendar days following release by the investigating agency. The cover letter, signed by the Commander, and endorsements, signed by the intermediate Commander, should include:

a. Concurrence or nonconcurrence in each recommendation.

b. Actions taken or to be taken to implement each recommendation concurred with by the FOA and if endorsed by the Division Commander. The actions taken to implement the recommendations by other districts within the division.

c. The dates corrective action will be effective or completely implemented.

d. Additional alternative preventative measures, as appropriate.

APPENDIX H
REPORT OF HAZARD, UNSAFE CONDITION, OR PRACTICE

1. Purpose. The purpose of this appendix is to provide all employees with a practical means of reporting hazards, unsafe conditions, or practices encountered while on the job.

2. Applicability. All employees of the Jacksonville District.

3. General.

a. DA Form 4755, 1 October 1978, Employee Report of Alleged Unsafe or Unhealthful Working Conditions, is for the use of all employees. When an employee recognizes an unsafe condition or practice which cannot be corrected by themselves or their supervisor, he/she should complete DA Form 4755 and forward it to the Safety and Occupational Health Office (S&OH Office) for review and determination. A copy of this form is enclosed for your reference.

b. If the employee is dissatisfied with the determination, he/she may appeal the decision to the Division S&OH Office. If he/she is still dissatisfied, he/she may forward it to the OCE S&OH Office; and if still dissatisfied he/she may forward it to the Army Director of Safety; and finally, if still dissatisfied, he/she may appeal to the Office of Federal Agency Programs, U.S. Department of Labor. In the latter case, his/her request should be in writing to the Assistant Secretary of Defense (Manpower and Reserve Affairs), Washington, D.C. 20301, describing in detail the entire processing of the report and the setting forth of his/her objections thereto. All correspondence will be submitted through regular channels.

c. Nothing in this procedure should be considered to deter an employee from making a report of an unsafe or unhealthy working condition to his immediate supervisor. However, an employee may request that his/her name be withheld from the supervisor if he/she submits a notice of unsafe conditions to the designated safety official or to the Department of Labor. The Occupational Safety and Health Act of 1970 gives an employee assurance that no discriminatory or discharge action will be taken against any employee who exercises his/her rights under the Act.

4. Forms. A supply of DA Form 4755 may be obtained through normal requisitioning channels.

APPENDIX I
SAFETY CHECKLISTS

1. SAD Form 1437a-R (dated Mar 97), "Safety Survey Checklist for Floating Plant, General Requirements." A copy of this form is enclosed at the end of this appendix for your reference.

a. A safety survey shall be made of each major piece of floating plant (dredge, derrick boat, fuel barge, tug, etc.) prior to the start of each contractor project when floating plant is used. SAD Form 1437a-R, "Safety Survey Checklist For Floating Plant," will be used to record this survey before any item of floating plant is placed into use. This survey will be conducted by qualified government employees for hired labor operations. A qualified contractor employee shall complete the survey on contractor operations, but in all cases, the survey will be spot checked by a qualified government representative. Government owned floating plant shall be inspected annually pursuant to paragraphs 7-8.a. and 7-8.b. of ER 1130-2-500 and paragraph 7-14.a. pf EP 1130-2-500.

b. A copy of the completed form shall be filed in the government project office and the contractor's project office until the particular project has been completed. Safety deficiencies noted during the check will be corrected before equipment is permitted to start work.

c. In the event that a piece of floating plant is involved in an accident or experiences a breakdown requiring major repairs during the project or contract, another survey shall be made and another SAD Form 1437a-R will be completed for that piece of floating plant.

2. SAD Form 1437b-R (dated Mar 97), "Safety Checklist for Launches, Motorboats and Skiffs." A copy of this form is enclosed at the end of this appendix for your reference.

a. A safety survey shall be conducted for each launch, motorboat or skiff prior to the start of the contract when these pieces of equipment will be used on-site. The survey will be completed by qualified personnel in accordance with the provisions of paragraph 1a. above.

b. A copy of the completed checklist shall be filed with the government project office and contractor project office until the project is completed. All deficiencies noted during the inspection will be corrected prior to the equipment be placed in service at the job site.

c. In the event that a piece of equipment is involved in an accident or experience a breakdown requiring major repairs, another survey shall be performed using SAD Form 1437b-R for each piece of equipment.

3. SAD Form 1666a-R (dated Mar 97), "Safety Checklist for Crawler, Truck and Wheel Mounted Cranes." A copy of this form is enclosed at the end of this appendix for your reference.

a. A safety inspection shall be made of each crawler, truck or wheel mounted crane prior to the start of contractor operations, when such piece of equipment is to be used. SAD Form 1666a-R, "Safety Checklist for Crawler, Truck and Wheel Mounted Cranes," will be used to record the result of this inspection on government-hired labor projects and the government hired labor project engineer shall conduct a spot inspection of contractor equipment. Government-hired labor or maintenance projects shall be inspected annually.

b. An SAD Form 1666a-R shall be completed by a qualified contractor employee and provided to the government prior to the use of the equipment. A copy of the completed form shall be maintained in the government project office and in the official contract file. Safety deficiencies noted on the inspection shall be corrected prior to that particular piece of equipment being placed into use and the notation of such correction made on the SAD Form 1666a-R.

c. In the event that a piece of mobile heavy equipment is involved in an accident or experiences a breakdown requiring major repairs during the project or contract, another inspection shall be made and the SAD Form 1666a-R will be updated for that piece of equipment.

d. In the event that a piece of mobile heavy equipment is involved in an accident or experiences a breakdown requiring

major repairs during the project or contract, another inspection shall be made and the SAD Form 1666a-R will be updated for that piece of equipment.

4. SAD Form 1666b-R (dated Mar 97), "Safety Checklist for Portal, Tower, and Pillar Cranes." A copy of this form is enclosed at the end of this appendix for your reference.

a. A safety survey shall be conducted using SAD Form 1666b-R for each portal, tower or pillar crane prior to the start of the contract when these pieces of equipment will be used on-site. The survey will be completed by qualified personnel in accordance with the provisions of paragraph 2b. above.

b. An SAD Form 1666b-R shall be completed prior to the use of the equipment. A copy of the completed form shall be maintained in the government project office and in the official contract file. Safety deficiencies noted on the inspection shall be corrected prior to that particular piece of equipment being placed into use and the notation of such correction made on the SAD Form 1666b-R.

c. In the event that a piece of mobile heavy equipment is involved in an accident or experiences a breakdown requiring major repairs during the project or contract, another inspection shall be made and the SAD Form 1666b-R will be updated for that piece of equipment.

5. SAD Form 1666c-R (dated Mar 97), "Safety Checklist for Rigging." A copy of this form is enclosed at the end of this appendix for your reference.

a. A safety survey shall be conducted using SAD Form 1666c-R for each piece of rigging prior to the start of the contract when rigging equipment will be used on-site. The survey will be completed by qualified personnel in accordance with the provisions of paragraph 2b. above.

b. An SAD Form 1666c-R shall be completed prior to the use of the Rigging. A copy of the completed form shall be maintained in the government project office and in the official contract file. Safety deficiencies noted on the inspection shall be corrected prior to that particular piece of equipment being

placed into use and the notation of such correction made on the SAD Form 1666c-R.

c. In the event that a piece of rigging equipment is involved in an accident or experiences a breakdown requiring major repairs during the project or contract, another inspection shall be made and the SAD Form 1666c-R will be updated for that piece of rigging.

6. SAD Form 1666d-R (dated Mar 97), "Safety Checklist for Motor Vehicles, Trailers and Trucks." A copy of this form is enclosed at the end of this appendix for your reference.

a. A safety survey shall be conducted using SAD Form 1666d-R for each motor vehicle, truck, or trailer prior to the start of the contract when these pieces of equipment will be used on-site. The survey will be completed by qualified personnel in accordance with the provisions of paragraph 2b. above.

b. An SAD Form 1666d-R shall be completed prior to the use of the equipment. A copy of the completed form shall be maintained in the government project office and in the official contract file. Safety deficiencies noted on the inspection shall be corrected prior to that particular piece of equipment being placed into use and the notation of such correction made on the SAD Form 1666d-R.

c. In the event that a piece of equipment is involved in an accident or experiences a breakdown requiring major repairs during the project or contract, another inspection shall be made and the SAD Form 1666d-R will be updated for that piece of equipment.

7. SAD Form 1666e-R (dated Mar 97), "Safety Checklist for Crawler Tractors and Dozers." A copy of this form is enclosed at the end of this appendix for your reference.

a. A safety survey shall be conducted using SAD Form 1666e-R for each crawler tractor and dozer prior to the start of the contract when these pieces of equipment will be used on-site. The survey will be completed by qualified personnel in accordance with the provisions of paragraph 2b. above.

b. An SAD Form 1666e-R shall be completed prior to the use of the equipment. A copy of the completed form shall be maintained in the government project office and in the official contract file. Safety deficiencies noted on the inspection shall be corrected prior to that particular piece of equipment being placed into use and the notation of such correction made on the SAD Form 1666e-R.

c. In the event that a piece of equipment is involved in an accident or experiences a breakdown requiring major repairs during the project or contract, another inspection shall be made and the SAD Form 1666e-R will be updated for that piece of equipment.

8. SAD Form 1666f-R (dated Mar 97), "Safety Checklist for Scrapers, Motor Graders, and Other mobile Equipment." A copy of this form is enclosed at the end of this appendix for your reference.

a. A safety survey shall be conducted using SAD Form 1666f-R for each Scraper, motor grader or miscellaneous piece of equipment prior to the start of the contract when these pieces of equipment will be used on-site. The survey will be completed by qualified personnel in accordance with the provisions of paragraph 2b. above.

b. An SAD Form 1666f-R shall be completed prior to the use of the equipment. A copy of the completed form shall be maintained in the government project office and in the official contract file. Safety deficiencies noted on the inspection shall be corrected prior to that particular piece of equipment being placed into use and the notation of such correction made on the SAD Form 1666f-R.

c. In the event that a piece of equipment is involved in an accident or experiences a breakdown requiring major repairs during the project or contract, another inspection shall be made and the SAD Form 1666f-R will be updated for that piece of equipment.

9. SAD Form 1666g-R (dated Mar 97), "Safety Checklist for Material Hoists." A copy of this form is enclosed at the end of this appendix for your reference.

a. A safety survey shall be conducted using SAD Form 1666g-R for each material hoist prior to the start of the contract when these pieces of equipment will be used on-site. The survey will be completed by qualified personnel in accordance with the provisions of paragraph 2b. above.

b. An SAD Form 1666g-R shall be completed prior to the use of the equipment. A copy of the completed form shall be maintained in the government project office and in the official contract file. Safety deficiencies noted on the inspection shall be corrected prior to that particular piece of equipment being placed into use and the notation of such correction made on the SAD Form 1666g-R.

c. In the event that a piece of equipment is involved in an accident or experiences a breakdown requiring major repairs during the project or contract, another inspection shall be made and the SAD Form 1666g-R will be updated for that piece of equipment.

10. SAD Form 1666h-R (dated Mar 97), "Safety Checklist for Earth Drilling Equipment." A copy of this form is enclosed at the end of this appendix for your reference.

a. A safety survey shall be conducted using SAD Form 1666h-R for each piece of earth drilling equipment prior to the start of the contract when these pieces of equipment will be used on-site. The survey will be completed by qualified personnel in accordance with the provisions of paragraph 2b. above.

b. An SAD Form 1666h-R shall be completed prior to the use of the equipment. A copy of the completed form shall be maintained in the government project office and in the official contract file. Safety deficiencies noted on the inspection shall be corrected prior to that particular piece of equipment being placed into use and the notation of such correction made on the SAD Form 1666h-R.

c. In the event that a piece of equipment is involved in an accident or experiences a breakdown requiring major repairs during the project or contract, another inspection shall be made and the SAD Form 1666h-R will be updated for that piece of equipment.

11. CESAJ Form 1261 (dated Jul 98), "Safety Checklist for Tree Work, Maintenance or Removal Operations." A copy of this form is enclosed at the end of this appendix for your reference.

a. A safety survey shall be conducted using CESAJ Form 1261 for each operation involving tree work, maintenance or removal prior to the start of the contract when these operations will be used on-site. The survey will be completed by qualified personnel in accordance with the provisions of paragraph 2b. above.

b. A CESAJ Form 1261 shall be completed prior to the operation. A copy of the completed form shall be maintained in the government project office and in the official contract file. Safety deficiencies noted on the inspection shall be corrected prior to that particular operation being performed and the notation of such correction made on the CESAJ Form 1261.

c. In the event that the operation is involved in an accident during the project or contract, another inspection shall be made and the CESAJ Form 1261 will be updated for that operation.

12. CESAJ Form 1262 (dated Jul 98), "Safety Checklist for Temporary Electrical Wiring." A copy of this form is enclosed at the end of this appendix for your reference.

a. A safety survey shall be conducted using CESAJ Form 1262 for each temporary electrical wiring scheme prior to the start of the contract when these pieces of temporary wirings will be used on-site. The survey will be completed by qualified personnel in accordance with the provisions of paragraph 2b. above.

b. A CESAJ Form 1262 shall be completed prior to the use of temporary electrical wiring. A copy of the completed form shall be maintained in the government project office and in the official contract file. Safety deficiencies noted on the inspection shall be corrected prior to that particular temporary wiring being placed into use and the notation of such correction made on the CESAJ Form 1262.

c. In the event that a temporary electrical wiring scheme is involved in an accident or experiences a breakdown requiring

major repairs during the project or contract, another inspection shall be made and the CESAJ Form 1262 will be updated for that piece of temporary electrical wiring.

13. CESAJ Form 1263 (dated Jul 98), "Safety Checklist for Power Bench Tools." A copy of this form is enclosed at the end of this appendix for your reference.

a. A safety survey shall be conducted using CESAJ Form 1263 for each power bench tool scheme prior to the start of the contract when these pieces of equipment will be used on-site. The survey will be completed by qualified personnel in accordance with the provisions of paragraph 2b. above.

b. A CESAJ Form 1263 shall be completed prior to the use of the equipment. A copy of the completed form shall be maintained in the government project office and in the official contract file. Safety deficiencies noted on the inspection shall be corrected prior to that particular piece of equipment being placed into use and the notation of such correction made on the CESAJ Form 1263.

c. In the event that a power bench tool is involved in an accident or experiences a breakdown requiring major repairs during the project or contract, another inspection shall be made and the CESAJ Form 1263 will be updated for that piece of equipment.

14. CESAJ Form 1264 (dated Jul 98), "Safety Checklist for Portable Electric Handtools." A copy of this form is enclosed at the end of this appendix for your reference.

a. A safety survey shall be conducted using CESAJ Form 1264 for each portable electric handtool prior to the start of the contract when these pieces of equipment will be used on-site. The survey will be completed by qualified personnel in accordance with the provisions of paragraph 2b. above.

b. A CESAJ Form 1264 shall be completed prior to the use of potable electric handtools. A copy of the completed form shall be maintained in the government project office and in the official contract file. Safety deficiencies noted on the inspection shall be corrected prior to that particular piece of

equipment being placed into use and the notation of such correction made on the CESAJ Form 1264.

c. In the event that a portable electric handtool is involved in an accident or experiences a breakdown requiring major repairs during the project or contract, another inspection shall be made and the CESAJ Form 1264 will be updated for that piece of equipment.

15. CESAJ Form 1265 (dated Jul 98), "Safety Checklist for Portable Air Compressors." A copy of this form is enclosed at the end of this appendix for your reference.

a. A safety survey shall be conducted using CESAJ Form 1265 for each portable air compressor prior to the start of the contract when these pieces of equipment will be used on-site. The survey will be completed by qualified personnel in accordance with the provisions of paragraph 2b. above.

b. A CESAJ Form 1265 shall be completed prior to the use of portable air compressors. A copy of the completed form shall be maintained in the government project office and in the official contract file. Safety deficiencies noted on the inspection shall be corrected prior to that particular piece of equipment being placed into use and the notation of such correction made on the CESAJ Form 1265.

c. In the event that a portable air compressor is involved in an accident or experiences a breakdown requiring major repairs during the project or contract, another inspection shall be made and the CESAJ Form 1265 will be updated for that piece of equipment.

16. CESAJ Form 1266 (dated Jul 98), "Safety Checklist for Pile Drivers." A copy of this form is enclosed at the end of this appendix for your reference.

a. A safety survey shall be conducted using CESAJ Form 1266 for each pile driver prior to the start of the contract when these pieces of equipment will be used on-site. The survey will be completed by qualified personnel in accordance with the provisions of paragraph 2b. above.

b. A CESAJ Form 1266 shall be completed prior to the use of pile drivers. A copy of the completed form shall be maintained in the government project office and in the official contract file. Safety deficiencies noted on the inspection shall be corrected prior to that particular piece of equipment being placed into use and the notation of such correction made on the CESAJ Form 1266.

c. In the event that a pile driver is involved in an accident or experiences a breakdown requiring major repairs during the project or contract, another inspection shall be made and the CESAJ Form 1266 will be updated for that piece of equipment.

SAFETY CHECKLIST FOR FLOATING PLANT	
Contract # and title:	
Contractor:	Subcontractor:
Plant Name:	Owner:
Superintendent:	Captain:
Engineer:	Number in crew:
Contract inspector:	Date inspected:

	Yes	No	N/A
1. Is a copy of the current USCG Form 835 available for plants regulated by USCG? (19.A.01)			
2. Is documentation of an accredited marine surveyor (SAMS or NAMS) available for non USCG inspected plants? (19.A.01)			
3. Do all officers and crew posses an appropriate USCG license or USACE license and certification? (19.A.02)			
4. Are periodic inspections and test records of all floating plant, equipment, and machinery available as part of the official project file? (19.A.01)			
5. Is there a severe weather plan which contains the following available? (19.A.03) a. a description of potential types of severe weather hazards and steps to guard against the hazards? b. the time frame for implementing the plan? c. the name and location of the safe harbor? d. the name of the vessels which will be used to move any non-self propelled plant, and their type, capacity, speed, and availability? e. river gage readings at which floating plant must be moved away from dams, river structures, etc., to safe areas?			

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	Yes	No	N/A
6. Is the station bill conspicuously posted throughout the vessel? (19.A.04)			
7. Has each crew member been given a written description of their emergency duties and are they familiar with them? (19.A.04)			
8. Have the following drills and tests been recorded in the station log? (19.A.04) a. abandon ship drill? b. fire drill? c. man overboard drill? d. pump shell or pipe rupture? e. hull failure? f. emergency power and lighting tests? g. bimonthly emergency power generator tests? h. bimonthly emergency lighting storage batteries tests?			
9. Are material safety data sheets(MSDSs) available for all hazardous materials on board? 06.B.01)			
10. Are employees trained to handle hazardous materials? (06.B.01)			
11. Are at least two employees on each shift certified in CPR and first aid? (03.A.02)			
12. Is there a first aid log at each first aid station? (01.D.04)			
13. Are first aid kits located in a readily accessible location and adequately stocked? (03.B.01 & .02)			
14. Is there an adequate supply of approved, potable drinking water available? (02.A.01)			
15. Are outlets dispensing non-potable water clearly marked "Water Unfit for Drinking, Washing or Cooking"? (02.A.07)			
16. Are the proper numbers of toilets, washbasins and showers provided? (02.B.06 & .07)			

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	Yes	No	N/A
17. Are water, soap, and a means of drying available? (02.C.02)			
18. Is the latest information published by the USCG regarding aids to navigation available on board the vessel? (19.A.11)			
19. Is the vessel equipped with: (19.A.05) a. fenders? b. axes or other emergency cutting equipment? c. an appropriate navigational signal device? d. general alarm system operated from primary electrical system with standby batteries on trickle charge? e. easily accessible emergency controls that are adequately protected against accidental operation? f. explosion-proof lights around gasoline and oil barges or other locations where a fire or explosive hazard exists? g. interconnected emergency alarms? h. smoke alarms in living quarters? i. doors that open from both sides? j. clearly marked emergency exits? k. emergency stops for prime movers operating a dredge pump? l. GFCI protection on grounded 120 or 240 volt systems in toilet/shower spaces, galley, machinery spaces, weather deck, exterior or near any sinks? m. properly maintained and identified water tight compartments?			
20. Fuel systems: (19.A.06) a. Are tanks or lines free of gauge glasses or try cocks? b. Do all fuel tanks have shutoff valves that can be operated outside the compartment in which the tank is located and outside the engine compartment and outside the house bulkheads at or above the weather deck? c. Is there a shut off valve at the engine end of the fuel lines that are 6 feet or more in length and can it be operated from outside the house bulkheads at or above the weather deck? overboard discharge?			

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	Yes	No	N/A
d. Are all carburetors on gasoline engines equipped with a backfire trap or flame arrestor? e. Are all carburetors (except downdraft type) equipped with a drip pan, with flame screen, which is continuously emptied by suction from the intake manifold or if permitted by the overboard discharge? f. Are fuel storage tanks diked or curbed IAW NAVFAC DM-22? If not are portable tanks used IAW USCG requirements in 46CFR Parts 64 and 98.3?			
21. Are cables which cross the waterways between floating plants or between plant and mooring marked? (19.A.07)			
22. Is there a fire and emergency warning system (or an established fire watch) on all vessels where people are quartered? (19.A.07)			
23. Are all floors, decks, and bilge's free of accumulation of fuel and grease? (19.A.07)			
24. Are there holdbacks or rings available to secure equipment during rough weather? (19.A.07)			
25. Are all deck openings, elevated surfaces, and similar locations provided with guardrails, bulwarks, or taut cable guardlines? (19.A.07)			
26. Are all rotating machinery, hot pipes, and moving cables guarded against accidental contact? (16.B.03)			
27. Are hazardous energy control procedures available to insure that machinery will not be operated while greasing or making repairs? (12.A.01 & 16.A.08)			
28. Are decks free of tripping hazards? or dequately marked in yellow? (19.A.07)			
29. Is all deck cargo carried on fuel barges placed on dunnage? (19.A.07)			
30. Are all pieces of floating plants operating as one unit securely fastened together with no openings(or with guarded openings)? (19.A.07)			
31. Is there a list of confined spaces available? (19.A.08)			

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	Yes	No	N/A
32. Are all permitted required confined spaces labeled? (19.A.08)			
33. Are engine spaces housing internal combustion engines having electric spark ignition systems equipped with exhaust fans? (19.A.10)			
34. Are all machinery spaces and non-diesel fuel tanks compartments equipped with at least 2 ventilators, fitted with fans? (19.A.10)			
35. Are the following spaces provided with an adequate natural ventilation system? (19.A.10) a. spaces containing a portable fuel tank? b. living spaces or galley? c. other compartment spaces?			
36. Do vent intakes extend to within 1 foot of the bottom of the compartment? (19.A.10)			
37. Is suitable eye protection provided at battery charging stations? (05.B.01 & .05)			
38. Are eye wash stations provided at battery charging stations? (6.B.02)			
39. Are flammable items such as paint and thinners properly stored? (9.B)			
40. Are gasoline and other flammable liquids properly stored, dispensed, and handled? (09.B.01-.30)			
41. Does all electrical wiring meet requirements of USCG-259, the National Electrical Safety Code and the National Electric Code? (11.A.01)			
42. Are insulated mats provided at locations where machinery has exposed live parts? (11.A.07)			
43. Are switch and transformer banks adequately protected and marked to keep unauthorized personnel out of the danger area? (11.A.02)			
44. Are portable electric tools grounded by a multiconductor cord with an identified conductor and a multicontact polarized plug-in receptacle? (11.C.01)			

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	Yes	No	N/A
45. Are ground fault circuit interrupters provided in locations where portable tools could be used? (11.C.05)			
46. Are flexible cords protected in work area, appropriately secured or suspended and are they used for appropriate useages. (11.A.03 and Table 11-1?)			
47. Are all means of access properly secured, guarded and free of slipping and tripping hazards? (19.B.01)			
48. Are all working decks, stair treads, ship ladders, platforms, catwalks, and walkways, provided with non-slip surfaces? (19.B.01)			
49. Are grab bars provided on the sides of super structure of tugs, tenders, and launches except where railings are present? (19.B.01)			
50. Are double rung or flat tread type Jacob's ladders restricted to use only when no safer form of access is practical? (19.B.01)			
51. Is there a safe means for boarding or leaving the vessel? (19.B.02)			
52. Is there a stairway, ladder, ramp, gangway, or personnel hoist provided at all personnel points of access with breaks of 19" or more in elevation? (19.B.02)			
53. Are gangways and ramps: (19.B.02) a. secured at one end by at least one point on each side with lines or chains to prevent overturning? b. supported at the other end in such a manner as to support them and their normal loads in the event they slid off their supports? c. placed at an angle no greater than that recommended by the manufacturer? d. provided with a standard guardrail?			
54. Are stairs or permanent inclined ladders provided for vertical access between decks? (9.B.03)			

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	Yes	No	N/A
55. Is there at least 2 feet of clearance on outboard edges used for passageways? (19.B.3)			
56. Is the vessel equipped with at least one portable or permanent ladder with which to rescue a person in the water? (19.B.04)			
57. Are there at least 2 means of escape from all assembly, sleeping and messing areas on the plant? (19.B.04)			
58. Are all means of access maintained safe and functional? (19.B.04)			
59. Are all floating pipelines used as walkways equipped with a walkway which is at least 20" wide and has a handrail on at least one side? (19.B.05)			
60. Are floating pipelines that are not intended as walkways barricaded on both ends?(19B.05)			
61. Are positive measures taken to raise and secure the ladder and to block suction and discharge lines during maintenance on pumps and suction or discharge lines? (19.D.01)			
62. Do floating or trestle supported dredge pipelines display the following lights at night and in periods of restricted visibility: (19.D.02) a. One row of yellow lights that : (1) flash 50-70 times per minute? (2) are visible all around the horizon? (3) are visible for at least 2 miles on a clear night? (4) are between 3-10 feet above the water? (5) are approximately evenly spaced? (6) are not more than 30 feet apart where the pipeline crosses a navigable channel? (7) are sufficient in number to clearly show the pipeline's length and course? b. two red lights at each end of the pipeline (including ends in a channel where the pipeline is separated to allow vessels to pass) that: (1) are visible all around the horizon? (2) are visible for at least 2 miles on a clear dark night? (3) are 3 feet apart in a vertical line with the lower light at the same height above the water as the flashing yellow light?			

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	Yes	No	N/A
63. Is the dredge designed such that a failure or rupture of any dredge pump component including the pipe shall not cause the dredge to sink? (19.D.04)			
64. Is submerged pipeline resting on the bottom where it crosses the navigation channel and is it and the anchoring system no higher than the required project depth? (19.D.03)			
65. Is buoyant or semi-buoyant pipeline fully submerged and on the bottom? (19.D.03)			
66. Is raised pipeline adequately marked? (19.D.03)			
67. Is a bilge alarm or shutdown interface available on any dredge with the dredge pump below the waterline? (19.D.07)			
68. Are two positive means available to secure "stone boxes" when the boxes are under positive pressure? (19.D.08)			
69. Remarks: (Enter actions taken for "no" answers.)			
Contractor inspector signature			
Contractor QC/safety officer/project manager signature			

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SAFETY CHECKLIST FOR CRAWLER, TRUCK & WHEEL MOUNTED CRANES

Contract # and title:	
Equipment name & number: owned or leased?	
Contractor:	Subcontractor:
Contract Inspector:	Date inspected:

	Yes	No	N/A
1. Unless the manufacturer has specified an on-rubber rating, outriggers will be fully extended and down? (16.D.10)			
2. Are lattice boom cranes equipped with a boom angle indicator, load indicating device, or a load moment indicator? (16.D.01)			
3. Are lattice boom and hydraulic cranes equipped with a means for the operator to visually determine levelness? (16.D.02)			
4. Are lattice boom and hydraulic cranes, except articulating booms cranes, equipped with drum rotation indicators located for use for the operator? (16.D.03)			
5. Are lattice boom and hydraulic mobile cranes equipped with a boom angle or radius indicator within the operator's view? (16.D.04)			
6. Are lattice boom cranes, with exception of duty cycle cranes, equipped with an anti-two blocking device? (16.D.05)			
7. When duty cycle machines are required to make a non-duty lift, is the crane equipped with an international orange warning device and is a signal person present? (16.D 05)			
8. Are the following with the crane at all times: (16.C.02) a. the manufacturer's operating manual? b. the load rating chart? c. the crane's log book documenting use, maintenance, inspections and tests? d. operating manual for crane operator aids used on the crane.			

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	Yes	No	N/A
9. Are the following on the project site: a. completed periodic inspection report prior to initial work? (16.C.12) b. pre-operational checklist used for daily inspection? (16.C.12) c. written reports of the operational performance test? (16.C.13) d. written reports of the load performance test? (16.C.13)			
10. Are all operators physically qualified to perform work? (16.C.05)			
11. Are all operators qualified by written and practical exam or by appropriate licensing agency for the type crane they are to operate? (16.C.05)			
12. Is the crane designed and constructed IAW the standards listed in Table 16-1? (16.C.06)			
13. Is a hazard analysis for set-up and set-down available? (16.C.08)			
14. Are accessible areas within the swing radius of the rear of the crane barricaded? (16.C.09)			
15. Are there at least 3 wraps of cable on the drum? (16.C.10)			
16. Are the hoisting ropes installed IAW the manufacturer's recommendations? (16.C.10)			
17. Are critical lift plans available? (16.C.18)			
18. Are minimum clearance distance for high voltage lines posted at the operator's position? (11.E.04)			
19. Do older lattice boom cranes with anti-two block warning devices in lieu of anti-two block prevention devices have a written exemption? (16.D.05)			
20. Is the slow moving emblem used on all vehicles which by design move at 25 MPH or less on public roads? (08.A.04)			
21. Are all vehicles which will be parked or moving slower than normal traffic on haul roads equipped with a yellow flashing light or flasher visible from all directions? (16.A.13)			

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	Yes	No	N/A
22. Is all equipment to be operated on public roads provided with: (16A.07) a. headlights? b. brake lights? c. taillights? d. back-up lights? e. front and rear turn signals?			
23. Are seat and seat belts provided for the operator and each rider on equipment? (16.A.07 and 16.B.08)			
24. Is all equipment with windshields equipped with powered wipers and defogging or defrosting devices? (16.A.07)			
25. Is the glass in the windshield or other windows clear and unbroken to provide adequate protection and visiblity for the operator? (16.A.07, 16.B.10)			
26. Is all equipment equipped with adequate service brake system and emergency brake system? (16.A.18)			
27. Are areas on equipment where employees walk or climb equipped with platforms, footwalks, steps, handholds, guardrails, toeboards and non-slip surfaces? (16.B.03)			
28. Is all self propelled equipment equipped with automatic, audible, reverse signal alarms? (16.B.01)			
29. Is there a record of manufacturer's approval of any modification of equipment which affects its capacity or safe operation? (16.A.18)			
30. Are truck and crawler cranes attached to a barge or pontoon by a slack tiedown system? (16.F.06)			
31. Have the following conditions been met for land cranes mounted on barges or pontoons: (16.F.04) a. Have load ratings been modified to reflect the increased loading from list, trim, wave, and wind action? b. Are all deck surfaces above the water? c. Is the entire bottom area of the barge or pontoon submerged? d. Are tie downs available? e. Are cranes blocked and secured?			
32. Are all belts, gears, shafts, spindles, drums, flywheels, or other rotating parts of equipment guarded where is a potential for exposure to workers? (16.B.03)			

	Yes	No	N/A
33. Is the area where the crane is to work level, firm and secured? (16.A.10)			
34. Is a dry chemical or carbon dioxide fire extinguisher rated at least 5-B:C on the crane? (16.A.26)			
35. Are trucks, for truck mounted cranes, equipped with a working reverse signal alarm? (16.B.01)			
36. Is a signal person provided where there is danger from swinging loads, buckets, booms, etc.? (16.B.13)			
37. Is there adequate clearance from overhead structures and electrical sources for the crane to be operated safely? (16.C.09)			
38. Is there adequate lighting for night operations? (16.C.19)			
39. Has the the boom stop test on cable-supported booms been performed? (16.D.06)			
40. Is the boom disenaging device functioning as required? (16.D.06)			
41. Has all rigging and wire rope been inspected? (Section 15)			
Remarks: (Enter actions taken for all "no" answers.)			
Contractor inspector signature			
Contractor QC/safety officer/project manager signature			

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SAFETY CHECKLIST FOR PORTAL, TOWER, AND PILLAR CRANES

Contract # and Title:	
Equipment name & number: owned or leased?	
Contractor:	Subcontractor:
Contract Inspector:	Date Inspected:

	Yes	No	N/A
1. Are the following available: (16.E.02) a. written erection instructions? b. listing of the weight of each component? c. an activity hazard analysis for the erection? d. does the activity hazard analysis contain (1.) location of crane and adjacent structures? (2.) foundation design and construction requirements? (3.) clearance and bracing requirements?			
2. Is there a boom angle indicator within the operator's view? (16.E.04)			
3. Are luffing jib cranes equipped with: (16.E.05) a. shock absorbing jib stops? b. jib hoist limit switch? c. jib angle indicator visible to operator?			
4. If used, do rail clamps have slack between the point of attachment to the rail and the end fastened to the crane? (16E.06)			
5. Are the following with the crane at all times: (16.C.02) a. the manufacturer's operating manual? b. the load rating chart? c. the crane's log book documenting use, maintenance, inspections and tests? d. the operating manual for crane operational aids used on the crane?			

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	Yes	No	N/A
6. Are the following on the project site: a. completed periodic inspection report prior to initial work? (16.C.12) b. pre-operational checklist used for daily inspections? (16.C.12) c. written reports of the operational performance tests? (16.C.13) d. written reports of the load performance tests? (16.C.13)			
7. Is every crane operator certified by a physician to be physically qualified to perform work? (16.C.05)			
8. Are all operators qualified by written and practical exam or by appropriate licensing agency for the type crane they are to operate? (16.C.05)			
9. Is the crane designed and constructed IAW the standards listed in Table 16-1? (16.C.05)			
10. Is a hazard analysis for set-up and set-down available? (16.C.08)			
11. Are there at least 3 wraps of cable on the drum? (16.C.10)			
12. Are the hoisting ropes installed IAW the manufacturer's recommendations? (16.C.10)			
13. Is the a record of manufacturer's approval of any modification of equipment which affects its capacity or safe operation? (16.A.07)			
5. Remarks: (Enter actions taken)			
Contractor inspector signature			
Contractor QC/safety officer/project manager signature			

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SAFETY CHECKLIST FOR RIGGING

Contract # and title:				
Equipment name & number: owned or leased?				
Contractor	Subcontractor:			
Contractor inspector:	Date inspected:			
		Yes	No	N/A
1. Has all defective rigging been removed? (15.A.01)				
2. Is rigging stored properly? (15.A.01)				
3. Are running lines within 6.5' of the ground or working level guarded? (15.A.03)				
4. Are all eye splices made in an approved manner with rope thimbles? (sling eyes excepted) (15.A.04)				
5. Are positive latching devices used to secure loads? (15.A.05)				
6. Are all custom lifting accessories marked to indicate their safe working loads? (15A.07)				
7. Are all custom designed lifting accessories proof-tested to 125% of their rated load? (15.A.07)				
8. Are the following conditions met for wire rope: (15.B.01-09) a. Are they free of rust or broken wires? b. Are defective ropes cut up or marked as unusable? c. Do rope clips attached with U-bolts have the U-bolts on the dead end or short end of the rope? d. Are protruding ends of strands in splices on slings and bridles covered or blunted? e. Except for eye splices in the end of wires and for all endless wire rope slings, are all wire ropes used in hoisting, lowering, or pulling loads one continuous piece, free of knots or splices?				

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	Yes	No	N/A
f. Do all eye splices have at least 5 full tucks? g. If used, are wedge sockets fastening attached without attached the dead end of the wire rope to the live rope? h. Are they free of eyes or splices formed by wire rope clips or knots?			
9. Are the following conditions met for chain? (15.C.01-04) a. Are all chains alloyed? b. Do all coupling links or other attachments have rated capacities at least equal to that of the chain. c. Are makeshift fasteners restricted from use?			
10. Are the following conditions met for fiber rope:(15.D.01-07) a. Are all ropes protected from freezing, excessive heat or corrosive materials? b. Are all ropes protected from abrasion? c. Are splices made IAW manufacture's recommendations? d. Do all eye splices in manila rope contain at least 3 full tucks and do all short splices contain at least 6 full tucks(3 on each side of the centerline of the splice)? e. Do all splices in layed synthetic fiber rope contain at least 4 full tucks and do short splices contain at least 8 full tucks (4 on each side of the centerline of the splice)? f. Do the tails of fiber rope splices extend at least 6 rope diameters (for rope 1⅜ diameter or greater) past the last full tuck? g. Are all eye splices large enough to provide an included angle of not greater than 60* at the splice when the eye is placed over the load or support?			
11. Are the following conditions met for all slings:(15.E.01-06) a. Is protection provided between the sling and sharp surfaces? b. Do all rope slings have minimum clear length of 40 times the diameter of component ropes between each end fitting or eye splice? c. Do all braided slings have a minimum clear length of 40 times the diameter of component ropes between each end fitting or eye splice?			

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	Yes	No	N/A
d. Do all welded alloy steel chain slings have affixed permanent identification stating size, grade, rated capacity and manufacturer? e. Is each synthetic web sling marked or coded to identify its manufacturer, rated capacities for each type hitch and the type material?			
12. Are drums, sheaves, and pulley smooth and free of surface defects? (15.F.01)			
13. Is the ratio of the diameter of the rigging and the drum, block sheave or pulley thread diameter such that the rigging will adjust without excessive wear, deformation, or damage? (15F.02)			
14. Have all damaged drums, sheaves and pulleys been removed from service? (15.F.04)			
15. Are all connections, fittings, fastenings, and attachments of good quality, proper size and strength, and installed IAW manufacturer's recommendations? (15.F.05)			
16. Are all shackles and hooks sized properly? (15.F.06 & .07)			
17. Are hoisting hooks rated at 10 tons or greater provided with safe handling means? (15.F.07)			
18. Do all drums have sufficient rope capacity? (15.F.08)			
19. Is the drum end of the rope anchored by a clamp securely attached to the drum in a manner approved by the manufacturer? (15.F.08)			
20. Do grooved drums have the correct groove pitch for the diameter of the rope and is the groove depth correct? (15.F.08)			
21. Do the flanges on grooved drums project beyond the last layer of rope at a distance of either 2▒ or twice the diameter of the rope, whichever is greater? (15.F.08)			
22. Do the flanges on ungrooved drums project beyond the last layer of rope a distance of either 2.5▒ or twice the diameter of the rope, which ever is greater.			

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	Yes	No	N/A
23. Are the sheaves compatible with the size of rope used and as specified by the manufacture? (15F.09)			
24. Are sheaves properly aligned, lubricated, and in good condition? (15.F.09)			
25. When rope is subject to riding or jumping off a sheave, are sheaves equipped with cablekeepers? 915.F.09)			
26. Are eye bolts loaded in the plane of the eye and at angles less than 45* to the horizontal? (15.F.10)			
27. Remarks: (Enter actions taken for ※no※ answers.)			
Contractor inspector signature			
Contractor QC/safety/project manager signature			

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SAFETY CHECKLIST FOR MOTOR VEHICLES, TRAILERS AND TRUCKS

Contract # and title: owned or leased?	
Equipment name & number:	
Contractor:	Subcontractor:
Contractor inspector:	Date inspected:

	Yes	No	N/A
1. Are records of safety inspections of all vehicles available? (18.A.02)			
2. Are all vehicles to be operated between sunset and sunrise equipped with: (18.A.04) a. 2 headlights? b. taillights and brake lights? c. front and back turn signals? d. 3 emergency flares, reflective markers, or equivalent portable warning devices?			
3. Are vehicles, except trailers or semi-trailers having a gross weight of 5000 lbs or less, equipped with service brakes and manually operated parking brakes? (18.A.05)			
4. Are service brakes on trailers and semitrailers controlled from the driver's seat of the prime mover? (18A.06)			
5. Does the vehicle have: (18.A.06) a. a speedometer? b. a fuel gage? c. an audible warning device (horn)? d. a windshield & adequate windshield wiper? e. an operable defroster and defogging device? f. an adequate rearview mirror? g. a cab, cab shield, and other protection to protect the driver from the elements and falling or shifting materials? h. non-slip surfaces on steps? I. a power-operated starting device?			

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	Yes	No	N/A
6. Is all the glass safety glass and is all broken or cracked glass replaced? (18.A.07)			
7. Do trailers meet the following: (18A.08) a. Are all towing devices adequate for the weight drawn? b. Are all towing devices properly mounted? c. Are locking devices or a double safety system provided on every 5th wheel mechanism and tow bar arrangement to prevent accidental separation? d. Are trailers coupled with safety chains or cables to the towing vehicle? e. Are trailers equipped with the power brakes equipped with a break-away device which will lock-up the brakes in the event the trailer separates from the towing vehicle?			
8. Are all dump trucks:(18.A.10) a. equipped with a holding device to prevent accidental lowering of the body? b. equipped with a hoist lever secured to prevent accidental starting or tipping? c. equipped with means to determine (from the operator's position) if the dump box is lowered? d. equipped with trip handles for tailgates that allow the operator to be clear?			
9. Are all buses, trucks and combination of vehicles with a carrying capacity of 1.5 tons or more, to be operated on public roads equipped with: (18.A.11) a. 3 reflective markers? b. 2 wheel chocks for each vehicle? c. at least one 2A:10B:C fire extinguisher? d. at least two properly rated fire extinguishers (for vehicles carrying flammable cargo)? e. a red flag not less than 1 foot square.			
10. Is vehicle exhaust controlled so as not to present a hazard to personnel? (18.A.13)			
11. Are all rubber tired motor vehicles equipped with fenders or with mud flaps if the vehicle is not designed for fenders? (18.A.14)			

	Yes	No	N/A
12. Are all vehicles, except buses, equipped with seat belts? (18.B.02)			
13. Does all self-propelled construction and industrial equipment have a working reverse signal alarm? (16.B.01)			
14. Are all hot surfaces of equipment, including exhaust pipes or other lines, guarded or insulated to prevent injury or fire? (16.B.03)			
15. If an off the road vehicle, is it equipped with rollover protective structures? (16.B.12)			
16. Remarks: (Enter actions taken for "no" answers)			
Contractor inspector signature			
Contractor QC/safety officer/project manager signature			

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SAFETY CHECKLIST FOR CRAWLER TRACTORS AND DOZERS

Contract # and title:	
Equipment name & number: owned or leased?	
Contractor:	Subcontractor:
Contractor inspector:	Date inspected:

	Yes	No	N/A
1. Are initial and daily/shift inspection records available? (16.A.01& .02)			
2. Are only qualified operators assigned to operate mechanized equipment? (16.A.04)			
3. Are sufficient lights provided for night operations? (16.A.11)			
4. Is the unit shut down before refueling? (16.A.14)			
5. Does the unit have as a minimum a 5-B:C fire extinguisher? (16.A.26)			
6. Is there an effective, working reverse alarm? (16.B.01)			
7. Are moving parts, shafts, sprockets, belts, etc., guarded? (16.B.03 ,07, and 13)			
8. Is protections against hot surfaces, exhausts, etc., provided? (16.B.03 and .13)			
9. Are fuel tanks located in a manner to prevent spills or overflows from running onto engine exhaust or electrical equipment?			

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	Yes	No	N/A
10. Are exhaust discharges directed so they do not endanger person of obstruct operator vision?(16.B.05)			
11. Are seat belts provided? (16B.08)			
12. Is protection (grills, canopies, screens) provided to shield operator from falling or flying objects? (16.B.10 and .11)			
13. Is roll over protection provided? (16.B.12)			
14. Remarks: (Enter actions taken for ※no※ answers)			
Contractor inspector signature			
Contractor QC/safety officer/project manager signature			

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SAFETY CHECKLIST FOR SCRAPERS, MOTOR GRADERS, AND OTHER MOBILE EQUIPMENT

Contract # and title:			
Equipment name and number: owned or leased?			
Contractor:	Subcontractor:		
Contractor inspector:	Date inspected:		
	Yes	No	N/A
1. Are initial and daily/shift inspection records available? (16.A.01 & .02)			
2. Are only qualified operators assigned to operate equipment? (16.A.04)			
3. Are sufficient lights provided for night operations? (16.A.11)			
4. Does the unit have as a minimum a 5-B:C fire extinguisher? (16.A.26)			
5. Is there an effective working reverse alarm? (16.B.01)			
6. Is the unit shut down for refueling? (16.A.14)			
7. Are moving parts, shafts, sprockets, belts, etc., guarded? (16.B.03, .07 and .13)			
8. Is protection against hot surfaces, exhausts, etc., provided? (16.B.03 and .13)			
9. Are fuel tanks located in a manner to prevent spills or overflow from running onto engine exhaust or electrical equipment? (16.B.04)			
10. Are exhaust discharges directed so they do not endanger persons or obstruct operator vision? (16.B.05)			

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	Yes	No	N/A
11. Are seat belts provided for each person required to ride on the equipment? (16.B.08)			
12. Is protection (grills, canopies, screens) provided to shield operators from falling or flying objects? (16.B.10 and .11)			
13. Is roll over protection provided? (16.B.12)			
14. Is a safe means of access to the cab provided (steps, grab bars, non-slip surfaces)? (16.B.03)			
15. Are adequate head and tail lights provided? (16.A.07)			
16. Have brakes been tested and found satisfactory? (16.A.07)			
17. Does the unit have an emergency brake which will automatically stop the equipment upon brake failure? Is this system manually operable from the drivers position? (16.A.07)			
18. Is all equipment with windshields equipped with powered wipers and defogging or defrosting system? (16.A.07)			
19. Are all vehicles which will be parked or moving slower than normal traffic on haul roads equipped with a yellow flashing light or flasher visible from all directions? (16.A.13)			
20. Is the slow moving emblem used on all vehicles which by design move at 25 MPH or less on public roads? (08A.04)			

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	Yes	No	N/A
21. Have air tanks been tested and certified? (20.A.01)			
22. Is an air pressure gage in working condition installed on the unit? (20.A.12)			
23. Does the air tank have an accessible drain valve? (20.B.17)			
24. Remarks: (Enter action taken for all "no" answers)			
Contractor inspector signature			
Contractor QC/safety officer/project manager			

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SAFETY CHECKLIST FOR MATERIAL HOISTS

Contract # and title:			
Equipment name & number:			
Contractor:	Subcontractor:		
Contract Inspector:	Date inspected:		
	Yes	No	N/A
1. Are all hoist towers, masts, guys or braces, counterweights, drive machinery supports, sheave supports, platforms, supporting structures, and accessories designed by a licensed engineer? (16.K.02)			
2. Is a copy of the hoist operating manual available? (16.K.04)			
3. Do all floors and platforms have slip-resistant surfaces? (16.K.08)			
4. Are landings and runways adequately barricaded and is overhead protection provided where needed? (16.K.08)			
5. Are hoisting ropes installed IAW manufacturer's instructions? (16.K.10)			
6. Are operating rules posted at the hoist operator's station? (16.K.14)			
7. Are air powered hoists connected to an air supply of sufficient capacity and pressure to safely operate the hoist? (16.K.15)			
8. Are pneumatic hoses secured by some positive means to prevent accidental disconnection? (16.K.15)			
9. Remarks: (Enter actions taken for all ▒no▒ answers.)			
Contractor inspector signature			
Contractor QC/safety officer/project manager signature			

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SAFETY CHECKLIST FOR EARTH DRILLING EQUIPMENT

Contract # and title:			
Equipment name & number:			
Contractor:	Subcontractor:		
Contractor inspector:	Date inspected:		
	Yes	No	N/A
1. Is a copy of the manual for all drilling equipment available? (16.M.01)			
2. Have all overhead electrical hazards and potential ground hazards been identified in a site layout plan and addressed in an activity hazard analysis? (16.M.02)			
3. Are MSDSs for all drilling fluids available? (16.M.05)			
4. Does the drilling equipment have 2 easily accessible emergency shut down devices (one for the operator and one for the helper)? (16.M.06)			
5. Is the equipment posted with a warning of electrical hazards? (16.M.06)			
6. Is there a spotter or an electrical proximity warning device available to ensure safe distances from power lines are maintained? (16.M.06)			
7. Remarks: (Enter actions taken for "no" answers)			
Contractor inspector signature			
Contractor QC/safety officer/project manager			

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ntractor or Unit	Contract No. or Activity
Inspected by (Signature)	Witness (Signature)

Date of Inspection:

	TREE WORK, MAINTENANCE OR REMOVAL OPERATIONS NOTE: Safety and Health Requirements Manual (EM385-1-1) references in parentheses.	Yes	No	N/A
1	Are all chain saws in sound mechanical condition? (31.A.04.a)			
2	Are saws started more than 10 feet (0.3m) from fuel containers? (13.F.04)			
3	Are saws fueled while running or hot or near open flame? (13.F.04)			
4	Is eye, ear, hand, foot, and leg protection provided? (13.F.03 & 05)			
5	Is the chain saw used to cut above operator's shoulder height? (13.F.06)			
6	Has the area been cleared of brush, felled trees, etc. prior to cutting? (13.D.01)			
7	Do all chain saws have an automatic chain brake or kickback device? (13.F.01)			
8	Is tree removal, trimming, or repair under the supervision of a qualified tree worker? (31.A.01)			
9	Are tree workers tied in with an approved climbing rope and safety saddle when working above ground? (31.B.02)			
10	Are tree workers carrying tools in their hands while climbing? (31.B.07)			
11	Are brush chippers operated and maintained in accordance with manufacturer's recommendations? (31.D.03)			
	Are climber spurs of the tree-climbing type with gaffs of the type and length suitable for the tree being climbed? (31.B.01.a)			
13	Are pole pruners, pole saws, and other similar tools equipped with wood or nonmetallic poles? (31.E.01.a)			
REMARKS:				

Contractor or Unit	Date of Inspection:
Inspected by (Signature)	Contract No. or Activity
	Witness (Signature)

	TEMPORARY ELECTRICAL WIRING NOTE: Safety and Health Requirements Manual (EM385-1-1) references in parentheses.	Yes	No	N/A
1	Is the temporary wiring guarded, isolated by elevation, or buried so as to prevent accidental contact? (11.A.02)			
2	Are extension cords of the type listed by Underwriters Laboratories, Inc., for the purpose in which they are used? (11.A.03) See Table 11-1			
3	Are all switch boxes, receptacle boxes, metal cabinets, enclosures around equipment and temporary power lines marked to indicate the maximum operating voltage? (11.A.06)			
4	Are all circuits protected against overload? (11.B.01)			
5	Does each fuse cabinet have close fitting doors that can be locked? (11.B.01.e)			
6	Are disconnect boxes securely fastened to a surface and fitted with a cover? (11.B.02.b)			
7	Is the incoming service or supply circuit readily accessible and provided with a manually-operated switch? (11.B.03.a)			
8	Are all circuit breakers, switches, fuses marked or labeled identifying the circuits or equipment supplied through them? (11.B.04)			
9	Are all switches, circuits breakers, fuse panels, or motor controllers that are located out-of-doors or in wet locations in a weatherproof enclosure or cabinet? (11.B.05)			
10	Are all circuits grounded? In accordance with the NEC. (11.C.01)			
11	Are ground fault circuit interrupters installed in circuits used by portable electric tools? (11.C.05)			
12	Has a sketch been submitted and accepted for the proposed temporary power distribution system? (11.D.01)			
13	Is the vertical clearance above walkways 10-15 feet or more for circuits carrying 600 volts or less? (11.D.03)			
14	Do temporary light strings in outdoor or wet locations have lamp sockets and connecting plugs permanently molded to the hard service cord insulation? (11.D.04.b)			
15	Are all wires insulated from their supports? (11.D.05)			
16	Are guards provided for bulbs on temporary lighting strings and extension cords? (11.D.06.a)			
17	Are exposed empty light sockets or broken bulbs present? (11.D.06.c)			
18	Is portable electric lighting used in confined wet and/or hazardous locations operated at a maximum of 12 volts? (11.D.06.d)			
19	Is a plainly marked switch provided at or near the entrance to tanks or confined spaces where wiring is used? (11.D.07)			
20	Is any floating plant or equipment situated within 20 feet (6m) of an overhead transmission line? (11.E.06)			

REMARKS:

Contractor or Unit	Contract No. or Activity	Date of Inspection:
spected by (Signature)	Witness (Signature)	

	POWER BENCH TOOLS NOTE: Safety and Health Requirements Manual (EM385-1-1) references in parentheses.	Yes	No	N/A
1	Is eye, foot and other protective equipment, as needed, provided and use enforced? (05.A.08 & 05.B.01)			
2	Are adequate warning signs displayed? (08.A.01)			
3	Is the equipment always shutdown for adjustments and/or maintenance? (11.A.02.a.b)			
4	Is the power switch located so as to prevent accidental starting? (11.B.03.b)			
5	Are switches, fuses, and automatic circuit breakers marked, labelled, or arranged for ready identification of the circuits or equipment which they supply? (11.B.04)			
6	Are the circular rip saws equipped with guards that automatically and completely enclose the cutting edges, anti-kickback devices, and splitters? (13.C.01.a)			
7	Are electric powered tools properly grounded? (11.C.01.b)			
8	Is a copy of manufacturer's instructions and recommendations maintained with the tool? (13.A.02.a)			
9	Have the tools been inspected and tested prior to use? (13.A.02.a.b)			
10	Are the moving parts (shafts, beltdrives, spindles, etc.) safely guarded from accidental contact? (13.A.03.b)			
11	Is personal protective equipment used as outlined in section 6? (13.A.13)			
12	Are tool rests on power grinders more than 1/8" (0.3cm) from the wheel? (13.B.05)			
13	Have grinding wheels been ring-tested before mounting? Are damaged grinding wheels in use? (13.B.06)			
14	Are planer and jointer blades fully guarded? (13.C.01.c)			
15	Are band saws fully enclosed except at point of operation? (13.C.01.d)			
16	Are radial arm power saws equipped with an automatic brake? (13.C.04)			
17	Is a limit stop provided to prevent leading edge of radial and swing saws from traveling beyond the edge of the table? (13.C.06)			
18	Is a block, pushstick or other safe means provided for operations close to cutting edges? (13.C.08.b)			
19	Are brushes provided for removal of sawdust, chips, etc.? (13.C.08.d)			
20	Are lathes, metal saws, drills, etc. left unattended while still running? (13.C.08.e) **NOTE:** This could occur when working with heavy steel plates or large shafts. If so, this is a violation.			
21	Is good housekeeping practiced? (14.C and 14.D.01)			

REMARKS:

Contractor or Unit	Contract No. or Activity
Inspected by (Signature)	Witness (Signature)

Date of Inspection:

PORTABLE ELECTRIC HAND TOOLS NOTE: Safety and Health Requirements Manual (EM385-1-1) references in parentheses.	Yes	No	N/A
1 Is personal protective equipment provided for eyes, hands, feet, etc., and their use enforced? (05.A)			
2 Are flexible cords approved for that location? (11.A.03)			
3 Are flexible cords in continuous lengths without splices? (11.A.03.c.			
4 Are flexible cords patched, cut, frayed, worn or oil soaked? (11.A.03.d.)			
5 Are portable and semi-portable electrical tools and equipment grounded by a multiconductor cord having an identified grounding conductor and multi contact polarized plug-in receptacle? (11.C.01.b)			
6 Are GFCI's provided on all circuits serving portable and semi-portable electric power tools? (11.C.05.a. & b)			
7 Are power hand tools inspected and tested and determined to be in safe operating condition before use? (13.A.02.b.)			
8 Are tools designed to accommodate guards supplied with them? (13.A.03.a.)			
9 When overhead work is being done, are means provided to prevent tools from falling? (13.A.04)			
10 Are only nonsparking tools used in locations where sources of ignition may cause a fire or explosion? (13.A.06)			
11 Safety guards shall be provided for all machines using an abrasive wheel. (13.B.01)			
12 Has a ring test been done on abrasive wheels before mounting? (13.B.06)			
13 Are circular saws equipped with guards that automatically enclose the blade? (13.C.01)			

REMARKS

Date of Inspection:

Contractor or Unit | Contract No. or Activity

Inspected by (Signature) | Witness (Signature)

	PORTABLE AIR COMPRESSORS NOTE: Corps of Engineers Safety and Health Requirements Manual (EM385-1-1) references are shown in parentheses.	Yes	No	N/A
1	Has inspection and performance test been completed. (20.A.01)			
2	Have the air tanks been hydrostatically tested and certified? (20.A.02)			
3	Are records of inspection and test available? (20.A.03)			
4	Does discharge from any valve create a hazard? (20.A.10)			
5	Is air pressure gauge in working order? (20.A.12)			
6	Is the tank equipped with a safety relief valve? (20.A.13)			
7	Is equipment that is subject to whipping or rotation, if released, provided with an automatic shut-off or dead-man control? (20.A.15)			
8	Are quick makeup connections secured with safety lashing? (20.A.16)			
9	Will the compressor automatically shut off before discharge pressure exceeds the maximum working pressure? (20.B.08)			
10	Is the compressor located so that flammables, toxic vapors, gases, dust, steam, water or waste will not be blown or drawn into intake? (20.B.09)			
11	No valve shall be installed in the air intake pipe of a compressor with an atmospheric intake. (20.B.10)			
2	Is the discharge piping from the compressor to the receiver as large as the discharge opening on the compressor? (20.B.11)			
13	Is there a convenient stop valve between the air tank and each stationary piece of equipment? (20.B.12)			
14	Are installation and location of air receivers as per 20.B.17?			
15	Does the air tank have an accessible drain valve? (20.B.18)			
16	REMARKS:			

Date of Inspection:	

Contractor or Unit	Contract No. or Activity
Inspected by (Signature)	Witness (Signature)

	PILE DRIVERS NOTE: Safety and Health Requirements Manual (EM385-1-1) references in parentheses.	Yes	No	N/A
1	Is the width of the hull of floating drivers at least 45% of the height of the leads above water? (16.L.07.a)			
2	If compressed air is used to activate hammer, have the air tanks been tested and certified? (20.C.05) Where steam is used, has the boiler been inspected and certified? (20.C.01-20.C.05)			
3	Are all boilers equipped with approved type water columns, gauge glass, and try cocks? (20.C.05)			
4	Is the boiler equipped with an approved blow-off valve? (20.C.06)			
5	Is insulation or guarding furnished for protection against hot surfaces, pipes, exhausts? (16.B.03.b)			
6	Are safety lashings provided on hose connections to jet pipes, hammers, pile ejectors? (16.L.05)			
7	When driving and handling steel piling, is a closed shackle or other positive means used which will prevent accidental disengagement? (16.L.08)			
8	Is a stop block provided to prevent the hammer from being raised against the head block? (16.L.02.d)			
9	Do the landings (platforms) have toe boards, guard rails? (16.L.02(1) **NOTE:** Landings or leads shall not be used for storage of any kind.			
10	Are swinging leads provided with fixed ladders? (16.L.02.a.(1))			
11	Do "dogs" automatically disengage when load is relieved or drum rotated? (16.L.03) **THIS IS A VIOLATION.**			
12	Are non-slip surfaces provided for work areas, passageways, stairs, etc.? (19.B.01.b.)			
13	Is adequate protection provided against contact with winch drums, gears, cables, and moving parts? (16.B.03.a)			
14	Does the air compressor tank have an accessible drain at its lowest point? (20.B.17.a & 20.B.18			
15	Is the pressure gauge on the air-tank in good working condition? (20.A.12)			
16	Is the air-tank equipped with a sealed safety relief valve? (20.A.13 - 20.A.13.c.)			
17	Does discharge from blow-off valves (steam or air) create a hazard? (20.A.10)			
18	During fueling or servicing of compressor, is the motor stopped? (16.A.08)b)			
19	Is a properly equipped life saving skiff provided for floating driver or where work is over or near water? (05.J.01)			
20	Are sufficient work-vests available and used? (05.I.01)			
21	Are adequate fire extinguishers provided? (16.A.26) **NOTE:** 5-B:C MINIMUM			
22	Do at least two persons in crew hold a valid first-aid certificate? (03.A.02.a)			
23	Are adequate first-aid kits provided? (03.A.03)			
24	Are cables, fittings, etc. in good condition? (15.A.06 and 15.F)			

Date of Inspection:

Contractor or Unit	Contract No. or Activity
Inspected by (Signature)	Witness (Signature)

	PILE DRIVERS NOTE: Safety and Health Requirements Manual (EM385-1-1) references in parentheses.	Yes	No	N/A
25	Are unguarded running lines located within 6'6" of the ground or working level? (15.A.03)			
26	Are only designated qualified operators being assigned to operate mechanized equipment? (16.A.04)			

Remarks:

CESAJ FORM 1266, JUL 98

SAFETY CHECKLIST FOR HAUL ROADS

Contract Number:	**Contract Title:**
Contractor:	**Subcontractor:**
Contract inspector:	**Date inspected:**

NOTE

- **FOR HAUL ROADS THAT ARE WITHIN 100 FEET FROM CANALS OR OTHER BODIES OF WATER, ALSO FILL OUT CHECKLIST ITEMS 28 THROUGH 36**
- **REFERENCES IN PARENTHESIS PERTAIN TO THE SAFETY AND HEALTH REQUIREMENTS MANUAL (EM 385-1-1, 3 Nov 03) UNLESS OTHERWISE NOTED**

HAUL ROADS - GENERAL	**Yes**	**No**	**N/A**
1. Are haul/access roads designed in accordance with current engineering criteria? (para 08.D.01, page 147)			
2. Has the contractor provided a copy of the access/haul road plan and Activity Hazard Analysis (AHA) to the government designated authority (GDA) for review and acceptance prior to construction? (para.08.D.01,page 147)			
3. Has the access/haul road plan been accepted by the GDA? **Note: The access/haul road plan must be revised when additional haul and access road hazards are identified at the project site!** (para. 08.D.01, page 148)			
4. Does the haul/access road plan address equipment usage, traffic density, hours of operation, road layout and widths, horizontal and vertical curve data, sight distances, sign and signalperson requirements, road markings, traffic control devices, drainage controls, points of contact between vehicles and the public, safety controls at these points of contact, maintenance requirements, including roadway hardness and smoothness and dust control and hazards adjacent to the road such as bodies of water, steep embankments, etc.? (para. 08.D.01.a-g, page 148)			

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	Yes	No	N/A
5. Has the contractor submitted for acceptance the complete details of the proposed traffic control plan for the maintenance of traffic and access through the construction area? (para 08.C.07, page 147)			
6. Has the contractor coordinated with the GDA and obtained approval from local authorities prior to closing or restricting any roads? (08.C.06, page 147)			
7. Has the contractor developed and implemented a plan for monitoring speeding and other forms of reckless driving? Is the contractor using radar guns or other speed measuring devices? (08.C.05, page 147)			
8. Has the contractor inspected all contractor and subcontractor vehicles/mobile equipment using the inspection checklists, SAD Forms 1666-R, prior to the use of these vehicles and equipment at the project site to ensure they are fully operational and safe to drive? (para 16.A.01, page 291)			
9. Has the contractor corrected all safety deficiencies noted during the inspection prior to the equipment being placed in service at the project site? (para 16.A.01, page 291)			
10. Has the contractor trained his/her employees during employee orientations and toolbox meetings about recognizing and controlling haul/access road and canal hazards, using the haul/access road plans and AHA? (para 01.A.13.b, page 9)			
11. Do all drivers of vehicles/mobile equipment have the licenses or other proper documentation showing they are qualified to operate their vehicles/equipment? (para 16.A.04, page 292)			
12. Have berms, barricades, or curbs been constructed to prevent vehicles overrunning the edge or end of embankment when road levels are above working levels? **Note: Berms/curbs shall be constructed to one-half the diameter of the tires of the largest piece of equipment using the roadway.** (para. 08.D.03, p. 148)			
13. Do roadways have crowns and ditches for drainage so that water can be intercepted before reaching a switch back or large fill and be led off (para. 08.D.04, page 148)			
14. Is an adequate number of turn-outs provided on single lane roads with two-way traffic? (para. 08.D.07, page 149)			
15. When turn-outs are not practical, does the contractor provide a traffic control system to prevent accidents? (para. 08.D.07, page149)			
16. Is a right-hand traffic pattern used on two-way haul roads? **Note: This pattern shall be used whenever possible!** (para. 08.D.08, page 149)			
17. Do curves have an open sight line and as great a radius as practical? (para. 08.D.09.a, page 149)			

	Yes	No	N/A
18. Is vehicle speed limited on curves so that vehicles can be stopped within one-half the visible distance of the roadway? (para. 08.D			
19. Does the design of horizontal curves consider vehicle speed, roadway width and surfacing, and super elevation? (para. 08.D.09.c, page 149)			
20. Are truck haul roads kept to less than a 10% grade? (para. 08.D.10.b, page 149).			
21. Are barricades and construction work area warning signs placed around any work area adjacent to access or haul roads to prevent vehicles from entering the work area? (para. 08.C.03 & 07, page 147 and 08.D.12, page 150)			
22. When necessary, are machines equipped with retarders to assist in controlling downgrade decent? **Note: This is based on grade and machine and load weight.** (8.D.10.a, page 149)			
23. Is adequate lighting provided for all mobile equipment and the areas in which they are operating? (para. 08.D.11, page 150 & 16.A.11, page 294).			
24. Do all vehicles moving slower than normal traffic or parked have a yellow flashing light or four-way flashers visible from all directions? (16.A.13, page 194).			
25. Are traffic control lights, barricades, road markings, signs, and signalpersons provided for the safe movement of traffic in accordance with the Federal Highway Administration's "Manual on Uniform Traffic Control Devices" and EM 385-1-1? (para. 08.D.12, page 150)			
26. Is roadway hardness, smoothness, and dust control used to maintain the safety of the roadway? Is the roadway free of debris? (para. 08.D.13, page 150)			
27. Is the deposition of mud and other debris on public roads minimized to the extend possible and in accordance with local requirements? (para. 08.D.13, page 150)			
HAUL ROADS - CANALS & WATERWAYS **NOTE** **THIS SECTION OF THE CHECKLIST (ITEMS 28 THROUGH 36) SHALL ALSO BE USED WHEN THE HAUL ROAD IS WITHIN 100 FEET FROM A CANAL OR OTHER BODY OF WATER**			
28. Has the contractor submitted an access/haul road plan to the government designated authority (GDA) for review and acceptance prior to construction that identifies and provides control measures for canal hazards? (08.D.01.f., page 148)			

	Yes	No	N/A
29. Has the contractor submitted an Activity Hazard Analysis (AHA) to the government designated authority (GDA) for review and acceptance prior to construction that identifies each principal step, potential safety/health hazards, recommended controls, equipment to be used, inspection requirements, and training requirements? (08.D.01, page 147)			
30. Is the haul road designed for one-way traffic? Note: This should always be the case whenever possible! (Reference the Contract Specifications)			
31. Have sufficient hazard traffic signs and road construction signs been placed along each project road to remind drivers about the canal? **Note: These signs shall include the following:** a. **Stop signs** at the intersection of each road entering an access or haul road. b. **Canal warning signs** on each road adjacent to canals. c. **Speed limit signs. Note:** Haul roads shall be constructed to widths suitable for safe operation of the equipment at the travel speeds proposed by the contractor and accepted by the government designated authority. In any case, maximum allowable speed on haul roads adjacent to canals shall be no greater than 35 miles per hour on straight-aways and less on curves, slopes, and at other places where there is on-coming traffic, construction work, and other activities warranting lower speed limits. d. **Other signs** as necessary to alert drivers about the canal. **(para 08.A, page 137)(para 08.A.11 through 13, page 144)(para 08.C., page 147) (para. 08.D.05 & 06, page 149)(para. 08.D.12, page 150)**			
32. Have barricades and canal warning signs been placed at points where vehicles approach the canal and are likely to enter the canal because of poor line of sight? (para. 08.D.12, page 150)			
33. Have barricades, signs, cones or safety barrels with flashing lights been placed between the canal and access or haul road? (para. 08.C.05 & 08.D.12).			
34. Have U-channel steel posts with highly visible flagging or reusable polypropylene fabric fencing been placed along the edge of each access or haul road adjacent to the canal? **Note 1: the distance between flagging shall be no more than 200 feet or within the line of sight and shall be used to show drivers the orientation of travel, trees, ditches, narrow embankments, and other objects next to the road.**			

	Yes	No	N/A
Note 2: Caution shall be taken when using fencing or barricades between canals and roads so as not to give the drivers a false sense of security.			
35. Have all contractor vehicles and mobile equipment been equipped with breakout hammers or self centering punches for self-rescue purposes? (Recommended by Accident Board of Investigation (BOI))			
36. Has every employee been trained during the orientation and toolbox meetings about recognizing and controlling canal hazards, using the Accident Prevention Plan (APP), Access and Haul Road Plan, and Activity Hazard Analysis (AHA) for work on roads adjacent to canals? **Note: The orientation shall include notifying all employees that they will be reprimanded if they are reported to be speeding, driving recklessly, or not obeying safety regulations. Reckless driving includes eating, drinking, smoking, using a cell phone, and other types of activities that would interfere with a driver's ability to maintain control of a vehicle or mobile equipment. The orientation shall inform employees that they will be terminated from the project if they are cited for a second offense! (Section 01.B., page 11) & BOI recommendation.**			

REMARKS (ENTER ACTIONS TAKEN FOR "NO" ANSWERS):

Contractor Inspector Signature:

Contractor QC/Safety Officer/Project Manager Signature:

APPENDIX J
HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)

1. Purpose. This appendix prescribes responsibilities and procedures for implementing the U.S. Army Corps of Engineers (USACE) safety and occupational health requirements for hazardous, toxic and radioactive waste (HTRW).

2. Applicability. This appendix applies to all USACE employees engaged in all investigative and corrective actions at hazardous, toxic, and radioactive waste (HTRW) or suspected HTRW sites including DERP-FUDS. The specific requirements vary in proportion to the risks posed at a specific site and are determined by an assessment of site hazards and site activities. Limited portions apply to data collection activities for environmental assessments conducted for real estate transactions.

3. References.

a. 29 CFR 1910.120, OSHA, Hazardous Waste Operations and Emergency Response

b. 29 CFR 1926.65, OSHA, Hazardous Waste Operations and Emergency Response

c. ER 385-1-92, Safety and Occupational Health Document Requirements for Hazardous, Toxic, and Radioactive Waste (HTRW) Activities

d. ER 385-1-90, Respiratory Protection

e. EM 385-1-1, Safety and Health Requirements Manual

4. Definitions. The following definitions are provided to assist in interpretation and implementation of this appendix.

a. **HTRW Site.** A site that has been investigated and is known to contain HTRW.

b. **Suspected HTRW Site.** A site that has not been thoroughly investigated, but for which there is documented rationale for suspecting the presence of HTRW. Rationale may include photographs, historical data, or knowledge of previous use of the site.

c. **Intrusive site activities.** Site procedures that put the employee at risk of direct exposure to site hazards. Examples of

intrusive activities include but are not limited to: drilling or turning of soil for inspection, sample collection, opening containers, opening wells for sample collection, entering abandon structures; and similar activities.

d. **Non-intrusive site activities.** Site activities that are limited in scope and are restricted from intrusive data collection procedures as listed above or other activities that put an employee at risk of exposure to or direct contact with site activities. Examples of non-intrusive activities include: visual inspection and walk through or drive through site visits.

e. **Exclusion Zone.** Zone where contamination does or could occur.

f. **Contamination - Reduction Zones.** Transition areas between exclusion zone and clean areas and where decontamination takes place.

g. **Support Zone.** Uncontaminated areas where administrative and support functions are located.

5. Responsibilities.

a. Chief, Local District Safety and Occupational Health Office (SOHO) will:

(1) Provide oversight of the safety and health of USACE employees engaged in hazardous materials/hazardous waste activities.

(2) Ensure that the local district's written safety and occupational health program adequately addresses employees and activities at HTRW sites and supplements Site Safety and Health Plans (SSHPs) developed for USACE activities.

(3) Assist in the preparations of emergency response plans for emergencies involving the release of hazardous materials/waste at USACE managed facilities.

(4) Assist in the development of SSHPs for in-house HTRW activities.

(5) Provide industrial hygiene and safety review and acceptance of all SSHPs for all in-house or contractor conducted preliminary assessments and investigations.

(6) Review all health and safety design criteria and specifications provided by HTRW design districts for projects within the local district geographical boundaries prior to advertisement.

(7) Review for concurrence any requested changes to accepted SSHP's during investigative and remediation activities.

(8) Review and provide comments and/or recommendations for all required contractor HTRW construction assignment submittals, including the contractor's Safety and Health Plan (SHP) and Site Safety and Health Plan (SSHP), prior to commencement of on-site activities.

(9) Provide industrial hygiene and safety support for all HTRW activities within the geographic local district.

(10) Establish and maintain a tracking system to identify USACE employees who meet the training and medical surveillance requirements (ref 3a and 3b) for entry into HTRW sites.

(11) Monitor or provide for monitoring of USACE employees' exposure to hazardous agents at HTRW sites. If the contractor is providing monitoring for the site, the contractor's sampling data may be used to determine USACE employee exposure in lieu of sampling.

(12) Furnish physicians providing medical surveillance with a written description of the USACE employee's duties as they relate to HTRW activities and his/her exposure assessment.

(13) Maintain copies of the physician's written opinion for all USACE employees medically certified to perform HTRW activities as required by para (f) (7) of reference 3a and para (f) (7) of reference 3b.

(14) Certify that USACE employees have met medical and training requirements for activities at sites covered by these regulations.

(15) Ensure that USACE employees required to use respiratory protection are enrolled in the local district respiratory protection program as stated in reference 3c.

(16) Verify that medical protocol and exam results are reviewed by a licensed physician who is certified in Occupational

Medicine or who, by training and experience is considered Board-eligible by the American Board of Preventive Medicine, Incorporated.

b. Chiefs, Local District Divisions executing work at HTRW or Suspected HTRW sites will:

(1) Develop and provide formal sign off of site specific safety and health plans (SSHP's) for each HTRW site activity performed by his/her personnel.

(2) Coordinate with Chief, local district SOHO, for review and acceptance of SSHP's for HTRW site activities involving his/her personnel.

(3) Identify all USACE employees who meet the criteria in paragraphs 8 and 9 for training and medical surveillance. Coordinate with local district SOHO to ensure certification is maintained.

(4) Develop activity hazard analyses that reflect all HTRW activities performed by his/her personnel.

(5) Maintain documentation of local district SOHO review and acceptance of SSHP's for his/her HTRW site activities.

(6) Provide personal protective equipment and clothing required by HTRW operations under his/her control.

c. Chief, Local District Construction-Operations Division will:

(1) Provide on-site evaluations of contractor adherence to the SSHP at HTRW construction and remediation sites.

(2) Ensure that procedures are established to confirm that all personnel entering the exclusion zone meet the requirements of training and medical surveillance.

(3) Ensure HTRW project contractor's submitted SSHP is forwarded to the local district SOHO for review.

(4) Stop HTRW project work upon notice of any imminent danger to health, safety, or the environment and/or take necessary action to resolve the situation.

(5) Ensure HTRW project manifesting and disposal meet Federal, state, and local requirements.

(6) Ensure HTRW hazardous pay requirements are met.

d. Chief Local District Project Management will:

(1) Provide overall coordination for development and implementation of all HTRW safety and health requirements.

(2) Provide coordination of all approval and review requirements both within the district and external to the local district.

(3) Forward copies of SSHPs developed for HTRW site activities designed or performed by the local district to Divisional Headquarters Safety and Occupational Health Office for review and comment.

e. Chief, Local District Real Estate Division will restrict activities of his/her personnel to ensure that these employees do not perform any on-site activities at either HTRW or suspected HTRW sites.

f. Chief, Local District Human Resources will assist Local District Staff Chiefs in obtaining required training specified in paragraph 8.

6. Policy.

a. For the purpose of this appendix HTRW projects are defined as all investigative or corrective actions at HTRW and suspected HTRW sites including DERP-FUDS. Investigation and removal of underground storage tanks (UST) are also considered HTRW sites and are covered by this appendix.

b. Environmental assessments for real estate transactions have the potential for exposing personnel to hazards posed by HTRW. Administrative controls by qualified HTRW trained personnel will be established to limit site activities and to minimize the potential hazards associated with the site visit.

c. Construction of facilities not related to site investigation or remediation will not be permitted at uncontrolled HTRW sites.

d. Site conditions will be realistically assessed, to the degree possible, prior to sending personnel on HTRW or suspected HTRW sites to perform activities.

e. Whenever feasible engineering and administrative controls will be used to minimize the hazards associated with HTRW.

f. Entry into the exclusion zone at an HTRW site shall be limited to necessary personnel. Personnel not certified through training and medical surveillance will not be permitted in the exclusion zone.

g. Local District Staff Chiefs will limit the number of personnel who are assigned duties requiring training and medical surveillance noted in this appendix. Examples of personnel requiring training and medical surveillance include but are not limited to; construction inspectors, preliminary assessment personnel, geotechnical personnel performing intrusive work. Prior to updating training and medical surveillance, the local district Staff Chief will review the need for the employee's participation in the program. Employees who have received training and medical surveillance, but who have not performed HTRW activities should be removed from the program unless the local district Staff Chief anticipates an actual need for their certification within the upcoming year. If the local district Staff Chief removes his/her employee from the HTRW program the local district Staff Chief will notify the local district SOHO in writing so the employee can be scheduled for a termination physical examination per reference 3a and 3b.

7. Procedures. The following is a description of the procedures that will define an employee being assigned to HTRW activities and the Medical Surveillance necessary to comply with references a. - e.

a. The Staff Chief will assign his/her personnel to HTRW activities.

b. Personnel performing on-site activities at HTRW or suspected HTRW sites must complete the 40 Hour Site Safety and Health Course for HTRW sites. **Prior** to attendance to the 40 Hour course the employee must be medically screened to ensure that there are no medical reasons the employee can not perform the assigned duties.

c. An annual physical examination will be conducted to ensure the continued physical qualifications of the employee.

Based upon no exposure to any hazardous substances, the employee will receive an abbreviated physical for 5 years. On the sixth year the employee will receive a complete physical examination.

d. If there is an exposure to the employee at or above the action limit established by the Permissible Exposure Limit (PEL) or the Threshold Limit Value (TLV), the employee will receive a complete physical examination to ensure no occupational conditions exist from the exposure.

e. Personnel assigned to HTRW but who do not perform **any** on-site activities, do not require Medical Surveillance nor do they require the 40 Hour Safety and Health Course.

f. Should the local district Staff Chief elect to send his/her employee to the 40 Hour Site Safety and Health Course, that employee must be physically qualified to attend the course. A physical examination **prior** to attending the class is required.

g. All SF 1556's requesting the 40 Hour Site Safety and Health Course or the 8 Hour Annual Refresher Course shall be routed through the local district Safety and Occupational Health Office **prior** to scheduling of class by the Training Officer.

h. Section 1 of this appendix is a flow chart delineating the procedures for inclusion in HTRW activities and can be used by the local district Staff Chief to assist him/her in determining the need for Medical Surveillance.

8. Training. All USACE and contractor personnel who are required to perform on-site HTRW activities covered by this appendix must be trained. The content and duration of training will be dependent upon the employee's potential for exposure to hazardous agents.

a. Employees whose job assignments require them to conduct environmental assessments for real estate transactions must have sufficient hazard awareness training to enable them to recognize and avoid hazards that they may encounter. The local district SOHO will determine sufficiency of training. Intrusive activities will not be performed by real estate personnel.

b. Employees whose job descriptions require them to enter known or suspected HTRW sites to perform, oversee or supervise investigative or corrective actions will receive 40 hours training off site. If the employee has a job on-site that involves the operation of equipment he/she must receive an

additional 3 days of actual field experience under the direct supervision of a trained, experienced supervisor. Equipment is defined as any piece of heavy equipment, powered hand tools, monitoring equipment, or welding/cutting torches.

c. All employees who visit an HTRW site will receive a briefing from the Site Safety and Health Officer describing the specific hazards and precautions associated with that site. The briefing will be based upon information contained in the SSHP and other applicable sources of data. The briefing will be updated as necessary.

d. On-site managers or supervisors at HTRW sites must have the 40 hour course and an additional 8 hours of specialized training on managing such operations.

e. Employees requiring the 40 hour training course must receive 8 hours of refresher training annually. The refresher training may be performed in-house, if the trainer and the course material have been approved by the local district Chief, SOHO.

f. Training must meet the requirements of reference 3a and 3b.

g. Personnel who visit HTRW sites under remediation, but who are not directly involved with work site activities and who are not required to enter the exclusion zone are not required to attend the 40 hour training course.

9. Medical Surveillance. All employees who participate in the 40 hour training, in on-site activities for HTRW investigation or remediation, or in response to a release of hazardous material must be medically screened. The medical surveillance standard operating procedures (SOP) is contained in Section 2 of this appendix. In addition to pre-placement and periodic examinations described in Section 2 of this appendix, the following medical surveillance protocol will be established.

a. Termination examination. Whenever an employee is removed from the HTRW program, he/she must receive a termination examination. The termination examination may be deleted if the following conditions are met:

(1) The employee's last examination was within the last 6 months.

(2) The employee had no exposure since the last examination.

(3) The employee has no symptoms associated with HTRW exposures.

b. Special Tests. If a new work assignment involves the likelihood of USACE personnel being exposed to a unique hazard not anticipated prior to the original baseline medical examination, then employees will be screened for that hazard prior to assignment.

10. Personal Protective Equipment.

a. To the extent possible, engineering and administrative controls will be used to reduce and maintain employee exposure to hazardous substances below published exposure limits.

b. Whenever engineering and administrative controls do not adequately limit employee exposure then, personal protective equipment (PPE) shall be used.

c. Selection of PPE shall be based upon specific site conditions and activities and will be addressed in the SSHP. If the site has been characterized, then that information will be used to determine the correct level of PPE. If the site has not been characterized, then the level of PPE will be determined by the responsible industrial hygienist or safety professional based upon available information.

d. At a minimum, PPE for any site activity will be level D. Level D PPE includes the use of hard hats, safety boots, protective gloves and clothing as warranted by site procedures to be performed.

11. Monitoring and Sampling.

a. During investigative work preliminary to remediation of an HTRW or suspected HTRW site, site personnel will use direct reading instruments to assess site conditions to avoid incidents resulting in employee injury or exposure to hazardous environments. Employees using direct reading instruments will be trained in their operation.

b. During on-going projects at HTRW sites, the contractor will establish an ongoing air monitoring program whenever there is a question of employee exposure to hazardous substances. The purposes of the monitoring are to assure proper selection of PPE, establish medical surveillance requirements and to document site conditions.

c. Monitoring to determine employee exposure will be performed by qualified industrial hygienists or technicians working under the direct supervision of a qualified industrial hygienist. Monitoring will be performed using protocols endorsed by OSHA or the National Institute of Occupational Safety and Health (NIOSH).

d. The results of all sampling performed to assess employee exposure will be reviewed by the local district industrial hygienist in the SOHO.

e. All sampling performed to assess employee exposure shall be maintained in the contract file for that particular project.

12. Site Control Program. Whenever intrusive activities are conducted at an HTRW or suspected HTRW site a site control program which meets the requirements of section 28.B.02 of reference 3d will be prepared and included in the SSHP.

13. Documents. The local district and contractor that have employees covered by this appendix will have a written safety and health program. Existing written programs may be modified or amended as necessary to meet the requirements for HTRW sites as outlined in reference 3a, 3b, and 3d. An acceptable SHP must contain the following:

a. Organizational structure

b. Comprehensive workplan

c. Site Safety and Health Plan (SSHP). The SSHP shall address the safety and health hazards of each phase of site activity and the procedures for their control. When a site is subject to progressive phased activities, an SSHP for one activity can be amended to cover subsequent activities. How extensive and detailed the SSHP is, is dependent upon the specific site hazards and activities. For non-intrusive procedures at suspected sites an abbreviated SSHP may be used. The abbreviated format may also be used for performing minor intrusive tasks during preliminary assessments of suspect HTRW sites, if amended to note the specific tasks to be performed and the control measures to be used.

14. Hazardous Pay. Safety Office will determine hazardous pay for Level "C" PPE which will not "practically eliminate" potential hazards. Levels "A" and "B" PPE automatically receive hazardous pay.

APPENDIX K
FIRE PREVENTION AND PROTECTION

1. Purpose. This appendix defines the policy of the District Engineer for the maintenance and administration of a comprehensive fire prevention and protection program. This includes building evacuation procedures for the District Office and guidance for all Jacksonville District facilities to develop their own site specific plans. Each facility shall have a written, dated emergency evacuation plan and a written dated fire prevention plan to minimize the risks of fire and other emergencies. Basic fire prevention and protection for construction activities will comply with 29 CFR 1910.38, EM 385-1-1, NFPA and applicable local and state codes.

2. References.

a. 29 CFR 1910.38

b. AR 385 Series

c. ER 385-1-1

d. EM 385-1-1

e. DR 385-1-27

f. National Fire Protection Association Codes

g. Occupant Emergency Program, Federal Office Building, Jacksonville, Florida dated June 1997.

3. Policy.

a. The Safety and Occupational Health Office shall conduct inspections which address life safety and fire protection at least annually of all district facilities.

b. Unless OSHA and NFPA requirements for fire brigades are met, the only building fires which should be fought by Corps employees are small fires which can be put out by fire extinguishers.

c. Managers of facilities in remote locations shall establish, if possible, Memorandums of Understanding with local fire departments for fighting fires. The fire department shall be provided inventories of all hazardous material in the

facility, a map showing storage locations, and shall be walked through the facility so they understand the layout and dangers prior to the fire.

d. Evacuation and fire prevention plans shall be reviewed annually and updated as needed. Applicable plans shall be provided to and reviewed with contractors.

e. Facilities which do not meet safety and fire requirements shall be expeditiously corrected. All deficiencies shall be reviewed annually and reported to SOHO until corrected.

f. The SOH Office will be notified by phone within 24 hours of any fire. A report of all fires will be sent to the SOHO within 5 days of a fire.

4. General Building and Structure Requirements:

a. In every building or structure, exits shall be so arranged and maintained as to provide free and unobstructed egress from all parts of the building or structure at all times of occupancy. No lock or fastener shall be installed to prevent free escape from the inside of any building.

b. Every exit shall be clearly visible, or the route to reach it shall be conspicuously marked in such a manner that every occupant of every building or structure who is physically and mentally capable will readily know the direction of escape from any point. Each means of egress, in its entirety, shall be so arranged or marked that the way to a place of safety is indicated in a clear manner. Any doorway or passageway that is not an exit, but could possibly be thought of as an exit, shall be so arranged or marked to prevent occupant confusion with actual fire exits. Every effort shall be taken to avoid occupants mistakenly traveling into dead-end spaces during a fire emergency.

c. Two means of egress, as a minimum, shall be provided in every building or structure, section, or area where the size, occupancy, and arrangement endangers occupants attempting to use a single means of egress that is blocked by fire or smoke. The two means of egress shall be arranged to minimize the possibility that both may be impassable by the same fire or emergency condition.

d. Where hazardous processes or storage are of such character as to introduce an explosion potential, explosion

venting or an explosion suppression system specifically designed for the hazard involved shall be provided.

e. Clearance of at least 18 inches shall be maintained between the top of stored material and sprinkler deflectors.

f. Clearance shall be maintained around lights and heating units to prevent ignition of combustible materials.

5. Housekeeping.

a. Scrap lumber, shavings, paper, crating materials, paper packing boxes, excelsior, and similar combustibles shall be cleared from buildings daily and work areas shall be maintained free from accumulations of combustible debris.

b. All entrances, fire exits, stairs, halls, and passageways shall allow free, unrestricted passage at all times. No material or equipment of any type shall ever be placed or stored to block or restrict free access and egress.

c. Combustible cleaning materials shall be stored in closed metal containers. No combustible materials shall be stored beneath or stacked within 10 feet of buildings.

d. All rags, waste, etc. soiled by flammable or combustible materials shall be placed in tight or closed metal containers for daily disposal.

6. Burning Areas.

a. All burning areas shall be established after coordination with the designated authority and in compliance with Federal, State, and local regulations and guidelines.

b. A sufficient force to control and patrol the burning operations shall be maintained until the last embers have been extinguished. Fires and open flame devices shall not be left unattended.

7. Other.

a. Smoking is not permitted in any Jacksonville District Corps of Engineers facility.

b. All electrical installations shall be accomplished in accordance with the current edition of the National Electrical Codes.

c. Emergency telephone numbers and reporting instructions shall be conspicuously posted.

8. Fire Protection.

a. Supervisory personnel are responsible for recharging and servicing the equipment once each year and/or as needed and for making visual inspections for signs of leaks or other defects once each month. Record tags will be attached to all extinguishers and the dates they were inspected and weighed or recharged will be indicated thereon.

b. Adequately approved first aid fire fighting appliances will be provided at temporary buildings and places where combustible materials are stored on any site as follows:

(1) Class A fire (wood, paper, textiles, rubbish, etc.) -- Water or foam extinguisher.

(2) Class B fire (Oil, grease, gasoline, and similar flammable materials) -- Foam, carbon dioxide, or dry-chemical extinguishers.

(3) Class C fire (Electrical) -- Carbon Dioxide or dry-chemical extinguisher.

(4) The use of carbon tetrachloride or chlorobromomethane as a fire extinguishing agent is prohibited.

c. Class B fire extinguishers will be provided on all draglines and trucks transporting flammable liquids and at fuel storage tanks and pumps, asphalt mix plants, tar kettles, and at sites where arc or gas welding or cutting is being performed.

d. Where unusual fire hazards exist or emergencies develop, additional fire fighting facilities, such as larger portable chemical units, fire pumps, fire hoses, outside assistance, etc., shall be developed as necessary to assure reasonable protection.

9. Fire Extinguisher Equipment for all Motorboats.

a. The requirements for fire extinguisher equipment are applicable to all launches and motorboats regardless of construction. All motorboats 26 feet or longer will be inspected by the Commanders authorized representative with such assistance as may be required of the Marine Inspection Service, U.S. Coast

Guard. Such inspection requirements will be documented as necessary and displayed aboard each vessel.

b. The chiefs of all field units, survey parties and reservoir managers are responsible for compliance with these regulations and for requisitioning initial and/or replacement of fire extinguishers in accordance with existing contracting procedures.

c. The minimum approved type equipment to be carried on each motorboat shall be one of the following types:

(1) FSN 4210-965-1105 Extinguisher, Fire, Dry-Chemical - 2 1/2 lb. capacity. 10 to 20 B:C.

(2) FSN 4210-595-1777 Extinguisher, Fire, Carbon Dioxide, 5 lb. capacity. 1 to 5 B:C.

10. Evacuation Plan. The plan shall include the following:

a. Responses to fire alarms, fire systems supervisory alarms and fire extinguishing system activation.

b. Notification procedures - fire department, supervisors, district, division etc. Include phone numbers.

c. Evacuation routes to include designation of safe locations outside of facility where employees would wait for further instructions.

d. Fire extinguishment activities.

e. Emergency escape procedures and escape route assignments.

f. Procedures to verify that detector activations are fires or false alarms.

g. Procedures to account for all employees after evacuations have taken place.

h. Control room operator activities during emergencies.

i. Procedures to account for all employees who remain to operate critical plant equipment before they evacuate.

j. Coordination with other agencies e.g. who admits fire department, who coordinates with the press etc.

k. Rescue and medical duties for those employees who are to perform them.

l. The handling of tour groups, visitors or personnel not normally in the facility.

m. Fire reporting procedures, accident investigation procedures.

n. Drill requirements, to include evacuation, rescue operations, etc.

o. Responsible employees who can provide further information or explanation of duties under the plan.

p. Signature cover sheet with facility head signature, next higher supervisor signature and the District Facility Manager signature signifying review and acceptance of plan. Plans should be reviewed for completeness and for consistency throughout the district.

11. Fire Prevention Plans.

a. A written fire prevention plan shall be available for each facility. The plan shall include:

(1) A list of major work-place fire hazards.

(2) Storage and handling procedures for fire hazards to include general housekeeping and procedures for the control of flammables and combustibles.

(3) Potential ignition sources and control procedures, to include smoking, cutting, grinding, welding, etc.

(4) Listing of fire protection equipment and written procedures for use.

(5) Documented plant inspections by plant personnel, district, division, safety, fire protection, maintenance, etc.

(6) Standard Operating Procedures (SOPs) for specific maintenance operations which present unique fire hazards such as cavitation and confined space work.

(7) Names and job title of personnel responsible for maintenance of fire equipment and those responsible for fire hazards.

(8) Required maintenance and testing procedures and frequency for all fire equipment and systems e.g. CO2 systems, detectors, alarm systems, etc.

(9) Planning of parking spaces for emergency vehicles and fire fighting equipment.

(10) A report of all fires experienced by the facility.

(11) Copies of any signed memorandums of understanding for fire fighting assistance.

(12) Information on fires in similar facilities or other fire prevention information which would be of interest and educate employees regarding fire prevention or protection.

(13) Signature cover sheet with facility head signature, next higher supervisor signature and the District Facility Manager signature. These plans should also be reviewed for completeness and consistency throughout the district annually.

b. All employees shall be informed of the fire hazards of materials and processes to which they are exposed. Employees shall sign that they have read the above plans and that the above plans have been reviewed with them. Signature sheets shall be kept with the plans at the facility.

SECTION 1
DISTRICT OFFICE BUILDING
EVACUATION AND FIRE PREVENTION PLAN

1. Purpose. To provide all Corps of Engineers personnel occupying the Federal Building with instructions on the procedures to be followed in case of fire and/or building evacuation.

2. Applicability. This regulation applies to all District Office Employees.

3. Reference.

a. Occupant Emergency Program, Federal Office Building, Jacksonville, Florida, dated June 1997.

b. DR 385-1-27, SAD Emergency Evacuation and Fire Prevention Policy.

4. General. The Occupant Emergency Program, Federal Office Building, Jacksonville, Florida, has been established by General Services Administration and the primary user of the Federal Building, IRS, to protect YOU in case of an emergency. Drills will be conducted to familiarize you with what to do in the event of a fire or other emergency. You are asked to help prevent accidents and fires in your building and to volunteer your assistance in the handling of emergency situation. This program is for your protection -- your cooperation is requested. Although emergencies arise most frequently from fire, other emergencies should be anticipated. You should be familiar with all of the following instructions.

5. Fire.

a. IN CASE OF FIRE YOU SHOULD KNOW:

(1) The fire alarm signals for your building.

(2) Where the nearest fire alarm box is located.

(3) How to operate the fire alarm box.

(4) How to operate a fire extinguisher.

b. IF YOU DISCOVER A FIRE:

(1) During duty Hours; 0730 to 1600, Monday through Friday.

(a) Immediately activate the nearest fire alarm and notify the GSA Building Manager (Ext. 2791) and/or the GSA Federal Protection Officer, (Ext. 3687).

(b) Attempt to extinguish the fire with the nearest fire extinguisher.

(2) During Non-Duty Hours.

(a) Immediately activate the nearest floor fire alarm.

(b) Call the Fire Department (911) and report the exact location and type of fire.

(c) Attempt to extinguish the fire with the nearest fire extinguisher.

c. WHEN YOU HEAR THE ALARM.

(1) Obey the instructions announced over the intercom. This message may be recorded or may give specific guidance on evacuation routes relative to fire location. Please give it your undivided attention.

(2) Obey the instructions of your Floor Warden and Monitors.

(3) When directed, by your assigned evacuation route, immediately leave the building in an orderly manner. DO NOT RUN! Elevator will be taken out of service.

(4) Avoid crowding or undue haste. Descend the stairs with special care. A fall might injure you and those who follow.

(5) Descend in an orderly manner down the right and left side of the stairway using the handrails when available and leave the center of the stairway clear for upcoming fire fighters and/or emergency personnel.

(6) Stay in formation until you emerge at the first or ground floor exits.

(7) As soon as you are out of the building, move to the assembly area on the riverside of the Terry Theater, Florida Times Union Center for the Performing Arts.

6. Fire Drills. Fire drills will be held periodically under the direction of the Occupant Emergency Program. The purpose of these drills is to develop your proficiency and confidence in the evacuation procedures. At the sound of the alarm, follow the instructions given on the building intercom system.

7. Fire Prevention. The following are the ground rules for fire prevention in the Federal Office Building.

a. Maintain good housekeeping in all areas of the building, as this is tone of the most effective means of preventing fires.

b. Bring to the attention of your supervisor ant apparent fire or safety hazard existing in the building, or your work area.

c. Obey "NO SMOKING" signs. Smoking is not permitted in any Corps of Engineers facility. Smoking is permitted outside the building only.

d. Do not throw matches, cigars, cigarettes, or pipe ashes into wastebaskets or into any type of receptacle containing combustible materials.

e. Oily rags or similar flammable material in the building must be placed in an approved metal container provided for that purpose.

f. Hot plates, coffee pots, or other similar electrical devices with heating elements may be used in the building only when the installation, including the stand, is approved by the building manager. Portable space heaters are forbidden. Unplug any electrical equipment immediately if smoke or flames come form the equipment.

SECTION 2
DISTRICT OFFICE BUILDING
DUTIES OF STAIRWAY AND PASSAGER ELEVATOR MONITORS

1. STAIRWAY MONITOR. (MINIMUM TWO PER FLOOR)

a. Take a position in the corridor adjacent to the assigned stairway and facilitate movement of personnel through stairway.

b. Notify personnel to take their time and leave all food and drink behind prior to entering the stairway.

c. Direct all personnel to file in orderly manner allowing personnel from other floors access to the stairway.

d. If stairway becomes impassable, direct personnel to alternate stairway in accordance with Floor Warden's plan.

e. Keep stairway doors closed when personnel are not passing through them.

f. When Floor Warden reports all personnel evacuated from the floor, report to the Emergency Command Center for further instructions.

g. Maintain order and prevent panic in stairway entrances.

2. ALTERNATE STAIRWAY MONITOR. In the absence of the primary monitor, the alternate will assume the duties of the primary.

3. PASSANGER ELEVATOR MONITOR. (One per floor)

a. Take position in the elevator lobby and prohibit us of elevators unless directed by Fire Department personnel.

b. When all handicapped personnel are present, notify Emergency Command Center to provide elevator for evacuation. In the event the elevators can not be used, direct handicapped personnel to North Stairway for evacuation.

4. AREA FLOOR WARDENS. (Two per floor)

a. Upon notification of fire location and evacuation of personnel, proceed to fire location and attempt suppression.

b. Expedite evacuation and maintain order.

c. If one stairway is impassable, direct personnel to alternate stairway.

d. Verify the floor has been evacuated, ensure fire doors are closed, report to assigned stairway and report to Emergency Command Center that the floor is evacuated.

e. Maintain a list of personnel on your assigned floor that are handicapped and will require special evacuation procedures. Make provisions for their evacuation.

f. Designate individual floor evacuation routes and duty stations of key personnel. Post evacuation routes for the information of the personnel on that floor.

g. Maintain the floor plan and update the plan as warranted.

SECTION 3
DISTRICT OFFICE BUILDING
STAIRWAY MONITORS AND FLOOR WARDENS

EAST AREA FLR WARDEN	NORTH STAIRWAY MONITOR	SOUTH STAIRWAY MONITOR	WEST AREA FLR WARDEN
Ground Floor			
Joe Branham Rm G-13 x 3773 (IM-A)	None	None	Steve Bowman Rm G-53 x 1191 (LM-F)
Second Floor			
Larry Evans RM 201 x 1665 (RD-E)	Non-Corps	Alice Kirkland Rm 201 x 2907 (RD-E)	Non-Corps
ALTERNATE O. Collazo Rm 201 x 1659 (RD-S)			
EIGHTH FLOOR			
P. Baumgardner Rm 825 x 2076 (CO-OP)	Chuck Connelly Rm 883 x 1198 (CT-C)	Edwin Cuebas Rm 826 x 1129 (CO-CQ)	Sharon Tarlton Rm 888 x 1192 (CP)
ALTERNATE	**ALTERNATE**	**ALTERNATE**	**ALTERNATE**
Alice Carey Rm 832 x 3608 (CO)	Shirley Deese Rm 801 x 3735 (CT)	Jim Burch Rm 822 x 2072 (RE-S)	Diane Grace Rm 856 x 3877 (RE-A)
NINTH FLOOR			
P. Grace Rm 935 x 2104 (EN-HC)	J. Hashtak Rm 969 x 3594 (PD-PF)	R. McMillen Rm 966 x 1231 (DP-B)	D. Schmidt Rm 969 x 1697 (PD-PN)
ALTERNATE	**ALTERNATE**	**ALTERNATE**	**ALTERNATE**
J. Anderson Rm 924 x 1019 (DP)	H. Smith Rm 969 x 1685 (PD-E)	C. Plunkett Rm 952 x 3065 (PA)	V. Gwin Rm 969 x 1108 (PD-PS)

TENTH FLOOR

W. Frier Rm 1032 x 2445 (En-DM)	L. Andrews Rm 1061 x 1972 (EN-GG)	M Fashcher Rm 1068 x 1996 (EN-C)	R. Rabb Rm 1080 x 1185 (RM-B)
ALTERNATE	**ALTERNATE**	**ALTERNATE**	**ALTERNATE**
D. Morse Rm 1080 x1430 (RM-B)	M. DeJesus Rm 1002 x 2446 (EN-DM)	G. Lockhart Rm 1044 x 2471 (EN-D)	R. Ross Rm 1089 x 1430 (EN-SF)

PASSANGER ELEVATOR MONITORS

SECOND FLOOR - Non-Corps personnel

EIGHTH FLOOR - Mike Scholl, Rm 865 x 2554 (SO)
ALTERNATE - Linda Anderson, Rm 883 x 1148 (CT)

NINTH FLOOR - Patrick Fitzgerald, Rm 935 x 1127 (EN-GH)
ALTERNATE - P. Garfield, Rm 947 x 3761 (OC)

TENTH FLOOR - Carl Dunn, Rm 1019 x 2430 (EN-DP)
ALTERNATE - Al Morris, Rm 1044 x 2430 (EN-DC)

APPENDIX L
PESTICIDE SAFETY

1. Purpose. This appendix prescribes guidelines for preventative safety measures for the handling of pesticides.

2. Applicability. This appendix covers all elements of the District that handle pesticides.

3. References.

a. ER 1130-2-540.

b. Title 40 CFR Parts 150-189.

c. ER 385-1-90.

4. General. Pesticides will be handled in accordance with Federal Regulations (40 CFR 165). If Federal and State regulations differ then the most stringent will be followed. The label on the container is the Law, it must be followed. The labels provide information on proper use, disposal and first aid in case of contamination. The following safety measures should be followed when handling pesticides:

a. Consider weather conditions prior to application; winds can carry toxic dusts and mists to areas out of your control, causing accidental poisoning.

b. Smoking, eating and drinking are not permitted while pesticides are being handled; always wash your hands after handling pesticides and before doing any of the above mentioned activities.

c. All pesticides should be handled in a well ventilated area to minimize the hazard of inhalation of toxic vapors or dusts.

d. Shower and washing facilities shall be near pesticide mixing areas. Air boats are an exception to this requirement because of the availability of water for washing (lake water) should a person be splashed with a pesticide. Eye protection shall be worn whenever mixing or pouring pesticides. Pouring or mixing of pesticides shall NOT be done when the air boat is in motion.

e. Any contamination of skin, particularly with liquid concentrations or solutions, shall be immediately washed off with detergent and water.

f. Protective clothing should be used in conjunction with respiratory protection to prevent skin contact and inhalation of pesticides, as required by the product label. The following articles of personal protective equipment are recommended, as needed:

(1) Rubber aprons

(2) Coveralls (impermeable, i.e., Tyvek)

(3) Chemical splash shield and/or goggles

(4) Rubber boots and/or safety shoes

(5) Rubber gloves

(6) Additional protection is afforded by protective skin cream.

(7) Respiratory protection

g. Clothing contaminated by spillage shall be removed immediately, if warranted by the product label, and thoroughly laundered before wearing. Special care is required to prevent contamination of the inside of gloves. Consideration should be given to the use of chemically resistant throw away type protective clothing, dependant upon the recommendations of the manufacturer according to the product label.

h. Corps personnel handling, mixing, and applying pesticides requiring respiratory protection shall be fully indoctrinated in the District respiratory protection program, including proper selection, use, maintenance and storage of respiratory protective devices. Prior to use, they shall be fit tested by a qualified person using either the qualitative or quantitative method (ER 385-1-90). Respirators and cartridges approved by MSHA/NIOSH for the use condition encountered must be worn as required by the label and/or MSDS while pesticides are being mixed, and when dusts or liquids are being handled or sprayed. Filters or canisters shall be changed after 8 hours use, or when a pesticide odor is detected or as recommended by the manufacturer of the cartridge. (Always have spare cartridges available).

i. Material Safety Data Sheets (MSDS) shall be obtained by the supervisor from the manufacturer or distributor for each pesticide used and shall be readily available to employees at the work place.

5. Training.

a. The District Commander is responsible for the training and certification of pest control personnel.

b. All Corps personnel involved in pesticide applications shall be trained, and certified where required, by satisfactory completion of training as listed below:

(1) General Use Pesticide Training. Completion of the correspondence course, "Basic Pest Control Technology" NPWTC 150 (available from NAVFAC Engineering Command Public Works Training Center, 1220 Pacific Highway, San Diego, Ca. 92132-5190) and a 3 day (20 hr.) special training course approved by the District Commander.

(2) Restricted Use Pesticide Training. In addition to the above mentioned training, Restricted Use Pesticide Applicators shall complete restricted use pesticide training and certification as given at Navy facilities at Jacksonville, FL; Alemeda, CA, or the Army Health Services Command, Fort Sam Houston, TX.

(3) Training which results in state certification may be used in lieu of the above mentioned training. State general use certification may not be substituted for restricted use certification.

(4) Employees handling any hazardous material (pesticides) shall be trained in the specific hazards associated with that substance. When any new materials are introduced, the work place employees shall be informed of the hazards associated with the products.

(5) Personnel whose duties require frequent application of pesticides shall attend specialized training consistent with the type of work they are required to perform. Under no circumstances shall an employee be required to use a chemical or an application process that they have not been trained to use.

6. Pesticide Storage. Pesticides must be stored in a manner which is consistent with Federal regulations (40 CFR 165 Subpart C). The supervisor of the Pesticide Program shall ensure:

a. Inspections of stored pesticides shall be made at least quarterly. Records of inspections will be maintained.

b. All pesticides are stored in a dry, well ventilated, separate room, building or covered area where fire protection is provided.

c. The entire area is secured by a fence and/or doors and gates are kept locked to prevent unauthorized entry.

d. Identification signs are placed on rooms, buildings and fences to advise of the contents and warn of their hazardous nature.

e. Fire extinguishers are installed near door(s) of pesticide storage areas.

f. All pesticide storage, mixing, and formulation areas have adequate ventilation and are equipped with spark-proof lighting fixtures.

g. Pesticide containers are stored with the label plainly visible.

h. Each pesticide formulation is segregated and stored under a sign containing the name of the formulation.

i. All containers are stored off the ground(i.e., on pallets), in an orderly way, so as to permit ready access and inspection.

j. Materials such as absorptive clay, hydrated lime, and sodium hypochlorite are kept on hand for use, as appropriate, for the emergency treatment or detoxification of spills or leaks.

k. An inventory of pesticides stored within the facility is maintained and updated at least quarterly. This inventory shall be provided to local fire fighting personnel for informational purposes in case of fire at the storage facility.

7. Pesticide Disposal.

a. Pesticide containers shall be disposed of in accordance with Title 40 CFR 165.9 and/or in accordance with the manufacturer's recommendations on the product label.

b. An SOP shall be developed by Pesticide supervisor for the disposal of the containers for the specific pesticides used by that Office.

8. Pesticide Spills. Corps pesticide spills shall be contained and reported in accordance with Emergency Planning Community Right-to-Know (EPCRA) guidelines. Information on these guidelines may be obtained from the Environmental Compliance Coordinator, CON-OPS Division. Each District element handling pesticides shall develop a Standard Operating Procedure (SOP) for dealing with pesticide spills.

a. Immediate assistance for emergency type pesticide spills which threaten life or gross contamination of the environment may be obtained by contacting CHEMTREC toll-free 1-800-424-9300.

b. Information on decontamination of non-emergency type pesticide spills also may be obtained by dialing the CHEMTREC number given above. The operator shall be told immediately that no emergency exists and the call is a request for decontamination information only.

APPENDIX M
PERSONAL PROTECTIVE EQUIPMENT

1. Purpose and Scope. This appendix prescribes requirements, procedures, and policies for providing personal protective equipment and apparel necessary to protect the health and safety of Jacksonville District employees from occupational hazards.

2. References.

a. 29 CFR 1910,Subpart I

b. AR 385-32.

c. AR 40-5.

d. AR 385-10 dtd. 23 May 1988.

e. ER 385-1-40.

f. ER 385-1-88.

g. EM 385-1-1.

h. ANSI (American National Standards Institute), Z87.1, (Eye and Face Protection).

i. ANSI, Z41-1983, (Safety-Toe Footwear).

j. ANSI, Z88.2, (Respiratory Protection).

k. ANSI, Z89.1, Z89.2 (Protective Headgear).

3. General.

a. Personal protective equipment is the last choice for the control of workplace hazards. Engineering controls and administrative controls shall be initiated to reduce or eliminate the hazard prior to use of personal protective equipment.

b. When engineering and administrative controls do not eliminate or reduce the hazard, adequate protective equipment and apparel shall be provided to prevent or minimize injury or occupational disease to personnel. Personal protective equipment shall be procured and provided by supervisors for the health and safety of employees as necessary.

c. Personal protective equipment shall be purchased in accordance with the Federal Acquisition Regulation. Specific procedures are established for safety glasses and safety shoes IAW Federal Acquisition Regulations. Point of contact for these regulations is Contracting Division.

4. Responsibility,

a. It is the responsibility of the supervisor to assure that the proper protective equipment, such as hard hats, respirators, safety eyewear (plain or prescription), protective footwear, PFD'S (personal flotation devices), gloves, chain saw chaps, etc., are provided to their employees and are worn when necessary. Written documentation of employees failing to wear personal protective equipment shall be maintained by the supervisor. For persons under Medical Surveillance, this written documentation will be forwarded to the Safety and Occupational Health Office for inclusion in the employee's medical file. The area supervisor will inform all visitors and transients of the necessity to comply with the protective equipment requirements of the workstation.

b. It is the responsibility of the employee to wear his/her personal protective equipment when in a hazardous work area,

5. Protective Eyewear Policy. All government employees conducting eye hazardous operations or working in eye hazardous areas are required to wear eye protection specific to the hazard encountered. The appropriate personal protective equipment (goggles, face shield, industrial safety glasses) shall be provided at no cost to the employee. If it is determined that prescription lenses are required by vision screening and the employee has not worn prescription glasses before, the government shall pay for the eye examination. The government will not pay for routine eye exams. Safety eyewear shall be procured by using the section's VISA card with a local vendor whenever possible so that delays are kept to a minimum.

a. Supervisors are responsible to assure that eye hazardous operations and areas are identified and that employees are provided adequate personal protective equipment, to include corrective lenses if needed. Examples of eye hazardous operations are welding, grinding, sandblasting, using acids or corrosives, chipping, and bright sunlight. Eye hazardous areas are those areas immediately surrounding eye hazardous operations in which light, chemicals, projectiles, dust, etc., would be reasonably expected to cause eye damage if an unplanned event occurs.

would be reasonably expected to cause eye damage if an unplanned event occurs.

b. Supervisors are also responsible to see that all personal protective equipment and eye tests provided to employees are essential for performance of the work. For employees who are only intermittently exposed to eye hazards, the use of appropriate goggles over their glasses may be a suitable alternative to the purchase of safety glasses.

c. Eye hazards and protective equipment requirements shall be reviewed with employees during orientation and periodically thereafter. Contractors and visitors shall be informed of eye hazards and required to wear safety glasses or equivalent while conducting eye hazardous operations or while in eye hazardous areas in government facilities.

d. All industrial safety glasses shall meet the requirements of ANSI Z87.1. Glasses which meet only the Food and Drug Administrations design requirements for impact are not acceptable. Industrial safety glasses are the only type safety glasses authorized by this regulation. The difference between street-wear safety glasses and industrial safety glasses are distinct and significant. Street-wear safety lenses can have a center edge thickness as low as 2.0 mm; industrial safety glass lenses must have a minimum thickness of 3.0 mm and meet other requirements contained in reference 2.g. of this Appendix.

e. Contact lenses are not considered appropriate substitutes for eye protection. Contact lenses shall not be worn in work environments with chemicals, fumes, smoke, dust, or molten metals.

f. For chemical eye hazardous operations, approved emergency eyewashes shall be readily available.

g. All personnel who have effective sight in only one eye shall be furnished and required to wear safety glasses, plain or prescription, with side shields, except when performing routine office duties.

h. Photochromatic and sun lenses are approved; but ONLY FOR OUTDOOR USE. Photochromatic lenses are lenses that adjust to varying amounts of light, such as "Photogray" and "Photosun". Special-purpose tints used for indoor tasks shall be static (nonphotochromatic) and fit for a specific task; i.e., welding or cutting. If an employee is exposed to both indoor and outdoor

eye hazards then they shall be provided with adequate protection for both locations and hazards. Clip-on sunglasses are recommended as an inexpensive method of protecting against sunlight provided they meet the criteria described in sub-paragraph (2), below.

i. Protective glasses that filter a minimum of 96% of ultra-violet light a wavelength of 400 nanometers shall be worn by boat operators when conditions require such protection. The supervisor shall determine what other employees, in addition to boat operators, require protection from exposure to sunlight.

j. Eye protection shall be properly maintained. Prescription safety glasses shall be issued as personal property. When eye protection is not provided individual employees or when it is required for visitors or contractors, it shall be kept clean and readily available, e.g., kept in clean container near eye hazardous equipment or in a designated case in their immediate work area so that its use is encouraged by its presence or easy access.

(1) The cost of safety glasses (frame and lenses) shall not exceed **$130.00**. unless justified, in writing, by the employees' supervisor.

(2) If an employee purchases their own safety glasses, prescription of otherwise, they shall meet the requirements of ANSI Z87.1 if they are going to be worn on the job.

6. Protective Footwear Policy.

a. All government employees conducting foot hazardous operations or working in foot hazardous areas are required to wear protective footwear. If a physician, in writing, determines that a particular shoe is not suitable for an employee, the government shall follow the physician's recommendations.

(1) Supervisors are responsible to assure that foot hazardous areas are identified and that employees have the appropriate protective footwear for the hazards associated with the specific job. Foot hazardous operations are those operations which have a high potential for foot injuries, such as, material handling, construction, maintenance, automotive repair, field operations of Regulatory Division and Planning Division, etc.

(2) Supervisors are also responsible to see that all protective footwear is essential for performance of work. All employees, including intermittent and seasonal employees will be provided protective footwear.

(3) The cost of safety shoes shall not exceed **$200.00** unless justified in writing by the supervisor.

(4) Foot hazards and protective equipment requirements shall be reviewed with employees during orientation and periodically thereafter.

(5) All safety shoes shall meet requirements of ANSI Z41.1 or Z41.4

(6) Waterproof boots will be considered protective footwear. If a compression hazard exists along with the hazard of excessive moisture, then the waterproof boots will be the type that can cover a safety shoe.

(7) Protective footwear shall be properly maintained by the employee.

b. It is recommended that employees initially be provided two pairs of safety shoes to assure that clean, dry, well-maintained shows are always available. Safety footwear shall not be replaced until they are determined to be no longer usable by the immediate supervisor. The unusable pair shall be turned in to the immediate supervisor and shall be destroyed. In order that safety footwear is obtained in the most expedient manner, an approved small purchase method may be used with a local vendor to assure a good fit and expediency. If a local vendor is not available, which is the case in Ponce, PR, the most expedient method available that will assure a good fit, shall be used.

7. PFD's (Personal Flotation Devices).

a. Type III, Type V, or better vest type U.S. Coast Guard approved International Orange personal flotation device shall be worn by all government employees in work areas in which exists the potential for drowning.

b. Park Rangers are excluded from the requirements of 7.a. above; their PFD's will meet the same Coast Guard requirements but will be green with reflective tape.

c. PFD's shall be inspected before and after each use to detect defects, which could alter their buoyancy.

8. Respiratory Protection.

a. When respiratory protective equipment is required, a respiratory protection program shall be developed and implemented, including but not limited to: training, fit testing, selection of equipment, maintenance, and medical surveillance.

b. Medical status of individuals who are to wear respirators shall be evaluated and a statement from a qualified physician shall be provided that indicates that the individual is qualified to wear the specified type of respirator.

c. Only approved respiratory protective devices shall be provided and used. "Approved" means that the respirator and its component parts have been tested and listed as satisfactory by joint approval of MSHA (Mine Safety and Health Administration) and NIOSH (National Institute for Occupational Safety and Health) or SCBA and gas masks that have valid approvals from the Bureau of Mines.

d. A competent person knowledgeable of inhalation hazards and respiratory protective equipment shall conduct a step-by-step evaluation to insure only appropriate respiratory protection for the conditions of exposure is utilized. Protection factors described in EM 385-1-1, Appendix N shall be fully considered in the selection process.

e. Additional information regarding the District Respirator Program can be found in CESAJR 385-1-1, Appendix N.

9. Protective Headgear.

a. All government employees shall wear hard hats when working in or visiting a hard hat area.

b. Hard hat areas shall be identified and all points of entry to a hard hat area shall have a hard hat caution sign posted.

c. Hard hat areas shall be general areas such as construction, alteration, demolition, dredging, quarries, etc., rather than specific portions of a building or project.

d. All protective headgear shall meet the requirements of ANSI Z89.1, Class A. or ANSI Z89.2., Class B.

e. Protective headgear worn near electric lines and equipment shall be Class B (ANSI Z89.2).

10. Hearing Protection.

a. All employees in the District that are exposed to excessive noise shall be considered for inclusion in the Medical Surveillance Program for Hearing Conservation (Appendix O).

b. Noise monitoring shall be conducted by a representative of the S&OH Office.

c. Results of the noise survey shall be used to determine the appropriate type of hearing protection, which shall be supplied by the government.

d. All employees working in a noise hazardous area shall wear hearing protection.

e. Supervisors are responsible for identifying potential hazards, training employees in proper use of hearing protection, and for enforcing the use of hearing protection. The need for hearing protection is suspect when any one of the following three conditions exist:

(1) Employees have difficulty communicating with each other by speaking when in the presence of noise.

(2) Employees report head noises or ringing in the ears (tinnitus) after working for several hours in the noise.

(3) Employees sustain a temporary hearing loss which has the effect of muffling speech and other sounds following several hours of noise exposure.

11. Miscellaneous PPE. A number of chemical, physical and environmental hazards can be controlled with miscellaneous PPE.

a. Clothing, such as coats, parkas, pants and/or coveralls, sometimes made of special materials designed to protect against specific or general exposures to irritant, toxic or corrosive materials, may be reusable or disposable. In most cases, protective clothing is made of special impervious materials, which can withstand repeated or prolonged contact with solvents, acids, alkalis, or other chemical or physical agents.

b. Special foot protection such as slip-on toe protectors, metatarsal protectors, hip boots, oil or chemical resistant boots, waterproof and/or insulated boots, etc. (Misc. foot protection is almost always purchased with a protective toe).

c. Personal flotation devices (PFD's) used to provide flotation.

d. Insect bite kits used to provide protection to employees who are sensitive or allergic to insect bits. Can only be provided when prescribed by a physician.

e. Chaps used to provide protection when using chain saws.

f. Sweat bands used to prevent sweat from running into eyes or wrists.

g. Safety belts and lanyards worn for fall protection.

h. Knee pads worn to prevent bruising or scraping when working on knees.

i. Insect repellent used in areas infested with chiggers, mosquitoes, and ticks.

12. Funding. The costs of all personal protective equipment and apparel shall be charged to the account of the project requisitioning such items.

13. Property Accountability. Safety footwear and prescription safety glasses are issued to personnel as personal property. Supervisors are to maintain records of the dates and names of personnel and costs associated with the purchase of protective clothing and equipment.

SECTION 1
Certification of Hazard Assessment

Work Area: _____

Date Evaluated: _____

Hazards Present: _____ _____

_____ _____

_____ _____

PPE Required: _____ _____

_____ _____

_____ _____

Affected Employees: _____

_____

_____

_____

Certified _____ _____
Signature Date

SECTION 2
Certification of Training

On ____/____/____ the following employees were trained in the following subjects.

Employees: _____ _____

_____ _____

_____ _____

_____ _____

When PPE is necessary.

What PPE is necessary.

How to properly don, doff, adjust, and wear PPE.

The limitations of the PPE.

The proper care, maintenance, useful life, and disposal of PPE.

Certified _____ _____
Signature Date

APPENDIX N
RESPIRATOR PROGRAM GUIDELINES

1. Purpose. To prescribe requirements and procedures for the selection, use, care, and maintenance of respirators.

2. Applicability. This appendix applies to all elements of the Jacksonville District, both military and civilians. Contractors are required to submit an SOP (Standard Operating Procedure) on the proper use and handling of respirators (For contractors requirement see EM 385-1-1 and Title 29 CFR 1910.134).

3. References.

a. 29 CFR 1910.134, OSHA Standard for Respiratory Protection.

b. AR 40-5, Health and Environment.

c. ER 385-1-90, Respiratory Protection Program.

d. CESAD Supplement 1, ER 385-1-90, Sep 85.

e. TB MED 502, Respiratory Protection Program.

f. EM 385-1-1, General Safety Requirements.

g. ANSI Z88.2, Practice for Respiratory Protection.

h. AR 11-34, The Army Respiratory Protection Program.

4. Background. When working with toxic materials, it has long been recognized that the respiratory tract is the most important route by which toxic substances enter the body. Most industrial poisonings are caused by inhaling toxic substances. The primary effort to control such hazards should be in the form of engineering controls, such as specially designed ventilation systems. If engineering controls cannot be implemented, or are cost prohibitive, infeasible, or inadequate, respirators must be used to protect the individual whenever hazardous conditions exist. A respiratory protection program shall be established and implemented in accordance with ANSI Z88.2, and the Joint NIOSH/OSHA Standard Completion Program Respirator Decision Logic and Appendix N of EM 385-1-1. This program encompasses training, maintenance, care and awareness of the limitations associated with various types of respirators.

5. Responsibilities.

a. Each Area/Resident/Project Office shall become familiar with the respiratory protection program as outlined in this appendix. A copy of the program shall be maintained in the local office.

b. All supervisors shall:

(1) Request assistance from the S&OH Office in conducting atmospheric testing of area to determine if employees are exposed to contaminant levels in excess of the threshold limit values (TLV) and permissible exposure limits(PEL).

(2) Request assistance from the S&OH Office for fit testing of respirators.

(3) Enforce the use of respirators by employees. Written documentation of employees failure to wear respirators shall be cause for disciplinary action and shall be forwarded to the S&OH Office for inclusion in the employees medical records.

(4) Ensure all employees are trained in the proper use of respirators and report to medical surveillance examinations.

(5) Determine that compressed air breathing system alarms are tested prior to use in potentially IDLH (Immediately Dangerous to Life or Health) situations.

c. All employees shall:

(1) Wear and maintain respirators as required.

(2) Notify supervisors of any problems with respirators or if having respiratory problems.

(3) Report for training and medical surveillance examinations.

d. The Health Unit shall:

(1) Ensure supervisors are notified of employees annual physical.

(2) Ensure proper medical examination requirements are followed, i.e., Pulmonary Function test, etc.

e. Safety and Occupational Health Office shall:

(1) Ensure all respirators are approved by the National Institute for Occupational Safety and Health (NIOSH) and the Mine Safety and Health Administration (MSHA). Bureau of Mines (BM) approved Self-Contained Breathing Apparatus (SCBA) and Gas Masks may continue to be used until stocks are exhausted, if they meet current requirements for the specific hazard. The current "NIOSH Certified Equipment List" provides information on what is the appropriate respirator to use, and if the respirator is approved. This publication is available at the S&OH Office.

(2) Provide oversight to ensure compliance with the Respiratory Protection Program.

6. Program Requirements.

a. Respirators/canisters shall be selected according to the hazards to which the worker is exposed, this program means project personnel must know which type of respirator/canister to use in each particular situation. For guidance refer to EM 385-1-1, Appendix N or Section 1 of this appendix.

b. Supervisors shall be instructed in the proper use of respirators and their limitations. Respirators designed for protection against one hazard may be totally ineffective against another.

c. Employees shall ensure respirators are regularly cleaned, disinfected, and stored in a convenient, clean, and sanitary location.

d. The compressor for supplying air for breathing shall be equipped with necessary safety and standby devices; this means that if an oil lubricated compressor is used, it shall have a high temperature, equipment failure and carbon monoxide continuous monitoring alarm, a particulate filter, an activated charcoal canister for organic vapors and an oil moisture separator. All air line couplings must be incompatible with outlets for other gas systems. On all gasoline and diesel compressors, the exhaust and inlet ducts shall be separated by a minimum of 10 feet.

e. Employees shall be trained in the care of their respirator. Training shall include the following: Inspection for defects, cleaning and disinfection, repair, and storage.

f. Prior to initial use, supervisors shall have breathing air for respirators supplied from cylinders or air compressors tested and shall comply with the following specifications for Grade D air: Oxygen 19.5-23.5 %, Hydrocarbons less than 5 Mg/cubic meter, Carbon Monoxide less than 20 ppm, and Carbon Dioxide less than 1000 ppm. Oxygen must never be used with air-line respirators or in apparatuses that have previously contained or used compressed air.

g. Cylinders shall be visually inspected by supervisors in accordance with DOT requirements contained in 49 CFR parts 171-179 and 14 CFR part 103. Where DOT is not applicable, the inspections shall be conducted in accordance with Compressed Gas Association Pamphlets C-6 and C-8.

h. Supervisors shall not assign personnel to tasks requiring the use of respirators unless it has been determined that they are medically able to wear respirators while performing their work. See paragraph 10 of this appendix.

7. Training Requirements and Use of Respirators.

a. Supervisors as well as employees must know which respirators and cartridges are to be used in each situation. This must also be outlined in the form of written procedures (Refer to EM 385-1-1, App. N and TB MED 502). Contact the S&OH Office when assistance is necessary as new operations or projects develop.

b. An additional person must be present in areas where the failure of a respirator could result in the wearer being overcome by a toxic or an oxygen deficient atmosphere. Communications (visual, voice, or signal line) will be maintained between both or all individuals present.

c. Supervisors shall ensure that their employees have an opportunity to handle the respirator, have it fitted properly, test its seal, and familiarize themselves with the respirator by wearing it at periodic training sessions.

d. It must be stressed that respirators shall not be worn when a good fit can not be achieved. A good fit cannot be achieved by anyone who has a beard, long sideburns, a long mustache, or stubble. Facial hair does not effect the fit of an air-supplied hood respirator. Also, the absence of dentures can effect the fit of a face piece.

e. If air line respirators are used, the supplied air source shall not be able to be expended and the hose length cannot exceed 300 ft. from the source to the user.

f. The wearer of any type respirator shall not be allowed to wear contact lenses. If a spectacle, goggle, face shield, or welding helmet must be worn with a face piece, it shall be worn so as not to adversely effect the seal of the face piece to the face.

8. Maintenance, Care, and Storage.

a. All respirators shall be inspected by the employee for defects before and after each use and at least monthly to assure it is in good working order. The inspections shall include a check of the tightness of the connections and a check of the face piece, valves, connecting tube, canister, and cartridge. All rubber and elastic parts must be inspected for pliability and signs of deterioration.

b. Self-contained breathing apparatus shall be inspected by the employee monthly. Air cylinders shall be fully charged according to the manufacturers instructions.

c. A monthly record shall be kept by the supervisor of inspections and findings for respirators maintained for emergency use. Respirators intended for emergency use must be clearly accessible and stored in compartments built for such purposes; such compartments should be clearly marked.

d. If respirators are used regularly, they may be assigned to individual workers for their exclusive use.

e. Respirators shall be regularly cleaned and disinfected. Those issued for the exclusive use of one worker shall be cleaned after each days use. Those used by more than one person shall be thoroughly cleaned and disinfected after each use. To clean and disinfect respirators, they should be washed with detergent in warm water using a soft brush, rinsed thoroughly in clean water, rinsed in a disinfectant solution, rinsed again in clean water (to prevent skin irritation), and air-dried in a clean place. Cleaner and sanitizer solutions that clean effectively and contain bactericide are also available.

f. After inspection, cleaning, and necessary repair, respirators shall be stored in sanitary locations to protect against dust, sunlight, heat, extreme cold, excessive moisture,

and damaging chemicals. It is useful to store non-emergency respirators in plastic bags after they have been cleaned and disinfected.

g. Defective respirators shall be tagged and removed from service by the supervisor.

h. Respirators shall not be stored in tool boxes and lockers unless they are in carrying cases or other protective containers.

i. When stored, the face piece and exhalation valve must be in an upright or resting position. If stored in a bent, folded, or abnormal position, the face piece and exhalation valve can warp or become deformed and thereby void the NIOSH/MSHA APPROVAL.

9. Identification of Respirators, Canisters, and Cartridges.

a. Most manufacturers use the following guidelines when designing their product; therefore, while the identification information given below is necessary to know, it is usually not of major significance to the purchaser. Assistance in ordering specific respirator equipment may be obtained from the S&OH Office.

b. The primary means of identifying gas mask canisters should be by use of properly worded labels. Each canister shall have bold letters stating "Canister for (name of contaminant)." It shall also state "for respiratory protection in atmospheres containing not more than X percent by volume of (name of contaminant)."

c. Each canister shall have a label warning that gas masks should be used only in atmospheres with enough oxygen to support life (at least 16 percent by volume), since the cartridges are only intended to neutralize or remove contaminants from the air.

d. Each canister shall be painted a distinctive color or for a particular contaminant. For example, an organic vapor canister is signified by the color black; a canister for use in ammonia gas atmospheres (limited to 300 ppm) is green.

e. The use of one manufacturers respirator cartridge in conjunction with another manufacturers respirator is unacceptable. The problem with interchanging brand names is that an airtight seal cannot be guaranteed. In addition, the interchanging of respirator components voids any approval granted by NIOSH/MSHA.

10. Medical Requirements. It is important that no employee be assigned to tasks requiring the use of respirators if, based upon their most recent medical examination, the examining physician determines that the employee will be unable to function normally while wearing a respirator, or that the safety and health of the employee or other employees will be impaired by their use of a respirator. The focus of the medical examination should be on pulmonary and cardiovascular related problems. Workers who have indications of coronary artery disease, myocardial infarction, angina pectoris, or progressive or severe hypertension should only wear a continuous flow air line respirator unless approval from their physician is obtained. Those whose duty it is to respond to emergencies should not wear any type of respirator if they have a cardiovascular deficiency. Other physical conditions, such as diabetes or grand mal epilepsy, may limit wearing of respirators. With any individual medical problem, the final decision regarding respirator use is the responsibility of the examining physician.

SECTION 1
GUIDE FOR SELECTION OF RESPIRATORS

A-1. The FOA Safety and Occupational Health Office is responsible for advising supervisors on the type of respirator required. In selecting a respirator, Safety/Health and supervisory personnel should assemble the information needed by answering the following questions:

a. What is the measured or estimated contaminant concentration at the breathing zone of the worker?

b. What is the Permissible Exposure Limit (PEL) and/or Threshold Limit Value (TLV) of the contaminant? (Use more stringent of the two).

c. Is the workspace oxygen deficient (less than 19.5% oxygen)?

d. What is the lower explosive limit (LEL) of the contaminant?

e. Does an IDLH situation exist at contaminant concentration?

f. If gas or vapor --

(1) Is efficient sorbent available?

(2) Does contaminant have adequate warning properties?

g. Will eye irritation occur at contaminant concentration?

h. Will skin absorption pose a problem?

i. Are there other circumstances/conditions which should be considered?

A-2. Using the above information and Table A-1 and A-3, select the proper type of respirator and facepiece. Sections of these tables have been extracted from OSHA Instructions 2-20.20 Ch-4, 4 JUN 82, the original sources being "ANSI STANDARDS" and "Respirator Protection Factors" E. Hyatt, Los Alamos Scientific Laboratory Publication LA - 6084 - MS, Jan 76.

TABLE A-1

RESPIRATOR SELECTION GUIDE

HAZARD	TYPE RESPIRATOR
GASES OR VAPORS	
Oxygen Deficiency	Self-contained breathing apparatus, positive pressure mode. Combination air-line respirator with auxiliary positive pressure self-contained air supply.
Immediately dangerous to life or health (IDLH)	Self-contained breathing apparatus in positive pressure mode. Combination air-line respirator with auxiliary positive pressure self-contained air supply.
Not immediately dangerous to life health	Air-line respirator. Air-purifying, half-mask or full or facepiece respirator with chemical cartridges or canister.
PARTICULATES	
Immediately dangerous to life or health (IDLH)	Self-contained breathing apparatus in positive pressure mode. Combination air-line respirator with auxiliary positive pressure self-contained air supply.
Not immediately dangerous to life or health	Air-line respirator. Air-purifying, half-mask or full facepiece respirator with filters (pads or cartridges). Air-line abrasive-blasting helmet.
COMBINATION GASES, VAPORS AND PARTICULATES	
Immediately dangerous to life or health (IDLH)	Self-contained apparatus in positive pressure mode. Combination air-line respirator with auxiliary positive pressure self-contained air supply.

Not immediately dangerous to life health	Air-line respirator. Air-purifying, half-mask or full or facepieces respirator with chemical cartridges or canister and appropriate filters.

TABLE A-2

PROTECTION FACTORS FOR PARTICULATE
FILTER RESPIRATORS

Concentration in multiples of the PEL or TLV	Facepiece Pressure	Permissible Respirators
5 X	-	Single use dust
10 X	-	Half-mask dust
	-	Half-or quarter mask, fume
	-	Half-or quarter mask, high efficiency
	-	Half-mask supplied air
50 X	-	Full facepiece, high-efficiency
	-	Full facepiece, supplied air
	-	Self-contained breathing apparatus (SCBA)
1,000 X	+	Full facepiece, SCBA
	+	Full facepiece supplied air and auxiliary self-contained air supply
Fire fighting or emergency entry into unknown concentrations	+	Full facepiece SCBA
Escape only 1/	+	Any SCBA
	+	Any self rescuer

1/ In an atmosphere which is immediately dangerous to life or health.

NOTES: 1. Half-mask and quarter-mask respirators should not be used. Particulate matter causes eye irritation at these concentrations.

2. Full facepiece supplied-air respirators should not be used in any atmosphere which is immediately dangerous to life or health unless it is equipped with an auxiliary air supply which can be operated in the positive pressure.

TABLE A-3

PROTECTION FACTORS FOR GAS
OR VAPOR RESPIRATORS

Concentrations in multiples of the PEL or TLV	Facepieces Pressure	Permissible Respirators
10 X	-	Half-mask chemical cartridge respirator with "Name" cartridges, or canister half mask, supplied-air
50 X	-	Full facepieces gas mask or chemical cartridge with "Name: cartridges or canister.
	-	Full facepieces SCBA
		Full facepieces supplied-air
1,000 X	+	Half-mask supplied-air
2,000 X	+	Supplied-air with full facepiece, hood, helmet or suit
10,000 X	+	Full facepiece, SCBA
	+	Full facepiece supplied air with auxiliary self-contained air supply
Fire fighting or emergency entry into unknown concentrations	+	Full facepiece SCBA
Escape only 1/	+	Any full facepiece SCBA
	+	Any self-rescuer

1/ In an atmosphere which is immediately dangerous to life or health.

NOTES: 1. The "Name" means approved chemical canisters or cartridges against a specific contaminant or a combination of contaminants such as organic vapor, acid gases, organic vapor plus particulates or acid gases plus organic vapor.

2. Quarter or half-mask respirators should not be used if eye irritation occurs at the use concentration.

3. Full facepieces supplied air respirators should not be used in any atmosphere which is immediately dangerous to life or health unless it is equipped with an auxiliary air tank which can be operated in the positive pressure mode.

4. Air purifying respirators cannot be used for contaminant having inadequate warning properties.

APPENDIX O
HEARING CONSERVATION

1. Purpose. The purpose of this appendix is to eliminate occupational noise-related hearing loss among Jacksonville District personnel.

2. Applicability. This appendix applies to all elements of the Jacksonville District. The provisions of this appendix do not apply to deaf personnel as defined in ANSI S3.20.

3. References.

a. EP 385-1-58, Medical Surveillance.

b. ER 385-1-89, Hearing Conservation.

c. 29 CFR 1910.95, OSHA, Occupational Noise Exposure.

d. 29 CFR 1926.52, OSHA, Occupational Noise Exposure.

e. MIL STD 1472C, Human Engineering.

f. MIL STD 1474B, Noise Limits.

g. TB MED 501, Hearing Conservation.

h. EM 385-1-1, Safety and Health Requirements Manual.

4. Background. Noise is unwanted sound and it is transmitted, primarily, to the ear through air. It may injure the hearing mechanism. Noise-induced hearing loss may be temporary or permanent, depending on the frequency and intensity of the noise and the duration of exposure. Temporary hearing loss or temporary threshold shift results from auditory fatigue induced by exposure to intensive sound, and there is a return of the individuals pre-exposure hearing level after a period of time away from intensive sound. Permanent hearing loss or permanent threshold shift results from damage to the end organ of the inner ear and it is not reversible by any known treatment.

5. Requirements.

a. Each supervisor is responsible to implement and be familiar with the criteria established in this appendix. They are responsible for identifying those areas where employees are exposed to high noise levels, posting of noise hazardous areas,

use of engineering controls, education on prevention of hearing loss, and use of personal protective equipment. Noise hazards will be included in the Job Hazard Analysis.

b. Supervisors shall notify the S&OH Office of suspected noise hazardous areas. The S&OH Office shall conduct noise surveys to determine the level of exposure. In areas where employees are subjected to noise levels of 85 dbA continuous or 140 dbA impulse regardless of duration, engineering and/or administrative controls (limiting the duration of exposure, etc.) will be implemented to reduce the noise hazard. In noise hazardous areas where engineering and/or administrative controls are not feasible, any employee exposed to 85 dbA or greater shall be provided hearing protection devices and will be entered in the District Medical Surveillance Program. Nobody should be exposed to impulse or impact noise above 140 dbA peak sound pressure level.

6. Responsibilities:

a. Supervisors shall:

(1) Request the S&OH Office to measure and analyze all areas and equipment suspected of being noise hazardous. An area where one has to shout to communicate is probably over 85 dbA. DD Form 2214 shall be completed for every noise survey.

(2) Post signs or sticker labels on equipment and/or areas where noise is a hazard.

(3) Enforce the use of hearing protective equipment.

(4) Include noise exposure in employees Job Hazard Analysis.

(5) Inform the Personnel Office of positions where noise is hazardous to employees.

(6) Ensure engineering controls are established to protect employees from noise hazards.

(7) Requisition hearing protection equipment with the lowest noise emission levels performance requirements for noise environment.

(8) Ensure air boat operators wear double protection, i.e., ear plugs and ear muffs.

(9) Ensure that only hearing protective devices meeting requirements established by ANSI S3.19, are issued to employees exposed to noise hazard areas.

(10) Ensure that the applicable job description contains the requirement employee must wear hearing protection in performance of the job.

(11) Use disciplinary actions when necessary to enforce the proper use of hearing protection.

(12) Ensure that employees receive orientation and ongoing training on hearing conservation during safety meetings.

(13) Ensure that employees exposed to a noise hazardous work environment are considered for inclusion in the Hearing Conservation Program.

b. Employees shall:

(1) Wear provided proper hearing protection when required.

(2) Report for Audiometric testing when required.

(3) Attend and participate in periodic safety and occupational health training.

c. Safety and Occupational Health Office shall:

(1) Use only calibrated equipment for measuring and analyzing noise.

(2) Notify supervisors of areas or equipment that produce hazardous noise.

(3) Maintain all noise survey records for 40 years.

(4) Make provisions to schedule personnel for audiometric testing and yearly follow-up hearing tests for all personnel included in the Hearing Conservation Program.

d. Occupational Health Unit shall:

(1) Ensure audiometric testing is conducted by a physician, audiologist, otolaryngologist, or by a certified

technician under the supervision of one of the listed professionals.

(2) Ensure that the audiometric testing is conducted in an environment which allows 0 dbA hearing levels at test frequencies of 500, 1000, 2000, 3000, 4000, and 6000 Hz. Testing shall also include puretone, air conductive hearing threshold levels in each ear with test frequencies of at least 500, 1000, 2000, 3000, 4000, and 6000 Hz.

(3) Notify employees of any validated standard threshold shift (STS) in hearing loss further retesting.

(4) Maintain a roster of all personnel included in the Hearing Conservation Program.

e. Human Resources shall ensure that each job description of positions requiring inclusion in the Hearing Conservation Program reflect that information.

d. Engineering Division shall include noise abatement and noise considerations in their design work.

APPENDIX P
CONTRACT DIVING OPERATIONS

1. General. The Contractor shall have and execute a Safe Diving Practices Manual and a Dive Operations Plan. The term "Contractor" includes sub-contractors at any tier, and includes all forms of contracting arrangements, including, but not limited to construction contract, supply contract, service contract, purchase order, delivery order under an Indefinite Delivery contract, etc.

2. References. All diving operations shall be performed and conducted in accordance with the requirements of this regulation and the following documents, latest edition at time of submittal of offer (where a difference in standards exists, the most stringent shall apply):

a. U.S. Army Corps of Engineers' Safety and Health Requirements Manual, EM 385-1-1.

b. U.S. Navy Diving Manual, Volumes I and/or II (NAVSEA, 0994-LP-001-9010 and NAVSEA 0994-LP-001-9020), as appropriate.

c. 29 CFR 1910, Subpart T, OSHA.

d. U.S. Army Corps of Engineers, South Atlantic Division regulation CESADR 385-1-1.

3. Administration. The following items shall be furnished by the contractor as a single submittal after award of the contract, preferably before the pre-construction conference. All items must be reviewed and accepted by the District Diving Coordinator (DDC) prior to the commencement of any diving operations. These items shall be a completely separate document from the Accident Prevention Plan required for any other work under the contract.

a. Safe Diving Practices Manual.

b. Dive Operations Plan (see EM 385-1-1, paragraph 30.A.13). This Plan shall contain information specific to the diving operation(s) to be performed under the contract. A generalized, philosophical discussion of diving, or an enumeration of diving-related theory will NOT be accepted.

c. Activity Hazard Analysis. This must address specific hazards anticipated for the particular diving operations to be performed under the contract, and must specifically address other

work of any kind being performed under the contract that could interface with or affect the diving operation, such as crane lifts, as well as methods or procedures for communications between the other work, crane operators, etc., and the divers. Applicable lock out, tag out or safe clearance procedures for any machinery that could affect the divers must also be included in the Analysis.

d. Medical certificate from a licensed physician who is qualified in barotrauma and hyperbaric medicine. The certificate shall indicate that the diver is physically qualified to perform diving work, and detailing any limitations the individual may have. The certificate shall be based upon a physical examination of the diver conducted by that physician within the 365 calendar days immediately prior to the date of any dive performed under the contract.

e. An up-to-date resume for each diver, describing diving training and experience for that individual.

f. Proof of CPR and first-aid training for each member of the dive team.

g. Air quality certificates or other documentation, demonstrating that the breathing air source for the divers has been tested at not more than 6-month intervals, and otherwise complies with the standards specified in paragraph 30.E.05.b, EM 385-1-1.

h. Certification or documentation that any SCUBA air cylinders to be used by the divers have been visually inspected at 12-month intervals and hydrostatically tested at 5-year (60-month) intervals as specified in paragraph 30.B.03.f(3), EM 385-1-1.

i. Identification of the oxygen resuscitation equipment to be available at the dive location during any diving operations.

4. Organization and Responsibilities.

a. The District Safety and Occupational Health Office is responsible for the oversight of the District Diving Policy. With respect to contract diving operations, that oversight includes, but is not limited to, the following:

(1) Review of contractor's Dive Plans and Diving logs as part of regular scheduled inspections.

(2) Review of Preventative Maintenance Program for all diving equipment utilized by contractor divers, including log of equipment inspection and maintenance, and record of air quality certification as part of regular scheduled inspections.

(3) Review of medical certificates for divers.

(4) Review of each contractor's dive plan, including recommendations of the DDC.

b. The DDC has the responsibility of organizing, integrating, monitoring, and administering the total diving program within the District. All matters concerning diving operations shall be referred to him/her. The DDC shall also:

(1) Review all dive plans.

(2) Maintain all records of District diving operations.

c. An alternate DDC shall perform the above duties when the DDC is not available.

d. Tender. Each tender shall perform pre-dive and post-dive inspections of all diving gear and support equipment, establish diving time schedules, serve as timekeeper when the dive team does not include one, and assist divers as needed.

e. Diver. Each Diver shall ensure that he/she has an adequate air supply, sufficient air reserve, and all required equipment in his/her possession during diving activities. Each diver is responsible for notifying the Diving Supervisor/Dive Master of any changes in his/her ability to dive safely. Each Diver shall maintain a Diving Log. (Sample form enclosed at Section 1 of this Appendix.)

5. Operations.

a. Equipment. Types of equipment as prescribed in the U.S. Navy Diving Manual are considered acceptable.

(1) All diving equipment, including diving craft, shall be inspected at least every 12 months and following any repairs, accidental damage, or long periods of disuse. These inspections will be documented in writing, and legible copies of the most recent inspection certificates/reports will be made available to the Government upon request.

b. Repetitive Dives. Special problems are associated with repetitive diving and the procedures and tables outlined in the U.S. Navy Diving Manual shall be closely followed when performing repetitive dives. The repetitive dive work sheet (Sample form enclosed at Section 2 of this Appendix) shall be used to record and control dives in this category.

c. Emergency Diving Requirements. When situations arise requiring an emergency dive, the DDC shall receive immediate telephone notification of the same, along with a verbal diving plan which will be confirmed in writing. An "emergency" will not be created or declared to circumvent the requirement to submit a Dive Plan for diving operations in support of scheduled work under the contract.

d. Alteration of Mission. If for any reason the dive mission as planned is altered, the DDC shall be contacted and the revised procedure established, reviewed and approved prior to the operation continuing.

e. Snorkeling and Breath-hold Diving. Snorkeling and breath-hold diving are considered to be diving activities conducted without an artificial source of breathing air. Therefore, all requirements of this regulation and the documents referenced in paragraph 2, above, shall be strictly adhered to, except those that relate to or specify breathing air sources and equipment. In lieu of buoyancy compensators, snorkeling vests shall be furnished for and worn by all employees performing snorkeling.

6. Inspection of Diving.

a. Diving Inspectors are normally not required for nonworking type dives. Nonworking type dives are defined as those which are performed in order to conduct an inspection, recover minor dropped items, and sample gathering. A/E contracts fall under this category. Conditions may require that inspections be performed in some cases, as on working dives, as determined by the DDC.

b. Full-time inspection of working dives is not required. A Diving Inspector will be present at the initial pre-dive conference and may spot check any working dive. Diving Inspectors shall be trained and designated as specified in EM 385-1-1.

c. Full-time inspection will be required in all dives in which it is felt a clear and present hazard exists. The decision for full-time inspection will be made by the Area Engineer/Staff Chief with the concurrence of the DDC.

d. If the situation arises where an activity does not have a Diving Inspector and one is needed, the DDC will assist in arranging for one from another activity.

7. Dive Teams. The minimum number of personnel required for all contract diving operations in the Jacksonville District is as follows:

a. SCUBA Diving - Untethered, working depth 0 to 60 feet.

Diving Supervisor/Dive Master*	1
Divers (In the water, in visual contact at all times.)	2
Standby Diver	1
Total team members	4

* The Diving Supervisor/Dive Master will have NO OTHER DUTIES, and WILL NOT SERVE AS THE STANDBY DIVER.

b. SCUBA Diving - Tethered with communications, working depth 0 to 100 feet.

Diving Supervisor/Dive Master*	1
Diver in water	1
Standby Diver (tethered with communications)	1
Tender**	2
Total team members	5

* The Diving Supervisor/Dive Master will have NO OTHER DUTIES, and WILL NOT SERVE AS TENDER FOR THE STANDBY DIVER.

** For each additional diver in the water, one Tender will be added to the team. The Tender for the Standby Diver will serve as Timekeeper for all Divers in the water.

c. Surface-supplied air - any working depth.

Diving Supervisor/Dive Master*	1
Diver in water	1
Standby Diver	1

Tender**	2
Timekeeper (For all dives to working depths in excess of 33 feet)	1
Total team members	5 or 6

* The Diving Supervisor/Dive Master will have NO OTHER DUTIES, and WILL NOT SERVE AS STANDBY DIVER, TIMEKEEPER, OR TENDER FOR THE STANDBY DIVER.

** For each additional diver in the water, one Tender will be added to the team. For dives to working depths of less than 33 feet, the Tender for the Standby Diver will serve as Timekeeper for all Divers in the water. For dives deeper than 33 feet and/or repetitive dives, the standby diver must not have dived within the past 12 hours.

d. Surface-supplied mixed-gas diving (HeO2). Will be in accordance with Table IV of Appendix N to EM 385-1-1.

8. Emergency Procedures.

a. The following are procedures to be followed in the event of a diving emergency. The entire team shall become familiar with these procedures.

(1) For diving operations along the coastal and gulf waters, the Intercoastal Waterway, and the Lake Okeechobee area, requests for emergency assistance may be made to the U.S. Coast Guard. The closest location should be utilized to save time. Marine radio channel 16, for emergencies, should be used in lieu of telephones calls. Any call placed to the U.S. Coast Guard should be directed to the Duty Officer.

(2) For all diving operations, the Diving Master/Supervisor is responsible for obtaining the nearest location and emergency numbers (ambulance, police, hospital, hyperbaric chamber, etc.) for the diving area, and including that information in the Dive Operations Plan.

b. Emergency air transport service will allow for seriously injured personnel to be transported to hospitals and/or hyperbaric chambers locations. As a minimum, the following should be made available at the time of the rescue effort:

(1) Name of person making request.

(2) Exact location of pick-up site.

(3) Number of injured persons with ages.

(4) Type of injuries.

(5) Time of injury.

(6) Condition of patient(s).

(7) Special equipment/medication/attention required to sustain life of patient(s).

(8) Pick-up site information.

(a) Marking of landing area (lights, flares, smoke, markers, etc.).

(b) Type of landing area (parking lot, grass field, ocean pickup, helipad, etc.).

(c) Obstructions (power lines, buildings, flag poles, etc.).

(d) Weather (estimated ceiling, and visibility, any precipitation).

(e) Winds (estimated direction and velocity).

(9) Proposed destination of patient(s).

(10) Number of persons to accompany patient(s).

APPENDIX Q
GOVERNMENT PERSONNEL DIVING OPERATIONS

1. Purpose. This appendix, in conjunction with ER 385-1-86, prescribes policy requirements, responsibilities, and procedures for all under-water diving operations performed by employees of the U.S Army Corps of Engineers (USACE). This Appendix is the "Safe Practices Manual" for Jacksonville District required by paragraph 7 of ER 385-1-86.

2. References.

a. ER 385-1-86.

b. NAVSEA, O994-LP-001-9010.

c. 29 CFR 1910, Subpart T, OSHA.

d. South Atlantic Division regulation DR 385-1-1.

3. Policy. It is the policy of USACE that all underwater activities shall be conducted in a manner which will provide maximum efficiency and minimize the potential for personal injury, loss of life, occupational illness, and/or property damage. Diving will not be utilized if the objective(s) can be more safely accomplished by other means, e.g., using remote controlled television systems in lieu of divers.

4. Organization and Responsibilities.

a. The Safety and Occupational Health Office is responsible for oversight of the District Diving Policy. With respect to diving operations performed by USACE personnel, that oversight includes, but is not limited to, the following:

(1) Review of Dive Plans and Diving Logs as part of regularly scheduled inspections.

(2) Review of Preventative Maintenance Program for all diving equipment, including log of equipment inspection and record of air quality certification as part of regularly scheduled inspections.

(3) Review of medical records for each diver by an Occupational Health Nurse on a semi-annual basis.

(4) Semiannual review of diving records as kept by the District Diving Coordinator (DDC); to include:

(a) Dive Plans.

(b) Dive Logs; including repetitive dive work sheets.

(5) Providing a Safety and Occupational Health Office Dive Safety Representative, as described in Appendix A to ER 385-1-86.

b. The District Diving Coordinator (DDC) has the responsibility of organizing, integrating, monitoring, and administrating the total diving program within the District. All matters concerning diving operations shall be referred to the DDC. The DDC shall also:

(1) Review all dive plans.

(2) Maintain all records of District diving operations.

(3) Maintain updated records of training and medical certifications for all divers. All medical records will be kept in the Health Unit files.

(4) Appoint a Diving Equipment Monitor (DEM) for each office with diving operations.

c. An Alternate DDC shall perform the above duties when the DDC is not available.

d. Diving Equipment Monitor (DEM). The DDC shall designate, in writing, a qualified individual to serve as DEM for each District element authorized to maintain dive team(s). The DEM shall ensure that the organization's diving equipment (including each source of compressed air) is inspected at the required frequency and is in operational condition. The DEM shall have any equipment that is not in proper condition either repaired or removed from service. The DEM shall maintain a log of each equipment inspection, malfunction, modification, repair, test or calibration. Records shall include the date and nature of work performed and the name and organization of the person performing the work.

e. Tender. Each tender shall perform pre-dive and post-dive inspections of all diving gear and support equipment, establish diving time schedules, serve as timekeeper when the dive team does not include one, and assist divers as needed.

f. Diving Supervisor. The Diving Supervisor is a Corps employee who supervises Corps employee divers during a diving operation. He/she has overall responsibility for the conduct and safety of each diving operation. He/she shall ensure that all equipment required for the job is available at the work site, that the diving plan has been submitted and approved, that each dive is conducted according to the plan, and that each diver is visually inspected for signs of sickness or injury prior to diving and immediately after surfacing. He/she shall conduct a pre-dive briefing and shall ensure that each member of the dive team is familiar with the briefing material. The Diving Supervisor is qualified only by successful completion of HQUSACE-approved training. The Diving Supervisor will have no other assigned duties during a dive, and is the individual who prepares written diving plans for USACE employee dives.

g. Diver (General). Each Diver shall ensure that he/she has an adequate normal air supply, sufficient air reserve, and all required equipment in his/her possession during diving activities. Each diver is responsible for notifying the Diving Supervisor of any changes in his/her ability to dive safely. All USACE employee divers will be on record with the DDC. This status may be obtained in the following ways:

(1) Diver-in-Training. This certification will be authorized upon successful completion of a basic SCUBA diving course recognized by the National SCUBA Training Council. The Deputy Commander must approve this certification in writing, according to, and with the restrictions of, 6.a. below. Divers-in-Training will not be counted as a "Diver" for purposes of the minimum number of Divers required for a dive team required by Appendix E to ER 385-1-86.

(2) Corps Diver. All divers designated as members of a dive team pursuant to Appendix E to ER 385-1-86 will hold this designation. A Corps Diver is certified with the restrictions of 6.a.(2) below.

5. Administration.

a. Medical. A physical examination performed by a licensed physician will be required of all divers. A statement from the physician indicating that the diver is physically qualified to perform diving work and detailing any limitations the individual may have, will be required prior to diving. This statement shall be based upon a physical examination conducted by that physician within the 365 calendar days immediately prior to the date of the

dive. Each physical examination shall address all items specified in Appendix C to ER 385-1-86.

b. Record Keeping. Each Diver shall maintain a log for each dive conducted. The log shall be kept by that diver for at least one year and a copy shall be forwarded to the DDC immediately upon completion of each diving assignment. The diving log format is shown in Section 1. (Also see paragraph 7.e. of ER 385-1-86.) Each diver will provide the DDC with copies of all current certifications for diving training (PADI, NAUI, HQUSACE-approved, etc.) and first aid and CPR training, as soon as each is obtained. (Also see paragraph 7.f. of ER 385-1-86, for records to be created and maintained in the event of symptoms of decompression sickness or pulmonary barotrauma.)

c. The DDC will review the individual's medical and diving qualifications, first-aid and CPR training certifications, etc., and if they meet the required standards, the DDC will issue to the individual a Letter of Authorization (LOA) to perform underwater diving operations. This LOA will establish the diver's status, limits, and special conditions to be observed by the diver. Each LOA will be valid for a period not exceeding twelve months from the date of the diver's latest medical examination, first-aid or CPR training, etc. If an individual fails to meet the required standards, he/she will be notified of the basis for failure by the DDC.

d. Renewal of authorization. The renewal of a previously issued authorization to dive shall follow the procedures for authorizing new divers.

e. Termination of authorization to dive. Requests for removal from diving status shall be made in writing to the DDC. The DDC may revoke, suspend, or restrict an individual's diving authorization when, in the DDC's opinion, the individual's ability to dive safely is impaired. When an individual is removed from diving status for any reason, the DDC shall notify the individual through his/her supervisor in writing.

6. Training.

a. Initial Training. USACE employees may be placed in a diving status upon successful completion of a basic SCUBA diver course recognized by the National SCUBA Training Council. Employees can only obtain this status by forwarding a written request to the DDC, detailing the necessity of this status, approved by the Staff Chief/Area Engineer; and furnishing copies

of proof of diving, first-aid and CPR training; a brief resume of diving experience; medical certification; and an SF 52 to add "Diver" to the employee's job title. The SF 52 will be prepared for approval by the Deputy Commander. The DDC will obtain approval from the Deputy Commander to authorize this status. If this status is authorized, the DDC will notify the employee in writing by issuing a Letter of Authorization, pursuant to paragraph 5.c. of this Appendix.

(1) Diver-in-Training. Divers who possess a Basic SCUBA Diver certification and are restricted as stated in paragraph 6.a., above. Employees may remain in the Diver-in-Training classification for a maximum of 12 months, by which time the HQUSACE-approved "Diver Safety" training course must be successfully completed. All divers in this category are limited to SCUBA equipment and to a maximum depth of 33 feet. All dives performed by a diver with only basic SCUBA certification MUST be accomplished under the direct, in-water supervision of a diver with the Corps Diver classification.

(2) Corps Diver. Divers who have successfully completed the HQUSACE-approved diver training course may be classified as a Corps Diver. Divers assigned this category may dive with SCUBA or surface-supplied air equipment to a maximum depth of 100 feet, provided no decompression is required. Divers must complete 12 working/training dives per year to maintain this classification. Divers not performing 12 annual dives will have their letter of authorization revoked and will revert to Diver-in-Training classification for a period not to exceed one year, until the required 12 dives are performed under the direct in-water supervision of a Corps diver. If 12 dives are not performed during the one year period, the diver will be dropped from the District diving program.

b. Refresher Training. HQUSACE-approved refresher training is required at intervals not to exceed 4 years to retain certification as a Corps Diver, Diving Supervisor, Safety and Occupational Health Office Dive Representative, or Diving Coordinator.

c. First Aid Training. Each dive team member must hold a current certificate in first aid and CPR from the American Red Cross, or equivalent, to include the use of oxygen resuscitation equipment.

7. Operations.

a. U.S. Army (military) personnel from Engineer Detachments (Diving) can be made available to accomplish diving requirements. District elements having requirements for diving operations will consider the use of this resource, and should contact the DDC for further information. These detachments operate under their own regulatory guidance, thus relieving the District of preparing and reviewing dive plans.

b. Equipment. Types of equipment as prescribed in the U.S. Navy Diving Manual are considered acceptable. Any deviations will be with the knowledge and written approval of the DDC.

(1) All requisitions for acquisition, repair, etc., of diving equipment shall be routed through the DEM and the DDC, enroute to CESAJ-CT. Only approved equipment will be purchased or utilized by USACE employee divers; additionally, equipment modifications are not permitted at any time regardless of how logical it may appear, unless authorized in writing by the DDC.

(2) All diving equipment, including diving craft, shall be inspected at least every 12 months and following any repairs, accidental damage, or long periods of disuse.

(3) Compressed air cylinders shall be visually inspected at least every twelve months and hydrostatically tested every 5 years.

(4) Umbilicals and tethering lines shall be marked in 10 foot increments beginning at the diver's end.

(5) When SCUBA diving, a buoyancy compensator is mandatory and shall be capable of maintaining the diver in a face-up position at the surface.

(6) A cylinder pressure gauge capable of being monitored by the diver during the dive shall be worn by each SCUBA diver.

(7) A timekeeping device shall be available at each dive location.

(8) A standard diving flag shall be displayed during all dives.

c. Air Testing and Certification. Breathing air shall be tested in accordance with references 2.b. and 2.c., at intervals not to exceed 183 consecutive calendar days. Copies of

certificates documenting these tests shall be obtained from the vendor(s) whenever SCUBA tanks are filled, and forwarded to the DDC with the diving logs. A single copy of a certificate for repetitive tank fillings by the same vendor may be obtained at the 183-day intervals. Should it be impracticable to obtain a copy of the test results or certificate from a vendor, the format shown in Section 2 of this Appendix shall be prepared locally and signed by the vendor and an appropriate Corps employee attesting to the existence of the certificate

d. SCUBA Diving Operations. All SCUBA diving operations in the Jacksonville District will be accomplished in strict accordance with paragraph 9. of ER 385-1-86; except:

(1) The Diving Supervisor will NOT serve in any other capacity during the diving operation. That is, the Diving Supervisor will NOT serve (or be designated) as Tender, Stand-by Diver, Tender for Stand-by Diver, Timekeeper, etc.

(2) When line-tending is required, one Tender will be assigned to the dive team for EACH Diver in the water, AND for EACH Stand-by Diver.

(3) For dives to depths in excess of 60 feet (maximum depth of dive), an additional member of the dive team, to serve as Timekeeper, will be provided.

e. Repetitive Dives. Special problems are associated with repetitive diving and the procedures and tables outlined in the U.S. Navy Diving Manual shall be closely followed when performing repetitive dives. The repetitive dive work sheet (Section 3) shall be used to record and control dives in this category.

8. Diving Plans.

a. All diving operations within Jacksonville District are required to have a Diving Plan and an Activity Hazard Analysis. (See Sections 4 and 5 of this Appendix for an outline of a Diving Plan and examples of items to be included in an Activity Hazard Analysis.) The Diving Plan and Activity Hazard Analysis must be approved by the DDC prior to the commencement of any diving operations.

b. The responsible Diving Supervisor shall write and develop the operational dive plan and Activity Hazard Analysis.

c. When situations arise requiring an emergency dive, the DDC (or, in his absence, the Alternate DDC) shall receive immediate notification by telephone, to include a verbal diving plan which will be confirmed in writing.

9. Pre-Dive Conference.

a. Prior to any dive, a pre-dive conference shall be held at the scene of the dive with all members of the dive team.

b. Prior to any diving mission, the entire dive team will be briefed in detail (as a minimum) on the following:

(1) Description of mission and location.

(a) Drawings and/or photographs pertinent to the mission.

(b) Equipment or materials to be inspected, installed, removed, repaired, etc., as part of the mission.

(c) When possible, incorporate at least one member into the dive team who previously participated in the exact or a similar mission.

(2) Description of diving apparatus/equipment and craft to be used.

(3) Maximum working depths with estimated bottom times.

(4) Names and duties of personnel on the dive team.

(5) Discussion of Activity Hazard Analysis.

(6) Emergency procedures.

c. Alteration of Mission. If for any reason the dive mission as planned is altered, the DDC shall be contacted and the revised procedure established and reviewed prior to the operation continuing.

10. Snorkeling and Breath-hold Diving. Snorkeling and breath-hold diving are considered to be diving activities conducted without an artificial source of breathing air. Therefore, all requirements of this regulation and the references in paragraph 2, above, shall be strictly adhered to, except those that relate to or specify breathing air sources and equipment. In lieu of

buoyancy compensators, snorkeling vests shall be worn by all employees performing snorkeling and/or breath-hold diving.

11. Dive Teams. The number and types of personnel required to comprise dive teams shall be in accordance with Appendix E to ER 385-1-86, and paragraph 7.c. above. Deviations from these minimum manning levels may be authorized only by the DDC. It is emphasized that these are minimum diving levels - actual personnel deployment will be at a sufficient level to assure a safe, effective and efficient diving operation.

12. Emergency Procedures.

a. The following are procedures to be followed in the event of a diving emergency. The entire team shall become familiar with these procedures.

(1) For diving operations along the coastal and gulf waters, the Intercoastal Waterway, and the Lake Okeechobee area, requests for emergency assistance should be made through the U.S. Coast Guard. The U.S. Coast Guard Base locations can be found in the attached list (Section 6). The closest location should be utilized to save time. Marine radio channel 16, for emergencies, should be used in lieu of telephones calls. Any call placed to the U.S. Coast Guard should be directed to the Duty Officer.

(2) If emergency air transportation service is needed, this service may be requested through the U.S. Coast Guard.

(3) A listing of Hyperbaric chambers is attached with emergency numbers (Section 7). This information should be verified by the Diving Supervisor prior to any dive.

(4) For diving emergencies around inland Florida, the Diving Supervisor is responsible for obtaining the nearest emergency numbers (ambulance, police, hospital) for the diving area prior to diving, and including that information in the Diving Plan.

b. Emergency air transport service may be requested through the local police. This service will allow for seriously injured personnel to be transported to hospitals and/or hyperbaric chambers locations. Hospitals in all major cities in Florida have helipads for emergency landings. As a minimum, the following should be made available for rescue:

(1) Name of person making request.

(2) Exact location of pick-up site.

(3) Number of injured persons, with ages.

(4) Type of injuries.

(5) Time of injury.

(6) Condition of patient(s).

(7) Special equipment/medication/attention required to sustain life of patient(s).

(8) Pick-up site information.

(a) Marking of landing area (lights, flares, smoke, markers, etc.).

(b) Type of landing area (parking lot, grass field, ocean pickup, helipad, etc.).

(c) Obstructions (power lines, buildings, flag poles, etc.).

(d) Weather (estimated ceiling, and visibility, any precipitation).

(e) Winds (estimated direction and velocity).

(9) Proposed destination of patient.

(10) Number of persons to accompany patient(s).

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DIVING LOG

NAME (LAST, FIRST, MIDDLE E.)

DATE OF LAST PHYSICAL: | TENDER: | DISTRICT & PROJECT:

1. DIVE

DATE: | DEPTH OF DIVE: FT. | REPETITIVE DIVE: ☐ YES ☐ NO | BOTTOM TIME

2. DIVING CONDITIONS

WATER DEPTH: FT. | WATER TEMP.: °F. | CURRENT: KTS | TYPE BOTTOM: | BOTTOM VISIBILITY: FT.

3. TYPE WORK

(NONE, MILD, MODERATE, HEAVY)

4. EQUIPMENT

☐ DEEP SEA ☐ SCUBA (OPEN) ☐ HEL-OXYGEN
☐ MASK ☐ SCUBA (CLOSED) ☐ OTHER: _____

5. BREATHING MEDIUM

AIR	HELIUM %	OXYGEN %	NITROGEN %

6. SOURCE OF BREATHING MEDIUM

☐ AIR BANKS ☐ HEO BANKS ☐ COMP.

7. REPETITIVE NO-DECOMP. DIVES

	1	2	3	4
TIME OUT				
TIME IN				
TIME (MIN.)				
DISTANCE (YARDS)				
AIR OUT (PSI)				
AIR IN (PSI)				
AIR USED (CU FEET)				
MAX. DEPTH (FEET)				

☐ SUIT USED	BOT. VOL. (CU. FT.)	TOT. TIME (MIN.)	TOT. DIST. (FEET)

8. DECOMP. TABLE

STD.	SURFACE AIR	SURFACE OXYGEN	HEO.	SCHEDULE FT./PP	SCHEDULE MIN.

LEFT SURF.	REACH'D BOT.	LEFT BOT.	ASC'D.	ASC. TO 1ST STOP (FT/MIN)

9. DECOMPRESSION STOPS

(RECORD ADDITIONAL STOPS IN 12)

IF SURF. DECOMP. USED, TIME FROM LAST WATER TO FIRST CHAMBER STOP. ____ MIN.

DEPTH	WATER MIN.	WATER SA. MED.	CHAMBER MIN.	CHAMBER SA. MED.
50				
40				
30				
20				
10				

10. TOTAL TIME OF DIVE(S)

THIS/THESE ____ MIN. | CUMULATIVE ____ HRS. ____ MIN.

11. WORK SCHEDULES AND ACCOMPLISHED:

12. REMARKS:

_____ DIVING SUPERVISOR

_____ DIVING INSPECTOR

SECTION 2
CERTIFICATION FOR AIR TESTING

This certifies that the air compressor and distribution system used to fill SCUBA tanks at the following dive shop has been tested for air purity within the past six months.

Dive Shop: _____

Address: _____

_____

Date of last test: _____

Date: _____

Dive Shop Representative: _____

Corps Diver: _____

This statement is to be used when air is purchased in the field from a dive shop and a copy of the air certificate from a testing facility cannot be furnished by the vendor.

SECTION 3

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REPETITIVE DIVE WORKSHEET		
1. PREVIOUS DIVE		
_____ minutes _____ feet	see table 1-10 or 1-11 for repetitive group designation	Group _____
2. SURFACE INTERVAL		
_____ hours _____ minutes on surface Group _____ (from 1.)	see table 1-12 for new group	Group _____
3. RESIDUAL NITROGEN TIME		
_____ feet (depth of repetitive dive) Group _____ (from 2.)	see table 1-13	_____ minutes
4. EQUIVALENT SINGLE DIVE TIME		
_____ minutes (residual nitrogen time from 3.) (add) _____ minutes (actual bottom time of repetitive dive) (sum) _____ minutes		
5. DECOMPRESSION FOR REPETITIVE DIVE		
_____ minutes (equivalent single dive time from 4.) _____ feet (depth of repetitive dive)	see table 1-10 or 1-11	
☐ No decompression required or Decompression stops: _____ feet _____ minutes _____ feet _____ minutes _____ feet _____ minutes _____ feet _____ minutes		
NOTE: Tables referred to above are US Navy Standard Decompression Tables		

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SECTION 4
SAMPLE DIVING PLAN

1. Operations.

    a. Date and location of proposed dive.

    b. Purpose of dive.

    c. Itemize elements of underwater work.

2. Conditions in Diving Area.

    a. Water depth (maximum diving depth).

    b. Maximum bottom time(s) for the dive(s).

    c. Visibility (average anticipated).

    d. Water temperature range.

    e. Currents (maximum to be expected).

    f. Obstructions.

    g. Other hazardous conditions known or suspected. (To include hazardous marine organisms.)

3. Diving Techniques.

    a. Type of dive (category).

    b. Special procedures (safety line, etc.).

4. Equipment. (As specified in paragraph 7.b of Appendix Q to CESAJR 385-1-1 and special equipment. This will serve as the on-site checklist.)

    a. Wet suit or other protective clothing, if used.

    b. Diving platform.

    c. Air supply. (To include copies of air test certificates.)

d. First aid kit. (To include oxygen resuscitation equipment.)

e. Other required equipment. (Stokes litter, backboard with flotation collar and lifting sling, diving flag, communications equipment, etc.)

5. Personnel.

a. Senior diver and qualification rating.

b. Tender-timekeeper.

c. Other personnel and certification.

d. Names and duties of all dive team members, including the Diving Supervisor.

6. Pre-Dive Conference.

a. All divers will be given an operation briefing by the Diving Supervisor prior to start of operations and entering the water.

b. Pre-dive check will be completed for each diver by the other Divers and the Diving Supervisor.

c. Discussion of the Activity Hazard Analysis for the dive.

d. Emergency procedures (specify assigned responsibilities for each member of the dive team).

7. Emergency Management Plan.

a. First aid qualified personnel at the dive location.

b. Name, location, etc., of the nearest medical facility, hospital, etc., including telephone number, estimated mileage, and evacuation route from the dive location.

c. Nearest recompression facility.

d. Nearest Coast Guard Station and telephone number for MEDIVAC.

8. An Activity Hazard Analysis, to specifically include lock out/tag out procedures, safe clearance procedures, communication with adjacent work, etc. (See Section 3 of this Appendix.)

9. All Diving Plans will include the following statements:

a. If for any reason the Diving Plan, as accepted, is altered in mission, depth, personnel, or equipment, the DDC shall be contacted in order that he may review any revision prior to actual operation.

b. All diving activities will be accomplished in accordance with Regulation CESAJR 385-1-1, Appendix Q, and ER 385-1-86.

SUBMITTED BY: _____

DATE: _____

RECOMMENDED FOR ACCEPTANCE: (Staff Chief or Area Engineer)

DATE: _____

APPROVED BY: (District Diving Coordinator, or Alternate)

DATE: _____

SECTION 5
ACTIVITY HAZARD ANALYSIS

1. Under the provisions of District Regulation CESAJR 385-1-1, Appendix Q, the following analysis of hazards that divers and diver support teams encounter is listed. Prior to each diving mission, this analysis will be reviewed by the Diving Supervisor in charge of the mission and applicable phases discussed with the dive team. Any hazardous conditions relative to an operation and not covered by this analysis will be forwarded to the DDC prior to beginning the mission.

2. The Analysis:

POTENTIAL HAZARDS	MEANS OF PREVENTION	ACTION IN CASE
Drowning	Adequate training, periodic drills in emergency procedures, utilize proper equipment and assure that it is in good condition. SCUBA divers wear buoyancy compensators, competent tenders, standby diver, appropriate craft, stages and access. Support personnel wear safety vest when applicable.	Administer CPR and get medical help immediately.
Air Embolism	Good physical condition with no lung disorder. Do not dive when experiencing pain in chest or colds. Proper training in the physics and physiology involved in diving, familiarity with equipment, breath normal when diving. Emphasis shall always be stressed on the possibility of accidentally inflating buoy-any compensators.	Recompression in recompress-sion chamber by trained personnel.
Decompression Sickness	Adhere to proper decompression tables, adequate sleep and rest, no alcohol (after-effects). Good physical condition. Proper equipment for heavy-cold work.	Restore breathing when necessary, give oxygen to patient, stop bleeding when present.

POTENTIAL HAZARDS	MEANS OF PREVENTION	ACTION IN CASE
Hypoxia	Proper testing of air. Do not use air that has been stored in cylinders for long periods of time.	Breathe fresh air and/or oxygen immediately.
Carbon Dioxide Excess	Assure adequate air supply. Do not breathe excessively.	Diver should surface or be brought up Immediately and provided with fresh air
Carbon Monoxide Excess	Assure proper maintenance and/or operation of air supply.	Same as CO2 excess.
Strangulation	Do not dive with obstructive objects in mouth, such as dentures, gum, or tobacco.	Surface the diver and relieve the cause. Remove obstruction with fingers when possible. Encourage coughing, pound on back, and/or hold inverted.
Blowup	When using deep-sea gear, assure proper adjustment of air-control and exhaust valves. Wear all gear appropriately.	Observe diver closely, recompression may be necessary.
Squeeze	Be knowledgeable of the many types of squeeze, sinus, lung, body mask, suit, etc., and always assure that equalization is possible.	Various treatments depending on type of squeeze. Refer to U.S.

POTENTIAL HAZARDS	MEANS OF PREVENTION	ACTION IN CASE
		Navy Diving Manual.
Fouling or Entanglement	Study dive area and anticipate obstruction, such as lines, cables snags, etc., as much as possible. Diver should always remember which side of an obstruction he passes and return the same way.	Standby or buddy diver assist. Ditch SCUBA equipment when necessary. Give very careful attention to time and depths while diver is fouled, to determine need for re-compression.
Mechanical	Secure topside objects that may accidentally fall on diver. Diver shall stay in direct communication with operator of hoisting equipment used in connection with diver. Handle tools and equipment carefully, and assure that Safe Clearance Procedures, Lock Out/Tag Out Procedures, etc., are established in writing for the specific application.	Administer first aid or treatment as required.
Burns	When welding and/or cutting under water, assure complete protective dress. All suit components shall join in such a manner to prevent the trapping of slag or molten metal.	Procedures are the same as for non-diving burns.
Overexertion or Exhaustion	The diver should know his own limits and stay within them. Stop and rest before becoming exhausted. Maintain and use	Provide help in getting diver from water and

POTENTIAL HAZARDS	MEANS OF PREVENTION	ACTION IN CASE
	proper equipment.	provide rest and warmth.
Electrocution	When welding or cutting, diver should never be between ground and arc. Assure that underwater electrical lighting is properly insulated. Assure that applicable Safe Clearance Procedures, Lock Out/Tag Out Procedures, etc., are established in writing for the specific application.	Give artificial respiration and medical assistance at once.
Hypothermia	Dress appropriately for underwater temperature. Ascend at the first sign of discomfort.	Keep diver in warm area and feed warm liquids until body temperature becomes normal. Medical assistance may be necessary.
Currents	Check for leakage prior to diving above or below gates, bulkheads, valves, etc., and be assured that safe clearance procedures are in effect. Tether all divers.	Reduce static head differential, if possible. Close all gates, valves, etc. Begin rescue operations.
Marine Life (Sharks, jellyfish, alligators, etc.)	Examine diving area prior to diving.	Exit water. Call Game & Fish Commission (alligators). Have sting neutralizing solution available (for jellyfish).

POTENTIAL HAZARDS	MEANS OF PREVENTION	ACTION IN CASE
Adjacent Work	Establish communications between ongoing adjacent work and the dive team. Stop adjacent work if at all possible for the duration of the diving operation. Assure that communication procedures are established in writing for the specific application.	Administer first aid or treatment as required.

SECTION 6
U.S. COAST GUARD BASES IN FLORIDA
(as of 20 August 1993)

JACKSONVILLE (Mayport) 904-247-7311 (Emergency Operations Center

The U.S. Coast Guard at Mayport extends from St. Simons Island, Georgia, to Melbourne, Florida.

MIAMI BEACH 305-535-4300 (Switchboard);
Ext. 4313, 4314, 4315, or 4316 (Operations-Duty Officer)

The U.S. Coast Guard at Miami Beach extends from Key Largo, Florida, to Melbourne, Florida.

KEY WEST 305-292-8727 (Operations-Duty Officer)

The U.S. Coast Guard at Key West covers the entire Florida Keys and along the Everglades National Park to Everglades City.

ST. PETERSBURG 813-896-6187 (Operations-Duty Officer)

The U.S. Coast Guard at St. Petersburg covers the area from Apalachicola, Florida, to Everglades City, Florida.

U.S. COAST GUARD COMMUNICATIONS CENTERS

These are local city numbers ("tie lines") to call the bases for emergencies.

Fort Lauderdale.....305-927-1611
Fort Myers Beach.....941-463-5754 or 1-800-528-6967
Fort Pierce.....407-464-6100
Ponce de Leon Inlet.....904-428-9084
Port Canaveral.....407-853-7601
St. Simons Island, GA.....912-638-3310
Yankeetown.....904-447-6900 or 1-800-874-4604
Clearwater (Sand Key).....813-596-8666 or 1-800-322-1579

The U.S. Coast Guard also monitors Emergency Marine Radio Channel 16 from the above list of cities.

U.S. COAST GUARD BASES IN PUERTO RICO AND THE U.S. VIRGIN ISLAND
(as of 3 November 1997)

San Juan.....809-729-7778 or 729-6770
St. Croix.....809-772-5557
St. Thomas.....809-776-3497
Borinquen.....809-882-3501

NOTE: These numbers are subject to change at anytime. Verification must be made when developing Dive Plans.

SECTION 7
HYPERBARIC (DECOMPRESSION) CHAMBER LOCATIONS IN FLORIDA AND PUERTO RICO
(as of 3 November 1997)

IN THE EVENT OF ANY DIVING EMERGENCY - IT IS RECOMMENDED THAT IMMEDIATE CONTACT BE MADE WITH THE DIVERS ALERT NETWORK (WHICH IS NATIONWIDE) AND HAS A 24 HOUR A DAY EMERGENCY NUMBER AT DUKE UNIVERSITY. 919-684-8111/2948

FLORIDA

GAINESVILLE

Shands Teaching Hospital
University of Florida
College of Medicine
Gainesville, Florida

Contact: Dr. Andrea Gabrelli
Department of Anesthesiology
Telephone: 352-395-0426 (24 hour answering service)
352-395-0300 (Emergency)
(Flight Program)

JACKSONVILLE

Stroud Diving
5030 Old Lings Road
Jacksonville, Florida 32254

Telephone: 904-355-1777 (0800-1700, Monday thru Friday)
904-260-3887 (all other times)

Baptist Medical Center
800 Prudential Drive
Jacksonville, Florida 32207

Telephone: 904-202-1151 (0600-1600, Monday thru Friday)
904-202-2136 (all other times) - Emergency Room

HYPERBARIC (DECOMPRESSION) CHAMBER LOCATIONS IN FLORIDA AND PUERTO RICO
(as of 3 November 1997)

KEY WEST

Special Forces Divers Training Facility
U.S. Naval Station
Key West, Florida

Contact: Commanding Officer
Telephone: 305-293-4159 (24 hours per day)

MIAMI

Mr. Mark Kaiser
Mercy Hospital
3663 S. Miami Avenue
Miami, FL 33133

For access call Dade County Fire Rescue, Telephone
1-800-662-3637 (Outside Dade County), 911 (Dade County)

PANAMA CITY

U.S. Navy Experimental Diving Unit
Panama City, Florida

Telephone: 850-230-3100 24 Hours per day

PENSACOLA

Naval Aerospace Medical Institute
Physiological Training Division
Pensacola, Florida

Telephone: 850-452-3409 (0715-1600 hours Monday thru Friday)
850-452-2252 (After 1600 hours Weekdays and Holidays)

Dive Chamber: 850-452-3409

HYPERBARIC (DECOMPRESSION) CHAMBER LOCATIONS IN FLORIDA AND PUERTO RICO
(as of 3 November 1997)

Puerto Rico

CEIBA
Roosevelt Roads Naval Station
Ceiba, Puerto Rico

Telephone: Regular duty hours: 0630-1700 hours
787-865-4520
787-865-4584

After duty hours:
787-865-4005

TAMPA

St. Joseph's Hospital
3001 Martin Luther King Blvd.
Tampa, FL 33607

Telephone: 1-800-275-3483

NOTE: These numbers are subject to change at anytime. Verification must be made when developing plans.

APPENDIX R

QUALIFICATION, EXAMINATION, AND CERTIFICATION OF MOTORBOAT OPERATORS

1. Purpose. This appendix establishes policy and procedures for the training, testing and licensing of operators of Jacksonville District boats/vessels.

2. References.

a. AR 385-1-1

b. AR 600-55

c. ER 385-1-91

d. ER 1125-2-304

3. Policy.

a. Construction-Operations Division will designate an individual as the responsible person for administering all boat operator training within the District. That individual will successfully complete the HQUSACE approved, 40-hour, Boat Operator's License Examiner Course as outlined in Section 1. Additional instructors will be designated, as necessary, to assist in boat operator training. All instructors must successfully complete the HQUSACE approved 40-hour training course.

b. Logistics Management Office will designate an individual as the responsible person for program administration, records management and licensing activities within the District. That individual will successfully complete the HQUSACE approved, 40-hour, Boat Operator's License Examiner Course and also serve as an instructor.

c. Safety and Occupational Health Office (SOHO) will provide initial review of nominees for training to ensure medical compliance requirements are met. A SOH individual will serve as an instructor after successfully completing the HQUSACE course.

d. All District elements will ensure that operators of District boats/vessels are adequately trained, properly tested, and licensed, prior to the official operation of any District boat/vessel. Prior to completing a boat operator's course,

unlicensed employees may practice boat operation under strict supervision of a licensed employee. Boat operation by unlicensed employees shall only be used to gain experience prior to completing a HQUSACE Boat Operators Course.

4. Requirements.

a. District employees operating boat/vessels subject to U.S. Coast Guard inspection and certification will possess a valid U.S. Coast Guard license as specified on the Certificate of Inspection for the vessel being operated.

b. All motorboat operators are required to pass the visual judgement and two-hand coordination portions of Battery II and Physical Evaluation tests for government motor vehicle operators (AR 600-55). Motorboat operators shall have the full use of both hands, feet, and legs. Motorboat operators with red-green color blindness, or indication of night vision deficiency, shall be limited to daytime operation only.

c. District employee operators of District boats/vessels, less than 26 feet in length, will successfully complete the 24-hour training requirements specified in Section 2. All current operators shall be trained and licensed in accordance with these requirements immediately. Operators requiring training under this regulation will retrain and successfully complete an eight-hour boat operator update course on a five-year cycle. Request for exceptions to this requirement must be submitted, through command channels to the HQUSACE Safety and Occupational Health Office for resolution.

d. District employees operating boats/vessels 26 feet or more in length but not subject to inspection and certification by the U.S. Coast Guard will possess a valid U.S. Coast Guard license appropriate for the size and type of vessel being operated, and the route upon which the vessel will be operated. Since persons who are not Corps of Engineers' employees often travel aboard District vessels, the U.S. Coast Guard license must be appropriate for carrying "passengers" (as defined at 46 U.S.C., Sec. 390).

e. District boat/vessel operators possessing a valid U.S. Coast Guard License must also obtain a small boat operating license by presenting a U.S. Coast Guard License and satisfactorily completing the boat handling skills portion of the boating course and the written examination.

f. Current District boat/vessel operators not possessing a U.S. Coast Guard License, who can pass the boat handling skills portion of the HQUSACE boating course and can satisfactorily complete the final written examination, may be exempt from the training requirements in Section 2. This demonstration of skills and knowledge will be on a case by case basis and will include the standard written examination and actual demonstration of boat and trailer skills.

g. Nomination of trainees will be accomplished by completing and submitting DD Form 1556, Request, Authorization, Agreement, Certification of Training and Reimbursement. This form will be used to document the nomination of trainees, to document the completion of training and will become a part of the permanent employment record.

h. SAJ Form 792, Motorboat Operator Permit Record will be used as the official administrative record to verify status of training, testing and licensing of boat operators. Optional form 346, U.S. Government Operator's Identification Card will be issued to individuals who satisfactorily complete the required training requirements and/or demonstrate the required proficiency in accordance with this regulation.

5. Job Requirements. For all positions requiring the incumbent to operate a boat/vessel as any part of the duties of that position, the Job Description and Vacancy Announcement/Recruiting Bulletin shall contain a statement specifying the type of license which the incumbent must possess, or specifying a probationary period after selection within which time the (new) employee must obtain the specified license or be removed from the position.

6. Suspension or Renovation of License. Motorboat operator licenses may be suspended or permanently withdrawn for the following reason(s):

a. Reckless, negligence, or careless operation.

b. Willful damage to a Corps of Engineer's motorboat.

c. Violation of U.S. Coast Guard "Rules of the Road" in a manner to endanger life and property.

d. Operating a motorboat while under the influence of intoxicating beverages or drugs.

e. Misconduct which warrants suspension of license.

SECTION 1

U.S. ARMY CORPS OF ENGINEERS
BOAT OPERATOR LICENSE EXAMINER
TRAINING OUTLINE
(40 HOURS)

The following outline will be used in the HQUSACE approved training course to train, test and license individuals as subordinate command boat operator license examiners. Individuals must complete this course of instruction to be certified as a local license examiner.

DAY ONE

0800-0815	Welcome and Administration
0815-0830	USACE Boat Licensing Policy and Course Introduction
0830-0900	Boating Knowledge PreTest W/O Critique
0900-1100	Required Safety and Normal Equipment and Equipment Maintenance (includes 15 min. break)
1100-1200	Boat Orientation (1) Starting Procedures (2) Checking Equipment (3) Getting Underway (4) Refueling Procedures
1200-1300	Lunch
1300-1330	Trailers and Trailer Maintenance
1320-1400	Marlinespike Seamanship
1400-1600	Navigation and Rules of the Road (includes 15 min. break)
1600-1630	Fire Suppression
1630-1700	Review and Critique

DAY TWO

0800-0845	Fire Suppression (Practical)
0845-0930	Course Familiarization (Classroom)
0930-1000	Break, Change Clothes, Travel to Marina
1000-1030	100 Yard Swim Test with Life Jacket
1030-1200	Emergency Procedures (Practical) (1) Reaching, Throwing (2) Self Rescue, H.E.L.P., and Huddle (3) Overboard Drill, Roll Aboard
1200-1300	Lunch
1300-1600	Boat Operation, Course Familiarization (Practical)

1600-1630 Secure Operation and Critique

DAY THREE

0800-1200 Repetitive Boat Exercises (Practical)
(1) Serpentine Course
(2) Transition Serpentine
(3) Avoidance Course
(4) Docking
1200-1300 Lunch
1300-1600 Repetitive Boat Exercises and Role Playing
1600-1630 Secure Operation and Critique

DAY FOUR

0800-1200 Concurrent Boat Exercises (Practical)
(1) Trailering
(2) Alongside Maneuvering
(3) Towing Vehicles
(4) Emergency Procedures
1200-1300 Lunch
1300-1600 Concurrent Boat Exercises and Role Playing
1600-1630 Secure Operations and Critique

DAY FIVE

0800-1200 Evaluation of Boating Skills (Practical)
1200-1300 Lunch
1300-1330 Safety Manual (EM 385-1-1) Review
1300-1600 Review/Post Test/Critique/Course Closure

SECTION 2

U.S. ARMY CORPS OF ENGINEERS
BOAT OPERATORS TRAINING COURSE
(24 HOURS)

The following outline will be used to train employee operations of boats/vessels less than 26 feet in length. It is not necessary that course days run consecutively. The course schedule can be altered to meet local requirements as long as the subjects listed below are included in the total curriculum.

DAY ONE

0800-0815	Welcome and Purpose of Course
0815-0830	Written Boating Knowledge PreTest
0830-1030	Required Boating Safety Equipment and EM 385-1-1 Requirements
1030-1130	Boats/Trailers/Maintenance
1130-1230	Lunch
1230-1330	Boats/Trailers/Maintenance - Continued
1330-1530	Navigation and Rules of the Road
1530-1700	Demonstration of Emergency Procedures

DAY TWO

0800-0900	Fire Suppression (Practical)
0900-1000	Boat Orientation (Practical) (1) Equipment Check (2) Starting Procedures (3) Getting Underway
1000-1030	Practical Boating Skills (Practical) (1) Refueling Procedures (2) Equipment Maintenance (3) Marlinespike Seamanship (4) Mooring and Tying Off
1030-1200	Course Familiarization W/Instructor (Practical) (1) Boat Handling Familiarization (2) Docking Course (3) Serpentine Course (4) Transition Serpentine Course (5) Obstacle Avoidance Course
1200-1300	Lunch
1300-1700	Boating Course W/O Instructor (Same as Above)

DAY THREE

0800-1200	Boat Exercises (1) Trailer, Backing, Launching, and Retrieving (2) Alongside Maneuvering (3) Towing of Vessels (4) Emergency Procedures
1200-1300	Lunch
1300-1600	Evaluation of Boating Skills (1) Docking Course (2) Serpentine Course (3) Transition Serpentine Course (4) Obstacle Avoidance Course
1600-1700	Post Test/Review/Critique

APPENDIX S
Safety and Occupational Health
BLOODBORNE PATHOGENS PROGRAM

1. Purpose. To establish a formal Bloodborne Pathogen Program to inform, educate and protect those District employees with the reasonable potential for OCCUPATIONAL exposure to Hepatitis B Virus (HBV) and/or Human Immunodeficiency Virus (HIV) while performing their normal work tasks and functions. At present, only Park Rangers and Occupational Health Nurses have the reasonable potential for occupational exposure.

2. Applicability. This appendix is applicable to all U.S. Army Corps of Engineers, Jacksonville District, personnel and contract personnel in the District who fulfill duties of Park Rangers and Occupational Health Nurses.

3. Reference.

a. 29 CFR 1910.1030

b. 5 U.S.C. 7901

4. Definitions.

a. Occupational Exposure means reasonably anticipated skin, eye, mucous membrane or parenteral contact with human body fluids or contaminated material.

b. Contaminated means the presence or reasonably anticipated presence of bloody fluids or infectious materials.

c. Decontamination means the removal or destruction of pathogens by physical or chemical means rendering them no longer infectious.

d. Bloodborne Pathogens means pathogenic microorganisms that are present in human blood and can cause disease in humans.

e. Infectious body fluids includes semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid and amniotic fluid.

f. Parenteral means piercing of the skin barrier or mucous membranes through such events as needlesticks, human bites cuts and abrasions.

g. Exposure Incident means a specific eye, mouth, other mucous membrane, non-intact skin or parenteral contact with blood or other potentially infectious materials that results from the performance of an employee's duties.

h. Engineering Controls means physical containers which isolate or remove the bloodborne pathogens hazard from the workplace.

i. Universal Precautions means to treat all human blood and body fluids as though they are infectious.

j. Source Individual is any person, living or dead with whom an employee had body fluid contact.

5. Employee Classification.

a. Park Managers/Supervisors and Supervisors of Health Care providers will complete the enclosed CESAJ Form 1231 on each employee (old and new hires) and forward the completed form to the Safety and Occupational Health Office (SOHO). These forms will be completed in triplicate. The original will go to the SOHO, one copy to be kept in the supervisors files and one copy given to the employee.

b. The SOHO will compile a list of employees who are classified as Category I and II (see CESAJ Form 1231 for Categories). These employees will be entered into the Bloodborne Pathogen Program.

c. The original copy of the form CESAJ-1231 will be stored in the employees personnel record by Human Resources.

6. Training of Category I and II.

a. Training will be presented by the SOHO to all Category I and II employees at time of initial assignment and annually thereafter.

b. Training as a minimum, will include all elements of CFR 29 CFR 1910.1030 (see SOP located in the Occupational Health Unit).

7. Control Precautions.

a. Body fluids which may be infectious include semen, blood, vaginal secretions, cerebrospinal fluid, spinal fluid, amniotic

fluid, peritoneal fluid and pericardial fluid. The following precautions will be practiced by all employees in Category I and/or II.

(1) Universal precautions to be practiced for all body fluids. This includes the use of personal protection equipment when handling any body fluid and disposing of contaminated materials in red bags/containers.

(2) Puncture proof containers will be provided by the SOHO and used in the Occupational health units and field offices where it is necessary for employees to take their own hypodermic injections during working hours.

(3) Employees will be provided by their supervisors with personal protection equipment to include mouth shields, ambu bags, gloves and cover gowns when deemed necessary along with bleach, buckets and mops for clean-ups.

(4) Food and drink shall not be kept in refrigerators, cabinets or counter tops with body fluids or other potentially infectious materials.

(5) Hepatitis B vaccine will be offered to all Category I and/or II employees. An employee who elects not to take the vaccine at initial training may elect to do so at any time throughout employment. The U.S. Public Health Service will be the authority on the protocol for the administration of Hepatitis B Vaccine. There is no cost to the employee for the vaccine or its administration regardless of when it is given.

(6) Any exposure to body fluids including splashes to mucous membranes, needlesticks or mouth to mouth resuscitation will be reported to the SOHO by the supervisor or the exposed employee immediately and the procedure for exposure initiated.

8. Decontamination.

a. Contaminated hands and skin surfaces will be washed immediately if soiled with body fluids.

b. Employees will remove clothing soiled with body fluids. The contaminated clothing will then be placed in a plastic leak proof bag and laundered in the washing machine using regular laundry soap.

c. If body fluids are spilled on surfaces (floor, etc.) they should be wiped up with rags or towels (while wearing gloves) and the area mopped with a solution of 1:10 bleach water. This will be done by any employee available to perform the job.

d. Equipment should be wiped or soaked in 1:10 bleach water if the equipment is not disposable, and if disposable it should be placed in leak proof bags and disposed of as medical waste.

9. Post Exposure Protocol.

a. All exposures to body fluids, regardless of category of employee will be reported immediately to the supervisor and to the Safety and Occupational Health Office as soon as possible. Both reports will include names of all persons involved, dates, time and description of the incident. A determination by the exposed employees must be included as to whether an occupational exposure was experienced by each of the participants.

b. A confidential medical evaluation will be made immediately. The physician providing the evaluation will be provided with:

A copy of CFR 29 1910.1030
Identification and documentation of the source, unless it is infeasible by state or local law.
Route and circumstances of exposure.
Status of the employees HBV vaccination
Copy of the employees job description.

c. The source individual's blood will be tested as soon as feasible after consent is obtained by the employee in charge on site to determine HBV and HIV infectivity. If consent can not be obtained written documentation of this shall be made and forwarded to the SOHO.

d. If the source individual is known positive for HIV or HBV further testing is not necessary.

e. Results of the source individuals testing will be made available to the employee by the Occupational Health Nurse after the employee has been informed of applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual.

f. The SOHO shall request from the health care professional and provide to the exposed employee within 15 days from the medical evaluation information on the status of the vaccination and the health care professionals opinion on additional medical care.

g. All findings and information on the employees evaluation shall be confidential.

h. A record of all such incidents will be maintained in the Safety and Occupational Health Office.

10. Hepatitis B Vaccine.

a. Hepatitis B vaccine will be made available to all employees in category I and/or II after training presented by the SOHO has been accomplished and within 10 working days after assignment to tasks with potential occupational exposure unless the employee has previously received the vaccination series or the vaccine is contraindicated, or the employee is immune.

b. All Category I and/or II employees will sign the CESAJ Form 1233 either accepting or declining the administration of the hepatitis B vaccine.

c. Prescreening will not be a prerequisite for receiving Hepatitis B vaccine.

11. Recordkeeping.

a. Supervisors will keep a list of all employees classified as Category I and/or II.

b. The SOHO will maintain records of:

(1) List of all Category I and/or II employees will be kept on CESAJ Form 1232.

(2) All training with the date, employees name, social security and signature, the name of person presenting the training and content of training. Training records will be kept for three years from date of training.

c. The Health Unit will keep in the medical record:

(1) Vaccination records of Category I and/or II employees.

(2) Declination forms signed by personnel who, although doing category I and/or II duties tasks, have chosen not to receive Hepatitis B vaccine.

(3) All medical information relating to post exposure evaluations will be maintained for a least the duration of employment plus thirty (30) years.

12. Responsibilities.

a. Park Managers/Supervisors will ensure that their employees are classified and attend the required training when scheduled.

b. The Safety and Occupational Health Office will provide the training annually and secure a source to give the vaccine as requested by the employees.

c. It is the responsibility of each employee to practice universal precautions and to report any exposure immediately.

13. Labels and Signs.

a. Red bags will serve as labeling for contaminated waste.

b. All specimens will be placed in bags marked **BIOHAZARD MATERIAL**.

C. The red sharps containers are self-labeled.

d. Contaminated clothing will be placed in red bags and marked as clothing until they can be washed.

(29 CFR 1910.1030)
CLASSIFICATION PART I

CLASSIFICATION OF EMPLOYEES AT RISK FOR HBV AND HIV

U.S. Army Corps of Engineers, Jacksonville, Florida

Employees Name_____

Job Title _____

Location _____

Employees will be placed in one of three categories determined by the tasks they perform in their normal daily work. The following is a description of each category and the criteria form used to establish the category for each employee in the program.

1. Category I - The employees performs tasks that involve an inherent potential for mucous membrane or skin contact with blood, body fluids, or tissue or a potential for spills or splashes. Universal precautions should be applied for all procedures when it is likely that the employee will have contact with blood or body fluids, to prevent transmission of bloodborne pathogens. Hepatitis B Vaccine is highly recommended for these employees.

2. Category II - The employee performs tasks that involve no exposure to blood, body fluids or tissue during the normal working routine, but the employee may be required to perform unplanned category I tasks. Universal precautions should be used to perform any Category I procedures. Hepatitis B Vaccine is recommended for these employees.

3. Category III - The employee performs tasks that involve no exposure to blood, body fluids or tissue during the normal work routine. No special precautions are necessary to prevent transmission of bloodborne pathogens.

CESAJ FORM 1231, AUG 92

(29 CFR 1910.1030)
HEPATITIS B VACCINE INFORMATION
Corps of Engineers Jacksonville District

Employees Name: _____

Job Title: _____

Date: _____

1. Hepatitis B Virus is a viral infection caused by the hepatitis B virus (HBV) which causes death in 1-2% of patients. Most people with Hepatitis B recover completely, but approximately 5-10% become chronic carriers of the virus. Most of the people have no symptoms, but continue to transmit the disease to others. Some may develop chronic active hepatitis and cirrhosis. HBV also appears to be a causative factor in the development of liver cancer. Thus, immunization against Hepatitis B can prevent acute hepatitis and also reduce sickness and death from chronic active hepatitis, cirrhosis and liver cancer.

2. The Hepatitis B vaccine is a recombinant vaccine derived from yeast cells. A high percentage of healthy people who receive three doses of vaccine achieve protection against hepatitis B infection. Full immunization requires three doses of vaccine over a six-month period, although some people may not develop immunity even after three doses. The vaccine is given in the upper arm in the deltoid muscle. There is no evidence that the vaccine has ever caused hepatitis B or AIDS. However, persons who may have been infected with HBV prior to receiving the vaccine may go on and develop clinical hepatitis in spite of immunization. The duration of immunity is unknown at this time, but is probably long-term.

3. Persons who have a known hypersensitivity to yeast <u>should not</u> receive the vaccine. Another type of vaccine will be made available for these personnel. The vaccine is also <u>not</u> recommended for pregnant women and nursing mothers.

4. Very few adverse reactions have been recorded. The most typical reported reactions are local site soreness, swelling and tenderness. Some other reactions reported are nausea, vomiting, abdominal pains/cramps, headache, light-headed, fatigue and weakness. There have been no reported deaths associated with this vaccine.

(29 CFR 1910-1030)
ACCEPTANCE/DECLINATION

ACCEPTANCE

I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself. I wish to receive the Hepatitis B vaccine.

Employee's Name
(Print)_____

Employee's Signature_____Date_____

Supervisor's Name
(Print)_____

Supervisor's
Signature_____Date_____

DECLINATION

I understand that due to my occupational exposure to blood and other potential infectious materials I may be at risk of acquiring hepatitis B virus (HBV). I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself. However, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me.

Employee's Name
(Print)_____

Employee's Signature_____Date_____

Supervisor's Name
(Print)_____

Supervisor's
Signature_____Date_____

APPENDIX T
ASBESTOS OPERATIONS AND MANAGEMENT PROGRAM

1. Purpose. To establish a formal asbestos operations and maintenance program to educate and inform District personnel of the health risks and proper maintenance procedures when working with asbestos containing materials.

2. Applicability. This appendix is applicable to all District personnel and all contractors doing business with the District.

3. References.

a. 29 CFR 1910.1001

b. 29 CFR 1926.58

c. 29 CFR 1910.134

d. AR 200-1, Chapter 10

e. EPA 20 T-2003, "Managing Asbestos in Place. A Building Owners Guide to O&M Programs for Asbestos Containing Materials"

4. O&M Program Objectives. The objectives of this Operations and Maintenance (O&M) plan is to inform personnel of the presence of asbestos in the workplace and provide guidance for the routine and emergency maintenance involving asbestos. Adherence to this plan will help maintain an environment free of asbestos contamination within District buildings and facilities. Specific objectives include: (1) clean up asbestos fibers previously released, (2) prevent future release by minimizing asbestos containing materials (ACM), and (3) monitor the condition of asbestos within the District buildings and facilities. The O&M program will remain in effect until all asbestos containing materials are removed from the building or facility. Enclosure 1 of this Appendix provides a listing of facilities which contain asbestos containing materials.

5. Responsibilities.

a. Supervisors shall:

(1) Ensure that a asbestos survey is conducted for all facilities within their control.

(2) Ensure that all employees have been properly trained prior to working with asbestos.

(3) Etc.

b. Employees shall:

(1) Attend training prior to working with asbestos.

(2) Attend asbestos awareness training as a minimum.

(3) Etc.

6. Definitions.

a. ACM - Asbestos Containing Materials

b. Etc.

7. Sample Standard Operating Procedure.

ASBESTOS OPERATIONS AND MAINTENANCE

1. Introduction. Asbestos is a known human carcinogen. Asbestos is a naturally occurring mineral which has been mined since the days of the Greek Empire. Health effects caused from exposure to asbestos have been documented since the Roman Empire. Although it is difficult to quantify the precise risk posed by exposure to asbestos in buildings and facilities, unnecessary exposure to asbestos should be avoided.

2. Initial Survey and Inventory. A survey of all District buildings and facilities will be conducted and sampling of suspect material will be performed. Based upon the results of sampling any positive material results will be monitored for asbestos air contamination. An inventory of all buildings and facilities containing asbestos material will be maintained at the Safety and Occupational Health Office (SOHO). All surveys and testing will be performed by personnel properly trained and certified at courses approved by the Asbestos Hazard Emergency Response Act (AHERA).

3. ACM Classification. Asbestos containing material is any material with a concentration of greater than 1% asbestos per weight. Asbestos material in the first two categories pose the highest risk of exposure. These materials tend to release fibers easily when disturbed. This tendency is called Friability.

Asbestos contained in the third category is bonded with other material, however fibers can be released through actions of cutting, grinding or breaking of the material. For this reason **ALL** asbestos containing materials should be handled as friable. Asbestos is generally classified into 3 categories.

a. Surfacing Material: This is ACM which is sprayed or troweled on structural members, ceilings and plaster coatings. This material is also an excellent fire proofing material.

b. Thermal Insulation: This ACM is usually found on pipes, boilers, mufflers, and duct work. It is an excellent material for insulation where heat and moisture control are necessary.

c. Miscellaneous Materials: This ACM is found in floor tiles, wall board, cement, brake pads, and other applications where either strength or durability are necessary.

4. Implementing the O&M Program. The O&M program shall be implemented for a building or facility as soon as asbestos material of any type is confirmed. A program coordinator shall be designated for that building or facility. The O&M program coordinator will be responsible for the procedures applied to building/facility routine cleaning, maintenance, general operations and renovation. Use of proper procedures for the aforementioned operations will help ensure the asbestos material will remain in good condition. These procedures involve:

a. Notification to employees that asbestos is present within the building or facility.

b. Training workers in the proper procedures for cleaning and maintenance in areas where asbestos is present.

c. Periodic inspection of the ACM to determine it's condition.

d. Medical Surveillance for personnel who routinely work around asbestos material.

5. O&M Program Elements. Several aspects of the program remain the same for all types of asbestos containing materials. For clarity, these aspects are repeated for each type of ACM.

a. Special Practices For Surfacing Materials

(1) Due to the ease with which sprayed or troweled on ACM becomes friable, it is often the major source of airborne contamination within buildings and facilities. Surface areas covered with this type of ACM tend to be large. Fibers are released from this material through touching, bumping, or from aging of the material.

(2) To reduce the potential for airborne release of fibers the following procedures shall be observed when this material is discovered:

b. Notification and Education

(1) Inform all occupants, maintenance, and custodial personnel of the presence of asbestos within the building or facility. All personnel shall know the exact location of the asbestos and instructed not to disturb or damage the material.

(2) All maintenance and custodial workers shall be properly trained in the cleaning and maintenance of asbestos materials. These personnel shall be physically qualified to wear a respirator and shall be included in the District respiratory Protection Program and the Asbestos Surveillance Program.

(3) Appropriate warning labels will be attached adjacent to the asbestos and non-asbestos material. Warning labels shall read as follows:

WARNING ASBESTOS PRESENT. HAZARDOUS DO NOT DISTURB WITHOUT PROPER TRAINING AND EQUIPMENT

ASBESTOS FREE MATERIAL

c. Work Practices For Cleaning And Custodial Operations:

Routine cleaning involving asbestos shall be performed, were applicable, with the occupants out of the area to be cleaned. Dry brooms, mops, rags, or standard vacuum cleaners shall **not** be used in areas that contain asbestos. This equipment tends to resuspend the asbestos fibers creating a health hazard. **All** cleaning in areas containing asbestos shall be performed within the following guidelines:

(1) Mops, brooms, and cloths shall be kept moist using water or a dust suppressant.

(2) All cleaning materials shall be changed frequently to ensure that fibers are not escaping.

(3) Spray with water any debris found in the area and remove using dust pan.

(4) Use a vacuum which contains a High Efficiency Particulate Air (HEPA) filter on all carpets.

(5) Wet mop all floors and wet wipe all horizontal surfaces.

(6) All mopheads, cloths, and debris shall be placed in plastic bags properly labeled, and disposed of in accordance with federal and local regulations.

(7) All reusable equipment shall be washed thoroughly, dried, and placed in a separate area from normal cleaning equipment.

d. Work Practices For Maintenance Activities

(1) Normal maintenance activities can disturb ACM sites and cause a release of fibers. It is necessary that all workers involved in the maintenance activities where there is asbestos materials be properly trained in the handling and removal of asbestos materials. The District SOHO shall be informed of these activities prior to the commencement of work.

(2) Problems with maintenance activities in areas containing asbestos usually involve three activities: (1) conducting routine maintenance and repair work, (2) entering areas with potentially high concentrations of fibers, (3) Expanding or rehabilitating a work space.

(3) If disturbance of ACM is **unlikely**, no precautions other than normal care in performing the work is needed. If minor 1 disturbance is **likely**, the are should be sprayed with a mist of amended water (water and a surfactant) before work begins. All electrical systems shall be shut off before any water is applied to an area. If there is a possibility of **significant** disturbance the SOHO shall be notified prior to the start of work. In **all** situations involving ACM the worker shall wear, as a minimum, a half-face respirator with HEPA filters.

e. Special Practices For Thermal Insulation

(1) ACM thermal insulation presents a less significant hazard for fiber release. Unless the ACM is damaged, the protective jacket will contain any fiber release.

(2) The O&M program for thermal insulation is focused on identification and informing the affected personnel of the location of the ACM.

(a) Notification and Education

- Ref: 7 (b)

(b) Work Practices for Cleaning and Custodial Operations

- Ref: 7(c)

f. Work Practices for Maintenance Activities

(1) Maintenance activity which could affect ACM includes ACM covered pipes, boilers, valves, and duct work. Maintenance usually involves plumbing and HVAC repair. Only those personnel properly trained in asbestos handling and removal and physically qualified to perform this work shall perform maintenance activities involving ACM disturbance.

(2) If disturbance of the ACM is **unlikely**, normal precautions only need to be observed. **NOTE**, vibration created from maintenance activities in one are can cause a disturbance and fiber release in another area. If this situation arises, correct the problem where the fiber release is expected prior to any other maintenance work. If there is a **significant** possibility of fiber release, notify the SOHO prior to commencement of work. After minor ACM insulation has been properly removed, replace the insulation with non-asbestos mastic, insulation, and protective jackets. All ACM material shall be disposed of in accordance with federal and local regulations.

g. Special Practices for Miscellaneous ACM. Most of the ACM that is neither surfacing or thermal insulation falls into this category. These materials are usually hard and non-friable. Fibers can be released through cutting, grinding, or other manipulations of the material.

h. Notification and Education. Occupants, custodial, and maintenance workers shall be informed of the presence and location of ACM in the area. Maintenance workers shall be trained in the handling and removal of ACM safely.

i. Work Practices for Maintenance Activities: Where disturbance of the ACM cannot be avoided the following procedures shall be in effect:

(1) The ACM shall be misted with amended water to help prevent fiber release. Ensure all electrical connections have been shut off prior to misting activities.

(2) Cutting, drilling, or grinding of the material shall be performed with equipment which has HEPA vacuum systems.

(3) Avoid removing, sanding or stripping floor tiles containing ACM. If tiles are removed **DO NOT** sand the backing material remaining on the floor.

(4) In all cases this maintenance work shall be performed with the occupants out of the area.

6. Periodic Inspections. At least twice a year an inspection of all ACM in all buildings and facilities shall be conducted by SOHO personnel trained and certified by AHERA to perform building inspections. This action will help ensure that any damage or deterioration of the ACM will be detected and corrective action taken. Results of the inspection will be documented and placed in the permanent asbestos file for the particular building or facility.

7. Procedures for a Fiber Release Episode. A minor episode such as, a small piece of insulation falls, water damaged insulation or accidental disturbance of sprayed on ACM can be cleaned up using standard wet cleaning and maintenance practices for ACM described in section 6.1.2. Works shall wear half-face respirators with HEPA cartridges as a minimum protection during clean up. The damaged area shall be repaired with asbestos-free material and ACM shall be disposed of in accordance with federal and local regulations. If a major release occurs, maintenance workers shall evacuate the affected area of personnel, shut down ventilation systems to contain fibers in as small an area as possible, and seal area with 6 ml plastic sheeting. Appropriate warning labels shall be placed adjacent to the affected area. Notify the District SOHO immediately after taking these precautions. Most major releases fall outside the expertise of

maintenance workers and will have to be cleaned up by a certified asbestos contractor.

8. Respiratory Protection Program. The District Respiratory Protection Program shall be in force during **all** phases of the O&M program that involves exposure to asbestos fibers. The District SOHO shall assist in respirator fit testing and training for personnel involved in asbestos related work. **ALL** custodial and maintenance workers involved in asbestos related work shall be included in the Respiratory Protection Program.

9. Medical Surveillance. Any employee exposed to asbestos fibers in a concentration greater than 0.1 fibers per cubic centimeter of air (f/cc) shall be included in the Asbestos Surveillance program. **ALL** custodial and maintenance workers involved in ACM related activities shall be included in the Asbestos Surveillance program.

10. Training. All of the work practices and procedures outlined in this program shall be utilized by District buildings and facilities that contain ACM. The program shall become part of the permanent file for each affected building or facility. The file shall be available to all personnel who work within the building or facility. This program will be the basis of the District training and awareness program for in-house and new employees. Training shall be coordinated through the SOHO and contain as a minimum: (1) the uses and health effects of asbestos, (2) the location of ACM within the building or facility, (3) the asbestos control program for the building or facility, and (4) the District O&M program.

11. Recordkeeping. All aspects of the District O&M program shall be maintained and stored at the District SOHO. Records for each employee included in the Asbestos Surveillance program shall be maintained for a period of 40 years. All asbestos related training, including annual refresher training shall be maintained at the SOHO and the appropriate affected Office.

LISTING OF BUILDINGS WITH ASBESTOS CONTAINING MATERIALS

LOCATION	BUILDING	DESCRIPTION	POSITIVE FOR ACM

APPENDIX U
CONFINED SPACE ENTRY PROCEDURES

1. Purpose. This appendix contains requirements for practices and procedures to protect employees from the hazards associated with entry into permitted confined spaces.

2. Scope. This appendix applies to all activities accomplished by government and contractor employees within the Jacksonville District.

3. References.

a. EM 385-1-1.

b. 29 CFR 1910.146.

c. DHHS (NIOSH) PUBLICATION NO. 87-113; "A Guide to Safety in Confined Spaces."

d. Control of Gas Hazards Aboard Vessels, ANSI-NFPA 306.

e. Criteria for a Recommended Standard, Working in Confined Spaces, National Institute of Occupational Safety and Health (NIOSH), (1979).

4. Definitions.

a. **Acceptable entry conditions.** The conditions that must exist in a permit space to allow safe entry by personnel.

b. **Attendant.** The individual stationed outside a permit space who monitors the authorized entrants and performs duties assigned.

c. **Authorized entrant.** Person who is authorized to enter a permit space.

d. **Confined space.** A space that meets the following requirements.

(1) Is large enough and so configured that an employee can bodily enter and perform assigned work; and

(2) Has limited or restricted means of entry and exit; and

(3) Is not designed for continuous employee occupancy.

e. **Entry**. The action by which an employee passes through an opening into a permit-required confined space. Entry is assumed to be as soon as the employee's body breaks the plane of the opening.

f. **Entry permit**. The written document that is provided to allow and control entry into a permit-required confined space.

g. **Entry supervisor**. The person responsible for determining acceptable conditions prior to entry into a permit-required confined space and for terminating entry.

h. **Designated Official**. The person responsible for evaluating the potential for permit-required confined spaces and ensuring program elements are enforced. For the Jacksonville District the Designated Official is the Safety and Occupational Health Office.

i. **Hazardous atmosphere**. An atmosphere that may expose employees to risk of death or injury form one or more of the following causes:

(1) Flammable gases or vapors in excess of 10 percent of the lower flammable limit (LFL).

(2) Airborne combustible dust in concentration equal to or greater than it's LFL.

(3) Atmospheric oxygen less than 19.5% or greater than 23.5%.

(4) Atmospheric concentration of any substance that has a permissible exposure limit (PEL).

(5) Any other atmospheric condition that is immediately dangerous to life and health (IDLH).

j. **Non-permit confined space**. A confined space that does not contain or with respect to atmospheric hazards, the potential to contain any hazard capable of causing death or serious physical harm.

k. **Permit-required confined space**. A confined space that has one or more of the following characteristics;

(1) Contains or has the potential to contain a hazardous atmosphere.

(2) Contains a material that has the potential to engulf an entrant.

(3) Has an internal configuration that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a small cross-section.

(4) Contains any other recognized serious safety or health hazard.

l. **Permit system**. The written procedures for preparing and issuing permits for entry and for returning the permit space to service upon termination of entry.

m. **Rescue service**. The personnel designated to perform rescue functions in permit-required spaces.

n. **Retrieval system**. The equipment used for non-entry rescue from permit-required spaces.

o. **Testing**. The process by which hazards are identified and evaluated for entry into permit-required spaces.

5. General. At each facility or activity, the Designated Authority shall evaluate, or designate a competent person to evaluate, the potential for permit-required confined spaces.

a. The evaluation shall use the definitions presented above to determine the presence of confined spaces.

b. A list of confined spaces (both permit-required and non-permit-required) shall be maintained on site.

c. All permit-required confined spaces shall be identified with a sign reading "DANGER - PERMIT-REQUIRED CONFINED SPACE - DO NOT ENTER" to inform personnel of the existence and location of, and the danger posed by, the permit-required confined space.

d. Facilities shall be re-evaluated at least once every three years.

6. Responsibilities.

a. Authorized Entrants shall:

(1) Communicate with the attendant as necessary so the attendant can monitor entrant status and alert entrants of any need to evaluate the permit-required confined space.

(2) Evacuate the permit-required confined space and alert the attendant whenever they recognize any warning signs or symptoms of exposure to a dangerous situation or they detect a prohibited condition or whenever the attendant or entry supervisor orders evacuation or an evacuation alarm is activated.

b. Attendants shall:

(1) Remain outside the permit-required confined space during entry operations until relieved by another attendant.

(2) Take action when conditions warrant evacuation of the permit-required confined space and inform the entry supervisor of conditions and persons approaching the permit-required confined space.

(3) Maintain an accurate list of personnel within the permit-required confined space and a means to identify the personnel.

(4) Communicate with entrants as necessary to monitor them and alert them of the need to evacuate.

(5) Immediately order evacuation of the permit-required confined space if conditions change to pose a hazardous condition.

(6) Perform non-entry rescue as specified in the permit and summon rescue or other emergency services as necessary.

(7) Not perform any other duty other than that of attendant during permit-required confined space entry.

c. Entry supervisors shall:

(1) Verify that all tests specified by the permit have been conducted and that all necessary equipment and procedures are in place prior to entry.

(2) Terminate the entry when assigned work is completed or when conditions warrant evacuation.

(3) Verify that rescue services are available and that a means of summoning them are operable.

(4) Ensure that entry operations are consistent with the terms of the entry permit and that acceptable conditions are maintained.

7. Permit-required confined space entry procedures.

a. The designated official shall develop and implement a system for the preparation, issuance, and cancellation of permit-required confined space entry permits (ENG Form 5044-R).

(1) Before entry begins, the entry supervisor identified on the permit shall sign the permit to authorize entry.

(2) The completed permit shall be posted at the entry portal so that entrants can confirm the pre-entry preparations have been completed.

(3) The duration of the permit shall not exceed the time required to complete the task identified on the permit.

b. Plans and procedures shall be developed for the summoning of rescue personnel and for preventing unauthorized personnel from attempting a rescue.

c. The entry supervisor shall designate at least one attendant who will remain outside the permit-required confined space for the duration of the activity.

d. The designated official shall develop procedures to ensure that when more than on crew is authorized entry that the activities of one crew to not interfere with the work of another crew.

e. The designated official shall review the entry program periodically to ensure that the measures contained in the program are still adequate.

8. Training.

a. All employees shall be instructed not to enter permit-required confined spaces without the proper permit outlining procedures and practices for the space.

b. Employees who are required to enter permit-required confined spaces or act as attendant or entry supervisor shall be trained in order to acquire the knowledge and skills necessary for the safe performance of their work. the employees must also be familiar with the types of hazards associated with the entry and the control measures used to ensure safe conditions.

c. Training shall conform to requirements of reference 3a and 3b.

d. All training shall be certified by the instructor upon successful completion by participants.

9. On site rescue/emergency teams.

a. Each member of the rescue team shall be trained in the use of personal protective equipment and equipment necessary to perform a rescue.

b. Each member of the rescue team shall practice making a rescue at least every 12 months. The practice drill shall simulate actual conditions within the permit-required confined space.

c. Each member of the rescue team shall receive the same level of training as authorized entrants and shall be trained in basic first aid and cardiopulmonary resuscitation (CPR).

10. Off site rescue and emergency services.

a. The rescue service shall be informed of the associated hazards they may confront during a rescue.

b. The rescue service shall be provided access to all permit-required confined spaces for which rescue may be necessary so the service can develop appropriate plans.

11. Retrieval systems.

a. Each authorized entrant shall use a chest or full body harness with a retrieval line attached at the center of the entrant's back near the shoulder level or above the entrant's head.

b. Retrieval lines shall be attached to a mechanical device or fixed point outside the permit space in such a manner that

rescue can begin as soon as the rescuer becomes aware of the need for rescue.

c. A mechanical device shall be available to retrieve personnel from vertical permit-required confined spaces more than 5 feet deep.

12. Recordkeeping. Records shall be maintained at each facility by the facility supervisor documenting training, including safety drills, inspections, tests and maintenance, of any atmospheric tests made, to include time, date, PEL concentrations, PPE used, employees' names, etc.

SECTION 1
USACE ENTRY PERMIT
(EM 385-1-1)

Location of space_____

Description of space_____

Employee authorizing entry_____Date_____

Purpose of authorization_____

Entry authorized from_____to_____Date_____

Authorized entrants_____
_____

Authorized attendant(s)_____

SPACE HAZARDS AND CONTROLS

Asphyxiating: oxygen deficiency [ ] chemical [ ] engulfment [ ]
Flammable/explosive: dust[ ] chemical(specify)_____
Toxic: chemical(specify)_____
Unauthorized activation: mechanical_____electrical_____

The confined space shall be isolated or potential hazards controlled by: depressurization [ ] purging/cleaning of pipe [ ] lockout/tagout [ ] blanking/capping pipe [ ] other(specify)_____

Rescue services/equipment are available: on-site [ ] outside [ ]

Communication equipment/procedures to be used:_____
_____

The following personal protective equipment have been assigned to, and shall be worn by, entrants:_____
_____

Hot work may [ ]/[shall not] be conducted in this space.
If hot work is permitted, the following controls shall be utilized:_____

_____

TESTING AND MONITORING

The space has an oxygen content of_____and is [safe]/[unsafe]
The space has been monitored and contains the following concentration of toxic hazards: carbon monoxide_____
hydrogen sulfide_____other(specify)_____

The space has been tested and contains the following percentages of lower flammable limit of flammable/explosive chemicals (specify)_____

_____

Monitoring will be conducted: continuously [ ] or at____intervals

AUTHORIZATION: all actions and conditions necessary for the entry to, work in, and exit from the confined space have been performed. Entry is permitted on the date and time, and for the duration, specified above.

_____
(signature of individual authorizing entry)

CANCELLATION: all entrants have exited the confined space and this permit canceled.

_____time_____
(signature of individual authorizing entry)

SECTION 2
ACTIVITY HAZARD ANALYSIS-CONFINED SPACE ENTRY

The activity throughout this document is simply entering a confined space. Listed below are hazards associated with this activity and possible means of controlling those hazards.

1. Hazard: Toxicity

Causes: Toxic levels of substances in CS (Confined Space).
From decomposition of organic material in CS.
From mixture of substances in CS.
Substances being used in CS, e.g., cleaning solvents.
Residual vapors from previous contents of CS.
Welding fumes/vapors.

Controls: Evaluate previous history of the CS to avoid reactions with residual chemicals, wall scale, and/or sludge which can be highly reactive.
Check for compatibility of materials when structural members and/or equipment are introduced e.g., aluminum ladder, cleaning solvents.
Utilize proper respiratory equipment based on air monitoring.

2. Hazard: Insufficient Oxygen

Causes: Rust
Use of other gases, e.g., nitrogen, carbon dioxide, etc.
Welding

Controls: Maintain atmospheric oxygen level of 21% by volume through ventilation and/or exhaust. Provide/maintain adequate ventilation, exhaust, etc., as per specific conditions in CS.
Self-contained breathing apparatus.

3. Hazard: Explosion/Fire in CS

Causes: Combination of combustible gases in CS and a spark from activity of an employee in CS (dip-testing tank, welding, electric tools, light bulbs, matches).

Controls: Use non-sparking tools (NFPA).
No matches, lighters or other flame producing sources allowed in CS.
Explosion-proof bulbs.

Provide adequate ventilation to prevent an enriched oxygen atmosphere or to eliminate the explosive/flammable atmosphere.

4. Hazard: Explosion/fire at point of entry.

Cause: Employee welding, using power tool or other spark generating activity at point of entry.
Driving automobile near CS containing combustible materials.

Controls: Use of non-sparking tools.
Barricade entry point within reasonable distance.
Prohibit vehicles within immediate area.

5. Hazard: Electrocution/electric shock

Cause: Conductive walls of CS picking up an electrically "hot" source in CS.

Control: Ensure all electrical apparatus used comply with NEC Standards.
Lockout electric sources.

6. Hazard: Caught in/crushing

Cause: Entering machine/area that has not been locked out, then having it activated.

Control: Manually isolating each piece of equipment before workers enter or while they work in a CS (Locking out).
Follow specific procedures for mechanical lockout.

7. Hazard: Struck by falling objects in CS.

Cause: Falling objects from walls of CS.
Objects falling through point of entry.

Control: Barricade entry of CS.
Wear appropriate personal protective equipment,i.e., hardhat.
Assess hazards prior to entry.

8. Hazard: Falls while in CS.

Causes: Wet, oily floors Configuration of internal surfaces.

Holes/breaking through part of CS.
Falls over objects/tools.
Poor lighting.
Uneven surfaces.

Controls: Ensure floor/base is clean/dry.
Wear proper foot protection.
Locate/identify/barricade existing holes
Provide adequate illumination.
Practice good work habits (housekeeping).
Use guardrails/scaffolding properly.

9. Hazard: Bodily reactions, strains, abrasions.

Causes: Entering/leaving cramped sharp-edged, high-level or hazardous point of entry to a CS.
Maneuvering within a CS. Low head room/striking head.

Controls: Wear personal protective equipment.
Training to ensure awareness.
Reduce "bulkiness" of clothing, equipment, etc.
Engineer controls/eliminate condition.

10. Hazard: Eye injuries

Causes: Falling dust
Grinding, chipping, other operations that cause flying debris.

Control: Wear proper eye protection at all times.

11. Hazard: Contact with temperature extremes.

Causes: Steam discharge
Welding surfaces
Weather conditions
Compressed Gases,i.e., Nitrogen.
Controls: Wear appropriate clothing, PPE.
Limit time of exposure.
Know symptoms of excessive exposure.
Frequent breaks to ensure high fluid intake to compensate for hot climates and for hot conditions inside PPE.

APPENDIX V
CONTROL OF HAZARDOUS ENERGY
(LOCKOUT/TAGOUT)

1. Purpose: This appendix defines the minimum requirements in establishing a program and utilizing procedures for affixing appropriate lockout or tagout devices to energy isolating devices, and to otherwise disable machines or equipment to prevent unexpected energizing, start-up, or release of stored energy in order to prevent injuries to employees within the Jacksonville District.

2. Applicability: This appendix applies to the control of energy during servicing and/or maintenance of equipment by government and contractor employees within the Jacksonville District.

3. References:

a. ER 385-1-31

b. EM 385-1-1

c. 29 CFR 1910.147

4. Definitions:

a. Energy Isolating Device - A mechanical device that physically prevents the transmission or release of energy.

b. Energy Source - Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.

c. Lockout - The placement of a lockout device on an energy isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

d. Lockout Device - A device that utilizes a positive means such as a lock, either key or combination type, to hold an energy isolating device in a safe position and prevent the energizing of equipment. Included are blank flanges and bolt slip blinds.

e. Tagout - The placement of a tagout device on an energy isolating device, in accordance with an established procedure, to

indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

f. Tagout Device - A prominent warning device, such as a tag and a means of attachment, which can be securely fastened to an energy isolating device in accordance with an established procedure, to indicate that the energy isolating device and equipment being controlled may not be operated until the tagout device is removed.

g. Zero Energy State - Before any piece of equipment can be serviced or worked on in any way, it must be in a "zero energy state." This means no energy is coming into or is inside the equipment. Equipment that's just turned off is not at a zero energy state because it could easily be turned on again. Isolating the energy source and using locks and tags ensures the equipment reaches and stays at a zero energy state.

5. General:

a. Lockout/Tagout:

(1) If an energy isolating device is not capable of being locked out, the energy control program shall utilize a tagout system.

(2) If an energy isolating device is capable of being locked out, the energy control program shall utilize lockout, unless it can be demonstrated that the use of a tagout system will provide a level of safety equivalent to that obtained by using a lockout system.

(3) After January 2, 1990, whenever replacement or major repair, renovation or modification of equipment is performed, and whenever new equipment is installed, energy isolating devices for such equipment shall be designed to accept a lockout device.

b. Equipment may be powered by different types and/or combinations of energy sources:

(1) Electrical energy is the flow of currents through wires and circuits.

(2) Hydraulic energy is any type of liquid, including water, under pressure.

(3) Pneumatic energy is gas, including air, under pressure.

(4) Mechanical energy is potential or "built-up" energy, such as spring energy, that may cause equipment parts to move without warning.

c. Each facility shall have written lockout/tagout procedures which clearly and specifically outline the scope, purpose, authorization, rules, steps and techniques to be utilized for the control of hazardous energy and means to enforce compliance with these procedures. An example listing of steps is enclosed at Section 1 of this appendix for reference.

d. Authorized employees shall demonstrate energy control is in effect prior to any maintenance or service being conducted and submit a request for safe clearance using ENG Form 1927-R. A copy of this form is enclosed at Section 2 of this appendix for reference.

e. Each facility shall maintain a safe clearance log. All safe clearances will be entered into the log when issued and when released.

f. Protective materials and hardware.

(1) Locks, tags, chains, wedges, key blocks, adapter pins, self-locking fasteners, or other hardware shall be provided for isolating, securing or blocking of equipment from energy sources.

(2) Lockout and tagout devices shall be singularly identified; shall be the only devices used for controlling energy; shall not be used for other purposes; and shall meet the following requirements:

(a) Durable. Lockout devices and tag out devices shall be capable of withstanding the environment to which they are exposed for the maximum period of time that exposure is expected.

(b) Tag out devices shall be constructed and printed so that exposure to weather conditions or wet and damp locations will not cause the tag to deteriorate or the message on the tag to become illegible.

(c) Tags shall not deteriorate when used in corrosive environments such as areas where acid and alkali chemicals are handled and stored.

(3) Standardized. Lockout and tagout devices shall be standardized within the facility in at least one of the following criteria: Color; shape; or size; and additionally, in the case of tagout devices, print and format.

(4) Substantial.

(a) Lockout devices shall be substantial enough to prevent removal without the use of excessive force or unusual techniques, such as with the use of bolt cutters or other metal cutting tools.

(b) Tagout devices, including their means of attachment, shall be substantial enough to prevent inadvertent or accidental removal.

(5) Identifiable.

(a) Lockout and tagout devices shall indicate the identity of employee applying the device.

(b) Tagout devices shall warn against the hazardous condition if machine or equipment is energized and shall include a legend such as the following: Do Not Start, Do Not Open, Do Not Close, Do Not Energize, Do Not Operate.

(c) No lockout or tagout device shall be removed by anyone other than the individual who placed the device.

(6) Inspections.

(a) A qualified individual shall conduct a periodic inspection of the energy control procedures at least annually to ensure that established procedures and requirements are being followed.

(b) Periodic inspections shall be performed by an authorized person other than the one(s) utilizing the energy control procedures being inspected.

(c) Periodic inspections shall be conducted to correct any deviations or inadequacies identified.

(d) Periodic inspections shall include a review between the inspector and each authorized and those affected employees regarding the procedures and responsibilities being used.

(e) Periodic inspections will be documented for each piece of machinery or equipment. This certification shall identify the machine or equipment on which the energy control procedure was being used, the date of the inspection, the employees included in the inspection, and person performing inspection.

6. Responsibilities:

a. Supervisors.

(1) Will establish a program and utilize procedures for appropriate control of hazardous energy (lockout/tagout) for his/her facility.

(2) Will ensure that all necessary personnel receive required training regarding the control of hazardous energy.

b. Safety and Occupational Health Office. Will ensure that all programs involving the control of hazardous energy (lockout/tagout) are in compliance with district, state, and federal regulations.

7. Training: The employer shall provide training to ensure that the knowledge and skills required for the safe application, usage, and removal of the energy controls are acquired by employees. Training shall include:

a. All authorized employees will receive initial and periodic (annual) training in the recognition of applicable hazardous energy sources, the types and magnitude of the energy present in the workplace, and the methods and means necessary for energy isolation and control.

b. All affected employees shall be instructed in the purpose and use of the energy control procedures.

c. All other employees whose work operations are or may be in an area where energy control procedures may be used, shall be instructed about the procedure, and about the prohibition relating to attempts to restart or re-energize machines or equipment which are locked out or tagged out. This training may be accomplished during regularly scheduled safety meetings.

d. Lockout or tagout shall be performed only by the authorized employees who are performing the servicing or maintenance.

e. Training will be documented. Certification shall contain each employee's name, dates of training, name of person(s) conducted the training, where the training was performed, and the subjects covered.

8. Personal Protection Equipment: All appropriate personnel protective equipment will be used when applying lockout and tagout procedures.

SECTION 1
CONTROL OF HAZARDOUS ENERGY
LOCK OUT/TAG OUT PROCEDURES
STEPS TO SAFETY

1. TRACING THE ENERGY - The energy sources powering the machine or equipment needing work must be located. A floor plan can help the authorized employee trace the flow of energy to its sources.

2. SHUTTING DOWN EQUIPMENT - The on/off switch, starter button, or local disconnect is turned to "off" to shut equipment down. There may be more than one point of shutdown, so all of them must be turned off.

3. ISOLATING THE ENERGY - Isolation devices are applied to all energy sources to block energy from coming into, moving within, or causing unexpected movement of equipment parts.

4. LOCK OUT/TAG OUT - A lock and tag (or a tag by itself) are attached to the isolation device and at other locations if required. The authorized employee may give the locks and tags a quick tug to make sure they're attached securely.

5. RELEASING STORED ENERGY - Equipment may contain stored, or residual, energy that could cause harm if released unexpectedly. To make the equipment safe, stored energy is either released or blocked.

6. TESTING FOR ZERO ENERGY - To make sure that there is zero energy, the authorized employee tries to turn the equipment on. If it comes on, steps 1 through 5 are repeated. If the equipment doesn't start up, the employee can work safely.

7. REMOVING LOCKS AND TAGS - When the work is done, locks and tags are removed by the authorized employee (or by the supervisor, under special circumstances). Afterward, the equipment may be restarted so normal operations can resume.

INDUSTRIAL ACCIDENTS CAN RESULT IN SERIOUS INJURY AND EVEN DEATH TO YOU OR NEARBY WORKERS. BUT YOU CAN HELP PREVENT ACCIDENTS BY WORKING SAFELY AND FOLLOWING ALL LOCK OUT/TAG OUT PROCEDURES. NEVER TAKE SHORT CUTS TO BYPASS THE LOCK OUT, AND NEVER REMOVE SOMEONE ELSE'S LOCK OR TAG UNLESS ESTABLISHED PROCEDURES ARE FOLLOWED.

APPENDIX W
HAZARD COMMUNICATION PROGRAM

1. Purpose. To establish a formal Hazard Communication Program to inform and educate District personnel on the occupational health hazards associated with the chemicals in their workplace.

2. Applicability. This appendix is applicable to all U. S. Army Corps of Engineers, Jacksonville District personnel and all contractors doing business with the Jacksonville District.

3. References.

a. 29 CFR 1910.1200

b. 29 CFR 1926.59

4. General. The District's Hazard Communication Program has been developed, in accordance with 29 CFR 1910.1200, to ensure that all chemical substances which are brought into the workplace have been evaluated for their physical and health hazards and that information concerning these hazards is transmitted to those employees with potential exposure (i.e. an employee subjected to the hazardous chemical in the course of employment through any route of entry (inhalation, ingestion, and skin contact and absorption) under normal conditions of use or in an emergency). Note that only those chemicals which have been classified as a health or physical hazard, in accordance with 29 CFR 1910.1200, are required to be included in the Hazard Communication Program. Consult with the Safety and Occupational Office if there is an uncertainty as to a chemical's inclusion.

5. Major Elements. There are five major elements of the District's Hazard Communication Program; a written Hazard Communication Program; Chemical Assessment and Inventory; Hazardous Chemicals Labeling System; Material Safety Data Sheets (MSDS); and Employee Training. This section of the District Plan makes up the written Hazard Communications Program; the remaining elements are discussed below.

a. Chemical Hazard Assessment and Inventory. Every chemical purchased by the District will have been assessed for its chemical or physical hazards. Where applicable substitute chemicals that are less hazardous shall be purchased for the assigned tasks. The chemical manufacturer or importer is required, by Federal law to determine if the chemicals they sell or import are hazardous and to provide this information via

label, MSDS, mark, or tag, to the purchaser. Based upon this information, the chemicals purchased by the District will be included in the Hazardous Chemicals and Materials Inventory. The inventory will be continually updated. As hazardous chemicals are purchased they will be added to the inventory. As hazardous chemicals are disposed of they will be removed from the list. However, data on their hazards will be maintained by the supervisor and Safety and Occupational Health Office. Industrial Hygiene and workplace inspections will include a check to ensure the accuracy of the inventory.

b. Hazardous Chemical Labeling System.

(1) Chemical manufacturers, importers, and distributors are required, by Federal law, to label, mark, or tag each container of hazardous chemicals leaving their workplace with the following:

(a) Identity of the hazardous chemical(s) contained herein;

(b) Appropriate hazard warning labels; and

(c) The name, address, and telephone number of the chemical manufacturer or importer, or other source who can provide additional information on the hazardous chemical(s) and appropriate emergency procedures.

(2) Supervisors shall ensure that each container of hazardous chemicals in the workplace is labeled, tagged, or marked accordingly and that the label or other form of warning is legible, in English, and prominently displayed on the container and also have the information readily available throughout the work shift. For the purpose of this requirement, container means any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical. Pipes and piping systems are not considered to be containers. However, the pipe and piping systems will be labeled as specified above if substances which are transported will be contained in the Hazardous Material Inventory. Portable containers into which hazardous chemicals are transferred shall be marked to indicate the chemical, hazardous or non-hazardous, which they contain. Containers which both contain and process chemicals may use signs, placards, process sheets, batch tickets, operating procedures, or other such forms of identity to ensure employees are aware of the hazards involved with the chemical or process.

c. Material Safety Data Sheets (MSDS). Federal Law, 29 CFR 1910, requires chemical manufacturers and importers to obtain or develop a Material Safety Data Sheet for each hazardous chemical they produce or import and employers to maintain a Material Safety Data Sheet for each hazardous chemical which they procure and use. The inclusion of Federal Acquisition Regulation (FAR) clause 52.223-3 in purchase orders for chemical products will ensure that the manufacturer or distributor provides MSDS's for those products. Logistics Management Division will ensure that every purchase order will include FAR clause 52.223-3. MSDS's may take various forms including operating procedures, and may be designed to cover groups of hazardous chemicals if it is appropriate to address the hazard of the process rather than individual hazardous chemicals as long as the information contained in the MSDS is provided for each chemical in the process and is readily accessible during each work shift to all affected employees. Upon receipt of MSDS's, a copy will be forwarded to the Safety and Occupational Health Office and be readily accessible to the employee in the work area. The new chemical will be included in the Hazardous Material Inventory at the Safety and Occupational Health Office and added to the work area inventory. Information on the MSDS will be used by the Safety and Occupational Health Office to develop adequate hazard control and abatement procedures and establish training requirements for personnel exposed to the chemical.

d. Employee Information and Training.

(1) Supervisors are responsible for providing their personnel with an orientation on the purpose and requirements of this program and specific training on hazardous chemicals in their workplace. Specific training on the hazardous chemicals in the work area will be conducted during the three weeks of a new employee's assignment, when a new chemical is introduced in the workplace or whenever the need exists. Specific training shall include, as a minimum, the following:

(a) A description of those operations in the employee's work area where hazardous chemicals are present and in use.

(b) Chemical hazard evaluation and inventory. This is a listing of those chemicals included in the Hazardous Material Inventory for the work area, the work area labeling system and the use of Material Safety Data Sheets.

(c) Training in the use of the Material Safety Data Sheets shall include the physical and chemical hazards of the

chemical and the specific measures required to protect the employee from these hazards.

(d) Methods and observations that may be used to detect the presence or release of a hazardous chemical within the work area.

(2) The supervisor will contact the Safety and Occupational Health Office within the first 3 weeks of the new employees assignment for formal training in Hazard Communication. The training will be provided to the employee(s) during the next site visit to the area.

6. Non-Routine Tasks. Prior to the undertaking of a non-routine task, supervisors shall inform employees of any hazards associated with the non-routine work they have been assigned. Generally, these hazards will have been pre-determined and brought to the supervisor's attention. If the hazards have not been pre-determined, the supervisor will notify the Safety and Occupational Health Office and request a hazard evaluation. The employee will then be informed of the associated hazards in accordance with paragraphs 2.d.(2) through 2.d.(4).

7. Hazard Communication on Contract Activities. It is required by Engineering Division that all design plans and specifications for activities within the Jacksonville District list those hazardous substances and materials incorporated in the design, including those used in the construction of the activity. This list will serve as the primary notice to contractors of the hazardous materials and substances to which their employees may be exposed to while performing their work. It is also required that the contractor provide documentation of employee training in hazardous substances and chemicals used on the particular job site. It is required that the contractor develop an Activity Hazard Analysis, acceptable to the Contracting Officer's Representative, which identifies those hazards, including chemical hazards, anticipated during a particular phase of work and propose methods to control those hazards. Contractor will utilize those sections of the Activity Hazard Analysis and applicable MSDS's to provide training to their employees in accordance with the requirements of section 2.d. Hazardous chemicals brought onto a Corps of Engineers project by a contractor will meet all requirements of labeling described in section 2.b.

APPENDIX X
PUBLIC SAFETY

1. Purpose. This appendix provides a coordinated safety program for the purpose of preventing public accidents.

2. Applicability. This appendix applies to all District elements involved with public recreation activities.

3. References.

a. AR 385-10

b. EM 385-1-1

c. ER 1130-2-520

d. ER 1130-2-540

e. ER 1130-2-550

f. 36 CFR 327

4. Scope and Objective. The District has a responsibility for the safety of the visiting public who use District facilities for recreation activities. In order to meet this responsibility, District facilities must be planned, designed, constructed, operated, and maintained in a manner which will best provide safety to the user.

5. Responsibilities. Any successful safety program must involve a coordinated effort with input from all concerned District elements. Since Con-Ops Division is the basic element responsible for operation, maintenance, and management of District water resource projects, they must have the primary responsibility for the implementation of public safety programs. Supporting elements include the Safety and Occupational Health Office, Planning, Engineering, Office of Counsel, Public Affairs and Real Estate. Responsibilities of the elements are outlined below:

a. Con-Ops Division.

(1) Develop annual public and employee safety action plans which will address employee safety, public safety, and water safety.

(2) Promote safety awareness in the public and Construction-Operations employees to prevent and reduce the accidents at water resource projects within the District.

(3) Ensure that those employees responsible for public safety are well trained and have sufficient knowledge so that they may perform their duties with confidence.

(4) Improve safety programs at water resource projects through enhanced interagency cooperation.

(5) Ensure compliance with all current national consensus regulations involving; safe design, construction, and operation of public use areas; employee work practice; safety equipment; and safety training.

(6) Provide the visiting public with a safe recreational experience at District projects.

(7) Project signs shall be in accordance with Sign Standards Manual, EP 310-1-6a and 6b.

(8) Identify and mark all hazardous waters adjacent to structures in accordance with ER 1130-2-520, Restricted Areas for Hazardous Waters at Dams and Other Civil Works Structures.

b. Safety and Occupational Health Office.

(1) Assist District elements in organizing, directing, and monitoring the effectiveness of the public safety program.

(2) Ensure District elements are abreast of the latest developments in public safety.

(3) Assist Con-Ops personnel with performance of compliance inspections when requested.

(4) Perform safety surveys of public use areas.

(5) Review plans and specifications for the development of public use areas to ensure compliance with safety standards.

(6) Assist with the development, procurement, and distribution of water safety program promotional material.

(7) Maintain records of public drowning and injuries.

c. Planning Division. Plan and develop recreation facilities in such a manner as to reduce the drowning potential of the user. Some items to be considered are:

(a) Provide for swimming beaches.

(b) Assure that recreation sites are developed in areas with safe shorelines, i.e., the shoreline does not have dangerous submerged drop-offs, boulders, strong undercurrents, etc.

(c) Plan for boat launch facilities with safe boarding access and vehicular access which would eliminate the public from accidentally driving head-on into the water.

(d) Assure all planning and design is in accordance with EM 1110-1-400.

d. Engineering Division.

(1) Design recreation facilities to reduce the drowning potential.

(2) Provide safe shorelines in public use areas where swimming and wading are likely to occur by eliminating submerged physical hazards.

(3) Design swimming beaches as required by ER 1110-2-400, ER 1165-2-400 and EM 1110-1-400.

(4) Review marina concessionaire development plans and design specifications to assure compliance with current criteria.

(5) Design boat launch facilities to provide safe boarding access.

(6) Assure launch ramps are laid out in a manner which reduces the potential of visitors from accidentally driving into the water.

(7) Provide safe vehicular access along shoreline roads to prevent accidental entry into the water.

e. Office of Counsel.

(1) Provide legal research for determining liability due to drowning and other injuries.

(2) Review wording of signs and other written instructions and/or materials for adequacy.

(3) Review marina concession contracts to assure that safety provisions are included and are enforceable.

f. Public Affairs Office.

(1) Take aggressive action to inform employees, general public, media, civic organizations, and industry of our safety program's capabilities and our accomplishments in the safety arena. This should enhance safe practice around public use resource projects and improve the District's public image.

(2) Develop radio and television safety spot announcements for local projects.

(3) Inform the media and the general public of the Corps' accomplishments and safety programs through exhibits and other medium.

(4) Develop water safety handouts to be given to the public.

(5) Develop articles on water safety for local media.

g. Real Estate.

(1) Prepare marina concession contracts in a manner which will require the concessionaire to abide by all current 385 series safety standards.

(2) Develop contracts which will allow for enforcement of safety standards with methods less severe than the threat of doing away with the contract.

(3) Assure that implementation of safety provisions is checked during compliance inspections.

(4) Assure all leases and outgrants require compliance with the same rules and regulations as required of USACE team members, i.e., 385 series, NFPA, and environmental laws.