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.