

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.

CESAJR 385-1-1
APP Q
1 Sep 98

(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

CESAJR 385-1-1
APP Q
1 Sep 98

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.

CESAJR 385-1-1
APP Q
1 Sep 98

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.

CESAJR 385-1-1
APP Q
1 Sep 98

- (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 I.)										
DATE OF LAST PHYSICAL:			TENDER:			DISTRICT & PROJECT:				
1. DIVE										
DATE:		DEPTH OF DIVE: FT.		REPETITIVE DIVE: <input type="checkbox"/> YES <input type="checkbox"/> 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						
				<input type="checkbox"/> DEEP SEA <input type="checkbox"/> MASK		<input type="checkbox"/> SCUBA (OPEN) <input type="checkbox"/> SCUBA (CLOSED)		<input type="checkbox"/> HEL-OXYGEN <input type="checkbox"/> OTHER: _____		
5. BREATHING MEDIUM					6. SOURCE OF BREATHING MEDIUM					
AIR		HELIUM		OXYGEN		NITROGEN			<input type="checkbox"/> AIR BANKS <input type="checkbox"/> HEO BANKS <input type="checkbox"/> 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)										
<input type="checkbox"/> SUIT USED	BOT. VOL. (CU. FT.)		TOT. TIME (MIN.)		TOT. DIST. (YD.)					
8. TOTAL TIME OF DIVE (S)										
THIS/THERE MIN.		CUMULATIVE HRS. MIN.								
11. WORK SCHEDULES AND ACCOMPLISHED:										
12. REMARKS:										
DIVING SUPERVISOR					DIVING INSPECTOR					

CESAJR 385-1-1
APP Q
1 Sep 98

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 <input type="checkbox"/> 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	

CESAJR 385-1-1
APP Q
1 Sep 98

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.

CESAJR 385-1-1
APP Q, Sec 4
1 Sep 98

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 buoyancy compensators.	Recompression in recompression 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.

CESAJR 385-1-1
 APP Q, Sec 5
 1 Sep 98

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
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.	Navy Diving Manual. 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

CESAJR 385-1-1
 APP Q, Sec 5
 1 Sep 98

POTENTIAL HAZARDS	MEANS OF PREVENTION	ACTION IN CASE
Electrocution	<p>proper equipment.</p> <p>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.</p>	<p>provide rest and warmth.</p> <p>Give artificial respiration and medical assistance at once.</p>
Hypothermia	<p>Dress appropriately for underwater temperature. Ascend at the first sign of discomfort.</p>	<p>Keep diver in warm area and feed warm liquids until body temperature becomes normal. Medical assistance may be necessary.</p>
Currents	<p>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.</p>	<p>Reduce static head differential, if possible. Close all gates, valves, etc. Begin rescue operations.</p>
<p>Marine Life (Sharks, jellyfish, alligators, etc.)</p>	<p>Examine diving area prior to diving.</p>	<p>Exit water. Call Game & Fish Commission (alligators). Have sting neutralizing solution available (for jellyfish).</p>

<u>POTENTIAL HAZARDS</u>	<u>MEANS OF PREVENTION</u>	<u>ACTION IN CASE</u>
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.

CESAJR 385-1-1
APP Q
1 Sep 98

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.

CESAJR 385-1-1
APP Q
1 Sep 98

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	850-452-2252
0715-1600 hours	After 1600 hours
Monday thru Friday	Weekdays and Holidays

Dive Chamber: 850-452-3409

CESAJR 385-1-1
APP Q, Sec 7
1 Sep 98

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

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