



SPECIALIZED RESPONSE TEAM DIVE RESCUE TEAM

Standard Operating Procedure

SUBJECT:

**Dive Team Standard Operating Procedures for Training
and Rescue/ Recovery Operations**

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Table of Contents

PURPOSE STATEMENT:	- 3 -
POLICY:	- 3 -
DEFINITIONS	- 4 -
1.0 GENERAL REQUIREMENTS	- 8 -
2.0 AWARENESS LEVEL	- 8 -
3.0 OPERATIONS LEVEL	- 8 -
4.0 TECHNICIAN LEVEL	- 9 -
5.0 TRAINING REQUIREMENTS	- 11 -
6.0 PUBLIC SAFETY DIVER SWIM TEST	- 13 -
7.0 SAFETY PROCEDURES FOR DIVING OPERATIONS	- 15 -
8.0 BEFORE DIVING OPERATIONS ARE COMMENCED	- 16 -
9.0 THE DIVE SHALL BE TERMINATED WHEN	- 16 -
10.0 FACTORS TO CONSIDER FOR A RISK/BENEFIT FIELD ANALYSIS	- 17 -
11.0 DEVELOPING THE DIVE ACTION PLAN	- 17 -
12.0 BRIEFING	- 17 -
13.0 PRE-DIVE SAFETY CHECK	- 18 -
14.0 RAPID FIELD NEURO EXAMINATION	- 18 -
15.0 DIVE OPERATIONS	- 20 -
16.0 VEHICLE IN THE WATER OPERATIONS	- 21 -
17.0 EMERGENCY PROCEDURES/EMERGENCY ACTION PLAN	- 21 -
18.0 RETURN TO SERVICE	- 23 -
19.0 POST INCIDENT ANALYSIS	- 23 -
20.0 BOAT OPERATIONS	- 23 -
21.0 ICE OR OVERHEAD ENVIRONMENT DIVE OPERATIONS	- 24 -
22.0 ICE DIVE SITE PREPARATION FOR TRAINING EXERCISES	- 26 -
23.0 NIGHT DIVE OPERATIONS	- 26 -
24.0 DEEP DIVE OPERATIONS	- 26 -
25.0 DIVING EQUIPMENT	- 27 -
26.0 MEDICAL STANDARDS	- 30 -
27.0 PERSONNEL RECORDS AND DIVE LOGS	- 30 -
28.0 ORGANIZATION AND RESPONSIBILITIES	- 30 -
APPENDIX	- 33 -
A. Dive Action Plan	
B. Dive Team Assignments	
C. Hazard Assessment	
D. Dive Checklist	



- E. Rapid Field Neuro
- F. Diver Information Sheet
- G. Initial Contact Sheet
- H. Victim Assessment
- I. Witness Interview
- J. Boat Team Assignments
- K. Dive IC Tactical Worksheet



3



PURPOSE STATEMENT:

The purpose is to ensure that all diving operations under the auspices of the Specialized Response Team Dive Rescue Team (DRT) are conducted in a manner that maximizes protection of Divers from accidental injury and/or illness. This document sets forth-minimal procedures for the establishment of diving programs, In addition these procedures establish the basic regulations and procedures for safety in diving operations, and enable the region to comply with NFPA 1670. (2004 EDITION)

POLICY:

  No person shall engage in diving operations unless they currently are certified as a Public Safety Diver as outlined in this SOP.

  No personnel are permitted to operate at a level of certification above which they have been certified at any incident or training dive.

  Divers must be annually tested to region standards to maintain certification to act in the capacity of a diver.

4

DEFINITIONS

ALTERNATE AIR SYSTEM A secondary air supply system that involves an alternate second-stage regulator provided by either a separate dedicated second-stage or a multi-purpose second stage regulator coupled with a buoyancy compensator inflator valve.

COMPETENT PERSON One who is capable of identifying existing and predictable conditions in the surroundings or in the working area that are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate such conditions.

CURRENT DIVER A diver certified to operate subsurface in a current exceeding one-half

(.5) knot by a nationally recognized Public Safety Diving Agency.

CUTTING TOOL A handheld cutting device that may include but is not limited to a dive knife or trauma shears.

DEEP DIVER A diver certified by a nationally recognized Scuba Diving Agency to operate at depths of 60 feet or greater.

DIVE An exposure to increased pressure whether underwater or in a hyperbaric chamber.

DIVE ACTION PLAN (DAP) Written procedures, including Standard Operating Procedures, for managing a dive rescue/recovery response and operation.

DIVE / NO DIVE DECISION The decision regarding whether to conduct a sub-surface rescue/ recovery operation made after a Risk vs. Benefit analysis is completed.

DIVE OPERATION A situation requiring divers to complete an assigned task.

DIVE TEAM Personnel trained and certified in public safety dive operations.

DIVE TECHNICIAN CERTIFICATION Documentation stating an individual has completed the qualifications required by a nationally recognized Public Safety Diving Agency to perform specific diving activities as defined by OFSM.

EMERGENCY ACTION PLAN Written procedure identifying actions needed for managing operational or medical emergencies that may occur during a dive operation.

ENVIRONMENTAL PROTECTION The isolation of a device, critical mechanism, or person from extreme ambient conditions likely to cause a failure or damage to devices or mechanisms, or the exposure of a person to harmful contaminants or debilitating thermal conditions.

5

ICE DIVER A diver certified to operate and do penetration dives in ice/overhead environments by a nationally recognized Public Safety Diving Agency.

ICE DIVE OR ENVIRONMENT OVERHEAD Any dives in bodies of water with any portion of the surface covered *with ice or any dive in which the surface is not directly accessible* shall be considered an ice dive/overhead environment operation requiring implementation of the procedures in this section.

INCIDENT CONTROL ZONES

HOT ZONE: (*Restricted, High-Hazard Area*): The immediate hazard area surrounding the rescue/recovery operation which extends far enough to provide safety to personnel operating inside and outside of the zone.

WARM ZONE: (*Limited Access Area*): The area surrounding the hot zone and bounded by the cold zone. Entry is restricted to emergency response personnel, as well as those assigned by the Incident Commander.

COLD ZONE: (*Support Area*): The area surrounding the warm zone which presents no hazards to emergency response personnel and equipment, it is reserved for emergency services functions only, such as the command post and other support functions deemed necessary to control the incident.

LOGBOOK A written record of date, location, depth, dive time and type of scuba dive conducted.

OSFM CERTIFICATION A certification issued by the Office of the State Fire Marshal to fire service personnel completing specified cognitive and practical skills either through OSFM classes or external agencies using OSFM approved curriculum.

PRIMARY DIVER The diver conducting the in-water operation.

PUBLIC SAFETY DIVER An individual using breathing apparatus that supplies compressed breathing air at ambient pressure and is conducting dives outside the parameters of recreational diving for the specific purpose of underwater rescue or recovery operations and the direction of and authorization of a government entity.

PUBLIC SAFETY DIVING Underwater diving, related to team operations and training, performed by a member, group or agency of a community or government- recognized public safety diving or water rescue team.

6

PUBLIC SAFETY DIVE SPECIFIC, TRAINING AGENCY A nationally recognized Public Safety Dive certifying agency that provides the following: a nationally recognized

public safety diving training standards; a nationally recognized public safety diving curriculum; and a mandatory (certification contingent) continuing education/skills maintenance program.

“REACH, THROW, ROW, GO” The four sequential steps in water rescue with progressively more risk to the Rescuer. Specifically, a “go” rescue involves physically entering the medium (e.g., in the water or on the ice).

REDUNDANT AIR SYSTEM An independent and secondary underwater breathing system minimum of 15 cubic feet of air (i.e. pony bottle with first and second stage or a pony bottle supplying a bailout block). Depending on depth and equipment additional gas volume and redundant supply may be warranted.

RESCUE MODE The first ninety (90) minutes of submersion where there is the possibility to save a life.

RECOVERY MODE Any period of time after ninety (90) minutes or unknown amount of submersion time or there is not chance to save a life.

RISK/BENEFIT ANALYSIS A decision made by a responder, based on a hazard and situation assessment, that weighs the risks likely to be taken against the benefits to be gained for taking those risks.

SAFETY DIVER An on-site diver available to assist another diver in the water, who is already operating at a site. The Safety Diver shall be able to deploy immediately to provide assistance the primary diver in distress or need. The Safety Diver must have all equipment donned and operational.

90% (SAFETY) DIVER A diver dressed to the point where becoming fully dressed and operational would take minimal time. The 90% diver is a back up to the safety diver if they were to be deployed.

SCUBA EQUIPMENT Apparatus used to allow swimming under water including compressed-air cylinder, regulator, thermal protection, fins, buoyancy compensating device, weights and mask.

SWIFT WATER (SURFACE) Water moving at a rate greater than one knot (1.15 mph).

TENDER An individual trained in the responsibilities of diver safety that provides control of search patterns from the surface of the water.

TERMINATE/ABORT DIVE The immediate cessation of dive operations.

7

WATER HAZARD ZONE The area that is identified by the IC, Safety Officer, or Dive Team Group Supervisor that poses a risk to personnel and personnel must be in personal floatation devices and/or helmets. Generally twenty (20) feet from water's edge

unless terrain dictates further separation.

WATERCRAFT TECHNICIAN An individual trained to operate watercraft.

WATERMANSHIP SKILLS Capabilities that include: swimming, surface diving, treading water, and staying afloat with a reasonable degree of comfort appropriate to the required task.

8

1.0 GENERAL REQUIREMENTS

1.1 Member departments and personnel operating at water incidents shall meet all the requirements specified in Chapter 9 of NFPA 1670 (2004 EDITION).

1.2 Member departments and personnel shall evaluate the effects of

severe weather, extreme water conditions, and other difficult conditions to determine whether the present training program has prepared the organization to operate safely.

2.0 AWARENESS LEVEL

2.1 Member departments and personnel operating at the Awareness Level shall meet all the requirements in Section 9.2 of NFPA 1670 (2004 EDITION). All members certified to the awareness level shall meet the requirements of a Competent Person as defined in this document.

2.2 Awareness-Level functions at water incidents shall include the development and implementation of the following:

2.2.1 Procedures for recognizing the need for water search and rescue

2.2.2 Procedures for implementing the assessment phase.

2.2.3 Procedures for the identification of the resources necessary to conduct safe and effective water operations.

2.2.4 Procedures for implementing the emergency response system for water incidents.

2.2.5 Procedures for implementing site control and scene management.

2.2.6 Procedures for recognition of general hazards associated with water incidents and the procedures necessary to mitigate these hazards in the general rescue area.

2.2.7 Procedures to determine rescue versus recovery operations.

3.0 OPERATIONS LEVEL

3.1. Member departments and personnel operating at the Operations Level shall meet all the requirements specified in Section 9.2 of NFPA 1670 (2004 EDITION).

3.2 For the purposes of these procedures, there shall be five separate water-related disciplines for the Operations Level: dive, ice dive, watercraft, surface ice, and surface swift water.

3.3 Member departments and personnel operating at the operations level shall meet all the requirements specified in 9.3.1 through 9.3.5 of NFPA 1670 (2004 EDITION). Member departments and personnel operating at the operations level of one or more specific disciplines shall meet the requirements of 9.3.2 through 9.3.5 of NFPA 1670 as they relate to the specific discipline as well as the specific requirements (given in 9.3.6, 9.3.7, 9.3.8, or 9.3.9) of that discipline listed in NFPA 1670 (2004 EDITION).

9

3.4 For personnel operating in the hazard zone, the minimum personal protective equipment (PPE) worn or carried shall include the following:

3.4.1. Personal flotation device (PFD)

3.4.2 Thermal protection

3.4.3 Helmet (as needed)

3.4.4 Cutting device

3.4.5 Whistle

3.4.6 Contamination protection (as needed)

3.5 Operations-Level functions at dive incidents shall include the development and implementation of the following:

3.5.1 Procedures for the recognition of the unique hazards associated with dive operations.

3.5.2 Procedures for serving as surface support personnel.

3.5.3 Procedures for the identification of water characteristics.

3.5.4 Procedures for the operation of surface support equipment used in water operations.

3.5.6 Procedures for the safe entry and recovery of divers from the water.

3.5.7 Procedures for participating in safe dive operations in any climate the organization can encounter.

4.0 TECHNICIAN LEVEL

4.1 Member departments and personnel operating at the Technician Level shall meet all the requirements specified in 9.3.1 through 9.3.5 of NFPA 1670 (2004 EDITION).

4.2 For the purposes of this standard, there shall be five separate water-related disciplines for the Technician Level: dive, ice dive, watercraft, surface ice, and surface swift water.

4.3 Member departments and personnel of operating at the Technician Level shall meet all the requirements specified in 9.4.1 through 9.4.6. Members operating at the technician level of one or more specific disciplines shall meet the requirements of 9.4.1 through 9.4.6 as they relate to the specific discipline as well as the specific requirements (given in 9.4.7, 9.4.8, and 9.4.9) of that discipline.

4.4 Member departments and personnel operating at the Technician Level shall meet all the Awareness and Operations-level requirements specified in NFPA 472, Standard for Professional Competence of Responders to Hazardous Materials Incidents.

4.5 Personnel operating within an organization at the technician level shall possess a level of watermanship skill and comfort appropriate to the required task.

10

4.6 Technician-Level functions at all water rescues shall be trained in and able to implement the following:

4.6.1 Procedures required to planning a response within the capabilities of available resources.

4.6.2 Procedures to implement a planned response consistent with the organization's capabilities.

4.6.3 Procedures for conducting both boat-assisted and boat-based rescues.

4.6.4 Procedures to conduct a "go" rescue.

4.7 Technicians at the entry level and for any specialties utilized by an organization at the technician level, shall ensure provision of certification by a nationally recognized Public Safety Dive certifying agency.

4.8 Annual fundamental SCUBA skill reviews shall be conducted to maintain public safety diver capability.

4.8.1 Procedures for skin and SCUBA diving, including the use of any associated equipment

4.8.2 Procedures for the application of physics and physiology as it relates to the underwater environment

4.8.3 Procedures for the use of dive tables

4.8.4 Procedures for dealing with the various underwater environments with which the rescue diver will come into contact

4.8.5 Procedures for avoiding and dealing with underwater obstacles, vehicles, entanglement hazards, and structures

4.8.6 Procedures for the conduct and supervision of dive operations

4.8.7 Procedures for the use of relevant search, theory, and techniques

4.8.8 Procedures for the identification and management of dive-related maladies including air embolism and decompression sickness

4.8.9 Procedures for recognizing and managing near-drowning

4.8.10 Procedures for effective underwater communication systems used by the Department

4.8.11 Procedures required to plan a response within the capabilities of available resources

4.8.12 Procedures to implement a planned response consistent with the organization's capabilities

4.8.13 Procedures for conducting both boat-assisted and boat based rescues

4.8.14 Procedures to conduct a "go" rescue

4.8.15 Procedures for self-rescue unique to ice rescue

4.8.16 Procedures for reach, throw, row, and go technique's unique to ice

rescue

4.8.17 Procedures for the use of watercraft, specialty craft, and specialty equipment unique to ice rescue

4.9 Watercraft Technician

11

5.0 TRAINING REQUIREMENTS

5.1 On an annual basis, a document identifying that all personnel at the technician level have the ability to pass the basic IADRS Public Safety Diver Swim Test (6.0) must be submitted to the Administrative Coordinator from the technicians Fire Chief's office.

5.2 It shall be the responsibility of the individual fire department Dive Team Leader to insure all re-certification requirements required for active and inactive divers are met.

5.3 team members at the technician level shall be classified into the following categories:

5.3.1 **Active Status:** A diver who is currently meeting all training requirements as defined in this document.

5.3.2 **Inactive Status:** A diver who has not met the training requirements as defined in this document. This diver is not allowed to function at the technician level (diver) during incidents but can assist at the operations level (non-diver). Divers who have successfully completed no less than 60% (3 out of 5) of the deficient years training are eligible to return to active status. This diver can return to active status by correcting the previous years training deficiencies and fulfilling the current years training requirements by 31 December of that year. In the event a diver does not meet this requirement they will be removed from the team.

Once removed from the team they will remain ineligible for membership unless approved by the Executive Board after receiving a written request for reinstatement from their Fire Chief. The diver shall still be responsible for correcting any previous training deficiencies.

5.3.3 **Leave of Absence:** A diver may submit a written request for a leave of absence for up to twelve months (12) months to the SRT Administrative Coordinator. The twelve (12) month time limit shall not apply to requests for qualified medical leave or qualified military service leave. Personnel returning from medical leave are required to submit from their Fire Chief stating they have no medical restrictions for Public Safety Diving. Divers returning to active status mid-year shall complete one open water training per every two months remaining in the calendar year. Divers should complete basic skills pool evaluation prior to any open water training.

5.4 Each diver must successfully complete one (1) basic skills pool evaluation and five (5) open water training dives annually. Two of the open water training dives must qualify as region training dives. Region training dives are defined as training dives where two (2) or more department teams from the region are participating. All training dives, pool sessions, and annual skill reviews must meet the requirements as defined in the Training Manual. New divers joining the Team mid-year shall complete one open water training per every two months remaining in the calendar year.

5.5 Training data will be accumulated from 01 January through 31 December of each year. Additional training is encouraged but dives exceeding the minimum requirement are not carried over from the previous year.

5.6 Certified Ice Divers are required to complete one (1) ice penetration training dive annually. This qualifies as meeting one (1) required open water training dive.

12

5.7 Certified Deep Divers are required to complete one (1) deep training dive annually. Deep dives are defined as dives below 60' in depth. This qualifies as meeting one (1) required open water training dive.

5.8 The Department Dive Rescue Team Leader will be responsible for documenting and maintaining their department training records. Training documentation must be submitted

to the Administrative Coordinator within seven (7) calendar days of the completion of the training.

5.9 The Fire Departments SRT Administrative Coordinator will be responsible to notify a divers department when they have not met the minimum annual training requirements set forth in this document.

5.10 Active department divers will receive training credit for successfully completing an advanced training program at the rate of one (1) department open water dive credit awarded per class dive completed. Only advanced public safety dive specific training classes requiring open water practical dives provided by a nationally recognized Public Safety Dive Specific, Training Agency shall be credited.

5.11. Watercraft Technician

5.11.1 Be authorized to participate by department Fire Chief.

5.11.2 Annually operate a boat at one (1) county level or department open water training session.

5.11.3 Possess a valid team passport.

5.11.4 Successfully pass one of the following safe boating courses: USCG Safe Boating Course, Illinois Department of Conservation Boating Course, or other LMCFDSRT approved courses.

13

6.0 PUBLIC SAFETY DIVER SWIM TEST

6.1 Public Safety Diving is one of the most strenuous disciplines in the fire service. Prolonged bottom times, dives requiring heavy physical exertion, entanglement risks, long surface swims, currents, zero visibility, and adverse conditions can take a heavy toll on a diver.

6.2 Physical well-being and fitness will increase a diver's safety. Applicants must have the ability to successfully complete the following watermanship evaluation to be a candidate for the

6.3. IADRS Watermanship Evaluation Parameters: There are four exercises that evaluate stamina and comfort level in the water, each rated by points. The applicant must have the ability to successfully complete all stations and score a minimum of 12 points to pass the test. A maximum 10 minute interval between each exercise should be afforded each participant. Each applicant has a maximum 10 minute recovery time between exercises.

6.3.1 *Stamina Exercise 1: 500 yard swim*

6.3.1.1 The diver shall swim 500 yards without stopping using a forward stroke and without using swim aids such as dive mask, swim goggles, fins, and snorkel or floatation device. Stopping or standing up in shallow end of the pool at any time will constitute a failure of this evaluation station.

6.3.1.2 Time to complete Points Awarded

Under 10 minutes 5

10 to 13 minutes 4

13 to 16 minutes 3

16 to 19 minutes 2

more than 19 minutes 1

stopped or incomplete Incomplete

6.3.2 *Stamina Exercise 2: 15 Minute Tread*

6.3.2.1 Using no swim aids and wearing only a swimsuit, the applicant will stay afloat by treading water, drown proofing, bobbing or floating for 15 minutes, with hands only out of the water for the last 2-minutes.

6.3.2.2 Performance Criteria Points Awarded

Performed satisfactorily 5

Stayed afloat, hands not out of water 2 minutes 4

Used side or bottom for support at any time 3

Used side or bottom for support twice 2

Incomplete Incomplete

14

6.3.3 **Stamina Exercise 3: 800 yd. Snorkel Swim**

6.3.3.1 Using a dive mask, fins, snorkel and swimsuit (no BCD or other floatation aid) and swimming the entire time with the face in the water, the applicant will swim nonstop for 800 yards. The applicant must not use arms to swim at any time.

6.3.3.2 Performance Criteria Points Awarded

Under 15 minutes 5

15 to 17 minutes 4

17 to 19 minutes 3

19 to 21 minutes 2

more than 21 minutes 1

stopped at any time Incomplete

6.3.4 **Stamina Exercise 4: 100 yd. Inert Diver Rescue Tow**

6.3.4.1 Wearing full scuba equipment, and breathing air, the diver will push or pull an inert diver wearing dive gear on the surface a distance of 100 yards nonstop without assistance.

6.3.4.1 Performance Criteria Points Awarded

Under 2 minutes 5

2 to 3 minutes 4

3 to 4 minutes 3

4 to 5 minutes 2

more than 5 minutes 1

stopped at any time Incomplete

6.3.5 **Stamina Exercise 5: Free Dive to a depth of nine feet and retrieve an object**

6.3.5.1 The diver shall perform a surface dive to bottom of the pool and retrieve an object, returning it to the surface, without use of swim aids such as dive mask, swim goggles or fins.

6.3.5.2 Performance Criteria Pass/Fail only

Performed satisfactorily Pass

Stopped or incomplete Incomplete

15

7.0 SAFETY PROCEDURES FOR DIVING OPERATIONS

7.1 It shall be the responsibility of the Incident Commander or their designee prior to:


7.1.1 Conduct a Risk Benefit field analysis to identify the risks and determine the benefit of conducting the dive at each site.

7.1.2 Insure that a fully dressed Safety Diver is prepared to immediately enter the water (in the event that a Primary Diver becomes entangled or needs assistance) prior to any dive operations being initiated and 90% diver.

7.1.3 Develop an emergency action plan including transportation an injured diver to the nearest operational hyperbaric chamber, or closest appropriate emergency medical facility.

7.1.4 Develop a safety plan for all surface and dive operations prior to any operations being initiated.

7.1.5 No dive operations shall be conducted without a Safety Diver and 90% Diver for every diver that is operating below the surface.

7.1.6  All water is to be presumed contaminated; therefore, all open water dives will be conducted in dry suits and Full Face masks to reduce exposure to contamination.

7.1.7 Proper decontamination procedures will be followed for all chemical and biological hazards.

7.1.8 The Dive Tables will be referred to on all dives.

7.1.9 No dives will be conducted in depths greater than 100 feet.

7.1.10 A three minute safety stop is suggested on all dives.

7.1.11 Divers will go through a post diving medical and Rapid Field Neuro Exam upon exiting the water. The department team leader shall be responsible for maintaining annual baseline field neurological examinations for his/her team members.

7.2 Limitations

7.2.1 Enclosed or confined space dives that are outside the scope and training of the organization shall not be conducted.

7.2.2 Diving operations shall not exceed the no-decompression limits or dive computer limits for any given dive.

7.2.3 Any diver who exceeds the no-decompression limits of the dive tables shall be administered high flow oxygen and transported by ambulance to an appropriate medical facility for further examination and treatment.

Contaminated Water

Contaminated water is defined as water, which contains any chemical, biological, or radioactive pollutants, which pose a chronic or acute health, risk to exposed personnel. Some degree of contamination and/or pollution is evident in practically every body of water. The contamination may be naturally occurring or come from a variety of sources. The biggest concern is from relatively enclosed bodies of water, such as lakes, rivers, or harbors which are in close proximity to large populations where contamination can accumulate and /or concentrate.

Because of the wide variability in contaminants, potential exposure levels and other variables, only general guidance can be provided.

All divers that may be diving in contaminated / polluted waters shall refer to the minimum required equipment list that takes effect on 1-1-2009.

16

8.0 BEFORE DIVING OPERATIONS ARE COMMENCED

8.1 A Dive Action Plan (DAP) shall be developed.

8.2 Advance Life Support and medical transport is on site.

8.3 Approved electronic communication system fully operational must be in place before any dive operation is initiated unless there is a rescue mode exception present.

8.4 All divers shall be line tended unless conditions dictate otherwise. The operation can only be done off line with the approval of the Safety Officer or Dive Team Group Supervisor.

8.5 All divers shall be technician level and all line tenders must be trained to a minimum of operations level.

8.6 The "diver-down" flag shall be prominently displayed during all dive operations unless currents or lack of overhead boat traffic dictate none is needed.

9.0 THE DIVE SHALL BE TERMINATED WHEN

9.1 Ultimate responsibility for safety rests with the individual diver and it is the diver's responsibility and duty to refuse to dive or terminate a dive if, in his judgment, conditions are unsafe, unfavorable, or if diving would violate the precepts of his level of certification or training or for any other reason that the diver deems reasonable

9.2 Dive Tender indicates that due to air consumption rate or emergency that diver is required to surface or any reason the tender deems reasonable

9.3 The cylinder pressure has 1,000 PSI remaining in the cylinder and/or

9.4 Loss of electronic communications (refer to 17.0), and/or

9.5 In the opinion of the Competent Person and/or the Safety Officer the dive should be terminated for safety reasons and/or

9.6 The depth of the dive operation exceeds the set maximum depth of 60 feet unless specifically trained and certified in deep dive techniques

9.7 A No Decompression Limit is being reached.

17

10.0 FACTORS TO CONSIDER FOR A RISK/BENEFIT FIELD ANALYSIS

10.1 Where Underwater Search & Rescue/Recovery operations are requested, the Incident Commander, Dive Team Group Supervisor or his/her designee should consider the following factors:

10.1.1 Anytime the IC, Safety Officer or Dive Team Group Supervisor determines the risk to dive team member exceeds the benefit of the dive operation the dive shall be terminated until such risk can be mitigated.

10.1.2 Determine that operations at the site will not exceed the department's

capabilities.

10.1.3 Is the operation that is being requested a 'Rescue or Recovery Operation?'

10.1.4 Ability to establish a credible 'Last Seen Point' from on site witnesses.

10.1.5 The dive operations will not exceed sixty feet (60') in depth.

10.1.6 The current of the water does not exceed one half (.5) knot unless specifically trained and certified in current diving

10.1.7 The diver's can safely operate in water conditions that are present.

10.1.8 There are sufficient divers, dive tenders, and equipment on site to conduct operations.

10.1.9 All safety aspects are considered.

10.1.10 All medical safety issues can be addressed by on site resources.

10.1.11 Assets on site will not meet the demands for a safe operation, are other qualified resources available that can provide support (i.e. ARA, MABAS)?

11.0 DEVELOPING THE DIVE ACTON PLAN

11.1 Planning of a dive operation shall include as a minimum:

11.1.1 Diving mode (training or operational (rescue/recovery). Determine that the objectives of the dive are within the scope of this standard operating procedure.

11.1.2 Determine if dive operations will be shore based, boat based or boat assisted.

11.1.3 Surface and sub-surface conditions and hazards.

11.1.4 Emergency procedures are identified.

11.1.5 Approximate number of dives anticipated.

11.1.6 Location(s) of proposed dive(s).

11.1.7 Estimated depth(s) and bottom time(s).

11.1.8 Current environmental conditions and expected changes.

11.1.9 Proposed work, equipment and other resources needed.

11.1.10 Diving shall be coordinated with other known activities in the area that may interface with the diving operation.

11.1.11 Minimum of three (3) divers on scene for a rope based search pattern operation.

11.1.12 Type of search pattern that will be utilized for the operation.

11.1.13 Incident control zones are broken into three categories: hot zone, warm zone, and cold zone. (see definitions)

12.0 BRIEFING

12.1 All Division/Group Supervisors, Divers, Tenders, and Medical Personnel will participate in an operational briefing before operations are initiated.

12.2 An accelerated briefing can be done in rescue mode.

18

13.0 PRE-DIVE SAFETY CHECK

13.1 Identify objectives for the operation and complete the Pre-Dive Checklist document.

13.2 Each operational diver (primary, safety, and 90%) must be asked and respond as to their physical, mental capabilities, equipment, and dive plan.

13.3 Identify all entry and exit points

13.4 Review of all primary and contingency communication systems

13.5 Emergency protocols

13.6 Beginning and ending tank pressure

13.7 Reporting of any physical problems or adverse psychological affects

13.8 Complete baseline Rapid Field Neuro Examination Document unless available on site.

14.0 RAPID FIELD NEURO EXAMINATION

14.1 Mental Status: Assess the divers post dive physical/neurological wellness. Ask the diver if he/she is having any abnormal sensation or disturbance of feeling, sight, hearing, breathing, movement or balance – if yes determine if abnormal sensation or disturbance can be ruled out as non-dive related – if rule out cannot be determined treat with high flow oxygen and transport to the nearest, appropriate hyperbaric chamber. If the diver experiences signs or symptoms of DCI, or has sustained a rapid ascent from greater than 30 feet of depth. Place diver on high flow oxygen and transport to the nearest, appropriate hyperbaric chamber.

14.1.1 **Mental Status:**

14.1.1.1 Ask the diver to state his name, where he is, the time of day, and most recent activity. Evaluate his speech for clearness and appropriateness.

14.1.2 Cranial Nerves:

14.1.2.1 Sight/Eye Movements: Have the diver follow your finger with his eyes while keeping his head straight. Move your finger up, down, left, and right.

Watch for nystagmus. (involuntary eye movement)

14.1.3 Facial Movement:

14.1.3.1 Place your fingers at the angle of the diver's jaw and ask him to clench his teeth.

14.1.3.2 Ask him or her to wrinkle their forehead as you smooth the skin.

14.1.3.3 Instruct him to stick his tongue out and move it in all four directions.

14.1.3.4 Check the diver's smile for symmetry.

14.1.4 Head/Shoulder Movements:

14.1.4.1 Ask the diver to tilt his head back and swallow. Watch for their "Adams Apple" to move. Push down lightly on his shoulders, ask him to shrug.

14.1.4.2 Put your hand on one side of the diver's face and ask him to push against. Do the same with the other side and on the forehead and back of the head.

19

14.1.5 Hearing:

14.1.5.1 Rub your fingers together close to the diver's ears to identify the sound he is to listen for. Ask him to close his eyes. Move your hand away from his ear and make the sound again. Continue to make the sound as you move your hand back towards the ear. Ask him/her to tell you when he can hear the sound again.

14.1.6 Sensations:

14.1.6.1 The objective is to evaluate the sense of light touch and make sure it's equal on both sides of the body.

14.1.6.2 Sensations are checked with the diver's eyes closed, pockets empty, and the diver dressed down to light clothing or bare skin.

14.1.6.3 Tell the diver that the light touch should feel normal and the same on both sides of his body.

14.1.6.4 Evaluate the body in sections, checking the rights and left side at the same time. Overlap the sections slightly.

14.1.6.5 Run your fingers across the forehead, down the side of the face, and along the jaw line.

14.1.6.6 Then run your fingers down the diver's chest, abdomen, front of arms, legs, and across the hands.

14.1.6.7 Turn him around and run your fingers down his back, buttocks, and the backs of the arms and legs.

14.1.7 Muscle Tone:

14.1.7.1 The objective is to evaluate muscle tone and determine that it's equal on both sides of the body.

14.1.7.2 Have the diver bend his arms, so that his hands meet in the center of his chest. With his arms bent have him bring his elbows up level with his shoulders (or demonstrate the move and say "Do this").

14.1.7.3 Tell him to push against you as you push his elbows up, then down, and pull his hands away from his chest and push them back.

14.1.7.4 To evaluate grip strength in each hand ask him to squeeze two of your fingers.

14.1.7.5 **Leg evaluation, diver sitting:** Evaluate both legs. Put your hand on his thigh and ask him to pick the leg up against resistance. Then put your hand under the thigh and ask him to pull down. Put your hands on the front of his lower legs and ask him to push out. Then put your hands behind the leg

and ask him to pull back.

14.1.7.6 **Leg evaluation:** Diver supine evaluates both legs. Ask him to do a straight leg raise as you lightly push down on the leg. Have him bend the leg up and push against your hand as you hold his foot.

14.1.7.7 **Foot evaluation:** Have the diver pull his feet up as you push them down and then push against your hands as if pushing on a pedal.

20

14.1.8 **Balance and Coordination:**

14.1.8. The objective is to make sure that the diver can hold himself upright, move without being off balance and that he has normal hand-eye coordination. Protect the diver from falling.

14.1.8.1 **Romberg Test:** Have the diver stand upright with his eyes closed, feet together and arms outstretched in front of him. Ask him to stand this way for several seconds. Then ask him to walk in place, bringing his knees up. Eyes remain closed.

14.1.8.2 **Heel-shin slide:** If the diver is supine, have him place the heel of one foot on the opposite leg, just below the knee. Then have him run the heel down his shin to the ankle. Do both legs.

14.1.8.3 **Alternating hand movements:** Have the diver alternately touch his index finger to his nose and then to your finger, held about 18" (.5 meters) away from his face. Repeat the movement several times and test both hands.

14.1.9 **Vital Signs:**

14.1.9.1 The objective is to evaluate the findings in the Rapid Field Neuro Exam in conjunction with the baseline vitals. (Blood Pressure, Pulse, Respirations)

15.0 DIVE OPERATIONS

15.1 During all dive rescue and recovery operations the Incident Command System will be used.

15.2 The Incident Commander or Competent Person as assigned by the IC will be in charge of diving operations.

15.3 An ALS Mobile Intensive Care Unit (dedicated to public safety personnel) shall be on scene for all dive operations.

15.4 A Scene Evaluation and Risk/Benefit Analysis shall be completed before rescue divers enter the water.

15.4.1 Secure appropriate resources for site control in DAP.

15.4.2 Determine the last seen point through witness interviews, visual reconnaissance, or physical evidence, and the use of reference objects.

15.4.3 Confirm type of search pattern(s).

15.4.4 Make entry to minimize turbidity, and maximize safety.

15.4.5 Search last seen point upon initial entry.

15.4.6 If victim is not located start search pattern approximately one third of the distance of the last seen point from known or closest point of entry.

15.4.7 When a line tended operation is used the diver must be in a harness system with a quick release line tether mechanism, except during overhead environments.

15.4.8 A baseline Rapid Field Neuro Exam will be conducted annually on all divers, and as soon as possible after exiting the water as in 14.1 of this policy.

15.4.9 Negative results must be reported to the EMS Group immediately.

15.5 The following are line signals for tethered diver down operations.

Tender to Diver Diver to Tender

15.5.1 1 pull – Are you OK? 1 pull – I'm OK.

15.5.2 2 pulls – Stop, turn, change direction, 2 pulls – Give me more line take out more line

15.5.3 3 pulls – Surface 3 pulls – Found Object
15.5.4 4 pulls – Emergency, stay on bottom 4 pulls – Emergency, Deploy
Safety

21

16.0 VEHICLE IN THE WATER OPERATIONS

16.1 When a vehicle is fully or partially submerged the following procedure will be used:

16.1.1 A scene evaluation will be conducted.

16.1.2 Determine Rescue or recovery Mode

16.1.3 **In Rescue Mode**, due to entanglement risks, the primary diver will not penetrate the vehicle but shall do a hand sweep search up to an arms length inside the vehicle.

16.1.4 A tow truck operator will be immediately dispatched to the scene.

16.1.5 The primary diver is to locate the vehicle using an approved search pattern.

16.1.6 Once the vehicle is located the diver will communicate the finding to his/her tender and attach a reference line or tow strap (if on-scene) to the vehicle.

16.1.7 The primary diver shall then conduct a quick 360 degree search around the vehicle. He/she shall perform a visual recon of the vehicle from the exterior.

16.1.8 **In Recovery Mode**, the primary diver shall not open doors or windows thus reducing

the chance of occupants or evidence being lost.

16.1.9 The primary diver will then return to the reference line and assist or wait for the secondary diver.

16.1.10 The secondary diver will follow the reference line to the vehicle, attach a tow strap or cable to the vehicle, and wait for the primary diver.

16.1.11 Both divers will then follow the reference line back to the surface.

16.1.12 The vehicle will be pulled from the water and the debris field will be cleared for any victims or evidence that may be out of the vehicle.

17.0 EMERGENCY PROCEDURES/EMERGENCY ACTION PLAN

17.1 **In Rescue Mode**, when electronic voice communications are lost between the diver and his/her tender, the diver shall be signaled by 15.5 of this document. If line pull signals cannot be immediately established deploy the Safety Diver.

17.2 **In Recovery Mode**, when electronic voice communications are lost between the diver and his/her tender, the recovery operation shall be suspended pending the restoration of electronic voice communication.

17.3 All accidents, injuries, or illnesses incurred during dive operations shall be reported to the Command Post as soon as possible.



17.4 In the event of a water operation accident or emergency, the “Emergency Traffic” procedure will be utilized, per MABAS “General Operating Procedures.”

17.5 Anytime a diver is required to surface due to injury, equipment failure or “out of air emergency”, the diver will be treated as if he/she has encountered a pressure related injury and shall be evaluated by the Medical Group.

17.6 Anytime a diver becomes entangled or entrapped during a dive the safety diver shall be deployed immediately to mitigate and free the diver and to provide the Dive Team Group Supervisor information on the safety of further dives.

17.7 Anytime there is a lost or missing diver incident, the last seen point will be identified and marked immediately and a permanent support boat or buoy will be stationed at that location.

17.8 Any boat or buoy used at the last seen point should not be moved for any other purpose until recovery has been made.

17.9   If a lost or missing diver is not immediately located (within one minute) then the Emergency Action Plan shall be initiated and lost diver emergency procedure enacted.

22

Lost Diver Emergency Procedure – Open Water Diver off tether / loss of communications

1) Command and EMS shall be notified immediately. Additional divers and resources readied

for immediate deployment.

- 2) Deploy safety diver immediately to last position of primary diver. 90% diver fully dresses and is tethered to an additional search line.
- 3) Safety diver follows the primary line without putting tension on the primary diver line.
- 4) Safety tender should confirm length of line deployed out to the primary diver and stop the safety diver at the same distance.
- 5) The safety diver should do a sweep of the immediate area. Should the primary diver not be found, the safety diver should immediately be instructed to begin a search pattern at that line length. Complete one full sweep.
- 6) If the primary diver is still not found, the safety diver shall move 10 feet closer to the position that he was first deployed from and begin sweep patterns.

Diver in Distress

- 1) Command and EMS shall be notified immediately and additional divers and resources readied for immediate deployment.
- 2) Deploy safety diver immediately to last position of primary diver. 90% diver fully dresses and is tethered to an additional search line.
- 3) Safety diver follows the primary line without putting tension on the primary diver line.
- 4) Safety diver must be ready to share air immediately upon making contact with the primary diver.
- 5) Safety diver makes contact with the primary diver and assesses diver (confirms diver in distress problem with hand signals if necessary) Δ . The primary diver is to be assisted with air or disentanglement and then assisted to the surface.

Δ Hand Signals Closed fist – Need air Open hand – I'm entangled

Lost Diver Emergency Procedure – Ice

- 1) The "**Lost Ice Diver Tender**" will mark the line when he/she no longer feels the diver on the line. This identifies an approximate distance out.
- 2) A marker will be placed at the location the tender is standing and at the location on the opposite side of the hole in the direction the lost diver was traveling.
- 3) The Incident Commander will be notified and the safety diver deployed.
- 4) Deploy the safety diver 30 degrees to the left and 30 feet past the lost divers last known position.
- 5) The safety diver swims in a circular search pattern against the underside of the ice.
- 6) When the safety diver is deployed the 90% diver moves into the backup position.
- 7) The safety diver holds the search line in his/her right hand and ensures good tension on the line by swimming away from the line.
- 8) The "**Lost Ice Diver**" will stop, look, wait for one minute and begin a safe ascent to the surface.
- 9) Look up for the underside of the ice and look for light from ice entry hole or spokes.
- 10) Be vertical and keep one hand on the underside of the ice and wait for the safety diver or safety diver's line.
- 11) Be alert for sight or feel of the safety diver's line.
12. When SPG reads 500psi inflate B/C and release/ditch your weight belt.
13. When the safety line is located signal three pulls in both directions.
14. Hold onto the line and the tender will pull you in.
15. EMS personnel will be on standby to receive divers.

23

18.0 RETURN TO SERVICE

18.1 All equipment used shall be inventoried prior to the trailer returning to service.

18.2 All equipment shall be cleaned and/or decontaminated, dried, inspected, and properly returned to its compartment or storage container prior to the apparatus returning to service.

18.3 Any damaged or missing equipment shall be tagged inoperable and reported in writing to the LMCSRT Administrative Coordinator within twenty four (24) hours.

19.0 POST INCIDENT ANALYSIS

19.1 The LMCSRT DRT Team Leader shall insure that a post incident analysis is completed

for all dive operations. The following criteria are to be used:

19.1.1 Determine if the objectives of the dive were achieved.

19.1.2 If objectives were not met, what factors caused the objectives to not be met and identify what changes in the Dive Action Plan need to occur before initiating further dives.

19.1.3 Identify additional information obtained from personnel involved in the dive.

19.1.4 Insure that all pertinent information has been recorded.

19.1.5 Identify any deficiencies that may exist in training, dive planning or equipment.

19.2 The area rep and/or department team leader is responsible for completing post incident documentation and forwarding to the Dive Team Leader and SRT Admin Coordinator

19.2.1 Documentation

19.2.2 Summary

20.0 BOAT OPERATIONS

20.1 It is the responsibility of the IC, department Dive Team Group Supervisor or the Competent Person to determine if the rescue operations will be shore based or boat based operations.

20.2 It is the responsibility of the Safety Officer, Dive Team Group Supervisor and/or the Competent Person to ensure that all personnel operating boats for the department are trained in accordance with 29.9.4.

20.3 It is the responsibility of the IC, Dive Team Group Supervisor or the Competent Person to establish site control and manage all public safety watercraft operating in the secure area in which divers may be functioning.

20.4 It shall be the responsibility of the Safety Officer to ensure a safety briefing is conducted concerning localized hazards with all boat handlers that are operating at the site.

20.5 In the event of other agencies being on site with boats and operating in the area of the divers, it is the responsibility of the Safety Officer to ensure that all other watercraft are briefed on the area of operations and insure that a communication system is in place before the initiation of watercraft operations.

24

21.0 ICE OR OVERHEAD ENVIRONMENT DIVE OPERATIONS

21.1 Command must be keenly aware of the adverse effects of cold exposure to all personnel.

21.2 Adequate protection from the cold for support personnel, primary divers, back up divers, equipment, victims, witnesses, and command personnel must be established.

21.3 Rehabilitation and definitive care measures for cold exposure injury victim(s) shall be addressed.



21.4 Cold exposure has been identified as a possible independent factor for increased risk of decompression sickness.

21.5 Any dives in bodies of water with ***any portion of the surface covered with ice or any dive in which the surface is not directly accessible shall be considered an ice/overhead operation requiring implementation of the procedures in this section.***

21.6 Any dive made under ice shall be tended with the harnessed diver attached with a locking carabineer in the locked position to the tether line no less than 3/8" diameter and anchored to a fixed object.

21.7 A quick release line tether system ***is not*** to be used in public safety ice dive operations.

21.8 Divers working under ice shall be given a twenty (20) minute window of operation within the 1,000psi minimum cylinder pressure parameter.

21.9   While working under ice, the diver will be restricted to a working area that will not exceed a radius of 50' from the entry hole with the line distance to be determined by the Lateral Distance Equation.

21.10 Personnel should dress for possible long-term exposure to cold climate conditions.

21.11 Support personnel will be responsible for the prevention of freezing equipment. Tanks and regulators must be protected from freezing temperatures until the diver is ready to deploy.

21.12 A well protected, heated area with water and warm liquids available should be provided for all personnel involved in the incident.

21.13 Traction material around the entry hole and work area must be used. The material used

can be but not limited to snow fencing, sand, walk boards, wood chips, etc.

21.14 The "Lost Diver" procedure under the ice is as follows:

21.14.1 The "**Lost Ice Diver Tender**" will mark the line when he/she no longer feels the diver on line. This identifies an approximate distance out.

21.14.2 A marker will be placed at the location the tender is standing and at the location on the opposite side of the hole in the direction the lost diver was traveling.

21.14.3 The Incident Commander will be notified and the safety diver deployed.

21.14.4 Deploy the safety diver 30 degrees to the left and 30 feet past the lost divers last known position.

21.14.5 The safety diver swims in a circular search pattern against the underside of the ice.

21.14.6 When the safety diver is deployed the 90% diver moves into the backup position.

21.14.7 The safety diver holds the search line in his/her right hand and ensures good tension on the line by swimming away from the line.

21.14.8 The "**Lost Ice Diver**" will stop, look, wait for one minute and begin a safe ascent to the surface.

21.14.9 Look up for the underside of the ice and look for light from ice entry hole or spokes.

21.14.10 Be vertical and keep one hand on the underside of the ice and wait for the safety diver or safety diver's line.

21.14.11 Be alert for sight or feel of the safety diver's line.

21.14.12 When SPG reads 500psi inflate B/C and release/ditch your weight belt.

21.14.13 When the safety line is located signal three pulls in both directions.

21.14.14 Hold onto the line and the tender will pull you in.

21.14.15 EMS personnel will be on standby to receive divers.

25

Lateral Distance Formula

For Ice Dive Operations

$$S = \sqrt{(D^2 + L^2)}$$

S = Length of Line

D = Depth

L = Lateral Distance

Example: 20 ft. Depth at a 50 ft. Lateral Distance

$S = \sqrt{20^2 + 50^2}$ or $S = \sqrt{400 + 2500}$ or $S = \sqrt{2900}$ or $S = 54$ ft.

Lateral Distance Depth

10' 20' 30' 40' 50' 60' 70'

10' 15' 23' 32' 42' 51' 61' 71'

20' 23' 29' 36' 45' 54' 64' 73'

30' 32' 36' 43' 50' 59' 67' 77'

40' 42' 45' 50' 57' 64' 72' 81'

50' 51' 54' 59' 64' 71' 78' 86'
MAXIMUM LINE LENGTH NOT TO EXCEED

26

22.0 ICE DIVE SITE PREPARATION FOR TRAINING EXERCISES

22.1 For training dives, a triangular hole with 10' sides will be cut into the ice using a chain saw.

22.2 The cutting operation shall be done in protective attire.

22.3 The section of ice that is cut out shall be made retrievable for securing the hole at the termination of the dive.

22.4 Surface snow will be cleared on circular paths around the hole with arrows pointed toward the direction of the ice hole at 20', 50', and 100' intervals.

22.5. Some provision for positive footing for all personnel shall be employed around the hole in any of the above stated operational modes.

22.6 Any dive made under ice shall be tethered with a locking carabineer and a tender.

22.7 Prior to an under ice dive, the diver and tender should confirm the dive plan, the type of search pattern to be used, and review the line signals.



22.8 The tender shall complete a "Pre-Dive Checklist" of the diver prior to entry.



22.9 Any time a diver does not acknowledge voice or hand signals, it must be assumed that the diver is in distress and the back up diver will be deployed for assistance.

22.10 If the diver becomes separated from the tender line, then the "**Lost Diver**" Procedure shall be conducted.

23.0 NIGHT DIVE OPERATIONS

23.1 Due to the hazards of night diving operations it will be restricted to rescue mode only.

23.2   Proper lighting and additional equipment will be used to ensure diver safety.

  All night divers shall carry and use a flashlight in conjunction with a flashing strobe, chemical stick, or constant burning light mounted as high as possible.

To help insure diver safety, proper lighting shall be used to illuminate the dive scene.

Regarding shore dives, a shore light shall be used to mark the entry / exit point and area lighting shall be used to assist in diver ingress and egress

24.0 DEEP DIVE OPERATIONS

24.1 Deep dives are any dive to a depth greater than sixty (60) feet.

24.2 Divers must hold a recognized Deep Diver certification to make a dive greater than sixty (60) feet.

24.3 No dive involving jurisdiction shall exceed one hundred (100) feet.

Dives greater than this depth are beyond the scope of the DRT.

27



25.0 DIVING EQUIPMENT

25.1 All equipment shall be subject to inspection before and after all dives and shall be tested and certified on an annual basis as defined by the equipment manufacturer.

25.2 Only those makes and models of equipment specifically approved by the diver's department shall be used, with appropriate training.

25.3 All inspections, tests, and maintenance must be accomplished by certified personnel or a facility approved by the Department.

25.4 All equipment maintenance shall be recorded and logged by the department Dive Team Leader.

25.5   All divers participating in underwater operations must be equipped with the minimum required equipment.

  **Minimum Required Dive Equipment**

Dry-suits:

Vulcanized rubber dry-suits or equivalent environmentally protected deconable suit with attached dry hoods required by 01/01/09

Vulcanized rubber suits required for all new purchases (current in-service dry suits allowed until end of service life)

Old suits, may be used as back up suits in rescue mode (hood & gloves must be in place for all dives)

Dry Gloves:

Mandatory dry gloves

Recommend attached directly to suit

Full Face Masks:

Required for use 01/01/09

Style of mask to be consistent with public safety diving requirements;

Engineered as a single system as designed by manufacturer,

Adaptable & compatible to electronic communications equipment as required by DRT SOP's,

Compatible with temperature extremes and contaminated water

Regulators:

Manufacturer designed for ice dive operations (i.e. environmentally protected); mandatory for ice dives and new purchases (recommended for open water dives for existing in service regulators)

Alternate air source mandatory, either octopus with 36' hose or minimum 19 cu ft pony bottle with regulator (AIR II type BCD inflator hose mounted regulator will not count towards meeting this requirement)

Annual service required

3 gauge console consisting of pressure gauge, depth gauge and compass or hardwire electronic equivalent no hose less air integrated computers or gauges allowed

28

Pony Bottles:

Recommended as alternate air source for safety and ice divers

19 cu ft minimum size

Pony bottle regulator meets requirements of regulator section above with minimum one second stage with minimum 36" hose and pressure gauge

Must be able to be easily and quickly released from mount when needed

Snorkel:

Optional for standard regulators

Not allowed after 01/01/09 (full face masks mandatory)

BCD:

Minimum lift of 35 lbs, mandatory for new purchases (existing equipment allowed until end of service life)

Power inflator mandatory

Pockets for streamlined storage of tools & equipment (recommended)

Octopus or Alternate Air Source mouthpiece retainer system:

Either neck mount (bungee around neck) or mounted in readily accessible and visible in "Golden triangle" area of chest

Must be quick release requiring one hand operation

Search Line Attachment:

Harness or weight system harness with built-in attachment point connected to a quick disconnect snap shackle

Weight Systems:

System must allow for positive buoyancy when released causing diver to ascend

Release mechanism must be readily accessible, located in the lower torso area and readily apparent to safety diver

If multiple types of systems are used, one system must be able to be dumped and achieve positive buoyancy causing diver to ascend immediately without having to release a separate, second system

Cutting Tools:

Minimum two cutting tools, one mounted in the "golden triangle" area of the chest and one low point of attachment

Tools shall have the ability to cut monofilament line & seat belts

Ice Equipment:

Harness device with locking carabineer required for ice or overhead environments independent of

BCD

Minimum 3/8 inch tether line secured to fixed object with locking carabineer

No quick disconnect snap shackles may be used during an ice dive

Communications Equipment:

Two way electronic communications allowing for diver to tender and diver to safety diver verbal two way communication (full duplex allowing simultaneous bidirectional communication is recommended)

Required by 01/01/09

29

Fins:

Tank:

Within 5 year hydrostatic test date and current yearly VIP sticker displayed

80 cubic foot minimum tank size

“J” valve not allowed

Signal whistle:

SRT passport & ID card:

Night Dive additional equipment:

Flashlight

Flashing strobe, constant burn light or chemical light stick

30

26.0 MEDICAL STANDARDS

26.1 All divers shall pass a department physical administered by the department physician that meets NFPA 1582.

26.2 A diver shall be required to obtain a medical release from the department physician before resuming diving activities after any diving accident resulting in injury to the diver.

26.3 A diver shall be required to obtain a medical release from the department physician before resuming diving activities due to any injury, illness or surgery that resulted in the diver being off duty or being placed on light duty.

27.0 PERSONNEL RECORDS AND DIVE LOGS

27.1 The Dive Team Leader shall maintain training records for each diver.

27.2. It shall be the responsible of the department Dive Team Leader to maintain a file for each diver that contains all pertinent documentation with up-to-date information.

27.3 The Dive Team Leader shall be responsible for maintaining permanent records for all scuba equipment, including inspection and testing records, maintenance, and damage reports.

27.4 All diving accidents requiring recompression or that result in serious injury or death shall be reported to the Chief of the Department and to all local, state, and federal agencies.

27.5 The Dive Team Leader shall maintain all records for each dive training or operation.

27.6 Each diver shall maintain a dive logbook.

28.0 ORGANIZATION AND RESPONSIBILITIES

28.1 The SRT Dive Rescue Team Organizational Structure is as follows:

28.1.1 Executive Board

28.1.2 Administrative Coordinator

28.1.3 DRT Leader/Chief's Liaison

28.1.4 DRT Coordinator

28.1.5 Assistant Coordinators

28.1.6 Area Representatives

28.1.7 Department Team Leaders

28.1.8 Department Divers

28.2 Dive Rescue Team Executive Committee

28.2.1 Shall be comprised of the Team leader, Team Coordinator, Assistant Coordinators, Area Representatives, and Administrative Coordinator.

28.2.2 All meetings shall be open to any member/employee of an agency who is a member of the DRT.

28.3 Team Leader/Chief's Liaison

28.3.1 Responsibility for organization, control, coordination, evaluation, and performance of the DRT.

28.3.2 Possess thorough knowledge of current techniques and procedures for water rescue and recovery operations.

28.3.3 Be under the direction and accountable to the DRT Executive Board.

31

28.3.4 Shall prepare and present recommendations for budgeting, and training and operational policies and procedures.

28.3.5 Be aware of industry standards, laws, practices and their application to improve safety and effectiveness of the DRT.

28.3.6 To be annually appointed by the Chairman of the Executive Board.

28.4 Team Coordinator

28.4.1 Have a minimum of five (5) years of experience as a diver with the DRT and be a present or past member of the DRT Executive Committee.

28.4.2 Possess thorough knowledge of current techniques and procedures for water rescue and recovery operations.

28.4.3 Be a member/employee of a participating agency in the DRT and have the approval to function as the coordinator by his/her Chief.

28.4.4 To be annually appointed by the Chairman of the Executive Board.

28.4.5 Responsibility for budget creation, equipment purchasing/maintenance, team training, team records documentation.

28.5 Assistant Coordinator(s)

28.5.1 Assist the Team Leader and Team Coordinator in the organization, control, coordination, evaluation, and performance of the DRT.

28.5.2 Be an active diver on the DRT.

28.5.3 Be annually appointed by the Team Leader and Team Coordinator.

28.5.4 Possess thorough knowledge of current techniques and procedures for water rescue and recovery operations.

28.5.5 Be a member/employee of a participating agency in the DRT and have the approval to function as the coordinator by his/her Chief.

28.6 Area Representative

28.6.1 Be an active diver on the DRT.

28.6.2 Recommended by Team Leader and Team Coordinator.

28.6.3 Possess thorough knowledge of current techniques and procedures for water rescue and recovery operations.

28.6.4 Be a member/employee of a participating agency in the DRT and have the approval to function as the coordinator by his/her Chief.

28.6.5 Organize area level training and documentation of that training.

28.6.6 Act as the liaison between area departments and DRT Executive Committee.

28.7 Department Team Leader

28.7.1 Be an active diver on the DRT.

28.7.2 Possess thorough knowledge of current techniques and procedures for water rescue and recovery operations.

28.7.3 Be appointed by the department Fire Chief.

28.7.4 Maintain training records for his/her department divers.

28.7.5 Submit training documentation to the SRT Administrative coordinator.

28.7.6 Coordinate the distribution and maintenance of department passports for water rescue personnel.

27.7.7 The department team leader shall be responsible for maintaining annual baseline field neurological examinations for his/her team members.

32

28.8 Department Divers

28.8.1 Possess a Public Safety Diving certification from a Public Safety Dive Specific, Training Agency as defined in this document.

28.8.2 Possess a valid team passport.

28.8.3 Fulfill all training requirements as set forth in this document.

28.8.4 Be authorized to participate by department Fire Chief.

28.9 Watercraft Technicians

28.9.1 Be authorized to participate by department Fire Chief.

28.9.2 Annually operate a boat at one (1) county level or department open water training session.

28.9.3 Possess a valid team passport.

28.9.4 Successfully pass one of the following safe boating courses: USCG Safe Boating Course, Illinois Department of Conservation Boating Course or other SRT approved courses.

Addendum

New Diver Requirements

The purpose of this addendum is to reinforce the requirements of a newly certified Dive Technician who was certified during the current year;

1. Upon completion of an approved SRT DRT course and approval of application SRT aka swift water rescue technician is PA fish and boat commission courses comprising of WRER ,EBOR,ALS,ICE RESCUE

DRT - the PSD in-house or another approved agency as in LGS,ERDI,DRI

comprising of the 16 weeks pool session followed by 8 check out dive

followed by along with the annual testing qualifications of the diver to maintain your credentials

annual physical and

I.A.D.R.S. Annual Basic Scuba Skills Evaluation

Equipment Handling and Set-Up

properly assembles equipment (basic gear / specialty gear)

shows familiarity and comfort with equipment

properly protects equipment (i.e. tank valve / regulator)

review (line & hand signals / air consumption rates / buddy awareness / emergencies / diver log)

Watermanship Skills

500 yard continuous forward stroke swim - no swim aids for time (refer to grading criteria)

15 minute tread / last 2 minutes with hands out of water (refer to grading criteria)

800 yard snorkel swim (refer to grading criteria)

100 yard inert diver rescue tow (refer to grading criteria)

Skin Diving Skills

mask clearing

snorkel clearing (popping & expansion)

snorkel without mask (led by partner, 1 lap)

while treading water ditch and recovery don and doff mask snorkle ,weightbelt and fins on bottom then retrieve repeat process

bail out while hoding required equipment on side of pool in hands jump in proceed to bottom while underwater doff

your mask snorkle ,weightbelt and fins then clear mask and with out your face breaking surface clear snorkel

proceed 1 lap fin kicks (flutter / dolphin) one length each, using mask and snorkel

in water surface dives (head first / feet first)

SCUBA Diving Skills

entries (giant stride / seated or controlled entry)

neutral buoyancy control (oral / power) inflation

dry suit buoyancy control and emergency procedures (i.e. hose disconnect or flooding)

regulator clearing (blowing / purging) and retrieval

regulator without mask (led by partner, 1 lap)

full face mask (removal / switch to regulator / clearing full face mask / replace full face mask)

descent procedures (signal / check time & air / raise inflator hose / feet first descent / clear ears)

ascent procedures (signal / check time & depth / + buoyancy / raise inflator hose / ascend @ 20ft/min)

air sharing with octopus at depth and during ascent

buddy breathing at depth and during ascent with primary 2nd stage only

emergency swimming ascent procedures (simulate out of air / signals / ascends / continuous exhaling / surfaces / inflates BC orally using bobbing technique)

emergency buoyant ascent procedures (simulate out of air / signals / drops weights / ascends / continuous

exhaling / surfaces / inflates BC orally using bobbing technique)
weight belt (removal / replacement) on surface and bottom
buoyancy control device (removal / replacement) on surface and bottom
ditch and recovery -same as above but with BC tank shut off
bail out same as above but with BC
OPTIONS: Blackout Mask / Night Dive / Navigation / Confidence Obstacle Course

further to the SRT DRT the new Dive Technician shall be responsible to meet the following training requirements for the calendar year they join the Team;

a. Diver shall complete one dive for **every two full months** remaining on the current calendar year. "For example, if diver is accepted on the Team in September they will need to complete one (1) more dive for the training year."

b. Diver shall complete the basic skills pool evaluation and IADRS Watermanship evaluation if not completed during his or her certification training previously that year per the requirements of the SRT DRT.

c. Training year starts January 1st and ends on December 31st.

d. New Diver shall follow all SRT DRT training requirements (Section 5.0) for the technician level starting the following year.

33

APPENDIX

Forms

- A. Dive Action Plan
- B. Dive Team Assignments
- C. Hazard Assessment
- D. Dive Checklist
- E. Rapid Field Neuro
- F. Diver Information Sheet
- G. Initial Contact Sheet
- H. Victim Assessment
- I. Witness Interview
- J. Boat Team Assignments

34

Appendix A

35

Appendix B

36

Appendix C

37

Appendix D

38

Appendix E

39

Appendix F

40

41

Appendix G

42

43

44

Appendix H

45

Appendix I

46

47

Appendix J

48

49

Appendix K