

## EXECUTIVE SUMMARY – USN DIVE MANUAL REVISION 7 Change A

NAVSEA 00C appreciates those that have contributed changes to this Revision 7 Change A and those that provided feedback on changes to make this a better manual.

With this change, we updated technical information, provided clearer guidance, and corrected errors that were identified within Revision 7, released December 2016. The dive manual is, among other things, the ND rate-training manual. We owe our future divers the best resource we can give them to learn and apply their chosen trade.

Diving Summary of changes by Volume and Chapter:

### **Front Matter**

- Updated list of effective pages, certification sheet, safety summary, table of contents, list of illustrations, and list of tables.

### **Volume 1**

#### **Chapter 1. History**

**No change.**

#### **Chapter 2. Underwater Physics**

**No change.**

#### **Chapter 3. Underwater Physiology**

- Changed all references of Diving Medical Officer (DMO) to Undersea Medical Officer (UMO).
- 3-5.4.2 Symptoms of Near drowning:
  - Updated symptoms.
- 3-5.4.3 Treatment of unconscious drowning victims:
  - Provided clearer guidance and updated treatment considerations.

#### **Chapter 4. Dive systems**

- 4-4.4 Portable Air Monitor (PAM):
  - Changed all PAM information to reflect the new AnaloX ACG+ Analyzer.

#### **Chapter 5. Dive Program Administration.**

- Changed all references of Diving Medical Officer (DMO) to Undersea Medical Officer (UMO).
- 5-3 Record Keeping and Reporting Documents:
  - Deleted Figure 5-1 Equipment Mishap Information Sheet.
    - New mishap forms are provided on the secure [supsalv.org](http://supsalv.org) website under 00C3 publications.

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- 5-9.3 Reporting Criteria:
  - Updated NOTE to notify NAVSEA with non-privileged information of any reportable “mishap” or “near-mishap” as soon as possible.
- 5-10 Actions Required:
  - Updated paragraph to include detailed photographs/video and include them with the mishap/near-mishap report.

### **Volume 2**

#### **Chapter 6. ORM/Operational Planning.**

- Changed all references of Diving Medical Officer (DMO) to Undersea Medical Officer (UMO).
- 6-5.1.3 Emergency Assistance:
  - Updated paragraph to state “if the duty chamber maintains an on-call or on-duty UMO watch bill, then there is no need to separately contact the UMO prior to the dive.”
- Table 6-1:
  - Updated Notes 2 and 3, and added Note 5 to state “Utilizing a non-U.S. Navy chamber will likely require treatment to be completed in accordance with the host facility recompression treatment protocols.”

#### **Chapter 7. SCUBA.**

- Figure 7-1:
  - Removed stand-by diver 60 fsw operational limit.
- Figure 7-2:
  - Removed stand-by diver 60 fsw operational limit and added note that stand-by diver shall have equivalent depth and operational capabilities as the primary divers.
  - Added note under operational considerations to state “Dive Supervisors shall compute the air supply duration before each SCUBA dive and use a conservative estimate of RMV based on the factors listed in Figure 3-6 and paragraph 7-5.1.”
- 7-8.8.2.4 Unconscious Diver on the Bottom:
  - Updated rescue diver actions:
    - If the regulator is out of mouth, do not insert. Maintain the affected diver’s head in a chin up position to keep the airway open.
  - Updated guidance on number of rescue breaths if diver is not breathing.

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### Chapter 8. Surface Supplied Diving

- Changed all references of Diving Medical Officer (DMO) to Undersea Medical Officer (UMO).
- Figure 8-2:
  - Updated Note (c) to state SCUBA shall not be used for stand-by diver for Divator DP surface augmented diving.
- 8-6 Surface Supplied Diving Accessory Equipment:
  - Updated “Warning” note on job conditions that call for using a steel cable or chain as a descent line.
  - Updated “Warning” note on safety shackles for the stage line.

### Chapter 9. Air Decompression

- Changed all references of Diving Medical Officer (DMO) to Undersea Medical Officer (UMO).

### Chapter 10. NITROX Diving

**No change.**

### Chapter 11. Ice Diving

- 11-2.4.2. Redundant Air Sources:
  - Updated configuration 2 guidance in the event of a freeze-up.
  - Changed requirements for planning dives with configuration 2.
- 11-3.5. Escape Holes:
  - Provided clearer guidance on size of escape holes.
- 11-5.3 and 11-5.4 Emergency Procedures:
  - Added emergency procedures for freeze-up/free flow on the VVDS or BC.
  - Added emergency procedures for uncontrolled ascent.

### Appendix 2A. Optional Shallow Water Diving Table

**No change.**

### Appendix 2B. Navy Dive Computer

**No change.**

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### Appendix 2C. Operational Hazards and Environmental hazards

- 2C-2. Operational Hazards:
  - Updated “Warning” note for diving in a submarine ballast tank
    - “Divers penetrating a dewatered submarine main ballast tank shall not remove the underwater breathing apparatus until the ballast tank atmosphere has been ventilated for two air changes with a Grade D air source or the ship's low pressure (LP) blower in accordance with the applicable ship's operating instruction (OI) and satisfactorily tested in accordance with NSTM 074, Volume 3, Gas Free Engineering (S9086-CH-STM-030/CH-074) for forces afloat, and NAVSEA S-6470-AA-SAF-010 for shore-based facilities and repeated hourly.”

### Appendix 2D. Guidance for U.S. navy Diving on a Dynamic Positioning Vessel

No change.

### Volume 3

#### Chapter 12. Surface Supplied Mixed Gas Diving

- Changed all references of Diving Medical Officer (DMO) to Undersea Medical Officer (UMO).
- Table 12-4 Surface Supplied Helium Oxygen Decompression Table:
  - Updated number of chamber oxygen periods for 130':40 table and schedule.

#### Chapter 13. Saturation Diving

- Changed all references of Diving Medical Officer (DMO) to Undersea Medical Officer (UMO).

#### Chapter 14. Breathing Gas Mixing Procedures

No change.

### Volume 4

#### Chapter 15. Electronically Controlled Closed Circuit Underwater Breathing Apparatus

- Changed all references of Diving Medical Officer (DMO) to Undersea Medical Officer (UMO).
  - Changed all references of CNO to OPNAVINST 3150.27 (series).
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- 15-3.1.5 Human Physiological Limits:
  - Provided additional guidance to follow the guidance in section 3-10 for thermal problems in diving, and paragraph 8 in Appendix 2C for environmental and operational hazards.
- Added a new picture for Figure 15-5.
- 15-12.5.3 Management of a Chemical Incident:
  - Provided additional guidance in the event of a caustic cocktail.
- 15-12.7.1 Diver Remaining in Water:
  - Provided additional guidance on how to decompress the unaffected divers.

### Chapter 16. Closed Circuit oxygen UBA Diving

- Changed all references of Diving Medical Officer (DMO) to Undersea Medical Officer (UMO).

### Volume 5

### Chapter 17. Diagnosis and Treatment of Diving Disorders. (Formerly chapter 20)

- Changed all references of Diving Medical Officer (DMO) to Undersea Medical Officer (UMO).
- 17-8.2.3 Carbon Dioxide Scrubbing:
  - Updated paragraph to allow CO<sub>2</sub> absorbent to be used beyond the expiration date when used in a recompression chamber equipped with a CO<sub>2</sub> monitor.

### Chapter 18 Recompression Chamber Operation (Formerly chapter 21)

- Table 18-1:
  - Updated Notes 2 and 3, and added Note 5 to state “Utilizing a non-U.S. Navy chamber will likely require treatment to be completed in accordance with the host facility recompression treatment protocols.”
- Figure 18-15 Pressure Test for USN Recompression Chambers:
  - Updated guidance in figure 18-15 for Transportable Recompression Chamber System (TRCS).

### Appendix 5A

- 5A-3.2 Coordination:
  - Updated guidance for Heel-Shin Slide Test:
    - Patient should be “seated or lying” while conducting this test.

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**Appendix 5B**

**No change**

**Appendix 5C**

**No change**