5-1 INTRODUCTION

5-1.1 Purpose. The purpose of this chapter is to promulgate general policy for maintaining and retaining command smooth diving logs, personal diving logs, personal diving records, diving mishap reports, and failure analysis reports.

5-1.2 Scope. The record keeping and reporting instructions outlined in this chapter pertain to command smooth diving logs, individual diving logs, personal diving records, diving mishap reports, and failure analysis reports.

5-2 OBJECTIVES OF THE RECORD KEEPING AND REPORTING SYSTEM

There are five objectives in the diving record keeping and reporting system.

1. Establish a comprehensive operational record for each diving command. The Command Smooth Diving Log is a standardized operational record prepared in accordance with established military practice. This record establishes the diving history for each diving command and constitutes the basic operational record requirement under normal, uneventful circumstances.

2. Gather data for safety and trend analysis. Information about current diving operations conducted in the Navy, the incidence of Hyperbaric Treatments, and diving mishaps is provided to the Naval Safety Center through the Diving Reporting System and by message as required in OPNAVINST 5100.19C Section A-6. This information enables the Safety Center to identify safety-related problems associated with operating procedures and training.

3. Provide data for a personal record. OPNAVINST 3150.27 (series) requires each diver to maintain a personal diving log/history.

4. Report information about diving mishaps and casualties in accordance with the requirements of OPNAVINST 5100.19C Section A-6. Complete and accurate information enables the command to take appropriate action and prevent reoccurrence.

5. Report information about equipment deficiencies to the responsible technical agencies through the Failure Analysis Report (FAR) system.

5-3 RECORD KEEPING AND REPORTING DOCUMENTS

The documents established to meet the objectives of the record keeping and reporting system are:
Command Smooth Diving Log (Figure 5-1a and Figure 5-1b)
- Dive Reporting System (DRS)
- Diver’s Personal Dive Record (diskette or hard copy)
- Diving Mishap/Hyperbaric Treatment/Death Report, Symbol OPNAV 5102/5
- Diving Mishaps reported in accordance with OPNAVINST 5100.19 Series Appendix A-6
- Equipment Accident/Incident Information Sheet (Figure 5-2a and Figure 5-2b)
- Diving Life Support Equipment Failure Analysis Report (FAR) for MK 20 AGA, MK 21 surface-supplied diving system, and open-circuit scuba (NAVSEA Form 10560/4) (Figure 5-3)
- Failure Analysis Report for MK 16 UBA (NAVSEA Form 10560/1) (Figure 5-4) or Failure Analysis or Inadequacy Report for MK 25 (LAR V).

5-4 COMMAND SMOOTH DIVING LOG

The Command Smooth Diving Log is a chronological record of all dives conducted at that facility or command. It contains information on dives by personnel attached to the reporting command and dives by personnel temporarily attached to the command, such as personnel on TAD/TDY.

Dives conducted while temporarily assigned to another diving command shall be recorded in the host command’s Smooth Diving Log. Additionally, record the dive in the Dive Reporting System (DRS) of the host command.

The OPNAVINST 3150.27 (series) requires commands to retain the official diving log for 3 years. The minimum data items in the Command Smooth Diving Log include:

- Date of dive
- Purpose of the dive
- Identification of divers and standby divers
- Times left and reached surface, bottom time
- Depth
- Decompression time
- Air and water temperature
- Signatures of Diving Supervisor or Diving Officer

5-5 RECOMPRESSION CHAMBER LOG

The Recompression Chamber Log is the official chronological record of procedures and events for an entire dive. It is mandatory that all U.S. Navy diving activities maintain a Recompression Chamber Log. the shall be legibly maintained in a narrative style. The Diving Officer, Master Diver, and Diving Supervisor shall review and sign the log daily or at the end of their watches. The
Figure 5-1a. U.S. Navy Diving Log (sheet 1 of 2).
### COMMAND SMOOTH DIVING LOG

<table>
<thead>
<tr>
<th>Date</th>
<th>Geographic Location</th>
<th>Air Temp (°F)</th>
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<tbody>
<tr>
<td></td>
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<table>
<thead>
<tr>
<th>Equipment Used</th>
<th>Dress</th>
<th>Wave Height (ft)</th>
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<tbody>
<tr>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Breathing Medium</th>
<th>Platform</th>
<th>Water Temp (°F)</th>
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<tbody>
<tr>
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</table>

<table>
<thead>
<tr>
<th>Breathing Medium Source</th>
<th>Current (kts.)</th>
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<tbody>
<tr>
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<table>
<thead>
<tr>
<th>Depth of Dive (fsw)</th>
<th>Bottom Type</th>
<th>Bottom Vis (ft)</th>
</tr>
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<tbody>
<tr>
<td></td>
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<table>
<thead>
<tr>
<th>Diver</th>
<th>LS</th>
<th>RB</th>
<th>LB</th>
<th>RS</th>
<th>TBT</th>
<th>TDT</th>
<th>TTD</th>
<th>Sched Used</th>
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<tbody>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Purpose of Dive, Tools Used, etc.</th>
<th>Repet Group</th>
</tr>
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<tbody>
<tr>
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</table>

<table>
<thead>
<tr>
<th>Surface Interval</th>
<th>New Repet Group</th>
<th>RNT</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td></td>
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<tr>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Dive Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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<tr>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Signature (Diving Supervisor)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Signature (Diving Officer/Master Diver)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

---

**Figure 5-1b.** U.S. Navy Diving Log (sheet 2 of 2).
**GENERAL**

Unit point of contact ____________________________ Position ____________________

Command UIC __________________ Date ___________ Time of occurrence ____________

**EQUIPMENT** (indicate type of all equipment worn/used) Contributing factor __________

**UBA:**
- SCUBA ___________ MK21 _______________ MK20 ___________
- MK 16 _______________ LAR V ________________
  
  Other (specify) __________________________________________

**Suit type:**
- Dry ___________ Wet ___________ Hot water ___________

**Other dress:**
- Gloves ________ Booties ____________ Fins ____________
- Mask ____________ Snorkel ____________ Knife ____________

Weight belt (indicate weight) ____________________

Depth gauge __________________ Last calibration date __________

**Buoyancy compensator/life preserver:**

- Inflated at scene: ____________ Partially ____________ Operational ____________

- Inflation mode: Oral __________ CO₂ __________ Independent supply ____________

**Cylinders:**
- Number worn _______ Size (cu ft) ______ Valve type ____________
- Gas mix ____________ Aluminum ______ Steel ____________

Surface pressure: Before ____________ After ____________

**Regulator:**
- Last PMS date ____________ Functional at scene? ____________

**Submersible pressure gauge:**
- Functional at scene? ____________

**CONDITIONS**

Location ____________________________

Depth ________ fsw Visibility _________ ft. Current ____________ Knots sea state ________ (0-9)

Air temp ____________ °F Water temp: at surface ____________ °F at depth ____________ °F

Bottom type (mud, sand, coral, etc.) ____________________________

**DIVE TIME**

Bottom ____________ Decompression ____________ Total dive time ____________

Was equipment operating and maintenance procedure a contributing factor?

(Explain): ____________________________

Is there contributory error in O&M Manual or 3M System?

(Explain): ____________________________

**OTHER CONTRIBUTING FACTORS** ____________________________

Figure 5-2a. Equipment Accident/Incident Information Sheet.
**EQUIPMENT ACCIDENT/INCIDENT INFORMATION SHEET**

Pertaining to UBA involved, fill in blanks with data required by items 1 through 9.

<table>
<thead>
<tr>
<th>MK 21</th>
<th>MK 20 MOD 0</th>
<th>SCUBA</th>
<th>MK 16</th>
<th>MK 25</th>
<th>OTHER</th>
</tr>
</thead>
</table>

1. Number of turns to secure topside gas umbilical supply:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
</table>

2. Number of turns to secure valve on emergency gas supply (EGS):

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
</table>

3. Number of turns to secure gas supply at mask/helmet:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
</table>

4. Number of turns to secure gas bottle:

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
</tr>
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</table>

5. Bottle Pressure:

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
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</table>

6. Gas Mixture:

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<tr>
<th></th>
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</thead>
</table>

7. Data/color of electronic display:

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
</table>

8. Battery voltage level:

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
</table>

9. Condition of canister:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>

**Note:** If UBA involved is not listed above, provide information on separate sheet.

**Figure 5-2b.** Equipment Accident/Incident Information Sheet.
NAVAL SEA SYSTEMS COMMAND
DIVING LIFE SUPPORT EQUIPMENT FAILURE ANALYSIS REPORT (FAR)

1. REPORTING ACTIVITY NAME
   CODE: ___________________________
   FAR SERIAL NO. ______________________

4. REPORTING ACTIVITY NAME
   NAME: ____________________________
   TELEPHONE: _________________________

5. CLASSIFICATION (NCSC Use Only)
   1 2 3 4 5

6. EQUIPMENT NAME
   EQUIPMENT SERIAL NUMBER

7. ITEM NAME
   PART NUMBER OR FEDERAL STOCK NUMBER

8. FAILURE
   A. HOW DISCOVERED: [ ] PREDIVE [ ] OPERATING [ ] POSTDIVE [ ] PMS [ ] OTHER (Block 11)
   B. TYPE: [ ] MALFUNCTION [ ] BROKEN OR DAMAGED [ ] TECH DOCUMENTATION [ ] OTHER (Block 11)
   C. CAUSE: [ ] NORMAL WEAR [ ] HUMAN ERROR [ ] DESIGN FLAW [ ] PMS [ ] WRONG PARTS [ ] OTHER (Block 11)

9. SPARE PARTS
   PART CONTRACT NUMBER ( )
   [ ] NOT AVAILABLE FROM STOCK [ ] IMPROPERLY PACKAGED [ ] DEFECTIVE ON RECEIPT
   [ ] DEFECTIVE ON TRIAL [ ] QUALITY DEFICIENCY REPORT (QDR) SUBMITTED [ ] OTHER (Block 11)

10. CORRECTION [ ] REPAIRED PARTS [ ] REPLACED PARTS [ ] OTHER (Block 11)

   DATE COMPLETED: ________________
   MAN HOURS: ________________
   EST. COST OF PARTS: ________________

11. COMMENTS (Reference Block Numbers)

   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________

Figure 5-3. Failure Analysis Report (NAVSEA Form 10560/4).
# Failure Analysis Report

(See SS600-AH-MMA-010 for Information Concerning Use of This Form)

**Disposition:** Maintain the Original of This Form in Auditable Fashion With the UBA for the Entire Period Between NAVSEA Certification Surveys. Forward Copies 1-3 (Self-Mailed) to the Addresses as Shown on the Bottom Right-Hand Corner and Back of the Forms.

<table>
<thead>
<tr>
<th>1. NAME OF REPORTING ACTIVITY</th>
<th>UNIT IDENTIFICATION CODE</th>
<th>2. REPORT CATEGORY (Check Applicable Block)</th>
<th>3. REPORT SERIAL NUMBER</th>
<th>4. DATE DISCOVERED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>SAFETY</td>
<td>ROUTINE</td>
<td></td>
</tr>
</tbody>
</table>

5. DEFICIENCY CATEGORY (Check One)

- EQUIPMENT
- PUBLICATION

6. UBA SERIAL NUMBER

7. POINT OF CONTACT FOR ACTIVITY

- AUTOVON NO.
- COMMERCIAL NO.

- ( )

8. REASON FOR REPORT (Check Applicable Block)

- FAILURE / FAILURE SUSPECTED
- MALFUNCTION
- DAMAGE DUE TO IMPROPER MANNER / OPERATION / TEST
- DAMAGE ON DEFECTIVE ON RECEIPT
- OTHER (Explain In Item 15)

9. WHEN DISCOVERED (Check Applicable Block)

- PRE-DIVE
- POST-DIVE
- PMS
- DURING OPERATIONS
- OTHER (Explain Here or In Item 15)

10. SYSTEM, SUBSYSTEM, OR COMPONENT(S) AFFECTED

11. REGISTRATION CONTROL FORM NO. (Attach Copy)

12. DESCRIPTION OF FAILURE / TROUBLE / DISCREPANCY

13. CAUSE OF FAILURE / TROUBLE / DISCREPANCY, IF KNOWN

14. CORRECTIVE ACTION TAKEN

15. COMMENTS OR RECOMMENDATIONS FOR PREVENTION OR ELIMINATION OF PROBLEMS

16. SIGNATURE OF PREPARER

- RANK / RATE
- DATE SIGNED

17. SIGNATURE, APPROVING OFFICIAL

- RANK / RATE
- DATE APPROVED

NAVSEA 10560/1 (12-84)
Recompression Chamber Log must be retained for 3 years after the date of the dive. The minimum data items in the Recompression Chamber Log include:

- Date of dive
- Purpose of the dive
- Identification of diver(s)/patients(s)
- Identification of tender(s)
- Time left surface
- Time reached treatment depth
- Time left treatment depth
- Time reached stop
- Time left stop
- Depth/time of relief
- Change in symptoms
- Recompression chamber air temperature (if available)
- Oxygen and Carbon Dioxide % (if available)
- Medicine given
- Fluid administered
- Fluid void
- Signatures of Diving Officer, Master Diver, or Diving Supervisor

5-6 DIVER’S PERSONAL DIVE LOG

Although specific Navy Divers Personal Logbooks are no longer required, each Navy trained diver is still required to maintain a record of his dives in accordance with the OPNAVINST 3150.27 series. The best way for each diver to accomplish this is to keep a copy of each Diving Log Form in a binder or folder. The Diving Log Form was formerly called DD Form 2544, 3150, or 9940, but is now generated by the Diver Reporting System (DRS) software. The record may also be kept on a personal floppy disk. These forms, when signed by the Diving Supervisor and Diving Officer, are an acceptable record of dives that may be required to justify special payments made to you as a diver and may help substantiate claims made for diving-related illness or injury. If an individual desires a hard copy of the dives, the diver’s command can generate a report using the DRS or by submitting a written request to the Naval Safety Center.

5-7 DIVING MISHAP/CASUALTY REPORTING

Specific instructions for diving mishap, casualty, and hyperbaric treatment are provided in Section A-6, OPNAVINST 5100.19 Series. The Judge Advocate General (JAG) Manual provides instructions for investigation and reporting procedures required in instances when the mishap may have occurred as a result of procedural or personnel error. Diving equipment status reporting instructions related to diving accidents/incidents are specified in this chapter.
5-8 EQUIPMENT FAILURE OR DEFICIENCY REPORTING

The Failure Analysis Report (FAR) system provides the means for reporting, tracking and resolving material failures or deficiencies in diving life-support equipment (DLSE). The FAR was developed to provide a rapid response to DLSE failures or deficiencies. It is sent directly to the configuration manager, engineers, and technicians who are qualified to resolve the deficiency. FAR Form 10560/4 (stock number 0116-LF-105-6020) covers all DLSE not already addressed by other FARs or reporting systems. For example, the MK 21 MOD 1, MK 20 MOD 0 mask, and all open-circuit scuba are reportable on this FAR form; the UBAs MK 16 and MK 25 are reportable on a FAR or a Failure Analysis or Inadequacy Report (FAIR) in accordance with their respective technical manuals. When an equipment failure or deficiency is discovered, the Diving Supervisor or other responsible person shall ensure that the FAR is properly prepared and distributed. Refer to paragraph 5-10 for additional reporting requirements for an equipment failure suspected as the cause of a diving accident.

The one-page FAR form (Figure 5-3) consists of an original and three copies. The completed original is maintained in the Command FAR Log; the copies are mailed to CSS (Code 2510), NAVSEA (Code 00C3) and NEDU (Code 03).

5-9 U.S. NAVY DIVE REPORTING SYSTEM (DRS)

The Dive Reporting System (DRS) is a computer-based method of recording and reporting dives required by the OPNAVINST 3150.27 (series), and replaces reporting on DD Form 2544. The computer software provides all diving commands with a computerized record of dives.

The DRS makes it easy for commands to submit diving data to the Naval Safety Center. The computer software allows users to enter dive data, transfer data to the Naval Safety Center, and to generate individual diver and command reports. The DRS was designed for all branches of the U.S. Armed Services and can be obtained through:

Commander, Naval Safety Center
Attention: Code 37
375 A Street
Norfolk, VA 23511-4399

5-10 ACCIDENT/INCIDENT EQUIPMENT INVESTIGATION REQUIREMENTS

An accident is an unexpected event that culminates in loss of or serious damage to equipment or injury to personnel. An incident is an unexpected event that degrades safety and increases the probability of an accident.

The number of diving accidents/incidents involving U.S. Navy divers is small when compared to the total number of dives conducted each year. The mishaps
that do occur, however, must receive a thorough review to identify the cause and determine corrective measures to prevent further diving mishaps.

This section expands on the OPNAVINST 5100.19 (series) that require expeditious reporting and investigation of diving related mishaps. The accident/incident equipment status reporting procedures in this chapter apply, in general, to all diving mishaps when malfunction or inadequate equipment performance, or unsound equipment operating and maintenance procedures are a factor.

In many instances a Diving Life Support Equipment Failure Analysis Report (FAR) may also be required. The primary purpose of this requirement is to identify any material deficiency that may have contributed to the mishap. Any suspected malfunction or deficiency of life support equipment will be thoroughly investigated by controlled testing at the Navy Experimental Diving Unit (NEDU). NEDU has the capability to perform engineering investigations and full unmanned testing of all Navy diving equipment under all types of pressure and environmental conditions. Depth, water turbidity, and temperature can be duplicated for all conceivable U.S. Navy dive scenarios.

Contact NA VSEA/00C3 to assist diving units with investigations and data collection following a diving mishap. 00C3 will assign a representative to inspect the initial condition of equipment and to pick up or ship all pertinent records and equipment to NEDU for full unmanned testing. Upon receiving the defective equipment, NEDU will conduct unmanned tests as rapidly as possible and will then return the equipment to the appropriate activity.

NOTE  Do not tamper with equipment without first contacting NAVSEA/00C3 for guidance.

5-11 REPORTING CRITERIA

The diving and diving related accident/incident equipment status requirements set forth in this chapter are mandatory for all U.S. Navy diving units in each of the following circumstances:

- In all cases when an accident/incident results in a fatality or serious injury.

- When an accident/incident occurs and a malfunction or inadequate performance of the equipment may have contributed to the accident/incident.

5-12 ACTIONS REQUIRED

U.S. Navy diving units shall perform the following procedure when a diving accident/incident or related mishap meets the criteria stated in paragraph 5-11.

1. Immediately secure and safeguard from tampering all diver-worn and ancillary/support equipment that may have contributed to the mishap. This equipment should also include, but is not limited to, the compressor, regulator,
depth gauge, submersible pressure gauge, diver dress, buoyancy compensator/life preserver, weight belt, and gas supply (scuba, emergency gas supply, etc.).

2. Expeditiously report circumstances of the accident/incident by message (see OPNAVINST 5100.19 (Series) for format requirements) to:

- NAVSAFECEN NORFOLK VA//JJJ// with information copies to CNO WASHINGTON DC//N873// COMNAVSEASYSCOM WASHINGTON DC//00C// and NAVXDIVINGU PANAMA CITY FL//JJJ//.

- If the accident/incident is MK 16 related, also send information copies to PEO MINEWAR WASHINGTON DC//PMS-EOD// and NAVEODTECHDIV INDIAN HEAD MD//70//.

- If the accident/incident is MK 25 (LAR V) related, also send information copies to COMNAVSEASYSCOM WASHINGTON DC//PEO EXW PMS 325//.

- If the accident/incident occurs at a shore based facility (NAVFAC), also send information copies to NFESC EAST COAST DET WASHINGTON DC//00CE//.

3. Expeditiously prepare a separate, written report of the accident/incident. The report shall include:

- A completed Equipment Accident/Incident Information Sheet (Figure 5-2a)

- A completed Accident/Incident Equipment Status Data Sheet (Figure 5-2b)

- A sequential narrative of the mishap including relevant details that might not be apparent in the data sheets

4. The data sheets and the written narrative shall be mailed by traceable registered mail to:

   Commanding Officer
   Navy Experimental Diving Unit
   321 Bullfinch Road
   Panama City, Florida 32407-7015

   Attn: Code 03, Test & Evaluation

5. Package a certified copy of all pertinent 3M records and deliver to NAVSEA/00C3 on-scene representative.
NOTE Call NAVSEA/NEDU/NAVFAC with details of the mishap or incident whenever possible. Personal contact may prevent loss of evidence vital to the evaluation of the equipment.

5-12.1 Technical Manual Deficiency/Evaluation Report. If the accident/incident is believed to be solely attributable to unsound operating and maintenance procedures, including publications, submit a NAVSEA (user) Technical Manual Deficiency/Evaluation Report (TMDER) and request guidance from NEDU to ascertain if shipment of all or part of the equipment is necessary.

5-12.2 Shipment of Equipment. To expedite delivery, scuba, MK 16 and EGS bottles shall be shipped separately in accordance with current DOT directives and command procedures for shipment of compressed gas cylinders. Cylinders shall be forwarded in their exact condition of recovery (e.g., empty, partially filled, fully charged). If the equipment that is believed to be contributory to the accident/incident is too large to ship economically, contact NEDU to determine alternate procedures.
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