

**INCH-POUND**

MIL-STD-797C(SH)  
25 March 1988

SUPERSEDING  
MIL-STD-797B(SHIPS)  
25 April 1969  
(See 6.5)

MILITARY STANDARD  
DAMAGE CONTROL BOOK FOR SUBMARINES,  
PREPARATION AND REVISION OF



AMSC 4302

AREA TMSS

DISTRIBUTION STATEMENT A Approved for public release; distribution unlimited

MIL-STD-797C(SH)  
25 March 1988

DEPARTMENT OF THE NAVY  
NAVAL SEA SYSTEMS COMMAND

Washington, DC 20362-5101

Damage Control Book for Submarines

1. This Military Standard is approved for use by the Naval Sea Systems Command, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.
2. Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, Naval Sea Systems Command, SEA 5523, Department of the Navy, Washington, DC 20362-5101 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

MIL-STD-797C(SH)

25 March 1988

FOREWORD

It is the intent of this standard to establish the requirements for the preparation, reproduction, and revision of damage control books for all types of submarines, both conventional and nuclear-powered (excluding NR-1 and AGSS-555). This standard describes the requisite contents of, and the procedures for preparation of, the two part Standard Submarine Damage Control Book. Part 1 will address standard submarine damage control and part 2 will be concerned with information that is specific to individual submarines.

MIL-STD-797C(SH)  
25 March 1988

CONTENTS

|              |  | <u>Page</u> |
|--------------|--|-------------|
| Paragraph 1. | SCOPE .....  | 1           |
| 1.1          | Purpose .....  | 1           |
| 1.2          | Application .....  | 1           |
| 2.           | REFERENCED DOCUMENTS .....   | 1           |
| 2.1          | Government documents .....   | 1           |
| 2.1.1        | Specifications and standards .....   | 1           |
| 2.1.2        | Other Government publications .....  | 1           |
| 2.2          | Other publications .....   | 2           |
| 2.3          | Order of precedence .....  | 2           |
| 3.           | DEFINITIONS .....  | 2           |
| 3.1          | Advance change notice (ACN) .....  | 2           |
| 3.2          | Binder .....   | 2           |
| 3.3          | Change .....   | 2           |
| 3.4          | Diagrams .....   | 3           |
| 3.5          | Drafting mylar .....   | 3           |
| 3.6          | Feedback form .....  | 3           |
| 3.7          | Final book .....   | 3           |
| 3.8          | Follow yard (new construction yard) .....  | 3           |
| 3.9          | Front matter .....   | 3           |
| 3.10         | Group master copy damage control book text and<br>associated graphics .....            | 3           |
| 3.11         | Illustrations .....  | 3           |
| 3.12         | Lead building yard (LBY) .....   | 3           |
| 3.13         | NAVSEA .....   | 3           |
| 3.14         | Overhaul yard .....  | 3           |
| 3.15         | Planning yard .....  | 4           |
| 3.16         | Preliminary book .....   | 4           |
| 3.17         | Revision .....   | 4           |
| 3.18         | Ships master damage control book .....   | 4           |
| 3.19         | SSDCB (master copy) .....  | 4           |
| 3.20         | Supervisor of shipbuilding (SUPSHIP) .....   | 4           |
| 3.21         | Tab sheets .....   | 4           |
| 3.22         | Technical activity .....   | 4           |
| 3.23         | Technical manual identification number (TMIN) ....                                     | 4           |
| 3.24         | Type book .....  | 4           |
| 4.           | GENERAL REQUIREMENTS .....   | 4           |
| 4.1          | Format of the SSDCB .....  | 4           |
| 4.2          | Book format .....  | 5           |
| 4.3          | Requirements .....   | 5           |
| 4.4          | Writing .....  | 8           |
| 4.5          | Format for illustrations and diagrams .....  | 8           |
| 4.6          | SSDCB camera ready components .....  | 8           |
| 4.7          | Responsibility for preparation of the SSDCB<br>during new submarine construction ..... | 12          |

MIL-STD-797C(SH)  
25 March 1988

CONTENTS - Continued

|                 | <u>Page</u>   |
|-----------------|---|
| Paragraph 4.7.1 | NAVSEA ..... 12   |
| 4.7.2           | LBY ..... 12  |
| 4.7.3           | Follow yard ..... 12  |
| 4.8             | SSDCB preparation instructions ..... 12   |
| 4.8.1           | Printing of book ..... 12   |
| 4.8.2           | Illustrations ..... 12  |
| 4.8.3           | Lettering ..... 12  |
| 4.8.4           | Folding and punching of diagrams ..... 13   |
| 4.8.5           | Pages within chapters numbering ..... 13  |
| 4.8.6           | Paragraph and side head numbering ..... 13  |
| 4.8.7           | Ship identification ..... 13  |
| 4.8.8           | Security classification ..... 13  |
| 4.9             | TMIN ..... 13   |
| 4.10            | Procedure for updating planning yard master copy<br>book ..... 14   |
| 4.10.1          | Change in ship's classification or numbers on<br>diagrams ..... 14  |
| 4.10.2          | Pages to be revised ..... 14  |
| 4.11            | Responsibility for preparing changes and revi-<br>sions to the SSDCB during the life cycle of a<br>submarine ..... 14 |
| 4.11.1          | NAVSEA ..... 14   |
| 4.11.2          | Planning yard ..... 14  |
| 4.11.3          | Overhaul yard ..... 14  |
| 4.12            | Binders ..... 14  |
| 4.12.1          | Temporary binders ..... 14  |
| 4.12.2          | Permanent binder ..... 15   |
| 4.13            | Tab sheets ..... 15   |
| 4.14            | Distribution of the final SSDCB ..... 15  |
| 4.15            | Packaging and shipping ..... 15   |
| 4.15.1          | Packaging ..... 15  |
| 4.15.2          | Shipping ..... 15   |
| 4.16            | Quality assurance provisions ..... 15   |
| 4.17            | Deliverable data ..... 15   |
| 5.              | DETAILED REQUIREMENTS ..... 15  |
| 5.1             | SSDCB, part 1 ..... 15  |
| 5.2             | Contents of part 1 ..... 15   |
| 5.2.1           | Front matter ..... 16   |
| 5.2.1.1         | Cover page ..... 16   |
| 5.2.1.2         | Title page ..... 16   |
| 5.2.1.3         | List of effective pages ..... 16  |
| 5.2.1.4         | Record of changes ..... 16  |
| 5.2.1.5         | Part 1, table of contents ..... 16  |
| 5.2.1.6         | Chapter table of contents ..... 16  |
| 5.2.1.7         | List of illustrations ..... 16  |

## MIL-STD-797C(SH)

25 March 1988

## CONTENTS - Continued

|                   | <u>Page</u>   |
|-------------------|---|
| Paragraph 5.2.1.8 | List of diagrams ..... 16                                       |
| 5.2.1.9           | List of tables ..... 16   |
| 5.2.1.10          | Preface ..... 16  |
| 5.2.2             | Text ..... 17   |
| 5.2.2.1           | Introduction ..... 17   |
| 5.2.2.2           | Damage control communications ..... 17                          |
| 5.2.2.3           | Damage control equipment, uses and locations ..... 17           |
| 5.2.2.4           | Loss of control surface response ..... 17                       |
| 5.2.2.5           | Flooding ..... 17   |
| 5.2.2.6           | Fire fighting ..... 18  |
| 5.2.2.7           | Electrical equipment emergencies ..... 18                       |
| 5.2.2.8           | High pressure gas and main steam system<br>emergencies ..... 18 |
| 5.2.2.9           | Atmosphere contamination and ventilation ..... 18               |
| 5.2.2.10          | Damage from external sources ..... 18                           |
| 5.2.2.11          | Distressed submarine/DSRV operations ..... 19                   |
| 5.2.2.12          | Ship characteristics ..... 19                                   |
| 5.2.2.13          | Damage restricting ship's operations ..... 19                   |
| 5.2.2.14          | Addenda ..... 19  |
| 5.3               | Part 2 ..... 19   |
| 5.4               | Contents of part 2 ..... 20                                     |
| 5.4.1             | Front matter ..... 20   |
| 5.4.1.1           | Cover page ..... 20   |
| 5.4.1.2           | Title page ..... 20   |
| 5.4.1.3           | List of effective pages ..... 20                                |
| 5.4.1.4           | Record of changes ..... 20                                      |
| 5.4.1.5           | Part 2, table of contents ..... 20                              |
| 5.4.1.6           | Chapter table of contents ..... 20                              |
| 5.4.1.7           | List of illustrations ..... 20                                  |
| 5.4.1.8           | List of diagrams ..... 20                                       |
| 5.4.1.9           | List of tables ..... 20   |
| 5.4.1.10          | Preface ..... 20  |
| 5.4.2             | Text ..... 21   |
| 5.4.2.1           | Introduction ..... 21   |
| 5.4.2.2           | Damage control communications ..... 21                          |
| 5.4.2.3           | Damage control equipment locations ..... 21                     |
| 5.4.2.4           | Loss of control surface response ..... 21                       |
| 5.4.2.5           | Flooding ..... 21   |
| 5.4.2.6           | Fire fighting ..... 22  |
| 5.4.2.7           | Electrical equipment emergencies ..... 22                       |
| 5.4.2.8           | High pressure gas and main steam system<br>emergencies ..... 22 |
| 5.4.2.9           | Atmosphere contamination and ventilation ..... 22               |
| 5.4.2.10          | Damage from external sources ..... 22                           |
| 5.4.2.11          | Distressed submarine/DSRV operations ..... 23                   |
| 5.4.2.12          | Ship characteristics ..... 23                                   |
| 5.4.2.13          | Addenda ..... 23  |
| 5.5               | Content topic depth coverage ..... 23                           |

MIL-STD-797C(SH)  
25 March 1988

CONTENTS - Continued

|              |                                       | <u>Page</u> |
|--------------|---------------------------------------|-------------|
| Paragraph 6. | NOTES .....                           | 29          |
| 6.1          | Intended use .....                    | 29          |
| 6.2          | Data requirements .....               | 29          |
| 6.3          | Technical manuals .....               | 30          |
| 6.4          | Subject term (key word) listing ..... | 30          |
| 6.5          | Changes from previous issue .....     | 30          |

FIGURES

|           |  |    |
|-----------|--|----|
| Figure 1. | Example - Part 1 title page .....                                  | 31 |
| 2.        | Example of list of effective pages .....                           | 32 |
| 3.        | Example of record of changes .....                                 | 33 |
| 4.        | Example of SSDCB table of contents .....                           | 34 |
| 5.        | Example of chapter table of contents .....                         | 35 |
| 6.        | Example of preface .....   | 36 |
| 7.        | Example - Part 2 title page .....                                  | 37 |
| 8.        | Example - partial submarine damage control<br>equipment list ..... | 38 |

TABLES

|          |   |    |
|----------|---|----|
| Table I. | Inventory of required camera ready components ..... | 8  |
| II.      | Lettering and numbers, final size and type .....    | 12 |
| III.     | Topic depth coverage .....                          | 23 |

APPENDIX

|               |                              |    |
|---------------|------------------------------|----|
| Paragraph 10. | SCOPE .....                  | 39 |
| 10.1          | Scope .....                  | 39 |
| 20.           | REFERENCED DOCUMENTS .....   | 39 |
| 30.           | REQUIREMENTS .....           | 39 |
| 30.1          | New construction SSDCB ..... | 39 |
| 30.2          | Builder sea trials .....     | 39 |
| 30.3          | Final approved SSDCB .....   | 39 |
| 30.4          | Changes and revisions .....  | 40 |

MIL-STD-797C(SH)

25 March 1988

## 1. SCOPE

1.1 Purpose. This standard is intended to be used as a model in the delineation of the requisite contents of the new Standard Submarine Damage Control Book (SSDCB). Part 1 shall cover standard submarine damage control; part 2 shall address information that is specific to individual submarines. This standard covers life-cycle maintenance and the agenda for the processing of the damage control submarine books.

1.2 Application. The requirements of this standard shall be applied to the procedures for originating, reproducing, and revising the new SSDCB for submarines of all types, conventional and nuclear. The SSDCB shall be used to outline the damage control capabilities of submarines and shall describe how these capabilities shall best be utilized.

## 2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Specifications and standards. Unless otherwise specified, the following specifications and standards of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation form a part of this standard to the extent specified herein.

## SPECIFICATIONS

## MILITARY

- MIL-M-15071 - Manuals, Technical, Equipments and Systems Content Requirements for.
- MIL-M-38784 - Manuals, Technical: General Style and Format Requirements.

## STANDARDS

## MILITARY

- MIL-STD-12 - Abbreviations for Use on Drawings, Standards, and Technical Documents.
- MIL-STD-15 - Electrical Wiring Equipment Symbols for Ships' Plans, Part 2.
- MIL-STD-17 - Mechanical Symbols (Other than Aeronautical, Aero-spacecraft and Spacecraft Use), Part 1.

2.1.2 Other Government publications. The following other Government publications form a part of this standard to the extent specified herein.

MIL-STD-797C(SH)  
25 March 1988

## PUBLICATIONS

### NAVAL SEA SYSTEMS COMMAND (NAVSEA)

SL720-AA-MAN-010 - Fleet Modernization Program, Management and Operations Manual.

S9510-AB-ATM-010 - Nuclear Powered Submarine Atmosphere Control Manual.

(Copies of specifications, standards, and publications required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

2.2 Other publications. The following documents form a part of this standard to the extent specified herein. The issues of the documents which are indicated as DoD adopted shall be the issue listed in the issue of the DoDISS specified in the solicitation. The issues of documents which have not been adopted shall be those in effect on the date of the cited DoDISS.

### AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

Y32.2 - Graphic Symbols for Electrical and Electronics Diagrams. (DoD adopted)

Y32.9 - Graphic Symbols for Electrical Wiring and Layout Diagrams Used in Architecture and Building Construction. (DoD adopted)

(Application for copies should be addressed to the American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018.)

(Nongovernment standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

2.3 Order of precedence. In the event of a conflict between the text of this standard and the references cited herein, the text of this standard shall take precedence.

## 3. DEFINITIONS

3.1 Advance change notice (ACN). An ACN is an advance or an interim change to a damage control book, which is issued when a deficiency or problem with the book requires immediate correction and time does not permit issuance of a permanent change or revision.

3.2 Binder. A binder is the cover of the book, and associated hardware.

3.3 Change. A change is used to correct reported deficiencies (errors, omissions and inadequacies), add new procedures, and change existing procedures where the requirement for such change does not constitute an urgent situation. Changes are issued in the form of change pages to the damage control books.

MIL-STD-797C(SH)

25 March 1988

3.4 Diagrams. Diagrams are foldout illustrations whose reproduction requires a page wider than normal trim width and whose height, including border spaces, equals the trim height of the publication.

3.5 Drafting mylar. A drafting mylar is an unsensitized sheet which is receptive to ink. This material is used for drafting.

3.6 Feedback form. A feedback form is a technical manual deficiency/evaluation report (TMDER) form that provides a path for the user to:

- Supply data that would enhance the book's contents,
- Notify Naval Sea Systems Command (NAVSEA) of any ship alteration that affects ship's damage control capability.

3.7 Final book. Final book applies to the final edition of the SSDCB issued to a ship following construction, or to the final revised edition issued to a ship following overhaul.

3.8 Follow yard (new construction yard). When two or more yards are building ships from one set of working plans, the subsequent yards shall be designated as the follow yards.

3.9 Front matter. Generally, front matter is the pages preceding the main text of the publication.

3.10 Group master copy damage control book text and associated graphics. When a class of submarines is being built by several shipyards, the lead building yard produces the first damage control book for the class and furnishes a copy of this material to the follow yards. The follow yards will modify this material and use it to produce a damage control book part 2 for each individual submarine they are building.

3.11 Illustrations. The term "illustrations" will apply to all single page, book-size illustrations. This includes graphs and diagrams.

3.12 Lead building yard (LBY). When two or more yards are building (new construction) submarines from one set of working plans, one yard is designated as the lead building yard.

3.13 NAVSEA. NAVSEA is the Naval activity responsible for providing requirements for the outline, content and formatting of the overall SSDCBs. NAVSEA is responsible for approving all changes to SSDCBs, with the exception of changes to part 2 resulting from hardware changes specifically authorized in overhaul.

3.14 Overhaul yard. The overhaul shipyard is the activity responsible for preparing, reproducing and distributing updated material pertaining to the SSDCB part 2 resulting from ship hardware changes accomplished during overhaul.

MIL-STD-797C(SH)

25 March 1988

3.15 Planning yard. The planning yard is the naval shipyard or other activity designated by NAVSEA that is responsible for the technical documents in support of accomplishing SHIPALTS including engineering, design, and drawing preparation for ships specifically assigned.

3.16 Preliminary book. A submarine damage control book is considered to be "preliminary" until it has been reviewed and approved by NAVSEA.

3.17 Revision. A revision is a complete rewrite or reorganization of the book. It is used to incorporate all previous changes, and add or delete data.

3.18 Ships master damage control book. A ships master damage control book is a printed copy of the damage control book that is set aside by the submarine's commanding officer and kept up-to-date to reflect changes made to the submarine by the ship's force.

3.19 SSDCB (master copy). A SSDCB (master copy) is an original camera ready copy of the SSDCB retained in storage by the submarine's planning yard.

3.20 Supervisor of shipbuilding (SUPSHIP). The term "SUPSHIP" as used in this standard shall be understood to apply to the Government activity responsible for the building conversion or overhaul of a ship, such as SUPSHIP or commander of a naval shipyard.

3.21 Tab sheets. A tab sheet is a ledger sheet used to separate the parts and chapters of the SSDCB.

3.22 Technical activity. A technical activity is any activity that may originate and submit for approval an advance change notice or identify the need for a permanent technical manual change or revision to an approved individual ship damage control book.

3.23 Technical manual identification number (TMIN). A TMIN is an identification number assigned by Naval Sea Data Support Activity (NSDSA) Port Hueneme, CA.

3.24 Type book. The "type book" is a copy of the standard submarine damage control book that is provided by NAVSEA via SUPSHIPS to the building yard. The book is used for guidance in preparing damage control book contents for submarines under construction.

#### 4. GENERAL REQUIREMENTS

4.1 Format of the SSDCB. The SSDCB shall be a two-part publication consisting of appropriate text, tables, diagrams and illustrations. Part 1 shall address damage control issues common to all submarines. Part 2 shall address damage control information and unique characteristics that pertain to the specific submarine for which the damage control book is being prepared.

MIL-STD-797C(SH)  
25 March 1988

4.2 Book format. Book format requirements shall be in accordance with this standard and the type book provided by NAVSEA or SUPSHIPS.

4.3 Requirements. In general, the book shall consist of two parts which shall include, for example:

|  | <u>Page no.</u> |
|--|-----------------|
| " a. Part 1  |                 |
| Cover page.....  |                 |
| Title page.....  |                 |
| List of effective pages.....   |                 |
| Record of changes.....   |                 |
| Table of contents.....   |                 |
| Preface.....   |                 |
| 1- Introduction (cover page).....                                    |                 |
| Table of contents.....   |                 |
| Introduction.....  |                 |
| 2- Damage control communications (cover page).....                   |                 |
| Table of contents.....   |                 |
| Damage control communications.....                                   |                 |
| References.....  |                 |
| 3- Damage control equipment, uses and locations<br>(cover page)..... |                 |
| Table of contents.....   |                 |
| List of tables.....  |                 |
| Types and locations of damage control equipment....                  |                 |
| References .....   |                 |
| 4- Loss of control surface response (cover page).....                |                 |
| Table of contents.....   |                 |
| List of illustrations.....   |                 |
| Loss of control surface response.....                                |                 |
| References.....  |                 |
| 5- Flooding (cover page).....  |                 |
| Table of contents.....   |                 |
| List of illustrations.....   |                 |
| Flooding.....  |                 |
| References.....  |                 |
| 6- Fire fighting (cover page).....                                   |                 |
| Table of contents.....   |                 |
| Fire fighting.....   |                 |
| References.....  |                 |
| 7- Electrical equipment emergencies (cover page).....                |                 |
| Table of contents.....   |                 |
| List of illustrations.....   |                 |
| List of tables.....  |                 |
| Electrical equipment emergencies.....                                |                 |
| References.....  |                 |
| 8- High pressure gas and main steam system.....                      |                 |
| Emergencies (cover page).....  |                 |
| Table of contents.....   |                 |
| Gas system emergencies.....  |                 |
| References.....  |                 |

MIL-STD-797C(SH)  
25 March 1988

Page no.

- 9- Atmosphere contamination and ventilation (cover page).....  
 Table of contents.....  
 List of illustrations.....  
 List of plates.....  
 Atmosphere contamination and ventilation.....  
 References.....
- 10- Damage from external sources (cover page).....  
 Table of contents.....  
 Damage from external sources.....  
 References.....
- 11- Distressed submarine/DSRV operations (cover page)...  
 Table of contents.....  
 Submarine/deep submergence rescue vehicle.....  
 Operations (DSRV).....
- 12- Ship characteristics (cover page).....  
 Table of contents.....  
 Ship characteristics.....
- 13- Damage restricting ship's operations (cover page)...  
 Table of contents.....  
 Damage restricting operations.....  
 References.....
- b. Part 2  
 Table of contents.....  
 Record of page revisions (a capital letter following the last letter of the "table of contents").....  
 Procedure for revising and handling standard submarine damage control books.....  
 Preface.....
- 1- Introduction (cover page).....  
 Table of contents.....  
 Introduction.....
- 2- Damage control communications (cover page).....  
 Table of contents.....  
 Damage control communications.....  
 References.....
- 3- Damage control equipment locations (cover page).....  
 List of tables.....  
 Types and locations of damage control equipment....  
 References.....
- 4- Loss of control surface response (cover page).....  
 Table of contents.....  
 List of illustrations and diagrams.....  
 Loss of control surface response.....  
 References.....

MIL-STD-797C(SH)  
25 March 1988

Page no.

|     |   |  |
|-----|---|--|
| 5-  | Flooding (cover page).....  |  |
|     | Table of contents.....  |  |
|     | List of illustrations and diagrams.....                             |  |
|     | List of tables.....   |  |
|     | Flooding.....   |  |
|     | References.....   |  |
| 6-  | Fire fighting (cover page).....                                     |  |
|     | Table of contents.....  |  |
|     | List of tables.....   |  |
|     | Fire fighting.....  |  |
|     | References.....   |  |
| 7-  | Electrical equipment emergencies (cover page).....                  |  |
|     | Table of contents.....  |  |
|     | List of contents.....   |  |
|     | List of illustrations and diagrams.....                             |  |
|     | List of tables.....   |  |
|     | Electrical equipment emergencies.....                               |  |
|     | References.....   |  |
| 8-  | High pressure gas and main steam system.....                        |  |
|     | Emergencies (cover page).....                                       |  |
|     | Table of contents.....  |  |
|     | List of tables.....   |  |
|     | Gas system emergencies.....   |  |
|     | References.....   |  |
| 9-  | Atmosphere contamination and ventilation<br>(cover page).....       |  |
|     | Table of contents.....  |  |
|     | List of illustrations and diagrams.....                             |  |
|     | List of tables.....   |  |
|     | Atmosphere contamination and ventilation.....                       |  |
|     | References.....   |  |
| 10- | Damage from external sources (cover page).....                      |  |
|     | Table of contents.....  |  |
|     | List of tables.....   |  |
|     | Damage from external sources.....                                   |  |
|     | References.....   |  |
| 11- | Distressed submarine/DSRV operations (cover page)...                |  |
|     | Table of contents.....  |  |
|     | Submarine/deep submergence rescue vehicle<br>operations (DSRV)..... |  |
|     | References.....   |  |
| 12- | Ship characteristics (cover page).....                              |  |
|     | Table of contents.....  |  |
|     | List of tables.....   |  |
|     | Damage from external sources.....                                   |  |
|     | References.....   |  |

MIL-STD-797C(SH)  
25 March 1988

4.4 Writing. The SSDCB shall be written at the knowledge level of the diving officer of the watch (officers and senior petty officers). It shall be a factual presentation of the data necessary to prevent or minimize damages that might be sustained by the submarine. Without assuming the form of an instruction manual, pertinent information shall be conveyed clearly and succinctly, substantiated by illustrations, if necessary. Design limitations and potentially unsafe operations shall be clearly delineated. No cartoons, illustrations, or diagrams existing in training aid booklets or in ship information books shall be duplicated in the SSDCB.

4.5 Format for illustrations and diagrams. The format for illustrations and diagrams listed as camera ready components as shown in table I, namely, items 2 through 8 listed as components of part 1, and items 3 through 21 listed as components of part 2, shall be in general accordance with MIL-M-38784 and with the examples as shown in the type book provided by NAVSEA. Component parts of wiring and schematic diagrams shall be symbolized in accordance with ANSI Y32.2 and ANSI Y32.9.

4.6 SSDCB camera ready components. A set of SSDCB components shall be as shown in table I, which provides an inventory of the required camera ready elements for the submarine master copy of the SSDCB.

TABLE I. Inventory of required camera ready components.

Components of part 1

| Item                      | Title  | Paragraph no. |
|---------------------------|--|---------------|
| 1 Printed text and tables | Camera ready text and tables                                 | Numerous      |
| 2 Illustration            | Theoretical flooding rate versus depth (2 and 4 inch hole)   | 5.2.2.5       |
| 3 Illustration            | Flooding rate versus depth (5 to 12 inch internal pipe size) | 5.2.2.5       |
| 4 Bar graph               | Numbers of reported incidents by fire class                  | 5.2.2.6       |
| 5 Illustration            | Material property damage report                              | 5.2.2.6       |
| 6 Graph                   | Effects of carbon monoxide on personnel                      | 5.2.2.6       |
| 7 Illustration and graph  | High velocity fog pattern                                    | 5.2.2.6       |
| 8 Illustration and graph  | Low velocity fog pattern                                     | 5.2.2.6       |
| 9 Illustration            | All purpose nozzle   | 5.2.2.6       |

MIL-STD-797C(SH)

25 March 1988

TABLE I. Inventory of required camera ready components. - Continued

## Components of part 1

| Item | Title   | Paragraph no. |
|------|---|---------------|
| 10   | Graph<br>Half life increments for<br>contaminant removal  | 5.2.2.9       |
| 11   | Graph<br>Carbon dioxide buildup in<br>percent versus time and<br>number of personnel                        | 5.2.2.11      |
| 12   | Graph<br>Personnel versus time for<br>reduction of oxygen percentage<br>from 21 to 18.4                     | 5.2.2.11      |
| 13   | Graph<br>Relationship of oxygen partial<br>pressure and volume concentra-<br>tion to total pressure         | 5.2.2.11      |
| 14   | Graph<br>Personnel versus time for oxygen<br>bank exhaustion  | 5.2.2.11      |
| 15   | Graph<br>Personnel versus time to reach 5<br>atmospheres using air bleed -<br>bow compartment (typical)     | 5.2.2.11      |
| 16   | Graph<br>Personnel versus time for service<br>air bank depletion using air<br>bleed - engine room (typical) | 5.2.2.11      |
| 17   | Graph<br>Personnel versus time before<br>exhaustion of lithium hydroxide                                    | 5.2.2.11      |
| 18   | Graph<br>Toxicity of carbon dioxide short<br>time exposures   | 5.2.2.11      |
| 19   | Graph<br>Toxicity of carbon dioxide long<br>time exposures  | 5.2.2.11      |
| 20   | Graph<br>Personnel versus time to reach 5<br>atmospheres using EAB masks -<br>bow compartment (typical)     | 5.2.2.11      |
| 21   | Graph<br>Personnel versus time to reach<br>3.2 atmospheres using EAB masks<br>- engine room (typical)       | 5.2.2.11      |

MIL-STD-797C(SH)  
25 March 1988

TABLE I. Inventory of required camera ready components. - Continued

Components of part 2

| Item                      | Title  | Paragraph no. |
|---------------------------|--|---------------|
| 1 Printed text and tables | Camera ready text tables   | Numerous      |
| 2 Table                   | Allowed and on board quantities of damage control equipment                            | 5.4.2.3       |
| 3 Illustration            | Keel depth versus percent of forward MBT volume blown using EMBT blow                  | 5.4.2.4       |
| 4 Illustration            | Submerged operating envelope   | 5.4.2.4       |
| 5 Illustration            | Time history of events for a stern plane dive jam                                      | 5.4.2.4       |
| 6 Illustration            | Time history of events for a stern plane rise jam                                      | 5.4.2.4       |
| 7 Illustration            | Computer predicted trajectories showing effectiveness of recovery measures             | 5.4.2.4       |
| 8 Illustration            | Effect in delay in EMBT blow 15, 30 or 60 seconds                                      | 5.4.2.5       |
| 9 Illustration            | Theoretical effect of time to secure flooding on depth from which recovery can be made | 5.4.2.5       |
| 10 Illustration           | Theoretical effect of speed on ability to recover versus time to secure flooding       | 5.4.2.5       |
| 11 Illustration           | Effect of speed on recoverability with or without EMBT blow                            | 5.4.2.5       |
| 12 Illustration           | Load supportability characteristics  | 5.4.2.5       |
| 13 Diagram                | Hull penetrations that may be open while submerged below periscope depth               | 5.4.2.5       |

MIL-STD-797C(SH)  
25 March 1988

TABLE I. Inventory of required camera ready components. - Continued

Components of part 2

| Item | Title  | Paragraph no. |
|------|--|---------------|
| 14   | Illustration<br>SS power generation and distribution system  | 5.4.2.7       |
| 15   | Illustration<br>CO <sub>2</sub> removal rate (to 2.5 percent) versus initial concentration using pump bleed cycling                              | 5.4.2.9       |
| 16   | Illustration<br>CO removal rate (to 25 parts per million) versus initial concentration using pump bleed cycling and CO-H <sub>2</sub> burners    | 5.4.2.9       |
| 17   | Illustration<br>CO <sub>2</sub> removal rate (to 1 percent) versus initial concentration using pump bleed cycling scrubbers and LiOH receptacles | 5.4.2.9       |
| 18   | Illustration<br>Cross curves of stability  | 5.4.2.12      |
| 19   | Illustration<br>Plot of minimum GM while trimming down   | 5.4.2.12      |
| 20   | Illustration<br>Equilibrium polygon  | 5.4.2.12      |
| 21   | Illustration<br>Equilibrium polygon (example)  | 5.4.2.12      |
| 22   | Illustration<br>Ships variable ballast location form   | 5.4.2.12      |
| 23   | Illustration<br>Ships variable ballast location form (example)   | 5.4.2.12      |
| 24   | Illustration<br>Statical stability curve   | 5.4.2.12      |
| 25   | Illustration<br>Form characteristics   | 5.4.2.12      |
| 26   | Illustration<br>Location of draft marks  | 5.4.2.12      |
| 27   | Illustration<br>Moment diagram   | 5.4.2.12      |

MIL-STD-797C(SH)

25 March 1988

4.7 Responsibility for preparation of the SSDCB during new submarine construction.

4.7.1 NAVSEA. NAVSEA shall be responsible for preparing the format and contents of part 1 and the general outline of part 2. NAVSEA shall furnish a copy of the type book to the LBY via the SUPSHIP.

4.7.2 LBY. The LBY is responsible for preparing the specific contents and obtaining NAVSEA's approval of part 2 for each of the submarines it builds. The LBY shall forward an example copy of the complete SSDCB to the follow yards.

4.7.3 Follow yard. The follow yard shall use the provided example of the SSDCB to prepare a damage control book for each of the submarines which it is building. The follow yard is responsible for preparing the specific contents of part 2.

4.8 SSDCB preparation instructions.

4.8.1 Printing of book. The preparation of the text and tables shall be in accordance with MIL-M-38784.

4.8.2 Illustrations. Illustrations shall be prepared on mylar or equivalent material. All line work shall be drawn with pen and ink, using only black ink that will adhere to the mylar, will not flake off, and will reproduce a good image. No free hand shall be permitted.

4.8.3 Lettering. All letters, words and numbers on illustrations shall be klrtype or equivalent material. The size and type of lettering shall be as shown in table II as follows:

- (a) NG - New gothic
- (b) MG - Monotone gothic
- (c) LG - Lining gothic

TABLE II. Lettering and numbers, final size and type.

| Legend                                      | Final size and type |
|---|---------------------|
| Upper title block:                          | 10MG                |
| "Confidential" (omit if unclassified)       | 24LG                |
| Ship number                                 | 10MG                |
| Ship class                                  | 10MG                |
| "DAMAGE CONTROL DIAGRAM"                    | 36LG                |
| Diagram number                              | 14MG                |
| Diagram name                                |                     |
| Lower title block:                          |                     |
| "NAVAL SEA SYSTEMS COMMAND"                 | 12MG                |
| Date  | 8NG                 |
| "OVERHAUL ACTIVITY CORRECT MASTER PLASTICS" | 8NG                 |
| Frame numbers                               | 8NG                 |
| Compartment names                           | 6NG or 8NG          |
| Compartment numbers                         | 6NG                 |

MIL-STD-797C(SH)  
25 March 1988

TABLE II. Lettering and numbers, final size and type. - Continued

| Legend                      | Final size and type |
|-----------------------------|---------------------|
| Fitting numbers             | 6NG or 8NG          |
| "KEY"                       | 12MG                |
| Description of symbols      | 12MG                |
| "NOTE"                      | 12MG                |
| Description                 | 8NG                 |
| Capacities (moment diagram) | 8NG                 |
| Miscellaneous               | <u>1/</u>           |

1/ Lettering numbers, and so forth, not covered above shall be of such size that they are legible and consistent with space available on illustrations.

4.8.4 Folding and punching of diagrams. Diagrams shall be folded in accordance with MIL-M-38784 and shall be punched to suit the binders.

4.8.5 Pages within chapters numbering. Page numbering within chapters numbering shall be in accordance with MIL-M-38784.

4.8.6 Paragraph and side head numbering. Paragraph and side heads shall be numbered in accordance with MIL-M-38784.

4.8.7 Ship identification. Part 1 will not be identifiable to a specific submarine class or hull. Part 2, the ship's hull number shall be placed on the corner opposite the binder edge.

4.8.8 Security classification. The SSDCB, part 1, and part 2 are classified "Confidential". The following instructions shall apply:

- (a) The binder and inside title page for parts 1 and 2 shall be prepared in accordance with the formats shown on figures 1 and 7.
- (b) Classification procedures for individual paragraphs and tables within the text, and for all illustrations and diagrams shall be in accordance with MIL-M-38784.
- (c) Security classification or declassification and distribution instructions as specified in this section shall be printed on the cover and the general layout of the cover shall be in accordance with MIL-M-38784.

4.9 TMIN. The SUPSHIP or overhaul yard shall be requested to obtain a TMIN for the damage control book of each ship, subsequent permanent change or revision. They shall request the number from Naval Ship Weapon Systems Engineering Station (Code 5712), NSDSA, Port Hueneme, CA 93043.

MIL-STD-797C(SH)  
25 March 1988

#### 4.10 Procedure for updating planning yard master copy book.

4.10.1 Change in ship's classification or numbers on diagrams. When the classification or ship's number is changed, the upper identifying title block on the diagram shall be changed in accordance with the following:

(a) Before change in classification:

|               | <u>Size of klrtype</u> |
|---------------|------------------------|
| SSN 679       | 36LG                   |
| SSN 637 class | 10MG                   |

(b) After change in classification:

|               | <u>Size of klrtype</u> |
|---------------|------------------------|
| SSN 609       | 36LG                   |
| (EX SSBN 609) | 10MG                   |
| SSN 609       | 10MG                   |

4.10.2 Pages to be revised. All pages, including the title page, having changes, shall be retyped.

4.11 Responsibility for preparing changes and revisions to the SSDCB during the life cycle of a submarine.

4.11.1 NAVSEA. NAVSEA shall be solely responsible for preparing changes and revisions to part 1 and general information in part 2.

4.11.2 Planning yard. Between overhauls the planning yard shall be responsible for preparing, reproducing and distributing authorized changes pertaining to the damage control book for each submarine assigned. Changes to part 1 shall not be made without prior NAVSEA authorization.

4.11.3 Overhaul yard. During the overhaul, the overhaul yard shall update part 2 of the SSDCB to reflect submarine hardware changes accomplished during the overhaul. In addition the overhaul yard shall incorporate NAVSEA authorized changes to part 1 submitted through the planning yard or SUPSHIP.

#### 4.12 Binders.

4.12.1 Temporary binders. A semi-cardboard binder, appropriately classified, loose-leaf, three ring type, shall be required for the distribution of the preliminary SSDCB.

MIL-STD-797C(SH)

25 March 1988

4.12.2 Permanent binder. When the book is final, the book shall receive a permanent binder. This binder shall be made of tennite or equivalent and provided with 3 holes 3/16-inch in diameter and spaced 4-1/4-inches on center for insertion of metal screw post. The binder shall be green to indicate classification, lettering black with the NAVSEA seal silkscreened and centered on the face. In addition, the word "CONFIDENTIAL" shall be silkscreened in black, in 30 pt. alternate Gothic number 3 type, all caps, at the top left and bottom right of front and back covers.

4.13 Tab sheets. The chapters in part 1 shall be identified by blue tab sheets with green used in part 2.

4.14 Distribution of the final SSDCB. Distribution of the final SSDCB shall be in accordance with existing Navy requirements and appendix A.

4.15 Packaging and shipping.

4.15.1 Packaging. The original camera ready components of the SSDCB, parts 1 and 2, as shown in table I, shall be packaged flat, and reproduced copies shall be folded as necessary or packaged flat.

4.15.2 Shipping. Camera ready reproduced SSDCB material shall be packaged and shipped by registered mail in accordance with the current security regulations.

4.16 Quality assurance provisions. Quality assurance provisions shall be accomplished in accordance with MIL-M-38784.

4.17 Deliverable data. Deliverable data prepared in accordance with the requirements of sections 4 and 5 of this standard and identified on the DD Form 1423, Contract Data Requirements List, shall be prepared in accordance with the instructions in the applicable DIDs (see 6.2).

## 5. DETAILED REQUIREMENTS

5.1 SSDCB, part 1. This part is applicable to all submarines except NR-1 and AGSS-555. The text, tables, diagrams and illustrations shall be prepared as a cohesive unit. The text shall discuss damage control capabilities and procedures emphasizing emergencies peculiar to submarines. Tables shall be prepared to present factual data when this type of presentation is more efficient than a lengthy word description. Diagrams and illustrations shall be prepared to support the text and shall be confined to graphical information not adequately covered elsewhere (that is, in training booklets, ship information books, ship systems manuals, reactor plant manual, electrical plant operating manual, and technical manuals). All figures and tables shall be placed in proximity to the supporting text. Material shall be presented in such a manner as to provide a maximum ease of comprehension and visual impact.

5.2 Contents of part 1. The SSDCB, part 1, shall contain the following chapters arranged in an appropriate order to provide complete information for an understanding of the submarine's damage control capabilities and their employment in preventing, controlling and recovering from emergencies.

MIL-STD-797C(SH)  
25 March 1988

- Front matter
- 1- Introduction
  - 2- Damage control communications
  - 3- Damage control equipment, uses and locations
  - 4- Loss of control surface response
  - 5- Flooding
  - 6- Fire fighting
  - 7- Electrical equipment emergencies
  - 8- High pressure gas and main steam system emergencies
  - 9- Atmosphere contamination and ventilation emergencies
  - 10- Damage from external sources
  - 11- Distressed submarine/DSRV operations
  - 12- Ship characteristics
  - 13- Damage restricting ship's operations

5.2.1 Front matter. Standard front matter, listed in the normal sequence of appearance, shall be as specified in 5.2.1.1 through 5.2.1.10.

5.2.1.1 Cover page.

5.2.1.2 Title page. The title page shall be as shown on figure 1.

5.2.1.3 List of effective pages. List of effective pages shall be as shown on figure 2.

5.2.1.4 Record of changes. The change record shall be as shown on figure 3.

5.2.1.5 Part 1, table of contents. The table of contents shall be as shown on figure 4. It shall follow the title page of each chapter, appendix and major division of the book.

5.2.1.6 Chapter table of contents. The chapter table of contents shall be as shown on figure 5.

5.2.1.7 List of illustrations. An individual list of illustrations shall appear with each chapter and major division of the book.

5.2.1.8 List of diagrams. An individual list of diagrams shall appear with each chapter and major division of the book.

5.2.1.9 List of tables. An individual list of tables shall appear with each chapter and major division of the book.

5.2.1.10 Preface. The preface shall be as shown on figure 6.

MIL-STD-797C(SH)  
25 March 19885.2.2 Text.

5.2.2.1 Introduction. The introduction shall describe part 1 and shall state the basic purpose, philosophy, and scope of the SSDCB. In brief, it shall state that the book is not intended as a basic textbook to be used to qualify ship's personnel in the various aspects of damage control but, rather, presents facts which, when assimilated, will broaden its readers' understanding of the damage control capabilities and limitation of their ship; but its use should be encouraged for the on board qualification and requalifications programs and as a reference in basic and advanced submarine schools. It shall emphasize that, from a submarine standpoint, damage control consists of actions which cope with an emergency yet enable the ship's crew to retain submerged ship control or to return it to, and retain it in, a surfaced condition. The introduction shall list the emergencies to be discussed in the remainder of the book. Normally, the introduction shall contain neither illustrations nor tabular material.

5.2.2.2 Damage control communications. This chapter of the book shall examine networks that are most likely to be used for damage control and emergency communication, and shall discuss their vulnerability to disruption and interference. Normally, this chapter shall not contain illustrations since the physical configurations of the various communication and alarm circuits are covered elsewhere and ship's personnel are considered to be familiar with them.

5.2.2.3 Damage control equipment, uses and locations. This chapter of the damage control book shall discuss ship's equipment that can be used to reduce the seriousness and extent of an emergency, protect the crew, and to effect temporary repairs. It shall describe the equipment, emphasizing capabilities and limitations. However, in the case of radiac, or in situations involving first aid or diving equipment, no attempt shall be made to include equipment operating procedures, applicable training publications, or manufacturer's instructions. Specific locations of damage control equipment shall not be included, but shall be placed in part 2.

5.2.2.4 Loss of control surface response. This chapter shall discuss:

- (a) Possible causes of loss of plane and rudder response.
- (b) Means to eliminate or reduce the possibility of such loss.
- (c) The submarine's reaction to the loss of plane and rudder response.

This chapter shall not include illustrations of ship's systems, unless they present material of value to understanding damage control problems and are not repeated in other publications; such as a simplified illustration showing rudder and plane hydraulic pump power sources.

5.2.2.5 Flooding. This chapter, one of the most important in the entire damage control book, shall complement but not duplicate the ship's flooding bill. It shall outline steps that can be taken by the ship to reduce its flooding potential. It shall discuss ship evolutions that can be restricted to increase ship's safety when maximum flooding resistance is required. This chapter shall also discuss the effect of secured sea systems on ship's operating characteristics, and steps that can be taken to recover from a flooding emergency. Also

## MIL-STD-797C(SH)

25 March 1988

included is a discussion on non-isolable flooding and response to non-isolable flooding. A discussion of the effects of flooding while on the surface at sea and in port shall be included with emphasis on prevention. In addition, illustrations showing theoretical flood rate versus depth (2 and 4 inch hole) and flooding rate versus depth (5 to 12 inch internal pipe size) shall be included.

5.2.2.6 Fire fighting. This chapter based on the premise that any fire can seriously damage or destroy the ship (if prompt corrective action is not initiated), shall discuss shipboard extinguishing agents and equipment, provide guidance in firefighting techniques, locate areas where fire hazards are greatest, and discuss practical applications of fire procedures in reaction to representative fires. The chapter shall include illustrations describing:

- (a) Numbers of reported incidents by fire class.
- (b) Material property damage report.
- (c) Effects of carbon monoxide on personnel.
- (d) High velocity fog pattern.
- (e) Low velocity fog pattern.
- (f) All purpose nozzle.

5.2.2.7 Electrical equipment emergencies. This chapter shall complement but not duplicate the electrical plant operating manual. It shall discuss the reliability of the ship's electrical systems, and the mechanics of isolating specific items of electrical equipment. It shall identify electrical loads that will be lost as a result of securing various components in the electrical system and emphasize the effect on ships' recovery ability.

5.2.2.8 High pressure gas and main steam system emergencies. This chapter shall discuss possible effects of high-pressure gas system emergency on equipment and personnel; steam system emergencies (if applicable) and the cause and prevention of compression ignition in air systems and contamination of oxygen systems.

5.2.2.9 Atmosphere contamination and ventilation. This chapter shall complement but not duplicate the information in accordance with S9510-AB-ATM-010. It shall discuss toxic gases, aerosols, and radioactive contaminations (if applicable) that may exist in the atmosphere of a submerged submarine. It also shall discuss the damage control application of shipboard contaminant control and detection equipment. This chapter shall not incorporate directives that are promulgated by other sources, for example, atmosphere control procedures and limits which are contained in the above mentioned publication and other submarine operating procedures. This chapter shall include an illustration describing half-life increments for contamination removal.

5.2.2.10 Damage from external sources. This chapter, shall identify areas of possible damage to the ship caused by severe pressure changes resulting from explosion, excessive depth, grounding, stranding, or collision. It shall include discussions of types of damage that can occur in these areas and how to recognize and assess them. The purpose of this chapter shall be to establish a realistic level of confidence in the ship and to alert the crew that specific hull emergencies may produce side effects which may not be readily apparent.

MIL-STD-797C(SH)  
25 March 1988

5.2.2.11 Distressed submarine/DSRV operations. This chapter shall discuss the DSRV mating and rescue operations relative to capabilities of the vehicle, mother submarine and distressed submarine. It shall describe the initial conditions, survival capabilities and limitations, air revitalization, communication, habitability, and mating. The chapter shall include illustrations describing:

- (a) Carbon dioxide buildup in prevent versus time and number of personnel.
- (b) Personnel versus time for reduction of oxygen percentage from 21 to 18.4.
- (c) Relationship of oxygen partial pressure and volume concentration to total pressure.
- (d) Personnel versus time for oxygen bank exhaustion.
- (e) Personnel versus time to reach 5 atmospheres using air bleed - bow compartment (typical).
- (f) Personnel versus time for service air bank depletion using air bleed - engine room (typical).
- (g) Personnel versus time before exhaustion of lithium hydroxide.
- (h) Toxicity of carbon dioxide short time exposures.
- (i) Toxicity of carbon dioxide long time exposures.
- (j) Personnel versus time to reach 5 atmospheres using EAB masks - bow compartment (typical).
- (k) Personnel versus time to reach 3.2 atmospheres using EAB masks - engine room (typical).

5.2.2.12 Ship characteristics. This chapter shall discuss stability and equilibrium, density of liquids and storage capacities of life support systems.

5.2.2.13 Damage restricting ship's operations. This chapter shall discuss damage that would restrict the ship's speed, maneuvering and depth capabilities.

5.2.2.14 Addenda. Addenda material is prohibited.

5.3 Part 2. The text, tables, diagrams and illustrations shall be prepared as a cohesive unit. The text shall discuss damage control and associated problems peculiar to the individual submarine. When a lengthy word description proves to be inefficient, tables shall be prepared to present factual data. Diagrams and illustrations shall be prepared to support the text and shall confine themselves to data not adequately covered elsewhere (example: training aid booklets, ship information books, ship system manuals, operating manuals, general information books, and technical manuals). It shall contain sufficient text to explain considerations that are submarine specific. This shall vary according to the degree of uniqueness of the submarine.

MIL-STD-797C(SH)

25 March 1988

5.4 Contents of part 2. SSDC, part 2, shall contain the following chapters, arranged in appropriate order to provide specific operating limits and recovery measures which can be used to confidently understand the individual ship's damage control capabilities:

- Front matter
- 1- Introduction
- 2- Damage control communications
- 3- Damage control equipment locations
- 4- Loss of control surface response
- 5- Flooding
- 6- Fire fighting
- 7- Electrical equipment emergencies
- 8- High pressure gas and main steam system emergencies
- 9- Atmosphere contamination and ventilation emergencies
- 10- Damage from external sources
- 11- Distressed submarine/DSRV operations
- 12- Ship characteristics

5.4.1 Front matter. Standard front matter, listed in the normal sequence of appearance, shall be as specified in 5.4.1.1 through 5.4.1.10.

5.4.1.1 Cover page.

5.4.1.2 Title page. The title page shall be as shown on figure 7.

5.4.1.3 List of effective pages. The list of effective pages shall be as shown on figure 2.

5.4.1.4 Record of changes. The record of changes shall be as shown on figure 3.

5.4.1.5 Part 2, table of contents. The table of contents shall be as shown on figure 4.

5.4.1.6 Chapter table of contents. The chapter table of contents shall be as shown on figure 5.

5.4.1.7 List of illustrations. An individual list of illustrations shall appear with each chapter and major division of part 2.

5.4.1.8 List of diagrams. An individual list of tables shall appear with each chapter and major division of part 2.

5.4.1.9 List of tables. An individual list of tables shall appear with each chapter and major division of part 2.

5.4.1.10 Preface. This page shall be as shown on figure 6.

MIL-STD-797C(SH)  
25 March 1988

5.4.2 Text.

5.4.2.1 Introduction. The introduction shall state the basic purpose, philosophy, and scope of the SSDCB, part 2. It shall explain that part 2 shall discuss damage control systems and equipment that are peculiar to a specific class of, or to a singular, submarine. The introduction shall list the material to be included in part 2 of the SSDCB.

5.4.2.2 Damage control communications. This chapter of part 2 shall discuss communications and alarm circuits peculiar to a specific class of, or to a singular, submarine. Normally, this chapter shall not contain illustrations since the physical configurations of the various communications and alarm circuits are covered elsewhere.

5.4.2.3 Damage control equipment locations. This chapter of part 2 shall provide a list of damage control equipment that is peculiar to a class of submarine or to a singular submarine. The list shall include all assigned damage control equipment, amount of equipment on board, and the compartment where each item is stowed or installed. A table (see figure 8) shall be used as an example for constructing the list.

5.4.2.4 Loss of control surface response. This chapter of part 2 shall discuss specific results applicable to a class of submarines or individual submarine which will result in the loss of plane and rudder response and the specific corrective actions to be taken in the event of such loss. It shall describe, for a class or individual submarine, the effectiveness of EMBT blow system at various depths, present the applicable submerged operating envelope, and define the particular jam dive and jam rise boundaries. In addition, recommended rudder deflection action and recommended recovery measures from a stern plane jam shall be presented. This chapter shall include class and individual submarine specific graphs and curves which present:

- (a) Keel depth versus percent of forward MBT volume blown using EMBT blow.
- (b) Submerged operating envelope.
- (c) Time history of events for a stern plane dive jam.
- (d) Time history of events for a stern plane rise jam.
- (e) Computer predicted trajectory showing effectiveness of recovery measures.

Other class or individual submarine specific graphs and curves which present data essential to the understanding of damage control problems which are not repeated in other publications shall be included.

5.4.2.5 Flooding. This chapter of part 2 shall provide class or individual submarine specific characteristics that support the SSDCB, part 1, chapter 5. The chapter shall illustrate the reaction of the ship to different flooding emergencies including the effect of various emergency recovery actions. Load supportability curves shall graphically display the ship's ability to carry additional weight using speed and angle. The chapter shall be supported with an

MIL-STD-797C(SH)  
25 March 1988

adequate number of tables which list all flooding control stations, their locations, method of control, operation, type of opening and parent system. In addition, illustrations shall be provided that shall show the class or individual submarines' hull penetrations, type and size of each penetration, and variables affecting the flooding rate. The following graphs shall be included:

- (a) Effect in delay in emergency main ballast tank blow 15, 30, or 60 seconds.
- (b) Theoretical effect of time secure on depth from which recovery can be made.
- (c) Theoretical effect of speed on ability to recover versus time to secure flooding.
- (d) Effect of speed on recoverability with or without emergency main ballast tank blow.
- (e) Load supportability characteristics.
- (f) Hull penetrations that may be open while submerged below periscope depth.

5.4.2.6 Fire fighting. This chapter, based on the premise that any fire can seriously damage or destroy the ship (if prompt corrective action is not initiated), shall discuss shipboard fire prevention problems and extinguishing agents and equipment that are peculiar to a specific class or individual submarine.

5.4.2.7 Electrical equipment emergencies. This chapter shall discuss the reliability of the ship's electrical systems, and the mechanics of isolating specific items of electrical equipment that are peculiar to a specific class or individual submarine. This chapter shall be supported by an illustration covering SS Power Generation and Distribution System.

5.4.2.8 High pressure gas and main steam system emergencies. This chapter shall discuss the possible effects of gas system emergencies that are peculiar to a specific class or individual submarine.

5.4.2.9 Atmosphere contamination and ventilation. This chapter shall discuss items of shipboard contaminant control, detection equipment and ventilation emergencies that are peculiar to a specific class or individual submarine. The chapter shall be supported by various illustrations including:

- (a) CO<sub>2</sub> removal rate (to 2.5 percent) versus initial concentration using pump bleed cycling.
- (b) CO<sub>2</sub> removal rate (to 25 parts per million) versus initial concentration using pump bleed cycling and CO-H<sub>2</sub> burners.
- (c) CO<sub>2</sub> removal rate (to 1 percent) versus initial concentration using pump bleed cycling scrubbers and LiOH receptacles.

5.4.2.10 Damage from external sources. This chapter shall identify areas of possible damage to the ship caused by severe pressure changes resulting from explosion, excessive depth, grounding, stranding, or collision that are peculiar to a specific class or individual submarine. It shall include discussions of types of damage that may occur in these areas and how to recognize and assess them. This chapter shall include a table that provides recommended ship's speed and depth limitations for damaged masts and antennas.

MIL-STD-797C(SH)  
25 March 1988

5.4.2.11 Distressed submarine/DSRV operations. This chapter shall discuss the DSRV and operations features that are peculiar to a specific class or individual submarine. It shall describe the initial conditions, survival capabilities and limitations, air revitalization, communications, habitability, and mating.

5.4.2.12 Ship characteristics. This chapter shall discuss stability and equilibrium and shall describe storage capacities of life support systems which are peculiar to a specific class or individual submarine. A table shall be supplied that provides storage capacities of life support systems (oxygen banks, air banks, potable water tanks and sanitary tanks). Illustrations shall be included that show the following characteristics:

- (a) Cross curves of stability.
- (b) Plot of minimum GM while trimming down.
- (c) Equilibrium polygon.
- (d) Equilibrium polygon example.
- (e) Ships variable ballast location form.
- (f) Ships variable ballast location form example.
- (g) Statical stability curve.
- (h) Form characteristics.
- (i) Location of draft marks.
- (j) Moment diagram.

5.4.2.13 Addenda. Addenda material is prohibited.

5.5 Content topic depth coverage. A depth of coverage for each damage control topic (see table III) shall be provided by NAVSEA as a guide for establishing the content level of writing. These levels are light treatment (L) which shall denote general information, moderate treatment (M) which is the equivalent to the operator information level, and detailed treatment (D) which is comparable to the maintenance information level. Generally operator and maintenance levels of writing are defined in accordance with MIL-M-15071.

TABLE III. Topic depth coverage.

| Chapter | Topic  | Depth coverage |
|---------|--|----------------|
| 1       | Introduction   | M              |
| 2       | Damage control communications  |                |
|         | MC systems   |                |
|         | Sound powered telephones   | L              |
|         | Alarms   | L              |
|         | Operating procedures   |                |
|         | MC systems   | L              |
|         | Sound powered telephones   | L              |
|         | Alarms   | L              |
|         | Reporting  | L              |
|         | NOTE: Damage control detailed guidance and treatment of the subject is provided in Doctrine for Submarine Interior Communications. |                |











MIL-STD-797C(SH)  
25 March 1988

TABLE III. Topic depth coverage. - Continued

| Chapter | Topic                     | Depth coverage |
|---------|---------------------------|----------------|
|         | Potential flooding damage |                |
|         | Trim system               | L              |
|         | Seawater cooling system   | L              |
|         | Auxiliary fresh water     | L              |
|         | Missile tube muzzle door  | L              |
|         | Torpedo tubes             | L              |
|         | Signal ejector            | L              |
|         | Trash disposal unit       | L              |

## 6. NOTES

6.1 Intended use. This standard is intended to be used to establish the requirements for the preparation, reproduction, and revision of the new two-part SSDCB, which covers all classes of submarines, both conventional and nuclear powered.

6.2 Data requirements. When this standard is used in an acquisition which incorporates a DD Form 1423, Contract Data Requirements List (CDRL), the data requirements identified below shall be developed as specified by an approved Data Item Description (DD Form 1664) and delivered in accordance with the approved CDRL incorporated into the contract. When the provisions of DoD FAR Supplement, Part 27, Sub-Part 27.410-6 (DD Form 1423) are invoked and the DD Form 1423 is not used, the data specified below shall be delivered by the contractor in accordance with the contract or purchase order requirements. Deliverable data required by this standard is cited in the following paragraph.

| <u>Paragraph no.</u> | <u>Data requirement title</u>                  | <u>Applicable DID no.</u> | <u>Option</u> |
|----------------------|--|---------------------------|---------------|
| 4.17                 | Standard Submarine Damage Control Book (SSDCB) | DI-TMSS-80513             | ----          |

(Data item descriptions related to this standard, and identified in section 6 will be approved and listed as such in DoD 5010.12-L., AMSDL. Copies of data item descriptions required by the contractors in connection with specific acquisition functions should be obtained from the Naval Publications and Forms Center or as directed by the contracting officer.)

MIL-STD-797C(SH)  
25 March 1988

6.3 Subject term (key word) listing.

Advance change notice (ACN)  
Damage control communications  
Damage control, submarines  
Deep submergence rescue vehicle (DSRV)  
Emergency assessment, submarine  
Life-cycle maintenance  
Technical manual deficiency/evaluation report (TMDER)  
Technical manual identification number (TMIN)

6.4 Changes from previous issue. Asterisks are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Preparing activity:  
Navy - SH  
(Project TMSS-N177)

MIL-STD-797C(SH)  
25 March 1988

**CONFIDENTIAL**

STANDARD SUBMARINE DAMAGE CONTROL BOOK  
FOR SSN'S AND SSBN'S

FOR  
DEPARTMENT OF THE NAVY  
NAVAL SEA SYSTEMS COMMAND  
WASHINGTON, D.C.  
1984

SPECIAL HANDLING REQUIRED  
NOT RELEASABLE TO FOREIGN NATIONALS

FURTHER DISSEMINATION ONLY AS DIRECTED BY  
COMNAVSEASYSOM (1984) OR HIGHER DOD AUTHORITY

CLASSIFIED BY: DD254 #00024-82-C-2003  
DTD 30 SEPT 1981 AND MULTIPLE SOURCES  
DECLASSIFY ON: OADR

THIS DOCUMENT SHALL NOT BE USED AS A BASIS  
FOR DERIVATIVE CLASSIFICATION GUIDANCE.

**CONFIDENTIAL**

FIGURE 1. Example - Part 1 title page.

MIL-STD-797C(SH)  
25 March 1988

Publication number

List of effective pages

Dates of issue for original and changed pages are:

Original ..0.. 3 Jan 86

Change ..1.. 10 Feb 88

Change ..2.. 15 May 93

Total number of pages in this publication is 450 consisting of the following:

| Page<br>no.      | * Change<br>no. | Page<br>no.      | * Change<br>no. |
|------------------|-----------------|------------------|-----------------|
| Title.....       | 2               | 2-3.....         | 0               |
| A.....           | 2               | 2-4.....         | 1               |
| 1-1.....         | 0               | 3-1.....         | 0               |
| 1-2.....         | 1               | 3-2.....         | 1               |
| 1-3.....         | 0               | 3-2.1.....       | 2               |
| 1-4 1-5.....     | 2               | 3-2.2 Blank..... | 2               |
| 1-6 Blank.....   | 2               | 3-3.....         | 0               |
| 2-1.....         | 2               | 3-4.....         | 0               |
| 2-2.....         | 2               | 4-1.....         | 0               |
| 2-2.1.....       | 2               | 4-2.....         | 0               |
| 2-2.2 Blank..... | 2               | 5-1.....         | 1               |
|                  |                 | 5-2.....         | 1               |

\* Zero in this column indicated an original page.

Change 2

FIGURE 2. Example of list of effective pages.



MIL-STD-797C(SH)  
25 March 1988

STANDARD SUBMARINE DAMAGE CONTROL BOOK

Table of Contents

NOTE

Some chapters of this book have two parts, each with a separate table of contents and lists of illustrations, diagrams (where applicable), and tables.

| <u>Chapter</u> | <u>Title</u>  | <u>Page</u> |
|----------------|---|-------------|
|                | Procedure for Revision and Handling                       |             |
|                | The Standard Submarine Damage Control Book .....          | iii         |
|                | Record of Changes .....                                   | v           |
|                | Preface .....   | vii         |
|                | Table of Contents .....                                   | ix          |
| 1              | Introduction .....  | 1-1         |
| 2              | Damage Control Communications .....                       | 2-1         |
| 3              | Damage Control Equipment, Uses and Locations .....        | 3-1         |
| 4              | Loss of Control Surface Response .....                    | 4-1         |
| 5              | Flooding .....  | 5-1         |
| 6              | Firefighting .....  | 6-1         |
| 7              | Electrical Equipment Emergencies .....                    | 7-1         |
| 8              | High Pressure Gas and Main Steam System Emergencies ..... | 8-1         |
| 9              | Atmosphere Contamination and Ventilation .....            | 9-1         |
| 10             | Damage from External Sources .....                        | 10-1        |
| 11             | Distressed Submarine/DSRV Operations .....                | 11-1        |
| 12             | Ship Characteristics .....                                | 12-1        |
| 13             | Damage Restricting Ship's Operations .....                | 13-1        |

FIGURE 4. Example of SSDCB table of contents.

MIL-STD-797C(SH)  
25 March 1988

CHAPTER 2

DAMAGE CONTROL COMMUNICATIONS

Table of Contents

| <u>Section</u> | <u>Title</u>   | <u>Page</u> |
|----------------|--|-------------|
| 2.1            | Introduction .....   | 2-1         |
| 2.2            | MC Systems .....   | 2-2         |
| 2.2.1          | General Announcing Circuit (1MC) .....                     | 2-2         |
| 2.2.2          | Engineer's Announcing Circuit (2MC) .....                  | 2-2         |
| 2.2.3          | Emergency Report Circuit (4MC) .....                       | 2-2         |
| 2.2.4          | Submarine Control Announcing Circuit (7MC) .....           | 2-3         |
| 2.3            | Sound-Powered Telephone Systems .....                      | 2-4         |
| 2.3.1          | Captain's Battle and Control Circuit (JA) .....            | 2-4         |
| 2.3.2          | Special Purpose Circuits .....                             | 2-4         |
| 2.4            | Emergency Alarms .....                                     | 2-5         |
| 2.5            | Emergency Communications During Overhaul .....             | 2-6         |
| 2.6            | Damage Control Communications Operating Procedures .....   | 2-7         |
| 2.6.1          | MC Systems Operating Procedures .....                      | 2-7         |
| 2.6.2          | Sound-Powered Telephone Systems Operating Procedures ..... | 2-7         |
| 2.6.3          | Emergency Alarms Operating Procedures .....                | 2-7         |
| 2.6.4          | Emergency Reporting Operating Procedures .....             | 2-8         |
|                | References .....   | 2-9         |

FIGURE 5. Example of chapter table of contents.

MIL-STD-797C(SH)  
25 March 1988

## PREFACE

The three basic objectives of damage control -- to take all practicable preliminary measures before damage occurs, to minimize and localize such damage when it occurs, and to accomplish emergency repairs or restoration after damage occurs -- are cited in Naval Ships Technical Manual, Chapter 079 Vol. II.

Although these objectives apply basically to all naval ships, some ramifications are of secondary importance when applied to submarines. Because the normal habitat of submarines is beneath, rather than upon, the ocean surface, the prime consideration of this book is retaining control of the ship; or if necessary returning the ship to, and maintaining it in a surfaced condition. Once recovery is effected, it is assumed that the ship's force will carry out corrective maintenance which will restore the ship's capability to complete its mission.

## WARNING

The data presented in this book represents the best available information on submarine damage control. Some of the material is theoretical. Some specific examples of emergency control methods have been included. The procedures within must be modified to suit the needs and conditions of the ship and made to adhere to the type commanders' standard operating procedures and emergency bills.

FIGURE 6. Example of preface.

MIL-STD-797C(SH)

25 March 1988

# CONFIDENTIAL

## STANDARD SUBMARINE DAMAGE CONTROL BOOK SSBN 657 (U)

SAMPLE UNCLASSIFIED MARKINGS

FOR  
DEPARTMENT OF THE NAVY  
NAVAL SEA SYSTEMS COMMAND  
WASHINGTON, D.C.  
1984

SPECIAL HANDLING REQUIRED  
NOT RELEASABLE TO FOREIGN NATIONALS

FURTHER DISSEMINATION ONLY AS DIRECTED BY  
COMNAVSEASYSBOM (1984) OR HIGHER DOD AUTHORITY

CLASSIFIED BY: DD254 #00024-82-C-2003  
DTD 30 SEPT 1981 AND MULTIPLE SOURCES  
DECLASSIFY ON: OADR

THIS DOCUMENT SHALL NOT BE USED AS A BASIS  
FOR DERIVATIVE CLASSIFICATION GUIDANCE.

# CONFIDENTIAL

FIGURE 7. Example - Part 2 title page.

MIL-STD-797C(SH)  
25 March 1988

## STORAGE LOCATIONS

| ITEM  | ON BOARD ALLOWANCE | BOW COMP |    |    | OPS COMP |    |    | MSL COMP |    |    | AMR 1 |    | AMR 2 |    | ENG ROOM |    | ENG ROOM LL | MANEU. VERING* | TOTAL ON BOARD* |
|---|--------------------|----------|----|----|----------|----|----|----------|----|----|-------|----|-------|----|----------|----|-------------|----------------|-----------------|
|   |                    | UL       | ML | LL | UL       | ML | LL | UL       | ML | LL | UL    | ML | LL    | UL | ML       | LL |             |                |                 |
| AN/PDR-56 SERIES                              | 3                  |          |    |    |          |    |    |          |    |    |       |    |       |    |          |    |             |                |                 |
| AN/PDR-66 SERIES                              | 1                  |          |    |    |          |    |    |          |    |    |       |    |       |    |          |    |             |                |                 |
| AN/PDR-70                                     | 2                  |          |    |    |          |    |    |          |    |    |       |    |       |    |          |    |             |                |                 |
| DT-304/PDR (FRISKER PROBE)                    | 3                  |          |    |    |          |    |    |          |    |    |       |    |       |    |          |    |             |                |                 |
| CCVD-RM-3C2                                   | 2                  |          |    |    |          |    |    |          |    |    |       |    |       |    |          |    |             |                |                 |
| CCVD-E-140-N (FRISKER PROBE BATTERY OPERATED) | 1                  |          |    |    |          |    |    |          |    |    |       |    |       |    |          |    |             |                |                 |
| COMPUTER INDICATOR CP-297/UD OR EQUIVALENT    | 2                  |          |    |    |          |    |    |          |    |    |       |    |       |    |          |    |             |                |                 |
| DOSIMETER CHARGER PP-43768/PD                 | 4                  |          |    |    |          |    |    |          |    |    |       |    |       |    |          |    |             |                |                 |
| DOSIMETER, INDICATING 0-200MR, IM-9/PD SERIES | 200                |          |    |    |          |    |    |          |    |    |       |    |       |    |          |    |             |                |                 |
| DOSIMETER, INDICATING 0-1R, IM-181/PD         | 5                  |          |    |    |          |    |    |          |    |    |       |    |       |    |          |    |             |                |                 |
| DOSIMETER, INDICATING 0-5R, IM-135 PD         | 5                  |          |    |    |          |    |    |          |    |    |       |    |       |    |          |    |             |                |                 |
| DOSIMETER, INDICATING 0-200R, IM-107/PD       | 5                  |          |    |    |          |    |    |          |    |    |       |    |       |    |          |    |             |                |                 |
| DOSIMETER, INDICATING 0-600R, IM-143/PD       | **                 |          |    |    |          |    |    |          |    |    |       |    |       |    |          |    |             |                |                 |
| DOSIMETER, TESTER, CESIUM                     | 1                  |          |    |    |          |    |    |          |    |    |       |    |       |    |          |    |             |                |                 |
| DOSIMETER, CP-95/PD, READER CASUALTY          | 1                  |          |    |    |          |    |    |          |    |    |       |    |       |    |          |    |             |                |                 |

\*As Determined By Ship's Force

\*\* Authorized Allowance is 0.1x Number Personnel On Board

FIGURE 8. Example - partial submarine damage control equipment list.

MIL-STD-797C(SH)  
25 March 1988

APPENDIX

DISTRIBUTION INSTRUCTIONS

10. SCOPE

10.1 Scope. This appendix furnishes details of the procedures to be followed in the delivery and distribution of the SSDCBs. This appendix is not a mandatory part of the standard. The information contained herein is intended for guidance only.

20. REFERENCED DOCUMENTS

This section is not applicable to this appendix.

30. REQUIREMENTS

30.1 New construction SSDCB. Twelve months prior to delivery of the first submarine of a particular class, the LBY shall submit to NAVSEA Washington, DC (Submarine Director) five printed copies of the SSDCB. At the same time, the LBY shall submit to the follow yards one set of preliminary camera ready components, in accordance with the items as shown in table III of this standard, and one printed copy of the SSDCB to the follow yard.

30.2 Builder sea trials. Two weeks prior to builder sea trials, 10 copies (20 FBMs) shall be delivered to the applicable submarine.

30.3 Final approved SSDCB. Six months after delivery of a new submarine, distribution shall be made to the following:

| <u>Activity</u>   | <u>Number of copies</u> | <u>Material</u>                                   |
|---|-------------------------|---|
| Applicable submarine                                      | (10 SSN)/20 SSBN)       | Printed SSDCBs                                    |
| Planning yard   | 1                       | 1 set master camera ready components<br>(see 4.6) |
| NAVSEA (Submarine Directorate)                            | 2                       | Printed SSDCB                                     |
| NAVSEA technical library                                  | 1                       | Printed SSDCB                                     |
| COMSUBLANT  | 1                       | Printed SSDCB                                     |
| COMSUBPAC   | 1                       | Printed SSDCB                                     |
| Cognizant submarine command                               | 1                       | Printed SSDCB                                     |
| NAVSUBSUPPFAC, New London<br>(for Lant Fleet submarines)  | 1                       | Printed SSDCB                                     |
| NAVSUBSCOL, New London                                    | 5                       | Printed SSDCB                                     |
| NAVSAFECEN  | 1                       | Printed SSDCB                                     |
| SUBBASE, Pearl (for SUBPAC<br>submarines)                 | 1                       | Printed SSDCB                                     |
| Cognizant tender  | 1                       | Printed SSDCB                                     |
| FBM TRACEN, Charleston, SC<br>(for Lant Fleet submarines) | 1                       | Printed SSDCB                                     |

MIL-STD-797C(SH)  
APPENDIX  
25 March 1988

| <u>Activity</u> | <u>Number of copies</u> | <u>Material</u> |
|-----------------|-------------------------|-----------------|
| NAVPUBFORMCEN   | 15                      | Printed SSDCB   |

NOTE: The distribution for one of a kind submarines shall be the same except that procedure outline for the follow shipyards does not apply.

30.4 Changes and revisions. Distribution of changes and revisions shall be made in accordance with 30.3 of this standard.

**INSTRUCTIONS:** In a continuing effort to make our standardization documents better, the DoD provides this form for use in submitting comments and suggestions for improvements. All users of military standardization documents are invited to provide suggestions. This form may be detached, folded along the lines indicated, taped along the loose edge (*DO NOT STAPLE*), and mailed. In block 5, be as specific as possible about particular problem areas such as wording which required interpretation, was too rigid, restrictive, loose, ambiguous, or was incompatible, and give proposed wording changes which would alleviate the problems. Enter in block 6 any remarks not related to a specific paragraph of the document. If block 7 is filled out, an acknowledgement will be mailed to you within 30 days to let you know that your comments were received and are being considered.

**NOTE:** This form may not be used to request copies of documents, nor to request waivers, deviations, or clarification of specification requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

(Fold along this line)

(Fold along this line)

DEPARTMENT OF THE NAVY

COMMANDER  
NAVAL SEA SYSTEMS COMMAND (SEA 5523)  
DEPARTMENT OF THE NAVY  
WASHINGTON, DC 20362 - 5101



NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

OFFICIAL BUSINESS  
PENALTY FOR PRIVATE USE \$300

**BUSINESS REPLY MAIL**  
FIRST CLASS PERMIT NO. 12503 WASHINGTON D. C.

POSTAGE WILL BE PAID BY THE DEPARTMENT OF THE NAVY

COMMANDER  
NAVAL SEA SYSTEMS COMMAND (SEA 5523)  
DEPARTMENT OF THE NAVY  
WASHINGTON, DC 20362 - 5101



# STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

*(See Instructions - Reverse Side)*

|   |   |
|---|---|
| <b>1. DOCUMENT NUMBER</b><br>MIL-STD-797C(SH)   | <b>2. DOCUMENT TITLE</b><br>DAMAGE CONTROL BOOK FOR SUBMARINES, PREPARATION AND REVISION OF   |
| <b>3a. NAME OF SUBMITTING ORGANIZATION</b>  | <b>4. TYPE OF ORGANIZATION (Mark one)</b><br><input type="checkbox"/> VENDOR<br><br><input type="checkbox"/> USER<br><br><input type="checkbox"/> MANUFACTURER<br><br><input type="checkbox"/> OTHER (Specify): _____ |
| <b>5. PROBLEM AREAS</b><br>a. Paragraph Number and Wording:<br><br><br><br><br><br><br><br><br><br>b. Recommended Wording:<br><br><br><br><br><br><br><br><br><br>c. Reason/Rationale for Recommendation: |   |
| <b>6. REMARKS</b><br><br><br><br><br><br><br><br><br><br>   |   |
| <b>7a. NAME OF SUBMITTER (Last, First, MI) - Optional</b>   | <b>b. WORK TELEPHONE NUMBER (Include Area Code) - Optional</b>  |
| <b>c. MAILING ADDRESS (Street, City, State, ZIP Code) - Optional</b>  | <b>8. DATE OF SUBMISSION (YYMMDD)</b>   |