JOINT FLEET MAINTENANCE MANUAL

VOLUME IV

TESTS AND INSPECTIONS

LIST OF EFFECTIVE PAGES

Page Numbers	Change in Effect
i thru iv	Change 5
v thru vi	Change 3
vii thru viii	Change 4
ix thru xx	Change 5
IV-1-1	Change 1
IV-1-2	REV B
IV-1A-1	Change 4
IV-1A-2	Change 2
IV-1A-3 thru IV-1A-4	Change 4
IV-2-1 thru IV-2-4	Change 1
IV-2A-1 thru IV-2A-2	REV B
IV-2B-1 thru IV-2B-2	REV B
IV-2C-1	Change 5
IV-2C-2	REV B
IV-2D-1 thru IV-2D-2	REV B
IV-3-1 thru IV-3-7	Change 4
IV-3-8 thru IV-3-11	Change 3
IV-3-12	Change 2
IV-3A-1	Change 5
IV-3A-2	Change 2
IV-3B-1	Change 5
IV-3B-2	Change 2
IV-3C-1	Change 4
IV-3C-2	Change 2
IV-3D-1	Change 4

Page Numbers	Change in Effect
IV-3D-2	Change 2
IV-3E-1	Change 5
IV-3E-2	Change 2
IV-3F-1	Change 3
IV-3F-2	Change 2
IV-3G-1	Change 5
IV-3G-2	Change 2
IV-4-1	Change 4
IV-4-2	REV B
IV-4-3 thru IV-4-12	Change 4
IV-4A-1	REV B
IV-4A-2	Change 4
IV-4A-3 thru IV-4A-4	REV B
IV-5-1	REV B
IV-5-2 thru IV-5-3	Change 2
IV-5-4	REV B
IV-6-1 thru IV-6-4	REV B
IV-7-1	Change 5
IV-7-2 thru IV-7-4	REV B
IV-7A-1 thru IV-7A-2	REV B
IV-7B-1 thru IV-7B-2	REV B
IV-8-1	REV B
IV-8-2 thru IV-8-3	Change 2
IV-8-4	REV B
IV-9-1 thru IV-9-2	REV B

Page Numbers	Change in Effect
IV-9A-1 thru IV-9A-4	REV B
IV-9B-1 thru IV-9B-2	REV B
IV-9B-3	Change 5
IV-9B-4	REV B
IV-9C-1 thru IV-9C-2	REV B
IV-9D-1 thru IV-9D-3	REV B
IV-9D-4	Change 5
IV-9D-5 thru IV-9D-6	REV B
IV-10-1	Change 3
IV-10-2 thru IV-10-4	Change 4
IV-10-5 thru IV-10-6	Change 2
IV-10-7	Change 3
IV-10-8	Change 4
IV-10-9	Change 5
IV-10-10 thru IV-10-12	Change 4
IV-10A-1 thru IV-10A-2	Change 3
IV-10A-3	Change 2
IV-10A-4	REV B
IV-10B-1 thru IV-10B-2	REV B
IV-10C-1	Change 2
IV-10C-2	REV B
IV-10C-3	Change 4
IV-10C-4	REV B
IV-10D-1 thru IV-10D-4	REV B
IV-10E-1	Change 4
IV-10E-2	REV B
IV-10F-1	Change 4
IV-10F-2	REV B
IV-10G-1 thru IV-10G-2	REV B
IV-10H-1	Change 1

Page Numbers	Change in Effect
IV-10H-2	REV B
IV-11-1 thru IV-11-2	Change 5
IV-11-3 thru IV-11-6	Change 3
IV-11-7	Change 5
IV-11-8	Change 3
IV-12-1 thru IV-12-4	REV B
IV-12A-1 thru IV-12A-2	REV B
IV-12B-1 thru IV-12B-2	REV B
IV-13-1	Change 2
IV-13-2	REV B
IV-13-3 thru IV-13-4	Change 4
IV-13-5 thru IV-13-6	REV B
IV-13-7 thru IV-13-9	Change 4
IV-13-10	REV B
IV-14-1 thru IV-14-2	REV B
IV-15-1 thru IV-15-4	REV B
IV-16-1 thru IV-16-6	REV B
IV-17-1 thru IV-17-10	Change 4
IV-17A-1	Change 5
IV-17A-2	Change 4
IV-17B-1	Change 5
IV-17B-2	Change 4
IV-17C-1 thru IV-17C-2	Change 4
IV-17D-1	Change 5
IV-17D-2	Change 4
IV-17E-1	Change 5
IV-17E-2	Change 4
IV-17F-1	Change 5
IV-17F-2	Change 4
IV-17G-1thru IV-17G-2	Change 4

Page Numbers	Change in Effect
IV-18-1 thru IV-18-2	Change 2
IV-18-3	Change 5
IV-18-4	REV B
IV-18A-1	Change 2
IV-18A-2 thru IV-18A-3	Change 4
IV-18A-4	Change 3
IV-18A-5 thru IV-18A-6	Change 4
IV-18A-7	Change 3
IV-18A-8 thru IV-18A-9	Change 4
IV-18A-10 thru IV-18A-12	Change 3
IV-18B-1 thru IV-18B-3	Change 2
IV-18B-4 thru IV-18B-5	Change 3
IV-18B-6 thru IV-18B-11	Change 4
IV-18B-12	Change 2
IV-18C-1	Change 2
IV-18C-2	Change 4
IV-18C-3	Change 3
IV-18C-4 thru IV-18C-10	Change 4
IV-18C-11	Change 2
IV-18C-12	Change 3
IV-18D-1	Change 2
IV-18D-2	Change 4
IV-18D-3	Change 2
IV-18D-4	Change 3
IV-18D-5 thru IV-18D-7	Change 4
IV-18D-8	Change 3
IV-18D-9	Change 4
IV-18D-10	Change 3
IV-18D-11 thru IV-18D-12	Change 2
IV-18E-1	Change 5

Page Numbers	Change in Effect
IV-18E-2 thru IV-18E-4	Change 2
IV-18F-1	Change 5
IV-18F-2	Change 2
IV-19-1	REV B
IV-19-2	Change 4
IV-19-3 thru IV-19-4	REV B
IV-19A-1	Change 3
IV-19A-2	REV B
IV-19A-3 thru IV-19A-4	Change 3
IV-20-1	Change 4
IV-20-2 thru IV-20-6	REV B
IV-20-7 thru IV-20-8	Change 4
IV-20A-1 thru IV-20A-2	REV B
IV-20B-1 thru IV-20B-2	REV B
IV-21-1 thru IV-21-5	Change 3
IV-21-6	REV B
IV-22-1 thru IV-22-2	REV B
IV-23-1 thru IV-23-3	Change 3
IV-23-4	Change 4
IV- 23-5 thru IV-23-7	Change 3
IV-23-8	REV B
IV-24-1	Change 2
IV-24-2 thru IV-24-6	REV B
IV-25-1 thru IV-25-4	Change 3
IV-25A-1 thru IV-25A-6	Change 3
IV-25A-7 thru IV-25A-8	Change 5
IV-25A-9 thru IV-25A-12	Change 3
IV-26-1 thru IV-26-3	Change 5
IV-26-4	Change 4
IV-26-5	Change 5

Page Numbers	Change in Effect
IV-26-6	Change 4
IV-26-7 thru IV-26-8	Change 2
IV-26A-1	Change 2
IV-26A-2	Change 4
IV-26A-3	Change 2
IV-26A-4	REV B
IV-27-1 thru IV-27-8	Change 4
IV-27A-1 thru IV-27A-2	Change 4
IV-27B-1 thru IV-27B-2	Change 4
IV-27C-1 thru IV-27C-2	Change 4
IV-27D-1 thru IV-27D-2	Change 4

Page Numbers	Change in Effect

JOINT FLEET MAINTENANCE MANUAL

VOLUME IV

TESTS AND INSPECTIONS

TABLE OF CONTENTS

Page No.

LIST OF EFFECTIVE PAGES i

RECORD OF CHANGES v

JOINT FLEET MAINTENANCE MANUAL CHANGE REQUEST FORM vii

CHAPTER 1 - INTRODUCTION

1.1 Purpose IV-1-1

1.2 Scope IV-1-1

1.3 Changes and Corrections IV-1-2

1.4 Request for Copies of the Manual IV-1-2

Appendices
A List of Acronyms IV-1A-1

CHAPTER 2 - FLEET MAINTENANCE ACTIVITY ASSESSMENT

2.1 Purpose IV-2-1
2.1.1 Scope IV-2-1
2.1.2 Applicability IV-2-2

2.2 Assessment Areas IV-2-2

2.3 Assessment Results IV-2-2

2.4 Responsibilities IV-2-2
2.4.1 Type Commander IV-2-2
2.4.2 Fleet Maintenance Activity IV-2-2

2.5 Assessment Findings/Corrective Action IV-2-4
2.5.1 Immediate Corrective Action Required IV-2-4
2.5.2 Corrective Action Required IV-2-4

Appendices
A Typical Core Capability Assessment Areas IV-2A-1
B Typical Core Capability Assessment Projects IV-2B-1
C Sample FMA Assessment Report IV-2C-1
D FMA Assessment Deficiency Format IV-2D-1

CHAPTER 3 - BOILER INSPECTION

3.1 Purpose IV-3-1
3.1.1 Policy IV-3-1

3.2 Types of Boiler Inspections IV-3-1

3.3 Responsibilities IV-3-2

3.3.1 Naval Sea Systems Command IV-3-2
3.3.2 Naval Surface Warfare Center, Carderock Division IV-3-2
3.3.3 Fleet Commander IV-3-3
3.3.4 Regional Maintenance Center IV-3-3
3.3.5 Regional Maintenance Center Commanding Officers IV-3-3
3.3.6 Immediate Superior In Command IV-3-3
3.3.7 Ship Commanding Officer/Officer In Charge/Maintenance Team IV-3-4
3.3.8 Regional Maintenance Center Senior Inspector IV-3-4
3.3.9 Steam Generating Plant Inspector IV-3-4

3.4 Inspection Scheduling IV-3-5

3.5 Boiler Safety Procedures IV-3-5

3.6 Boiler Inspections and Requirements IV-3-6
3.6.1 Routine Inspection IV-3-6
3.6.2 Pre-start of Availability Inspection IV-3-6
3.6.3 Start of Availability Inspection IV-3-7
3.6.4 Strength and Integrity Inspection IV-3-7
3.6.5 Industrial Support Visit Inspection IV-3-7
3.6.6 Completion of Availability Inspection IV-3-7
3.6.7 Inactivation or Reactivation Inspection IV-3-7
3.6.8 Engineer Officer Inspection IV-3-7
3.6.9 Special Inspection IV-3-8
3.6.10 Operational Assessments IV-3-8

3.7 Boiler Inspection Guidelines and Reports IV-3-8
3.7.1 Guidelines IV-3-8
3.7.2 Reports IV-3-8

3.8 Boiler Inspection Preparation IV-3-9

3.9 Boiler Inspection IV-3-9
3.9.1 Boiler Inspection Forms IV-3-9
3.9.2 Boiler Inspection Areas IV-3-9
3.9.3 Completion of Inspection IV-3-11

3.10 Automatic Boiler Control Systems/Online Verification Guidelines IV-3-11

3.11 Boiler Flexibility Tests IV-3-12

3.12 Certified Boiler Water and Feedwater Tester Requirements IV-3-12

3.13 Operating and Casualty Procedures IV-3-12

Appendices
A Sample Boiler Inspection Request Message IV-3A-1
B Sample Inspection Confirmation Message IV-3B-1
C Summary of Boiler Inspection Scheduling and Responsibilities IV-3C-1
D Sample Boiler Inspection Report Cover Letter IV-3D-1
E Sample Boiler Inspection - RBO/Severely Degraded Deficiencies Message IV-3E-1
F Sample RBO Rescission Message IV-3F-1
G Sample 30 Day Update Message IV-3G-1

CHAPTER 4 - DIESEL ENGINES

4.1 Purpose IV-4-1

4.2 Diesel Engine Inspector Certification IV-4-1

4.3 Diesel Inspections IV-4-2
4.3.1 Diesel Engines Requiring Inspections IV-4-2
4.3.2 Periodicity of Inspections IV-4-2

4.3.3 Inspection Scheduling IV-4-5
4.3.3.1 Inspection Deferrals IV-4-5
4.3.4 Inspection Phases IV-4-5
4.3.5 Preparation for Diesel Engine Inspection IV-4-6
4.3.6 Inspection Findings IV-4-7
4.3.6.1 Repair Before Operating IV-4-7
4.3.6.2 Major Deficiency IV-4-7
4.3.6.3 Minor Deficiency IV-4-8
4.3.6.4 Re-inspections IV-4-8
4.3.6.5 Recurring Discrepancies IV-4-8

4.4 Reporting Requirements IV-4-8

4.5 Operation and Maintenance IV-4-9

4.6 Compliance IV-4-10

4.7 Subject Matter Expert in the Repair and Maintenance of Diesel Engines IV-4-11

Appendices
A Assessment/Inspection Main Propulsion Diesel Engine and Ship Service Diesel Generators for LSD-41/49 and LPD-17 Class Ships IV-4A-1

CHAPTER 5 - MARINE SANITATION DEVICES

5.1 Purpose IV-5-1
5.1.1 Scope IV-5-1

5.2 Certification IV-5-1

5.3 Responsibilities IV-5-1
5.3.1 Type Commander/Immediate Superior In Command IV-5-1
5.3.2 Commanding Officer/Officer In Charge IV-5-2

5.4 System Maintenance and Inspection IV-5-2
5.4.1 Fleet Maintenance Activity Maintenance IV-5-2

5.5 Technical System Assessment IV-5-2

5.6 Training IV-5-3

CHAPTER 6 - OXYGEN AND NITROGEN SYSTEMS

6.1 Purpose IV-6-1

6.2 Precautions IV-6-1

6.3 Aviators Breathing Oxygen Testing IV-6-1

6.4 Operations and Maintenance IV-6-2

CHAPTER 7 - ACCOUNTABILITY AND CERTIFICATION OF NUCLEAR PROPULSION PLANT TEST AND SUPPORT EQUIPMENT

7.1 Purpose IV-7-1
7.1.1 Discussion IV-7-1

7.2 Nuclear Test Equipment Categories IV-7-1

7.3 Action IV-7-1

7.4 Procurement IV-7-1

7.5 Nuclear Test Equipment Certification IV-7-2
7.5.1 Electronic/Electrical Test Equipment IV-7-2
7.5.2 Mechanical Test Equipment IV-7-2

7.5.3 Recertification Following Reference Revision IV-7-2
7.5.4 Certification Documentation IV-7-3

7.6 Accountability IV-7-3
7.6.1 Lost/Damaged Test Equipment IV-7-4
7.6.2 Cleanliness and Foreign Material Exclusion IV-7-4
7.6.3 Stowage IV-7-4
7.6.4 Inventory IV-7-4

Appendices
A Nuclear Test Equipment Check-Out/Check-In Form IV-7A-1
B Nuclear Support and Test Equipment Certification Record IV-7B-1

CHAPTER 8 - WEAPONS AND CARGO ELEVATOR ASSESSMENTS

8.1 Purpose IV-8-1
8.1.1 Background IV-8-1

8.2 Elevator Support Unit IV-8-1

8.3 Ship's Force Assessment Responsibilities IV-8-1

8.4 Elevator Support Unit Evolutions IV-8-1
8.4.1 Material Condition Assessment Visit IV-8-2
8.4.2 Repair Visit IV-8-2
8.4.3 In Process Review IV-8-2
8.4.4 On-Board Maintenance Training IV-8-3
8.4.5 Integrated Logistics Support IV-8-3

8.5 Visit Scheduling IV-8-3

8.6 Reports IV-8-3

CHAPTER 9 - SYSTEM TEST CHECK LIST

9.1 Purpose IV-9-1
9.1.1 Background IV-9-1

9.2 General Instructions IV-9-1

9.3 Record Retention IV-9-2

Appendices
A Nuclear Test Rig Determination and Inspection Check List IV-9A-1
B Non-Nuclear Test Rig Determination and Inspection Check List IV-9B-1
C Nuclear/Non-Nuclear Pre-Test Inspection Check List IV-9C-1
D Nuclear/Non-Nuclear Performance of Test Check List IV-9D-1

CHAPTER 10 - WORK AUTHORIZATION AND CONTROL

10.1 Purpose IV-10-1

10.2 Work Authorization IV-10-1

10.3 Work Authorization Control IV-10-1

10.4 Work Authorization System IV-10-2
10.4.1 Administration IV-10-2
10.4.1.1 Work Authorization Form IV-10-2
10.4.1.2 Work Authorization Log IV-10-2
10.4.1.3 Technical Work Document Record Sheet IV-10-2
10.4.1.4 Work Authorization Form Continuation and Revision Sheets IV-10-2
10.4.1.5 Numbering Work Authorization Form Continuation and Revision Sheets IV-10-3
10.4.2 Work Authorization Procedure IV-10-3

10.4.3 Transfer of Non-Nuclear Systems and Nuclear Instrumentation and Control Systems (Depot availabilities only) IV-10-4
10.4.4 Work Authorization Form Revisions IV-10-6
10.4.5 Centralized Work Control Procedures IV-10-7
10.4.6 Equipment Tagout Procedures IV-10-7
10.4.7 Barrier Criteria IV-10-7
10.4.8 Safety of Ship Maintenance Item Identification, Listing and Control (Submarines only) IV-10-7

10.5 Final Certification, Close-Out and Re-entry of Submarine Spaces, Tanks and Voids IV-10-10
10.5.1 Purpose IV-10-10
10.5.2 Discussion IV-10-10
10.5.3 Action IV-10-11
10.5.4 Applicability IV-10-12

Appendices
A Work Authorization Form IV-10A-1
B Technical Work Document Record Sheet IV-10B-1
C Work Authorization Form Continuation and Revision Sheets IV-10C-1
D Barrier Criteria for Submarine Hull Penetrations IV-10D-1
E Safety of Ship Maintenance Item List Example IV-10E-1
F Safety of Ship Maintenance Item List IV-10F-1
G Procedures and Safety Precautions for Entering Submarine Spaces, Tanks and Voids IV-10G-1
H Close-Out Inspection Check-Off List IV-10H-1

CHAPTER 11 - TECHNICAL DATA AND INFORMATION MANAGEMENT

11.1 Purpose IV-11-1
11.1.1 Discussion IV-11-1

11.2 Technical Libraries IV-11-1
11.2.1 Technical Library Supervisor IV-11-2
11.2.1.1 Technical Library Non-Supervisory Personnel IV-11-4
11.2.2 Technical Library Materials IV-11-4
11.2.2.1 Indices IV-11-5
11.2.2.2 Technical Manuals IV-11-5
11.2.2.3 Drawings IV-11-5
11.2.2.4 Handbooks and Cataloging IV-11-5
11.2.2.5 Military Specifications and Standards IV-11-6
11.2.2.6 Documents and Lists IV-11-6
11.2.2.7 Instructions, Technical Publications and Bulletins IV-11-6
11.2.2.8 Repair Standards IV-11-6

11.3 Index of Technical Publications and Ship's Drawing Index IV-11-7
11.3.1 Index of Technical Publications IV-11-7
11.3.2 Ship's Drawing Index IV-11-7

11.4 Maintenance Support Centers IV-11-7

CHAPTER 12 - HULL INSPECTION OF SHIPS AND CRAFT

12.1 Purpose IV-12-1
12.1.1 Scope IV-12-1
12.1.2 Discussion IV-12-1

12.2 Action IV-12-2

12.3 Reports IV-12-3

Appendices
A Sample Layout of Inspection Areas IV-12A-1
B Hull Reporting Format IV-12B-1

CHAPTER 13 - WEIGHT HANDLING EQUIPMENT TESTING AND INSPECTION

13.1 Purpose IV-13-1
13.1.1 Scope IV-13-2

13.2 Naval Sea Systems Command Afloat Requirements IV-13-2
13.2.1 Definitions IV-13-2
13.2.2 Procedure IV-13-3
13.2.3 Load Test Types and Duration IV-13-4
13.2.3.1 Static Load Test IV-13-4
13.2.3.2 Dynamic Load Test IV-13-4
13.2.3.3 Rated Load Test IV-13-4
13.2.4 Load Test Periodicity IV-13-4
13.2.5 Crane Certification Program IV-13-5
13.2.6 Daily Inspections IV-13-5
13.2.7 Use of Nylon Straps IV-13-6
13.2.8 Weight Test Procedure Matrix IV-13-6
13.2.9 Identification of Equipment IV-13-7
13.2.10 Witnessing Qualification IV-13-7
13.2.11 Record Keeping IV-13-8

13.3 Naval Facilities Engineering Command Ashore Requirements IV-13-8
13.3.1 Certification Program IV-13-8
13.3.2 Operator Licensing Program IV-13-8
13.3.2.1 Operator Qualification and Testing IV-13-8
13.3.2.2 Licensing Procedures and Documentation IV-13-8
13.3.3 Inspections IV-13-8
13.3.4 Test Procedures IV-13-8
13.3.5 Special Purpose Service IV-13-8

13.4 Slings IV-13-9
13.4.1 Crane Rigging Gear and Miscellaneous Equipment IV-13-9

CHAPTER 14 - MAGAZINE SPRINKLER INSPECTION REQUIREMENTS

14.1 Purpose IV-14-1

14.2 Responsibilities IV-14-1
14.2.1 Commanding Officers IV-14-1
14.2.2 Verification Activity IV-14-1
14.2.3 Immediate Superior In Command IV-14-2

CHAPTER 15 - CIRCUIT BREAKERS

15.1 Purpose IV-15-1

15.2 Circuit Breaker Function and Acquisition on Navy Ships IV-15-1

15.3 Circuit Breaker Overhaul Facilities and Part Procurement IV-15-1
15.3.1 Submarines IV-15-1

15.4 Navy Policy on Shipboard Circuit Breaker Maintenance and Overhaul IV-15-2

CHAPTER 16 - AIRCRAFT LAUNCH AND RECOVERY SYSTEMS FOR AVIATION SHIPS

16.1 Purpose IV-16-1
16.1.1 Scope IV-16-1

16.2 Aircraft Launch and Recovery Equipment Maintenance Program IV-16-1
16.2.1 Applicability IV-16-1
16.2.2 Objectives IV-16-1

16.2.3 Responsibilities IV-16-1
16.2.4 Management Team IV-16-2
16.2.5 Assist Visits IV-16-2
16.2.6 Audits IV-16-2

16.3 Aviation Certification IV-16-2

16.4 Carrier And Field Service Unit IV-16-2
16.4.1 Responsibilities IV-16-3
16.4.1.1 Aircraft Carrier Commanding Officer IV-16-3
16.4.1.2 Industrial/Repair Activity IV-16-3

16.5 Naval Aviation Depot IV-16-3

16.6 Naval Aviation Depot Voyage Repair Team IV-16-4

CHAPTER 17 - STEAM CATAPULT INSPECTION

17.1 Purpose IV-17-1
17.1.1 Policy IV-17-1

17.2 Types of Inspections IV-17-1

17.3 Responsibilities IV-17-2
17.3.1 Naval Sea Systems Command IV-17-2
17.3.2 Naval Surface Warfare Center, Carderock Division IV-17-2
17.3.3 Type Commander IV-17-3
17.3.4 Regional Support Group/Regional Maintenance Center/Fleet Maintenance Activity Commanding Officers IV-17-3
17.3.5 Ship Commanding Officer IV-17-3
17.3.6 Regional Maintenance Center Senior Inspector IV-17-4
17.3.7 Steam Generating Plant Inspector IV-17-4

17.4 Inspection Scheduling IV-17-4

17.5 Safety Procedures IV-17-4

17.6 Catapult Accumulator Inspections and Requirements IV-17-5
17.6.1 Routine Inspection IV-17-5
17.6.2 Pre-Start of Availability Inspection IV-17-6
17.6.3 Start of Availability Inspection IV-17-6
17.6.4 Strength and Integrity Inspection IV-17-6
17.6.5 Industrial Support Visit Inspection IV-17-6
17.6.6 Completion of Availability Inspection IV-17-6
17.6.7 Inactivation or Reactivation Inspection IV-17-7
17.6.8 Special Inspections IV-17-7

17.7 Inspection Guidelines and Reports IV-17-7
17.7.1 Guidelines IV-17-7
17.7.2 Reports IV-17-8

17.8 Catapult Accumulator Inspection Preparation IV-17-8

17.9 Catapult Accumulator Inspection IV-17-8
17.9.1 Catapult Accumulator Inspection Forms IV-17-8
17.9.2 Catapult Accumulator Inspection Areas IV-17-8
17.9.3 Completion of Inspection IV-17-9
17.9.4 Automatic Controls Systems Inspection Guidelines IV-17-9
17.9.5 Operating and Casualty Procedures IV-17-9

Appendices
A Sample Catapult Accumulator Inspection Request IV-17A-1
B Sample Inspection Confirmation Letter IV-17B-1
C Summary of Catapult Accumulator Inspection Scheduling and Responsibilities IV-17C-1
D Sample Catapult Accumulator Inspection Report Cover Letter IV-17D-1

E Sample Catapult Accumulator Inspection RBO/Severely Degraded Deficiencies Message IV-17E-1
F Sample 30 Day Update Message IV-17F-1
G Sample Catapult Accumulator Rescission Message IV-17G-1

CHAPTER 18 - SUBMARINE SALVAGE INSPECTION

18.1 Purpose IV-18-1

18.2 Inspections IV-18-1
18.2.1 Periodicity.....IV-18-1
18.2.2 Procedures and Reports IV-18-1
18.2.3 Inspection Resources IV-18-2

18.3 Responsibilities.....IV-18-2
18.3.1 Immediate Superior In Command.....IV-18-2
18.3.2 Commanding Officer/Officer In Charge.....IV-18-2
18.3.3 Senior Inspecting Officer.....IV-18-3

Appendices
A SSN 21 Class Submarine Salvage Inspection Check-Off List.....IV-18A-1
B SSN 688 Class Submarine Salvage Inspection Check-Off List..... IV-18B-1
C SSBN/SSGN 726 Class Submarine Salvage Inspection Check-Off List..... IV-18C-1
D SSN 774 Class Submarine Salvage Inspection Check-Off List.....IV-18D-1
E Sample Pre-Inspection Information/Certification.....IV-18E-1
F Sample Report of Salvage Inspection Forwarding Letter.....IV-18F-1

CHAPTER 19 - RETENTION OF MATERIAL DEFICIENCY REPORTS AND RECORDS OF EQUIPMENT CHARACTERISTICS AND TESTS

19.1 Purpose IV-19-1

19.2 Inspection Reports IV-19-1

19.3 Retention of Records of Equipment Characteristics and Tests.....IV-19-1

Appendices
A Bearing Log (Submarines Only).....IV-19A-1

CHAPTER 20 - DIVER LIFE SUPPORT SYSTEMS, SUBMARINE RESCUE CHAMBER AND DRY DECK SHELTER MAINTENANCE AND CERTIFICATION

20.1 Purpose IV-20-1

20.2 Diver Life Support System Maintenance and Certification.....IV-20-1
20.2.1 General.....IV-20-1
20.2.2 Objective.....IV-20-1
20.2.3 United States Navy Diving and Manned Hyperbaric Systems Safety Certification IV-20-1
20.2.4 System Certification IV-20-2
20.2.5 Maintenance Guidelines IV-20-2
20.2.6 Formal System Surveys IV-20-2
20.2.7 Certification Maintenance Requirements.....IV-20-3
20.2.8 Action IV-20-4
20.2.9 Commanding Officer/Officer In Charge Responsibilities IV-20-5

20.3 Submarine Rescue Chamber Maintenance and Certification.....IV-20-5
20.3.1 Certification IV-20-5
20.3.2 Action IV-20-6

20.4 Dry Deck Shelter Maintenance and Certification IV-20-7
20.4.1 Certification IV-20-7
20.4.2 Action IV-20-7

Appendices
A System Certification Requirements IV-20A-1
B Submarine Rescue Chamber Scope of Certification Items IV-20B-1

CHAPTER 21 - SUBMARINE OXYGEN GENERATING PLANTS

21.1 Purpose IV-21-1
21.1.1 Policy IV-21-1
21.1.2 Background IV-21-2

21.2 Responsibilities IV-21-2
21.2.1 Immediate Superior In Command IV-21-2
21.2.2 Performance Monitoring Team IV-21-2
21.2.3 Commanding Officer IV-21-3

21.3 Requirements for Shipboard Personnel Qualification IV-21-4
21.3.1 Training IV-21-4
21.3.2 Watchstanding Prerequisites IV-21-4

CHAPTER 22 - SUBMARINE ANTENNA TESTING

22.1 Purpose IV-22-1

22.2 Background IV-22-1

22.3 Policy IV-22-1
22.3.1 Hydrostatic Pressure Testing IV-22-1
22.3.2 Fleet Maintenance IV-22-1

22.4 Procedure IV-22-2

CHAPTER 23 - GAS TURBINE ENGINE INSPECTION

23.1 Purpose IV-23-1
23.1.1 Discussion IV-23-1

23.2 Marine Gas Turbine Inspector IV-23-1
23.2.1 Certification IV-23-1
23.2.2 Authorized Functions and Responsibilities IV-23-2
23.2.2.1 Naval Sea Systems Command IV-23-2
23.2.2.2 Naval Surface Warfare Center, Carderock Division IV-23-2
23.2.2.3 Fleet Commander IV-23-3
23.2.2.4 Regional Maintenance Center IV/23-3
23.2.2.5 Regional Maintenance Center Commanding Officers IV-23-3
23.2.2.6 Immediate Superior In Command IV-23-3
23.2.2.7 Ship Commanding Officer/Officer In Charge/Maintenance Team IV-23-3
23.2.2.8 Marine Gas Turbine Inspectors IV-23-4

23.3 Gas Turbine Inspections and Requirements IV-23-4
23.3.1 Applicability IV-23-4
23.3.2 Pre-Planned Major Maintenance Availability IV-23-5
23.3.3 Pre-Deployment IV-23-5
23.3.4 Gas Turbine Bulletin Inspections IV-23-5
23.3.5 Casualties IV-23-5

23.4 Requesting Procedures IV-23-5

23.5 Preparation for Inspection IV-23-6

23.6 Inspection Procedures IV-23-6
23.6.1 Post Casualty Inspections IV-23-6
23.6.2 Pre-Availability Inspections IV-23-6

23.7 Inspection Criteria IV-23-6
23.7.1 Repair Before Operating IV-23-6
23.7.2 Major Deficiencies IV-23-6
23.7.3 Minor Deficiencies IV-23-7

23.8 Inspection Results IV-23-7

CHAPTER 24 - WOOD HULLED SHIPS AND CRAFT

24.1 Purpose IV-24-1

24.2 Wood Decay IV-24-1
24.2.1 Primary Causes IV-24-1
24.2.2 Recognition IV-24-1
24.2.3 Preventive Measures IV-24-1
24.2.4 Corrective Measures IV-24-2

24.3 Deck and Hull Maintenance IV-24-2
24.3.1 Inspection Requirements IV-24-3
24.3.2 Maintenance Policies IV-24-3
24.3.3 Deck Covering Repairs IV-24-4
24.3.4 Caulking Techniques IV-24-4
24.3.5 Weather Deck/Planked Deck Repair IV-24-4
24.3.6 Underwater Planking Repairs IV-24-4

24.4 Surface Preparation and Painting IV-24-5
24.4.1 General Techniques IV-24-5
24.4.2 Preparation and Painting Policies IV-24-5

24.5 Wooden Hull Bottom Sheathing IV-24-5

24.6 Wooden Sea Chest Foundations IV-24-5

CHAPTER 25 - GAS FREE ENGINEERING INSPECTIONS

25.1 Purpose IV-25-1

25.2 Scope IV-25-1

25.3 Discussion IV-25-1

25.4 Oversight IV-25-3

Appendices
A Gas Free Engineering Program Assessment Sheet IV-25A-1

CHAPTER 26 - BOARD OF INSPECTION AND SURVEY INSPECTIONS POLICY

26.1 Purpose IV-26-1
26.1.1 Scope IV-26-1
26.1.2 Background IV-26-1
26.1.3 Discussion IV-26-1
26.1.4 Policy IV-26-2

26.2 Responsibilities IV-26-2
26.2.1 Type Commander IV-26-2
26.2.2 Immediate Superior In Command IV-26-2
26.2.3 Ship Commanding Officer IV-26-3
26.2.4 INSURV Coordinator IV-26-3
26.2.5 Regional Maintenance Centers IV-26-4

26.3 Inspection Scheduling IV-26-4

26.3.1 Combined Trial/Acceptance Trial Inspections IV-26-4
26.3.2 Guarantee Material Inspection/Final Contract Trials IV-26-4
26.3.3 Material Inspections IV-26-4

26.4 Preparation for INSURV Inspection IV-26-5
26.4.1 Active Preparation IV-26-5
26.4.2 Ship's Internal Organization IV-26-5
26.4.3 Updating the Current Ship's Maintenance Project IV-26-6

26.5 Board of Inspection and Survey Inspection Conduct and Documentation IV-26-6
26.5.1 Inspection Conduct IV-26-6
26.5.2 Deficiency Documentation IV-26-6

26.6 Post Board of Inspection and Survey Inspection Actions IV-26-6
26.6.1 Deficiency Processing and Resolution IV-26-6
26.6.2 Post INSURV Inspection Reports IV-26-7
26.6.3 Unsatisfactory Finding IV-26-7

Appendices
A INSURV Plan of Action and Milestones IV-26A-1

CHAPTER 27 - REBOILER INSPECTION

27.1 Purpose IV-27-1
27.1.1 Policy IV-27-1

27.2 Types of Inspections IV-27-1

27.3 Responsibilities IV-27-2
27.3.1 Naval Sea Systems Command IV-27-2
27.3.2 Naval Surface Warfare Center, Carderock Division IV-27-2
27.3.3 Type Commander IV-27-3
27.3.4 Regional Maintenance Center Commanding Officer IV-27-3
27.3.5 Ship’s Commanding Officer IV-27-3
27.3.6 Regional Maintenance Center Senior Inspector IV-27-4
27.3.7 Steam Generating Plant Inspector IV-27-4

27.4 Inspection Scheduling IV-27-4

27.5 Safety Procedures IV-27-4

27.6 Steam Reboiler Inspections and Requirements IV-27-5
27.6.1 Eddy Current Inspection IV-27-5
27.6.2 Routine Inspection IV-27-5
27.6.3 Start of Availability Inspection IV-27-5
27.6.4 Strength and Integrity Inspection IV-27-5
27.6.5 Industrial Support Visit Inspection IV-27-5
27.6.6 Completion of Availability Inspection IV-27-6
27.6.7 Inactivation or Reactivation IV-27-6
27.6.8 Special Inspection IV-27-6
27.6.9 Annual Inspection IV-27-6
27.6.10 Operational Assessments IV-27-6

27.7 Reboiler Inspection Guidelines and Reports IV-27-6
27.7.1 Guidelines IV-27-6
27.7.2 Reports IV-27-7

27.8 Steam Reboiler Inspection Preparation IV-27-7

27.9 Steam Reboiler Inspection IV-27-7
27.9.1 Steam Reboiler Inspection Forms IV-27-7
27.9.2 Steam Reboiler Inspection Areas IV-27-7
27.9.3 Completion of Inspection IV-27-8

27.10 Steam Reboiler Control Systems/Online Verification Guidelines IV-27-8

Appendices
A Sample Steam Reboiler Inspection Request IV-27A-1
B Sample Inspection Confirmation Message IV-27B-1
C Sample Steam Reboiler Inspection Report Cover Letter IV-27C-1
D Sample Reboiler Inspection RBO/Severely Degraded Deficiencies Message IV-27D-1

APPENDIX C

SAMPLE FMA ASSESSMENT REPORT

From: TYCOM (as appropriate)
To: Commanding Officer, FMA
Via: ISIC (as appropriate)

Subj: FMA ASSESSMENT

Ref: (a) COMUSFLTFORCOMINST 4790.3; Joint Fleet Maintenance Manual
(b) Precepts letter

Encl: (1) FMA Assessment Findings
(2) FMA Assessment Project Summary

1. Per Volume IV, Chapter 2 of reference (a) and reference (b), an FMA Assessment was conducted onboard FMA (Name of assessed command), during the period (Dates of Assessment).

2. The Assessment Team reviewed selected areas as prescribed in reference (a) and their findings and comments are contained in enclosures (1) and (2). Any required corrective actions should be initiated in accordance with Volume IV, Chapter 2, paragraph 2.5.1 and 2.5.2 of reference (a).

3. Overall Observation: (A brief summary of the results of the assessment including an overall evaluation of satisfactory/unsatisfactory).

4. (Subsequent paragraphs should briefly comment on major areas of concern found during the assessment).

(This Page Intentionally Left Blank)

APPENDIX A

SAMPLE BOILER INSPECTION REQUEST MESSAGE

FM USS (SHIP'S NAME AND HULL NO)
TO: REGIONAL MAINTENANCE CENTER
INFO ISIC//N434//
TYCOM
NAVSURFWARCEN SHIPSYSENGSTA PHILADELPHIA PA//922//
COMNAVSEASYSCOM WASHINGTON DC//05Z23//
BT
UNCLAS
MSGID/GENADMIN/(USS SHIP'S NAME HULL NO)//
SUBJ/REQUEST FOR ROUTINE BOILER INSPECTION//
REFERENCE/A/DOC/COMUSFLTFORCOMINST 4790.3//
AMPN/REF A IS THE JOINT FLEET MAINTENANCE MANUAL//SHIPS POC//USS (SHIP'S NAME AND HULL NO)/EMAIL://
GENTEXT/REMARKS/1. PER REF A REQUEST RMC PROVIDE A CERTIFIED SGPI TO ACCOMPLISH ROUTINE BOILER INSPECTION OF (NO. BOILER(s)).
2. REQUEST PRIMARY INSPECTION START DATE OF (PROVIDE DATE) FOR BOILER (NO) AND AN ALTERNATE START DATE OF (PROVIDE DATE)
3. AWR ENTERED IN SHIP'S CSMP (JSN) JOB SEQUENCE NUMBER//
BT

NOTE: ENSURE MESSAGES ARE IN ACCORDANCE WITH NTP-3 FORMAT AND CURRENT PLAIN LANGUAGE ADDRESS DIRECTORY (PLAD) IS UTILIZED.

(This Page Intentionally Left Blank)

APPENDIX B

SAMPLE INSPECTION CONFIRMATION MESSAGE

FM REGIONAL MAINTENANCE CENTER (COMMAND)
TO USS (SHIP'S NAME AND HULL NUMBER)
INFO COMNAVSURFFOR//N434//
TYCOM//N4/N43//
ISIC//N4//
COMNAVSEASYSCOM WASHINGTON DC//05Z23//
NAVSURFWARCEN SHIPSYSENGSTA PHILADELPHIA PA//922//
BT
UNCLAS
MSGID/GENADMIN/
SUBJ/INSPECTION DATE CONFIRMATION//
REFRENCE/A/MSG/USS/ (SHIPS NAME HULL NUMBER)/DTG REQUEST//
REFERENCE/B/DOC/COMUSFLTFORCOMINST 4790.3//
NARR/REFERENCE A IS REQUESTING BOILER INSPECTION. REFERENCE B IS COMUSFLTFORCOMINST 4790.3 DEFINING JOINT FLEET BOILER INSPECTION CRITERIA AND PROCEDURES.//
POC/SENIOR SGPI/RATE/UIC/LOC:CITY/TEL:/DSN//
RMKS/1. IN RESPONSE TO REF A, AN (TYPE) MONTH BOILER INSPECTION WILL BE CONDUCTED IAW REF B BEGINNING (DATE) ON NUMBER ( ) BOILER. ONE OR MORE OF THE FOLLOWING CERTIFIED INSPECTORS ARE ASSIGNED TO CONDUCT THE INSPECTIONS:
INSPECTOR NAME/RATE//LAST 4//CLEARANCE.
2. POC E-MAIL ADDRESS IS: SENIOR SGPI//
BT

NOTE: ENSURE MESSAGES ARE IN ACCORDANCE WITH NTP-3 FORMAT AND CURRENT PLAD IS UTILIZED.

(This Page Intentionally Left Blank)

APPENDIX E

SAMPLE BOILER INSPECTION - RBO/SEVERELY DEGRADED DEFICIENCIES MESSAGE

FM COMMANDING OFFICER, REGIONAL MAINTENANCE CENTER
TO USS (SHIP'S NAME AND HULL NO.)
INFO TYCOM//(AS APPROPRIATE)
ISIC//(AS APPROPRIATE)
COMNAVSEASYSCOM WASHINGTON DC//05Z23//
NAVSURFWARCEN SHIPSYSENGSTA PHILADELPHIA PA//922//
BT
UNCLAS //N09221//
MSGID/GENADMIN/COMMANDING OFFICER, REGIONAL MAINTENANCE CENTER
SUBJ/USS (SHIP'S NAME AND HULL NO.) NR (1A, 1B, 2A, ETC.) ROUTINE/STRENGTH AND INTEGRITY INSPECTION (AS APPROPRIATE)//
REF/A/DOC/COMUSFLTFORCOMINST 4790.3//
REF/B/DOC/NAVSEAINST 4790.8/OPNAVINST 4790.4//
NARR/REF A IS JOINT FLEET MAINTENANCE MANUAL VOL IV CH 3 AND PROVIDES GUIDANCE FOR BOILER INSPECTIONS. REF B IS 3-M MANUAL AND PROVIDES GUIDANCE FOR CSMP DOCUMENTATION//
RMKS/1. BOILER NUMBER (1A, 1B, 2A, ETC.) ROUTINE/STRENGTH AND INTEGRITY (AS APPROPRIATE). INSPECTION CONDUCTED (DATE) BY (INSPECTOR'S NAME) WHILE (SHIPS LOCATION). RBO DEFICIENCIES AND PROPOSED CORRECTIVE ACTION ARE REPORTED IAW REF A AS FOLLOWS:

A. (BIRMIS ITEM NO, DEFICIENCY, REPAIR, ETC.)
B.
C.

2. BOILER NUMBER (1A, 1B, 2A, ETC.) SHALL NOT BE STEAMED UNTIL ABOVE LISTED DEFICIENCIES ARE CORRECTED AND A REINSPECTION IS CONDUCTED IAW REF A.
3. SEVERELY DEGRADED DEFICIENCIES AND PROPOSED CORRECTIVE ACTION ARE REPORTED IAW REF A AS FOLLOWS:

A.
B.
C.

4. SEVERELY DEGRADED DEFICIENCIES ARE REQUIRED TO BE CORRECTED PRIOR TO STEAMING OR MUST BE SUBMITTED FOR MAJOR DEPARTURE FROM SPECIFICATION (DFS).
5. IAW REF A DEFICIENCIES COMPLETED SHALL BE REPORTED EVERY 30 DAYS USING THE GUIDANCE PROVIDED IN REF A APPENDIX F. ALL DEFICIENCIES HAVE BEEN DOCUMENTED IN THE SHIPS CSMP FOR CORRECTIVE ACTION IAW REF B.//
BT

NOTE: ENSURE MESSAGES ARE IN ACCORDANCE WITH NTP-3 FORMAT AND CURRENT PLAD IS UTILIZED.

(This Page Intentionally Left Blank)

APPENDIX G

SAMPLE 30 DAY UPDATE MESSAGE

FM USS TO USS (SHIP'S NAME AND HULL NO)
CC USS (SHIP'S NAME AND HULL NO)
INFO TYCOM//(AS APPROPRIATE)
ISIC//(AS APPROPRIATE)
NSWCCD/C9222/
NAVSEA/05Z/
RMC//
BT
UNCLAS
MSGID/GENADMIN/USS (SHIP'S NAME AND HULL NO)//
SUBJ/USS (SHIP'S NAME AND HULL NO) NR (1A, 1B, 2A, ETC.) ROUTINE BOILER INSPECTION//
REF/A/DOC/BIRMIS REPORT FROM (RMC AND DATE)
REF/B/DOC/COMUSFLTFORCOMINST 4790.3//
REF/C/DOC/OPNAVINST 4790.4D//
NARR/REF A IS BIRMIS REPORT FROM COMMANDER (RMC). REF B IS COMUSFLTFORCOMINST 4790.3 JOINT FLEET MAINTENANCE MANUAL AND PROVIDES GUIDANCE FOR BOILER INSPECTIONS. REF C IS OPNAVINST 4790.4D 3-M MAINTENANCE MANUAL AND PROVIDES DIRECTION FOR CSMP DOCUMENTATION.//
GENTEXT/REMARKS/1. NR (1A, 1B, 2A, ETC.) BOILER(S) ROUTINE INSPECTION WAS CONDUCTED (DATE) BY (SGPI INSPECTOR NAME) ITEMS CORRECTED ARE REPORTED IAW REF B AS FOLLOWS:
1. (BOILER NUMBER)
A. BIRMIS ITEM (I.E., B14/01) JOB SUBMITTED JSN (NUMBER)
BT

NOTE: ENSURE MESSAGES ARE IN ACCORDANCE WITH NTP-3 FORMAT AND CURRENT PLAD IS UTILIZED.

(This Page Intentionally Left Blank)

VOLUME IV

CHAPTER 7

ACCOUNTABILITY AND CERTIFICATION OF NUCLEAR PROPULSION PLANT TEST AND SUPPORT EQUIPMENT

REFERENCES.

(a) NAVSEA 0989-031-4000 - Reactor Plant Instrumentation and Control Equipment Maintenance
(b) NAVSEA 0989-064-3000 - Cleanliness Requirements for Nuclear Propulsion Plant Maintenance and Construction

LISTING OF APPENDICES.

A Nuclear Test Equipment Check-Out/Check-In Form
B Nuclear Support and Test Equipment Certification Record

7.1 PURPOSE. To promulgate requirements for the certification and accountability of Nuclear Propulsion Plant Test and Support Equipment as required by the applicable Reactor Plant Manual (RPM) and reference (a). Nuclear Propulsion Plant Test and Support Equipment is commonly referred to as Nuclear Test Equipment (NTE).

7.1.1 Discussion. NTE specified by the applicable RPM and reference (a) to support planned and corrective maintenance of Nuclear Propulsion Plant systems must be carefully controlled. Maintaining accountability and certifying accuracy, operability, and reliability per the most current Field Changes and technical specifications is an essential element of reactor safety. The basic elements of the NTE program are certification and verification.

a. Certification is the detailed technical evaluation of the equipment to conclude that the item conforms to the required specification. Certification is conducted prior to initial issue and after any event that invalidates the certification, such as repair, Field Change installation or a revision to the equipment reference drawing/figure and is recorded on a NTE Certification Record. Equipment will normally be maintained in a Ready for Issue, certified condition, requiring verification prior to each issue.

b. Verification is the validation that the equipment is certified based on a review of records and is in a physically acceptable condition for issue and use. Verification is conducted prior to each issue and is recorded on a NTE Check-out/Check-in Form contained in Appendix A of this chapter.

7.2 NUCLEAR TEST EQUIPMENT CATEGORIES. For purposes of this chapter, NTE is divided into three categories.

a. General Purpose Electronic Test Equipment.

b. Electronic/Electrical Test Equipment, non-General Purpose Electronic Test Equipment (e.g., switchboard test equipment, scram breaker time response equipment, etc.).

c. Mechanical Test Equipment.

7.3 ACTION. The Repair Officer shall implement the requirements of this chapter. The Nuclear Repair Officer is designated as the custodian of NTE and shall ensure that assigned personnel carry out the requirements of this chapter.

7.4 PROCUREMENT. Only test equipment meeting the specifications of the applicable RPM and reference (a) may be used to conduct testing on Nuclear Propulsion Plant Systems. Requisitions for new equipment shall contain sufficient detail to ensure the correct item is purchased. Allowance Equipage Lists for required NTE are provided in

the tender Coordinated Shipboard Allowance List or Q-Coordinated Shipboard Allowance List. The requirements for General Purpose Electronic Test Equipment to support nuclear electrical/electronics testing are contained in the applicable Ship's Portable Electronic Test Equipment Requirements List.

7.5 NUCLEAR TEST EQUIPMENT CERTIFICATION. NTE shall be certified using a Formal Work Package (FWP) for Electronic/Electrical Test Equipment and a Controlled Work Package (CWP) for Mechanical Test Equipment. Certification is required for new equipment prior to initial issue and following repairs or modifications which could impact performance. Periodic recertification is not required. The FWP/CWP should be as simple as possible. As a minimum, the FWP/CWP shall provide the exact equipment reference and indicate the attributes that must be verified and the required testing. Recertification following repair shall be a step in the repair FWP/CWP. Certification shall be documented on NTE Certification Records and is discussed in detail in paragraph 7.5.4 of this chapter. Certification shall be accomplished per paragraph 7.5.1 or 7.5.2 of this chapter. The ultimate objective is to demonstrate that the NTE available for Nuclear Propulsion Plant application is technically correct.

7.5.1 Electronic/Electrical Test Equipment. The FWP shall require completing and retaining an NTE Certification Record.

a. To certify new or existing measuring and recording equipment, such as a Visicorder or strip chart recorder, verify that the specifications given in the equipment technical manual match the specifications required by the applicable RPM, reference (a), or applicable test reference.

b. To certify repaired or re-calibrated measuring and recording equipment, the repair and/or calibration activity shall certify that the item still conforms to the original technical specifications and is properly calibrated (as evidenced by a calibration sticker). The Fleet Maintenance Activity Work Center performing the repair/calibration shall complete the NTE Certification Record. If the repair/calibration was not performed by the Fleet Maintenance Activity, Nuclear Repair shall certify the equipment. Work orders for repair shall require conformance to referenced drawings and figures.

c. To certify other existing electrical test equipment not previously certified, such as switch boxes, jumper boxes, cables, Under Voltage/Under Frequency test boxes, etc., each component and the wiring configuration shall be compared to the referenced drawing for correctness.

d. To certify other new electrical test equipment verify the test equipment as correct with respect to what was ordered and the nameplate data or other markings compared to the equipment requirements of the RPM, reference (a), or referenced test procedure.

7.5.2 Mechanical Test Equipment.

a. To certify existing or newly manufactured mechanical test equipment, the CWP that manufactures the test equipment shall include steps to verify that the material specifications and configuration match the equipment reference. The CWP shall also include all required testing.

b. To certify purchased mechanical test equipment, the CWP shall include steps to verify the equipment as correct with respect to what was ordered, compare the equipment to the requirements of the RPM, reference (a) and or referenced test procedure and shall also specify any testing that may be required prior to use.

7.5.3 Recertification Following Reference Revision. To certify existing equipment after a revision to the equipment configuration reference, take the actions necessary for the NTE to conform to the revision and complete an NTE Certification Record for recertification. The FWP for Electronic/Electrical Test Equipment and a CWP for Mechanical Test Equipment used to accomplish the equipment changes will specify recertification. A new NTE Certification Record will be generated regardless of whether or not the equipment required modification. The new certification record will serve to update the applicable revision and will provide evidence that the NTE was in fact validated to the correct revision.

ITEM NO.	ATTRIBUTE	CHECK OFF or N/A
5. TEMPORARY EQUIPMENT REQUIREMENTS:		
a.	Temporary connections and equipment (cap, spoolpieces, jumpers, blank flanges, hoses, etc.) shall be verified to be capable of withstanding the test pressure.	
b.	Verify that within the last year and subsequent to disassembly or replacement of any test rig equipment the assembled test rig has been satisfactorily tested to a pressure approximately 15% above the maximum pressure it will witness during the system hydrostatic test. (Hydro is not required to test pressure gage and relief valve replacement or fittings between subassemblies designed to be broken for portability. Setpoint testing of the test rig relief valve while on the test rig meets this requirement).	
c.	Verify the rig has been cleaned to meet the system cleanliness requirements of the system being tested.	
d.	No quick-disconnects with check features are to be used in the test rig.	
6. OPERATIONAL TEST:		
INSTRUCTIONS: The following checks shall be performed with the test rig isolated from the system being tested. This may be done by blanking the hose prior to connecting the rig to the system. References (b) and (c) provide a sample step by step procedure for these checks. Equipment provided by an FMA or Industrial Activity shall be tested prior to being issued to a tended ship. If documentation is provided by the issuing FMA or Industrial Activity that the assembled test rig has been verified to meet all of the below requirements, the operational test need not be repeated by the end user. **NOTE: FOR SHOP TEST FACILITIES (I.E., INTERMEDIATE MAINTENANCE ACTIVITIES, NAVAL SHIPYARDS AND TENDERS) WHERE HYDROSTATIC TESTS ARE CONDUCTED AT LEAST ONCE EVERY TWO WEEKS AND WHERE THE TEST GAGES (BACKUP AND MASTER) ARE COVERED UNDER THE NAVY METROLOGY AND CALIBRATION (METCAL) SYSTEM, CROSS CHECKING THE GAGES BEFORE TEST IS NOT REQUIRED.**		
a.	Mark hydro gages with a red pointer at the required relief setpoint, half way between the test pressure and the relief valve setpoint.	
b.	Raise rig pressure to the specified test pressure. Verify primary and backup gages are in agreement. Maximum difference between the two gage readings after height correction is no more than 2%. Calculate 2% for each gage using the full scale pressure measured by each gage (i.e., a 0-100 psi gage, 2% = 2 psig, the maximum difference between two gages with a 0-100 psi scale at a given pressure is 2 psig). Required accuracy +/-_____ psig. If not in agreement, replace or re-calibrate and repeat this step until satisfied.	
c.	Continue to raise pressure to the specified overpressure protection setpoint. If the manual relief is installed on the rig (vice using an installed system valve), with the pressure source operating and at the specified manual relief setpoint, verify that the **manual** relief and associated piping relieve the capacity of the pressure source.	

ITEM NO.	ATTRIBUTE	CHECK OFF or N/A
d.	Set/confirm setting of the automatic relief valve. With the pressure source operating and at the relief setpoint, verify that the **automatic** relief and associated piping relieve the capacity of the pressure source.	
e.	Vent the rig to reduce pressure to reseat the automatic relief. Slowly raise pressure again to recheck the automatic relief setpoint.	

Completed by _____ Items Completed _____ Date _____

Completed by _____ Items Completed _____ Date _____

Reviewed (Div Off/EDO) _____ Date _____

ITEM NO.	ATTRIBUTE	CHECK OFF or N/A
2. VERIFY PERSONNEL ARE READY TO CONDUCT TEST:		
a.	Brief personnel, ensuring that the following attributes are understood: (1) Personnel assignments. (2) Maintaining communications. (3) Test gage requirements: - Gage locations. - Calibration cross checks. - Gage indication and pressure readings. - Primary pressure indications. - Back up pressure indications. (4) Overpressure setpoint. (5) Type and location of primary overpressure protection. (6) Type and location of back up overpressure protection. (7) Duties of test pressure source operator. (8) Duties of system inspector(s) and required inspection points. (9) Duties of manual overpressure relief operators. (10) Immediate action shall be taken to secure the test pressure source and investigate the problem should any of the following occur: - Pressure gages fail to respond to changes in test pressure. - A rupture of a test gage occurs. - Pressure gage readings do not agree with the sums of their accuracies plus readability errors +/-_____ psig. - Changes in test pressures are erratic or operation of the test pumps after the system is filled solid does not produce a corresponding increase in pressure. (11) Immediate action shall be taken to secure the test pressure source and relieve system pressure if the pressure at which manual overpressure protection is to be initiated is exceeded on any primary or backup pressure gage. (12) Plant and system status. (13) Preliminary leak checks. (14) Valve packing leak checks (if applicable). (15) Criteria for an acceptable elevated pressure test. (16) Pressurizing to elevated test pressure. (17) Depressurization following completion of test.	
b.	Manual overpressure protection relief valve operators have no other responsibilities assigned. **NOTE: WHEN PRESSURE IS BEING APPLIED BY A HAND-OPERATED TEST PUMP OR WHEN THE PRIMARY AND BACKUP TEST GAGES AND THE MANUAL OVERPRESSURE PROTECTION VALVE(S) ARE ALL INSTALLED ON THE HYDROSTATIC TEST RIG, THE TEST PUMP OPERATOR MAY ALSO SERVE AS THE PRIMARY OVERPRESSURE PROTECTION WATCH, PROVIDED THAT:** **(1) THE MANUAL OVERPRESSURE PROTECTION VALVE IS WITHIN EASY REACH.** **(2) PROPERLY SET AND TESTED BACKUP RELIEF VALVE PROTECTION IS PROVIDED (FOR OTHER THAN HAND-OPERATED TEST PUMPS, EITHER AN AUDIBLE OVERPRESSURE ALARM IS PROVIDED OR A SECOND BACKUP RELIEF VALVE IS INSTALLED ON THE TEST RIG).** **(3) THE USE OF THIS EXCEPTION DOES NOT RESULT IN ONE INDIVIDUAL BEING SOLELY RESPONSIBLE FOR SATISFACTORY TEST PERFORMANCE.**	

ITEM NO.	ATTRIBUTE	CHECK OFF or N/A
c.	Adequate communications have been established between testing personnel.	
d.	Rate of pressurization and depressurization is specified at 100 psi/minute maximum. If testing a small component or small volume system such that 100 psi/minute is not practicable, control rate as low as possible.	
3. PERFORM ELEVATED PRESSURE TEST:		
a.	Obtain permission to conduct test.	
b.	Verify that the water purity of the test medium will not degrade system cleanliness or the required purity of water already in the system.	
c.	Note depressurized gage readings of all primary gages for comparison later, at test completion. Location _____ _____ psig Location _____ ____ psig Mark all test gages with a red mark at the overpressure protection setpoint, half way between the test pressure and the relief valve setpoint.	
d.	Raise rig pressure to the specified test pressure. Verify primary and backup gages are in agreement. Maximum difference between the two gage readings after height correction is no more than 2%. Calculate 2% for each gage using the full scale pressure measured by each gage (i.e., a 0-100 psi gage, 2% = 2 psig, the maximum difference between two gages with a 0-100 psi scale at a given pressure is 2 psig). Required accuracy +/-_____ psig. If not in agreement, replace or re-calibrate and repeat this step until satisfied.	
e.	If a less accurate gage is used for backup and is indicating higher than the primary gage during gage cross checks, increase the overpressure setpoint mark on the backup gage by the indication differential after the second cross check.	
f.	Increase pressure in increments and perform preliminary leak checks.	
g.	Unless required to be positioned differently (e.g., throttle valves), backseat all valves that were aligned for packing leak checks prior to increasing pressure above normal operating pressure.	
h.	Hold test pressure for 30 minutes prior to commencing final inspection unless otherwise specified.	
i.	Primary and backup gages are in agreement at test pressure. (Same criteria as above) +/-_____ psig.	
j.	Results of inspection _____. Also record data on QA form 26. Remarks:	
k.	Slowly depressurize the test area at less than 100 psi/minute. If testing a small component or small volume system such that 100 psi/minute is not practicable, control rate as low as possible. For nuclear tests only: When depressurizing systems which are adjacent to systems potentially contaminated with chlorides, ensure that the potentially contaminated systems are depressurized before depressurizing the system susceptible to chloride stress corrosion to prevent in-leakage. Ensure that the depressurization path is selected such that any fluid flow produced by depressurization will tend to keep chlorides away from the system of concern.	

NOTE: USE OF TEMPORARY SYSTEMS TO REPLACE FUNCTIONS OF SHIP'S INSTALLED SYSTEMS SHOULD BE CONSIDERED WHEN DEEMED NECESSARY. CLASS SUBMARINE ORGANIZATION AND REGULATIONS MANUALS AND SHIP SYSTEM MANUALS MAY PROVIDE FURTHER GUIDANCE.

c. SOSMIL Preparation. The SOSMIL will be prepared by a person designated by the ship's Commanding Officer using written input provided by Ship's Force divisions and the FMA representative. A new SOSMIL will be prepared prior to the FMA Daily Production Meeting of Volume II, Part I, Chapter 4, paragraph 4.4.11 of this manual. Appendix E of this chapter is provided as an example and depicts the minimum attributes that must be documented on the SOSMIL. Appendix F of this chapter may be reproduced locally for use. Prepare the SOSMIL as follows:

(1) Indicate ship's name, hull number, upkeep number, calculated maximum expected draft, actual morning draft and date prepared.

(2) For each job, list the Job Control Number/WAF number (as applicable) (operating instruction, PMS item, operating procedure), job description, scheduled end date and any remarks.

(3) The SOSMIL should indicate planned work for the next seven days. A thick black line shall be used on the left side of the current day to indicate the current days work.

(4) In the job description block, indicate in parentheses a number that corresponds to the list at the bottom of the sheet as to why the job requires a SOSMIL entry.

(5) Items shall remain listed on the SOSMIL until work has been verified complete and associated WAF has been completed or Block 11 of the WAF revised as no longer affects Safety of Ship.

d. Maximum Expected Draft. For those items which will have an affect on ship's draft, expected draft changes greater than three (3) inches will be calculated fore and aft for that evolution and indicated in the remarks section. Draft calculations will be made by a Diving Officer of the Watch qualified individual. Additionally, for all ballasting evolutions, a second independent calculation will be performed and provided by a second Diving Officer of the Watch qualified individual. The worst-case draft change for each item will be totaled to arrive at a "maximum draft" and a maximum one foot buffer added to arrive at the "maximum expected draft". (The ship's Commanding Officer can decide to reduce the buffer as he desires. If Safety Draft Marks are in use, the bottom edge of the mark shall match the "maximum expected draft".) The "maximum expected draft" is listed at the top of the SOSMIL. Calculation sheets will be retained until the job is no longer carried on the SOSMIL. If the ship exceeds the "maximum expected draft", the Duty Officer will stop the evolution, place the ship in a safe condition and notify all parties who signed the SOSMIL and the ship's Commanding Officer.

NOTE: THIS SHALL IN NO WAY BE CONSTRUED AS LIMITING ACTIONS BY THE DUTY OFFICER OR NOTIFICATION OF THE SHIP'S COMMANDING OFFICER OF SMALLER DRAFT CHANGES. ANY UNEXPECTED DRAFT CHANGE SHOULD BE THOROUGHLY INVESTIGATED AND UNDERSTOOD.

e. Morning Actual Draft. The actual ship's draft recorded each morning prior to the Daily Production Meeting. This draft will serve as a baseline value for draft changes that occur throughout the day.

f. The Ship's Force Availability Coordinator will present the SOSMIL at the FMA daily production meeting for review and signatures. The SOSMIL will be signed by:

(1) Ship's Force (signed by a department head). Signature indicates that all evolutions that affect ballast have been identified, the form has been completed in accordance with this instruction and the correct drafts have been calculated and at least four feet of freeboard is available to all hull openings.

(2) Immediate Superior In Command (ISIC) (signed by an ISIC representative). Signature indicates that all maintenance has been identified, the form has been completed in accordance with this instruction and the draft measurements are noted.

(3) Maintenance Organization (signed by appropriate senior level person of the repair activity, normally the Production Officer, as he leads the FMA Daily Production Meeting). Signature indicates all authorized Safety of Ship work items are listed. If any additional items are to be worked, a formal change to the SOSMIL will be required.

g. Following review and signature, the Ship's Force Availability Coordinator will provide the original copy to the ship's Duty Officer. Reproduced copies for distribution shall be made from the "original document" only. Copies will be provided to:

(1) Each Production Meeting attendee listed below:

(a) FMA Division Officers

(b) FMA Repair Duty Officer/Repair Duty Chief Petty Officer

(c) FMA Regional Maintenance Team Leader. He/she shall receive enough copies to make further distribution to the FMA Duty Officers and each FMA Division Officer having work listed on the SOSMIL.

(d) Supply Repair Other Vessel Officer

(e) Ship's Force Availability Coordinator

(f) ISIC Material/Squadron Representative

(g) FMA Availability Coordinator

(2) The ship's Engineering Duty Officer.

(3) The ship's Below Decks Watch.

(4) The ship's Petty Officer of the Deck.

(5) Naval Submarine Support Center Representative.

h. SOSMIL Use and Pre-Job Briefs. None of the evolutions or maintenance specified in paragraph 10.4.8.b of this chapter shall commence unless it is scheduled on the current SOSMIL. The activity performing any maintenance or evolutions listed on the SOSMIL is responsible for a pre-job brief prior to commencing work. A pre-job brief is required for all items listed on the SOSMIL and will be attended by all parties involved as desired by the Ship's Duty Officer.

10.5 FINAL CERTIFICATION, CLOSE-OUT AND RE-ENTRY OF SUBMARINE SPACES, TANKS AND VOIDS.

10.5.1 Purpose. To establish procedures for the final certification, close-out and re-entry of submarine spaces, tanks and voids.

10.5.2 Discussion. Historically during space, tank or void close-out, a large number of diverse and inconspicuous items have been overlooked. These items have, at times, seriously degraded both material readiness and acoustic signature of submarines. This section establishes a procedure to ensure a thorough certification of all spaces prior to final close-out and provides a check-off list when re-entry is required. The check-off list/sheet is not all inclusive.

VOLUME IV

CHAPTER 11

TECHNICAL DATA AND INFORMATION MANAGEMENT

REFERENCES.

(a) NAVSUP P2003 - Navy Stock List of Forms and Publications
(b) TL130-A1-HBK-010 MSC Procedures Manual - Maintenance Support Center Library Procedures Manual
(c) SECNAVINST 5510.36 - Department of the Navy Information Security Program Regulation
(d) S0005-AA-GYD-030 - Guide for User Maintenance of NAVSEA Technical Manuals; NAVSEA Technical Manual Management Program
(e) NAVSEA S8800-00-GIP-000 - Handbook for Fleet Maintenance Activity Technical Library Personnel
(f) COMNAVAIRFORINST 4700.23 - Aircraft Carrier Maintenance Support Centers (MSC) Policy and Procedures
(g) FGC 2200 - Outfit Logistics Support Requirements
(h) SECNAVINST 5510.30 - Department of the Navy Personnel Security Program
(i) SL720-AA-MAN-010 - Fleet Modernization Program (FMP) Management and Operations Manual
(j) S9040-AC-IDX-010 - Ships 3-M Reference Information CD
(k) NAVAIR 00-25-100 - Naval Air System Command Technical Manual Program
(l) NAVSEAINST 4160.3 - Technical Manual Management Program

11.1 PURPOSE. This chapter defines the responsibilities of assigned departments with respect to the management of technical documentation and data and requires the establishment and operation of technical libraries.

11.1.1 Discussion. Technical data and information are critical for the proper operation, maintenance, troubleshooting and repair of all plant equipment. Improper maintenance or equipment remaining not repaired and inoperative can result from a lack of proper documentation in the form of technical manuals, ship's drawings and blueprints, Military Specifications and standards, etc.

11.2 TECHNICAL LIBRARIES. Maintenance Support Center (MSC) Technical Library personnel maintain a complete master technical library including technical manuals, drawing/aperture cards, Coordinated Shipboard Allowance Lists, provisioning Allowance Parts Lists (APL), computerized databases and any other technical documents or aids which support maintenance functions. The Technical Library Management or locally generated Library Management Database (LMD) and Technical Document Management Information System (TDMIS) computer programs will be used to maintain the library. In general, the technical library serves the following basic functions:

a. Acquisition of new documents and data and the updating of existing materials.

b. Cataloging, indexing and filing all documents, data and information materials to allow for effective use of library technical information.

c. Accountability and control to ensure continuous integrity of the library collection and to enhance periodic inventories.

d. Central control point for all technical documents received, held, used, transferred or disposed of by the repair department (Fleet Maintenance Activity (FMA) only) or command. For FMAs having a Nuclear Support Facility (NSF), all Naval Sea Systems Command Nuclear Propulsion Directorate (NAVSEA 08) controlled documents shall be controlled by the NSF. For MSCs aboard nuclear powered aircraft carriers, all NAVSEA 08 controlled documents shall be controlled by the Reactor Department

Technical Publication Library. For MSCs having an Aviation Intermediate Maintenance Department (AIMD), all AIMD documents shall be controlled by the AIMD Librarian. The AIMD Library shall control all AIMD documents.

e. Maintain modem/internet access to the following computer networks/websites whenever possible.

(1) Technical Document Management Information System (TDMIS). https://mercury.tdmis.navy.mil/default.cfm

(2) Military Engineering Drawing Asset Locator System. https://www.dlis.dla.mil/medals

(3) Naval Surface Forces, Atlantic Planning and Execution of Alterations and Repair (FMA and COMNAVSURFLANT and COMNAVSURFPAC commands only) https://www.spear.navy.mil click on SPEAR info.

(4) Fleet Modernization Program Management Information System.

(5) Monthly Advance Change Notice Report. https://nsdsa.nmci.navy.mil/

(6) Department of Defense Index for Military Specifications, Standards and Related Publications (DODSSP) http://dodssp.daps.dla.mil

(7) https://assist.daps.dla.mil/

11.2.1 Technical Library Supervisor. The Technical Library Supervisor is responsible for keeping current plans, prints, specifications, manuals and all other technical documents and information needed by ship and FMA departments and for managing the daily operation of the library. The Technical Library Supervisor shall:

a. Have a sufficient understanding of technical library organization requirements in references (a) through (l) (as applicable) to supply the necessary technical information.

b. Have at least a "Confidential" security clearance.

c. Supervise personnel assigned to library.

d. Operate the technical library in the following manner:

(1) Schedule and carry out a frequent and recurring on the job training program for all personnel assigned to the technical library staff or to satellite librarian positions. As a minimum, training shall include topics that provide guidance for performing each library or satellite library function. Satellite librarian training may be tailored to cover only those areas applicable to satellite libraries. Lesson plans shall be developed for each topic.

(2) Maintain and provide applicable and current plans, prints, specification, manuals and all other technical documents and information needed by the cognizant department. FMAs will also provide technical documents to tended units, other FMAs, non-FMA government activities or qualified Department of Defense contractor personnel.

(3) Maintain an inventory of technical publications/manuals and manufacturer instruction books and other technical/repair documents available in the technical library and/or any satellite libraries (Work Centers/division offices, etc.).

11.3 INDEX OF TECHNICAL PUBLICATIONS AND SHIP'S DRAWING INDEX. Due to the wide variety of types of materials that may be included in a technical library, it may be confusing as to what are the minimum titles and requirements needed for a particular ship. The ITP and SDI have been developed for each ship and list the titles and drawings applicable to the ship.

11.3.1 Index of Technical Publications. The ITP is a guide to facilitate the identification of technical manuals used on board a ship. The ITP is tailored to the configuration of a specific ship and lists technical manuals needed to operate, maintain and repair ship systems and equipment. It also lists any other general and ship related manuals needed by Ship's Force. The ITP will:

a. Contain a list of the technical manuals needed on board a ship.

b. Identify technical manuals for specific systems and equipment.

c. List the systems and equipment supported by a specific technical manual.

d. Include information about each technical manual.

e. Be in electronic (EXCEL) format and sorted by APL/Repairable Identification Code and Hierarchical Structure Code.

11.3.2 Ship's Drawing Index. The SDI is a list of ship drawings and related design reference information that shows the actual current configuration of the ship. SDIs are required by General Specifications for Shipbuilding for all ships over 200 feet in length.

a. The original SDI is prepared by the shipbuilder and approved by Supervisor of Shipbuilding. After acceptance of the ship by the Navy, the SDI is sent to the selected planning yard which is assigned as custodian of the index.

b. Corrections to the SDI are submitted by the industrial activity to reflect work performed during Chief of Naval Operations Maintenance Availabilities and fleet maintenance availabilities. Original SDIs are to be corrected by the planning yard to reflect changes reported by the ship or other activities when changes are made between regular overhauls.

c. SDI information includes:

(1) Drawing title.

(2) NAVSEA drawing number and revision.

(3) Builder or contractor drawing numbers of Hull Mechanical and Electrical drawings applicable to the individual ship.

11.4 MAINTENANCE SUPPORT CENTERS.

a. (Aircraft Carriers only) MSCs provide a centralized organization to aid the Work Center technicians by incorporating Integrated Logistics Support problem solving methods. MSC personnel operate from a central facility with reference material and resources of Integrated Logistics Support troubleshooting readily available. The MSC will function within the policy and procedural guidelines of references (f) and (g).

b. The MSC develops and maintains an accurate equipment/component configuration database, identification of required technical support (e.g., repair part APLs, drawings, technical manuals, test equipment, Planned Maintenance System, etc.), and the solutions for repair part support problems.

(This Page Intentionally Left Blank)

APPENDIX A

SAMPLE CATAPULT ACCUMULATOR INSPECTION REQUEST

FM USS (SHIPS NAME AND HULL NO)//
TO (RMC)//
INFO COMNAVAIRPAC SAN DIEGO CA/COMNAVAIRLANT NORFOLK VA (as applicable)//
NAVSURFWARCEN SHIPSYSENGSTA PHILADELPHIA PA//922//
COMNAVSEASYCOM WASHINGTON DC //05Z11//
BT
UNCLAS//
MSGID/GENADMIN/ USS (SHIPS NAME HULL NO)//
SUBJ/REQUEST FOR ROUTINE CATAPULT ACCUMULATOR INSPECTION//
REF/A/DOC/COMUSFLTFORCOMINST 4790.3//
AMPN/REF A IS THE JOINT FLEET MAINTENANCE MANUAL//
RMKS/1. PER REF A REQUEST RMC PROVIDE A CERTIFIED SGPI TO ACCOMPLISH ROUTINE CATAPULT ACCUMULATOR INSPECTION OF (NUMBER CATAPULT).
2. REQUEST PRIMARY INSPECTION START DATE OF (PROVIDE DATE) AND AN ALTERNATE START DATE OF (PROVIDE DATE).
3. AWR ENTERED IN SHIP'S CSMP (JSN NUMBER).//
BT

NOTE: ENSURE MESSAGES ARE IN ACCORDANCE WITH NTP-3 FORMAT AND CURRENT PLAIN LANGUAGE ADDRESS DIRECTORY (PLAD) IS UTILIZED.

(This Page Intentionally Left Blank)

APPENDIX B

SAMPLE INSPECTION CONFIRMATION LETTER

FM (RMC)//
TO USS (SHIPS NAME AND HULL NUMBER)//
INFO COMNAVAIRPAC SAN DIEGO CA/COMNAVAIRLANT NORFOLK VA (as applicable)//
COMNAVSEASYCOM WASHINGTON DC //05Z11//
NAVSURFWARCEN SHIPSYSENGSTA PHILADELPHIA PA//922//
RMC//
BT
MSGID/GENADMIN//
SUBJ/INSPECTION DATE CONFIRMATION//
REF/A/ (INSPECTION REQUEST MESSAGE DTG)//
REF/B//DOC//COMUSFLTFORCOMINST 4790.3//
NARR/REF A IS REQUESTING CATAPULT INSPECTION. REF B IS COMUSFLTFORCOMINST 4790.3 DEFINING CATAPULT INSPECTION CRITERIA AND PROCEDURES.//
POC/ (SENIOR INSPECTOR NAME/ RATE/UIC/LOC: CITY/TEL: DSN//
SUBJ/INSPECTION DATE CONFIRMATION//
RMKS/1 IN RESPONSE TO REF A, A CATAPULT INSPECTION WILL BE CONDUCTED IAW REF B BEGINNING (DATE) ON NUMBER ( ) CATAPULT. ONE OR MORE OF THE FOLLOWING CERTIFIED INSPECTORS ARE ASSIGNED TO CONDUCT THE INSPECTIONS. INSPECTOR/NAME/RATE/LAST FOUR/CLEARANCE.//
BT

NOTE: ENSURE MESSAGES ARE IN ACCORDANCE WITH NTP-3 FORMAT AND CURRENT PLAD IS UTILIZED.

(This Page Intentionally Left Blank)

APPENDIX D

SAMPLE CATAPULT ACCUMULATOR INSPECTION REPORT COVER LETTER

From: Commanding Officer, Regional Maintenance Center
To: Commanding Officer, USS (Ship's name and Hull No.)

Subj: (Routine, etc.) Inspection of Catapult(s) Number(s)

Ref: (a) COMUSFLTFORCOMINST 4790.3, Joint Fleet Maintenance Manual

Encl: (1) SCIRMIS Report (Number Catapult)

1. (Parent Command) Steam Generating Plant Inspector(s) (Inspector's Name) inspected Catapult(s) Number(s) in USS (Ships Name and Hull No) on (date) while (ship's location).

2. Discrepancies, which require corrective action, are outlined in enclosures (Number of Enclosures).

3. Advance copies of Enclosure(s) have been delivered to the Ship's Commanding Officer.

4. (Command) point of contact is (Senior Inspector), Code (Number), commercial telephone, (Number), DSN (Number) e-mail address is: (Address).

COPY TO (W/ENCL):

CNAP/CNAL N43 (as applicable)
USS (Name Hull Number)
COPY TO (W/O ENCL):
NSWCCD-SSES (C922)
COMNAVSEASYSCOM WASHINGTON DC (O5Z11)

(This Page Intentionally Left Blank)

APPENDIX E

SAMPLE CATAPULT ACCUMULATOR INSPECTION RBO/SEVERELY DEGRADED DEFICIENCIES MESSAGE

FM Commander, Regional Maintenance Center//
TO USS (Ship Name and Hull Number)//
INFO COMNAVAIRPAC SAN DIEGO CA/COMNAVAIRLANT NORFOLK VA (as applicable)//
NAVSURFWARCEN SHIPSYSENGSTA PHILADELPHIA PA//922//
PEO CARRIERS WASHINGTON DC//PMS312//
(REPAIR ACTIVITY)//(Code)//
COMNAVSEASYSCOM WASHINGTON DC//05Z11//
BT
UNCLASS//N09537//
MSGID/GENADMIN/(REGIONAL MAINTENANCE CENTER/CODE) //
SUBJ/(Type) INSPECTION REPAIR BEFORE OPERATE (RBO) DEFICIENCIES OF NUMBER ( )
CATAPULT ABOARD USS (Ship Name Hull Number)//
REF/A/DOC/COMUSFLTFORCOMINST 4790.3//
REF/B/DOC/OPNAVINST 4790.4//
NARR/REF A IS JOINT FLEET MAINTENANCE MANUAL VOLUME IV CHAPTER 17 AND PROVIDES GUIDANCE FOR CATAPULT INSPECTIONS. REF B IS 3-M MANUAL AND PROVIDES GUIDANCE FOR CSMP DOCUMENTATION.//
POC/(Senior Inspector) (UIC)/LOC: (City, State)/TEL:(Number)/TEL:DSN (Number)//
RMKS/1. CATAPULT NUMBER (s) ROUTINE/STRENGTH AND INTEGRITY (AS APPROPRIATE) INSPECTION CONDUCTED (DATE) BY (INSPECTORS NAME) WHILE (SHIPS LOCATION). RBO DEFICIENCIES AND PROPOSED CORRECTIVE ACTION ARE REPORTED IAW REF A AS FOLLOWS:
(SCIRMIS ITEM NO, DEFICIENCY, REPAIR, ETC)
A.
B.
C.
2. CATAPULT NUMBER() SHALL NOT BE OPERATED UNTIL ALL ABOVE LISTED DEFICIENCIES ARE CORRECTED AND A REINSPECTION IS CONDUCTED IAW REF A.
3. SEVERLY DEGRADED DEFICIENCIES AND PROPOSED CORRECTIVE ACTION ARE REPORTED IAW REF A AS FOLLOWS:
A.
B.
C.
4. SEVERELY DEGRADED DEFICIENCIES ARE REQUIRED TO BE CORRECTED PRIOR TO CATAPULT CHARGING OR MUST BE SUBMITTED FOR MAJOR DEPARTURE FROM SPECIFICATION (DFS).
5. IAW REF A DEFICIENCIES COMPLETED SHALL BE REPORTED EVERY 30 DAYS USING THE GUIDANCE PROVIDED IN REF A APPENDIX F.//
BT

NOTE: ENSURE MESSAGES ARE IN ACCORDANCE WITH NTP-3 FORMAT AND CURRENT PLAD IS UTILIZED.

(This Page Intentionally Left Blank)

APPENDIX F

SAMPLE 30 DAY UPDATE MESSAGE

FM USS (SHIP'S NAME AND HULL NO)//
TO (RMC)//
INFO COMNAVAIRPAC SAN DIEGO CA/COMNAVAIRLANT NORFOLK VA (as applicable)//
NAVSURFWARCEN SHIPSYSENGSTA PHILADELPHIA PA//922//
COMNAVSEASYSCOM WASHINGTON DC//05Z11//
TYCOM//
BT
MSGID/GENADMIN/USS (SHIPS NAME AND HULL NO)//
SUBJ/ USS (SHIP'S NAME AND HULL NO.) NR ( ) CATAPULT ACCUMULATOR INSPECTION.//
REF/A/DOC/SCIRMIS REPORT FROM (RMC AND DATE)//
REF/B/DOC/COMUSFLTFORCOMINST 4790.3//
REF/C/DOC/OPNAVINST 4790.4//
NARR/REF A IS SCIRMIS REPORT FROM COMMANDER (RMC). REF B IS
COMUSFLTFORCOMINST 4790.3 JOINT FLEET MAINTENANCE MANUAL AND PROVIDES
GUIDANCE FOR CATAPULT INSPECTIONS. REF C IS OPNAVINST 4790.4 3-M
MAINTENANCE MANUAL AND PROVIDES DIRECTION FOR CSMP DOCUMENTATION.//
RMKS/ NR ( ) CATAPULT)(s) ROUTINE INSPECTION WAS CONDUCTED
(DATE) BY (SGPI INSPECTOR NAME) ITEMS CORRECTED ARE REPORTED IAW REF B AS
FOLLOWS.
1. (CATAPULT NUMBER)
2. SCIRMIS ITEM (I.E., A41/01) JOB SUBMITTED JSN (NUMBER).//
BT

NOTE: ENSURE MESSAGES ARE IN ACCORDANCE WITH NTP-3 FORMAT AND CURRENT PLAD IS UTILIZED.

(This Page Intentionally Left Blank)

e. Upon receipt of the Senior Inspecting Officer's report, take action to correct the discrepancies found and report by letter or message their corrections to the ISIC with a copy to the TYCOM and Supervising Authority (when assigned) prior to commencement of Fast Cruise.

f. Submit a Casualty Report (CASREP), if applicable, in accordance with reference (a) for each item which degrades the Submarine Rescue Chamber (SRC) and/or Submarine Rescue Diving Recompression System (SRDRS) capability.

18.3.3 Senior Inspecting Officer.

a. Assemble the inspecting team designated by the ISIC.

b. Conduct the salvage inspection in accordance with the applicable Appendix of this chapter. Ensure Appendix E of this chapter is received prior to commencement of the inspection. The inspection should be completed at least 14 days prior to commencement of Fast Cruise, or for new construction ships and ships in a CNO Maintenance Availability, at least 28 days and no sooner than 60 days, prior to the scheduled commencement of Sea Trials. This examination should normally be performed close to Phase I crew certification, if possible.

c. At the completion of the salvage inspection, report the following to the Commanding Officer/Officer In Charge of the inspected ship:

(1) Completion of the inspection. When ships are in a CNO availability, the shipyard and the Project Team must be formally notified of the scheduled date of the Salvage Inspection and any deficiencies identified.

(2) Which, if any, systems or equipment have not been restored to normal operating conditions (due to maintenance or required repairs, etc.).

(3) That an advance copy of the inspection results has been provided to the ship to facilitate early correction of deficiencies found.

d. Submit the inspection report to the Commanding Officer/Officer In Charge of the inspected ship in the format of Appendix F of this chapter within three working days following the completion of the inspection, with a copy to the cognizant ISIC.

(This Page Intentionally Left Blank)

APPENDIX E

SAMPLE PRE-INSPECTION INFORMATION/CERTIFICATION

From: Commanding Officer, USS (Ship's Name and Hull No.)
To: Senior Inspecting Officer

Subj: SUBMARINE SALVAGE INSPECTION OF USS (Ship's Name and Hull No.)

Ref: (a) COMUSFLTFORCOMINST 4790.3; Joint Fleet Maintenance Manual, Volume IV, Chapter 18

Encl: (1) SSN 688 Class Submarine Salvage Inspection Check-Off List

1. The overall responsibility for the coordination and assembly of reference plans and publications in support of our submarine salvage inspections is assigned to (preferably the XO, 1st Lt, or Weapons Officer). Our Topside Coordinator is (Name), and our Below Decks Coordinator is (Name).

2. The following information/certification is presented in accordance with reference (a): _____.

	Reference:	Inspected Item:	Certification of Ship's Representative:
(a)	Encl (1), Part I, para. 2	High and Low Salvage Connections.	Date: _____
		External Salvage Valves have been overhauled & seat tightness tested.	Tested by: _____ (Overhauling Activity)
(b)	Encl (1), Part I, para. 3.b., Part II, para. 2.i.	Gages have been tested or calibrated within the past 12 months. (list any discrepancies in para. 3)	_____ Ship's Force Representative
(c)	Encl (1), Part I, para. 6.	External Gagging Devices. Valves will be lined up & reset by:	_____ Qualified Eng. Petty Officer
(d)	Encl (1), Part I, para. 7.b. and 7.c.	Diver Qualifications. All divers requalified in accordance with MILPERSMAN Art 1220-100. (exceptions noted in para. 3.)	_____ (Yes or No)
		Diving Equipment has been inventoried and conforms with ship's COSAL.	_____ Diving Petty Officer
(e)	Encl (1), Part II, para. 1.	SRC/SRDRS. Flatness Test applicability for this scheduled inspection. Submitted for review and verification.	_____ Yes, if applicable
(f)	Encl (1), Part II, para. 2.	Escape Trunks. Ship's representative for escape trunk will be:	_____ Ship's Representative

	Reference:	Inspected Item:	Certification of Ship's Representative:
(g)	Encl (1), Part II, para. 3.	Emergency Communications Equipment Operational and stowed with the following exceptions:	_____ Yes, or list exceptions in paragraph 2.
(h)	Encl (1), Part II, para. 4.	Life Saving & Safety Equipment PMS procedures last conducted on: (List discrepancies in paragraph 3.)	_____ Date

Inventories are as follows:	Amount on Board	Required (COSAL)
Number of escape appliances or SEIE valises.	_____	_____
Location	_____	_____
	(Forward/Aft)	

	Amount on Board	Required (COSAL)
Inflatable life preservers	_____	_____
Number of non-inflatable life preservers	_____	_____

	Amount on Board	Required (COSAL)
Life Rafts (if applicable)	_____	_____
Number of safety harnesses	_____	_____
Distress Marker Lights	_____	_____
Number of desalter kits or desalinators	_____	_____

NOTE: MUST CONFORM TO CURRENT PMS SCHEDULE.

(i)	Encl (1), Part II, para. 5.	Escape Training. All hands are qualified in Buoyant Ascent and Buoyant Free Ascent or SEIE escape.	_____ Yes, or list discrepancies in paragraph 3.

APPENDIX F

SAMPLE REPORT OF SALVAGE INSPECTION FORWARDING LETTER

From: Senior Inspecting Officer
To: Commanding Officer, USS (Ship's Name and Hull No.)

Subj: REPORT OF SUBMARINE SALVAGE INSPECTION OF USS (SHIP'S NAME AND HULL NO.)

Ref: (a) COMUSFLTFORCOMINST 4790.3; Joint Fleet Maintenance Manual, Volume IV, Chapter 18

Encl: (1) Submarine Salvage Inspection Check Off List

1. A (new construction/post CNO Maintenance Availability/Interim Dry-Docking) Salvage Inspection of USS (Ship's Name and Hull No.) was conducted on (Date) using the procedures of reference (a).

2. The following provides amplifying information concerning the (exceptions/discrepancies) identified in enclosure (1). (all exceptions will be discussed)

_____

(Signed)

Copy to: (as appropriate)
COMSUBGRU
COMSUBRON
NAVSHIPYD
SUPSHIP
NAVSEA Program Manager

(This Page Intentionally Left Blank)

Reference (a)	Section 6: Gas Free Engineering Equipment	Surface Ship	Aircraft Carrier	Submarine
Reference (c) (Refer to ships Damage Control Repair Station Applied Equipment List (AEL) and equipment AEL for total number of kits required.)	Is the gas free equipment quantity in accordance with ships/subs AEL? (Compare the Damage Control Repair Station shortage list against inventory list.) Document shortage in remarks section.			
Submarine: Refer to equipment AEL	Does the shortfall list have current requisition numbers assigned?			
(074-27.14.b) Spot check calibration gas canisters/cylinders	Is the calibration gas within the expiration date?			
Spot check chemical detection tubes.	Are there any expired chemical detection tubes?			
Detection Equipment (reference (d)) for submarines and reference (e) for surface ships.)	Review PMS 13 week file. Was the S-1/S-11 (surface ship) or Q-25 (submarine) performed? Any documented discrepancies?			
SAR/SCBA (reference (f))	Review PMS 13 week file. Has the M-1R, S-3R and A-2R been performed within periodicity and when required? Any documented discrepancies?			
Review SAR/SCBA ASA DC Material Check Sheet (reference (g))	Is the ASA check sheet filled out and is there evidence of a quarterly review by DCA/LCPO? Are there any UNSAT marks, if so, is there any corrective action(s) documented (i.e., CSMP entry, 8 o'clock report entries)?			
Reference COMUSFLTFORCOMINST 4790.3	**Section 7: JFMM Requirements for Inport GFE Operations**	**Surface Ship**	**Aircraft Carrier**	**Submarine**
Reference (a) Or COMUSFLTFORCOMINST 4790.3 (Volume IV Chapter 25)	Did SF conduct GFE services for contractor personnel when the unit was outside U.S. territorial waters? Was this specified in the contract? Did the unit obtain TYCOM/Echelon III N43 approval prior to conducting GFE services?			

Reference COMUSFLTFORCOMINST 4790.3	Section 7: JFMM Requirements for Inport GFE Operations (Cont'd)	Surface Ship	Aircraft Carrier	Submarine
Reference (a) Or COMUSFLTFORCOMINST 4790.3 (Volume IV Chapter 25) (Cont'd)	When in a port location without services from NMF Gas Free Engineer or NFPA marine chemist, did the afloat Gas Free Engineer seek approval to conduct certification for emergent hot work operations from the Type Commander/echelon III N43?			
	Did submarine personnel obtain GFE services from the local supporting NMF while pierside?			
	Did the tender, in a port where GFE services are not available, ensure that entry into, or hot work in or on fuel tanks, spaces in which fuel tank vents terminate, piping or equipment servicing such spaces or other confined spaces known to contain flammable fuels or fuel vapors was approved by the Commanding Officer?			
Reference (a)	**Section 8: Hot Work Annex**	**Surface Ship**	**Aircraft Carrier**	**Submarine**
(074-22.3) Cleaning/ventilating for Hot Work (Field observation or certificate review)	Check for confined spaces where hot work is being performed, was the space tested, inspected, emptied of flammable cargo, cleaned and ventilated and certified Safe for Hot Work?			
	Are hot work sites always inspected for combustible or flammable materials before hot work is authorized?			
	If combustible materials cannot be removed from a hot work site, what is done?			
	What method of venting is used to prevent explosions?			

VOLUME IV

CHAPTER 26

BOARD OF INSPECTION AND SURVEY INSPECTIONS POLICY

REFERENCES.

(a) OPNAVINST 4730.5 - Trials and Material Inspection (MI) of Ships Conducted by the Board of Inspection and Survey
(b) OPNAVINST 4770.5 - General Policy for the Inactivation, Retirement and Disposition of United States Naval Vessels
(c) NAVSEAINST 4790.8/OPNAVINST 4790.4 - Ships' Maintenance and Material Management (3-M) Manual
(d) NWP 1-03.1 - Naval Warfare Publication Operational Report
(e) OPNAVINST 5100.19 - Navy Occupational Safety and Health (NAVOSH) Program Manual for Forces Afloat
(f) OPNAVINST 4700.8 - Trials, Acceptance, Commissioning, Fitting Out, Shakedown, and Post Shakedown Availability of U.S. Naval Ships Undergoing Construction or Conversion
(g) OPNAVINST 4730.7 - Material Inspection of Submarines Conducted by the Board of Inspection and Survey
(h) INSURVINST 4730.1 - Material Inspections (MI) of Surface Ships
(i) INSURVINST 4730.2 - Trials and Material Inspections of Submarines
(j) INSURVINST 4730.11 - Preparation of Deficiency Forms
(k) INSURVINST 4730.8 - Reports of Trials, Material Inspections and Survey Conducted by INSURV
(l) INSURVINST 4730.3 - Trials of Surface Ships

LISTING OF APPENDICES.

A INSURV Plan of Action and Milestones

26.1 PURPOSE. To define the responsibilities and provide guidance for the preparation and conduct of a Board of Inspection and Survey (INSURV) Inspection.

26.1.1 Scope. The policies and actions required by this chapter are applicable to all ships of the U.S. Navy.

26.1.2 Background. INSURV was established by Title 10, U.S. Code, Section 7304, as a board of Naval Officers to make recommendations to the Secretary of the Navy as to which vessels, if any, should be stricken from the Naval register. Additionally, per reference (a), INSURV has been tasked with providing assurance to the Chief of Naval Operations (CNO) regarding the ship's material readiness and command's self-assessment effectiveness.

26.1.3 Discussion.

a. INSURV is charged with conducting four basic types of inspections.

NOTE: COMBINED TRIALS AND GUARANTEE MATERIAL INSPECTIONS (MI) ARE CONDUCTED ON SUBMARINES ONLY. ACCEPTANCE TRIALS AND FINAL CONTRACT TRIALS ARE CONDUCTED ON ALL OTHER SHIPS.

(1) Combined Trials/Acceptance Trials for new construction or conversion ships. Details are discussed in Volume I, Chapter 4 of this manual.

(2) Guarantee Material Inspection/Final Contract Trials for new construction or conversion ships. Details are discussed in Volume I, Chapter 4 of this manual.

(3) MIs are conducted on U.S. Navy commissioned ships and submarines as discussed in this chapter and reference (a).

(4) Surveys for ships scheduled for decommissioning, Retention/Mobilization or as a Foreign Military Sale. Refer to reference (b) for additional information.

b. Detailed procedures for reporting MI deficiencies in the Maintenance and Material Management (3-M) system are contained in reference (c).

c. Milestones for inspections are shown in Appendix A of this chapter.

26.1.4 Policy.

a. As designated in reference (a), material inspections are to provide assurance to Commanding Officers and higher authority that mechanisms to identify, document and resolve material deficiencies are adequate. To this end the ship will establish a program to complete administrative and organizational preparations for the INSURV inspection commencing approximately 12 months prior to the scheduled inspection. Ships shall utilize the guidance shown in Appendix A of this chapter.

b. Adequate preparation for an INSURV inspection does not imply that all deficiencies must be corrected. The goal is to present a ship that is fully aware of all existing deficiencies. All deficiencies must be properly documented and those which are considered to be mission degrading must be reported by Casualty Report (CASREP) in accordance with reference (d). Administrative preparations, in addition to deficiency documentation, must be complete and comprehensive.

26.2 RESPONSIBILITIES.

26.2.1 Type Commander. The Type Commander (TYCOM) shall:

a. Act as the cognizant authority for the conduct of INSURV inspections for all ships of the force (including new construction ships and submarines) and maintain a schedule of inspections due.

b. Nominate ships and submarines for inspections and surveys by INSURV. Promulgate schedules of inspections to be conducted by INSURV on ships of the force.

c. Schedule accomplishment of Class Maintenance Plan maintenance assessments in accordance with Volume VI, Chapter 42 of this manual.

d. Review Safety Survey results and corrective action status report provided by the ship's Commanding Officer.

e. Track and work to resolve historical issues with systems, equipment and processes identified by INSURV.

f. Coordinate with the Immediate Superior In Command (ISIC) to disseminate the best practices and lessons learned.

26.2.2 Immediate Superior In Command. The ISIC shall (TYCOM responsible if ISIC is not assigned):

a. For Surface Force Ships only, if the ISIC is deployed, the ISIC will request the numbered fleet commander assign non-deployed local Squadron to assist with inspection preparations.

b. Schedule a Navy Safety Center Safety Survey in accordance with reference (e). This survey is to be conducted at some point within the 12 months preceding the inspection. Optimum time to schedule the survey is 3 to 5 months prior to the scheduled inspection.

c. Monitor Ship's Force preparation for the inspection.

d. Send reports per Appendix A. Surface Ships ISIC will conduct an inspection readiness assessment prior to submitting. Develop and disseminate a standardized Schedule of Events for assigned ships.

e. Ensure preparation for the sequence of accomplishing inspection underway demonstrations is conducted in advance of inspection.

f. Ensure post inspection reporting procedures are followed.

g. Attend post-INSURV inspection critiques.

h. Ensure supporting subordinate commands are prepared for the scheduled INSURV.

i. Ensure that the ship is prepared to discuss Current Ship's Maintenance Project (CSMP) deficiencies which have not been corrected, and those items which have been removed from the CSMP and passed to history.

j. Monitor the reporting and correction of inspection deficiencies through the CSMP.

26.2.3 Ship Commanding Officer. The Commanding Officer shall:

a. Ensure that the ship is prepared for the inspection.

b. Promulgate a ship wide Plan of Action and Milestones (POAM) in preparation for INSURV.

c. Be prepared to discuss with the senior member of the board any item from the previous INSURV Inspection which is still on the CSMP, all items which were determined to be not correctable and designated "pass to history", or those for which reporting had been deferred by the TYCOM, including supporting rationale and reference material.

d. Designate an officer as INSURV Coordinator and a Chief Petty Officer, preferably the 3-M Coordinator, as his assistant.

e. Assign a senior coordinator for each INSURV functional area as defined in paragraph 26.4.2.b of this chapter.

f. (Surface Force Ships Only) Submit a letter of concern to INSURV/TYCOM/ISIC.

g. Provide a copy of the Safety Survey inspection report and corrective action/status report to the TYCOM in accordance with reference (e).

26.2.4 INSURV Coordinator. The INSURV Coordinator shall:

a. Brief all Department Heads on the review of the CSMP, confirm existing Job Control Numbers as valid, and report any existing deficiencies which are not in the CSMP.

b. Review the Automated Work Request (AWR)/CSMP package with the TYCOM/ISIC Maintenance Document Control Office to ensure quality (e.g., readability, proper printing and page-break by Work Center).

c. Segregate the AWR originals by INSURV departmental designations for turnover to the INSURV team.

d. Provide the original of the complete CSMP Report to the INSURV team.

e. Retain a copy of the AWRs and the CSMP for use during the inspection.

f. Distribute copies of the AWRs to Department Heads and Work Centers.

g. Collect and track all INSURV deficiencies identified during the inspection.

h. Coordinate Work Center updating of the CSMP and the processing of updated OPNAV 4790/2Ks or AWRs.

26.2.5 Regional Maintenance Centers. In support of the tasking and funding, the Regional Maintenance Centers (RMC) will:

a. Provide RMC support coordination for INSURV in each home port.

b. Upon TYCOM direction, provide a weekly or, if required, daily update for critical path inspection repairs.

c. Provide or obtain subject matter experts with the experience and system knowledge for assessment to accomplish INSURV approved procedures based on the tasking, schedule and funding provided by INSURV.

d. Provide documented subject matter experts findings to, and formatted for, INSURV.

e. Utilize subject matter experts resources in the most cost effective manner to support the tasking.

f. Develop annual INSURV budget estimate based on projected INSURV schedule. Norfolk Ship Support Activity INSURV Support Coordinator will correlate individual estimates for transmittal to INSURV.

26.3 INSPECTION SCHEDULING.

26.3.1 Combined Trial/Acceptance Trial Inspections. The scheduling of these trials for new construction or conversion ships will be coordinated by the TYCOM and Program Executive Officer (PEO) Submarines in accordance with Volume I, Chapter 4 of this manual and reference (f).

26.3.2 Guarantee Material Inspection/Final Contract Trials. The scheduling of the Guarantee Material Inspection or Final Contract Trials will be coordinated by the PEO Ships or PEO Aircraft Carriers in accordance with Volume I, Chapter 4 of this manual and reference (f).

26.3.3 Material Inspections. Scheduling the INSURV MI at a consistent time in the Fleet Response Training Plan will provide invaluable independent assessments of how well our maintenance processes perform.

a. An INSURV MI will be included in a unit's five-year plan. The desired outcome is for INSURV's MIs to be conducted at a consistent time within the Fleet Response Training Plan, and in a manner not to interfere with carrier strike group or amphibious readiness group operations. In achieving this end state, TYCOMs will avoid scheduling INSURV MIs in the time frame between the numbered fleet commander deployment certification event (e.g., Composite Training Unit Exercise, Joint Warrior, etc.) and the end of post-deployment stand down.

(1) Surface Ships. The MI will optimally be conducted after the Unit Level Training phase and prior to the start of the Integrated Level Training phase, after every other deployment, not to exceed 54 months. With these scheduling considerations, the overall average time between examinations for surface ships will be about 48-54 months.

(2) Nuclear-Powered Aircraft Carriers. The optimal time to conduct MIs is 60 to 90 days following the completion of the CNO maintenance availability. Avoid conducting MIs after the air wing is embarked for carrier qualification. With these scheduling considerations, the overall average time between examinations for carriers will be about 48-54 months, not to exceed 60 months.

(3) Submarines. INSURV MIs are integrated into the submarine engineered operating cycle per reference (g). MIs should be scheduled post major availability and at mid-cycle. With these scheduling considerations, the overall average time between examinations for submarines will be about 65-70 months, not to exceed 84 months.

b. Conduct of INSURV MIs outside of these time frames requires approval from US Fleet Forces/PACFLT (N43). Material inspections of surface ships and aircraft carriers that cannot be conducted within 60 months, and submarines that cannot be conducted within either 84 months or within 180 days of completion of a major CNO availability planned for greater than 180 days in duration require a formal waiver of periodicity requirements from CNO per reference (a).

c. Scheduling the INSURV inspection at a consistent time in the Fleet Response Training Plan will provide invaluable independent audits of our maintenance processes. Coordinating these inspections with TYCOM assessment events reduces the burden on our Sailors and saves money.

26.4 PREPARATION FOR INSURV INSPECTION.

26.4.1 Active Preparation. Ships routinely must maintain their CSMP in accurate condition and continuously monitor and accurately report their own material readiness posture per reference (d). However, due to outside agency assessments/audits/inspections/certifications the scheduling of an inspection should occur at an optimum time when full material condition awareness is maximized. Active preparation for the INSURV inspection will commence upon receipt of the TYCOM approved proposed INSURV inspection schedule. The TYCOM will notify the Commanding Officer (via the ISIC if applicable) of the proposed dates with specific guidance for the preparation and execution of the inspection. Direct and early liaison with the INSURV is essential to ensure agenda approval, facilitate travel arrangements, berthing and other similar items. Ships shall make use of the information and data available at the INSURV website (http://www.public.navy.mil/usff/INSURV/Pages/default.aspx) to better understand and prepare for an inspection. Ships are strongly encouraged to liaison with INSURV regarding current material problem areas that may exist within the fleet and to actively resolve them as appropriate within their own command.

26.4.2 Ship's Internal Organization. The ship will establish an internal organization for the INSURV. While the details of such an organization will vary from ship to ship, two key elements must be addressed:

a. Specific personnel assignments shall be made to ensure that all necessary logistic and support arrangements for the INSURV are adequately covered (e.g., transportation, berthing, laundry, clerical assistance).

b. INSURV inspects by functional areas, which may not exactly correspond to the standard ship's organization. For purposes of the inspection, the ship will assign one-to-one correspondence for each inspector, with a senior coordinator for each INSURV functional area. Assigned individuals should be thoroughly familiar with each CSMP deficiency, show the inspector exactly where the deficiency is, be able to explain why it has not been corrected and answer questions about related items in the same category, etc. Knowledgeable ship's representatives are essential for a successful inspection.

26.4.3 Updating the Current Ship's Maintenance Project.

a. The CSMP must be reviewed, updated and purged of all completed maintenance actions. All outstanding corrective maintenance should be documented as a deferral. This evolution is important since the CSMP is the primary source of deficiencies that will be presented to INSURV. A vital part of the review is to ensure that deficiencies are properly assessed and documented.

b. Any deficiencies noted during the pre-inspection audit will be entered in the CSMP and reissued for final INSURV documentation.

26.5 BOARD OF INSPECTION AND SURVEY INSPECTION CONDUCT AND DOCUMENTATION.

26.5.1 Inspection Conduct. The inspection will be conducted as specified in reference (h) for surface ships and reference (i) for submarines.

a. Flight operations (if applicable) and other ship evolutions will not be scheduled during the conduct of the inspection, except when scheduled in direct support of the inspection or when specifically requested by INSURV.

b. A proposed "open and inspect" list will be submitted to the ship's assigned senior coordinator for each INSURV functional area no later than the start of the underway portion of the inspection. The senior INSURV member may modify the "open and inspect" list at any time.

26.5.2 Deficiency Documentation.

a. Preparation of INSURV deficiency forms will be in accordance with references (c), (j) and this instruction.

b. INSURV will provide the ship with a copy of new deficiencies found during the inspection.

c. The final forms generated by INSURV will be screened by the TYCOM following the inspection. Whenever an item is considered not cost-effective to correct or is inconsistent with reference (c), the TYCOM will authorize passing the item to the history file.

d. Deficiencies corrected while INSURV is on board are still required to be properly documented.

26.6 POST BOARD OF INSPECTION AND SURVEY INSPECTION ACTIONS.

26.6.1 Deficiency Processing and Resolution.

a. INSURV deficiencies will be reported by entering them into the ship's CSMP within 30 days following completion of the inspection (90 days for Naval Air Force ships).

b. Upon completion of the INSURV inspection, Ship's Force shall take the following actions:

(1) With TYCOM assistance, screen all INSURV deficiencies. Identify those which are mission degrading or safety items.

(2) Initiate prompt action on all mission degrading and safety items. All Part I "Mission Degrading" items and any additional items that are deemed to significantly degrade the ability of the ship to carry out its assigned mission shall be documented by an appropriate CASREP in accordance with reference (d).