JOINT FLEET MAINTENANCE MANUAL (JFMM)

COMUSFLTFORCOMINST 4790.3

VOLUME I
NEW CONSTRUCTION

DEPARTMENT OF THE NAVY
COMMANDING OFFICER SUBMEPP
PO BOX 2500
PORTSMOUTH NAVAL SHIPYARD
PORTSMOUTH, NH 03804-2500

JOINT FLEET MAINTENANCE MANUAL

VOLUME I

NEW CONSTRUCTION

LIST OF EFFECTIVE CHAPTERS

Chapter Number	Change in Effect
1	Change -
2	Change -
3	Change -
4	Change -
5	Change -
6	Change -

JOINT FLEET MAINTENANCE MANUAL

VOLUME I

NEW CONSTRUCTION

TABLE OF CONTENTS

CHAPTER 1 - INTRODUCTION

1.1 Purpose I-1-1

1.2 Scope I-1-1

1.3 Changes and Corrections I-1-1

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

Appendices

A1 Summary of Typical New Construction Major Milestones and Message Reporting Requirements for Submarines I-1A-1

A2 Summary of Typical New Construction Major Milestones and Message Reporting Requirements for Aircraft Carriers.....I-1A-3

A3 Summary of Typical New Construction and Post Shakedown Availability Planning Events, Major Milestones and Message Reporting Requirements for Surface Forces I-1A-5

B1 CVN General Time Line of Key Events I-1B-1

B2 USS *Virginia* (SSN 774) General Time Line of Key Events I-1B-2

B3 Delivery Messages Scenario.....I-1B-3

C List of Acronyms.....I-1C-1

D Glossary of Terms I-1D-1

CHAPTER 2 - POLICIES AND RESPONSIBILITIES

2.1 Navy Shipbuilding Program Managers.....I-2-3

2.1.1 Pre-Commissioning I-2-3

2.1.2 Post Shakedown Availability (Submarines only).....I-2-4

2.2 Naval Sea Systems Command Nuclear Propulsion Directorate (Nuclear Powered Ships only) I-2-4

2.2.1 Pre-Commissioning I-2-4

2.2.2 Reactor Safeguard Examination.....I-2-4

2.2.3 Criticality and Power Range Testing.....I-2-4

2.2.4 Post Shakedown Availability I-2-4

2.3 Type Commander ……..… I-2-4

2.3.1 Pre-Commissioning.....I-2-5

2.3.2 Combined Trials, Acceptance Trials, Final Contract Trials or Guarantee Material Inspection.....I-2-7

2.3.3 Post Shakedown Availability I-2-7

2.4 Supervising Authority I-2-7

2.4.1 Pre-Commissioning.....I-2-7

2.4.2 Acceptance Trials or Combined Trials I-2-11
2.4.3 Post Shakedown Availability I-2-11
2.4.4 Deficiencies I-2-11

2.5 Immediate Superior in Command I-2-12
2.5.1 Pre-Commissioning I-2-12
2.5.2 Post Shakedown Availability I-2-14

2.6 Building Yard I-2-15

2.7 Design Yard or Planning Yard I-2-15

2.8 Commanding Officer, Prospective Commanding Officer, or Officer In Charge I-2-15
2.8.1 General I-2-15
2.8.2 Pre-Commissioning I-2-16
2.8.3 Trials and Inspections I-2-19
2.8.4 Post Shakedown Availability I-2-19

2.9 Pre-Commissioning Unit I-2-20
2.9.1 Initial Man-up I-2-20
2.9.2 Training I-2-21
2.9.3 Ship's Qualification Program I-2-22
2.9.4 Deficiency Identification and Correction I-2-23
2.9.5 Establishment of Engineering and Reactor Department I-2-23

2.10 Support Activities I-2-25
2.10.1 Technical Support I-2-25
2.10.2 Submarine Maintenance Engineering, Planning and Procurement Activity I-2-25
2.10.3 Carrier Planning Activity, PMS312C (Aircraft Carriers only) I-2-26
2.10.4 Surface Maintenance Engineering Planning Program (Surface Forc26 Ships Only) I-2-26
2.10.5 Space and Naval Warfare Systems Centers I-2-26
2.10.6 Fleet Introduction Team (Surface Forces only) I-2-27
2.10.7 Afloat Training Group (Surface Force Ships only) I-2-27
2.10.8 Surface Nuclear Propulsion Mobile Training Team (Aircraft Carriers only) I-2-27
2.10.9 Fitting Out Supply Assistance Team (Surface Ships only) I-2-27

2.11 Naval Sea Systems Command (Submarines only) I-2-28

2.12 Integration of Class Maintenance Plan and Baseline Availability Work Package (Surface Force Ships Only) I-2-29
2.12.1 Life Cycle Planning Conference I-2-29
2.12.2 BAWP Pre-Pushed to Maintenance Team I-2-29
2.12.3 BAWP Upload I-2-29
2.12.4 Other BAWP to AWP Process Milestones I-2-29

Appendices
A Message Scenario and Sample Messages or Letters for Habitability Inspections and In-Service I-2A-1

A1 Sample Supervising Authority Letter to Navy Shipbuilding Program Manager Recommending Habitability Inspection and In-Service I-2A-2
A2 Sample Navy Shipbuilding Program Manager Letter Requesting TYCOM to Authorize ISIC to Conduct Habitability Inspection.....I-2A-3
A3 Sample TYCOM Message Directing ISIC to Conduct Habitability Inspection I-2A-4
A4 Sample ISIC Message Reporting Completion of Habitability Inspection and Recommending Ship Be Placed "In-Service" I-2A-5
A5 Sample Navy Shipbuilding Program Manager to CNO Message ..... Recommending Ship Be Placed In-Service.....I-2A-7
A6 Sample TYCOM Message Recommending Ship Be Placed "In-Service Active".....I-2A-8
A7 Sample CNO to Navy Shipbuilding Program Manager Message Directing the Ship Be Placed In-Service I-2A-9
A8 Sample Supervising Authority to Navy Shipbuilding Program Manager Message Recommending Ship Be Placed In-Service.....I-2A-10
A9 Sample Navy Shipbuilding Program Manager to Ship Message Directing Ship Be Placed In-Service I-2A-11
A10 Sample CO Pre-Commissioning Unit Message Reporting "In-Service Active".....I-2A-12
B Message Scenario and Sample Messages for Fast Cruise and Alpha Sea Trial (Nuclear Powered Ships) I-2B-1
B-SUBS (Submarines Only) Message Scenario and Sample Messages for Fast Cruise and Alpha Sea Trial (Nuclear Powered Ships) I-2B-2
B1 Sample ISIC Certification of New Construction Readiness for Fast Cruise and Sea Trials Message (Submarines).....I-2B-3
B2 Sample Pre-Commissioning Unit Message to TYCOM Concerning Crew Certification (CVN) I-2B-5
B3 Sample TYCOM Certification of Crew Readiness for Underway Trials Message (Submarines) I-2B-6
B4 Sample Supervising Authority to Navy Shipbuilding Program Manager Message Concerning Fast Cruise and Alpha Sea Trial Readiness (Submarines) I-2B-7
B5 Sample Supervising Authority Message to Navy Shipbuilding Program Manager Concerning Fast Cruise and Sea Trial Readiness (CVN) I-2B-9
B6 Sample Supervising Authority to Navy Shipbuilding Program Manager 24 Hour Message Concerning Fast Cruise Readiness (Submarines) I-2B-10
B7 Sample Supervising Authority to Navy Shipbuilding Program Manager and TYCOM Message Concerning Fast Cruise Completion (Submarines).....I-2B-11
B8 Sample NAVSEA to TYCOM Message Concerning Material Condition and Authorized Depth for Alpha Sea Trial (Submarines).....I-2B-13
B9 Sample TYCOM to Pre-Commissioning Unit Message Concerning Alpha Sea Trial Authorized Test and Operating Depth (Submarines).....I-2B-15
C Message Scenario and Sample Messages for Bravo, Charlie, and Combined Trials (Submarines).....I-2C-1

C1 Sample Supervising Authority to Navy Shipbuilding Program Manager Message Concerning Design Test Depth Dive Readiness I-2C-2
C2 Sample NAVSEA to TYCOM Message Concerning Design Test Depth Dive Authorization I-2C-4
C3 Sample TYCOM to Pre-Commissioning Unit Message Concerning Design Test Depth Dive Authorization I-2C-5
C4 Supervising Authority Installation of Shore Power Covers for Bravo and Subsequent Sea Trials Sample Message I-2C-7
D Message Scenario and Sample Messages for URO Certification (Submarines) I-2D-1
D1 Sample Supervising Authority to Navy Shipbuilding Program Manager Message Concerning URO I-2D-2
D2 Sample NAVSEA to TYCOM Message Concerning URO I-2D-3
D3 Sample TYCOM to Pre-Commissioning Unit Message Concerning URO I-2D-4
E Pre-RSE, RSE, Criticality or Power Range Testing Logic Table (All Nuclear Powered Ships) I-2E-1
E1 Sample Supervising Authority to NAVSEA Message Requesting Authorization for Criticality I-2E-2
E2 Sample Supervising Authority to NAVSEA Request for Initial Criticality I-2E-3
E3 Sample NAVSEA to Supervising Authority Message Authorizing Criticality I-2E-4
F Sample TYCOM Message Concerning Sea Trial Agenda (Submarines) I-2F-1
G Sample TYCOM Message to PCU Concerning Use of the FBW SCS in Support of Alpha Sea Trials (Submarines) I-2G-1
H Sample TYCOM Message to PCU Concerning FBW SCS Material Condition Initial Certification (Submarines) I-2H-1
I Sample TYCOM Message to the Ship Concerning FBW SCS Certification (Submarines) I-2I-1
J Sample Supervising Authority Message to NAVSEA Concerning PCU FBW SCS Material Condition Readiness for Fast Cruise and Alpha Trials (Submarines) I-2J-1
K Sample Supervising Authority Message to TYCOM and NAVSEA Concerning PCU Fast Cruise Completion and Readiness of FBW SCS Material Condition for Alpha Sea Trials (Submarines) I-2K-1
L Sample Supervising Authority Message to NAVSEA Concerning PCU FBW SCS Material Condition Readiness Upon Completion of Alpha Sea Trials and Readiness of the FBW SCS for Use During Bravo and Subsequent Sea Trials (Submarines) I-2L-1
M Sample Supervising Authority Message to NAVSEA Concerning PCU FBW SCS Material Condition Initial Certification (Submarines) I-2M-1
N Pre Man-Up Checklist for TYCOM/ISIC I-2N-1
O Basic Requirements for Initial Man-Up Personnel of the PCU (Detachment Concept) (Aircraft Carriers and Surface Force Ships) I-2O-1
P Basic Requirements for Initial Man-Up Personnel of the PCU I-2P-1

Q Generic Base Line of Fleet Introduction Team Functions and Responsibilities....I-2Q-1
R Sample NAVSEA Message to TYCOM Concerning PCU FBW SCS Material Condition Readiness for Alpha Sea Trials (Submarines) I-2R-1
S Sample NAVSEA Message to TYCOM Concerning PCU FBW SCS Material Condition Initial Certification (Submarines) I-2S-1
T Sample NAVSEA Message to TYCOM Concerning PCU Recommendation for Fly-By-Wire Ship Control System Certification I-2T-1

CHAPTER 3 - PRE DELIVERY

3.1 Purpose I-3-2

3.2 Shipbuilder's Test Program....I-3-2

3.3 Inspections, Certifications and Assists....I-3-3
3.3.1 Arrival Assist....I-3-3
3.3.2 Periodic Monitoring, Inspections and Visits I-3-3
3.3.3 Pre-Reactor Safeguard Examination (Nuclear Powered Ships only) I-3-4
3.3.4 Crew Certification I-3-5
3.3.5 Sonar Certification (Applicable Surface Force Ships and Submarines) I-3-5
3.3.6 Aviation Facility Certification (Air Capable Ships only)....I-3-5
3.3.7 Salvage Inspection (Submarines only) I-3-6
3.3.8 NAVSEA Calibration Activity or Aircraft Intermediate Maintenance Department Calibration Laboratory Initial Certification (Submarines, Aircraft Carriers and Surface Forces, as appropriate) I-3-6
3.3.9 National Policy on the Control of Compromising Emanations Inspection I-3-7
3.3.10 Diesel Inspection I-3-7
3.3.11 Habitability Inspection I-3-8
3.3.12 Requirements for In-Service....I-3-8
3.3.13 Degaussing or Deperming I-3-9
3.3.14 Light-Off Assessment (Surface Force Ships only)....I-3-9
3.3.15 Shipboard Crane Certification Program (Surface Force Ships and Aircraft Carriers, as appropriate) I-3-10
3.3.16 Marine Gas Turbine Inspection I-3-10

3.4 Maintenance and Material Management Program I-310
3.4.1 Planned Maintenance System....I-3-10
3.4.2 Technical Feedback Reports....I-3-12
3.4.3 Establishment of Current Ship's Maintenance Project....I-3-13
3.4.4 Naval Tactical Command Support System....I-3-13

3.5 Equipment Load Out I-3-13
3.5.1 Test Equipment....I-3-13
3.5.2 Hand Tools and Weight Handling Equipment I-3-13

3.6 Logistic Support I-3-13
3.6.1 Technical Manuals and Drawings I-3-13
3.6.2 Unrestricted Operations Maintenance Requirement Cards (Submarines only)....I-3-16

3.7 Operational Control Transfer I-3-16
3.8 Sound Silencing Programs Unique to New Construction (MHC and SSN only) I-3-17

Appendices
A Areas to Be Evaluated During Arrival Assists I-3A-1
B Areas to Be Evaluated During Monitoring Inspections I-3B-1
C Sample Pre-Reactor Safeguard Examination Notice I-3C-1
D In-Service Compartment Surveillance Guide (Aircraft Carriers and Submarines Only) I-3D-1
E Sample Pre-Commissioning Habitability Inspection Checklist for New Construction Ships I-3E-1

CHAPTER 4 – TRIALS

4.1 Purpose I-4-2

4.2 Dock Trials I-4-2
4.2.1 Purpose I-4-2
4.2.2 Conduct I-4-2
4.2.3 Scheduling I-4-2
4.2.4 Specific Test Areas I-4-2

4.3 Fast Cruise I-4-2
4.3.1 Purpose I-4-2
4.3.2 Conduct I-4-2
4.3.3 Scheduling I-4-3
4.3.4 Specific Test Areas I-4-3
4.3.5 Reports (Nuclear Powered Ships only) I-4-3

4.4 Sea Trials I-4-3
4.4.1 General I-4-3
4.4.2 Builder's Trials I-4-5
4.4.3 Alpha Sea Trial (Submarines only) I-4-6
4.4.4 Bravo Sea Trial (Submarines only) I-4-8
4.4.5 Charlie Sea Trial (Submarines only) I-4-8
4.4.6 Acoustic Trials (Platform and Radiated) (Submarines only) I-4-9
4.4.7 Shock Trials I-4-9
4.4.8 Acceptance Trials, Combined Trials, Final Contract Trials and Guarantee Material Inspection I-4-9

Appendices
A Specific Dock Trial Test Areas I-4A-1
B Minimum Fast Cruise Requirements I-4B-1
C Listing of Tests to Be Performed During Aircraft Carrier Builder's Trials I-4C-1
D Listing of Tests to Be Performed During Initial Tightness Dive (Submarines Only) I-4D-1
E Escort Ship Capabilities for Submarine Sea Trials I-4E-1
F Listing of Tests to Be Performed Prior to, During and Following First Dive to Test Depth I-4F-1

CHAPTER 5 - POST DELIVERY DEFICIENCIES

5.1 Purpose I-5-1

5.2 Deficiency Correction I-5-1
5.2.1 Government Responsible Items I-5-1
5.2.2 Shipbuilder Responsible Items I-5-2
5.2.3 Recommended Changes in Characteristics, Design Specifications, or Plans I-5-2

5.3 Required Reports I-5-2

5.4 Combined Trials, or Acceptance Trials I-5-4

5.5 Guarantee Material Inspection or Final Contract Trials I-5-5

5.6 Post Delivery Deficiency Items I-5-5

Appendices
A Sample Page of 4760-1 Report with Representative Data I-5A-1
B Legend and Explanation of Symbols Used in Report 4760-1 ..... I-5B-1
C Preparation for Guarantee Material Inspection/Final Contract Trials I-5C-1

CHAPTER 6 - POST SHAKEDOWN AVAILABILITY

6.1 Purpose I-6-1

6.2 Planning and Execution I-6-1

6.3 Trials, Inspections and Crew Certification I-6-1

6.4 Sea Trials I-6-1

6.5 Deficiency Correction Period I-6-2

6.6 Period Following Post Shakedown Availability I-6-2

Appendices.
A Major Funding Milestones During Construction/Conversion I-6A-1
B Post Shakedown Availability Planning Events Milestone Schedule I-6B-1
C Summary of Major Milestones for Post Shakedown Availability I-6C-1

VOLUME I

CHAPTER 1

INTRODUCTION

REFERENCES.

(a) NAVSEA S9086-C4-STM-000 - NSTM Chapter 094 (Trials)
(b) OPNAVINST 9080.3 - Procedures for Tests and Trials of Navy Nuclear Powered Ships Under Construction, Modernization, Conversion, Refueling and Overhaul
(c) OPNAVINST 4700.8 - Trials, Acceptance, Commissioning, Fitting-Out, Shakedown, and Post Shakedown Availability of U.S. Naval Ships Undergoing Construction or Conversion
(d) NAVSEAINST 4790.8/OPNAVINST 4790.4 - Ships' Maintenance and Material Management (3-M) Manual

LISTING OF APPENDICES.

A Summary of Typical New Construction Major Milestones and Message Reporting Requirements
B General Time Lines of Key Events
C List of Acronyms
D Glossary of Terms

1.1 PURPOSE. Volume I of this manual summarizes maintenance related information for all units of the Fleet during Ship construction and through the completion of Post Shakedown Availability (PSA). The time span is from initial crew man-up to departure from the PSA facility.

1.2 SCOPE.

a. New Construction ships require a succession of inspections and tests followed by a series of underway trials. The philosophy and sequencing of these inspections, tests, and trials are set forth in references (a), (b) and (c) and are graphically represented in Appendices A and B of this chapter. This Volume provides information, guidance, policies and procedures for maintenance related topics during the Ship's construction period. Reference (d) must be used in conjunction with the Joint Fleet Maintenance Manual (JFMM) to establish an effective maintenance program. The requirements of this manual do not supersede or take precedence over directives issued by higher authority. Where conflicts exist with previously issued Type Commander (TYCOM) letters and transmittals, this manual takes precedence. Conflicts should be reported to the applicable TYCOM.

b. The development of this and subsequent volumes to the JFMM has required the study of numerous reference documents, many of which are referenced as source or governing documents in specific chapters. The Foreword of this Manual contains a Master Listing of all the references called out in the JFMM. These references are arranged in an alphanumeric sequence to facilitate the ordering of documentation to support the use of the JFMM. References used in specific chapters are called out at the beginning of that chapter.

c. Appendices C and D of this chapter contain a list of acronyms and a glossary of terms used throughout Volume I of the JFMM.

d. Equipment under the cognizance of the Strategic Systems Programs and Naval Sea Systems Command (NAVSEA) Nuclear Propulsion Directorate (08) are maintained following the Strategic Systems Programs and NAVSEA 08 directives, respectively.

1.3 CHANGES AND CORRECTIONS. Changes and corrections will be issued as required. Comments and suggestions for improving or changing this volume are invited. Address comments, recommendations, and requested changes to Submarine Maintenance Engineering, Planning and Procurement (SUBMEPP) Activity utilizing the change request form located in the front of this manual. If changes are submitted in electronic format, facsimile or E-mail, each change request must contain the information required on the change request form.

1.4 REQUEST FOR COPIES OF THE MANUAL. Activities on distribution for the JFMM CD-ROM that require additional copies or activities wanting to be added to distribution should submit a letter to their applicable TYCOM or SYSCOM, identifying CD-ROM requirements along with justification for the request. To the maximum extent possible, all activities and commands will utilize the JFMM public web page located at https://www.navsea.navy.mil/Home/SUBMEPP/Products/JFMM/. Any CD-ROM authorized to be issued to ashore activities or commands will be issued to the technical publications libraries at the activity who will coordinate local distribution and updates for that activity.

APPENDIX A_1

SUMMARY OF TYPICAL NEW CONSTRUCTION MAJOR MILESTONES AND MESSAGE REPORTING REQUIREMENTS FOR SUBMARINES

Event	Cognizance	Approximate Schedule (see Note)
A. Arrival Assist	Immediate Superior in Command (ISIC)	Crew Arrival +2 months
B. Periodic Monitoring Inspections	ISIC	Start to completion
C. Pre-Reactor Safeguard Examination (RSE)	ISIC (TYCOM Assist)	Criticality -6 to -8 weeks
D. RSE per OPNAVINST 3540.3	Naval Sea Systems Command (NAVSEA) Nuclear Propulsion Directorate (08)	Criticality -4 to -6 weeks
E. Criticality	Prospective Commanding Officer (PCO)	
F. Escort Recommendation Message	ISIC or Supervising Authority	-60 days
G. Habitability Inspection for In-Service per OPNAVINST 9080.3	ISIC	-60 days
H. Phase I Crew Certification	ISIC	-35 days
I. Salvage Inspection	ISIC	-30 days
J. Approve Sea Trial Agendas * * Only Alpha Trial Agenda is approved 30 days before trial date	NAVSEA for Propulsion Trials; Director, Strategic Systems Programs for Ballistic Missile Trials; Board of Inspection and Survey (INSURV) for Acceptance Trial (AT); TYCOM for Operational Aspects all Trials	-30 days
K. In-Service per OPNAVINST 4700.8 and OPNAVINST 9080.3	Supervising Authority NAVSEA, ISIC and TYCOM	-28 days
L. Dock Trial	Officer in Charge (OIC)	-21 days
M. Phase II Crew Certification Message (Volume I, Chapter 2, Appendix B_1)	ISIC	-10 days
N. Crew Certification Message (Volume I, Chapter 2, Appendix B_3)	TYCOM	-9 days
O. Readiness for Fast Cruise or Sea Trial Message (Volume I, Chapter 2, Appendix B_4)	Supervising Authority or OIC concurrence	-7 days
P. Certify Material Condition for Alpha Sea Trial Message (Volume I, Chapter 2, Appendix B_8)	NAVSEA	-7 days
Q. Authorize Commencement of Sea Trial Message	TYCOM to ISIC to Ship	-7 days
R. Fast Cruise	OIC	-7 days (2 days on, 1 day off, 2 days on)
S. Report Completion of Fast Cruise and Readiness for Sea Trial Message (Volume I, Chapter 2, Appendix B_7)	Supervising Authority (with OIC concurrence) to TYCOM	-2 days
T. Depth Authorization Message (Volume I, Chapter 2, Appendix B9)	TYCOM	-1 day

Event	Cognizance	Approximate Schedule (see Note)
U. Alpha Sea Trial	OIC	0
V. Readiness for Bravo Sea Trial Message (Volume I, Chapter 2, Appendix C_1)	Supervising Authority	Bravo Sea Trial -1 day
W. Readiness for Bravo Sea Trial Message (Volume I, Chapter 2, Appendix C_2)	NAVSEA	Bravo Sea Trial -1 day
X. Bravo Sea Trial Authorization Message (Volume I, Chapter 2, Appendix C_3)	TYCOM	Bravo Sea Trial -1 day
Y. Bravo Sea Trial	OIC	+3 days
Z. Readiness for Charlie Sea Trial Message (Volume I, Chapter 2, Appendix C_1)	Supervising Authority	Charlie Sea Trial -1 day
AA. Readiness for Charlie Sea Trial Message (Volume I, Chapter 2, Appendix C_2)	NAVSEA	Charlie Sea Trial -1 day
AB. Charlie Sea Trial Authorization Message (Volume I, Chapter 2, Appendix C_3)	TYCOM	Charlie Sea Trial -1 day
AC. Charlie Sea Trial	OIC	+45 days
AD. Readiness for INSURV Sea Trial Message (Volume I, Chapter 2, Appendix C_1)	Supervising Authority	INSURV Sea Trial -1 day
AE. Readiness for INSURV Sea Trial Message (Volume I, Chapter 2, Appendix C_2)	NAVSEA	INSURV Sea Trial -1 day
AF. INSURV Sea Trial Authorization Message (Volume I, Chapter 2, Appendix C_3)	TYCOM	INSURV Sea Trial -1 day
AG. INSURV	Supervising Authority and OIC	+60 days
AH. Recommendation for Unrestricted Operations Certification Message (Volume I, Chapter 2, Appendix D_1)	Supervising Authority	
AI. Unrestricted Operations Certification Message (Volume I, Chapter 2, Appendix D_2)	NAVSEA	
AJ. Unrestricted Operation Authorization Message (Volume I, Chapter 2, Appendix D_3)	TYCOM	

NOTE: UNLESS OTHERWISE INDICATED, SCHEDULED DATES ARE REFERENCED TO THE ALPHA SEA TRIAL UNDERWAY DATE.

APPENDIX A_2

SUMMARY OF TYPICAL NEW CONSTRUCTION MAJOR MILESTONES AND MESSAGE REPORTING REQUIREMENTS FOR AIRCRAFT CARRIERS

Event	Cognizance	Approximate Schedule (see Note)
A. Periodic Monitoring Inspections	TYCOM	Start to Completion
B. Pre-RSE	TYCOM	
C. Habitability Inspection for In-Service per OPNAVINST 9080.3	TYCOM	-180 days
D. Phase I Crew Certification	ISIC	-120 days
E. RSE per OPNAVINST 3540.3	NAVSEA 08	
F. Criticality	PCO	-90 and -60 days
G. Approve Sea Trial Agenda	NAVSEA (for Builder's Trials (BT)) INSURV (for AT)	-70 days
H. In-Service per OPNAVINST 4700.8 and OPNAVINST 9080.3	Supervising Authority, NAVSEA, TYCOM	-65 days
I. Dock Trial	PCO	-60 days
J. Phase II Crew Certification Message	ISIC	-55 days
K. Crew Certification Message	ISIC	-50 days
L. Readiness for Fast Cruise or Sea Trial Message	Supervising Authority, with PCO concurrence	-50 days
M. Authorize Commencement of Sea Trial Message	TYCOM	-46 days
N. Fast Cruise	PCO	-45 days
O. Report Completion of Fast Cruise and Ready for Sea Trial Message	Supervising Authority, with PCO concurrence	-40 days
P. Builder's Trials	PCO	-30 days
Q. Acceptance Trials	PCO	-21 days
R. Readiness for Final Contract Trials (FCT) Message	NAVSEA	+59 days
S. Final Contract Trials	CO	+60 days
T. Operational Reactor Safeguard Examination (ORSE)	NAVSEA 08	

NOTE: UNLESS OTHERWISE INDICATED, SCHEDULED DATES ARE REFERENCED TO THE DELIVERY DATE.

APPENDIX A3

SUMMARY OF TYPICAL NEW CONSTRUCTION AND POST SHAKEDOWN AVAILABILITY PLANNING EVENTS, MAJOR MILESTONES AND MESSAGE REPORTING REQUIREMENTS FOR SURFACE FORCES

Event	Cognizance	Approximate Schedule (see Note)				
		AOE	DDG	LHD	LPD and LSD	MHC
A. Arrival Inspection	ISIC or TYCOM	Crew Arrival				
B. Periodic Monitoring Inspections	ISIC or TYCOM	Start To Completion				
C. AEGIS Light-Off (If applicable)	NAVSEA or Supervising Authority		-300 days			
D. Main Engine Light-Off	NAVSEA or Supervising Authority		-210 days			
E. Builder's Dock Trial	Supervising Authority	-141 days	-210 days		-180 days	-180 days
F. Builder's Trial (Alpha)	Supervising Authority	-120 days	-120 days	-130 days	-150 days	-90 days
G. Review and update Out of Commission List	Ship's Force	-90 days	-90 days	-90 days	-90 days	-90 days
H. Builder's Trial (Bravo) "Combat Systems"	Supervising Authority		-60 days			
I. Builder's Trial (Charlie) "Acceptance"	Supervising Authority	-60 days	-30 days	-60 days	-90 days	-30 days
J. Prepare OPNAV 4790/2Ks for all deficiencies to be presented to the INSURV at the AT or Combined Trial (CT)	Supervising Authority	-21 days	-21 days	-21 days	-21 days	-21 days
K. Conduct AT or CT	INSURV Board	-21 days	-21 days	-21 days	-21 days	-21 days
L. Identify and resolve controversies over responsibility and timing for correction of deficiencies	Ship Program Manager, Supervising Authority, Shipbuilder, or Ship's Force	-21 days	-21 days	-21 days	-21 days	-21 days
M. Provide the ship with one copy of each documented INSURV item for input at delivery into the Current Ship's Maintenance Project (CSMP)	Supervising Authority	-21 days	-21 days	-21 days	-21 days	-21 days
N. Habitability Inspection for In-Service per OPNAVINST 9080.3	ISIC	-14 days	-14 days	-3 days	-14 days	-14 days
O. Phase I Crew Certification	ISIC	+14 days			-120 days	+10 days
P. Phase II Crew Certification	ISIC	+60 days	+60 days	+80 days	+8 days	+65 days
Q. Light-Off Assessment (LOA)	ISIC or TYCOM	+70 days	-15 days	+70 days	+45 days	+60 days
R. In-Service per OPNAVINST 4700.8 "Delivery"	NAVSEA, Supervising Authority, TYCOM	0	0	0	0	0
S. Issue Section B of Consolidated Report	Ship Program Manager	0	0	0	0	0
T. Submit OPNAV 4790/2Ks for all INSURV items and for all other material deficiencies that quality for CSMP	Ship's Force	0	0	0	0	0

Event	Cognizance	Approximate Schedule (see Note)				
		AOE	DDG	LHD	LPD or LSD	MHC
U. Issue Delivery Letter	Shipbuilder	+10 days	+10 days	+10 days	+10 days	+10 days
V. Submit Comments on Delivery Letter	Supervising Authority	+20 days	+20 days	+20 days	+20 days	+20 days
W. Dock Trial	PCO					
X. Establish PSA work package from input to date and identify required advance planning actions via PSA Planning Conference	Ship Program Manager, Supervising Authority, TYCOM, Ship's Force or Shipbuilder	+27 days	+27 days	+27 days	+27 days	+27 days
Y. Submit Priority list of AT or CT deficiencies	Ship's Force	+30 days	+30 days	+30 days	+30 days	+30 days
Z. Make comments on ship's priority list	TYCOM	+35 days	+35 days	+35 days	+35 days	+35 days
AA. Issue a list of Shipbuilding and Conversion, Navy (SCN) funded items authorized for accomplishment during PSA	Ship Program Manager	+40 days	+40 days	+40 days	+40 days	+40 days
AB. Assign availability	TYCOM	+42 days	+42 days	+42 days	+42 days	+42 days
AC. Issue initial PSA work package	Supervising Authority	+45 days	+45 days	+45 days	+45 days	+45 days
AD. Prepare for FCT or Guarantee Material Inspection (GMI)	Ship's Force	+50 days	+50 days	+50 days	+50 days	+50 days
AE. Place ship in "INSURV Window" and call down ship's Pre-INSURV package	TYCOM	+50 days	+50 days	+50 days	+50 days	+50 days
AF. FCT or GMI	INSURV Board	+54 days	+54 days	+54 days	+54 days	+54 days
AG. Conference following FCT or GMI critique to assign responsibility for correction of deficiencies and to assign priorities	Ship Program Manager, Supervising Authority, Shipbuilder, TYCOM or Ship's Force	+54 days	+54 days	+54 days	+54 days	+54 days
AH. Issue Section "B" of Consolidated Report	Ship Program Manager	+54 days	+54 days	+54 days	+54 days	+54 days
AI. Fast Cruise	PCO	+85 days	+30 days		+50 days	
AJ. Commissioning	CO	+120 days	+14 days	+90 days	+60 days	+70 days
AK. Issue final list of SCN funded items authorized for accomplishment during PSA	Ship Program Manager	+90 days	+90 days	+90 days	+90 days	+90 days
AL. Sail Away	CO	+90 days		+95 days	+90 days	+80 days
AM. Issue final PSA work package	Supervising Authority	+100 days	+100 days	+100 days	+100 days	+100 days
AN. Pre-Arrival Conference	Supervising Authority, Ship Program Manager, Shipbuilder, TYCOM, ISIC or Ship's Force	+149 days	+149 days	+149 days	+149 days	+149 days
AO. Commence PSA or Arrival Conference	Supervising Authority, Shipbuilder or Ship's Force (TYCOM and Ship Program Manager not required unless specifically requested)	+154 days	+154 days	+154 days	+154 days	+154 days
AP. Final Contract Trials	Supervising Authority	+330 days	+120 days	+270 days	+210 days	+90 days

Event	Cognizance	Approximate Schedule (see Note)				
		AOE	DDG	LHD	LPD or LSD	MHC
AQ. Operational Propulsion Plant Examination (OPPE)	ISIC or TYCOM	+345 days	+180 days	+345 days	+225 days	+105 days
AR. End PSA and Submit final status report of all deficiencies (Completion Date Varies with platform)	Ship's Force	+214 to +274 days	+214 to +274 days	+214 to +274 days	+214 to +274 days	+214 to +274 days
AS. Comment on final status report from ship and submit recommendations for Ship Program Manager Action	TYCOM	*	*	*	*	*
AT. Issue follow-up letter requesting Ship Program Manager final resolution and action on government responsible uncorrected deficiencies	TYCOM	**	**	**	**	**

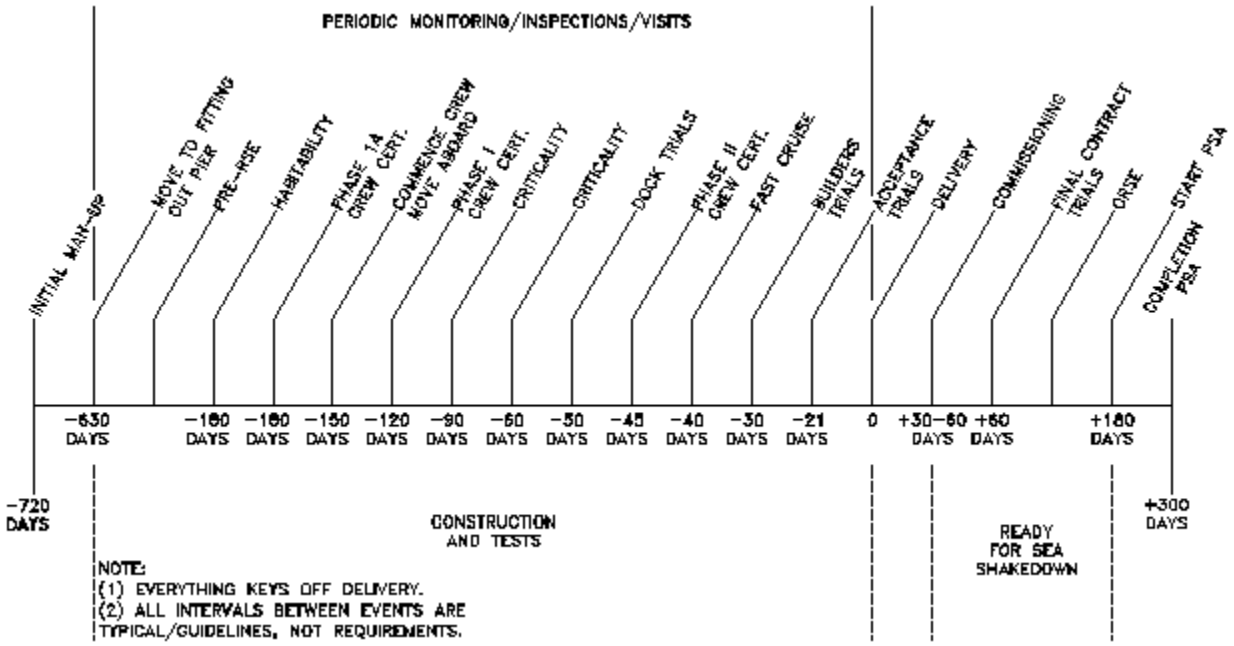
NOTE: UNLESS OTHERWISE INDICATED, SCHEDULED DATES ARE REFERENCED TO THE DELIVERY DATE AND ARE APPROXIMATE. SIGNIFICANT ADJUSTMENT MAY BE REQUIRED FOR PSAS THAT COMMENCE AT OTHER TIMES AFTER DELIVERY.

* 30 days after completion of PSA

** 45 days after completion of PSA

APPENDIX B_1

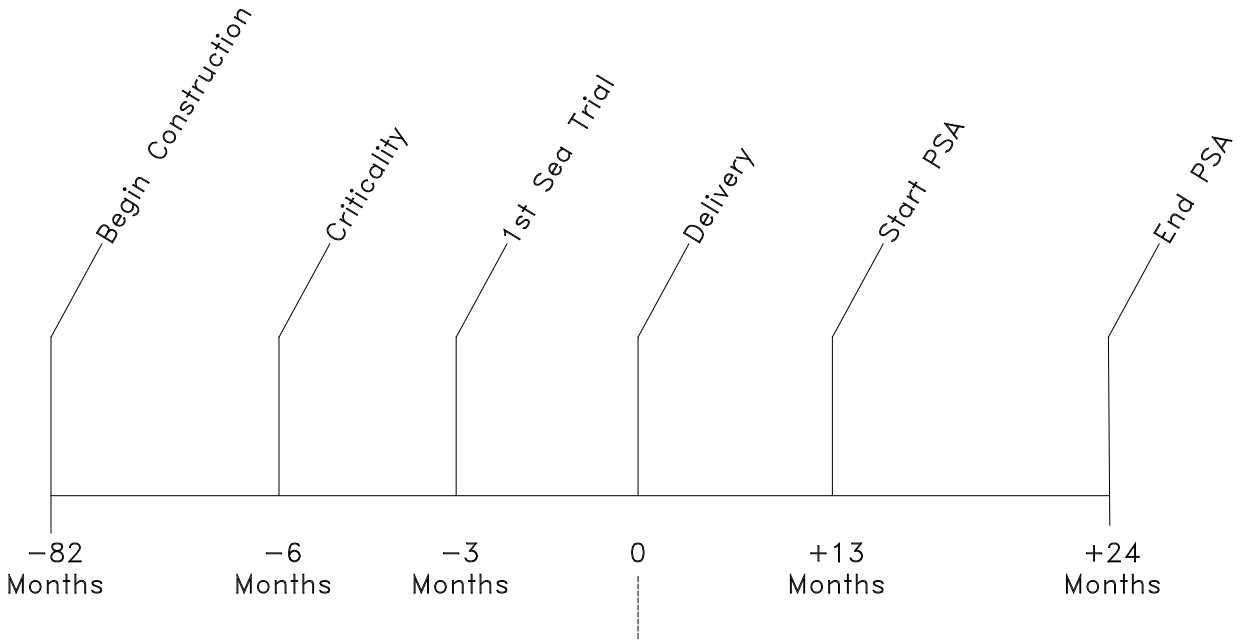
CVN
GENERAL TIME LINE OF KEY EVENTS



APPENDIX B2

USS *Virginia* (SSN 774)

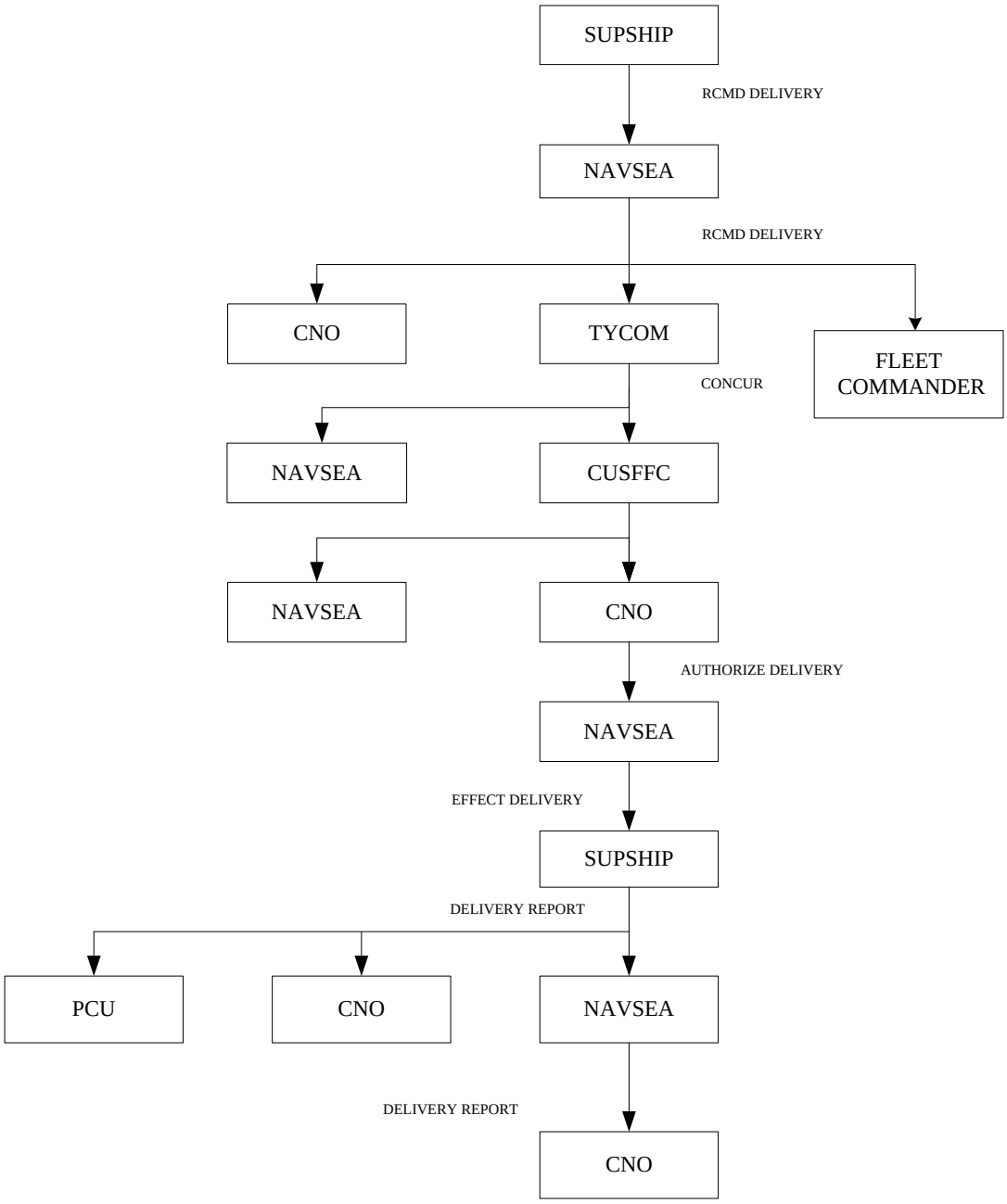
GENERAL TIME LINE OF KEY EVENTS



NOTE:
(1) Everything keys off Delivery.
(2) All intervals between events are typical/ guidelines, not requirements.

APPENDIX B3

DELIVERY MESSAGES SCENARIO



APPENDIX C

LIST OF ACRONYMS

2M	Miniature and Microminiature
3-M	Maintenance and Material Management
A&I	Alteration and Improvement
ACN	Advanced Change Notice
AEL	Allowance Equipage List
AOE	Fast Combat Support Ship
APL	Allowance Parts List
AT	Acceptance Trial
ATG	Afloat Training Group
AWP	Availability Work Package
BAWP	Baseline Availability Work Package
BDT	Builder's Dock Trial
BST	Builder's Sea Trial
BT	Builder's Trial
BUPERS	Bureau of Personnel
CAGE	Commercial and Government Entity
CASREP	Casualty Report
CD-ROM	Compact Disc Read Only Memory
CFE	Contractor Furnished Equipment
CHT	Collection, Holding and Transfer
CNO	Chief of Naval Operations
CO	Commanding Officer
COMFLTFORCOM	Commander, Fleet Forces Command
COMLANTFLT	Commander, Atlantic Fleet
COMNAVSEASYSCOM	Commander, Naval Sea Systems Command
COMNAVSURFLANT	Commander Naval Surface Force Atlantic
COMPACFLT	Commander, Pacific Fleet
COMSUBDEVRON	Commander Submarine Development Squadron
COMSUBRON	Commander, Submarine Squadron
COMUSFLTFORCOM	Commander, United States Fleet Forces Command
COSAL	Coordinated Shipboard Allowance List
CPA	Carrier Planning Activity
CS/CCS	Command and Control Systems
CSCT	Combat Systems Certification Trial
CSMP	Current Ship's Maintenance Project
CT	Combined Trial
CVN	Nuclear-Powered Aircraft Carrier
CW	Continuous Wave
DDG	Guided Missile Destroyer
DIRSSP	Director, Strategic Systems Programs
DPMA	Docking Phased Maintenance Availability
DRA	Dead Reckoning Analyzer
DRAI	Dead Reckoning Analyzer Indicator
DRT	Dead Reckoning Tracer
EAB	Emergency Air Breathing
EDORM	Engineering Department Organization and Regulations Manual

EEBD	Emergency Escape Breathing Device
EGL	Equipment Guide List
EMBT	Emergency Main Ballast Tank
EOSS	Engineering Operational Sequencing System
EPM	Emergency Propulsion Motor
ESM	Electronic Warfare Support Measures
FBW SCS	Fly-By-Wire Ship Control System
FCT	Final Contract Trial
FDRMC	Forward Deployed Regional Maintenance Center
FIT	Fleet Introduction Team
FMA	Fleet Maintenance Activity
FMR	Field Modification Request
FOSAT	Fitting Out Supply Assistance Team
FRP	Fleet Readiness Plan
GFE	Government Furnished Equipment
GFI	Government Furnished Information
GMI	Guarantee Material Inspection
GPETE	General Purpose Electronic Test Equipment
HF	High Frequency
HMR	Headquarters Modification Request
IEM	Inactive Equipment Maintenance
IFF	Identification Friend or Foe
IMP	Incremental Maintenance Plan
INSURV	Inspection and Survey
ISE	Independent Ship Exercise
ISEA	In-Service Engineering Activity
ISIC	Immediate Superior in Command
JFMM	Joint Fleet Maintenance Manual
JFMMBOD	Joint Fleet Maintenance Manual Board of Directors
JSN	Job Sequence Number
LCPC	Life Cycle Planning Conference
LHD	Amphibious Assault Ship
LOA	Light-Off Assessment
LOEP	List of Effective Pages
LSD	Dock Landing Ship
MACHALT	Machinery Alteration
MARMC	Mid-Atlantic Regional Maintenance Center
MBT	Main Ballast Tank
METCAL	Metrology and Calibration
MHC	Coastal Minehunter
MIP	Maintenance Index Page
MRC	Maintenance Requirement Card
MRMS	Maintenance Resources Management System
MSW	Main Seawater
MT	Magnetic Particle Testing
MT	Maintenance Team
MTR	Metrology and Calibration Technical Representative

NAVAIR	Naval Air Systems Command
NAVSEA	Naval Sea Systems Command
NAVSEA 08	Naval Sea Systems Command Nuclear Propulsion Directorate
NAVSEALOGCEN	Naval Sea Logistics Center
NAVSUP	Naval Supply Systems Command
NAWC	Naval Air Warfare Center
NJP	Non-judicial Punishment
NRMC	Navy Regional Maintenance Center
NSTM	Naval Ships' Technical Manual
NSWC	Naval Surface Warfare Center
NSWCCD	Naval Surface Warfare Center Carderock Division
NTP	Naval Telecommunication Procedures
O&MN	Operations and Maintenance, Navy
OCT	Operational Control Transfer
OIC	Officer In Charge
OPNAV	Office of Chief of Naval Operations
OPPE	Operational Propulsion Plant Examination
ORDALT	Ordnance Alteration
ORSE	Operational Reactor Safeguard Examination
OSI	Operating Space Item
OSS	Operational Sequencing System
PCO	Prospective Commanding Officer
PCU	Pre-Commissioning Unit
PDDI	Post Delivery Deficiency Item
PLAD	Plain Language Address Directory
PMS	Planned Maintenance System
POAM	Plan of Action and Milestones
PQS	Personnel Qualification Standard
PSA	Post Shakedown Availability
PSO	Prospective Supply Officer
QA	Quality Assurance
RDORM	Reactor Department Organization and Regulations Manual
RMC	Regional Maintenance Center
RSE	Reactor Safeguard Examination
RT	Radiographic Testing
SCN	Shipbuilding and Conversion, Navy
SDI	Ship Drawing Index
SDOSS	Sewage Disposal Operational Sequencing System
SHIPALT	Ship Alteration
SIB	Ship Information Book
SITREP	Situation Report
SME	Subject Matter Expert
SMMSO	Submarine Systems Monitoring Maintenance and Support Office
SNAP	Shipboard Nontactical Automated Data Processing Program
SOE	Submerged Operating Envelope
SORM	Ship Organization and Regulation Manual
SOSMRC	Senior Officer Ship Maintenance and Repair Course
SPALT	Strategic System Programs Alteration
SRD	Selected Record Drawing

SSBN	Nuclear-Powered Ballistic Missile Submarine
SSC	Space and Naval Warfare Systems Center
SSGN	Nuclear-Powered Guided Missile Submarine
SSM	Ship Systems Manual
SSN	Nuclear-Powered Attack Submarine
SRDRS	Submarine Rescue Diving Recompression System
SUBMEPP	Submarine Maintenance Engineering, Planning and Procurement Activity
SUBSAFE	Submarine Safety
SUPSHIP NN	Supervisor of Shipbuilding Newport News
SURFMEPP	Surface Maintenance Engineering Planning Program
SYSCOM	Systems Command
SWOS	Surface Warfare Officer School
TD	Test Depth
TDU	Trash Disposal Unit
TEMPEST	National Policy on the Control of Compromising Emanations (unclassified code name)
TFBR	Technical Feedback Report
TSC	Training Support Center
TSRA	Total Ship's Readiness Assessment
TVD	Technical Variance Documentation
TYCOM	Type Commander
UHF	Ultrahigh Frequency
UNSEARESCOM	Undersea Rescue Command
URO	Unrestricted Operations
USFF	United States Fleet Forces
USFFC	United States Fleet Forces Command
VLS	Vertical Launch System
VTI	Visual TEMPEST Inspection

APPENDIX D

GLOSSARY OF TERMS

TERM	DEFINITION
Alpha Trial	Builder's Propulsion Trial; Acceptance Trial for SSN Propulsion Plant; Initial Tightness Dive (SSN); Dive to Maximum Authorized Depth (Selected SSN platforms).
Acceptance Trials (AT)	Trials and material inspections conducted underway by the INSURV Board for ships constructed in a private industrial activity to determine suitability for acceptance of a ship by the Navy.
Accepting Authority	The officer designated by the Chief of Naval Operations (CNO) to accept a vessel for the Navy, normally NAVSEA.
Bravo Trial	Normally the initial Dive to Test Depth; Noise Trial (SSN); Weapons testing (Surface Combatants).
Builder's Trials (BT)	Evaluation trials and inspections conducted underway by the builder to assure the builder and the Navy that the ship is, or will be, ready for Acceptance Trials. These trials should be a comprehensive test of all ship's equipment and be similar in scope to Acceptance Trials. For Aircraft Carriers, this is the Acceptance Trial for the Nuclear Propulsion plant.
Charlie Trial	Combat Systems and retesting (SSN); Acceptance Trials (Surface Forces as applicable).
Combined Trials (CT)	Combined Trials are a combination of an Acceptance Trial with a Final Contract Trial. The INSURV Board normally conducts Combined Trials for nuclear powered submarines.
Common Assessment Procedures	Common assessment procedures are assessments that, to the maximum extent possible, are common across platforms and serve all users for assessments, inspections and certifications. Common assessment procedures are RCM applicable and effective maintenance procedures that can be properly and consistently executed. They deliver accurate assessment and measurement of, determine and document discrepancies to, and specify repairs required to restore satisfactory material condition. Common assessment procedures satisfy the needs of work definition, inspections and certifications in a common document used both across ship classes and by all activities. The two types of commonality invoked are common across functional use and common across platforms with similar systems and equipment.
Deep Dive	The first dive to maximum operating depth. This depth will not necessarily coincide with the design test depth of the hull. See definition of Maximum Operating Depth.
Delivery	The date the Navy accepts the ship from the shipbuilder. This requires a recommendation from the INSURV Board to accept or deliver the ship. Delivery of the ship is based on Acceptance Trials and satisfactory correction or resolution of deficiencies.

Dock Trial	Dock Trials are those ship trials conducted at the Industrial Activity to determine the ability of the ship, from a material standpoint, to conduct Sea Trials safely.
Executive Agent	A term used in Department of Defense and Service regulations to indicate a delegation of authority by a superior to a subordinate to act on behalf of the superior. An agreement between equals does not create an executive agent.
Fast Cruise	A period immediately prior to underway trials during which Ship's Force operates the ship for dockside training. Fast Cruise must, as far as is practical, simulate at-sea operating conditions.
Final Contract Trials (FCT)	Trials that are conducted prior to the end of the guarantee period to determine if there are any defects, failures, or deterioration other than that due to normal wear and tear.
Fleet Introduction Team (FIT)	A team of personnel assembled to support a pre-commissioning crew by monitoring progress of construction and coordinating training and facilities. They provide administrative support in all facets of new construction.
Guarantee Material Inspection (GMI)	A material inspection, conducted inport prior to Post Shakedown Availability (PSA) by a Trial Board prior to the end of the guarantee period when CNO has authorized a Combined Trial to determine if contractor responsible equipment has operated satisfactorily during the guarantee period. It must include the opening and inspection of equipment designated by the Board together with the operation and visual inspection of equipment and the review of material maintenance records.
Guarantee Period (New Construction)	The period of time immediately following preliminary acceptance (delivery), normally eight or nine months (six months for nuclear powered ships), for which the industrial activity is responsible for the correction of deficiencies.
Guarantee Period (PSA)	The guarantee period following PSA varies with the type of contract. Historically, a “cost plus” type contract has had a guarantee period of six months and a “fixed price” type contract a period of 90 days. The Supervising Authority will advise at the time of PSA the guarantee that applies.
In-Service	Nuclear powered ships are assigned an active status of In-Service approximately two to four weeks (two to four months for aircraft carriers) prior to the commencement of Sea Trials and maintain this status until commissioning.
Industrial Activity	The activity responsible for accomplishing construction or repair of ships whether private or public. This includes Naval shipyards, private shipyards, shipbuilders, vendors, Naval Aviation Depots, Naval Ship Repair Facilities, and other Naval Repair or Technical Activities (i.e., Naval Underwater Weapons Center, Naval Ships Weapons Center, etc.).
Initial Dive	For purposes of seawater valve and system testing, as defined in NAVSEAINST C9094.2, the first dive to a depth not previously reached during the trials.
Initial Tightness Dive	First submergence (a submarine's Alpha Trial).

INSURV	Prior to the acceptance and delivery of a new ship, whether built by a private or a naval industrial activity, all machinery, electronics and weapons systems installed must be subjected to acceptance trials to determine that the installations are capable of meeting performance specifications. Depending upon your platform, these trials are referred to as either Acceptance Trials, Combined Trials or INSURV. This independent verification of the ship's readiness for acceptance and recommendation for fleet introduction is the responsibility of the President, Board of Inspection and Survey.
Lead Maintenance Activity	The single activity responsible for integrating all maintenance and modernization on U.S. Naval ships during any type of availability.
Maximum Operating Depth (Also Maximum Authorized Operating Depth)	The depth to the keel for a particular submarine which is authorized by Commander Submarine Forces Atlantic or Commander Submarine Forces Pacific upon the recommendation of NAVSEA, as the depth not to be exceeded in operations. This depth is normally the Test Depth but may be reduced in specific cases. The depth authorized may be less than, but in no case exceed, the depth recommended by NAVSEA.
Mid-Cycle	Intermediate meeting held between Fleet Weeks to discuss a limited number of Technical Ticklers and pending action items.
Moderate Speed	The range of speed that allows the submarine optimum recovery (as shown on applicable submerged operating envelope curves) if loss of stern plane control, flooding, or both occurs. Normally 8-15 knots.
Naval Supervisory Authority or Supervisory Authority	The officer designated to represent the Navy Department at an industrial activity; normally a Supervisor of Shipbuilding (new construction), Regional Maintenance Center (Conversion and Repair), or the Commander of a Naval Shipyard.
Post Shakedown Availability (PSA)	An industrial activity availability following Final Contract Trials or Guarantee Material Inspection assigned to correct deficiencies found during the shakedown period or to accomplish other authorized improvements.
Reliability Centered Maintenance	A methodology to develop or revise a maintenance approach with the objective of maintaining the inherent reliability of the system or equipment, recognizing that changes in inherent reliability may be achieved only through design changes.
Technical Data	Recorded information (regardless of the form or method of recording) of a scientific or technical nature (including computer databases and computer software documentation). This term does not include computer software or financial, administrative, cost or pricing, or management data or other information incidental to contract administration. The term includes recorded information of a scientific or technical nature that is included in computer databases. For these purposes, technical data includes the characteristic of a particular science, trade or profession.
Technical Tickler	A "living document" submitted by the Commander, United States Fleet Forces Command Maintenance Officer to present the Fleet's top material readiness issues to COMNAVSEASYSCOM and Office of the Chief of Naval Operations Resource Sponsors and used subsequently to record and track their planned corrective action.

Test Depth (TD)	For the purpose of the proper method of measuring and specifying Test Depth, the requirements are: Test Depth must be measured to the bottom of the keel for all types of submarine operations. Builders trials and trials following major industrial activity availabilities greater than six months, must be at a tolerance of plus zero (0), minus twenty (20) feet of Test Depth when specified. All other trials can be conducted at 95% to 100% of Test Depth to satisfy all the requirements specified for 100% Test Depth.
Top Management Attention Fleet Week	Top Management Attention (TMA) O-6 level panel meeting to discuss the Technical Ticklers, review action items, close issues where action is complete and refer issues to Top Management Issues that require Flag level action. TMA Fleet Week is held twice a year, generally in October and April.
Top Management Issues (TMI)	Top Management Issues, flag level panel meeting to discuss those issues requiring identification or realignment of resources (funding or manpower), or flag level participation to resolve.
Valve Repair, Restoration or Overhaul	a. Repair. Any work done to improve the material condition or operation of the valve correcting deficient conditions such that the component may be returned to service, but which, in total does not meet the full intent of the applicable restoration or overhaul technical standard, is considered a repair. b. Restoration or Overhaul. All valve parts replaced or restored to the requirements of the applicable technical standard (e.g., the full intent of the restoration or overhaul technical standard is invoked).
Waterline	The term “waterline” in this manual refers to where the hull of a ship meets the surface of water when afloat.
Work	a. Any action that actually or potentially changes (including disassembly for the purposes of inspection or repair) the approved configuration of any part, component or ship’s system. b. Any action that removes or affects the ship’s ability to operate ship’s systems or components following ship’s systems, operating manuals or reactor plant manuals. c. Any testing or inspections required to establish, maintain or reestablish certification. d. Any design, engineering, planning or configuration management functions that involve the final review or approval of technical information. Examples of work include: 1. Action which disassembles or removes any part, component or ship’s system. 2. Action specified in a Technical Work Document. 3. Any action that removes or affects the ship’s ability to operate ship’s systems or components following ship’s systems manuals, operating manuals or reactor plant manuals, excluding tagout following the guidance of the Tagout User’s Manual, including but not limited to:

(a) Component or system tests.

(b) Intrusive inspections (such as breaking the plane of electrical panels requiring electrical safety).

(c) Valve line-ups that alter the normal system line up not governed by operating procedures.

(d) Removing valve hand wheels, disconnecting of reach rods.

VOLUME I

CHAPTER 2

POLICIES AND RESPONSIBILITIES

REFERENCES.

(a) OPNAVINST 4700.8 - Trials, Acceptance, Commissioning, Fitting Out, Shakedown, and Post Shakedown Availability of U.S. Naval Ships Undergoing Construction or Conversion
(b) OPNAVINST 9080.3 - Procedures for Tests and Trials of Navy Nuclear Powered Ships Under Construction, Modernization, Conversion, Refueling and Overhaul
(c) NAVSEA T9044-AD-MAN-010 - Requirements Manual for Submarine Fly-By-Wire Ship Control Systems
(d) INSURVINST 4730.1 - Material Inspections (MI) of Surface Ships
(e) INSURVINST 4730.2 - Trials and Material Inspections of Submarines
(f) NAVSEA S0300-B2-MAN-010 - Supervisor of Shipbuilding, Conversion and Repair Operations Manual
(g) NAVSEAINST 4790.8/OPNAVINST 4790.4 - Ships' Maintenance and Material Management (3-M) Manual
(h) NAVSEAINST 4734.1 - NAVSEA Test, Measurement, and Diagnostic Equipment (TMDE) and Calibration Programs
(i) NAVAIRINST 13640.1 - NAVAL Aviation Metrology and Calibration (METCAL) Program
(j) COMNAVAIRLANT/COMNAVAIRPACINST 3500.20 - Aircraft Carrier Training and Readiness Manual
(k) NAVSEAINST C9210.30 - Procedures for Administration of Nuclear Reactor Plant Preventive Maintenance and Tender Nuclear Support Facilities Preventive Maintenance on Ships
(l) OPNAVINST C3000.5 - Operation of Naval Nuclear Powered Ships
(m) COMNAVSUBFOR OPORD 2000
(n) SSPINST 5600.11 - Preventive Maintenance Management Program for Strategic Weapon Systems Equipments and Associated Material
(o) COMNAVSUBFORINST 5400.25 - Standard Submarine Supply Department Organization and Regulations Manual
(p) COMNAVSUBFORINST 5400.29 - Standard Submarine Navigation/Operations Department Organization and Regulations Manual
(q) COMNAVSUBFORINST 5400.40 - Standard Submarine Combat Systems Department Organization and Regulations Manual (SSN)
(r) COMNAVSUBFORINST 5400.41 - Standard Submarine SSBN 726 Class Weapons Department Organization and Regulations Manual
(s) COMNAVSUBFORINST 5400.47 - Standard Submarine Combat Systems Department Organization and Regulations Manual (SSGN)
(t) COMNAVSURFLANT/COMNAVSURFPACINST 3502.2 - Surface Force Training Manual

(u) OPNAVINST C9210.2 - Engineering Department Manual for Naval Nuclear Propulsion Plants
(v) OPNAVINST 4790.15 - Aircraft Launch and Recovery Equipment Maintenance Program (ALREMP)
(w) COMNAVSURFLANTINST 3540.18/COMNAVSURFPACINST 3540.13 - Engineering Department Organization and Regulations Manual (EDORM)
(x) COMSUBFOR/COMSUBPACINST C5400.30 - Engineering Department Organization Manual
(y) NAVSEAINST 5450.142 - Mission and Functions of the Surface Maintenance Engineering Planning Program Activity
(z) COMNAVSURFLANTINST 4700.4 - Fleet Introduction Handbook

LISTING OF APPENDICES.

A Message Scenario and Sample Messages or Letters for Habitability Inspections and In-Service
B Message Scenario and Sample Messages for Fast Cruise and Alpha Sea Trial (Nuclear Powered Ships)
C Message Scenario and Sample Messages for Bravo, Charlie and Combined Trials (Submarines)
D Message Scenario and Sample Messages for URO Certification (Submarines)
E Pre-RSE, RSE, Criticality or Power Range Testing Logic Table (All Nuclear Powered Ships)
F Sample TYCOM Message Concerning Sea Trial Agenda (Submarines)
G Sample TYCOM Message to PCU Concerning Use of the FBW SCS In Support of Alpha Sea Trials (Submarines)
H Sample TYCOM Message to PCU Concerning FBW SCS Material Condition Initial Certification (Submarines)
I Sample TYCOM Message to the Ship Concerning FBW SCS Certification (Submarines)
J Sample Supervising Authority Message to NAVSEA Concerning PCU FBW SCS Material Condition Readiness for Fast Cruise and Alpha Sea Trials (Submarines)
K Sample Supervising Authority Message to TYCOM and NAVSEA Concerning PCU Fast Cruise Completion and Readiness of FBW SCS Material Condition for Alpha Sea Trials (Submarines)
L Sample Supervising Authority Message to NAVSEA Concerning PCU FBW SCS Material Condition Readiness Upon Completion of Alpha Sea Trials and Readiness of the FBW SCS for Use During Bravo and Subsequent Sea Trials (Submarines)
M Sample Supervising Authority Message to NAVSEA Concerning PCU FBW SCS Material Condition Initial Certification (Submarines)
N Pre Man-Up Checklist for TYCOM or ISIC
O Basic Requirements for Initial Man-up Personnel of the PCU (Detachment Concept) (Aircraft Carriers and Surface Force Ships)
P Basic Requirements for Initial Man-up Personnel of the PCU
Q Generic Base Line of Fleet Introduction Team (FIT) Functions and Responsibilities

R Sample NAVSEA Message to TYCOM Concerning PCU FBW SCS Material Condition Readiness for Alpha Sea Trials (Submarines)

S Sample NAVSEA Message to TYCOM Concerning PCU FBW SCS Material Condition Initial Certification (Submarines)

T Sample NAVSEA Message to TYCOM Concerning PCU Recommendation for Fly-By-Wire Ship Control System Certification

2.1 NAVY SHIPBUILDING PROGRAM MANAGERS. The various Naval Sea Systems Command (NAVSEA), Program Executive Office for Carriers, Littoral Warfare and Auxiliary codes designated as Navy Shipbuilding Program Managers provide the specifications for the building and testing of all ships. These codes are initially established to get the shipbuilding program and development of logistic support programs up and running.

2.1.1 Pre-Commissioning. Navy Shipbuilding Program Manager responsibilities during the Pre-Commissioning phase of New Construction are delineated in references (a) and (b). The following is a summation of those responsibilities and is intended to be used as a guide, not to be considered all-inclusive. Questions concerning a Navy Shipbuilding Program Manager's specific functions should be directed to the applicable NAVSEA code.

a. Provide supervision and direction concerning all non-nuclear aspects of ship construction.

b. Provide written instructions to the Supervising Authority regarding the conduct and scheduling of all non-nuclear ship testing.

c. Generate the correspondence (message or letter traffic) as indicated in Appendix A of this chapter recommending the Habitability Inspection and In-Service dates.

d. The assignment of deficiency responsibility and ensuring the correction of those deficiencies identified during Combined Trials (CT), Acceptance Trials (AT), Final Contract Trials (FCT) and Guarantee Material Inspections (GMI).

e. Report to the Type Commander (TYCOM), with information copies to Chief of Naval Operations (CNO) and Fleet Commander, that the material condition of the ship is certified satisfactory for Alpha Sea Trials and recommend authorization to dive the ship be granted under deliberate and controlled conditions to a specified depth for accomplishment of the approved Sea Trials agenda. Appendix B of this chapter provides a sample message flowchart for surface force ships and aircraft carriers. Appendix B-SUBS of this chapter provides a sample message flowchart for submarines.

f. (Submarines only) Report to the TYCOM that the material condition of the ship is certified satisfactory for Bravo, Charlie, and CTs. Appendix C of this chapter provides a sample message.

g. (Submarines only) After completion of all Sea Trials, report to the TYCOM that the material condition of the ship is certified for Unrestricted Operations (URO). Appendix D of this chapter provides a sample message.

2.1.2 Post-Shakedown Availability (Submarines only). Navy Shipbuilding Program Manager responsibilities during Post Shakedown Availability (PSA) are defined in Volume II, Part I, Chapter 3 of this manual.

2.2 NAVAL SEA SYSTEMS COMMAND NUCLEAR PROPULSION DIRECTORATE (NUCLEAR POWERED SHIPS ONLY).

2.2.1 Pre-Commissioning. NAVSEA Nuclear Propulsion Directorate (08) responsibilities for the Pre-Commissioning period are as follows:

a. Provide specifications for the building and testing of the nuclear propulsion plant.

b. Provide supervision and direction of nuclear propulsion plant testing and trials.

c. Approve the sequencing and scheduling of nuclear propulsion plant tests and trials.

d. Arrange for technical assistance from the U.S. Department of Energy, including the Pre-Critical Examination by the Director, Division of Naval Reactors.

e. Provide written instructions to the Supervising Authority regarding the conduct and scheduling of all dockside tests and underway trials involving operation of the nuclear propulsion plant.

f. Authorize critical operation of the reactor.

g. Authorize commencement of Fast Cruise after receiving notification from the Supervising Authority that the ship has demonstrated a satisfactory state of training.

2.2.2 Reactor Safeguard Examination. A Pre-critical Reactor Safeguard Examination (RSE) will be conducted by NAVSEA 08 prior to initial reactor criticality. NAVSEA 08 will approve operation of the Nuclear Propulsion Plant during dockside testing and underway trials. Volume I, Chapter 3, Appendix C of this manual provides information on Pre-RSE preparations.

2.2.3 Criticality and Power Range Testing. Upon receiving the request for initial criticality from the Supervising Authority, NAVSEA 08 will authorize critical operation of the reactor, with subsequent power range testing. Appendix E of this chapter provides a listing of the events leading up to the authorization for critical operation of Naval Nuclear Propulsion plants, with sample request messages or letters.

2.2.4 Post-Shakedown Availability. NAVSEA 08 responsibilities for the PSA period are as follows:

a. Provide approved test procedures for the verification of reactor plant repairs and alterations accomplished in the availability.

b. Arrange for technical assistance by the U.S. Department of Energy as required.

2.3 TYPE COMMANDER. Reference (a) states the TYCOM is responsible for monitoring the construction and acceptance process to ensure “customer” input is provided. Reference (c) describes the TYCOM’s responsibilities during new construction for Submarine Fly-By-Wire Ship Control Systems (FBW SCS). The following summarizes major TYCOM responsibilities during the Pre-Commissioning, FCT, GMI and PSA periods.

2.3.1 Pre-Commissioning. During the construction phase, major TYCOM responsibilities include but are not limited to:

a. Designating an Immediate Superior in Command (ISIC) for all units being built within the TYCOM's geographical area of responsibility.

b. Ensuring that the Pre-Commissioning Unit (PCU) is placed on distribution for all message traffic applicable to the platform and platform's operational environment.

c. Reviewing all incoming correspondence for PCU applicability and forwarding platform related documentation as required.

d. Conducting the Habitability Inspection when requested by the Accepting Authority (may be delegated to the ISIC). Sample messages relating to Habitability and In-Service are contained in Appendix A of this chapter.

e. Recommending to the CNO that the ship be placed "In-Service Active" upon receiving satisfactory results of the Habitability Inspection. Appendix A of this chapter provides sample messages.

f. (Nuclear Powered Ships only) Conducting or assisting the ISIC with the Pre-RSE.

g. (Surface Force Ships only) Establishing Light-Off Assessment (LOA) dates via liaison with the ISIC, the Ship and the Afloat Training Group (ATG).

h. Conducting or directing the conduct of the arrival assist and periodic monitoring inspections as defined in Volume I, Chapter 3, paragraph 3.3.1 and 3.3.2 of this manual.

i. (Nuclear Powered Ships only) Conducting an inspection to certify crew training per the requirements of reference (b).

j. (Nuclear Powered Ships only) Exercising operational control during underway trials either directly or through the designated ISIC.

k. (Submarines only) Reviewing the schedule and sequence of Sea Trial Agendas and concurring by message to the Supervising Authority concerning the operational aspects of the specific trial. Appendix F of this chapter provides a sample message.

l. (Submarines only) Providing escorts as may be required. Send Sea Trial support services message to specify Submarine Rescue Diving Recompression System "modified alert" requirements. Appendix CA of Volume II, Chapter 3 of this manual provides a sample message.

m. (Submarines only) Assigning an unrestricted Line Officer (a former Commanding Officer (CO) senior to the Officer In Charge (OIC)) as the TYCOM Embarked Representative who has authority to act for the TYCOM, making on-the-spot changes to approved Sea Trial Agendas.

n. (Submarines only) If desired, assigning an officer to act as the TYCOM material representative on selected trials. The material representative's duties include:

(1) Serving as a technical advisor to the TYCOM Embarked Representative on matters pertaining to Sea Trial Agenda modifications, compliance with this instruction and disposition of emergent material problems.

(2) Acting for the TYCOM in making on-the-spot changes to approved Sea Trial Agendas in the absence of the TYCOM Embarked Representative.

o. (Submarines only) Reporting to the CNO and the Navy Shipbuilding Program Manager that the crew is ready for underway trials, prior to Fast Cruise and upon receipt of the ISIC message certifying the operational readiness of the submarine crew. Appendix B of this chapter reflects the message scenario and contains sample messages for Fast Cruise or Alpha Trials.

p. (Submarines only) Promulgating of the Alpha Sea Trial Depth Authorization upon receipt of the Supervising Authority message reporting completion of Fast Cruise and the Navy Shipbuilding Program Manager message promulgating the authorized depth for the Alpha Trial. Appendix B of this chapter provides sample messages.

NOTE: SUBSEQUENT TO THE NAVY SHIPBUILDING PROGRAM MANAGER AND SUPERVISING AUTHORITY MESSAGES PROMULGATING DEPTH AUTHORIZATION AND REPORTING THE SHIP'S MATERIAL READINESS TO COMMENCE FAST CRUISE AND SEA TRIALS, ANY DEFICIENCY DISCOVERED AND CORRECTIVE ACTION TAKEN WHICH AFFECTS THE WATERTIGHT INTEGRITY, THE RECOVERABILITY OF THE SHIP, THE OPERATIONS OF THE SHIP'S CONTROL SURFACES OR THE SHIP'S SALVAGE CAPABILITY MUST BE REPORTED TO THE NAVY SHIPBUILDING PROGRAM MANAGER, THE TYCOM AND FLEET COMMANDER BY THE SUPERVISING AUTHORITY, ISIC OR TYCOM REPRESENTATIVE AND PCU BY MESSAGE. PREVIOUS CERTIFICATION MESSAGES MUST BE SUSPENDED. WHEN THE NAVY SHIPBUILDING PROGRAM MANAGER'S REVIEW OF THE MESSAGE IS COMPLETED, THE NAVY SHIPBUILDING PROGRAM MANAGER WILL CERTIFY TO THE TYCOM THAT THE MATERIAL CONDITION OF THE SHIP IS SATISFACTORY FOR SEA TRIALS TO A SPECIFIED DEPTH.

q. (Submarines only) Promulgating by message the Bravo, Charlie and Combined Trials Depth Authorization after receipt of the Supervising Authority message confirming readiness for the test depth dive and the Navy Shipbuilding Program Manager message promulgating Sea Trial Depth Authorization. Appendix C of this chapter provides sample messages.

r. (Submarines only) Promulgating by message to the PCU the final URO Material Certification upon receipt of the Supervising Authority message concerning material condition for URO and the Navy Shipbuilding Program Manager message recommending URO. Appendix D of this chapter provides sample messages.

s. (Applicable Submarines only) Prior to Alpha Sea Trials and following NAVSEA certification that the submarine FBW SCS is satisfactory for sea trials and Supervising Authority report that the FBW SCS is satisfactory for commencement of Alpha Sea Trials, report by message to ship authorizing conduct of sea trials per the approved Sea

Trial Agenda and specifically identify any operating restrictions of the ship or system. Repeat the routine for each subsequent sea trial. Appendix G of this chapter provides a sample message.

t. (Applicable Submarines only) After all builder's sea trials, and following NAVSEA certification that the submarine FBW SCS is satisfactory for unrestricted use, report by message to ship authorizing FBW SCS unrestricted use in support of submarine unrestricted operations or specifically identify any operating restrictions of the ship or system. Appendix H of this chapter provides a sample message.

2.3.2 Combined Trials, Acceptance Trials, Final Contract Trials or Guarantee Material Inspection. The TYCOM's responsibilities for these trials are documented in references (a), (d), and (e). The most significant action from the ship's perspective is the TYCOM's presenting of the ship for GMI or FCT.

2.3.3 Post-Shakedown Availability. The TYCOM's responsibilities as related to PSA are as follows:

a. (Surface Force Ships only) Assist with LOA as shown in Volume I, Chapter 6, Appendix C.

b. (Nuclear Powered Ships only) Conduct or assist the ISIC in conducting the Pre-Critical Inspection (only required when reactor has been shut down greater than 16 weeks). Schedule the Fleet Commander Post-Overhaul RSE as recommended by the Industrial Activity in the Key Events Schedule and confirmed by the parent ISIC or TYCOM representative (required if the availability is scheduled for more than six months) upon completion of the ISIC's Pre-Critical Inspection.

c. (Submarines only) TYCOM responsibilities are defined in Volume II, Part I, Chapter 3 of this manual.

d. (Applicable Submarines only) For the first ship of a class or when directed by NAVSEA, ship control trials are planned and conducted under the direction of NAVSEA 05 to support verification that the FBW SCS automatic control algorithms performance is per Section 4 of reference (c). Upon successful completion of these trials, the Navy Shipbuilding Program Manager issues to TYCOM, the ship's final FBW SCS certification message with NAVSEA 07 concurrence and in support of the submarine class FBW SCS design. TYCOM issues to the ship a final FBW SCS certification message. When required, by message or letter, the NAVSEA Navy Shipbuilding Program Manager via separate correspondence must identify impact to the FBW SCS Certification of other ships in the submarine class. Appendix I of this chapter provides a sample message

2.4 SUPERVISING AUTHORITY. References (a), (b), (c) and (f) describe the Supervising Authority's responsibilities during new construction. The following is a synopsis of those functions with additional amplification. Platform unique functions are identified by indicating the applicable class (if any) or group covered (i.e., Nuclear Powered Ships).

2.4.1 Pre-Commissioning. The Supervising Authority's responsibilities as related to Pre-Commissioning are as follows:

a. Provide crew support as directed by the Navy Shipbuilding Program Manager. This support may include facility support requirements such as berthing, administration, officer and crew training spaces, vehicles for transportation, computers for development of training programs and ship's directives.

b. Ensure PCU office spaces have been certified to the appropriate classification for storage of classified documentation.

c. Provide the required safety training and gear to the crew for working in an industrial area.

d. Provide initial briefing to Prospective Commanding Officer (PCO) or crew to provide an overview of the Supervisor's role during construction.

e. Provide to the PCO or crew the planning documents necessary for establishing goals during New Construction, such as a Master Construction Schedule, an Operational Control Transfer (OCT) schedule, testing schedules, and all other schedules that would require crew support and coordination.

f. Act as liaison for the ship in resolving conflicts in construction schedules.

g. Ensure that at least ten copies of reference (g) are available to support Phase 1 and Phase 2 of the Planned Maintenance System (PMS) installation.

h. Provide the PCU with at least one set of all the technical manuals required to support the equipment installed on the particular platform.

i. Provide the PCU with, or access to a complete set of ship's drawings and contract specifications.

j. Monitor the ship's familiarization training conducted by the Industrial Activity or Fleet Introduction Team (FIT) for fulfillment of the contract. For familiarization training conducted using computer-aided instruction, the Supervising Authority is responsible only for ensuring sufficient resources are available to the PCU to utilize the training. Provide feedback to the Navy Shipbuilding Program Manager and the Industrial Activity concerning content and value of this training.

k. Recommend to the Navy Shipbuilding Program Manager the commencement date for the Habitability Inspection. Appendix A of this chapter provides sample documentation.

l. Recommend to the Navy Shipbuilding Program Manager the date for placing the ship "In-Service". In-Service for submarines should occur approximately two to four weeks prior to underway trials and for aircraft carriers two to four months prior to underway trials. Appendix A of this chapter provides sample documentation.

m. Recommend to the Accepting Authority the date for placing the ship "In Commission". The "In Commission" date is normally on or about the date of delivery.

n. Request necessary services for each trial from the Fleet Commander per reference (a), with an informational copy to the TYCOM.

o. (Nuclear Powered Ships only) Accept custody of special nuclear material upon delivery from the U.S. Department of Energy.

p. (Nuclear Powered Ships only) Transfer custody of, and responsibility for, special nuclear material to the OIC when the ship is placed “In-Service”.

q. (Nuclear Powered Ships only) Coordinate the schedule for dockside and underway tests and trials per the requirements of the Navy Shipbuilding Program Manager and the Builder.

r. (Nuclear Powered Ships only) Provide sufficient time for crew training and Fast Cruise during the building period to permit Ship’s Force to attain a state of training adequate to ensure proper operation and safety of the ship and its personnel during Sea Trials. Provide sufficient time for the correction of deficiencies after the completion of the final Dock Trials and before the start of the operational training period.

s. (Nuclear Powered Ships only) Submit for approval the schedule and sequence of any dockside tests or Sea Trials involving operation of the nuclear propulsion plant to NAVSEA 08, except where such tests and trials have been approved in the written instructions provided by NAVSEA 08.

t. (Submarines only) Coordinate with ISIC for support personnel to perform salvage inspection.

u. (Nuclear Powered Ships only) Submit the schedule and sequence of all Sea Trials to the ISIC for approval and to the TYCOM for concurrence with the operational aspects of the trial.

v. (Nuclear Powered Ships only) Report to the Navy Shipbuilding Program Manager when the ship is ready for Fast Cruise and Alpha Sea Trial (Builder’s Trials for aircraft carriers). Appendix B of this chapter provides a sample message.

w. (Nuclear Powered Ships only) Report the successful completion of Fast Cruise and readiness for Alpha Sea Trial (Builder’s Trials for aircraft carriers), with the concurrence of the OIC, to the TYCOM, with an information copy to the Navy Shipbuilding Program Manager, the Fleet Commander and the ISIC. Appendix B of this chapter provides a sample message for submarines.

x. (Nuclear Powered Ships only) Report to the Navy Shipbuilding Program Manager the satisfactory completion of Alpha Sea Trials (Builder’s Trials for aircraft carriers). For submarines, the material status of the ship is certified to support operations to test depth. Appendix C of this chapter provides a sample message.

y. (Submarines only) Certify to the Navy Shipbuilding Program Manager the completion of all Sea Trials, reporting the status of all Sea Trial deficiencies and all CAT 1A Audit Items. Certify the material condition of the ship is satisfactory for URO to test depth. Appendix D of this chapter provides a sample message.

z. Retain responsibility for the material condition of the ship until it reports for duty in the fleet.

aa. Maintain "Lessons Learned Logs" from the CO of previously built ship for delivery to the next PCO or OIC.

ab. (Applicable Submarines only) Report by message to NAVSEA Navy Shipbuilding Program Manager, in advance of the scheduled start of Fast Cruise, that all FBW SCS work necessary for Alpha Sea Trials, including resolution of NAVSEA FBW SCS Certification Audit Category I recommendations, has been completed, provide the status of all incomplete NAVSEA FBW SCS Certification Audit Category IA recommendations, and that the FBW SCS is ready for commencement of Fast Cruise. The message must also state that there are no conditional FBW SCS Deviations or Waivers which have not been satisfied or cite those that exist, identify any operating restrictions of the ship or system, and that, subject to satisfactory completion of Fast Cruise and resolution of mandatory FBW SCS deficiencies, the submarine FBW SCS is satisfactory for commencement of sea trials. Make a similar report prior to each subsequent sea trial. Appendix J of this chapter provides a sample message.

ac. (Applicable Submarines only) Report by message to the NAVSEA Navy Shipbuilding Program Manager and TYCOM, with the concurrence of the ship's Commanding Officer, successful completion of Fast Cruise as a prerequisite for the start of sea trials. Appendix K of this chapter provides a sample message.

ad. (Applicable Submarines only) Report by message to the NAVSEA Navy Shipbuilding Program Manager the satisfactory completion of Alpha Sea Trials and report the status of all incomplete NAVSEA FBW SCS Certification Audit Category IA recommendations. Appendix L of this chapter provides a sample message.

ae. (Applicable Submarines only) Report by message to the NAVSEA Navy Shipbuilding Program Manager the satisfactory completion of all shipbuilder's sea trials, correction of all mandatory sea trial deficiencies, and resolution of all NAVSEA FBW SCS Certification Audit Category IA recommendations. Report that the submarine FBW SCS is satisfactory for unrestricted use in support of submarine unrestricted operations. Identify all deferred FBW SCS work and conditionally approved deviations and waivers to date which have not had the condition satisfied and specifically identify any operating restrictions of the ship or system. Appendix M of this chapter provides a sample message.

af. Prior to Ship's Force assuming operational control, ensure that assigned New Construction units operate and maintain installed diesel engines per established procedures. Specifically, the Supervisor must:

(1) Schedule a routine diesel inspection prior to initial start-up by Ship's Force.

(2) Observe diesel engine operations during shipboard visits per Volume IV, Chapter 4 of this manual.

(3) Ensure that the Automated Diesel Engine Trend Analysis Program addressed by reference (g) and TYCOM directive is in place.

ag. Prior to Ship's Force assuming operational control, ensure that assigned New Construction units operate and maintain an installed gas turbine per established

procedures. The Supervisor must schedule a gas turbine inspection prior to start up by Ship's Force.

2.4.2 Acceptance Trials or Combined Trials. The Supervising Authority is responsible for presenting the ship for AT or CTs. References (d), (e), and (f) delineate the Supervising Authority's responsibilities concerning these trials. Several of the more significant issues are:

a. Submit for approval the schedule and sequence of AT or CT to the President, Board of Inspection and Survey (INSURV).

b. Request necessary services for each trial from the Fleet Commander per reference (a), with an informational copy to the TYCOM.

c. Provide riders to assist and provide system or historical expertise.

2.4.3 Post-Shakedown Availability. During PSA, the Supervising Authority is responsible for the following:

a. Determining, in conjunction with the CO, the type and extent of post-repair dockside and at-sea tests or trials, in addition to those described in Volume I, Chapter 6, section 6.4 of this manual. Submit the following for approval:

(1) The schedule and sequence of post-repair nuclear propulsion plant trials to NAVSEA for concurrence and the ISIC or TYCOM Representative for approval.

(2) The schedule and sequence of post-repair trials subsequent to the nuclear propulsion plant trials to the ISIC for approval. Include the TYCOM as a "Copy To" addressee.

b. Providing sufficient time for crew training to support Fast Cruise and to ensure the proper operation and safety of the ship.

c. Coordinating the schedule for Fast Cruise and post repair trials with the ISIC or TYCOM representative. Submit the Sea Trials Agenda to the Navy Shipbuilding Program Manager for approval.

d. (Submarines only) Additional Supervising Authority responsibilities are defined in Volume II, Part I, Chapter 3 of this manual.

e. Reporting to the TYCOM the completion of Fast Cruise and the correction of all mandatory deficiencies. Recommend commencement of Sea Trials with the CO's concurrence per Volume II, Part I Chapter 3 of this manual.

f. Reporting to the Navy Shipbuilding Program Manager or the TYCOM (PSA less than six months) that Sea Trials have been completed, and for submarines, that the material condition of those parts of the ship installed, prepared or tested by the Industrial Activity is satisfactory for URO to design test depth, concurrence per Volume II, Part I Chapter 3 of this manual.

2.4.4 Deficiencies. The Supervising Authority's primary functions involve the building of ships and the correction or resolution of deficiencies discovered during the building and trials portion of construction. Reference (f) and locally generated Supervising Authority Instructions provide specific and detailed information pertaining to deficiencies, their identification, tracking and

resolution. Contact the Supervising Authority for more information. Volume I, Chapter 5 of this manual also provides additional guidance.

2.5 IMMEDIATE SUPERIOR IN COMMAND. The ISIC is the TYCOM's delegate.

2.5.1 Pre-Commissioning. During the Pre-Commissioning period, the ISIC is responsible for the following:

a. Providing crew support prior to initial man-up. Personnel arriving prior to initial manning will be tasked with coordinating with the Supervising Authority to start the necessary preparations for initial man-up. Appendix N of this chapter provides a checklist of areas that need to be addressed several months before personnel start arriving.

b. Conducting an inspection approximately two months following the arrival of the first increment of the crew at the building yard, using Volume I, Chapter 3, paragraph 3.3.1 of this manual as a guide.

c. Conducting periodic monitoring of ships per Volume I, Chapter 3, paragraph 3.3.2 of this manual to include:

(1) Technical, administrative or training assistance visits (Tech Assists) directed toward improvements in the management and conduct of maintenance and training tasks.

(2) Evaluation visits (Work-ups) to determine the state of administration and training.

(3) Spot checks (Monitor Visits) to monitor the progress and effectiveness in specific material, training and administrative areas.

d. Coordinating with the Bureau of Personnel (BUPERS) to ensure personnel arrive in support of initial crew man-up.

e. Conducting a Habitability Inspection when directed by the TYCOM. Volume I, Chapter 3, Appendix D of this manual provides information concerning the Habitability Inspection and a sample Compartment Surveillance Guide. Volume I, Chapter 3, Appendix E of this manual provides a sample checklist.

f. Making recommendations to the TYCOM for placing the ship "In-Service". Appendix A of this chapter provides a sample message.

g. Contact TYCOM Metrology and Calibration Point of Contact to verify if Establishment of Field Calibration Activity Request has been submitted per references (h) and (i).

h. When Ship's Force has assumed operational control, ensuring that assigned New Construction units operate and maintain installed diesel engines per established procedures. Specifically, the ISICs will conduct follow-up action to ensure that any unsatisfactory conditions found are corrected at an early date.

i. (Nuclear Powered Ships only) Conducting a Pre-RSE of the Engineering or Reactor Department to determine the ship's readiness for the Naval Reactors Pre-Critical RSE.

The TYCOM will assist in this examination. Volume I, Chapter 3, Appendix C of this manual provides administrative guidelines for the conduct of the Pre-RSE.

j. (Nuclear Powered Ships only) Reviewing Pre-RSE findings, the CO's training plan, and progress evaluations, and direct follow-up reviews or inspections necessary to verify the ship's readiness for the RSE.

k. (Submarines only) Prior to Fast Cruise, reporting ship's preparations to assume responsibility for Re-entry Control in the Crew or Material Certification message. Appendix B of this chapter provides a sample message.

l. (Submarines only) Scheduling salvage inspections per Volume IV, Chapter 18 of this manual.

m. (Submarines only) Designating the salvage inspection team using the guidance provided in Volume IV, Chapter 18 of this manual.

n. For CVNs, conduct crew certification per reference (j).

o. For all other hulls, conduct formal Phase I crew certification inspection(s) of the Ship's Force following the TYCOM Training Manual (when required). The purpose of this inspection must be to audit the readiness and training of the Ship's Force, particularly in the areas of watch stander qualifications, damage control readiness, status of operational and emergency bills, presence on board of essential technical manuals and general operational knowledge. This inspection must be scheduled about one month prior to Fast Cruise and should include written examinations and personal interviews with officers and key enlisted personnel to determine their readiness and status of training as outlined for Phase I. A comparison of personnel allowance (including Navy Enlisted Classification requirements) versus onboard count must be made to ensure that the ship is adequately manned.

p. Conduct Phase II crew certification. Witness and certify to the TYCOM that the state of crew training is satisfactory for at-sea operations following the TYCOM Training Manual. This will be done during a two-day period, subsequent to Dock Trials and Phase II crew certification, and prior to Fast Cruise. This two-day period must be scheduled so that there is normally a 48-hour period between the end of this event and the beginning of Fast Cruise. This two-day Phase II crew certification period is divided into a 40-hour crew work-up and rest period and an eight-hour modified dockside Operational Readiness Inspection. The entire period should be scheduled to minimize interference with industrial activity work. However, since the certification must be conducted carefully to be meaningful, the officer scheduling the certification should coordinate industrial activity interference during the eight hour modified Operational Readiness Inspection. This certification should be thorough and meticulous. Pressure from the industrial activity or any other source to compromise ship safety must not be permitted to influence the judgment of the certifying officers. The desired overall sequence of these events is shown in Appendix B of this chapter.

q. Conduct a material inspection of the ship.

r. Satisfactory completion of the inspections of paragraphs 2.5.1.n. through 2.5.1.p. of this chapter should be reported to the TYCOM in one "PRIORITY" crew certification

message following the sample message format of Appendix B of this chapter paralleled by a telephone call to the TYCOM Watch Officer reporting the date-time group of the message. If significant deficiencies exist or it appears that an extension of time is required to correct training or material deficiencies, the TYCOM must be immediately advised by telephone and by message. The Supervising Authority will be included as an information addressee.

s. A summary of typical New Construction major milestones and message reporting requirements as they apply to the ISIC is listed in Volume I, Chapter 1, Appendix A of this manual.

2.5.2 Post-Shakedown Availability. During PSA, the ISIC is responsible for the following:

a. Conducting periodic monitoring similar to that described in paragraph 2.5.1.c of this chapter, placing the emphasis on the management and conduct of PSA.

b. (Nuclear Powered Ships only) Conducting a Pre-Critical Inspection of the Engineering or Reactor Department per Volume I, Chapter 6, paragraph 6.3 of this manual. Review inspection findings, the CO's training plan and progress evaluations, and direct follow-up reviews or inspections as necessary to verify ship's readiness for criticality.

c. Witnessing and certifying to the TYCOM that the state of crew training is satisfactory for at-sea operations per the Force Training Manual.

d. (Aircraft Carriers only) Receiving from the CO or Supervising Authority the scope, schedule and agenda of the tests for Sea Trials for review and approval. When approved, forward copies of the agenda to the TYCOM.

e. Arranging for the embarkation of technical personnel who may be assigned by the Navy Shipbuilding Program Manager to observe tests or trials.

f. Arranging for the assignment of operating areas and communications frequencies.

g. (Submarines only) Scheduling a salvage inspection in time to have discrepancies corrected prior to Fast Cruise.

h. (Submarines only) Prior to Fast Cruise, auditing Ship's Force Re-entry Control and Departure from Specification Records. Using the Submarine Maintenance Engineering, Planning and Procurement (SUBMEPP) Activity URO Maintenance Requirement Card (MRC) scheduling reports and current Industrial Activity and Ship's Force updates to the latest report, ensure URO MRC accomplishment is current.

i. (Submarines only) Conducting a material inspection consisting of a vertical audit of Ship's Force and Fleet Maintenance Activity Submarine Safety (SUBSAFE), Deep Submergence Systems Scope of Certification and FBW work and URO completion status per Volume V, Part I, Chapter 9 of this manual.

j. (Submarines only) Additional ISIC responsibilities are defined in Volume II, Part I, Chapter 3 of this manual.

k. If deficiencies exist or it appears that extension of time is required to correct training or material deficiencies, the TYCOM must be immediately advised by telephone and message. The Supervising Authority will be included as an information addressee. The TYCOM retains the prerogative to authorize corrective action by the Industrial Activity in the case of material deficiencies.

l. When authorized by the TYCOM, direct the ship to get underway for Sea Trials.

2.6 BUILDING YARD. The Building yard is an industrial activity responsible for construction of the ship, correction of shipbuilder responsible deficiencies and additional logistic support products as delineated in the contract. The following is a sample listing of the shipbuilder's products and responsibilities.

a. Technical Manuals for Contractor Furnished Equipment (CFE).

b. Ship Information Book (SIB) or Ship Systems Manual (SSM).

c. PMS for new systems when tasked by Navy Shipbuilding Program Managers or cognizant NAVSEA code.

d. Selected Familiarization Training.

e. Ship Drawings.

f. Advising the Accepting Authority and the TYCOM of the date of initial criticality.

g. Builder's Trials (non-nuclear) to include:

(1) Taking the ship to sea.

(2) The testing of all equipment and systems with the exception of weapons.

2.7 DESIGN YARD or PLANNING YARD. The Design Yard or Planning Yard, which may also be the Building Yard, is an industrial activity responsible for maintaining the Ship's Drawing Index current with configuration. The Planning Yard is responsible for updating ship's drawings to reflect PSA changes.

2.8 COMMANDING OFFICER, PROSPECTIVE COMMANDING OFFICER, or OFFICER IN CHARGE.

2.8.1 General.

a. The responsibilities of a PCO for a new construction ship are set forth in U.S. Navy Regulations. In the case of a nuclear powered ship under construction, the PCO has additional responsibilities associated with the operation of the nuclear propulsion plant as specified in references (a) and (b). In order to provide him with authority commensurate with this responsibility the PCO will be designated in his orders as CO of the PCU, a separate and detached command, with responsibilities as specified in references (a) and (b) and U.S. Navy Regulations.

b. Following completion of the required training and material readiness certification, the CO, PCO or OIC must keep the ISIC fully informed of any changes in personnel, training or material status which could affect the validity of certification. Prompt notification is required to permit revision of Operational Orders and services required.

2.8.2 Pre-Commissioning. Specific responsibilities of the PCO during the primary construction phase are as follows:

a. The preparation and execution of training plans, operational and emergency bills, procedures and organization manuals in support of his responsibilities.

b. The demonstration of his crew's operational and administrative readiness per the inspections required by Volume I, Chapter 3, paragraph 3.3.4 of this manual.

c. Verifying that all required Navy Enlisted Classification Codes or other skill requirements are met by BUPERS or by the ship's training programs.

d. The presentation of the crew for the platform applicable inspections described within this volume.

e. The designation of a Miniature or Microminiature (2M) Repair or Module Test and Repair Manager.

f. The designation in writing of a Calibration Coordinator.

g. Ensuring that at least two NAVSEA or Naval Air Systems Command certified Field Calibration Activity or Aircraft Intermediate Maintenance Department technicians, as required, are available to support certification.

h. Verifying that all pertinent alongside tests, inspections and trials are completed.

i. The establishment of "Lessons Learned Files". These files are to be turned over to the incoming PCO of the next ship of the class to be built. DDG 51 Class Destroyers should pass their files to the PMS 400 tasked contractor. MHC Class ships can provide this data to the FIT while all others should pass Lessons Learned to the Supervising Authority if the next PCO has not yet arrived.

j. The establishment of PMS per reference (g) and Volume I, Chapter 3, paragraph 3.4.1 of this manual.

k. Concurring with the Navy Shipbuilding Program Manager's request to the TYCOM for the conduct of a Habitability Inspection.

l. The designation of system or space experts to assist the ISIC with the Habitability Inspection.

m. The establishment of early liaison with the ATG team OIC to define training needs and the agenda for assist visits in preparation for LOA and Initial Light-Off.

n. (Nuclear Powered Ships only) The development and execution of training plans and documents in support of his responsibilities for inspection and operation of the nuclear propulsion plant. These plans and documents must be in conformance with the instructions and procedures approved by NAVSEA.

o. (Nuclear Powered Ships only) The preparation of ship's engineering or reactor personnel for examination by the Nuclear Propulsion Directorate (NAVSEA 08).

p. (Nuclear Powered Ships only) Review the findings of the ISIC's Pre-RSE Inspection Team and make necessary adjustments to the ship's training program to ensure the

crew's readiness for the RSE. Keep the ISIC advised of the ship's training plan and provide an assessment of the crew's progress.

q. (Nuclear Powered Ships only) Maintain the Reactor Plant per reference (k). Ensure records are ready for the ISIC's audit prior to Fast Cruise.

r. (Nuclear Powered Ships only) Review test and trial schedules and agendas and signify concurrence to the TYCOM and the designated ISIC. Copies of detailed schedules and agendas for underway trials will be forwarded to the designated ISIC, the escort ship (Submarines) and the TYCOM Embarked Representative.

s. (Nuclear Powered Ships only) Assume duty as the OIC and accept custody and responsibility for special nuclear material, after the ship is placed "In-Service". Report to the Fleet Commander
In-Service status. Appendix A of this chapter provides a sample message.

t. (Nuclear Powered Ships only) The preparation of Ship's Force Dock Trial Agenda.

u. (Nuclear Powered Ships only) Per the specifications and information in this volume, the conduct of dockside and underway trials. Critical operation of the reactor will be conducted per reference (l).

v. (Aircraft Carriers only) Prior to Fast Cruise, report to the TYCOM the successful completion of Crew Certification and recommend commencement of Fast Cruise and Builder's Trials via message. Appendix B of this chapter provides a sample message.

w. (Nuclear Powered Ships only) When authorized by the Navy Shipbuilding Program Manager, conduct Fast Cruise per Volume I, Chapter 4, section 4.3 of this manual.

x. (Nuclear Powered Ships only) During Sea Trials, assume the duties of Officer in Tactical Command unless otherwise designated by the ISIC. For submarines, ISICs must comply with direction found in Annex C of reference (m).

y. (Nuclear Powered Ships only) Provision for adequate crew rest time during Sea Trials. Six uninterrupted hours in each twenty-four-hour period is a minimum for each crew member.

z. (Nuclear Powered Ships only) In the absence of a TYCOM and ISIC representative, act for the TYCOM in approving on-the-spot changes to approved Sea Trial Agendas.

aa. (Nuclear Powered Ships only) When all platform applicable requirements of this instruction are completed to the OIC's satisfaction and when permission has been received from the ISIC, proceed to sea following the operations order and carry out the approved Sea Trial Agenda.

ab. (Submarines only) If possible, participate in two at sea periods prior to initial Sea Trials as follows:

(1) Accompany the preceding ship of the class on the first Sea Trial to learn how the propulsion trial is run (except first ship of class).

(2) Participate in an underway period of at least five days duration approximately six months prior to the final phase of Crew Certification. The purpose of this ride is to re-familiarize the PCO with those functions unique to being

underway so as to ensure the safe conduct of his own initial Sea Trials and shakedown. This underway period also allows him to validate his crew's training program. This underway period should be on a ship, preferably of the same class, which is concentrating on basic ship or submarine operations, such as Selected Refresher Training or Independent Ship Exercise (ISE), so he can witness such evolutions as: coming to periscope depth, snorkeling, ventilating, casualty training, etc. If the new construction schedule has 10-12 weeks between Power Range testing and the final phase of Crew Certification, the PCO should go to sea approximately two months before initial criticality. The intent is for the PCO to go to sea after having been in the Industrial Activity for a fair amount of time (normally one year or more), but with sufficient time remaining to improve his own training program if necessary. During these underway periods, the PCO should spend time on the bridge and also observe piloting and navigation.

NOTE: IF NOT POSSIBLE TO PARTICIPATE IN TWO AT-SEA PERIODS AS DESCRIBED ABOVE, THE ISIC AND TYCOM WILL COORDINATE REQUIRED TRAINING.

ac. (Submarines only) Request that the ISIC conduct a salvage inspection following the policies set forth in Volume IV, Chapter 18 of this manual.

(1) Coordinate salvage inspection support requirements as may be needed by the inspecting team to fulfill the requirements of Volume IV, Chapter 18, Appendix D of this manual.

(2) Ensure Volume IV, Chapter 18, Appendix D of this manual is completed and furnished to the Senior Inspecting Officer prior to the commencement of the Salvage Inspection.

(3) Ensure all ship's data called out in Volume IV, Chapter 18, Appendix D of this manual is assembled and staged prior to the inspection for ease of reference by the inspecting team.

(4) Take corrective action on all discrepancies found during the Salvage Inspection. Inform the ISIC of corrective action prior to commencement of Fast Cruise.

ad. (Submarines only) Ensure a copy of the salvage plan has been provided to the escort ship designated for Sea Trials. Coordinate communications and operational procedures with the escort ship to ensure the escort is fully informed of the submarine's condition and intentions.

ae. (Submarines only) Concur with the Supervising Authority message that the material condition of the ship is satisfactory to commence Fast Cruise.

af. (Submarines only) Upon successfully completing Fast Cruise and after having exercised his crew thoroughly and operated all machinery, equipment and systems to his satisfaction, concur in the Supervising Authority's message recommending commencement of Alpha Trials. Appendix B of this chapter provides an example of this message.

ag. (Submarines only) Maintain Planned Maintenance Management Plan per reference (n). Ensure records are ready for the ISIC's audit conducted prior to Fast Cruise.

2.8.3 Trials and Inspections. PCO responsibilities are delineated in references (d) and (e).

2.8.4 Post-Shakedown Availability. Specific responsibilities of the PCO during PSA are as follows:

a. Determine, in conjunction with the Supervising Authority, the nature and extent of PSA Sea Trials. Prepare, in conjunction with the Supervising Authority, the Sea Trial Agenda, including the sequence and duration of each test. The Supervising Authority will submit it to the Navy Shipbuilding Program Manager and the ISIC or TYCOM representative for approval as described herein. Provide copies of the approved detailed schedule and agenda for underway trials to the local ISIC and, if appropriate, the escort ship and the TYCOM Embarked Representative. This schedule and agenda must include:

(1) The minimum requirements shown in Volume I, Chapter 6, section 6.4 (Volume II, Part I, Chapter 3 for submarines) of this manual.

(2) A firm time scheduled for conducting all tests and trials showing their sequence and duration.

(3) General prerequisites for conducting each test. Detailed prerequisites should be itemized as part of individual test requirements.

(4) Responsibility for conducting each test (Industrial Activity or Ship's Force).

(5) Ship's Force support required for conducting each test.

(6) Provision for adequate crew rest time during Sea Trials. Six uninterrupted hours in each twenty-four-hour period is a minimum for each crew member.

(7) (Submarines only) Provision for a minimum of six hours of uninterrupted ISE for crew training following the initial tightness dive and prior to the deep dive.

(8) Underway tests may be run during ISE and rest periods on a not-to-interfere basis. Specifically, tests which can be conducted underway under normal operating conditions without manning special watch stations that require extra military personnel may be scheduled during rest periods. Tests which will not interfere with Ship's Force drills and training exercises may be conducted during ISE periods.

b. Prepare Dock Trial Agenda.

c. Conduct one-day Ship's Force Dock Trials per Volume II, Part I, Chapter 3 of this manual.

d. Demonstrate the crew's state of training.

e. Ensure that all pertinent alongside tests, inspections, and trials are conducted.

f. (Nuclear Powered Ships only) Supervise operation of the nuclear propulsion plant. Conduct critical operations as set forth in reference (l).

g. (Nuclear Powered Ships only) When authorized by the TYCOM, conduct Fast Cruise per Volume II, Part I, Chapter 3 of this manual.

h. (Nuclear Powered Ships only) Review the findings of the Pre-Critical Inspection (if performed) and adjust the training plan to ensure the crew's readiness for criticality. Advise the ISIC of training plan adjustments and provide an assessment of the crew's progress.

i. (Nuclear Powered Ships only) Maintain Reactor Plant Maintenance per reference (k). Ensure records are ready for an ISIC audit conducted prior to Fast Cruise.

j. (Submarines only) Undergo a salvage inspection per Volume IV, Chapter 18 of this manual.

k. (Submarines only) Maintain Planned Maintenance Management Plan per reference (n) and Scope of Certification, FBW Controlled Work Packages and SUBSAFE Re-entry Control per Volume V, Part I, Chapter 5 of this manual. Ensure records are ready for an ISIC audit prior to Fast Cruise.

l. (Submarines only) Additional PCO or CO responsibilities are defined in Volume II, Part I, Chapter 3 of this manual.

2.9 PRE-COMMISSIONING UNIT. The PCO and crew will monitor the ship's construction, prepare ship's directives, regulations and administrative programs, and observe and demonstrate the operation of installed systems to ensure the ship is safe and habitable prior to commissioning. The shipyard period is an opportunity for the crew to familiarize themselves with the ship. The ship will be required to complete various certifications leading up to introduction into the fleet. This section provides some insight into the administrative requirements and personnel related issues associated with the initial man-up.

2.9.1 Initial Man-up. New construction ships are manned based on a Crew Scheduling and Phasing Plan. Dependent upon the platform type, crew manning is accomplished in two, three, four or as many as eight increments. The quantitative and qualitative requirements of these increments are based on the platform type, test and construction schedule. The objectives of the Crew Scheduling and Phasing Plan are to:

a. Ensure adequacy of schooling for personnel assigned.

b. Ensure appropriate course convening dates.

c. Ensure there are no conflicts or redundancies between Navy and contractor courses.

d. Ensure sufficient training for anticipated maintenance and operating skill requirements.

e. Ensure the optimization of training opportunities for personnel in the pipeline enroute to the ship. A senior crew member from the first increment must be assigned with the responsibility of tracking and reviewing manning issues. For some ships, the Navy Shipbuilding Program Manager has provided support contractors to assist either partially or entirely in the management of the Crew Scheduling and Phasing Plan. Regardless of the class or type of ship, the initial increment of personnel must quickly organize. If a detachment concept is used, Appendix O of this chapter provides a

basic listing of requirements that the first increment of personnel should be pursuing. Appendix P of this chapter provides similar information for the non-detachment approach.

2.9.2 Training.

2.9.2.1 Shipboard Training. The Industrial Activity presents a unique environment with special circumstances not routinely encountered by operating forces. The incremental assignment of personnel to PCUs and the pace of new construction demands a comprehensive training strategy. A well-established training program is the key to the ship being ready for introduction into the Fleet. Consistent with the objectives of a shipboard training program, the TYCOM training manuals and references (j) and (o) through (t), a new construction training program will ensure that:

a. (Nuclear Powered Ships only) The qualification of all Engineering and Reactor Department personnel in strict accordance with reference (u). Included is the CO's responsibility to personally conduct an RSE of each key propulsion plant watch stander.

b. Personnel are trained in any special Quality Assurance (QA) procedures that may be used during the construction period.

c. Personnel assigned are knowledgeable of the platform, system and equipment installations and operation of installed equipment.

d. Watch stander qualifications support a watch section of fully or provisionally qualified personnel for all scheduled events.

e. Training designated for assigned personnel supports the platform and equipment configuration.

f. Intensified special training is provided to support:

(1) Cold Operations.

(2) Hot Operations.

(3) RSE.

(4) LOA.

(5) Criticality or Power Range Testing.

(6) Combat Systems Installation Certification.

(7) Crew Certification.

(8) Fast Cruise and Sea Trials.

(9) Piloting Party or Navigation Detail.

(10) Damage Control Team.

(11) Fire Fighting Team.

(12) Tactical Team.

(13) Special details.

g. All billets requiring specific Navy Enlisted Classifications are filled.

h. Established Naval Schools and Trainers are used to the maximum extent possible.

i. Factory training on systems and equipment for which Naval Schools are not established is provided.

j. Special training following TYCOM directives is provided for provisional certification to load, handle, stow and maintain a weapons load-out specific to the class of ship.

k. Weapons or Combat Systems training is sufficient to enable the Weapons or Combat Systems Department to operate its systems while complying with existing safety rules, technical directives and governing operating procedures issued by the CNO, the Defense Nuclear Agency, NAVSEA, Space and Naval Warfare Systems Command, the TYCOM or other commands as applicable.

l. Industrial Activity or contractor familiarization training courses are monitored for content and value. Provide supplemental instruction where necessary and inform the Supervising Authority and Navy Shipbuilding Program Manager of significant problems or shortfalls.

m. The enlisted training program is started as soon as the Leading Petty Officers for the major divisions arrive. The Officers and senior enlisted personnel will develop the content and scope of the training programs for implementation with the arrival of the first large increment of enlisted personnel.

n. Aircraft Launch and Recovery Equipment Maintenance Program training must be conducted per reference (v).

2.9.2.2 Industrial Activity Training. The Industrial Activity or FIT will provide familiarization training following the shipbuilding contract on ship's characteristics and systems. This training generally is not sufficient for "System Expert" qualification, but will provide an excellent opportunity for School of the Boat or Ship, and at the same time provide an opportunity for Divisional Training Petty Officers to develop a more detailed and in depth training program. In most cases, the Industrial Activity will allow the ship to control the scheduling of topics.

2.9.2.3 Training Support Center. Surface ships utilizing the Pre-Commissioning Detachment Concept at a Training Support Center (TSC), either in Norfolk, VA or San Diego, CA, are provided with an outstanding opportunity to ensure pipeline training is obtained. This concept also provides for the easy access to many of the basic courses such as firefighting, damage control, Repair Parts Petty Officer training, Drug and Alcohol Program Advisors, Component Change Control, etc., which are needed to ensure assigned personnel can effectively function as a ship's crew upon delivery. For ships not utilizing the TSC Detachment Concept, such as submarines, an individual should be assigned to monitor and track training and manning issues as they develop.

2.9.3 Ship's Qualification Program. The implementation and operation of the Ship's Qualification or Personnel Qualification Standard (PQS) should ensure a logical process for training Ship's Force for watchstanding and ship's qualification. TYCOM instructions that cover Ship's Qualification or PQS requirements are found in references (j) and (o) through (t). The department organization manual should establish prerequisites for watch stander

qualification. Qualification goals should be established and the program should support completion of goals within each division. Fleet wide training and qualification goals are:

a. Underway Watchbills; 3 Section Enlisted, 4 Section Officer or Chief Petty Officer.

b. Inport Watchbills; 4 Section Enlisted, 5 Section Officer or Chief Petty Officer (6 Section for all personnel on Aircraft Carriers).

2.9.4 Deficiency Identification and Correction. The establishment of procedures by which Ship's Force reports and tracks the correction of deficiencies cannot be overstressed. The Supervising Authority relies heavily upon PCU involvement to augment their efforts. Inspections of systems, equipment and spaces by PCU personnel are extremely important in the identification of unsatisfactory work and material deficiencies. Each shipbuilder and associated Supervising Authority have their own established system for tracking shipbuilder responsible deficiencies. Those deficiencies which are not corrected during the construction cycle will be submitted to the INSURV Board just prior to FCT, AT or CT (the type of trial dependent on platform). These deficiencies, depending on their seriousness, may impact a ship's delivery to the Navy. Deficiencies cited must either be resolved, corrected or waived by the Navy Shipbuilding Program Manager.

2.9.5 Establishment of Engineering and Reactor Department. This paragraph addresses the Engineering or Reactor Department establishment and tasks which are to be accomplished during the pre-commissioning phase of new construction. The tasks defined in this section incorporate experience gained and lessons learned from previously completed ships. The objective is to provide guidance which will assist in the ship's readiness, from an Engineering or Reactor Department standpoint, to successfully complete contract milestones and to prepare for fleet introduction.

2.9.5.1 Requirements. The PCU should monitor and report on the ship's construction progress to the PCO, and dependent upon platform, conduct, witness and participate in the ship's dockside and at-sea testing, attend periodic documentation reviews, assessments, and validations, and provide recommendations regarding manpower, training, watchstanding and related shipboard engineering requirements. Tasks and responsibilities include items discussed in the following paragraphs.

2.9.5.2 Shipboard Inspections. Shipboard inspections by the ship's Engineering, Reactor Department and cognizant Supervising Authority personnel are necessary during the ship construction phase. There is no precise pattern or timetable for these inspections, but they should be thorough and conducted frequently. Ship's Force personnel need to become familiar with the contract specifications and system drawings. This will ensure the prompt identification, and documenting, of discrepancies discovered when comparing "as built" conditions to the actual specification.

2.9.5.3 Personnel Qualification Standards. Theoretical portions of PQS should be implemented during the training pipeline at the specific Training Centers and at the TSCs using available technical manuals and training material. Ship-wide PQS should be implemented prior to the arrival of the final crew increment at the shipbuilder's yard. The ship's Engineer Officer should establish interim watch qualifications to set the training goals for Engineering and Reactor Department personnel as they arrive at the Industrial Activity. Additionally, PQS sign-off

authority should be specified in writing by the ship's Engineer Officer, in order to ensure that the provisional qualifications and sign-off procedures function smoothly.

2.9.5.4 Outfitting Support (as applicable). The PCU must ensure that engineering spaces are completely outfitted. Routine progress inspections must be made in this area, and the PCU will participate in completing Compartment Completion Inspection Reports. It is important that personnel involved with Compartment Completion Inspection Reports are fully aware of all implemented Engineering Change Proposals and Engineering Change Notices to ascertain that outfitting materials and Operating Space Items (OSI) support the ship as revised by Engineering Change Proposals and Engineering Change Notices. Configuration Change Requests must be drafted with full recognition of the guidance contained in both the General Specifications for Building Naval Vessels and the specific Class Building Specifications.

2.9.5.5 Operational Sequencing System (Surface Force Ships and Aircraft Carriers only). The Operational Sequencing Systems (OSS) (Engineering Operational Sequencing System (EOSS), Sewage Disposal Operational Sequencing System, etc.) establish the operational procedures for various shipboard equipment, including applicable Casualty Control procedures. Validation of Engineering Department OSS manuals is the responsibility of the ship's Engineering Department personnel, with assistance provided by the Navy Shipbuilding Program Manager and contractor support personnel (if available). This validation will ensure that procedural requirements are current, well-defined and correct. OSS validation is a Key Event that must be accomplished by the PCU prior to arrival of the final crew increment. EOSS installation (under the cognizance of Naval Surface Warfare Center (NAVSURFWARCEN) Philadelphia Division involves the following sequence of events, which may be modified for other OSS installations:

a. Develop the preliminary EOSS package.

b. Submit the preliminary EOSS to the PCU, the Supervising Authority and the Navy Shipbuilding Program Manager.

c. The PCU, the Supervising Authority and the Navy Shipbuilding Program Manager review the preliminary EOSS.

d. Conduct cold plant check to validate equipment for correct system operation.

e. Revise EOSS to pre-hot check package and submit EOSS to the PCU, the Supervising Authority and the Navy Shipbuilding Program Manager.

f. Conduct pre-hot check.

g. Conduct hot system ship check.

h. Submit final EOSS to the PCU, the Supervising Authority and the Navy Shipbuilding Program Manager for review and comment.

i. Deliver electronic copy of EOSS to Navy Shipbuilding Program Manager.

j. Print, laminate, assemble EOSS.

k. Install final EOSS.

2.9.5.6 Engineering and Reactor Department Organization and Regulations Manual. The Engineering or Reactor Department Organization and Regulations Manual (EDORM or RDORM) is the responsibility of the ship's Engineer or Reactor Officer, however, basic

EDORM or RDORMs have been established as guidelines. Reference (w) provides EDORM development guidance for Surface Forces, reference (x) provides guidance for submarines, and reference (u) provides EDORM or RDORM development guidance for aircraft carriers.

2.10 SUPPORT ACTIVITIES.

2.10.1 Technical Support. The Regional Maintenance Centers (RMC) have numerous functions and responsibilities, some of which will further be discussed in Volume I, Chapter 3 of this manual, but for the purpose of this section only those functions and responsibilities related to new construction will be discussed.

2.10.1.1 Naval Sea Logistics Center (Detachment Norfolk or Detachment San Diego).

a. TYCOMs are responsible for ensuring the proper installation and operation of PMS within the ships under their command. The importance of the PMS installation cannot be overemphasized.

b. Prior to the PMS installation, equipment configuration information will be verified by the Configuration Data Manager. The PMS Maintenance Index Page or MRC documentation will be certified by the Naval Sea Logistics Center Detachment Norfolk or Detachment San Diego (NAVSEALOGCEN Detachment Norfolk or NAVSEALOGCEN Detachment San Diego), as appropriate. Following the validation, the applicable NAVSEALOGCEN Detachment Norfolk or NAVSEALOGCEN Detachment San Diego will assemble the PMS documentation, equipment listings, schedules and forms required for the installation package. Each PMS installation package is ship tailored.

c. NAVSEALOGCEN Detachment Norfolk or NAVSEALOGCEN Detachment San Diego has the responsibility for installing PMS aboard ship. The installation of PMS is done in two phases; preliminary and final.

d. Supporting information can be found in reference (g).

2.10.2 Submarine Maintenance Engineering, Planning and Procurement Activity. The SUBMEPP Activity is located in Portsmouth, NH. SUBMEPP functions are related to submarines and selected submarine support activities. As was the case with the RMCs, SUBMEPP's functions are numerous and deal with a submarine's maintenance at all levels of accomplishment (Organizational, Intermediate, Depot) from construction to inactivation. For the purpose of this section SUBMEPP's responsibilities and functions include:

a. Tracking the configuration of ships under construction.

b. Assisting local RMC with the PMS installation on all new construction submarines.

c. Assisting the Supervisor of Shipbuilding, Groton with the resolution of INSURV deficiencies concerning PMS related issues.

d. Providing Ship's Force with a Master Equipment Guide List (EGL) for all non-nuclear and non-missile related equipment (component to MRC).

e. Providing Ship's Force with their URO and Maintenance Standard documentation at PMS installation.

f. Providing Maintenance and Material Management Coordinator Training at SUBMEPP concerning *Virginia* and *Seawolf* Maintenance philosophy.

g. Processing all shipbuilder developed Submarine PMS to the In-Service Engineering Activity for review and approval.

2.10.3 Carrier Planning Activity, PMS312C (Aircraft Carriers only). The Carrier Planning Activity (CPA) provides centralized Aircraft Carrier life-cycle management, maintenance and modernization planning, closely aligned to Fleet and Program Executive Officer Aircraft Carriers needs and priorities. Operationally, CPA reports to the Navy Shipbuilding Program Manager, In-Service Aircraft Carriers (PMS 312). Per NAVSEAINST 5400.130, CPA responsibilities are as follows:

a. Development, maintenance and monitoring of the Carrier Incremental Maintenance Plan (IMP), including tracking the backlog of IMP and modernization work.

b. Developing Carrier Baseline Availability Work Packages (BAWP) including integration of the IMP sequencing plan and the Modernization Plan for presentation to the TYCOMs.

c. Capturing and analyzing maintenance data history for use in updating the IMP Sequencing Plan and supporting the TYCOMs in assessing the value of ongoing material assessments.

d. Supporting the TYCOMs and Executing Activities in the development of continuous maintenance requirements including life cycle input from the IMP to the continuous maintenance process.

2.10.4 Surface Maintenance Engineering Planning Program (Surface Force Ships only). Surface Maintenance Engineering Planning Program (SURFMEPP) must provide centralized surface ship lifecycle maintenance engineering, class maintenance planning and management closely aligned to the Surface TYCOM and NAVSEA needs and priorities per reference (y). For the purpose of this section, SURFMEPP's responsibilities and functions include:

a. Serve as the authorized engineering agent for Surface Ship Lifecycle maintenance engineering, planning and management.

b. Act as the surface ship Class Maintenance Program development and management activity.

c. Capture and analyze maintenance data history, to include cost, for use in updating the Class Maintenance Plan.

d. Review the material assessments in order to modify the technical content of the Class Maintenance Plan.

c. Develop and issue BAWPs for CNO availabilities after PSA.

2.10.5 Space and Naval Warfare Systems Centers.

a. Space and Naval Warfare Systems Center Atlantic (SSC Atlantic) designs, develops, implements and provides life cycle support for standard fleet non-tactical automated information systems, afloat and ashore. SSC Atlantic is the software development and

support activity for applications automated under the Naval Tactical Command Support System and remaining legacy systems. The Naval Tactical Command Support System automates supply, inventory, ship, submarine, aviation maintenance and configuration management; food services, retail operations, personnel administration and watch, quarter, and station bills, for fleet and fleet-like activities. In all, SSC Atlantic's customers number over 1200 separate activities, many of which operate with multiple functional systems.

b. SSC Atlantic Tidewater facilities, located on Naval Station Norfolk, VA, manage all software development. Naval Station Norfolk is also home to SSC Atlantic's In-Service Engineering Activity for hardware and software support, along with Atlantic Fleet implementations. Space and Naval Warfare Systems Center Pacific (SSC Pacific), San Diego, CA is responsible for Pacific Fleet implementations and support. SSC Pacific maintains a detachment in Yokosuka, Japan to provide on-site assistance for commands and units deployed to their Area of Responsibility.

2.10.6 Fleet Introduction Team (Surface Forces only). Reference (z) states that for newly commissioned Commander Naval Surface Force Atlantic (COMNAVSURFLANT) ships, COMNAVSURFLANT assumes the responsibility of instituting and managing a fleet introduction program. FITs provide support to pre-commissioning crews by monitoring the progress of construction, coordinating training, providing continuity in the management and administration of facilities at the building site and providing administrative support. The Navy Shipbuilding Program Manager provides this support in the form of support contractors. The specific responsibilities of individual FITs will vary dependent upon the platform and the requirements peculiar to that platform. Appendix Q of this chapter provides a generic base line of services available if a FIT is established.

2.10.7 Afloat Training Group (Surface Force Ships only). The Afloat Training Group (ATG) is chartered by reference (w) to assist ships in tailoring a training program for the conduct of pre-light-off cold checks and evaluations, program management and firefighting. This assistance is rendered through formal visits, scheduled at the request of the ship's ISIC via the quarterly scheduling process. ATG teams will conduct tailored training, defined in consonance with the CO, the ISIC and the team OIC which best meets the needs of the ship.

2.10.8 Surface Nuclear Propulsion Mobile Training Team (Aircraft Carriers only). The Surface Nuclear Propulsion Mobile Training Team will conduct training and assessment of Reactor Departments (to include Engineering department on CVN 65) for ships undergoing extended availabilities and for PCUs. These assessments must include Reactor Department administration, qualifications, operations, cleanliness, preservation, material condition, radiological controls, chemistry controls and damage control. The Maintenance Training Group will conduct pre-availability training with Reactor Department personnel, conduct in-process quality assurance assessments and training visits, and train the crew in life cycle management.

2.10.9 Fitting Out Supply Assistance Team (Surface Ships only).

a. Fitting Out Supply Assistance Team (FOSAT), a function under Naval Supply Weapons Systems Support-Mechanicsburg, will assist Prospective Supply Officers (PSO) in attaining maximum administrative and material readiness of the Supply Department prior to delivery of a ship to the Navy. The team is involved in

monitoring the provisioning process, material availability, inventory validity, Supply Department administrative readiness and establishment of Supply Department spaces. Additionally, the team provides pre-commissioning training and assistance in all areas of Supply Department organization. The primary focus of the FOSAT team is to provide assistance and evaluation. Assistance is rendered to the PSO through training and as a result of each of the PSO's divisions communicating their areas requiring assistance. Evaluation is accomplished by reviewing each division's operating procedures. Evaluation is also accomplished through regular communication to ascertain each division's progress based upon the most current Supply Management Certification checklist. In addition, assistance and evaluation are accomplished by performing visits to the PCUs.

b. Services provided by FOSAT includes:

(1) Storeroom Bin Validation.

(2) Review of General Use Consumable List.

(3) RSUPPLY Implementation and Validation.

(4) Culinary Specialist Assistance.

(5) Ship's Serviceman Assistance.

(6) Disbursing Assistance.

(7) Postal Assistance.

(8) Critical Path Visits.

2.11 NAVAL SEA SYSTEMS COMMAND (SUBMARINES ONLY). Reference (c) describes NAVSEA's responsibilities during new construction for Submarine FBW SCS. NAVSEA's responsibilities for the Pre-Commissioning period are as follows:

a. Supervising Authority sends message to NAVSEA in advance of the scheduled start of Fast Cruise stating the status of all incomplete NAVSEA FBW SCS Certification Audit Category IA recommendations, that all FBW SCS work necessary for sea trials, including resolution of all NAVSEA FBW SCS Certification Audit Category I recommendations, has been completed and that the FBW SCS is ready for commencement of Fast Cruise. The message must also state that there are no conditional FBW SCS Deviations or Waivers which have not been satisfied or cite those that exist, identify any operating restrictions of the ship or system, and that, subject to satisfactory completion of Fast Cruise and resolution of mandatory deficiencies, the FBW SCS is satisfactory for commencement of Alpha Sea Trials. Appendix R of this chapter provides a sample message.

b. NAVSEA Navy Shipbuilding Program Manager message to TYCOM certifying that the submarine FBW SCS is satisfactory for sea trials per the approved Sea Trial Agenda. The message must also state that there are no conditional FBW SCS Deviations or Waivers which have not been satisfied or cite those that exist, identify any operating restrictions of the ship or system, and that, subject to satisfactory completion of Fast Cruise and resolution of mandatory deficiencies, the FBW SCS is

satisfactory for commencement of Alpha Sea Trials. Appendix S of this chapter provides a sample message.

c. NAVSEA Navy Shipbuilding Program Manager must provide a report documenting the resolution of sea trial deficiencies to NAVSEA 07TC for review in support of NAVSEA 07 concurrence on final system certification. Appendix T of this chapter provides a sample message.

2.12 INTEGRATION OF CLASS MAINTENANCE PLAN AND BASELINE AVAILABILITY WORK PACKAGE (SURFACE FORCE SHIPS ONLY).

a. SURFMEPP has lead responsibility for BAWP development for new construction ships entering the Fleet Readiness Plan (FRP) cycle.

b. Initial BAWP generation for new construction ships is dependent on PSA completion and Class Maintenance Plan development. Once the BAWP is issued, see Volume II, Part II, Chapter 2, Appendix D of this manual for the remaining BAWP to Availability Work Package (AWP) process.

2.12.1 Life Cycle Planning Conference. SURFMEPP will coordinate the date, location and agenda for the Life Cycle Planning Conference (LCPC). SURFMEPP will be responsible for planning and conducting the conference, attendees should include: TYCOM, RMC Assessment Directors, Program Manager Representatives, representatives from NAVSEA 05, NAVSEA 21 Modernization, Planning Activity and the ship's MT.

2.12.2 BAWP Pre-Pushed to Maintenance Team. SURFMEPP will send a list of the FRP Maintenance Cycle Class Maintenance Plan requirements to the ship's Port Engineer for review and correction. This list is a preview of the initial BAWP and will be discussed in detail at the LCPC. Upon request, SURFMEPP will provide a list of Class Maintenance Plan-required assessments to TYCOM, Navy Regional Maintenance Center (NRMC) and RMC.

2.12.3 BAWP Upload.

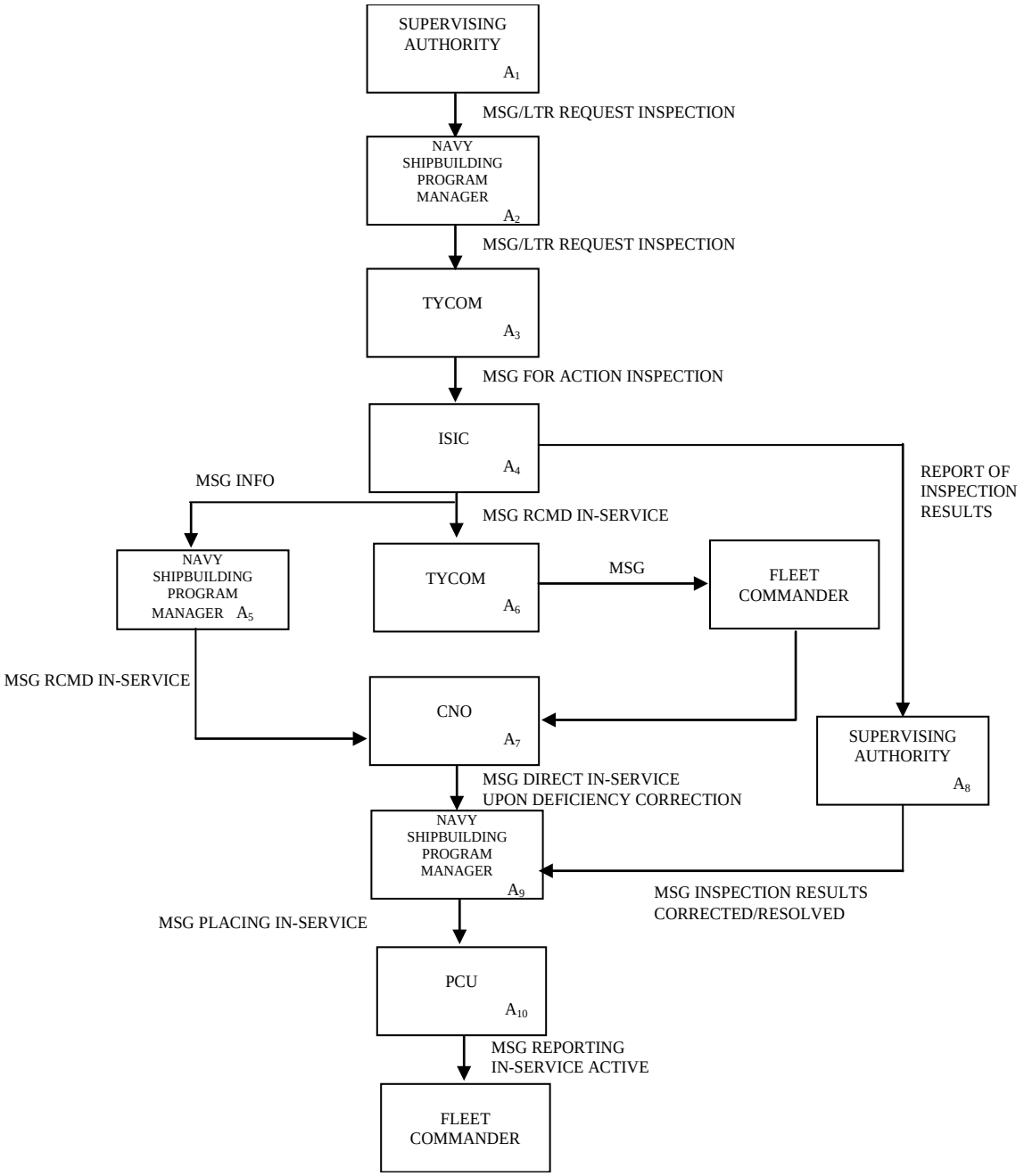
a. SURFMEPP will upload a data file (MM0001 file) with all mandatory requirements and expected CNO Availability services into the appropriate IT system in support of ship-specific MT screening and brokering requirements.

b. SURFMEPP will issue formal correspondence detailing the planning schedule and outstanding action items from the LCPC.

2.12.4 Other BAWP to AWP Process Milestones. All other BAWP to AWP process milestones are germane (refer to Volume II of this manual) for in-service non-Forward Deployed Naval Forces ships.

APPENDIX A

Message Scenario and Sample Messages or Letters For Habitability Inspections and In-Service



APPENDIX A_1

SAMPLE SUPERVISING AUTHORITY LETTER TO NAVY SHIPBUILDING PROGRAM MANAGER RECOMMENDING HABITABILITY INSPECTION AND IN-SERVICE

From: Supervisor of Shipbuilding, Conversion and Repair, USN, (Applicable Supervising Authority)

To: Commander, Naval Sea Systems Command (Attn: Navy Shipbuilding Program Manager)

Subj: PLACING (SHIP NAME) (HULL NUMBER) IN-SERVICE

Ref: (a) OPNAVINST 9080.3
(b) OPNAVINST 4700.8

1. Per references (a) and (b), recommend Habitability Inspection of (Ship Name) (Hull Number) commence on (Date) with active status of In-Service on or about (Date).

Program Department Head

Copy to: (As Applicable)
CNO Washington (N77)
DIRSSP Washington (SP201)
TYCOM
ISIC
Parent ISIC
PRECOMUNIT (Ship Name)
NRRO (Location)

APPENDIX A_2

SAMPLE NAVY SHIPBUILDING PROGRAM MANAGER LETTER REQUESTING TYCOM TO AUTHORIZE ISIC TO CONDUCT HABITABILITY INSPECTION

From: Commander, Naval Sea Systems Command

To: Commander, (Applicable TYCOM N43)

Subj: PLACING (SHIP NAME) (HULL NUMBER) IN-SERVICE

Ref: (a) OPNAVINST 9080.3
(b) OPNAVINST 4700.8
(c) Supervising Authority ltr recommending In-Service of specified unit

1. Per references (a) and (b), (Applicable TYCOM) (N4) is requested to authorize a Habitability Inspection of (Ship Name) (Hull Number) commencing on (Date) as recommended by reference (c).

Navy Shipbuilding Program Manager

Copy to: (As Applicable)
CNO Washington DC (N77)
DIRSSP Washington DC (SP201)
ISIC
Parent ISIC
PRECOMUNIT (Ship Name)
Supervising Authority
NRRO (Location)

APPENDIX A_3

SAMPLE TYCOM MESSAGE DIRECTING ISIC TO CONDUCT HABITABILITY INSPECTION

FM (TYCOM)//
TO (ISIC)//
INFO CNO WASHINGTON DC//
(FLEET COMMANDER)//
COMNAVSEASYSCOM WASHINGTON DC//(NAVY SHIPBUILDING PROGRAM MANAGER)/(NUCLEAR POWERED SHIPS ONLY)//
PRECOMUNIT (SHIP NAME)//
(SUPERVISING AUTHORITY)//(APPROPRIATE CODE)//
(PARENT GROUP)//
(PARENT SQUADRON)//
BT
UNCLAS //N04700//
MSGID/GENADMIN/(TYCOM)//
SUBJ/PLACING (SHIP NAME AND HULL NO.) IN-SERVICE//
REF/A/LTR/(ORIGINATING ACTIVITY) (SERIAL NUMBER)/(DATE)//
AMPN/REF A IS NAVY SHIPBUILDING PROGRAM MANAGER REQUEST FOR HABITABILITY INSPECTION//
RMKS/1. TAKE REF A FORAC. CONDUCT HABITABILITY INSPECTION OF (SHIP NAME AND HULL NO.) ON OR ABOUT (DATE).
2. REPORT RESULTS BY MSG UPON COMPLETION.//
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAIN LANGUAGE ADDRESS DIRECTORY (PLAD) IS UTILIZED.

APPENDIX A4

SAMPLE ISIC MESSAGE REPORTING COMPLETION OF HABITABILITY INSPECTION AND RECOMMENDING SHIP BE PLACED "IN-SERVICE"

FM (ISIC)//
TO (TYCOM)//
INFO CNO WASHINGTON DC//
COMNAVSEASYSCOM WASHINGTON DC//(NAVY SHIPBUILDING PROGRAM MANAGER)/ (NUCLEAR POWERED SHIPS ONLY)//
(FLEET COMMANDER)//
(PARENT GROUP)//
(PARENT SQUADRON)//
PRECOMUNIT (SHIP NAME)//
(SUPERVISING AUTHORITY)//(APPROPRIATE CODE)//
(TYCOM) REP (SUPERVISING AUTHORITY)//
BT
UNCLAS //N05441//
MSGID/GENADMIN/(ISIC)//
SUBJ/ PLACING (SHIP NAME AND HULL NO.) IN-SERVICE//
REF/A/LTR/(ORIGINATING ACTIVITY) (SERIAL NUMBER)/(DATE)//
AMPN/REF A IS NAVY SHIPBUILDING PROGRAM MANAGER REQUEST FOR HABITABILITY INSPECTION//
REF/B/MSG/(ORIGINATOR)/(DTG)//
AMPN/REF B IS TYCOM AUTHORIZATION TO CONDUCT HABITABILITY INSPECTION//
REF/C/DOC/OPNAVINST 3120.32//
AMPN/REF C IS US NAVY REGULATIONS//
REF/D/DOC/OPNAVINST 4700.8//
AMPN/REF D IS TRIALS, ACCEPTANCE, COMMISSIONING, FITTING OUT, SHAKEDOWN, AND POST-SHAKEDOWN AVAILABILITY OF U.S. NAVAL SHIPS UNDERGOING CONSTRUCTION OR CONVERSION//
REF/E/DOC/OPNAVINST 9080.3//
AMPN/REF E IS PROCEDURES FOR TESTS AND TRIALS OF NAVAL NUCLEAR POWERED SHIPS UNDER CONSTRUCTION, MODERNIZATION, CONVERSION, REFUELING, AND OVERHAUL//
REF/F/DOC/(SUPERVISING AUTHORITY)INST 5441.1/-/NOTAL//
AMPN/REF F IS SUPERVISING AUTHORITY INSTRUCTION CONCERNING HABITABILITY AND IN-SERVICE//
RMKS/1. IAW REFS A AND B (ISIC) COMPLETED HABITABILITY INSPECTION OF (SHIP NAME AND HULL NO.) ON (DATE).
2. INSPECTION CONDUCTED IAW REFS C, D, AND E, USING REF F FOR GUIDANCE. LIST OF DEFICIENCIES PROVIDED TO (SUPERVISING AUTHORITY) AND PRECOMUNIT (SHIP NAME).
3. RECOMMEND (SHIP NAME) BE PLACED "IN-SERVICE" UPON CORRECTION OR RESOLUTION OF HIGHLIGHTED MINOR DEFICIENCIES. NO MAJOR DEFICIENCIES EXIST.

4. THE FOLLOWING SYSTEMS ARE NOT UNDER OPERATIONAL CONTROL OF SHIP'S FORCE:

SYSTEM EDD

5. THE FOLLOWING SPACES HAVE SIGNIFICANT WORK IN PROGRESS AND ARE NOT TURNED OVER TO SHIP'S FORCE:

SPACE

A.

B.

C.//

BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX A_5

SAMPLE NAVY SHIPBUILDING PROGRAM MANAGER TO CNO MESSAGE RECOMMENDING SHIP BE PLACED IN-SERVICE

FM COMNAVSEASYSCOM WASHINGTON DC//(NAVY SHIPBUILDING PROGRAM MANAGER)//
TO CNO WASHINGTON DC//
INFO (FLEET COMMANDER)//
(TYCOM)//
(ISIC)//
(PARENT GROUP)//
(PARENT SQUADRON)//
PRECOMUNIT (SHIP NAME)//
(SUPERVISING AUTHORITY)//(APPROPRIATE CODE)//
BT
UNCLAS //N05441//
MSGID/GENADMIN/(NAVY SHIPBUILDING PROGRAM MANAGER)//
SUBJ/ PLACING (SHIP NAME AND HULL NO.) IN-SERVICE//
REF/A/MSG/(ISIC)/(DTG)//
AMPN/REF A IS SHIP'S MESSAGE TO TYCOM CONCERNING MATERIAL CERTIFICATION//
REF/B/DOC/OPNAVINST 9080.3//
AMPN/REF B IS PROCEDURES FOR TESTS AND TRIALS OF NAVAL NUCLEAR POWERED SHIPS UNDER CONSTRUCTION, MODERNIZATION, CONVERSION, REFUELING AND OVERHAUL//
REF/C/DOC/OPNAVINST 4700.8//
AMPN/REF C IS TRIALS, ACCEPTANCE, COMMISSIONING, FITTING OUT, SHAKEDOWN, AND POST SHAKEDOWN AVAILABILITY OF U.S. NAVAL SHIPS UNDERGOING CONSTRUCTION OR CONVERSION//
RMKS/1. REF A PROVIDED RESULTS OF HABITABILITY INSPECTION OF (SHIP NAME AND HULL NO.).
2. IAW REFS B AND C, (THE NAVY SHIPBUILDING PROGRAM MANAGER) RECOMMENDS PLACING (SHIP NAME AND HULL NO.) IN-SERVICE UPON CORRECTION OR RESOLUTION OF MANDATORY DEFICIENCIES IDENTIFIED BY THE ISIC HABITABILITY INSPECTION REPORT. CORRECTION OR RESOLUTION OF THESE DEFICIENCIES IS EXPECTED TO COMPLETE ON OR ABOUT (DATE).//
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX A6

SAMPLE TYCOM MESSAGE RECOMMENDING SHIP BE PLACED "IN-SERVICE ACTIVE"

FM (TYCOM)//
TO FLEET COMMANDER//
INFO CNO WASHINGTON DC//
COMNAVSEASYSCOM WASHINGTON DC//(NAVY SHIPBUILDING PROGRAM MANAGER)/ (NUCLEAR POWERED SHIPS ONLY)//
(PARENT GROUP)//
(PARENT SQUADRON)//
(SUPERVISING AUTHORITY)//(APPROPRIATE CODE)//
(ISIC)//
PRECOMUNIT (SHIP NAME)//
BT
UNCLAS //N05441//
MSGID/GENADMIN/(TYCOM)//
SUBJ/ (SHIP NAME AND HULL NO.) IN-SERVICE ACTIVE//
REF/A/MSG/(ORIGINATING ACTIVITY)/(DTG)//
AMPN/REF A IS ISIC REPORT OF HABITABILITY INSPECTION COMPLETION//
RMKS/1. CONCUR WITH REF A RECOMMENDATION TO PLACE (SHIP NAME) IN-SERVICE ACTIVE UPON CORRECTION/RESOLUTION OF DEFICIENCIES.//
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX A7

SAMPLE CNO TO NAVY SHIPBUILDING PROGRAM MANAGER MESSAGE DIRECTING THE SHIP BE PLACED IN-SERVICE

FM CNO WASHINGTON DC//
TO COMNAVSEASYSCOM WASHINGTON DC//(NAVY SHIPBUILDING PROGRAM MANAGER)//
INFO (FLEET COMMANDER)//
(TYCOM)//
(PARENT GROUP)//
(PARENT SQUADRON)//
PRECOMUNIT (SHIP NAME)//
BT
UNCLAS //N05441//
MSGID/GENADMIN/CNO//
SUBJ/ PLACING (SHIP NAME AND HULL NO.) IN SERVICE//
REF/A/MSG/(ORIGINATING ACTIVITY)/(DTG)//
AMPN/REF A IS (ISIC) RECOMMENDATION TO PLACE (SHIP NAME) IN SERVICE//
REF/B/MSG/(ORIGINATING ACTIVITY)/(DTG)//
AMPN/REF B IS (TYCOM) RECOMMENDATION TO PLACE (SHIP NAME) IN SERVICE//
REF/C/MSG/(ORIGINATING ACTIVITY)/(DTG)//
AMPN/REF C IS (NAVSEA) RECOMMENDATION TO PLACE (SHIP NAME) IN SERVICE//
REF/D/DOC/OPNAVINST 4700.8//
AMPN/REF D IS TRIALS, ACCEPTANCE, COMMISSIONING, FITTING OUT, SHAKEDOWN, AND POST SHAKEDOWN AVAILABILITY OF U.S. NAVAL SHIPS UNDERGOING CONSTRUCTION OR CONVERSION//
RMKS/1. AS RECOMMENDED BY (ISIC)/(TYCOM)/(FLEET COMMANDER) PER REFS A AND B AND BY NAVSEA PER REF C, UPON CORRECTION OR SATISFACTORY RESOLUTION OF DEFICIENCIES DISCUSSED IN REF A, NAVSEA IS DIRECTED TO PLACE (SHIP NAME) IN SERVICE IAW REF D ON OR ABOUT (DATE).//
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX A_8

SAMPLE SUPERVISING AUTHORITY TO NAVY SHIPBUILDING PROGRAM MANAGER MESSAGE RECOMMENDING SHIP BE PLACED IN-SERVICE

FM (SUPERVISING AUTHORITY)//
TO COMNAVSEASYSCOM WASHINGTON DC//(NAVY SHIPBUILDING PROGRAM MANAGER)//
INFO CNO WASHINGTON DC//
(TYCOM)//
(ISIC)//
(PARENT GROUP)//
(PARENT SQUADRON)//
PRECOMUNIT (SHIP NAME)//
BT
UNCLAS //NO5441//
MSGID/GENADMIN/(SUPERVISING AUTHORITY)//
SUBJ/ (SHIP NAME AND HULL NO.) PLACING IN-SERVICE ACTIVE
REF/A/MSG/(ORIGINATING ACTIVITY)/(DTG)//
AMPN/REF A IS ISIC REPORT OF HABITABILITY INSPECTION COMPLETION//
REF/B/DOC/OPNAVINST 4700.8//
AMPN/REF B IS TRIALS, ACCEPTANCE, COMMISSIONING, FITTING OUT, SHAKEDOWN, AND
POST-SHAKEDOWN AVAILABILITY OF U.S. NAVAL SHIPS UNDERGOING CONSTRUCTION OR CONVERSION//
REF/C/DOC/OPNAVINST 9080.3//
AMPN/REF C IS PROCEDURES FOR TESTS AND TRIALS OF NAVAL NUCLEAR POWERED SHIPS UNDER CONSTRUCTION, MODERNIZATION, CONVERSION, REFUELING, AND OVERHAUL//
RMKS/1. ALL MANDATORY DISCREPANCIES IDENTIFIED DURING THE HABITABILITY INSPECTION OF (SHIP NAME AND HULL NO.) AS REPORTED BY REF A HAVE BEEN CORRECTED OR RESOLVED TO THE SATISFACTION OF THE PCO (SHIP NAME) AND THE (SUPERVISING AUTHORITY).
2. IAW REFS B AND C IT IS RECOMMENDED THAT (SHIP NAME AND HULL NO.) BE PLACED IN-SERVICE ACTIVE ON (DATE).//
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX A9

SAMPLE NAVY SHIPBUILDING PROGRAM MANAGER TO SHIP MESSAGE DIRECTING SHIP BE PLACED IN-SERVICE

FM COMNAVSEASYSCOM WASHINGTON DC//(NAVY SHIPBUILDING PROGRAM MANAGER)//
TO PRECOMUNIT (SHIP NAME)//
INFO CNO WASHINGTON DC//
(FLEET COMMANDER)//
(TYCOM)//
(ISIC)//
(PARENT GROUP)//
(PARENT SQUADRON)//
(SUPERVISING AUTHORITY)//(APPROPRIATE CODE)//
BT
UNCLAS //N05441//
MSGID/GENADMIN/(NAVY SHIPBUILDING PROGRAM MANAGER)//
SUBJ/PLACING (SHIP NAME AND HULL NO.) IN-SERVICE ACTIVE//
REF/A/MSG/(ORIGINATING ACTIVITY)/(DTG)/NOTAL//
AMPN/REF A IS SUPERVISING AUTHORITY RECOMMENDATION TO PLACE SHIP IN-SERVICE//
REF/B/MSG/CNO/(DTG)/NOTAL//
AMPN/REF B IS CNO MESSAGE DIRECTING (NAVY SHIPBUILDING PROGRAM MANAGER) TO PLACE SHIP IN-SERVICE//
RMKS/1. REF A REPORTED ALL MANDATORY DEFICIENCIES IDENTIFIED DURING HABITABILITY INSPECTION OF (SHIP NAME AND HULL NO.) HAVE BEEN CORRECTED OR RESOLVED TO THE SATISFACTION OF THE PCO (SHIP NAME AND HULL NO.) AND THE (SUPERVISING AUTHORITY).
2. AS DIRECTED IN REF B, PLACE (SHIP NAME AND HULL NO.) IN-SERVICE, ACTIVE ON (DATE). MAKE ALL REQUIRED REPORTS. REPORT TO (FLEET COMMANDER) FOR OPCON.//
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX A_{10}

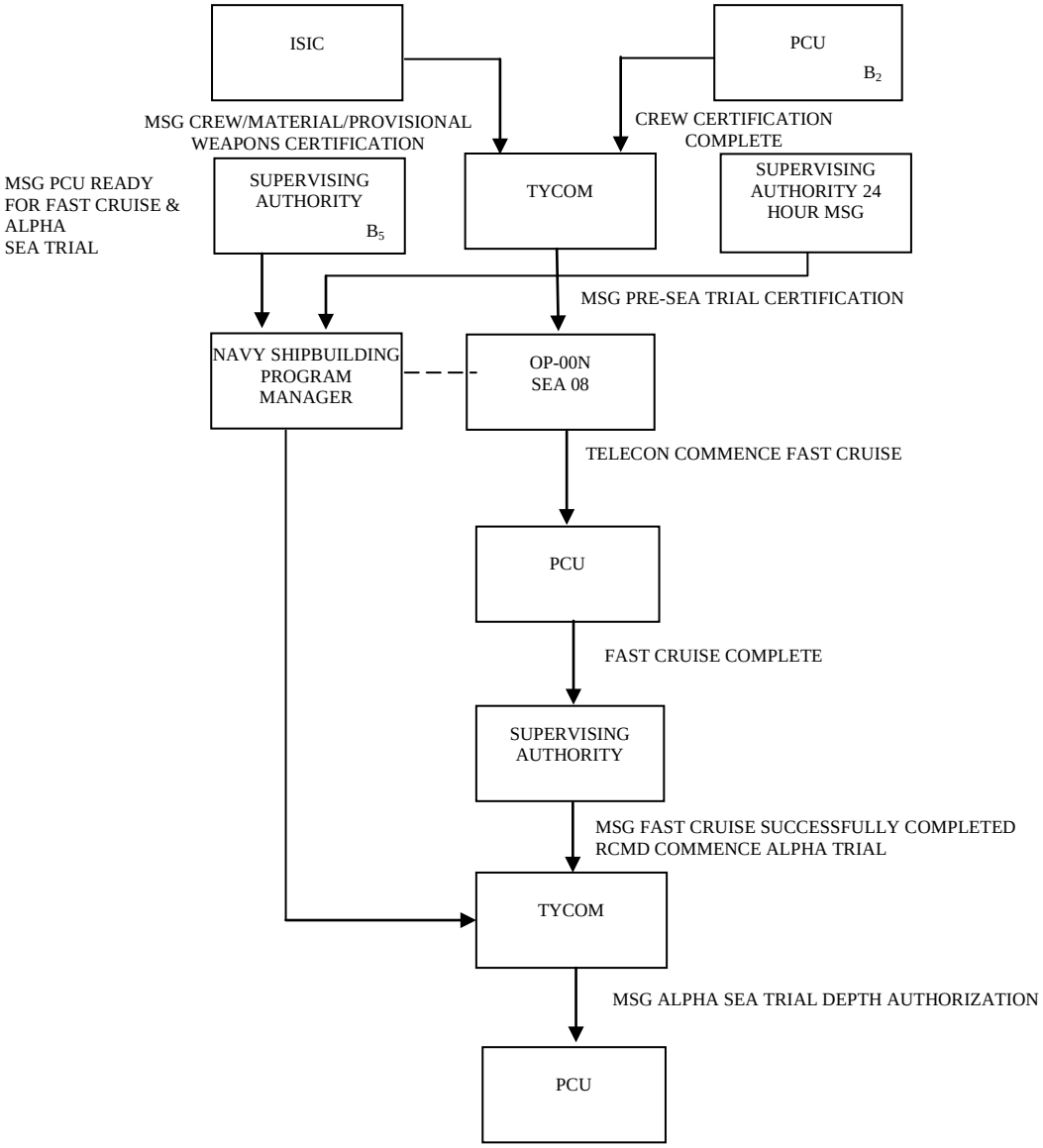
SAMPLE CO PRE-COMMISSIONING UNIT MESSAGE REPORTING "IN-SERVICE ACTIVE"

FM PRECOMUNIT (SHIP NAME)//
TO (FLEET COMMANDER)//
INFO COMNAVSEASYSCOM WASHINGTON DC//(NAVY SHIPBUILDING PROGRAM MANAGER)/ (NUCLEAR POWERED SHIPS ONLY)//
(TYCOM)//
(ISIC)//
(PARENT GROUP)//
(PARENT SQUADRON)//
(SUPERVISING AUTHORITY)//(APPROPRIATE CODE)//
NVR NORFOLK VA (NAVAL VESSEL REGISTER)//
BT
UNCLAS //N05441//
MSGID/GENADMIN/(SHIP NAME)//
SUBJ/ (SHIP NAME AND HULL NO.) IN-SERVICE//
REF/A/MSG/(ORIGINATING ACTIVITY)/(DTG)//
AMPN/REF A IS NAVY SHIPBUILDING PROGRAM MANAGER DIRECTION TO PLACE SHIP IN-SERVICE//
REF/B/DOC/COMNAVSUBFOR OPORD 2000/(DATE)//(SUBMARINES ONLY)
AMPN/APPROPRIATE SECTION OF REF B IS APP 7 TO ANNEX C//
RMKS/1. IAW REF A (SHIP NAME) IN-SERVICE ACTIVE (DTG).
2. IAW REF B (SHIP NAME) REPORTING TO FLEET COMMANDER FOR OPCON.//(SUBMARINES ONLY)
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

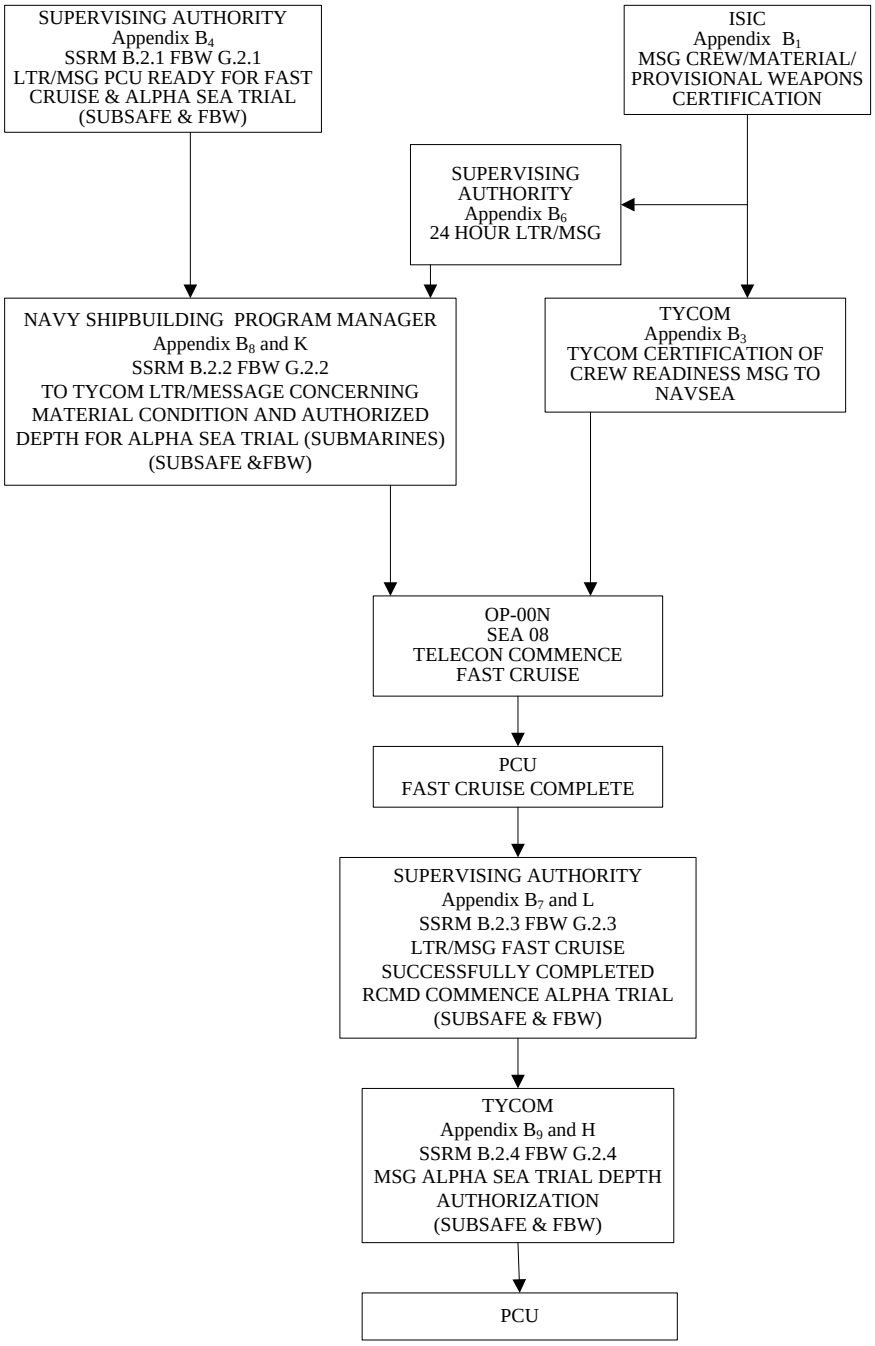
APPENDIX B

Message Scenario and Sample Messages For Fast Cruise and Alpha Sea Trial (Nuclear Powered Ships) (For Submarines See Appendix B - SUBS)



APPENDIX B - SUBS

Submarines Only
Message Scenario and Sample Messages
For Fast Cruise and Alpha Sea Trial (Nuclear Powered Ships)



APPENDIX B_1

SAMPLE ISIC CERTIFICATION OF NEW CONSTRUCTION READINESS FOR FAST CRUISE AND SEA TRIALS MESSAGE (SUBMARINES)

FM (ISIC)//
TO (TYCOM)//
INFO CNO WASHINGTON DC//
COMNAVSEASYSCOM WASHINGTON DC//(NAVY SHIPBUILDING PROGRAM MANAGER)/
PEO SUB WASHINGTON DC//
COMUSFLTFORCOM NORFOLK VA//
(PARENT GROUP)//
(PARENT SQUADRON)//
PRES INSURV NORFOLK VA
SUPSHIP GROTON CT
SUPSHIP NEWPORT NEWS VA
COMSUBGRU TWO SHIPYARD REP GROTON CT
COMSUBGRU SHIPYARD REP NEWPORT NEWS VA
COMSUBRON ELEVEN//
SSV CAROLYN CHOUEST
(SUPERVISING AUTHORITY)//(APPROPRIATE CODE)//
(SHIP NAME AND HULL NUMBER)//
CCGDONE BOSTON MA//
COMLANTAREA COGARD PORTSMOUTH VA//
COMCOGARD SECTOR LONG ISLAND SOUND NEW HAVEN CT
BT
UNCLAS //N09094//
MSGID/GENADMIN/(ISIC)//
SUBJ/(SUBS) PRECOMUNIT (SHIP NAME AND HULL NO.) CREW AND SALVAGE CERTIFICATION//
REF/A/DOC/COMUSFLTFORCOMINST 4790.3//(date)
REF/B/DOC/COMNAVSEASYSCOM/S9560-CH-SCB-010/(date)//(If required)
REF/C/DOC/COMNAVSUBFOR 8500.2/(DATE) (If required)
NARR/REF A IS JOINT FLEET MAINTENANCE MANUAL//REF B (if required) IS VIRGINIA
CLASS SUBMARINE FLY-BY-WIRE SHIP CONTROL SYSTEM CERTIFICATION BOUNDARY
BOOK, REF C IS TACTICAL WEAPONS CERTIFICATION, PROFICIENCY AND MODERNIZATION//
RMKS/1. CREW CERTIFICATION CONDUCTED AND SATISFACTORILY COMPLETED IAW REF A.
2. SALVAGE CONDITION CERTIFIED SATISFACTORY.
3. MATERIAL CONDITION CERTIFIED SATISFACTORY UPON COMPLETION OR RESOLUTION
OF THE FOLLOWING:

4. PCU (Ship Name and Hull Number) IS PREPARED TO ASSUME RESPONSIBILITY FOR RE-ENTRY CONTROL. PCU (Ship Name and Hull Number) IS PREPARED TO ASSUME RESPONSIBILITY FOR SUBMARINE FLY-BY-WIRE AND FLIGHT CRITICAL COMPONENT CONTROLS IAW REF B.
5. (ISIC) REPORTS THE READINESS OF (Ship Name and Hull Number) FOR COMMENCEMENT OF
FAST CRUISE. COMMANDING OFFICER, PCU (Ship Name and Hull Number) CONCURS.
6. SUBJECT TO SATISFACTORY COMPLETION OF FAST CRUISE AND RESOLUTION OF
MANDATORY DEFICIENCIES, (ISIC) CONSIDERS PCU (Ship Name and Hull Number) MATERIAL CONDITION READINESS SATISFACTORY FOR COMMENCEMENT OF SEA TRIALS.
7. PCU (Ship Name and Hull Number) IS PROVISIONALLY CERTIFIED TO LOAD, HANDLE, STOW, AND MAINTAIN SHAPES IAW REF C.//
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX B_2

SAMPLE PRE-COMMISSIONING UNIT MESSAGE TO TYCOM CONCERNING CREW CERTIFICATION (CVN)

FM PRECOMUNIT (SHIP NAME)//
TO TYCOM//
INFO COMNAVSEASYSCOM WASHINGTON DC//
(FLEET COMMANDER)//
(PARENT GROUP)//
(SUPERVISING AUTHORITY)//
BT
UNCLAS //N09094//
MSGID/GENADMIN/(ORIGINATING ACTIVITY)//
SUBJ: CREW CERTIFICATION PHASE II//
REF/A/DOC/OPNAVINST/-/9080.3//
AMPN/REF A IS PROCEDURES FOR TESTS AND TRIALS OF NAVAL NUCLEAR POWERED SHIPS UNDER CONSTRUCTION, MODERNIZATION, CONVERSION, REFUELING AND OVERHAUL//
REF/B/DOC/OPNAVINST/-/9080.2//
AMPN/REF B IS CREW CERTIFICATION REQUIREMENTS FOR NEW CONSTRUCTION CVNS//
REF/C/DOC/CNALINST 3500.20//
AMPN/REF C IS CVN TRAINING AND READINESS MANUAL//
RMKS/1. (PARENT GROUP) CERTIFIES (SHIP NAME) SATISFACTORILY COMPLETED CREW CERTIFICATION PHASE II AS REQUIRED BY REF A AND IAW REFS B AND C. RECOMMEND (SHIP NAME) COMMENCE BUILDER'S SEA TRIALS AS SCHEDULED.
2. RELEASED BY COMMANDER (PARENT GROUP)//
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX B_3

SAMPLE TYCOM CERTIFICATION OF CREW READINESS FOR UNDERWAY TRIALS MESSAGE (SUBMARINES)

FM (TYCOM)//
TO CNO WASHINGTON DC//
COMNAVSEASYSCOM WASHINGTON DC//(NAVY SHIPBUILDING PROGRAM MANAGER)/
INFO (FLEET COMMANDER)//
(ISIC)//
(PARENT GROUP)//
(PARENT SQUADRON)//
PRECOMUNIT (SHIP NAME)//
(SUPERVISING AUTHORITY)//(APPROPRIATE CODE)//
UNSEARESCOM SAN DIEGO CA//
COMSUBRON ELEVEN//
BT
UNCLAS //N09094//
MSGID/GENADMIN/(TYCOM)//
SUBJ/(SUBS) PRE-SEA TRIAL CERTIFICATION OF PRECOMUNIT (SHIP NAME AND HULL NO.)//
REF/A/MSG/(ORIGINATING ACTIVITY)/(DTG)//
AMPN/REF A IS ISIC CERTIFICATION OF READINESS FOR FAST CRUISE AND SEA TRIALS//
REF/B/DOC/OPNAVINST 9080.3//
AMPN/REF B IS PROCEDURES FOR TESTS AND TRIALS OF NAVAL NUCLEAR POWERED SHIPS UNDER CONSTRUCTION, MODERNIZATION, CONVERSION, REFUELING, AND OVERHAUL//
RMKS/1. PRE-SEA TRIAL INSPECTION OF PRECOMUNIT (SHIP NAME) COMPLETED SAT PER REF A. IAW REF B, CREW IS CERTIFIED READY FOR UNDERWAY TRIALS, SUBJECT TO CORRECTION OF SALVAGE INSP DEFS OF PARA 2, REF A, AND REPORT THAT FAST CRUISE SUCCESSFULLY COMPLETED.//
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX B4

SAMPLE SUPERVISING AUTHORITY TO NAVY SHIPBUILDING PROGRAM MANAGER MESSAGE CONCERNING FAST CRUISE OR ALPHA SEA TRIAL READINESS (SUBMARINES)

FM (SUPERVISING AUTHORITY)//
TO COMNAVSEASYSCOM WASHINGTON DC//
INFO CNO WASHINGTON DC//
FLEET COMMANDER (LANT/PAC)//
DIRSSP WASHINGTON DC FOR SSBN
COMSUB<LANT/PAC><NORFOLK VA/PEARL HARBOR HI//
COMSUBGRU//
PRECOMUNIT (SHIP NAME)//
BT
UNCLAS //N09094//
MSGID/GENADMIN/(SUPERVISING AUTHORITY)//
SUBJ/(SUBS) READINESS FOR FAST CRUISE AND ALPHA SEA TRIAL OF (SHIP NAME AND HULL NO.)//
REF/A/DOC/NAVSEA 0924-062-0010//
NARR/REF A IS THE SUBSAFE REQUIREMENTS MANUAL//
REF/B/LTR/(ORIGINATING ACTIVITY) (SERIAL NUMBER)/(DATE)//
AMPN/REF B IS NAVSEA SUBSAFE CERTIFICATION AUDIT REPORT FOR (SHIP NAME AND HULL NO.)//
RMKS/1. IAW REF A, (SUPERVISING AUTHORITY) REPORTS THE COMPLETION OF ALL SUBSAFE WORK AND TESTING <*If shore power is to remain connected during Fast Cruise add the following statement*: , WITH THE EXCEPTION OF THE INSTALLATION OF SHORE POWER COVERS,> REQUIRED FOR COMMENCEMENT OF ALPHA SEA TRIAL.
2. IAW REF A, (SUPERVISING AUTHORITY) REPORTS THAT ALL CAT I AUDIT RECOMMENDATIONS OF REF B AND/OR C HAVE BEEN SATISFACTORILY RESOLVED. THERE ARE NO SUBSAFE DEVIATIONS AND WAIVERS WITH CONDITIONS WHICH HAVE NOT BEEN SATISFIED.(OR LIST CONDITIONAL DEVIATIONS AND WAIVERS Including Deviation Number, Short Title And Expected Clearance Date or Key Event (NOTE-1)//
3. IAW REF A, THE STATUS OF ALL INCOMPLETE CAT 1A AUDIT RECOMMENDATIONS OF REF B IS AS FOLLOWS:
A.
B.
4. (SUPERVISING AUTHORITY) REPORTS READINESS OF (SHIP NAME AND HULL NO.) FOR COMMENCEMENT OF FAST CRUISE. OIC (SHIP NAME AND HULL NO.) CONCURS.
5. SUBJECT TO SATISFACTORY COMPLETION OF FAST CRUISE <*If shore power is to remain connected during Fast Cruise add the following statement*: , INSTALLATION OF THE SHORE POWER COVERS,> AND RESOLUTION OF MANDATORY DEFICIENCIES, (SUPERVISING AUTHORITY) CONSIDERS (SHIP NAME and HULL NO.) SUBSAFE

MATERIAL CONDITION READINESS SATISFACTORY FOR COMMENCEMENT OF ALPHA SEA TRIAL.//
BT

NOTE-1: SUBJECT TO NAVY SHIPBUILDING PROGRAM MANAGER APPROVAL, CUMULATIVE LISTS OF CONDITIONAL DEVIATIONS AND WAIVERS WHICH ARE DEEMED TOO LENGTHY FOR MESSAGES MAY BE COMMUNICATED IN A LETTER FORMAT, WITH THE LETTER REFERENCED BY THE APPLICABLE MESSAGE.

NOTE-2: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX B_5

SAMPLE SUPERVISING AUTHORITY MESSAGE TO NAVY SHIPBUILDING PROGRAM MANAGER CONCERNING FAST CRUISE OR SEA TRIAL READINESS (CVN)

FM (SUPERVISING AUTHORITY)//
TO COMNAVSEASYSCOM WASHINGTON DC//(NAVY SHIPBUILDING PROGRAM MANAGER)/
INFO CNO WASHINGTON DC//
(FLEET COMMANDER)//
PRESINSURV NORFOLK VA//
(TYCOM ATLANTIC)//
(TYCOM PACIFIC)//
(PARENT GROUP)//
PRECOMUNIT (SHIP NAME)//
BT
UNCLAS //N09094//
MSGID/GENADMIN/(SUPERVISING AUTHORITY)//
SUBJ: (SHIP NAME (CVN)) READINESS FOR FAST CRUISE AND SEA TRIALS
REF/A/DOC/OPNAVINST/-/9080.3//
AMPN/REF A IS PROCEDURES FOR TESTS AND TRIALS OF NAVAL NUCLEAR POWERED SHIPS UNDER CONSTRUCTION, MODERNIZATION, CONVERSION, REFUELING AND OVERHAUL//
REF/B/MSG/PCU (SHIP NAME)/(MESSAGE DTG)//
AMPN/REF B IS REPORT OF COMPLETION OF CREW CERTIFICATION//
REF/C/LTR/(ORIGINATING ACTIVITY) (LETTER SERIAL NUMBER)/(DATE)//
AMPN/REF C IS BUILDER REQUEST FOR REACTOR PLANT STARTUP TO PERFORM RETESTS WITH REACTOR STEAM//
RMKS/1. IAW REF A, (SUPERVISING AUTHORITY) CERTIFIES THE MATERIEL CONDITION OF (SHIP NAME/HULL NO.) FOR FAST CRUISE AND SEA TRIALS.
2. PHASE II CREW CERTIFICATION SUCCESSFULLY COMPLETED AS REPORTED BY REF B.
3. ALL Q-COSAL ITEMS ARE ABOARD. ALL OSI AND SRI CRITICAL SHORTAGE ITEMS HAVE BEEN RESOLVED.
4. CURRENTLY HAVE NO SIGNIFICANT ITEMS AFFECTING COMMENCEMENT OF FAST CRUISE/SEA TRIALS.
5. UPON SATISFACTORY COMPLETION OF PROPULSION PLANT STARTUP RETESTS (REF C), ALL SYSTEMS/EQUIPMENT ESSENTIAL FOR SEA TRIALS WILL BE OPERATIONAL.
6. REMAINING FAST CRUISE PREREQUISITE WORK WILL BE COMPLETE TO SUPPORT FAST CRUISE AT (TIME AND DATE).
7. OIC (SHIP NAME) CONCURS//
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX B_6

SAMPLE SUPERVISING AUTHORITY TO NAVY SHIPBUILDING PROGRAM MANAGER 24 HOUR MESSAGE CONCERNING FAST CRUISE READINESS (SUBMARINES)

FM (SUPERVISING AUTHORITY)//
TO COMNAVSEASYSCOM WASHINGTON DC//(NAVY SHIPBUILDING PROGRAM MANAGER)/
INFO PRECOMUNIT (SHIP NAME)//
BT
UNCLAS //N09080//
MSGID/GENADMIN/(SUPERVISING AUTHORITY)//
SUBJ/(SUBS) (SHIP NAME AND HULL NO.) READINESS FOR FAST CRUISE//
REF/A/DOC/OPNAVINST 9080.3//
AMPN/REF A IS PROCEDURES FOR TESTS AND TRIALS OF NAVAL NUCLEAR POWERED SHIPS UNDER CONSTRUCTION, MODERNIZATION, CONVERSION, REFUELING AND OVERHAUL//
REF/B/MSG/(ORIGINATING ACTIVITY)/(DTG)//
AMPN/REF B IS (ISIC) MESSAGE CONCERNING CREW CERTIFICATION//
RMKS/1. PER REQUIREMENTS OF REF A, (SUPERVISING AUTHORITY) CONSIDERS THAT THE MATERIAL CONDITION OF (SHIP NAME) WILL BE READY TO COMMENCE FAST CRUISE AT (TIME AND DATE).
2. ALL SUBSAFE CAT I CARDS HAVE BEEN SATISFACTORILY RESOLVED.
3. MATERIAL/SALVAGE CONDITION CERTIFIED READY FOR SEA IN REF B.
4. SIGNIFICANT PRODUCTION WORK IS AS FOLLOWS:
    A.
    B.
5. ESTABLISHED TIME TO COMPLETE ALL ITEMS IS (TIME AND DATE).//
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX B7

SAMPLE SUPERVISING AUTHORITY TO NAVY SHIPBUILDING PROGRAM MANAGER AND TYCOM MESSAGE CONCERNING FAST CRUISE COMPLETION (SUBMARINES)

FM (SUPERVISING AUTHORITY)//
TO COMSUB (LANT/PAC) (NORFOLK VA/PEARL HARBOR HI)//
COMNAVSEASYSCOM WASHINGTON DC//
INFO CNO WASHINGTON DC//
CINC<LANT/PAC>FLT<NORFOLK VA/PEARL HARBOR HI>
<DIRSSP WASHINGTON DC FOR SSBN>
COMSUBGRU (NO) //
PRECOMUNIT (SHIP NAME)//
BT
UNCLAS //N09094//
MSGID/GENADMIN/(SUPERVISING AUTHORITY)//
SUBJ/(SUBS) PRECOM UNIT (SHIP NAME/HULL NUMBER) FAST CRUISE COMPLETION AND READINESS FOR ALPHA SEA TRIAL//
REF/A/DOC/OPNAVINST 9083.3//
REF/B/MSG/<SUPERVISING AUTHORITY>/<DTG>// {B.2.1}
NARR/REF A CONTAINS PROCEDURES FOR TESTS AND TRIALS OF NAVAL NUCLEAR POWERED SHIPS. REF B IS SUPERVISING AUTHORITY TO NAVY SHIPBUILDING PROGRAM MANAGER MESSAGE CONCERNING FAST CRUISE/ALPHA SEA TRIAL READINESS//
RMKS/1. IAW REF A, <SUPERVISING AUTHORITY> REPORTS <SHIP NAME/HULL NUMBER.> FAST CRUISE SUCCESSFULLY COMPLETED AT <TIME, DATE>.
2. NO MANDATORY DEFICIENCIES FOR SEA TRIALS HAVE BEEN IDENTIFIED. *<If shore power remained connected during Fast Cruise add the following statement*: AS REQUIRED BY REF B, <SUPERVISING AUTHORITY> REPORTS THE SATISFACTORY INSTALLATION OF SHORE POWER COVERS.> THERE HAVE BEEN NO RECS OPENED AND NO SUBSAFE DEVIATIONS AND WAIVERS PROCESSED SINCE THE START OF FAST CRUISE. *<or, report any mandatory deficiencies discovered with corrective action, and if RECs or Deviations and Waivers were processed since the start of Fast Cruise, report* ALL RECS OPENED SINCE THE START OF FAST CRUISE ARE CLOSED AND ALL SUBSAFE DEVIATIONS AND WAIVERS RESOLVED.>
3. THERE ARE NO SUBSAFE DEVIATIONS AND WAIVERS WITH CONDITIONS WHICH HAVE NOT BEEN SATISFIED. *<or list conditional Deviations and Waivers including Deviation Number, Short Title and Expected Clearance Date and Key Event.* (NOTE-1)>.
4. RECOMMEND COMMENCEMENT OF ALPHA TRIAL AS SCHEDULED. OIC (SHIP NAME) CONCURS.//
BT

NOTE-1: SUBJECT TO NAVY SHIPBUILDING PROGRAM MANAGER APPROVAL, CUMULATIVE LISTS OF CONDITIONAL DEVIATIONS AND WAIVERS WHICH ARE DEEMD TOO LENGTHY FOR MESSAGES MAY BE

COMMUNICATED IN A LETTER FORMAT, WITH THE LETTER REFERENCED BY THE APPLICABLE MESSAGE.

NOTE-2: LIST ALL RE-ENTRIES TO MATERIAL CERTIFICATION BOUNDARY AND ALL WORK ON SYSTEMS AFFECTING RECOVERABILITY, SALVAGE, WATERTIGHT INTEGRITY, OR OPERATION OF SHIP'S CONTROL SURFACES WITH CORRECTIVE ACTION SINCE RELEASE OF FAST CRUISE MESSAGE.

NOTE-3: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX B_8

SAMPLE NAVSEA TO TYCOM MESSAGE CONCERNING MATERIAL CONDITION AND AUTHORIZED DEPTH FOR ALPHA SEA TRIAL (SUBMARINES)

FM COMNAVSEASYSCOM WASHINGTON DC//
TO ((COMSUB<LANT/PAC) (NORFOLK VA/PEARL HARBOR HI)//
INFO CNO WASHINGTON DC//
(LANT/PAC>FLT<NORFOLK VA/PEARL HARBOR HI)
(DIRSSP WASHINGTON DC FOR SSBN)
COMSUBGRU (NO).//
COMSUBRON (NO)//
PRECOMUNIT <SHIP NAME>
(SUPERVISING AUTHORITY)//(APPROPRIATE CODE)//
PRECOMUNIT (SHIP NAME)//
BT
UNCLAS //N09094//
MSGID/GENADMIN/COMNAVSEASYSCOM//
SUBJ/(SUBS)-MATERIAL CONDITION READINESS AND DEPTH RECOMMENDATION FOR ALPHA SEA TRIALS OF PRECOMMUNIT (SHIP NAME AND HULL NO.)//
REF/A/DOC/NAVSEA 0924-062-0010//
REF/B/DOC/OPNAVINST 9080.3//
REF/C/MSG/(SUPERVISING ACTIVITY)/(DTG)//
REF/D/MSG/(SUPERVISING ACTIVITY)/(DTG)//
REF/E/LTR/ (TYCOM)/(SERIAL NUMBER)/(DATE)//
REF/F/LTR/(NAVY SHIPBUILDING PROGRAM MANAGER)/(SERIAL NUMBER)/(DATE)//
NARR/REF A IS THE SUBSAFE REQUIREMENTS MANUAL. REF B CONTAINS PROCEDURES FOR TESTS AND TRIALS OF NAVAL NUCLEAR POWERED SHIPS. REF C IS <*SUPERVISING AUTHORITY*> MSG REPORTING SUBSAFE MATERIAL CONDITION READINESS OF <*SHIP NAME and HULL NO.*> FOR FAST CRUISE AND ALPHA SEA TRIALS. REF D REPORTED THE MATERIAL READINESS OF THE SHIP TO COMMENCE FAST CRUISE AND SEA TRIALS. REF E CONCURRED WITH THE ALPHA SEA TRIALS AGENDA FOR <*SHIP NAME and /HULL NO.*>. REF F APPROVED THE ALPHA SEA TRIALS AGENDA FOR <*SHIP NAME/HULL NO.*>.//
RMKS/1. IAW REFS A AND B, AND AS REPORTED BY REFS C AND D, THE MATERIAL CONDITION OF THE (SHIP NAME AND HULL NO.) IS CERTIFIED SATISFACTORY FOR SEA TRIALS TO (SPECIFIED) PERCENT TEST DEPTH. <*If shore power is to remain connected during Fast Cruise, add the following statement:*, FOLLOWING SUPERVISING AUTHORITY'S REPORT OF THE SATISFACTORY INSTALLATION OF SHORE POWER COVERS,> RECOMMEND AUTHORIZED DIVING UNDER DELIBERATE AND CONTROLLED CONDITIONS TO (SPECIFIED) PERCENT TEST DEPTH IAW THE SEA TRIAL AGENDA CONCURRED IN BY REF E AND APPROVED BY REF F.
2. REQUEST NAVSEA PMS BE INFO ADDEE ON ALL SEA TRIALS SITREPS.//
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX B9

SAMPLE TYCOM TO PRE-COMMISSIONING UNIT MESSAGE CONCERNING ALPHA SEA TRIAL AUTHORIZED TEST AND OPERATING DEPTH (SUBMARINES)

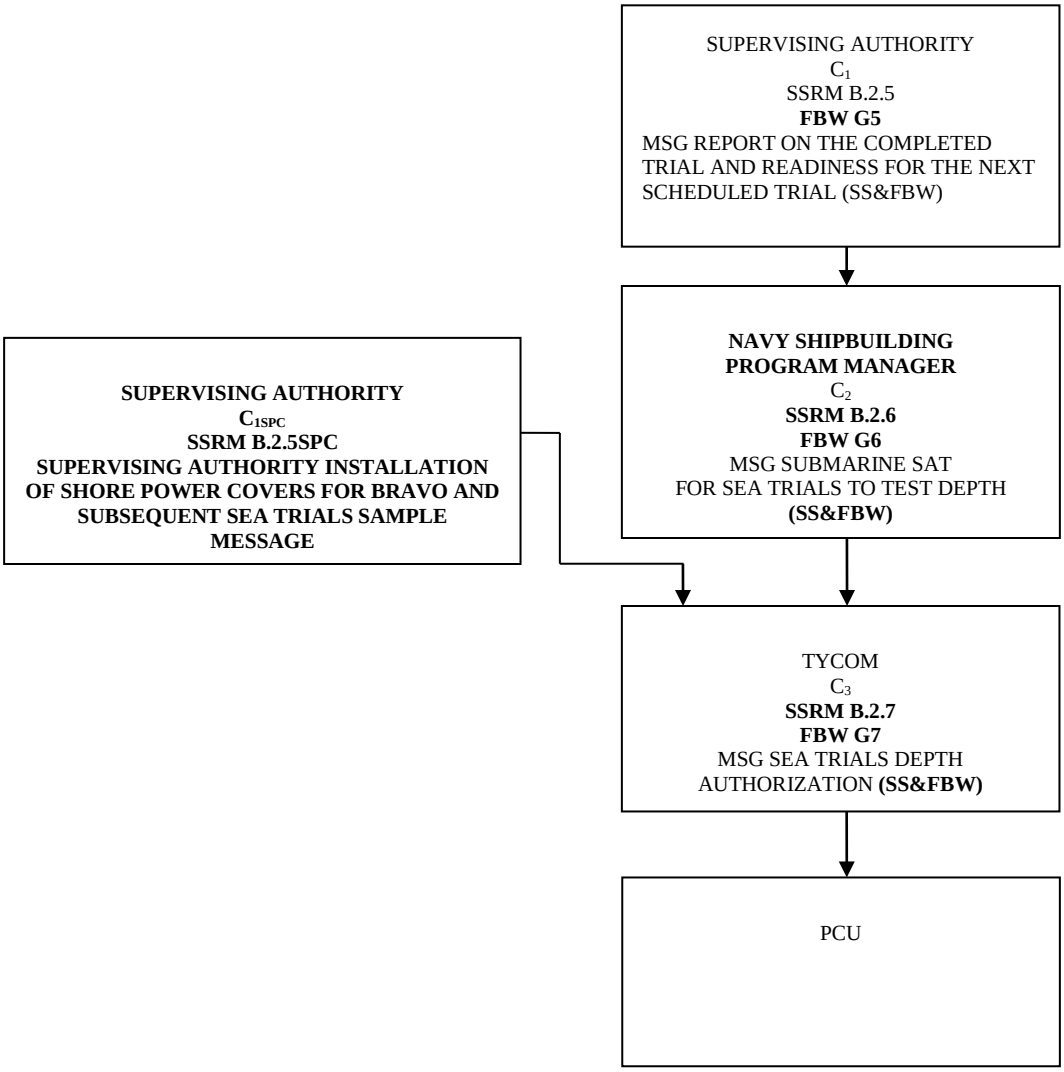
FM COMSUB<LANT/PAC><NORFOLK VA/PEARL HARBOR HI>//
TO PRECOMUNIT (SHIP NAME)//
INFO CNO WASHINGTON DC//
COMNAVSEASYSCOM WASHINGTON DC//
<LANT/PAC>FLT<NORFOLK VA/PEARL HARBOR HI>
DIRSSP WASHINGTON DC FOR SSBN>
COMSUBGRU <NO.>//
COMSUBRON <NO.>//
(SUPERVISING AUTHORITY)//
BT
UNCLAS //N09094//
MSGID/GENADMIN/COMSUB(LANT/PAC)//
SUBJ/(SUBS) PRECOMUNIT (SHIP NAME AND HULL NO.) ALPHA SEA TRIAL DEPTH AUTHORIZATION//
REF/A/MSG/(ORIGINATING ACTIVITY)/(DTG)//
REF/B/MSG/(ORIGINATING ACTIVITY)/(DTG)//
REF/C/DOC/(TYCOM)<SER NO./DATE>//
REF/D/DOC/(NAVSEA) (letter approving Sea Trials)
NARR/REF A IS NAVSEA MATERIAL CONDITION READINESS REPORT AND ALPHA SEA TRIALS DEPTH RECOMMENDATION FOR <*SHIP NAME and HULL NO.*>. REF B IS <SUPERVISING AUTHORITY> REPORT OF FAST CRUISE COMPLETION AND READINESS FOR ALPHA SEA TRIALS <*If shore power remained connected until start of Alpha Sea Trial, add the following statement*: AND <SUPERVISING AUTHORITY> REPORT OF SATISFACTORY INSTALLATION OF SHORE POWER COVERS>. REF C CONCURRED WITH THE SEA TRIALS AGENDA. REF D APPROVED THE SEAL TRIALS AGENDA.//
RMKS/1. REF A CERTIFIES MATERIAL CONDITION OF (SHIP NAME AND HULL NO.) FOR SEA TRIALS TO (SPECIFIED) PERCENT DESIGN TEST DEPTH. <*If shore power remained connected until start of Alpha Sea Trial, add the following statement*:, SUBJECT TO <SUPERVISING AUTHORITY> REPORT OF SATISFACTORY INSTALLATION OF SHORE POWER COVERS>. REF B IS <SUPERVISING AUTHORITY> REPORT OF SATISFACTORY INSTALLATION OF SHORE POWER COVERS>.
2. REF B REPORTED FAST CRUISE COMPLETED SATISFACTORILY AND SHIP IS READY TO PROCEED ON ALPHA SEA TRIALS.
3. (SHIP NAME AND HULL NO.) IS AUTHORIZED TO DIVE UNDER DELIBERATE AND CONTROLLED CONDITIONS TO (SPECIFIED) PERCENT TEST DEPTH IAW THE ALPHA SEA TRIALS AGENDA CONCURRED IN BY REF C AND APPROVED BY REF D.
4. FOR OIC (SHIP NAME): RECOGNIZING LIMITED UNDERWAY OPERATIONAL EXPERIENCE LEVEL, EXERCISE EXTREME CAUTION WHILE CONDUCTING ALL OPERATIONS AT MAX AUTH DEPTH. ENSURE YOUR SHIP CONTROL PARTIES ARE WELL VERSED IN ALL ASPECTS OF SHIP'S COMPENSATION AND EFFECTS OF

SPEED AND TRIM ADJUSTMENTS, AS WELL AS PROCEDURES TO PREVENT EXCEEDING MAX AUTH DEPTH.//
5. EXCEPT AS LISTED IN 6. BELOW, THIS DEPTH AUTHORIZATION IS AUTOMATICALLY SUSPENDED UPON RE-ENTRY TO THE SUBSAFE CERTIFICATION BOUNDARY OR CASUALTY AFFECTING RECOVERABILITY, SALVAGE, WATERTIGHT INTEGRITY, OR OPERATION OF SHIP'S CONTROL SURFACES. THE SHIP SHALL NOT OPERATE AT A DEPTH GREATER THAN 200 FEET UNTIL RE-ENTRY IS CERTIFIED TO TYCOM AND TYCOM GRANTS APPROVAL TO OPERATE TO PREVIOUSLY AUTHORIZED DEPTH.//
6. RE-ENTRY CONTROL TO ADJUST FLOOD CONTROL HYDRAULIC VALVE TIMING WILL BE CERTIFIED BY THE COMMANDING OFFICER, TYCOM CERTIFICATION IS NOT REQUIRED, AND A SITREP WILL BE TRANSMITTED PRIOR TO RESUMPTION OF OPERATION BELOW 200 FEET.//
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX C

Message Scenario and Sample Messages For BRAVO, CHARLIE and Combined Trials (Submarines)



APPENDIX C_1

SAMPLE SUPERVISING AUTHORITY TO NAVY SHIPBUILDING PROGRAM MANAGER MESSAGE CONCERNING DESIGN TEST DEPTH DIVE READINESS

FM (SUPERVISING AUTHORITY)//
TO COMNAVSEASYSCOM WASHINGTON DC//
INFO CNO WASHINGTON DC//
<*LANT/PAC*>FLT<*NORFOLK VA/PEARL HARBOR HI*>//
<*DIRSSP WASHINGTON DC FOR SSBN*>//
COMSUB<*LANT/PAC*><*NORFOLK VA/PEARL HARBOR*>//
COMSUBGRU <*NO.*>//
COMSUBRON <*NO.*>//
PRECOMUNIT <SHIP NAME>//
BT
UNCLAS //N09094//
MSGID/GENADMIN/<SUPERVISING AUTHORITY>//
SUBJ/(SUBS) COMPLETION OF <*ALPHA*(2)>SEA TRIALS OF PRECOMUNIT<SHIP NAME/HULL NO.>AND READINESS FOR <BRAVO(1)>SEA TRIALS//
REF/A/MSG/<*SUPERVISING AUTHORITY*>/<DTG>//{JFMM B4, SSRM B.2.1}
REF/B/LTR/NAVSEA/< SER NO./DATE>
REF B IS SUBSAFE CERTIFICATION AUDIT REPORT.//
REF/C/DOC/NAVSEA 0924-062-0010//
NARR/REF A IS <SUPERVISING AUTHORITY'S> MESSAGE TO NAVY SHIPBUILDING PROGRAM MANAGER CONCERNING REPORT OF READINESS OF <SHIPNAME and HULL NO.> FOR FAST CRUISE AND ALPHA SEA TRIALS.REF B IS SUBSAFE CERTIFICATION AUDIT REPORT.
REF C IS SUBSAFE REQUIREMENTS MANUAL.//
RMKS/1. <SHIP NAME/HULL NO.> HAS SUCCESSFULLY COMPLETED <ALPHA(2)>SEA TRIALS.
2. BY REF A, <SUPERVISING AUTHORITY> REPORTED ALL CAT I AUDIT RECOMMENDATIONS OF REF B SATISFACTORILY RESOLVED. THERE HAVE BEEN NO RECS OPENED AND NO SUBSAFE DEVIATIONS AND WAIVERS PROCESSED SINCE <ALPHA(2)> SEA TRIALS. *<or, if RECs or Deviations and Waivers were processed since the start of* <ALPHA(2)> *Sea Trials,* report *ALL RECS OPENED SINCE THE START OF* <ALPHA(2)> *SEA TRIALS ARE CLOSED AND ALL SUBSAFE DEVIATIONS AND WAIVERS PROCESSED SINCE* <ALPHA(2)> *SEA TRIALS ARE RESOLVED.> <if shore power is to remain connected until the start of Bravo or Subsequent Sea Trial add the following statement:* ,WITH THE EXCEPTION OF INSTALLATION OF SHORE POWER COVERS >.
3. THERE ARE NO SUBSAFE DEVIATIONS AND WAIVERS WITH CONDITIONS WHICH HAVE NOT BEEN SATISFIED. *<or list conditional Deviations and Waivers including Deviation number, Short Title and Expected Clearance Date and Key Event(3).>*
4. THE STATUS OF REF B INCOMPLETE CAT 1A AUDIT RECOMMENDATIONS IS <SAME AS REPORTED BY REF A OR AS FOLLOWS:>.

5. IAW REF C, <SUPERVISING AUTHORITY> REPORTS THAT THE SUBSAFE MATERIAL CONDITION OF <SHIP NAME and HULL NO.> IS SATISFACTORY FOR <BRAVO(1)> SEA TRIALS TO TEST DEPTH. OIC <SHIP NAME and HULL NO.> CONCURS.//
BT

(1) UPCOMING TRIALS WHICH IS SUBJECT OF THIS CERTIFICATION (E.G., BRAVO SEA TRIALS, CHARLIE SEA TRIALS, INSURV TRIALS, ETC.).

(2) PREVIOUS TRIALS.

(3) Subject to Navy Shipbuilding Program Manager approval, cumulative lists of conditional Deviations and Waivers which are deemed too lengthy for messages may be communicated in a letter format, with the letter referenced by the applicable message.

NOTE 1: LIST ALL RE-ENTRIES TO MATERIAL CERTIFICATION BOUNDARY AND ALL WORK ON SYSTEMS AFFECTING RECOVERABILITY, SALVAGE, WATERTIGHT INTEGRITY, OR OPERATION OF SHIP'S CONTROL SURFACES WITH CORRECTIVE ACTION SINCE RELEASE OF FAST CRUISE MESSAGE.

NOTE 2: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX C2

SAMPLE NAVSEA TO TYCOM MESSAGE CONCERNING DESIGN TEST DEPTH DIVE AUTHORIZATION

FM COMNAVSEASYSCOM WASHINGTON DC//
TO COMSUB<FOR/PAC><NORFOLK VA/PEARL HARBOR>
INFO CNO WASHINGTON DC//CINC<LANT/PAC>FLT<NORFOLK VA/PEARL HARBOR HI>
<DIRSSP WASHINGTON DC FOR SSBN>
COMSUBGRU <NO.>
COMSUBRON <NO.>
PRECOMUNIT <SHIP NAME>//
<SUPERVISING AUTHORITY>
BT
UNCLAS //N09094//
MSGID/GENADMIN/COMNAVSEASYSCOM//
SUBJ/(SUBS) SUBSAFE MATERIAL CONDITION READINESS AND DEPTH RECOMMENDATION FOR <BRAVO(NOTE 2)> SEA TRIALS OF <SHIP NAME>//
REF/A/DOC/NAVSEA 0924-062-0010//
REF/B/MSG/(SUPERVISING AUTHORITY)/(DTG)//
REF/C/LTR/COMSUB<FOR/PAC>/<SER NO./DATE>//
REF/D/LTR/NAVSEA/<SER NO./ DATE>//
NARR/REF A IS THE SUBSAFE REQUIREMENTS MANUAL. REF B IS <SUPERVISING AUTHORITY> REPORT OF <SHIP NAME/HULL NO.>COMPLETION OF <ALPHA(NOTE 1)> SEA TRIALS AND READINESS FOR <BRAVO(NOTE 2)> SEA TRIALS. REF C CONCURRED WITH THE <BRAVO(NOTE 2)> SEA TRIALS AGENDA FOR <SHIP NAMEHULL NO.>. REF D APPROVED THE <BRAVO(NOTE 2) SEA TRIALS AGENDA FOR <SHIP NAME and HULL NO.>.//
RMKS/1. IAW REF A AND AS REPORTED BY REF B, THE SUBSAFE MATERIAL CONDITION OF (SHIP NAME AND HULL NO.) IS CERTIFIED SATISFACTORY FOR SEA TRIALS TO TEST DEPTH. <if shore power is to remain connected until start of Bravo or subsequent Sea Trial add the following statement: FOLLOWING SUPERVISING AUTHORITY'S REPORT OF SATISFACTORY INSTALLATION OF SHORE POWER COVERS>.
2. RECOMMEND AUTHORIZED DIVING UNDER DELIBERATE AND CONTROLLED CONDITIONS IAW THE <BRAVO(NOTE 2)> SEA TRIALS AGENDA CONCURRED IN BY REF C AND APPROVED BY REF D.
3. REQUEST NAVSEA PMS< > BE INFO ADDEE FOR ALL SEA TRIAL SITREPS.//

NOTE 1: PREVIOUS TRIALS.

NOTE 2: UPCOMING TRIALS WHICH ARE SUBJECT OF THIS CERTIFICATION (E.G., BRAVO SEA TRIALS, CHARLIE SEA TRIALS, INSURV TRIALS, ETC.).

BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX C3

SAMPLE TYCOM TO PRE-COMMISSIONING UNIT MESSAGE CONCERNING DESIGN TEST DEPTH DIVE AUTHORIZATION

FM *COMSUB<LANT/PAC><NORFOLK VA/PEARL HARBOR HI>*//
TO PRECOMUNIT *<SHIP NAME>*//
INFO CNO WASHINGTON DC//
COMNAVSEASYSCOM WASHINGTON DC//
CINC*<LANT/PAC>*FLT*<NORFOLK VA/PEARL HARBOR HI>*//
<DIRSSP WASHINGTON DC FOR SSBN>//
COMSUBGRU *<NO.>*//
COMSUBRON *<NO.>*//
<SUPERVISING AUTHORITY>//
BT
UNCLAS //N09094//
MSGID/GENADMIN/COMSUB*<LANT/PAC>*//
SUBJ/(SUBS) PRECOMUNIT *<SHIP NAME/HULL NO.>* <BRAVO(1)> SEA TRIALS DEPTH AUTHORIZATION//
REF/A/MSG/COMNAVSEASYSCOM/<DTG>// {JFMM C2, SSRM B.2.6}
<if shore power remained connected until start of Bravo or Subsequent Sea Trial add the following reference:
REF/B/MSG/*<SUPERVISING AUTHORITY>*/<DTG>//{B.2.5spc}.>
REF/B<or C>/DOC/COMSUB*<LANT/PAC>*NOTE C3120//
REF/C<or D>/LTR/COMSUB*<LANT/PAC><SER NO./DATE>*//
REF/D<or E>/LTR/NAVSEA/*<SER NO./DATE>*//
NARR/REF A IS NAVSEA REPORT OF *<SHIP NAME/HULL NO.>* SUBSAFE MATERIAL CONDITION READINESS AND DEPTH RECOMMENDATION FOR *<BRAVO (NOTE 1)>* SEA TRIALS. <if shore power remained connected until the start of Bravo or Subsequent Sea Trial add the following statement: REF B IS *<SUPERVISING AUTHORITY>* REPORT OF SATISFACTORY INSTALLATION OF SHORE POWER COVERS.> REF B<or C> CONTAINS COMSUB<LANT or PAC> AUTHORIZED SUBMARINE OPERATING AND TEST DEPTHS. REF C<or D> CONCURRED IN THE *<BRAVO (NOTE 1)>* SEA TRIALS AGENDA FOR *<SHIP NAME and HULL NO.>*. REF D<or E> APPROVED THE *<BRAVO (NOTE 1)>* SEA TRIALS AGENDA FOR *<SHIP NAME and HULL NO.>*.//
RMKS/1. REF A CERTIFIED THAT THE SUBSAFE MATERIAL CONDITION OF <SHIP NAME and HULL NO.> IS SATISFACTORY FOR *<BRAVO (NOTE 1)>* SEA TRIALS TO TEST DEPTH<if shore power remained connected until start of Bravo or Subsequent Sea Trial add the following statement: ,SUBJECT TO*<SUPERVISING AUTHORITY>*REPORT OF SATISFACTORY INSTALLATION OF SHORE POWER COVERS. REF B IS *<SUPERVISING AUTHORITY>*REPORT OF SATISFACTORY INSTALLATION OF SHORE POWER COVERS>.//
2. SUBJECT TO THE RESTRICTIONS OF REFS A AND B<or C>, <SHIP NAME and HULL NO.> IS AUTHORIZED TO DIVE UNDER DELIBERATE AND CONTROLLED CONDITIONS TO TEST DEPTH IAW THE *<BRAVO (NOTE 1)>* SEA TRIALS AGENDA CONCURRED IN BY REF C,<or D> AND APPROVED BY REF D<or E>.//

3. EXCEPT AS LISTED IN 4. BELOW, THIS DEPTH AUTHORIZATION IS AUTOMATICALLY SUSPENDED UPON RE- ENTRY TO THE SUBSAFE CERTIFICATION BOUNDARY OR CASUALTY AFFECTING RECOVERABILITY, SALVAGE, WATERTIGHT INTEGRITY, OR OPERATION OF SHIP'S CONTROL SURFACES. THE SHIP SHALL NOT OPERATE AT A DEPTH GREATER THAN 200 FEET UNTIL RE- ENTRY IS CERTIFIED TO TYCOM AND TYCOM GRANTS APPROVAL TO OPERATE TO PREVIOUSLY AUTHORIZED DEPTH.//
4. RE-ENTRY CONTROL TO ADJUST FLOOD CONTROL HYDRAULIC VALVE TIMING WILL BE CERTIFIED BY THE COMMANDING OFFICER, TYCOM CERTIFICATION IS NOT REQUIRED, AND A SITREP WILL BE TRANSMITTED PRIOR TO RESUMPTION OF OPERATION BELOW 200 FEET.//
BT

Superscript:

NOTE 1: UPCOMING TRIALS WHICH IS SUBJECT OF THIS CERTIFICATION (E.G., BRAVO SEA TRIALS, CHARLIE SEA TRIALS, INSURV TRIALS, ETC.).

NOTE 2: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX C4

SUPERVISING AUTHORITY INSTALLATION OF SHORE POWER COVERS FOR BRAVO AND SUBSEQUENT SEA TRIALS SAMPLE MESSAGE

FM <*SUPERVISING AUTHORITY*>//
TO COMSUB<*LANT/PAC*><*NORFOLK VA/PEARL HARBOR*>//
COMNAVSEASYSCOM WASHINGTON DC//
INFO CNO WASHINGTON DC//
<LANT/PAC>FLT<NORFOLK VA/PEARL HARBOR HI>//
<DIRSSP WASHINGTON DC FOR SSBN>//
COMSUBGRU <*NO.*>//
COMSUBRON <*NO.*>//
PRECOMUNIT <*SHIP NAME*>//
BT
UNCLAS //N09094//
MSGID/GENADMIN/<*SUPERVISING AUTHORITY*>//
SUBJ/(SUBS) COMPLETION OF <ALPHA(2)> SEA TRIALS OF PRECOMUNIT <SHIP NAME/HULL NO.> AND READINESS FOR <BRAVO(1)> SEA TRIALS//
REF/A/MSG/<*SUPERVISING AUTHORITY*>/<DTG>// {JFMM C1, SSRM B.2.5}
NARR/REF A IS <*SUPERVISING AUTHORITY'S*> REPORT OF READINESS OF <*SHIP NAME/HULL NO.*>FOR <BRAVO(1)> SEA TRIALS.//
RMKS/1. REF A, <SUPERVISING AUTHORITY> REPORTED READINESS FOR <BRAVO(1)> SEA TRIALS WITH THE EXCEPTION OF INSTALLATION OF SHORE POWER COVERS.
2. <SUPERVISING AUTHORITY> REPORTS THAT SHORE POWER COVERS FOR <*SHIP NAME and HULL NO.*> HAVE BEEN SATISFACTORILY INSTALLED.//
BT

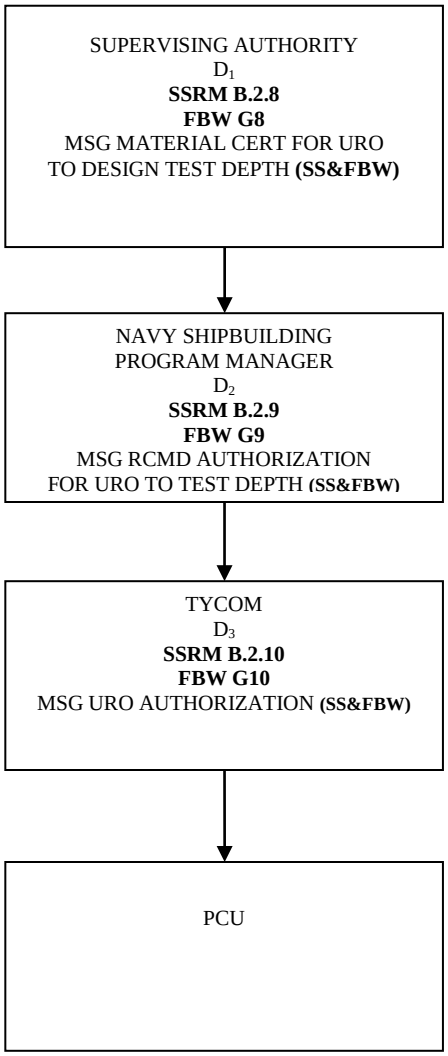
(1) UPCOMING TRIALS WHICH IS SUBJECT OF THIS CERTIFICATION (E.G., BRAVO SEA TRIALS, CHARLIE SEA TRIALS, INSURV TRIALS, ETC.).

(2) PREVIOUS TRIALS.

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED

APPENDIX D

Message Scenario and Sample Messages for URO Certification (Submarines)



APPENDIX D_1

SAMPLE SUPERVISING AUTHORITY TO NAVY SHIPBUILDING PROGRAM MANAGER MESSAGE CONCERNING URO

FM <*SUPERVISING AUTHORITY*>//
TO COMNAVSEASYSCOM WASHINGTON DC//
INFO CNO WASHINGTON DC//
<*LANT/PAC*>FLT<*NORFOLK VA/PEARL HARBOR HI*>//
<*DIRSSP WASHINGTON DC FOR SSBN*>//
COMSUB<*LANT/PAC*><*NORFOLK VA/PEARL HARBOR HI*>//
COMSUBGRU <*NO.*>//
COMSUBRON <*NO.*>//
PRECOMUNIT <*SHIP NAME*>//
BT
UNCLAS //N09094//
MSGID/GENADMIN/<*SUPERVISING AUTHORITY*>//
SUBJ/(SUBS) UNRESTRICTED OPERATIONS FOR <*SHIP NAME/HULL NO.*>//
REF/A/DOC/NAVSEA 0924-062-0010//
REF/B/MSG/<*SUPERVISING AUTHORITY*>/<*DTG*>//{JFMM B4, SSRM B.2.1}//
REF/C/LTR/NAVSEA/<*SER NO./DATE*>//(REFERENCE ADDITIONAL AUDIT REPORTS AS REQUIRED)//
NARR/REF A IS THE SUBSAFE REQUIREMENTS MANUAL. REF B IS <*SUPERVISING AUTHORITY*> REPORT OF <*SHIP NAME/HULL NO.*> READINESS FOR FAST CRUISE AND ALPHA SEA TRIALS. REF C IS THE NAVSEA SUBSAFE CERTIFICATION AUDIT REPORT FOR <*SHIP NAME/HULL NO.*>.//
RMKS/1. IAW REF A, <*SUPERVISING AUTHORITY*> REPORTS THE SATISFACTORY COMPLETION OF ALL SEA TRIALS, COMPLETION OF CONTROLLED DIVES AND THE RESOLUTION OF MANDATORY SEA TRIAL DEFICIENCIES, <*AND SATISFACTORY RESOLUTION OF ANY SHIP'S FORCE RECS.*>//
2. REF B REPORTED SATISFACTORY RESOLUTION OF ALL CAT I AUDIT RECOMMENDATIONS OF REF C. IAW REF A, <*SUPERVISING AUTHORITY*> REPORTS THAT ALL CAT IA AUDIT RECOMMENDATIONS OF REF C HAVE BEEN SATISFACTORILY RESOLVED. THERE IS NO DEFERRED SUBSAFE WORK AND THERE ARE NO SUBSAFE DEVIATIONS AND WAIVERS WITH CONDITIONS WHICH HAVE NOT BEEN SATISFIED. <*or list deferred SUBSAFE work and/or conditional SUBSAFE Deviations and Waivers including Deviation Number, Short Title and Expected Clearance Date/Key Event*[(1)]>.//
3. THE STATUS OF INCOMPLETE CAT II AUDIT RECOMMENDATIONS OF REF C IS AS FOLLOWS:
A.
B.
4. IAW REF A, <*SUPERVISING AUTHORITY*> REPORTS THE SUBSAFE MATERIAL CONDITION OF <SHIP NAME/HULL NO.> IS SATISFACTORY FOR UNRESTRICTED OPERATIONS TO TEST DEPTH.//
BT

(1) Subject to Navy Shipbuilding Program Manager approval, cumulative lists of conditional Deviations and Waivers which are deemed too lengthy for messages may be communicated in a letter format, with the letter referenced by the applicable message.

NOTE 1: LIST ALL RE-ENTRIES TO MATERIAL CERTIFICATION BOUNDARY AND ALL WORK ON SYSTEMS AFFECTING RECOVERABILITY, SALVAGE, WATERTIGHT INTEGRITY, OR OPERATION OF SHIP'S CONTROL SURFACES WITH CORRECTIVE ACTION SINCE RELEASE OF FAST CRUISE MESSAGE.

NOTE 2: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX D_2

SAMPLE NAVSEA TO TYCOM MESSAGE CONCERNING URO

FM COMNAVSEASYSCOM WASHINGTON DC//
TO COMSUB<*LANT/PAC*><*NORFOLK VA/PEARL HARBOR HI*>//
INFO CNO WASHINGTON DC//
<*LANT/PAC*>FLT<*NORFOLK VA/PEARL HARBOR HI*>//
<DIRSSP WASHINGTON DC FOR SSBN>//
COMSUBGRU <*NO.*>//
COMSUBRON <*NO.*>//
PRECOMUNIT <*SHIP NAME*>//
<*SUPERVISING AUTHORITY*>//
BT
UNCLAS //N09094//
MSGID/GENADMIN/COMNAVSEASYSCOM//
SUBJ/(SUBS) RECOMMENDATION FOR UNRESTRICTED OPERATIONS FOR <SHIP NAME AND HULL NO.>//
REF/A/DOC/NAVSEA 0924-062-0010//
REF/B/MSG/<*SUPERVISING AUTHORITY*>/<DTG>// {JFMM D1, SSRM B.2.8}
REF/C/DOC/OPNAVINST 9110.1//
NARR/REF A IS THE SUBSAFE REQUIREMENTS MANUAL. REF B IS <*SUPERVISING AUTHORITY*> REPORT OF <*SHIP NAME/HULL NO.*> SUBSAFE MATERIAL CONDITION READINESS FOR URO. REF C CONTAINS POLICY FOR SUBMARINE TEST AND OPERATING DEPTHS.//
RMKS/1. IAW REF A, REF B REPORTED THE SUBSAFE MATERIAL CONDITION READINESS OF <*SHIP NAME AND HULL NO.*> IS SATISFACTORY AND NO OUTSTANDING DEPTH LIMITING DISCREPANCIES EXIST.
2. REF B ALSO REPORTED SATISFACTORY COMPLETION OF ALL SEA TRIALS, COMPLETION OF CONTROLLED DIVES AND RESOLUTION OF MANDATORY SEA TRIAL DEFICIENCIES.
3. IAW REFS A AND C, NAVSEA CERTIFIES THAT THE SUBSAFE MATERIAL CONDITION OF <*SHIP NAME/HULL NO.*> IS SATISFACTORY AND RECOMMENDS THAT THE SHIP BE AUTHORIZED UNRESTRICTED OPERATIONS TO TEST DEPTH SUBJECT TO COMPLIANCE WITH REF A <*WITH THE FOLLOWING RESTRICTIONS: list any restrictions which may be applicable*>.
4. URO MRC PERIODICITIES REQUIRED BY REF A, WILL COMMENCE ON <DATE>.//
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX D3

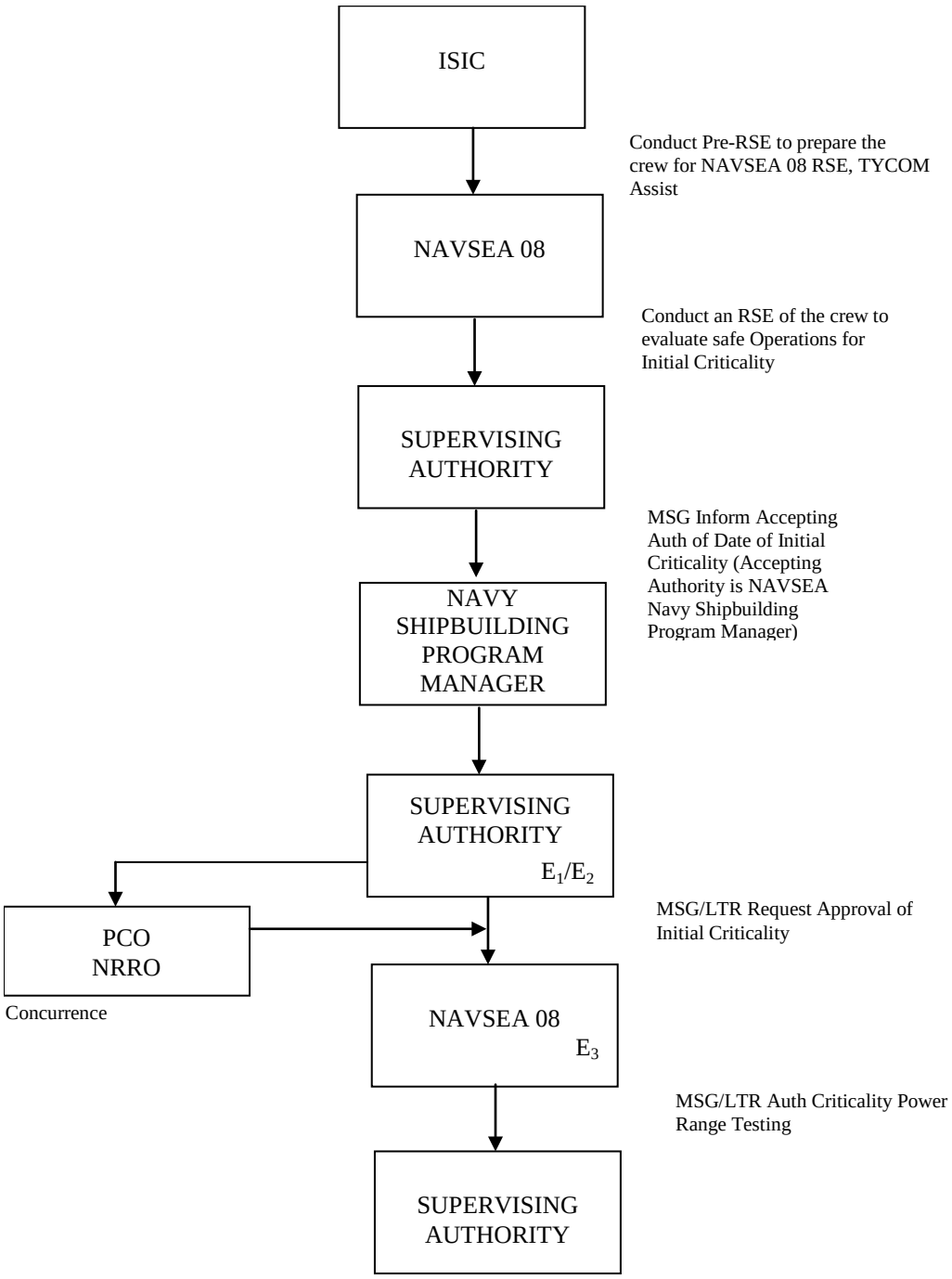
SAMPLE TYCOM TO PRE-COMMISSIONING UNIT MESSAGE CONCERNING URO

FM COMSUB*<LANT/PAC><NORFOLK VA/PEARL HARBOR HI>*//
TO PRECOMUNIT *<SHIP NAME>*//
INFO CNO WASHINGTON DC//
COMNAVSEASYSCOM WASHINGTON DC//
CINC*<LANT/PAC>*FLT*<NORFOLK VA/PEARL HARBOR HI>*//
<DIRSSP WASHINGTON DC FOR SSBN>//
COMSUBGRU *<NO.>*//
COMSUBRON *<NO.>*//
<SUPERVISING AUTHORITY>//
BT
UNCLAS //N09094//
MSG/GENADMIN/COMSUB*<LANT/PAC>*//
SUBJ/(SUBS) UNRESTRICTED OPERATIONS OF PRECOMUNIT *<SHIP NAME/HULL NO.>*//
REF/A/MSG/NAVSEA/<DTG>// {JFMM D2, SSRM B.2.9}
REF/B/DOC/NAVSEA 0924-062-0010//
REF/C/DOC/COMSUB<LANT/PAC>NOTE C3120//
NARR/REF A IS NAVSEA URO MSG FOR <SHIP NAME/HULL NO.>. REF B IS THE SUBSAFE REQUIREMENTS MANUAL. REF C CONTAINS COMSUB<LANT/PAC> AUTHORIZED SUBMARINE OPERATING AND TEST DEPTHS.//
RMKS/1. REF A CERTIFIED THE SUBSAFE MATERIAL CONDITION OF *<SHIP NAME/HULL NO.>* IS SATISFACTORY AND RECOMMENDED THAT *<SHIP NAME/HULL NO.>* BE AUTHORIZED TO CONDUCT UNRESTRICTED OPERATIONS TO TEST DEPTH.
2. *<SHIP NAME/HULL NO.>* IS AUTHORIZED TO CONDUCT OPERATIONS TO TEST DEPTH SUBJECT TO THE FOLLOWING RESTRICTIONS: *<list restrictions if they exist or state "NONE">*
3. CONTINUED CERTIFICATION FOR OPERATIONS TO TEST DEPTH IS SUBJECT TO COMPLIANCE WITH REF B. URO MRC PERIODICITIES COMMENCE ON *<DATE>*.
4. THIS MSG REMAINS IN EFFECT UNTIL INCLUDED IN A FUTURE REVISION OF REF C.//
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX E

PRE-RSE, RSE, CRITICALITY OR POWER RANGE TESTING LOGIC TABLE (ALL NUCLEAR POWERED SHIPS)



APPENDIX E_1

SAMPLE SUPERVISING AUTHORITY TO NAVSEA MESSAGE REQUESTING AUTHORIZATION FOR CRITICALITY

FM (SUPERVISING AUTHORITY)//
TO COMNAVSEASYSCOM WASHINGTON DC//
INFO CNO WASHINGTON DC//
(NAVY SHIPBUILDING PROGRAM MANAGER)//
(FLEET COMMANDER)//
(TYCOM)// (FOR CVN)//
(ISIC)//
(PARENT GROUP)//
(PARENT SQUADRON)//
PRECOMUNIT (SHIP NAME)//
BT
UNCLAS NOFORN//N09690//
MSGID/GENADMIN/(SUPERVISING AUTHORITY)//
SUBJ/(SHIP NAME AND HULL NO.) INITIAL CRITICALITY OF REACTOR PLANT NR TWO//
REF/A/DOC/NAVSEA 0989-028-5000//
AMPN/REF A IS MANUAL FOR THE CONTROL OF THE TESTING AND PLANT CONDITIONS//
REF B/DOC/OPNAVINST 9080.3//
AMPN/REF B IS PROCEDURES FOR TESTS AND TRIALS OF NAVAL NUCLEAR POWERED SHIPS UNDER CONSTRUCTION, MODERNIZATION, CONVERSION, REFUELING, AND OVERHAUL//
REF/C/LTR/(ORIGINATING ACTIVITY) (SERIAL NUMBER)/(DATE)//
AMPN/REF C IS NAVSEA 08 LETTER IDENTIFYING CORE INSTALLED IN (SHIP NAME)//
REF/D/DOC/A4W/A1G PREREQ LIST NR SEVEN REV D DTD 6 MAY 86//
AMPN/REF D IS A4W/A1G PREREQUISITE LIST NUMBER SEVEN//
REF/E/LTR/(ORIGINATING ACTIVITY) (SERIAL NUMBER)/(DATE)//
AMPN/REF E IS NAVSEA NAVY SHIPBUILDING PROGRAM MANAGER LETTER CONCERNING RESOLUTION TO OUTSTANDING WORK ITEMS//
REF/F/LTR/(ORIGINATING ACTIVITY) (SERIAL NUMBER)/(DATE)//
AMPN/REF F IS SUPERVISING AUTHORITY LETTER CONCERNING RESOLUTION TO OUTSTANDING WORK ITEMS//
RMKS/1. IAW REFS A AND B, REQ AUTHORIZATION TO PERFORM TEST PROCEDURE
A4W/A1G 3-KA-9 REV D DTD 5-6-86 IN REACTOR PLANT NR TWO.
2. THE REACTOR CORE IS INSTALLED IN (SHIP NAME) REACTOR NR TWO AS SPECIFIED BY REF C.
3. (SHIPBUILDER) HAS CERTIFIED THAT ALL PREREQS FOR NR TWO PLANT INITIAL CRITICALITY REQD BY REF D ARE MET.

4. THE PCO, (SHIP NAME) AND NRRO CONCUR THAT THE NUCLEAR PROPULSION PLANT NR TWO IS READY FOR INITIAL CRITICALITY AND SUBSEQUENT POWER RANGE TESTING.
5. ALL OUTSTANDING WORK ITEMS HAVE BEEN RESOLVED BY REFS E AND F.
6. ESTIMATE (SPECIFIED) DAYS WILL BE REQUIRED TO PERFORM CRITICALITY AND POWER RANGE TESTING OF NR TWO PLANT. REQ A MAX OF (SPECIFIED) EFPH BE AUTHORIZED.
7. THIS EVENT IS SKED FOR (TIME (LOCAL)) AND (DATE).//
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGEFORMAT AND CURRENT PLAD IS UTILIZED.

NOFORN when filled in

APPENDIX E_2

SAMPLE SUPERVISING AUTHORITY TO NAVSEA REQUEST FOR INITIAL CRITICALITY

From: (Supervising Authority), USN, (Location)

To: Commander, Naval Sea Systems Command (08)

Subj: AUTHORIZATION REQUEST FOR (Ship Name and Hull No.) INITIAL CRITICALITY

Ref: (a) (Plant Type) Initial Criticality Prerequisite List
(b) COMNAVSEASYSCOM letter Ser (Serial Number and Date)

1. Request authorization required by reference (a) to perform test procedure with TPI incorporated.

2. The reactor core installed in (Ship Name and Hull No.) as specified in reference (b).

3. Estimated time to perform all critical testing is __ days. All critical testing will require a maximum of __ effective full power hours. This estimate includes Critical Over-the-Side-Noise testing.

4. The shipyard has certified that all the prerequisites for Initial Criticality required by reference (a) are met and the ship is ready for Initial Criticality and subsequent Power Range Testing.

5. The following reactor plant work item(s) is (are) not completed and does (do) not involve safety of the reactor plant.

a.

b.

6. The Prospective Commanding Officer and Naval Reactors Representative concur.

7. The event is scheduled for (Date) at (Time).

(Signature)

Copy to:
PCO (Ship Name and Hull No.)
NRRO (Location)
TYCOM (N43), (N9 for CVN)
ISIC

APPENDIX E_3

SAMPLE NAVSEA TO SUPERVISING AUTHORITY MESSAGE AUTHORIZING CRITICALITY

FM COMNAVSEASYSCOM WASHINGTON DC//
TO (SUPERVISING AUTHORITY)//
INFO CNO WASHINGTON DC//
(FLEET COMMANDER)//
(TYCOM)//N43/N9 (FOR CVN)//
(ISIC)//
NRRO (LOCATION)//
(PARENT GROUP)//
(PARENT SQUADRON)//
PCO (SHIP NAME AND HULL NO.)//
BT
UNCLAS NOFORN//N09210//
MSGID/GENADMIN/COMNAVSEASYSCOM//
SUBJ: INITIAL CRITICALITY OF REACTOR NO. 2 IN (SHIP NAME AND HULL NO.)//
REF/A/MSG/(ORIGINATING ACTIVITY)/(DTG)//
AMPN/REF A IS SUPERVISING AUTHORITY MESSAGE REQUESTING AUTHORIZATION FOR CRITICALITY//
REF/B/DOC/(PLANT TYPE) TEST PROCEDURE (NUMBER SPECIFIED)//
AMPN/REF B IS TEST PROCEDURE FOR INITIAL APPROACH TO CRITICALITY//
RMKS/1. REF A CERTIFIES THAT ALL PREREQUISITES REQUIRED BY REF B FOR INITIAL CRITICALITY OF REACTOR NO. 2 IN (SHIP NAME) HAVE BEEN MET. REF A REQUESTS NAVSEA AUTHORIZATION REQUIRED BY REF B TO CONDUCT INITIAL CRITICAL OPERATIONS OF REACTOR NO. 2 IN (SHIP NAME). REF A ESTIMATES (SPECIFIED) EFPH NECESSARY TO CONDUCT INITIAL CRITICALITY AND SUBSEQUENT POWER RANGE TESTING.
2. BASED ON THE STATEMENTS CONTAINED IN REF A, YOU ARE AUTHORIZED TO PROCEED WITH INITIAL CRITICALITY AND POWER RANGE TESTING OF REACTOR NO. 2 IN (SHIP NAME) IN ACCORDANCE WITH APPROVED PROCEDURES, FOR A MAXIMUM OF (SPECIFIED) EFPH.//
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

NOFORN when filled in

APPENDIX F

SAMPLE TYCOM MESSAGE CONCERNING SEA TRIAL AGENDA (SUBMARINES)

FM (TYCOM)//
TO (SUPERVISING AUTHORITY)//
PRECOMUNIT (SHIP NAME)//
INFO CNO WASHINGTON DC// /
(FLEET COMMANDER)//
COMNAVSEASYSCOM WASHINGTON DC//(NAVY SHIPBUILDING PROGRAM MANAGER)/
UNSEARESCOM SAN DIEGO CA//
COMSUBRON ELEVEN//
(ISIC)//
(PARENT GROUP)//
(PARENT SQUADRON)//
BT
UNCLAS //N09094//
MSGID/GENADMIN/(TYCOM)//
SUBJ/(SUBS) (SHIP NAME AND HULL NO.) (TRIAL NAME) SEA TRIAL AGENDA//
REF/A/DOC/COMUSFLTFORCOMINST 4790.3//
AMPN/REF A IS JOINT FLEET MAINTENANCE MANUAL//
REF/B/LTR/(ORIGINATING ACTIVITY) (SERIAL NUMBER)/(DATE)/NOTAL//
AMPN/REF B IS (SUPERVISING AUTHORITY) FIRST ENDORSEMENT TO (SHIPBUILDER) LTR (SERIAL/DATE)//
SUBJ: (SHIPBUILDER) (SHIP NAME AND HULL NO.) (TRIAL) UNDERWAY SEA TRIAL AGENDA, REV (-)//
RMKS/1. IAW REF A, ORIG CONCURS WITH THE OPERATIONAL ASPECTS OF REF B SEA TRIAL AGENDA.
2. FOR OIC (SHIP NAME AND HULL NO.): RECOGNIZING LIMITED UNDERWAY OPERATIONAL EXPERIENCE LEVEL, EXERCISE EXTREME CAUTION WHILE CONDUCTING ALL OPERATIONS AT TEST DEPTH. ENSURE YOUR SHIP CONTROL PARTIES ARE WELL VERSED IN ALL ASPECTS OF SHIP'S COMPENSATION AND EFFECTS OF SPEED AND TRIM ADJUSTMENTS, AS WELL AS PROCEDURES TO PREVENT EXCEEDING TEST DEPTH.//
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX G

SAMPLE TYCOM MESSAGE TO PCU CONCERNING USE OF THE FBW SCS IN SUPPORT OF ALPHA SEA TRIALS (SUBMARINES)

FROM: COMSUB<LANT/PAC><NORFOLK VA/PEARL HARBOR HI>//
TO: PRECOMUNIT <SHIP NAME>//
INFO CNO WASHINGTON DC
COMNAVSEASYSCOM WASHINGTON DC
COM<LANT/PAC>FLT<NORFOLK VA/PEARL HARBOR HI>
<DIRSSP WASHINGTON DC FOR SSBN/SSGN>
COMSUBGRU <NO.>
COMSUBRON <NO.>
<SUPERVISING AUTHORITY>
BT
UNCLAS // N09094 //
MSGID/GENADMIN/COMSUB<LANT/PAC>//
SUBJ/(SUBS) PRECOMUNIT <SHIP NAME/HULL NO.> AUTHORIZATION TO USE THE FLY-BY-WIRE SHIP CONTROL SYSTEM IN SUPPORT OF ALPHA SEA TRIALS//
REF/A/MSG/COMNAVSEASYSCOM/<DTG>// {G.2.2}
REF/B/MSG/<SUPERVISING AUTHORITY>/<DTG>//{G.2.3}
REF/C/LTR/COMSUB<LANT/PAC>/<SER NO./DATE>//
REF/D/LTR/NAVSEA/<SER NO./DATE>//
REF /E/LTR NAVSEA SERNO./DATE
NARR/REF A IS NAVSEA FLY-BY-WIRE SHIP CONTROL SYSTEM MATERIAL CONDITION READINESS REPORT AND ALPHA SEA TRIALS RECOMMENDATION FOR <SHIP NAME/HULL NO.>. REF B IS <SUPERVISING AUTHORITY> REPORT OF FAST CRUISE COMPLETION AND READINESS OF FLY-BY-WIRE SHIP CONTROL SYSTEM FOR ALPHA SEA TRIALS. REF C CONCURRED WITH THE SEA TRIALS AGENDA. REF D APPROVED THE SEA TRIALS AGENDA.//
RMKS/1. REF A CERTIFIED THE FLY-BY-WIRE SHIP CONTROL SYSTEM MATERIAL CONDITION OF <SHIP NAME/HULL NO.> SATISFACTORY FOR ALPHA SEA TRIALS.
2. REF B REPORTED SUCCESSFUL COMPLETION OF FAST CRUISE AND READINESS OF FLY-BY-WIRE SHIP CONTROL SYSTEM FOR ALPHA SEA TRIALS.
3. <SHIP NAME/HULL NO.> FLY-BY-WIRE SHIP CONTROL SYSTEM USE IS AUTHORIZED IN SUPPORT OF ALPHA SEA TRIALS IAW THE ALPHA SEA TRIALS AGENDA CONCURRED IN BY REF C AND APPROVED BY REF D. THERE ARE NO FLY-BY-WIRE SHIP CONTROL SYSTEM or SHIP RELATED OPERATING RESTRICTIONS/LIMITS WHICH HAVE NOT BEEN SATISFIED. <or identify operating restrictions/limits>//
4. THIS CERTIFICATION IS VALID THROUGHOUT TRIALS UNLESS A DEFICIENCY HAS BEEN DISCOVERED. SHIP SPEED IS RESTRICTED TO LESS THAN 20 KNOTS WHEN A FBW SCS FAULT CONDITION RESULTS IN A MAJOR NON-CONFORMANCE AFFECTING CONTROL OF SHIPS PITCH, HEADING, DEPTH OR CONTROL SURFACES. THESE DEFICIENCIES MUST BE REPORTED TO NAVSEA AND THE APPROPRIATE FLEET AND TYPE COMMANDERS. PREVIOUS NAVSEA CERTIFICATION OF THE FBW SCS MATERIAL CONDITION SHALL BE SUSPENDED

UNTIL NAVSEA REVIEWS THE REPORT AND CERTIFIES TO THE TYCOM THAT THE FBW SCS MATERIAL CONDITION IS SATISFACTORY FOR SEA TRIALS IN ACCORDANCE WITH THE SEA TRIAL AGENDA APPROVED BY REFERENCE D. THE SHIP'S SPEED IS RESTRICTED TO LESS THAN 20 KNOTS UNTIL SATISFACTORY RESOLUTION OF THE MAJOR NON-CONFORMANCE AND TYCOM APPROVAL TO OPERATE THE FBW SCS TO PREVIOUSLY AUTHORIZED CONDITIONS IS GRANTED, UNLESS SPECIFICALLY ADDRESSED IN THE SEA TRIAL AGENDA.
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX H

SAMPLE TYCOM MESSAGE TO PCU CONCERNING FBW SCS MATERIAL CONDITION INITIAL CERTIFICATION (SUBMARINES)

FROM: COMSUB<LANT/PAC><NORFOLK VA/PEARL HARBOR HI>//
TO: PRECOMUNIT <SHIP NAME>//
INFO CNO WASHINGTON DC
COMNAVSEASYSCOM WASHINGTON DC
COM<LANT/PAC>FLT<NORFOLK VA/PEARL HARBOR HI>
<DIRSSP WASHINGTON DC FOR SSBN/SSGN>
COMSUBGRU <NO.>
COMSUBRON <NO.>
<SUPERVISING AUTHORITY>
BT
UNCLAS // N09094 //
MSG/GENADMIN/COMSUB<LANT/PAC>//
SUBJ/(SUBS) PRECOMUNIT <SHIP NAME/HULL NO.> AUTHORIZATION TO USE THE FLY-BY-WIRE SHIP CONTROL SYSTEM IN SUPPORT OF ALPHA SEA TRIALS//
REF/A/MSG/COMNAVSEASYSCOM/<DTG>// {G.2.2}
REF/B/MSG/<SUPERVISING AUTHORITY>/<DTG>// {G.2.3}
REF/C/LTR/COMSUB<LANT/PAC>/<SER NO./DATE>//
REF/D/LTR/NAVSEA/<SER NO./DATE>//
NARR/REF A IS NAVSEA FLY-BY-WIRE SHIP CONTROL SYSTEM MATERIAL CONDITION READINESS REPORT AND ALPHA SEA TRIALS RECOMMENDATION FOR <SHIP NAME/HULL NO.> REF B IS <SUPERVISING AUTHORITY> REPORT OF FAST CRUISE COMPLETION AND READINESS OF FLY-BY-WIRE SHIP CONTROL SYSTEM FOR ALPHA SEA TRIALS. REF C CONCURRED WITH THE SEA TRIALS AGENDA. REF D APPROVED THE SEA TRIALS AGENDA.//
RMKS/1. REF A CERTIFIED THE FLY-BY-WIRE SHIP CONTROL SYSTEM MATERIAL CONDITION OF <SHIP NAME/HULL NO.> SATISFACTORY FOR ALPHA SEA TRIALS.
2. REF B REPORTED SUCCESSFUL COMPLETION OF FAST CRUISE AND READINESS OF FLY-BY-WIRE SHIP CONTROL SYSTEM FOR ALPHA SEA TRIALS.
3. <SHIP NAME/HULL NO.> FLY-BY-WIRE SHIP CONTROL SYSTEM USE IS AUTHORIZED IN SUPPORT OF ALPHA SEA TRIALS IAW THE ALPHA SEA TRIALS AGENDA CONCURRED IN BY REF C AND APPROVED BY REF D. THERE ARE NO FLY-BY-WIRE SHIP CONTROL SYSTEM or SHIP RELATED OPERATING RESTRICTIONS/LIMITS WHICH HAVE NOT BEEN SATISFIED. <or identify operating restrictions/limits>//
4. THIS CERTIFICATION IS VALID THROUGHOUT TRIALS UNLESS MAJOR NON-CONFORMANCE AS DEFINED BY REF A. SHIP SPEED IS RESTRICTED TO LESS THAN 20 KNOTS WHEN A FBW SCS FAULT CONDITION RESULTS IN A MAJOR NON-CONFORMANCE AFFECTING CONTROL OF SHIPS PITCH, HEADING, DEPTH OR CONTROL SURFACES. THESE MAJOR NON-CONFORMANCES MUST BE REPORTED TO NAVSEA AND THE APPROPRIATE FLEET AND TYPE COMMANDERS. PREVIOUS NAVSEA CERTIFICATION OF THE FBW SCS MATERIAL CONDITION SHALL BE SUSPENDED UNTIL NAVSEA REVIEWS THE REPORT AND CERTIFIES TO THE

TYCOM THAT THE FBW SCS MATERIAL CONDITION IS SATISFACTORY FOR SEA TRIALS IN ACCORDANCE WITH THE SEA TRIAL AGENDA APPROVED BY REF D. THE SHIP'S SPEED IS RESTRICTED TO LESS THAN 20 KNOTS UNTIL SATISFACTORY RESOLUTION OF THE MAJOR NON-CONFORMANCE AND TYCOM APPROVAL TO OPERATE THE FBW SCS TO PREVIOUSLY AUTHORIZED CONDITIONS IS GRANTED, UNLESS SPECIFICALLY ADDRESSED IN THE SEA TRIAL AGENDA.
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX I

SAMPLE TYCOM MESSAGE TO THE SHIP CONCERNING FBW SCS CERTIFICATION (SUBMARINES)

FROM: COMSUB<LANT/PAC><NORFOLK VA/PEARL HARBOR HI>//
TO: UNIT <SHIP NAME>//
INFO CNO WASHINGTON DC
COMNAVSEASYSCOM WASHINGTON DC
COM<LANT/PAC>FLT<NORFOLK VA/PEARL HARBOR HI>
<DIRSSP WASHINGTON DC FOR SSBN/SSGN>
COMSUBGRU <NO.>
COMSUBRON <NO.>
<SUPERVISING AUTHORITY>
BT
UNCLAS // N09094 //
MSG/GENADMIN/COMSUB<LANT/PAC>//
SUBJ/(SUBS) UNRESTRICTED USE OF FLY-BY-WIRE SHIP CONTROL SYSTEM IN SUPPORT OF UNRESTRICTED OPERATIONS OF UNIT <SHIP NAME/HULL NO.>//
REF/A/DOC/NAVSEA T9044-AD-MAN-010//
REF /B/MSG NAVSEA/DTG // FBW SCS INITIAL CERTIFICATION (G.2.9)
REF//C/ SSM VOLUME 7
NARR/REF A IS THE REQUIREMENTS MANUAL FOR SUBMARINE FBW SCS. REF B IS NAVSEA FBW SCS CERTIFICATION MSG FOR <SHIP NAME/HULL NO.>. REF C CONTAINS COMSUB<LANT/PAC> AUTHORIZED SUBMARINE OPERATING AND TEST DEPTHS.//
1. IN ACCORDANCE WITH REFERENCE (A), REFERENCE (B) PROVIDED <INTERIM FOR FIRST SHIP OF CLASS OR AFTER MAJOR SHIP MODIFICATION AFFECTING SHIP HYDRODYNAMIC CHARACTERISTICS> CERTIFICATION OF <SHIP NAME/HULL NO.> FLY-BY-WIRE SHIP CONTROL SYSTEM FOR UNRESTRICTED USE IN SUPPORT OF SUBMARINE UNRESTRICTED OPERATIONS <OR STATE LIMITS>.
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX J

SAMPLE SUPERVISING AUTHORITY MESSAGE TO NAVSEA CONCERNING PCU FBW SCS MATERIAL CONDITION READINESS FOR FAST CRUISE AND ALPHA TRIALS (SUBMARINES)

FROM: <SUPERVISING AUTHORITY>//-+
TO: COMNAVSEASYSCOM WASHINGTON DC//
INFO CNO WASHINGTON DC
COMSUB<LANT/PAC>FLT<NORFOLK VA/PEARL HARBOR HI>
COM<LANT/PAC>FLT<NORFOLK VA/PEARL HARBOR HI>
COMSUBGRU <NO.>
COMSUBRON <NO.>
PRECOMUNIT <SHIP NAME>
BT
UNCLAS // N09094 //
MSGID/GENADMIN/<SUPERVISING AUTHORITY>//
SUBJ/(SUBS) PRECOMUNIT <SHIP NAME/HULL NO > FLY-BY-WIRE SHIP CONTROL SYSTEM MATERIAL CONDITION READINESS FOR FAST CRUISE AND SEA TRIALS//
REF/A/DOC/NAVSEA T9044-AD-MAN-010 //
REF/B/LTR/NAVSEA/<SER NO./DATE>// (REFERENCE ADDITIONAL AUDIT REPORTS AS REQUIRED)
NARR/REF A IS THE REQUIREMENTS MANUAL FOR SUBMARINE FLY-BY-WIRE SHIP CONTROL SYSTEMS. REF B IS THE NAVSEA FLY-BY-WIRE SHIP CONTROL SYSTEM CERTIFICATION AUDIT REPORT FOR <SHIP NAME/HULL NO.>.//
RMKS/1. IAW REF A, <SUPERVISING AUTHORITY> REPORTS THE COMPLETION OF ALL FLY-BY-WIRE SHIP CONTROL SYSTEM WORK AND TESTING REQUIRED FOR COMMENCEMENT OF FAST CRUISE AND ALPHA SEA TRIALS.
2. IAW REF A, <SUPERVISING AUTHORITY> REPORTS THAT ALL CAT I AUDIT RECOMMENDATIONS OF REF B HAVE BEEN SATISFACTORILY RESOLVED. THERE ARE NO FLY-BY-WIRE SHIP CONTROL SYSTEM DEVIATIONS AND WAIVERS WITH CONDITIONS NOR FLY-BY-WIRE SHIP CONTROL SYSTEM OR RELATED SHIP OPERATING RESTRICTIONS/LIMITS WHICH HAVE NOT BEEN SATISFIED. <or identify operating restrictions/limits and list conditional Deviations and Waivers including Deviation Number, Short Title, and Expected Clearance Date/Key Event[(1)]>.
3. IAW REF A, THE STATUS OF ALL INCOMPLETE CAT 1A AUDIT RECOMMENDATIONS OF REF B IS AS FOLLOWS:
A.
B.
4. <SUPERVISING AUTHORITY> REPORTS READINESS OF <SHIP NAME/HULL NO.> FLY-BY-WIRE SHIP CONTROL SYSTEM FOR COMMENCEMENT OF FAST CRUISE. OIC<SHIP NAME/HULL NO.> CONCURS.//
5. SUBJECT TO SATISFACTORY COMPLETION OF FAST CRUISE AND RESOLUTION OF MANDATORY DEFICIENCIES, <SUPERVISING AUTHORITY> CONSIDERS <SHIP NAME/HULL NO.> FLY-BY-WIRE SHIP CONTROL SYSTEM MATERIAL CONDITION READINESS SATISFACTORY FOR COMMENCEMENT OF SEA TRIALS.

(1) Subject to Navy Shipbuilding Program Manager approval, cumulative lists of conditional Deviations and Waivers which are deemed too lengthy for messages may be communicated in a letter format, with the letter referenced by the applicable message.
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX K

SAMPLE SUPERVISING AUTHORITY MESSAGE TO TYCOM AND NAVSEA CONCERNING PCU FAST CRUISE COMPLETION AND READINESS OF FBW SCS MATERIAL CONDITION FOR ALPHA SEA TRIALS (SUBMARINES)

FROM:<SUPERVISING AUTHORITY>//
TO: COMSUB<LANT/PAC><NORFOLK VA/PEARL HARBOR HI>//
COMNAVSEASYSCOM WASHINGTON DC
INFO CNO WASHINGTON DC
COM<LANT/PAC>FLT<NORFOLK VA/PEARL HARBOR HI>
<DIRSSP WASHINGTON DC FOR SSBN/SSGN>
COMSUBGRU <NO.>
COMSUBRON <NO.>
PRECOMUNIT <SHIP NAME/NUMBER>
BT
UNCLAS // N09094 //
MSGID/GENADMIN/<SUPERVISING AUTHORITY>//
SUBJ/(SUBS) PRECOMUNIT <SHIP NAME/HULL NO.> FAST CRUISE COMPLETION AND READINESS OF FLY-BY-WIRE SHIP CONTROL SYSTEM MATERIAL CONDITION FOR ALPHA SEA TRIALS//
REF/A/DOC/OPNAVINST 9080.3//
NARR/REF A CONTAINS PROCEDURES FOR TESTS AND TRIALS OF NAVAL NUCLEAR POWERED SHIPS.//
RMKS/1. IAW REF A, <SUPERVISING AUTHORITY> REPORTS <SHIP NAME/HULL NO.> FAST CRUISE SUCCESSFULLY COMPLETED AT <TIME, DATE>.
2. NO MANDATORY FLY-BY-WIRE SHIP CONTROL SYSTEM DEFICIENCIES FOR SEA TRIALS HAVE BEEN IDENTIFIED. THERE HAVE BEEN NO FLY-BY-WIRE SHIP CONTROL SYSTEM CWPs/RIPOUTs OPENED AND NO FLY-BY-WIRE SHIP CONTROL SYSTEM DEVIATIONS AND WAIVERS PROCESSED SINCE THE START OF FAST CRUISE. <or, report any mandatory deficiencies discovered with corrective action, and if CWP/RIPOUT and/or Deviations and Waivers were processed since the start of Fast Cruise, report all Fly-By-Wire Ship Control System CWPs/RIPOUTs opened since the start of Fast Cruise are closed and/or all Fly-By-Wire Ship Control System deviations and waivers resolved.>
3. THERE ARE NO FLY-BY-WIRE SHIP CONTROL SYSTEM DEVIATIONS AND WAIVERS WITH CONDITIONS WHICH HAVE NOT BEEN SATISFIED. <or list conditional Deviations and Waivers including Deviation Number, Short Title, and Expected Clearance Date/Key Event.(1)>.
4. FLY-BY-WIRE SHIP CONTROL SYSTEM MATERIAL CONDITION IS SATISFACTORY TO SUPPORT COMMENCEMENT OF ALPHA SEA TRIALS AS SCHEDULED. OIC <SHIP NAME\HULL NO.> CONCURS.\\
5. RECOMMENDATION TO COMMENCE ALPHA SEA TRIALS WILL BE ADDRESSED BY SEPCOR.
(1) Subject to Navy Shipbuilding Program Manager approval, cumulative lists of conditional Deviations and Waivers which are deemed too lengthy for messages may be communicated in a letter format, with the letter referenced by the applicable message.

BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX L

SAMPLE SUPERVISING AUTHORITY MESSAGE TO NAVSEA CONCERNING PCU FBW SCS MATERIAL CONDITION READINESS UPON COMPLETION OF ALPHA SEA TRIALS AND READINESS OF THE FBW SCS FOR USE DURING BRAVO AND SUBSEQUENT SEA TRIALS (SUBMARINES)

FROM:<SUPERVISING AUTHORITY>//
TO: COMNAVSEASYSCOM WASHINGTON DC//
INFO CNO WASHINGTON DC
COM<LANT/PAC>FLT<NORFOLK VA/PEARL HARBOR HI>
<DIRSSP WASHINGTON DC FOR SSBN/SSGN>
COMSUB<LANT/PAC><NORFOLK VA/PEARL HARBOR>
COMSUBGRU <NO.>
COMSUBRON <NO.>
PRECOMUNIT <SHIP NAME>
BT
UNCLAS // N09094 //
MSGID/GENADMIN/<SUPERVISING AUTHORITY>//
SUBJ/(SUBS) COMPLETION OF <ALPHA(2)> SEA TRIALS OF PRECOMUNIT<SHIP NAME/HULL NO.> AND FLY-BY-WIRE SHIP CONTROL SYSTEM MATERIAL CONDITION READINESS FOR<BRAVO(1)> SEA TRIALS//
REF/A/MSG/<SUPERVISING AUTHORITY>/<DTG>// {G.2.1}
REF/B/LTR/NAVSEA/<SER NO./DATE>
REF/C/DOC/NAVSEA 0924-062-0010//
NARR/REF A IS <SUPERVISING AUTHORITY'S> REPORT OF FLY-BY-WIRE SHIP CONTROL SYSTEM MATERIAL CONDITION READINESS OF <SHIP NAME/HULL NO.> FOR FAST CRUISE AND ALPHA SEA TRIALS. REF B IS FLY-BY-WIRE SHIP CONTROL SYSTEM CERTIFICATION AUDIT REPORT.// REF C IS THE REQUIREMENTS MANUAL FOR SUBMARINE FLY-BY-WIRE SHIP CONTROL SYSTEMS.//
RMKS/1. <SHIP NAME/HULL NO.> FLY-BY-WIRE SHIP CONTROL SYSTEM HAS SUCCESSFULLY COMPLETED <ALPHA(2)> SEA TRIALS.
2. BY REF A, <SUPERVISING AUTHORITY> REPORTED ALL CAT I AUDIT RECOMMENDATIONS OF REF B SATISFACTORILY RESOLVED. THERE HAVE BEEN NO FLY-BY-WIRE SHIP CONTROL SYSTEM CWPS/RIPOUTS OPENED AND NO FLY-BY-WIRE SHIP CONTROL SYSTEM DEVIATIONS AND WAIVERS PROCESSED SINCE <ALPHA (2)> SEA TRIALS. <or, if FLY-BY-WIRE SHIP CONTROL SYSTEM CWPS/RIPOUTS or FLY-BY-WIRE SHIP CONTROL SYSTEM Deviations and Waivers were processed since the start of <ALPHA (2)> Sea Trials, report ALL FLY-BY-WIRE SHIP CONTROL SYSTEM CWPS/RIPOUTS OPENED SINCE THE START OF <ALPHA (2)> SEA TRIALS ARE CLOSED AND/OR ALL FLY-BY-WIRE SHIP CONTROL SYSTEM DEVIATIONS AND WAIVERS PROCESSED SINCE <ALPHA (2)> SEA TRIALS ARE RESOLVED.>.
3. THERE ARE NO FLY-BY-WIRE SHIP CONTROL SYSTEM DEVIATIONS AND WAIVERS WITH CONDITIONS NOR FLY-BY-WIRE SHIP CONTROL SYSTEM or SHIP

RELATED OPERATING RESTRICTIONS/LIMITS WHICH HAVE NOT BEEN SATISFIED. <or identify operating restrictions/limits and list conditional Deviations and Waivers including Deviation Number, Short Title, and Expected Clearance Date/Key Event.(3)>
4. THE STATUS OF REF B INCOMPLETE CAT 1A AUDIT RECOMMENDATIONS IS <SAME AS REPORTED BY REF A OR AS FOLLOWS:>.
5. IAW REF C, <SUPERVISING AUTHORITY> REPORTS THAT THE FLY-BY-WIRE SHIP CONTROL SYSTEM MATERIAL CONDITION OF <SHIP NAME/HULL NO.> IS SATISFACTORY FOR USE IN SUPPORT OF <BRAVO (1)> SEA TRIALS. OIC <SHIP NAME/HULL NO.> CONCURS.//
(1)UPCOMING TRIALS WHICH IS SUBJECT OF THIS CERTIFICATION (E.G., BRAVO SEA TRIALS, CHARLIE SEA TRIALS, INSURV TRIALS, ETC.).
(2)PREVIOUS TRIALS.
(3)SUBJECT TO NAVY SHIPBUILDING PROGRAM MANAGER APPROVAL, CUMULATIVE LISTS OF CONDITIONAL DEVIATIONS AND WAIVERS WHICH ARE DEEMED TOO LENGTHY FOR MESSAGES MAY BE COMMUNICATED IN A LETTER FORMAT, WITH THE LETTER REFERENCED BY THE APPLICABLE MESSAGE.
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX M

SAMPLE SUPERVISING AUTHORITY MESSAGE TO NAVSEA CONCERNING PCU FBW SCS MATERIAL CONDITION INITIAL CERTIFICATION (SUBMARINES)

FROM: <SUPERVISING AUTHORITY>//
TO: COMNAVSEASYSCOM WASHINGTON DC//
INFO CNO WASHINGTON DC
COM<LANT/PAC>FLT<NORFOLK VA/PEARL HARBOR HI>
<DIRSSP WASHINGTON DC FOR SSBN/SSGN>
COMSUB<LANT/PAC><NORFOLK VA/PEARL HARBOR HI>
COMSUBGRU <NO.>
COMSUBRON <NO.>
PRECOMUNIT <SHIP NAME>
BT
UNCLAS // N09094 //
MSGID/GENADMIN/<SUPERVISING AUTHORITY>//
SUBJ/(SUBS) UNRESTRICTED USE OF <SHIP NAME/HULL NO.>FLY-BY-WIRE SHIP CONTROL SYSTEM IN SUPPORT OF SUBMARINE UNRESTRICTED OPERATIONS//
REF/A/DOC/NAVSEA T9044-AD-MAN-010//
REF/B/MSG/<SUPERVISING AUTHORITY>/<DTG>//{G.2.1}
REF/C/LTR/NAVSEA/<SER NO./DATE>// (REFERENCE ADDITIONAL AUDIT REPORTS AS REQUIRED)
REF/D/ SHIP SYSTEM MANUAL VOL 7 SHIP CONTROL SYSTEMS
NARR/REF A IS THE REQUIREMENTS MANUAL FOR SUBMARINE FLY-BY-WIRE SHIP CONTROL SYSTEMS. REF B IS <SUPERVISING AUTHORITY> REPORT OF <SHIP NAME/HULL NO.> READINESS OF FLY-BY-WIRE SHIP CONTROL SYSTEM FOR FAST CRUISE AND ALPHA SEA TRIALS. REF C IS THE NAVSEA FLY-BY-WIRE SHIP CONTROL SYSTEMS CERTIFICATION AUDIT REPORT FOR <SHIP NAME/HULL NO.>. REF D IS THE SHIP SYSTEM MANUAL FOR FBW SCS.//
RMKS/1. IAW REF A, <SUPERVISING AUTHORITY> REPORTS THE SATISFACTORY COMPLETION OF ALL FLY-BY-WIRE SHIP CONTROL SYSTEM SEA TRIAL TESTING, THE RESOLUTION OF MANDATORY SEA TRIAL DEFICIENCIES<IF NOT RESOLVED THEN LIST ANY SEA TRIAL TEST EVENTS THAT NEED TO BE DEFERRED>.
2. REF B REPORTED SATISFACTORY RESOLUTION OF ALL FBW SCS CAT I AUDIT RECOMMENDATIONS OF REF C. IAW REF A, <SUPERVISING AUTHORITY> REPORTS THAT ALL CAT IA AUDIT RECOMMENDATIONS OF REF C HAVE BEEN SATISFACTORILY RESOLVED. THERE IS NO DEFERRED FBW SCS WORK AND THERE ARE NO FBW SCS DEVIATIONS AND WAIVERS WITH CONDITIONS NOR ARE THERE ANY FBW SCS OR RELATED SHIP OPERATING RESTRICTIONS/LIMITS WHICH HAVE NOT BEEN SATISFIED. <or identify operating restrictions/limits and list deferred work and/or conditional Deviations and Waivers including Deviation Number, Short Title, and Expected Clearance Date/Key Event(1)>.
3. THE STATUS OF INCOMPLETE CAT II AUDIT RECOMMENDATIONS OF REF C IS AS FOLLOWS:
A.
B.

4. IAW REF A, <SUPERVISING AUTHORITY> REPORTS THE MATERIAL CONDITION OF <SHIP NAME/HULL NO.> FLY-BY-WIRE SHIP CONTROL SYSTEM IS SATISFACTORY FOR UNRESTRICTED USE IN SUPPORT OF SUBMARINE UNRESTRICTED OPERATIONS IN ACCORDANCE WITH THE GUIDANCE IN REF D EXCEPT AS NOTED:<identify any ship or system operating restrictions or limits>
5. RECOMMENDATION FOR SUBMARINE'S UNRESTRICTED OPERATION TO TEST DEPTH WILL BE ADDRESSED BY SEPARATE CORRESPONDENCE.
(1) Subject to Navy Shipbuilding Program Manager approval, cumulative lists of conditional Deviations and Waivers which are deemed too lengthy for messages may be communicated in a letter format, with the letter referenced by the applicable message.
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX N

PRE MAN-UP CHECKLIST FOR TYCOM OR ISIC

The TYCOM or ISIC is responsible for:

1. Contacting the Supervising Authority and establishing the date of initial man-up.
2. Coordinating with the Supervising Authority to ensure that crew facilities will be available on man-up.
3. Coordinating with the Supervising Authority and BUPERS on manning issues involving slippage or delays in schedule.
4. Upon man-up, coordinating with the PCO the dates for arrival inspection and monitoring watches.
5. Providing the ship with the necessary Fleet and TYCOM directives, instructions, notices, training memorandums, etc.
6. Reporting personnel arriving early onboard.
7. Ensuring personnel arriving early get pay accounts established and entitlements started.
8. Ensuring personnel arriving early have been screened for New Construction and meet all the requirements. Personnel not meeting the New Construction requirements should be brought into compliance, if possible, or made available for further assignment per the Enlisted Transfer Manual.
9. Ensuring the reporting personnel satisfy the requirements as outlined in the manning directive (i.e., Crew Scheduling and Phasing plans, Manning Letter, Enlisted Distribution and Verification Report, etc.). Areas that are deficient should be identified to BUPERS to correct deficiencies. In the case of submarines, submit a Personnel Deficiency Report.
10. For submarines, ensuring personnel are medically screened for submarine duty.
11. If the Detachment Concept is used, establishing a Point of Contact with TSC and obtain phone numbers for PCU office spaces.
12. Inspecting the PCU's office spaces prior to the arrival of the initial manning detachment. Immediately upon the PCU's arrival, coordinating with the PCO to arrange for the certification of office spaces to receive classified material.
13. Providing the requirements for storage of classified material in office spaces.
14. Assisting the PCU in developing a management system for handling classified material.

APPENDIX O

BASIC REQUIREMENTS FOR INITIAL MAN-UP PERSONNEL OF THE PCU (DETACHMENT CONCEPT) (AIRCRAFT CARRIERS AND SURFACE FORCE SHIPS)

1. The following is a list of actions that should be undertaken by the Detachment within the first two months.

a. Establish Fiscal Account with TSC Logistics.

b. Provide accounting data for telephone service to Naval Station Public Works, Communications Department.

c. Establish Temporary Plain Language Address with the communications facility.

d. Obtain administrative supplies from SERVMART.

e. Make Basic Enlisted Quarters arrangements with Naval Station Billeting.

f. Establish Basic Enlisted Quarters Watch Bill.

g. Acquire Government Vehicle from Public Works.

h. Create Ship's Pre-Commissioning Indoctrination Manual.

i. Designate Drug and Alcohol Program Advisors and obtain school quota from TSC.

j. Designate Urinalysis Coordinator and establish program.

k. Designate Key Sub-Custodian.

l. Designate two Electrical Safety Petty Officers.

m. Designate Ombudsman.

n. Create or Start Pre-Commissioning Training schedule (Formal, School of the Ship, Afloat).

o. Establish program for monitoring security clearance requirements.

p. Write authorization letters for "By Direction," mail and paycheck pickup authority.

q. Acquire software programs from the ship's allowance for use on computers.

r. Set up office spaces and obtain the necessary instructions and publications necessary to function as an Administrative Office.

s. Establish a Personnel Office to assist and check-in newly reporting personnel.

t. Arrange a meeting with the local Personnel Support Detachment to formulate a memorandum of agreement to include Service Record maintenance, Pay Account maintenance, assignment of disbursing support personnel from the ship, liquidation of travel claims, authorization for travel advances and other personnel related matters.

u. Arrange for maintenance of Medical and Dental records based on local military medicine procedures. The TSC will provide details.

v. Compile a Recall List.

w. Submit the Inaugural Diary to establish the manpower accounts and activate the Unit Identification Code in the Source Data System. This requires the reporting of one Enlisted and one Officer, using a gain Transaction Code with the use of a Diary Message Reporting System message. This should be done in advance of the initial manning date.

x. Coordinate with the TSC to establish the Security Certification of office spaces for retention of classified material.

y. Request of NAVSEA Non-Judicial Punishment (NJP) and Special Court Martial authority for the PCO. If the PCO is ordered in as OIC, NJP authority is limited.

z. Develop a planning schedule to incorporate Department Head training and the overall command planning schedule.

2. The following is a list of actions that must occur to support activity at the Construction Site.

a. Obtain office space for the Prospective Commanding Officer or Prospective Executive Officer, Command Master Chief, and other crew personnel.

b. Arrange for installation and access to telephone service. The Supervising Authority will provide details.

c. Obtain phone listing for key Industrial Activity and Supervising Authority personnel.

d. Obtain Master Construction Schedule from the Supervising Authority Project Officer.

e. Make arrangements for the crew to receive badges for access to the industrial area.

f. Make arrangements for the crew to receive all necessary safety equipment (hard hats, safety glasses, safety shoes, etc.).

g. Arrange for the crew at the Construction Site to receive safety briefings.

h. Arrange for crew briefings on necessary Radiological Control procedures.

i. Arrange for the Supervising Authority to take action to add the PCU to the Standard Navy Distribution List.

j. Obtain copies of Supervising Authority instructions related to new construction activities.

k. Obtain a System Testing Schedule and Turnover Schedule. The Supervising Authority will provide assistance.

l. Request authorization for the crew to draw Basic Allowance for Subsistence if government messing is not available at the Construction Site. The BUPERS Manual provides direction.

m. Coordinate with the ISIC the Security Certification of office spaces to be used for the retention of classified material.

APPENDIX P

BASIC REQUIREMENTS FOR INITIAL MAN-UP PERSONNEL OF THE PCU

The following is a list of actions that should be undertaken upon the arrival of the first members of a PCU:

1. Obtain office space for the Prospective Commanding Officer or Prospective Executive Officer, Command Master Chief, and other crew personnel.
2. Arrange for installation and access to telephone service. The Supervising Authority will provide details.
3. Obtain phone listing for key Industrial Activity and Supervising Authority personnel.
4. Obtain Master Construction Schedule from the Supervising Authority Project Officer.
5. Make arrangements for the crew to receive badges for access to the industrial area.
6. Make arrangements for the crew to receive all necessary safety equipment (hard hats, safety glasses, safety shoes, etc.).
7. Arrange for the crew at the Construction Site to receive safety briefings.
8. Arrange for crew briefings on necessary Radiological Control procedures.
9. Arrange for the Supervising Authority to take action to add the PCU to the Standard Navy Distribution List.
10. Obtain copies of Supervising Authority instructions related to new construction activities.
11. Obtain a System Testing Schedule and Turnover Schedule. The Supervising Authority will provide assistance.
12. Request authorization for the crew to draw Basic Allowance for Subsistence, if government messing is not available at the construction site. The BUPERS Manual provides direction.
13. Request of NAVSEA NJP and Special Court Martial authority for the PCO. If the PCO is ordered in as OIC, NJP authority is limited.
14. Develop a planning schedule to incorporate Department Head training and the overall command planning schedule.
15. Submit the Inaugural Diary to establish the manpower account and activate the Unit Identification Code in the Source Data System. This requires the reporting of one Enlisted and one Officer, using a gain Transaction Code with the use of a Diary Message Reporting System message. This should be done in advance of the initial manning date.
16. Set up office spaces and obtain the necessary instructions and publications necessary to function as an Administrative Office.
17. Establish a Personnel Office to assist and check-in newly reporting personnel.

18. Arrange a meeting with the local Personnel Support Detachment to formulate a memorandum of agreement to include Service Record maintenance, Pay Account maintenance, assignment of disbursing support personnel from the ship, liquidation of travel claims, authorization for travel advances and other personnel related matters.

19. Arrange for maintenance of Medical and Dental records based on local military medicine procedures. The TSC will provide details.

20. Compile a Recall List.

21. Coordinate with the ISIC the Security Certification of office spaces to be used for the retention of classified material.

22. Upon completion of the Security Certification coordinate with the Supervising Authority mailroom for delivery of the ship's mail.

APPENDIX Q

GENERIC BASE LINE OF FLEET INTRODUCTION TEAM FUNCTIONS AND RESPONSIBILITIES

1. Perform all tasks normally assigned to the PCO until the PCO has reported to the Construction Site and assumed duties.
2. Provide assistance to the PCO in carrying out duties according to Navy Regulations.
3. Provide continuity in the management and administration of pre-commissioning facilities at the Construction Site.
4. Coordinate the overall pre-commissioning crew training program for both nucleus and balance crews.
5. Schedule and conduct crew training at the Construction Site. Such training must be structured to support the Force Commander's standard for Crew Certification. Additional training provided will consist of:
   a. Basic Damage Control Training (100, 200 and 300 series).
   b. Ship Familiarization Training.
   c. Enlisted Surface Aviation Warfare Specialist Qualification and Requalification Training.
6. Provide each ship with standardized tailored Lesson Training Guides (where appropriate) in the areas of:
   a. Engineering.
   b. Mess Specialist.
   c. Supply.
   d. Communications.
   e. Operations.
   f. Weapons.
   g. Deck.
   h. Air.
7. Provide each PCO with standardized administrative, organizational and procedural manuals, bills, and directives for the ship class.
8. Monitor the progress of construction, outfitting, test and trials of each ship.
9. Perform the specific functions as assigned by the Force Commander or higher authority.
10. Provide familiarization training if directed.
11. Provide continuity between successive PCUs.

a. Maintain results of significant trials, inspections, assist visits, design and progress meetings, etc., in order to provide lessons learned and a corporate history to each successive pre-commissioning crew.

b. Detailed reports of government and contractor material and operational tests and inspections are maintained by the Supervising Authority.

c. Develop a Plan of Action and Milestones (POAM) for each ship to support the mission objectives to consist of actions and milestones to be accomplished by the FIT and the ship before sail-away.

d. Tailor the POAM to each specific ship based on the delivery date. The POAM will start approximately one year before delivery and end upon sail-away. (Start date will vary depending on FIT establishment and crew manning).

e. Maintain copies of the POAMs at the FIT, PCU and Pre-Commissioning Detachment.

f. Update and perform quarterly reviews of the POAM.

12. Maintain a Standard Products POAM.

a. Ensure that each ship receives their initial outfit of standard products such as directives, publications, forms, instructions, charts, etc. These products will be ordered by the FIT per the POAM, maintained at the FIT, and given to ship upon delivery.

b. In addition, locally developed standard administrative products such as the Standard Organization and Regulations Manual, Standard Operating Procedures, instructions, notices, etc., in support of the mission goals, will be tailored to each specific ship by the FIT with Ship's Force assistance.

13. Conduct Familiarization Training.

a. Training will consist of lectures and ship tours which cover:

(1) Ship Capabilities

(2) Characteristics and Mission

(3) Damage Control

(4) Propulsion

(5) Electrical

(6) Auxiliaries

(7) Deck

(8) Communications

(9) Navigation

(10) Combat Systems

b. Familiarization Training will be performed in a manner that will also encompass Enlisted Surface Aviation Warfare Specialist qualification and requalification training.

c. Provide each student a detailed and comprehensive Training Guide of each topic, for reference and study purposes.

14. Assist the ship in preparations for LOA to include:

a. Assist in preparations for the ISIC and ETG visits (Pre-industrial, Industrial and Pre-LOA) to include the areas of administration, material, level of knowledge and firefighting.

b. Provide plans (in the form of ship's notices) for the Pre-Industrial and Pre-LOA visits.

c. Assist in EOSS validation (cold and hot checks to include hand over hand verification of piping systems and components) performed by the Navy Shipbuilding Program Manager.

d. Provide a standard package of cold and hot checks (schedule and procedures) required to support material checks for LOA. Conduct training in the execution of cold and hot checks.

e. Provide standard engineering administration (EDORM, Standing Orders, Main Space Fire Doctrine, Restricted Maneuvering Doctrine, logs, management programs, etc.).

f. Provide a standard ship engineering training plan which will include Lesson Topic Guides, Lesson Topic Matrix, Evolution Training Matrix, Casualty Control Training Matrix, Watch Team Replacement Plan, Quadrant Training Plan, Month Training Plan and Watchstander Proficiency Logs. Conduct training on implementation and execution of the engineering training plan.

g. Conduct training (lectures, seminars, drills, etc.) to improve the level of knowledge and firefighting capability of the crew in support of LOA. Conduct Damage Control training to combat a Main Space Fire. Provide procedures, drill packages and training for the Engineering Casualty Control Training Team and Damage Control Training Team.

15. Assist the ship in preparations for Crew Certification to include:

a. Provide plans (in the form of ship's notices) for Crew Certification.

b. Provide procedures, drill packages and training (lectures, seminars, drills, etc.) for the Seamanship Training Team and Combat Systems Training Team.

16. Assist with the implementation of PMS to include:

a. Provide training to the ship's 3-M Coordinator concerning ship specific or unique PMS, Waterfront Maintenance Management System Net and SNAP.

b. Assist in Phase I and II PMS installation by local RMC.

17. Order forms and publications.

a. Order per the ship POAM and turn over to the crew upon delivery of the ship.

b. Include Initial Outfit List of publications and forms as well as Technical Manuals, SIBs, Naval Warfare Publications, Naval Telecommunication Procedures (NTP), charts, command-specific instructions and notices, etc.

18. Assist the ship in the load out of storerooms and operating spaces to include:
    a. Assist in developing load out plan.
    b. Assist in the coordination between ship, Supervising Authority, contractor and FOSSAC.
    c. Act as technical advisor to the Supply Officer in matters concerning load out.
    d. Provide training to Supply Department personnel in support of load out.
19. Maintain a reference library.
    a. A master reference library will be located in the FIT building and will include general and ship specific directives, forms, publications, instructions, notices, Technical Manuals, PQS, Naval Warfare Publications, NTPs, SIBs, charts, EOSS, PMS, message correspondence, etc.
    b. A satellite reference library will be located within the pre-commissioning building. This library will consist of immediate reference materials, Naval Ships' Technical Manuals, SIBs, Technical Manuals, instructions and notices.
    c. A basic set of unclassified reference material will be maintained at the PCU for the pre-commissioning crews. Classified reference material for the pre-commissioning crews will be maintained at the FIT facilities due to the lack of adequate security at the PCU.
    d. Liaison with the Supervising Authority to obtain technical documents such as contract specifications, drawings, test and inspection results, etc. when required.
    e. Provide access to various electronic bulletin boards throughout the Navy via computer-modem hookup.
20. Provide audio and visual support consisting of projectors (overhead, slide), screen, video cassette recorder (VHS, BETA), and marker boards.
21. Provide situational administrative support as required.
    a. Provide supplemental administrative support for events such as LOA, Crew Certification, Commissioning, etc.
    b. Support may include word processing as well as E-mail, laminating, fax and copier service.
22. Maintain communication guard for PCUs until delivery.
    a. Assist PCU Radiomen in processing (receiving and transmitting) standard naval messages up to and including Secret.
    b. Locate the GATEGUARD terminals in the classified material storeroom at the FIT.
23. Provide secure stowage for classified material.
    a. Store classified material for the FIT and PCU in General Services Administration approved safes located in the FIT's facilities.
    b. Restrict access to those personnel authorized by the OIC or PCO.

c. Maintain security through a combination of General Services Administration approved storage containers, controlled access (key and cipher locks) and intrusion detection systems.

24. Coordinate off-site training such as schools for pre-commissioning crew between the Ship, BUPERS and Navy Shipbuilding Program Manager.

APPENDIX R

SAMPLE NAVSEA MESSAGE TO TYCOM CONCERNING PCU FBW SCS MATERIAL CONDITION READINESS FOR ALPHA SEA TRIALS (SUBMARINES)

FROM: COMNAVSEASYSCOM WASHINGTON DC//
TO: COMSUB<LANT/PAC><NORFOLK VA/PEARL HARBOR HI>//
INFO CNO WASHINGTON DC
COM<LANT/PAC>FLT<NORFOLK VA/PEARL HARBOR HI>
<DIRSSP WASHINGTON DC FOR SSBN/SSGN>
COMSUBGRU <NO.>
COMSUBRON <NO.>
PRECOMUNIT <SHIP NAME>
<SUPERVISING AUTHORITY>
BT
UNCLAS // N09094 //
MSGID/GENADMIN/COMNAVSEASYSCOM//
SUBJ/(SUBS) PRECOMUNIT <SHIP NAME/HULL NO.> FLY-BY-WIRE SHIP CONTROL SYSTEM (FBW SCS) MATERIAL CONDITION READINESS FOR ALPHA SEA TRIALS.//
REF/A/DOC/NAVSEA T9044-AD-MAN-010//
REF/B/DOC/COMUSFLTFORCOMINST 4790.3 //
REF/C/MSG/<SUPERVISING AUTHORITY>/<DTG>// {G.2.1}
REF/D/LTR/SUB<LANT/PAC>/<SER NO./DATE>//
REF/E/LTR/NAVSEA/<SER NO./DATE>//
NARR/REF A IS THE REQUIREMENTS MANUAL FOR SUBMARINE FLY-BY-WIRE SHIP CONTROL SYSTEMS. REF B IS JOINT FLEET MAINTENANCE MANUAL. REF C IS <SUPERVISING AUTHORITY> MSG REPORTING FLY-BY-WIRE SHIP CONTROL SYSTEM MATERIAL CONDITION READINESS OF <SHIP NAME/HULL NO.> FOR FAST CRUISE AND ALPHA SEA TRIALS. REF D CONCURRED WITH THE SEA TRIALS AGENDA FOR <SHIP NAME/HULL NO.>. REF E APPROVED THE SEA TRIALS AGENDA FOR <SHIP NAME/HULL NO.>.//
RMKS/1. IAW REFS A AND B, AND AS REPORTED BY REF C, THE MATERIAL CONDITION OF <SHIP NAME/HULL NO.> FLY-BY-WIRE SHIP CONTROL SYSTEM IS CERTIFIED SATISFACTORY FOR USE DURING SEA TRIALS, UPON SATISFACTORY COMPLETION OF FAST CRUISE AND RESOLUTION OF MANDATORY DEFICIENCIES, IN ACCORDANCE WITH THE SEA TRIALS AGENDA CONCURRED IN BY REF D AND APPROVED BY REF E.
2. THERE ARE NO FLY-BY-WIRE SHIP CONTROL SYSTEM DEVIATIONS AND WAIVERS WITH CONDITIONS NOR FLY-BY-WIRE SHIP CONTROL SYSTEM or RELATED SHIP OPERATING RESTRICTIONS/LIMITS WHICH HAVE NOT BEEN SATISFIED. <or identify operating restrictions/limits and list conditional Deviations and Waivers including Deviation Number, Short Title, and Expected Clearance Date/Key Event(1)>.
3. THIS CERTIFICATION IS VALID THROUGHOUT TRIALS UNLESS A DEFICIENCY HAS BEEN DISCOVERED. SHIP SPEED IS RESTRICTED TO LESS THAN 20 KNOTS WHEN A FBW SCS FAULT CONDITION RESULTS IN A MAJOR NON-CONFORMANCE AFFECTING CONTROL OF SHIPS PITCH, HEADING, DEPTH OR CONTROL SURFACES. THESE DEFICIENCIES MUST BE REPORTED TO NAVSEA AND THE

APPROPRIATE FLEET AND TYPE COMMANDERS. PREVIOUS NAVSEA CERTIFICATION OF THE FBW SCS MATERIAL CONDITION SHALL BE SUSPENDED UNTIL NAVSEA REVIEWS THE REPORT AND CERTIFIES TO THE TYCOM THAT THE FBW SCS MATERIAL CONDITION IS SATISFACTORY FOR SEA TRIALS IN ACCORDANCE WITH THE SEA TRIAL AGENDA APPROVED BY REFERENCE E. THE SHIP'S SPEED IS RESTRICTED TO LESS THAN 20 KNOTS UNTIL SATISFACTORY RESOLUTION OF THE MAJOR NON-CONFORMANCE AND TYCOM APPROVAL TO OPERATE THE FBW SCS TO PREVIOUSLY AUTHORIZED CONDITIONS IS GRANTED, UNLESS SPECIFICALLY ADDRESSED IN THE SEA TRIAL AGENDA.
4. REQUEST NAVSEA PMS< > BE INFO ADDEE ON ALL SEA TRIAL SITREPS.
5. RECOMMENDATION TO AUTHORIZE DIVING WILL BE ADDRESSED BY SEPCOR.
(1) Subject to Navy Shipbuilding Program Manager approval, cumulative lists of conditional Deviations and Waivers which are deemed too lengthy for messages may be communicated in a letter format, with the letter referenced by the applicable message.
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX S

SAMPLE NAVSEA MESSAGE TO TYCOM CONCERNING PCU FBW SCS MATERIAL CONDITION INITIAL CERTIFICATION (SUBMARINES)

FROM: COMNAVSEASYSCOM WASHINGTON DC//
TO: COMSUB<LANT/PAC><NORFOLK VA/PEARL HARBOR HI>
INFO CNO WASHINGTON DC
COM<LANT/PAC>FLT<NORFOLK VA/PEARL HARBOR HI>
<DIRSSP WASHINGTON DC FOR SSBN/SSGN>
COMSUBGRU <NO.>
COMSUBRON <NO.>
PRECOMUNIT <SHIP NAME>
<SUPERVISING AUTHORITY>
BT
UNCLAS // N09094 //
MSGID/GENADMIN/COMNAVSEASYSCOM//
SUBJ/(SUBS) RECOMMENDATION FOR <SHIP NAME/HULL NO.> FLY-BY-WIRE SHIP CONTROL SYSTEM UNRESTRICTED USE IN SUPPORT OF SUBMARINE UNRESTRICTED OPERATIONS//
REF/A/DOC/NAVSEA T9044-AD-MAN-010//
REF/B/MSG/<SUPERVISING AUTHORITY>/<DTG>// {G.2.6}
REF/C/SSM VOLUME 7 SHIP CONTROL SYSTEM
NARR/REF A IS THE REQUIREMENTS MANUAL FOR SUBMARINE FLY-BY-WIRE SHIP CONTROL SYSTEMS. REF B IS <SUPERVISING AUTHORITY> REPORT OF <SHIP NAME/HULL NO.> FLY-BY-WIRE SHIP CONTROL SYSTEM MATERIAL CONDITION READINESS FOR UNRESTRICTED USE.
RMKS/1. IAW REF A, REF B REPORTED MATERIAL CONDITION READINESS OF <SHIP NAME/HULL NO.> FLY-BY-WIRE SHIP CONTROL SYSTEM IS SATISFACTORY AND NO OUTSTANDING LIMITING DISCREPANCIES EXIST.
2. REF B ALSO REPORTED SATISFACTORY COMPLETION OF ALL FLY-BY-WIRE SHIP CONTROL SYSTEM SEA TRIAL TEST REQUIREMENTS AND RESOLUTION OF MANDATORY SEA TRIAL DEFICIENCIES. <IF ANY DISCREPANCIES ARE DEFERRED SO STATE>.//
3. IAW REFS A AND C, NAVSEA CERTIFIES THAT THE MATERIAL CONDITION OF <SHIP NAME/HULL NO.> FLY-BY-WIRE SHIP CONTROL SYSTEM IS SATISFACTORY AND RECOMMENDS THE SHIP'S FLY-BY-WIRE SHIP CONTROL SYSTEM BE AUTHORIZED UNRESTRICTED USE IN SUPPORT OF SUBMARINE UNRESTRICTED OPERATIONS IN ACCORDANCE WITH SSMS./SUBJECT TO COMPLIANCE WITH REF A <WITH THE FOLLOWING RESTRICTIONS: list any ship or system operating restrictions/limits which may be applicable>.
4. RECOMMENDATION FOR SHIP'S UNRESTRICTED OPERATION TO TEST DEPTH WILL BE ADDRESSED BY SEPARATE CORRESPONDENCE.
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

APPENDIX T

SAMPLE NAVSEA MESSAGE TO TYCOM CONCERNING PCU RECOMMENDATION FOR FLY-BY-WIRE SHIP CONTROL SYSTEM CERTIFICATION

FROM: COMNAVSEASYSCOM WASHINGTON DC//
TO: COMSUB<LANT/PAC><NORFOLK VA/PEARL HARBOR HI>
INFO CNO WASHINGTON DC
COM<LANT/PAC>FLT<NORFOLK VA/PEARL HARBOR HI>
<DIRSSP WASHINGTON DC FOR SSBN/SSGN>
COMSUBGRU <NO.>
COMSUBRON <NO.>
PRECOMUNIT <SHIP NAME>
<SUPERVISING AUTHORITY>
BT
UNCLAS // N09094 //
MSGID/GENADMIN/COMNAVSEASYSCOM//
SUBJ/(SUBS) RECOMMENDATION FOR FLY-BE-WIRE SHIP CONTROL SYSTEM UNRESTRICTED USE IN SUPPORT OF UNRESTRICTED OPERATIONS FOR <SHIP NAME/HULL NO.>//
REF/A/DOC/NAVSEA T9044-AD-MAN-010//
REF/B/MSG/<SUPERVISING AUTHORITY>/<DTG>// {G.2.8}
REF/C/SSM VOLUME 7 SHIP CONTROL SYSTEM
NARR/REF A IS THE REQUIREMENTS MANUAL FOR SUBMARINE FLY-BY-WIRE SHIP CONTROL SYSTEMS. REF B IS <SUPERVISING AUTHORITY> REPORT OF <SHIP NAME/HULL NO> MATERIAL CONDITION READINESS FOR THE FLY-BY-WIRE SHIP CONTROL SYSTEM
RMKS/1. UPON COMPLETION OF HYDRODYNAMIC TRIALS <FOR FIRST SHIP OF CLASS>. IAW REF A, REF B REPORTED THE MATERIAL CONDITION READINESS OF <SHIP NAME/HULL NO.> FLY-BY-WIRE SHIP CONTROL SYSTEM IS SATISFACTORY AND NO OUTSTANDING LIMITING DISCREPANCIES EXIST.
IF THERE ARE SO STATE.
2. REF B ALSO REPORTED SATISFACTORY COMPLETION OF ALL FLY-BY-WIRE SHIP CONTROL SYSTEM SEA TRIAL TEST REQUIREMENTS AND RESOLUTION OF MANDATORY SEA TRIAL DEFICIENCIES.
<IF ANY DISCREPANCIES ARE DEFERRED SO STATE>
3. IAW REFS A AND C, NAVSEA CERTIFIES THAT THE MATERIAL CONDITION OF <SHIP NAME/HULL NO.> FLY-BY-WIRE SHIP CONTROL SYSTEM IS SATISFACTORY AND RECOMMENDS UNRESTRICTED USE OF THE SYSTEM IN SUPPORT OF THE SHIP'S UNRESTRICTED OPERATIONS IN ACCORDANCE WITH SSMS./SUBJECT TO COMPLIANCE WITH REF A <WITH THE FOLLOWING RESTRICTIONS: list any restrictions which may be applicable.>.
BT

NOTE: ENSURE MESSAGES ARE PER CURRENT MESSAGE FORMAT AND CURRENT PLAD IS UTILIZED.

VOLUME I

CHAPTER 3

PRE DELIVERY

REFERENCES.

(a) NAVSEA 0900-LP-095-4010 - Ship Test and Evaluation Planning Guide
(b) NAVSEA S9040-AA-GTP-010 - Shipboard Systems Certification Requirements For Surface Ship Industrial Periods (Non-Nuclear)
(c) OPNAVINST 9080.3 - Procedures for Tests and Trials of Navy Nuclear Powered Ships Under Construction, Modernization, Conversion, Refueling and Overhaul
(d) OPNAVINST 4700.8 - Trials, Acceptance, Commissioning, Fitting Out, Shakedown and Post Shakedown Availability of U.S. Naval Ships Undergoing Construction or Conversion
(e) COMSUBLANT/COMSUBPACINST 3540.10 - Periodic Monitoring of Submarines and Support Facilities
(f) COMNAVAIRLANT/COMNAVAIRPACINST 3500.20 - Aircraft Carrier Training and Readiness Manual
(g) COMNAVSURFLANT/COMNAVSURFPACINST 3502.2 - Surface Force Training Manual
(h) COMNAVSUBFORINST 5400.25 - Standard Submarine Supply Department Organization and Regulations Manual
(i) COMNAVSUBFORINST 5400.29 - Standard Submarine Navigation/Operations Department Organization and Regulations Manual
(j) COMNAVSUBFORINST 5400.40 - Standard Submarine Combat Systems Department Organization and Regulations Manual (SSN)
(k) COMNAVSUBFORINST 5400.41 - Standard Submarine SSBN 726 Class Weapons Department Organization and Regulations Manual
(l) COMNAVSUBFORINST 5400.47 - Standard Submarine Combat Systems Department Organization and Regulations Manual (SSGN)
(m) COMNAVAIRLANTINST 9080.2 - Conduct of Trials and Inspections Incident to Construction, Overhauls or Availabilities of Nuclear Powered Aircraft Carriers (CVN)
(n) OPNAVINST 3120.28 - Certification of the Aviation Capability of Naval Ships Operating Aircraft
(o) COMPACFLTINST 9830.1 - Certification of Aviation Facilities in Naval Ships Operating Aircraft
(p) COMLANTFLTINST 3500.18 - Certification and Readiness of Aviation Facilities in Naval Ships Operating Aircraft
(q) NAVAIRINST 3120.1 - Lead Systems Command Procedures and Responsibilities for Certification of Aviation Facilities and Equipment in Naval Ships Operating Aircraft
(r) COMNAVSURFPACINST 3501.4 - Aviation Readiness Evaluation (ARE) and Certification of Aviation Facilities Onboard COMNAVSURFPAC Ships
(s) NAVAIRINST 13800.11 - Procedures and Responsibilities for Certification and Verification of the Precision Approach and Landing System

(t) NAVSEAINST 4734.1 - NAVSEA Test, Measurement, and Diagnostic Equipment (TMDE) and Calibration Programs
(u) NAVAIRINST 13640.1 - NAVAL Aviation Metrology and Calibration (METCAL) Program
(v) NAVSEA ST700-AM-GYD-010 - Metrology and Calibration (METCAL) Laboratory Requirements and Certification Guide
(w) NAVAIR 17-35QAL-15 - NAVAL Aircraft Carrier and Amphibious Assault Ships Metrology and Calibration (METCAL) Program Manual
(x) OPNAVINST C5510.93 - Navy Implementation of National Policy on Control of Compromising Emanations
(y) MIL-STD-1680 - Installation Criteria for Shipboard Secure Electrical Information Processing Systems
(z) OPNAVINST 9640.1 - Shipboard Habitability Program
(aa) OPNAVINST 3120.32 - Standard Organization and Regulations of the U.S. Navy
(ab) OPNAVINST C8950.2 - Magnetic Silencing
(ac) NAVSEA S9086-QN-STM-010 - NSTM Chapter 475 (Magnetic Silencing)
(ad) COMNAVSURFORINST 3540.1 - Engineering Operations Assessment, Training and Certification for Conventionally Powered Surface Ships
(ae) COMNAVSURFORINST 3540.2 - Surface Force Engineering Readiness Process
(af) NAVSEA S9086-T4-STM-010 - NSTM Chapter 589 (Cranes)
(ag) NAVSEAINST 4790.8/OPNAVINST 4790.4 - Ship's Maintenance and Material Management (3-M) Manual
(ah) NAVSEA 0924-062-0010 - Submarine Safety (SUBSAFE) Requirements Manual
(ai) NAVSEA S9073-AW-SNC-010 - Ship Acoustical Surveys for Submarines
(aj) NAVSEA 0989-028-5000 - Manual for Control of Testing and Plant Conditions (Nuclear)
(ak) NAVSEA S9002-AK-CCM-010/6010 - Industrial Ship Safety Manual for Submarines

LISTING OF APPENDICES.

A Areas to be Evaluated During Arrival Assists
B Areas to be Evaluated During Monitoring Inspections
C Sample Pre-Reactor Safeguard Examination Notice
D In-Service Compartment Surveillance Guide (Aircraft Carriers and Submarines Only)
E Sample Pre-Commissioning Habitability Inspection Checklist for New Construction Ships

3.1 PURPOSE. This chapter addresses the major evolutions confronting the crew from initial man-up through Dock Trials, Fast Cruise and the commencement of Sea Trials.

3.2 SHIPBUILDER'S TEST PROGRAM. Throughout the building phase, the Shipbuilder is responsible for the testing and certification of installed equipment and systems. Reference (a) establishes the Test and Evaluation policy for all phases of a ship's life cycle. This guide contains information concerning the documentation and procedural requirements for a ship's Acquisition, Test and Evaluation Program. Reference (a), in conjunction with the Navy Shipbuilding Program Manager's prepared System Acquisition, Test and Evaluation Handbooks, provides familiarization and an understanding of the total Ship Test Program.

3.3 INSPECTIONS, CERTIFICATIONS AND ASSISTS. There are numerous inspections and certifications associated with new construction. Reference (b), which can be obtained from the Supervising Authority, identifies all the certification requirements which have been approved for accomplishment during surface ship industrial periods. The following paragraphs deal with generic inspections or platform unique certifications.

3.3.1 Arrival Assist.

a. Purpose. To determine that adequate plans have been developed and implemented to support the requirements of Ship's Force training, administration and testing during new construction and to evaluate the ship's ability to conduct various evolutions.

b. Conduct. The arrival assist visit may be conducted as a single visit or as a series of visits. Appendix A of this chapter provides sample areas to be reviewed during the arrival assist visit.

c. Scheduling. The arrival assist should be scheduled for accomplishment within a two-month period following the arrival of the first crew increment.

d. Reports. Formal reports are not required. However, the Immediate Superior in Command (ISIC) should inform the Type Commander (TYCOM) in the event that progress in preparations is evaluated as unsatisfactory.

3.3.2 Periodic Monitoring, Inspections and Visits.

a. Purpose.

(1) To provide ships in new construction with training and administrative assistance as required by references (c) and (d). The focus will be to improve Ship's Force involvement with the construction process, maintenance and training tasks. Visits of this nature are defined as Tech Assists.

(2) To evaluate the effectiveness of the ship's administration and training policies. Inspections of this nature are defined as "Work-ups" and normally require the addition of at least two officers to the inspection team.

(3) To conduct spot checks to monitor progress in specific material, administrative and training areas. Visits of this nature are defined as Monitoring Visits.

b. Conduct. The extent, type, and frequency of periodic monitoring inspections and visits should be determined by the ISIC. Submarine monitoring inspections may be combined with those required by reference (e). The initial inspection should be broad in scope in order to apprise the ISIC of the adequacy of the ship's performance and progress.

c. Scheduling. The initial inspection should be conducted within a 45-day time period after the arrival inspection. The initial visit will indicate the frequency and scope of subsequent Tech Assists and Monitoring Visits. Some inspections should be conducted on an unannounced basis. In general, any required Work-ups should be scheduled in advance of Key Events. All inspections should be scheduled to minimize interference with industrial activity and Ship's Force work.

d. Reports. Formal reports are not required. However, the ISIC should advise the TYCOM of situations where the completion of Key Events is in jeopardy due to a lack of progress in any of the subject areas identified in Appendix B of this chapter.

e. Inspection Areas. Initial inspections normally examine the effectiveness of Ship's Force follow-up actions as a result of the arrival assist. Subsequent inspections and visits should review the areas designated in Appendix B of this chapter as appropriate.

3.3.3 Pre-Reactor Safeguard Examination (Nuclear Powered Ships only).

a. Purpose. To evaluate the readiness of the Engineering or Reactor Department to undergo an RSE by representatives of Naval Sea Systems Command Nuclear Propulsion Directorate (NAVSEA 08). Appendix C of this chapter provides a sample Pre-RSE Notice which should be tailored to fit your specific platform.

b. Conduct. The Pre-RSE performed by the ISIC with TYCOM assistance is not intended to duplicate the inspections for which readiness is being evaluated. It is prudent, however, to use an inspection plan similar to that employed by NAVSEA 08. Normally the crew's readiness can be assessed within two days using such a plan. The Supervising Authority will arrange for minimum industrial activity work interference during this inspection.

c. Scheduling. The ISIC must conduct a Pre-RSE within six weeks of intended criticality. The Pre-RSE will be scheduled such that the qualification program and material condition of the ship are sufficiently complete to allow for a thorough inspection, but early enough to allow time for the correction of identified deficiencies prior to criticality. The TYCOM should be advised approximately two months prior to the tentative date and confirmed dates should be established approximately one month prior to the inspection.

d. Composition of the Inspection Team. The Pre-RSE Inspection Team should consist of:

(1) A nuclear trained member of the ISIC Staff, usually the Deputy Commander for Readiness or Training.

(2) A qualified nuclear engineer with experience in the billet.

(3) A nuclear trained officer from the TYCOM Staff. Arrangements for the participation of TYCOM Staff members should be initiated by the ISIC at least one month prior to the anticipated inspection date.

(4) The Prospective Commanding Officer (PCO) of the next local ship in a new construction status.

(5) The TYCOM industrial activity representative.

e. Reports. The Senior Inspector should provide the ship with an informal report of the findings with a copy to the ISIC and TYCOM.

f. Inspection Areas. The Pre-RSE should, as a minimum, encompass the following:

(1) An administrative review.

(2) Observation of basic drills and evolutions not requiring reactor operation or special conditions.

(3) Personnel interviews and written tests.

(4) Material inspection.

3.3.4 Crew Certification. Crew certification is required for new construction ships. Depending upon the platform and TYCOM policy, crew certification will be accomplished in two, three or four phases.

a. Purpose. Initial phases determine the state of readiness and training of Ship's Force, particularly in the areas of watchstander qualifications, damage control readiness, status of operational and emergency bills, onboard supply of essential technical manuals and general operational knowledge. Later phases are structured to certify that the state of crew training is satisfactory for at-sea operations.

b. Scope. Certifications for submarines and surface ships will be conducted using the guidance of the applicable TYCOM training manual, references (f), (g), and (h) through (l). Reference (m) provides additional direction for aircraft carriers.

3.3.5 Sonar Certification (Applicable Surface Force Ships and Submarines). Sonar certification for surface force ships is accomplished per reference (b). Submarine sonar certification is accomplished per references (h) through (l), during a designated Sea Trial just prior to the Combined Trial. Sonar certification is a prerequisite for Antisubmarine Warfare certification on surface ships and the Weapons and Tactical Readiness Evaluation on submarines.

3.3.6 Aviation Facility Certification (Air Capable Ships only). Reference (n) requires that all aviation facilities aboard naval ships which operate aircraft be formally inspected and certified adequate and safe for flight operations. It further directs, as implemented by references (o) and (p), that Commander, Pacific Fleet (COMPACFLT) and Commander, United States Fleet Forces (USFF) will establish responsibilities and procedures for mandatory certification of all ships with aviation facilities. Reference (n) also directs the Chief of Naval Operations (CNO) to establish responsibilities and procedures for mandatory certification of all ships' aviation facilities, provide for certification inspection teams and issue approved standards for certification. Naval Air Systems Command (NAVAIR) has overall responsibility for certification of aviation facilities and equipment in Naval ships. Aviation facility and equipment certification is a procedure which verifies and documents that the aviation facilities and equipment aboard ships are properly installed, operational, and adequate for the safe conduct of aircraft operations. Details for certifications can be found in reference (q), and in TYCOM specific instructions such as reference (r).

a. Management Structure.

(1) The Navy Shipbuilding Program Manager is responsible for budgeting for the certification of ships involved in construction and modernization programs.

(2) Naval Air Warfare Center (NAVAIRWARCEN) administers the aviation facilities and equipment certification programs and will establish test programs and procedures for each aviation facility and equipment component.

b. Certification Procedures.

(1) Requests. Submit requests for certification directly to NAVAIRWARCEN. The ship's TYCOM will be advised of all requests for equipment and facility certification. Individual ships desiring certification inspections should submit requests via their TYCOM to ensure optimum scheduling of the certification team. Automatic Carrier Landing System certification requests will be submitted per reference (s).

(2) Inspection and Testing. The ship's aviation facilities and equipment will be inspected and tested by a team coordinated by a NAVAIRWARCEN representative. Upon completion, the NAVAIRWARCEN team coordinator will, (via message to NAWC, the TYCOM, and other appropriate commands) make a recommendation to either grant, rescind, or withhold certification. This recommendation is to be predicated upon all aviation facility systems or equipment being properly installed, configured, operational, and maintained as prescribed by applicable technical manuals or directives. The message will also specify the ship's current certification status, including deficiencies that preclude full certification for the operational capabilities specified by the CNO.

(3) Certification. NAVAIR or NAVAIRWARCEN grants or rescinds certification via message after review of the recommendation from the NAVAIRWARCEN team coordinator and any other information that may be available. The certification message will be addressed to the TYCOM and other appropriate commands. It will specify the ship's present aviation status, including any corrections that must be accomplished to achieve full certification for the operational capabilities specified by the CNO. Certifications granted will remain in effect until such time that major equipment modifications or alterations are accomplished or until the next overhaul (not to exceed two years on Air Capable Ships and Amphibious Assault Ships unless rescinded by NAVAIR or NAVAIRWARCEN.

c. Technical Publications. A listing of technical publications required for Air Certification can be obtained from the TYCOM. References (b) and (q) list specific certifications required for aviation platforms.

3.3.7 Salvage Inspection (Submarines only).

a. Purpose. To determine the readiness of submarine rescue and salvage equipment.

b. Conduct. Submarine Salvage Inspections will be conducted following the direction of Volume IV, Chapter 18 of this manual.

3.3.8 NAVSEA Calibration Activity or Aircraft Intermediate Maintenance Department Calibration Laboratory Initial Certification (Submarines, Aircraft Carriers and Surfaces Forces, as appropriate).

a. Purpose. To verify the NAVSEA or NAVAIR Designated Command has in place the necessary documentation, facilities, equipment and trained personnel to support calibrations of Test, Measurement and Diagnostic Equipment (TMDE) as specified in references (t), (u) and (v).

b. Conduct. Initial certification is conducted by the NAVSEA or NAVAIR Metrology and Calibration (METCAL) Technical Representatives per the requirements of references (v) and (w). NAVSEA METCAL Technical Representatives are the NAVSEA METCAL Quality Manager and NAVSEA METCAL Engineering Agent.

c. Scheduling. Initial certification should be accomplished after approval of Establishment of Field Calibration Activity Request and prior to or concurrent with delivery. Coordination between the TYCOM METCAL Point of Contact, METCAL Technical Representative, the Navy Shipbuilding's Program Manager and Ship's Calibration Coordinator is required to insure all participants can support the certification date and that all required TMDE is available.

d. Reports. Reports will be per the requirements of reference (v) and submitted by letter to the applicable TYCOM and Commanding Officer (CO).

e. Additional information concerning calibration can be found in Volume VI, Chapter 9 of this manual.

3.3.9 National Policy on the Control of Compromising Emanations Inspection.

a. Reference (x) published the Navy's implementation of the National Policy on the Control of Compromising Emanations (TEMPEST). Reference (y) provides installation criteria for shipboard secure electrical information processing systems.

b. All ships are considered to be operating under an "acceptable risk" category until such time as they have been certified to meet National Policy. Two types of inspections are conducted to certify ships:

(1) Instrumented TEMPEST Survey. The Instrumented TEMPEST Survey is a comprehensive inspection which will only be done on selected ships to certify the ship class.

(2) Visual TEMPEST Inspection (VTI). The VTI is a less comprehensive inspection to certify compliance with class and CNO standards. VTIs can be conducted by Regional Maintenance Centers (RMC), industrial activities and Navy Command, Control, and Ocean Surveillance Center Naval In-service Engineering.

c. A VTI will be accomplished on all new construction ships. This inspection will be scheduled upon the completion of the installation of all Radio Room or secure electrical information processing equipment. In addition, a TEMPEST file needs to be established to include all actions pertaining to installations, modifications or alterations to secure electrical information processing equipment or centers. The specific information to be retained is identified in reference (x).

3.3.10 Diesel Inspection.

a. Purpose. To validate and certify engine alignment, foundation integrity, engine frame integrity, shimming and stressing requirements, hold down bolts, blower operation and engine performance.

b. Conduct. Diesel inspections will be conducted per Volume IV, Chapter 4 of this manual.

3.3.11 Habitability Inspection. Navy ships are built to meet habitability standards for berthing areas, messing areas, water closets, laundry and barber facilities as set forth in reference (z). Prior to certifying readiness for In-Service, the ISIC will conduct a Habitability Inspection to determine that the ship is materially ready for the crew to move aboard. The results of the Habitability Inspection will be reported to the TYCOM by message (see Volume I, Chapter 2, Appendix A_4 of this manual for sample message).

a. The Habitability Inspection for submarines is conducted two to four weeks prior to certifying the ship's readiness for In-Service, two to four months prior to this certification for aircraft carriers and just prior to delivery and crew move aboard for all others.

b. Compartment Surveillance Guide. Appendix D of this chapter has been included to serve as a guide when preparing for the Habitability Inspection and In-Service. Appendix E of this chapter is a sample checklist which can be tailored to any platform.

3.3.12 Requirements for In-Service. Assigned Ship's Force constitutes the only group of personnel authorized to operate naval nuclear powered ships during dockside testing and Sea Trials. Because of this requirement, references (c) and (d) specify that nuclear powered ships in construction are assigned an active status of In-Service prior to commencement of the first Sea Trial (two to four weeks for submarines, two to four months for aircraft carriers) and retains that status until delivery of the ship. To support this event, the contractor is required to make the ship available to the Navy for a period of two days for a Habitability Inspection two to four weeks prior to In-Service. At In-Service, the responsibility for, and custody of, fissionable materials is transferred from the Supervising Authority to the Officer in Charge (OIC) of the ship. The PCO becomes the OIC of the ship and continues in this capacity until Commissioning at which time the OIC becomes the CO.

a. Responsibilities for Safety of the Ship. Placing the ship In-Service has an impact upon the established responsibilities for safety of the ship.

(1) Prior to In-Service, or Delivery for Surface Ships, the industrial activity's responsibilities for the safety of the ship are all inclusive. The Supervising Authority is responsible for monitoring the industrial activity's safety and fire protection program.

(2) At In-Service the PCO assumes the duties of OIC and the responsibility for the safety of the ship. Reference (aa) states that the OIC of a ship In-Service has the same responsibilities for the safety of the ship as a CO of a commissioned ship.

b. Division of Responsibility. In order to establish clear lines of responsibility at In-Service and to eliminate unnecessary duplication of effort, the following will apply:

(1) Ship's Force. At In-Service, Ship's Force must have operational control of all ship's systems required to maintain ship safety (i.e., ventilation, firefighting and flood control) in the ship and will stand all shipboard watches, making all security patrols of the ship, the moorings, and the immediate adjacent pier.

(2) Industrial Activity. The industrial activity continues to perform all contract requirements until delivery. The industrial activity will support Ship's Force in the performance of those requirements assumed by Ship's Force as required.

(3) Supervising Authority. During preparations for In-Service, conduct liaison between Ship's Force and the industrial activity to ensure the above division of responsibility is understood and agreed to. Verify that a schedule of compartment or space and system turnover is prepared, mutually agreed to, and that a means to identify deficiencies in systems and spaces turned over to Ship's Force is executed.

3.3.13 Degaussing or Deperming. Reference (ab) establishes the provision for checking, operating and maintaining degaussing systems. Reference (ac) contains basic principles and background information concerning degaussing.

a. Deperming, a method of neutralizing the magnetic field of a ship's hull to minimize permanent magnetism, is required for all new construction ships.

b. A listing of degaussing or deperming facilities currently available is contained in the Degaussing Folder (NAVSEA Form 8950/1) which is issued to individual ships.

c. Degaussing or deperming requirements must be accomplished per Volume VI, Chapter 12 of this manual.

3.3.14 Light-Off Assessment (Surface Force Ships only).

a. Light-Off Assessments (LOA) for boilers, Main Propulsion diesel and gas turbine ships will be conducted before propulsion plant operations at an appropriate time before completion of the fitting out availability. The ISIC, with the assistance of Afloat Training Group Atlantic or Pacific, will determine if ship's training procedures and status support safe plant operations, if management programs are effective, if the propulsion plant is ready for light-off and Ship's Force ability to combat a main space fire.

b. References (ad) and (ae) address propulsion plant LOAs administered by the ISIC, with the assistance of Afloat Training Group Atlantic or Pacific, and recommend that Ship's Force is to have a minimum of two weeks after completion of industrial activity work in the engineering spaces prior to the LOA. Experience has shown this two-week period is crucial, not only to successful completion of the LOA but to the operation of the ship subsequent to construction. If it appears the two-week interval is in jeopardy, the ship's OIC should discuss ways to speed up the industrial activity work with the Ship Superintendent or this subject should be addressed at Supervising Authority progress conferences.

c. Completion of industrial activity work should be interpreted as meaning that all known work and testing authorized for accomplishment by other than Ship's Force, and which is necessary to support LOA, is complete, including the removal of associated staging and equipment, reinstallation of access doors and hatches, cleanup and painting. Fuel and lube oil, and feedwater should be on board. Partial or temporary installations do not meet completion criteria except as necessary to support the LOA itself or, in the case of lagging pads, as necessary to allow readjustment upon

light-off to hot settings of regulators, reducers, and relief valves. The systems and spaces involved in LOA vary from ship to ship, but normally include all systems and spaces needed to support the plant(s) being inspected. This would include main and auxiliary machinery spaces, switchboards, diesels, shaft alleys, uptakes, repair lockers, oil laboratories and calibration laboratories for Automatic Boiler Control systems, etc. Confirm spaces subject to inspection with the Afloat Training Group.

d. Emergent work items or additional discrepancies requiring industrial activity work that become apparent during the pre-LOA period need to be accommodated. Normally these requirements can be worked during night shifts or inclusive weekends. However, any industrial activity work during this period will be permitted only with the consent of the Supervising Authority and the OIC.

e. This Key Event is largely an exercise in attention to detail and coordination at and between all three levels of maintenance activity (Ship's Force, the Shipbuilder and the Supervising Authority). LOA preparations should begin months before the availability.

f. First-hand inspections of main and auxiliary machinery spaces are most effective when industrial activity personnel are not on board (weekends and holidays). During these periods, joint inspections by the Engineer Officer with Leading Petty Officers are recommended for every main space. Similar inspections of the auxiliary spaces should be conducted by either the CO or the Executive Officer, along with the Leading Petty Officers of those spaces. Discrepancy lists convert readily to work lists. Night repair teams (primarily composed of duty section personnel) can work discrepancies when industrial activity workers are not in the way.

g. The Plan of Action and Milestones for a successful LOA must be written in detail, at the minor equipment or minor task level, and the more detailed, the better. It is a dynamic document and requires updating and revision daily as the LOA date approaches.

3.3.15 Shipboard Crane Certification Program (Surface Force Ships and Aircraft Carriers as appropriate). The Shipboard Crane Certification Program established by reference (af) is intended to improve the reliability and safety of all shipboard cranes and is applicable to all cranes mounted on board and cranes assigned to forces afloat (exceptions are listed in reference (af)). Initial crane certification should be accomplished per reference (af).

3.3.16 Marine Gas Turbine Inspection.

a. Purpose. To validate and certify engine alignment, foundation integrity, engine frame integrity, engine resilient mounts, fluid system cleanliness, intake and uptake cleanliness, compressor and turbine blade integrity, fluids leakage, controls and instrumentation functionality and engine starting and performance.

b. Conduct. Marine Gas Turbine inspections must be conducted per Volume IV, Chapter 23 of this manual.

3.4 MAINTENANCE AND MATERIAL MANAGEMENT PROGRAM.

3.4.1 Planned Maintenance System.

a. The installation of the Planned Maintenance System (PMS) on new construction ships should be scheduled to provide maintenance documentation to support the Operational Control Transfer (OCT) of systems and equipment from the shipbuilder to Ship's Force. This early load out of PMS allows Ship's Force personnel to become familiar with the maintenance procedures and facilitates the identification of problems with the Maintenance Requirement Cards (MRC) prior to the ship being placed in operation. Local RMC coordinates the scheduling of PMS installations with the ship's Maintenance and Material Management (3-M) Coordinator. In addition, Naval Sea Logistics Center (NAVSEALOGCEN) is responsible for:

(1) Generating a preliminary List of Effective Pages (LOEP) for Phase I validation.

(2) Conducting Phase I of the PMS installation.

(3) Generating a final LOEP based on Phase I and 3-M Coordinator Feedback.

(4) Notifying local RMC of the required PMS documentation (LOEP requirements) and the date the documentation is required to support Phase II PMS installation.

(5) Compile Phase II PMS package and forward to ship.

(6) Conduct Phase II PMS installation.

(7) Effect additional LOEP corrections as a result of Phase II.

(8) Outbrief with ship's PCO or OIC concerning status of ship's 3-M program.

b. PMS installation for nuclear powered ships will be conducted approximately six months prior to initial reactor plant criticality. The installation for Surface Force Ships will be conducted at least three months prior to delivery. Installation of PMS is accomplished in two phases.

(1) Phase I. Phase I results in the establishment of a ship's LOEP. Local RMC, utilizing either the LOEP from the previous ship of the class or configuration information provided by Submarine Maintenance Engineering, Planning and Procurement (SUBMEPP) Activity (Submarines only), Supervisor of Shipbuilding Newport News PMS 312C, (Aircraft Carriers) or applicable TYCOM (Surface Force Ships), generates a preliminary LOEP for Ship's Force review. This preliminary LOEP and copies of the listed Maintenance Index Pages (MIP) are delivered to the new construction unit for a review by the ship's 3-M Coordinator, Work Center Supervisors and maintenance personnel. Ship's Force personnel review the documentation, verify MIP to Work Center assignments and approve the preliminary LOEP. Phase I occurs approximately two months prior to Phase II.

(2) Phase II. Phase II is the actual load out of PMS documentation, final verification of the LOEP, generation of preliminary schedules for local RMC review and a Ship's Force validation of provided documentation. Depending upon the ship class, quantity of documentation, and Ship's Force preparation, Phase II can last from two to four days. Additionally, maintenance support

organizations such as Naval Surface Warfare Center, Philadelphia Division (NSWCPD), SUBMEPP or Submarine Monitoring, Maintenance and Support Program Office may be participants.

c. The preparation of preliminary Cycle, Quarterly, or Weekly schedules to support PMS load out prior to the preparation of First Quarter after Overhaul schedules is recommended. As a minimum, the development of a cycle schedule for each work center should be accomplished prior to Phase II PMS installation. As systems or equipment is turned over, Ship's Force maintenance should be scheduled to support. This preliminary quarterly schedule (schedule "A") is utilized to track maintenance prior to the official First Quarter after Overhaul start date. Additional preliminary quarterly schedules identified as "B", "C", etc. may be developed as required.

d. The "official" PMS start date depends upon several factors: OCT of equipment, available manpower, availability of supporting documentation and the availability of tools, parts, test equipment, and material. The start date is also an arbitrary date arrived at by the ship's 3-M Manager and 3-M Coordinator. A start date should be selected that causes as little disruption and preparation of schedules as possible. Utilization of preliminary schedules as discussed in paragraph 3.4.1.c of this chapter will allow for the flexibility to start PMS "officially" at the beginning of a quarter. However, should this approach not support your situation, the starting of PMS should be indicated on your quarterly schedule with a yellow vertical line, top to bottom, indicating your start date.

e. Inactive Equipment Maintenance (IEM).

(1) IEM, per the direction of reference (ag), may be implemented anytime that an equipment will be out of service for thirty days or longer. The implementation of IEM may be appropriate for those systems or equipment which was transferred to ship's custody early in the construction cycle. Ship's Force should follow the guidance of reference (ag) when implementing.

(2) In deciding whether to place equipment in layup, consideration should be given to the training opportunity lost. As long as equipment is in an active status, Ship's Force will be performing PMS. By virtue of accomplishing those maintenance tasks, they will become more familiar with the equipment, its operation and the maintenance procedures. Maintaining equipment in an active status also allows for the identification of procedural problems within the MRCs.

3.4.2 Technical Feedback Reports. Ship's Force should start using Technical Feedback Reports (TFBR) to report problems with PMS as soon as the PMS package is installed. TFBRs should be submitted per the requirements of reference (ag). The TFBR tracking log should be established, even if PMS has not officially started. TFBRs are processed through the ISIC for further processing to RMC. If an ISIC is not available, TFBRs are to be processed through the TYCOM or directly to RMC. New construction ships will provide their TFBRs to the local RMC. The current contact information for the RMCs is listed in Volume VI, Chapter 2, Appendix A of this manual.

3.4.3 Establishment of Current Ship's Maintenance Project. The ship's Current Ship's Maintenance Project (CSMP) will be initialized at delivery. That does not mean however, that significant maintenance related events do not happen during the construction period. In fact, every industrial activity has their own deficiency tracking programs, all of which contain a certain degree of data that should be retained in the ship's CSMP. The problem is that this data resides on industrial activity computers which for the most part do not "talk" to Navy computers. When the ship leaves the industrial activity, it generally leaves without this data. Ship's Force will load into the CSMP any deficiencies not adjudicated at delivery and any historical construction related maintenance data deemed worthy of future retrieval.

3.4.4 Naval Tactical Command Support System. Space & Naval Warfare Systems Center Atlantic (SSC Atlantic) and Space & Naval Warfare Systems Center Pacific (SSC Pacific) are responsible for the software installation, installation training, hardware support and software support. Ship's Force should initiate liaison with the appropriate SSC Atlantic and Pacific team to facilitate installation or installation training. All support requests are initiated via the Navy 311 Help Desk. Additional details describing the SSC Atlantic and Pacific support functions are addressed in Chapter 2, paragraph 2.10.5 of this volume.

3.5 EQUIPMENT LOAD OUT.

3.5.1 Test Equipment. The General Purpose Electronic Test Equipment (GPETE) load out involves personnel from the ship, the Supervising Authority, NAVAIRWARCEN, China Lake, CA. The actual load out will vary dependent upon the platform. Generally, the equipment arrives during the construction phase and is stored by the shipbuilder until load out. Ship's Force, if not requested to do so by the Supervising Authority, should inventory and identify shortages while the GPETE is in storage. Coordinate with TYCOM METCAL Point of Contact to assist in resolving TMDE deficiencies.

3.5.2 Hand Tools and Weight Handling Equipment. Hand tools and weight handling equipment will also be arriving. Inventory of this equipment against Allowance Equipage Lists (AEL) or Allowance Parts Lists (APL) or class specific load lists at the earliest opportunity ensures the required support material is available when maintenance of equipment begins. Weight handling equipment requires certification prior to use and while it may be months before this equipment is required, a recall schedule should be developed to get the equipment certified.

3.6 LOGISTIC SUPPORT.

3.6.1 Technical Manuals and Drawings. Technical manuals and drawings are provided by the Supervising Authority and the Navy. The shipbuilder develops and provides manuals and drawings for all Contractor Furnished Equipment (CFE), including equipment furnished by subcontractors. In the case of Government Furnished Equipment (GFE), the shipbuilder will identify the required manuals to the Navy Publication and Printing Service Manuals Office, Washington, D.C., via the Supervising Authority and the Navy Shipbuilding Program Manager. Navy Publication and Printing Service Manuals Office will deliver the manuals to the shipbuilder. For the first ship of a class, equipment manuals for new design GFE may not be immediately available from the Navy Publication and Printing Service Manuals Office. These manuals will be shipped with the equipment by the vendor. The shipbuilder will provide stowage and custody of this documentation until actual shipboard load out. To ensure all required technical manuals and drawings are received, initial documentation validation should be accomplished on a random sampling basis with emphasis placed on low visibility items such as

power supplies and electronic subsystem manuals. Final validation will occur during load out. Each Navy Shipbuilding Program Manager has assigned an activity with the responsibility for loading out of Technical Manuals and Drawings. Contact the Supervising Authority or the Navy Distance Support Anchor Desk to determine the Navy Shipbuilding Program Manager. The Anchor Desk can be reached at 1-877-418-6824 or by e-mail (help@anchordesk.navy.mil).

a. Ship Systems Manual (SSM) or Ship Information Book (SIB). The SSM or SIB (SSM for submarines and SIB for surface force ships and aircraft carriers) are the primary descriptive and operating manuals for non-propulsion plant ship systems. They are designed as a class manual and are the basic source of information for locating, describing and operating the following non-propulsion plant systems:

(1) Mechanical.

(2) Piping.

(3) Electrical.

(4) Electronic.

(These manuals do not provide detailed maintenance information but do reference sources of information on maintaining, testing, troubleshooting, installing and removing these systems and equipment. SSMs and SIBs must be turned over to the ship prior to or at OCT or custody transfer of the system or equipment.)

b. Engineering Drawings. All engineering drawings belong to one of two groups: ship construction drawings or equipment drawings. Each group is made up of several types of drawings.

(1) Ship Construction Drawings. These drawings are developed for building the ship and to reflect installed systems. These drawings are each assigned a seven-digit NAVSEA number and depending upon the platform a three-digit Component Identification Number, Ship Work Breakdown Structure or Expanded Ship Work Breakdown Structure may appear on the drawing. The NAVSEA number identities the drawing and the Component Identification Number, Ship Work Breakdown Structure or Expanded Ship Work Breakdown Structure assigns the drawing to a group of related drawings. Ship construction drawings are usually “class drawings” however, ships of a class, built at different times, may vary from the original design as improvements are made. This necessitates the development of hull unique construction drawings which have been verified by the shipbuilder and Supervising Authority to reflect an individual ship’s configuration. Systems requiring these Selected Record Drawings (SRD) are identified in the ship’s building specifications.

(2) Equipment Drawings. Equipment drawings describe equipment shown on ship construction drawings. They are prepared by industrial activities or equipment manufacturers and may be called vendor drawings. Equipment drawings are rarely assigned NAVSEA or any other government controlled number. These drawings are identified by a Commercial and Government Entity code with a manufacturer’s drawing number.

c. Drawing Types. Engineering practices have developed common titles that are used on most drawings. By understanding the kind of technical information associated with each title, the drawing needed for a given job can be determined. The following is a list of common drawing types (they may be either equipment or ship construction drawing group types).

(1) System diagrams - A system diagram shows how a system is designed and describes the relationship among system components. System diagrams do not include physical or dimensional data, but normally refer to other drawings and documents that contain detailed information.

(2) Arrangement drawings - Arrangement drawings show locations, dimensions, and other system component information necessary to make correct installation on the ship.

(3) Assembly and subassembly drawings - Assembly and subassembly drawings show how individual parts fit together to form a larger component or equipment.

(4) Installation drawings - Installation drawings show piping, foundations, ventilation ducting, and other installation details. Installation drawings are used to install systems and equipment in the ship.

(5) Outline drawings - Outline drawings show the outward appearance of major system components and contain dimensions and service requirements necessary to install the component.

(6) Detail drawings - Detail drawings show dimensions and other manufacturing data for individual parts of components.

(7) Electrical drawings - Electrical drawings have a family of titles similar to those of other engineering drawings. Proceeding from the general to the detailed the following are the common electrical drawing types:

(a) Electrical system wiring diagrams - Electrical system wiring diagrams show how the overall system is intended to function.

(b) Cabling drawings - Cabling drawings describe cable runs in greater detail (similar to piping system diagrams).

(c) Wireway drawings - Wireway drawings show how cables are routed from one point to another in the ship (similar to system arrangement drawings).

(d) Schematic wiring diagrams - Schematic wiring diagrams describe individual wires inside the cables and how they connect to components.

(e) Wiring tables - Wiring tables provide detailed point-to-point data for connecting ship’s wiring between components.

d. Technical Variance Documentation (TVD). Drawings may be amended with supplementary information called TVD. A set of TVD is a collection of documents describing how the as-built configuration of a ship differs from the class drawing design. TVD is not intended to be a revision to a drawing. Liaison Problem and

Solution Sheets, Engineering Notices, Waivers and Deviations are some of the documents that make up TVD.

e. Format of Onboard Drawings. Very few drawings are provided to ships and shore facilities in hard copy form. Most are on microfilm aperture cards or microfiche, collectively known as microform. For selected platforms, Compact Disc Read Only Memory (CD-ROM) is being utilized. However, some of the more important SRDs are provided in hard copy as well as in other mediums.

f. Ship Drawing Index (SDI). The SDI lists all drawings for a class of ship. Using the SDI is the only way to determine a drawing's applicability. In addition to drawing applicability, it provides drawing revision applicability and TVD applicability. The SDI will also identify whether a drawing contains Submarine Safety (SUBSAFE) information, Noise Control information or is an SRD.

3.6.2 Unrestricted Operations Maintenance Requirement Cards (Submarines only).

a. Reference (ah) establishes the maintenance requirements and identifies the responsibilities and actions required to support continued unrestricted submarine operations to design test depth. This program is invoked on all SUBSAFE certified submarines. To support this program, the Navy Shipbuilding Program Manager issues individual manuals containing required, periodic SUBSAFE maintenance actions for each class and in some instances particular ships.

b. Load out of Unrestricted Operations (URO) MRCs will be accomplished at delivery. The ISIC Quality Assurance Officer will provide to the ship's Quality Assurance Officer the ship's copy of the "URO CD-ROM". SUBMEPP manages the URO program for Navy Shipbuilding Program Managers.

c. Additional information concerning the URO program can be found in Volume VI, Chapter 25 of this manual.

3.7 OPERATIONAL CONTROL TRANSFER. Operational Control Transfer (OCT), depending on the platform, will happen in one of several ways. The entire ship is turned over at one specific time (ship custody transfer), compartments or spaces are turned over as completed, or systems are turned over as completed without regard to space completion.

a. The shipbuilder will:

(1) Ensure all testing is complete to the most practical extent possible.

(2) Provide Ship's Force and the Supervising Authority with a turnover schedule.

(3) Conduct a review of all existing work and deficiencies with Ship's Force and the Supervising Authority and determine those items that must be cleared or resolved to support a safe and operational system turnover.

(4) Verify system, space or ship ready for turnover.

(5) Conduct walk-through with Ship's Force.

(6) Execute turnover.

b. Ship's Force should be prepared to:

(1) Provide system experts for walk-throughs.

(2) Address concerns regarding turnover to the Supervising Authority's Ship Manager.

(3) Ensure all work and deficiencies are cleared or resolved to ship's satisfaction prior to acceptance.

(4) Assume maintenance responsibility upon receipt. (PMS installation should be scheduled to support OCT).

NOTE: IN SOME INSTANCES, SYSTEMS MAY BE TURNED OVER THAT REQUIRE TEMPORARY SUPPORT SYSTEMS. THE INDUSTRIAL ACTIVITY WILL PROVIDE OPERATING INSTRUCTIONS, DRAWINGS (AS NECESSARY) AND OPERATING INDOCTRINATION TO SHIP'S FORCE. FOLLOWING THE REMOVAL OF TEMPORARY SUPPORT SYSTEMS, SHIP'S FORCE AND THE SHIPBUILDER SHOULD BE PREPARED TO CONDUCT ADDITIONAL WALK-THROUGHS.

3.8 SOUND SILENCING PROGRAMS UNIQUE TO NEW CONSTRUCTION (MHC and SSN only).

a. Isolation System Survey. During the construction process, the shipbuilder, through Noise Reduction Program requirements, periodically inspects the ship to identify incorrect installation and poor construction techniques relating to the silencing nature of the ship. It is imperative that no sound shorts exist between sound isolated systems or components and the hull structure. Ship's Force can play a major role in the inspection process by identifying deficiencies. This survey is the basis for acoustic measurements to be completed in subsequent surveys. Additional information concerning submarine noise reduction surveys is addressed in Volume VI, Chapter 23 of this manual.

b. (Submarines only) Topside and Housekeeping Survey. During the construction process, this survey is completed to accomplish two aspects of silencing. First, the topside inspection checks the outside of the pressure hull, especially flow exposed areas, to ensure that tones or rattles are not caused by loose gear, fairing plates, and other discontinuities. Secondly, the housekeeping inspection checks the inside of the pressure hull to ensure sound shorts do not occur as a result of installation of lockers and locker doors, stowage, clogged ventilation ducts or filters, etc. This survey usually identifies problems associated with items not covered by ship design, but those items typically handled by the ship.

c. Structure borne and Overside Surveys. Upon installation of Noise Critical components and their associated operating systems, structure borne noise surveys are accomplished to check the acoustic nature of the installation. Proper installation of isolation features and proper maintenance of the component during any layup is crucial to the success of this survey. Ship's Force must continually be aware of the installation practices of the shipbuilder and thoroughly inspect the installation for sound shorts and proper alignment prior to system or component turnover. The Overside Survey is accomplished outside the hull (pressure hull for submarines) as an indication of radiated noise. Proper operation of systems and components during this

process is crucial to satisfactory acoustic levels. Reference (ai) provides additional information concerning acoustic surveys for submarines.

APPENDIX A

AREAS TO BE EVALUATED DURING ARRIVAL ASSISTS

1. As a minimum, the following areas should be evaluated. Duplicate inspection of areas covered by other inspections need not be made.

1.1 Training program which should include instructions in the following:

a. Industrial activity organization, including management and working levels.

b. Industrial activity procedures and practices, including:

(1) OCT.

(2) Tag-Out.

(3) Ripout.

(4) Industrial Activity Deficiency Correction.

(5) General Testing Requirements. Personnel should be familiar with references (aj) and (ak).

(6) The industrial activity system for accomplishing planned maintenance on equipment under their cognizance.

c. General schedule of Key Events and phases of work and testing.

d. Safety requirements including Ship's Force and industrial activity responsibilities for:

(1) Dry Dock Safety.

(2) Fire Watches.

(3) Watertight Integrity.

(4) Reactor Plant Safety.

1.2 Status of administrative preparations, including:

a. Ship and department organization manuals and directives to ensure administration is following current requirements.

b. Ship and departmental training plans for implementation during construction.

c. Procedures for qualifying underway or steaming watchstanders and maintaining proficiency for inport watchstanders, including:

(1) Formal provisional qualification procedures.

(2) Qualification goals for Key Events, such as undocking or launching, operational testing of ship and propulsion plant systems, steam testing, initial criticality, etc. The goals for Fast Cruise should include a three-section watch capability for the entire crew.

d. Procedures for maintenance and security of Ship's Force barge or office spaces.

e. General plan for Ship's Force responsible actions including provisions for:

(1) Barge, berthing and messing facilities.

(2) Routine ship and barge watch bill.

(3) Scheduling of required shore based schools and leave for personnel.

(4) Ship's Force planned maintenance routines.

(5) Provisions for shift work during known periods of intensive testing (e.g., Hot Ops, Power Range Testing).

(6) Target dates for completion of key ship and department directives and procedures.

1.3 Evaluate the capability of the crew to perform industrial activity type evolutions including:

a. Ability to review industrial activity Work Authorization Forms, major system tag-outs, and test procedures.

b. Inport and dry dock watchstanding procedures including special inspection requirements for systems in abnormal lineups or partially removed.

c. Ability to inspect and monitor ship conditions in relation to the special requirements for watertight integrity. This evaluation should include observation of a trim or draft change calculation by the Ship's Safety Council representative.

1.4 Ensure that Ship's Force has a satisfactory understanding of the following:

a. Relationship with the industrial activity and Supervising Authority including ship's responsibility regarding weekly management meetings.

b. Relationships with the ISIC and the TYCOM Type Desk, including the ship's responsibility for reporting problem areas.

c. Relationship with the local Naval Reactors Representative.

d. Functions and responsibilities of the Joint Test Groups (Nuclear, Hull, Propulsion and Auxiliaries and Weapons) and the Ship's Safety Council.

e. Control mechanisms for work or tests affecting ship's condition.

f. Relationship with the TYCOM industrial activity representative (if assigned).

APPENDIX B

AREAS TO BE EVALUATED DURING MONITORING INSPECTIONS

1. Procedures and administrative steps for provisional watch station qualifications.
2. Department organization manuals.
3. Department instructions and administrative procedures.
4. Ship's instructions and administrative procedures.
5. Equipment logs, operating instructions and casualty procedures.
6. Ship's standard operating procedures and the Ship's Organization and Regulations Manual.
7. Training planned and conducted to support initial qualifications for watchstander proficiency.
8. Watchstanding performance.
9. Spot checks of ship's records and logs in use.
10. Status of Ship's Force work.
11. Status of Ship's Force responsible planned maintenance.
12. Inspect installed equipment for cleanliness and adequate protection from damage.
13. Tag-Out and Work Authorization Logs. Spot-check for compliance following current directives.
14. Inspect ship for hazards.
15. Inspect provisions for casualty control including watertight integrity.
16. Verify that items are drawn from the ship's Coordinated Shipboard Allowance List (COSAL) stock only on an emergency basis and that such issues are well documented with appropriate adjustments to the inventory records.
17. Evaluate general safety practices.
18. Evaluate the response of the Supply System to requisitions in support of Ship's Force work. (Post Shakedown Availability requirement only.)
19. Status of technical manuals, drawings, maintenance documentation, etc., onboard.

APPENDIX C

SAMPLE PRE-REACTOR SAFEGUARD EXAMINATION NOTICE

(Ship Name) NOTE 3540

PCU (Ship Name and Hull No.) NOTICE 3540

Subj: PRE-REACTOR SAFEGUARDS EXAMINATION (RSE)

Encl: (1) Schedule of Examination
(2) Officer Roster
(3) Crew Roster
(4) Initial Criticality and Power Range Testing Watchbill
(5) Interview Schedule
(6) ELT Evolution Schedule
(7) Status of Propulsion Plant Systems and Spaces for Initial Criticality

1. Purpose. To issue information pertinent to the conduct of the Pre-RSE.

2. Discussion. A Pre-RSE is scheduled for PCU (Ship Name) on (Date). All examination activities will be conducted in the crew spaces in Building ___ at _____ Shipyard with the exception of observed drills and evolutions which are to be conducted onboard.

3. Inspection Team Conference Rooms. The Wardroom in Building ___ will be available for the private use of the Inspection Team throughout the examination. During the drill periods, the Wardroom aboard (Ship Name) will be available for use by the Inspection Team.

4. Responsibilities.

a. The Executive Officer is responsible for the overall coordination and execution of the examination per the schedule contained in enclosure (1). Crewmembers as designated by enclosures (2) and (3) will participate.

b. Enclosure (4) provides the intended watchbill for manning watches throughout initial criticality preparations and power range testing.

5. Interviews. All interviews will be conducted following the schedule contained in enclosure (5). Personnel must not discuss the interviews until all interviews are complete.

Interview (Subject Area)	Locations	Groups Interviewed
A Fluids	WEPS or SUP Office	EOOW/EWS and M Div
B Reactor Theory	NAV Office	EOOW/EWS, RC Div, 2 EPCP and 2 SPCP Operators
C Electrical	ENG Office	EOOW/EWS, E Div and RC Div
D CHEM/RADCON	XO Office	EOOW/EWS and all ELTs

E Integrated Plant Ops	CO Office	EOOW

(Ship Name) NOTE 3540

6. Records Review. Record reviews will be conducted in a large classroom. Records will be pre-staged in the logroom or designated area and moved to the classroom just prior to the scheduled review.

7. Meals. The (Name & Location of Mess Facility) will be available for meals. Working lunches in the (Name & Location of Mess Facility) are available.

A.B. SKIPPER

Distribution:

RSE Team (7)

PRE-RSE SCHEDULE OF EXAMINATION

DD/MM	
0600	Relieve the watch: Section I.
0700	RSE Team arrives at PCU (Ship Name).
0700-0730	Continental Breakfast in the Wardroom.
0730-0800	Team meets with Commanding Officer, Executive Officer, and Engineer Officer to discuss the examination.
0730	Long Form Pre-Critical Check off.
0800-1000	ELT Evolution per enclosure (6).
1000-1300	Individual interviews per enclosure (5).
1100-1130	Relieve the watch: Section II.
1130-1300	Observed evolutions and material inspection. Section II.
1300-1330	Lunch.
1330-1530	Individual interviews continued. Sections I, III.
1330-1530	ELT chemistry and dosimetry observations per enclosure (6).
1330-1530	Observed evolutions and material inspection continued.
1500-1530	Relieve the watch: Section III.
1530-1630	Drill Team brief shipboard in Wardroom.
1530-1600	Inspection Team meeting in Wardroom (onboard).
1630-1800	Drills: Section III.
1800-1830	Relieve the watch: Section I.
1830-2000	Drills: Section I.
DD/MM	
0700	Relieve the watch: Section II.
0700-0745	Continental Breakfast in the Wardroom.
0730-0750	ELT Evolution per enclosure (6).
0800-1000	Individual interviews per enclosure (5).
0800-0900	EWS Group interview (Location).
0800-1000	Training Records and Qualification Record review in large classroom.
0900-1000	EOOW Group interviews.
1000-1100	Watch Section Seminar. Section I.
1000-1200	Admin review in large classroom.
1200-1230	Lunch.
1230-1630	Critique Preparations.
1300	Relieve the watch: Section I.
1630-1730	Critique, large classroom.

NOTE 3540

SAMPLE OFFICER ROSTER

Name	Rank	Report Date	Billet	EOOW Qual Status	Prototype	Experience
IOWA STATE, ‘73, BS CHEMICAL ENGINEERING	CDR	91NOV21	CO	QUALIFIED	S1W JUN74-JAN75	SSN 637/E, MPA; S8G PROTOTYPE/ INST/DEPT HEAD; SSN 650/ENG; CSG2/ENG READINESS SSN 607/EXEC OFF
NROTC, ‘78, RPI, BS MECHANICAL ENGINEERING	LCDR	91NOV21	XO	QUALIFIED	S1C FEB79-AUG79	CMD NUC QUALIFIED; SSN 689/CRA/MPA, SONAR/FT, WEPS; SSBN 642/ENG; SSN 571/OIC
OCS, ‘83, PURDUE UNIVERSITY, BS CHEMICAL ENGINEERING	LCDR	91NOV21	ENG	QUALIFIED	S8G JUN84-DEC84	QUALIFIED ENG/S8G; SSBN 730/DCA, RCA
NROTC, ‘83, UNIVERSITY OF KANSAS, BS ELECTRICAL ENGINEERING	LT	91NOV21	NAV	QUALIFIED	S3G JUN84-DEC84	QUALIFIED ENG/S5W; SSN 661/E, MPA, TM, COMM; S1C PROTOTYPE INSTRUCTOR
NROTC, ‘84, MARQUETTE UNIVERSITY, BS ELECTRICAL ENGINEERING	LT	92JAN14	WEPS	QUALIFIED	A1W JAN85-JUN85	CMD NUC QUALIFIED; QUALIFIED ENG/S5W; SSN 683/CRA, RCA, E, SONAR; SSBN 659/NAV
OCS, ‘88, CLARKSON UNIVERSITY, BS ELECTRICAL ENGINEERING	LT	91NOV21		QUALIFIED	S3G JUL89-JAN90	QUALIFIED ENG/S6G; SSBN 654/DCA, RCA, AWEPS

Encl (2)

NOTE 3540

SAMPLE ELECTRICAL DIVISION ROSTER

Name	Rate/NEC	Report Date	Senior Special Quals	Watch in Training % Progress	Prototype	Experience
	EMC/3364	91NOV21	EWS/EDPO	QUALIFIED	S1C JUL76-DEC76	SSBN 635/EO, SRO SSN 690/EWS, EDPO
	EM1/3364	91NOV21	EO/SRO	EWS/60%	D1G JUL76-DEC76	SSBN 598/EWS; S8G PROTOTYPE INSTRUCTOR/EWS; SSN 605/EWS; SSN 754/EWS; AS 11/R-10
	EM1/3364	91NOV21	EO/SRO	EWS/60%	S7G OCT82-APR83	SSBN 636/SRO; SSN 725/SRO, EWS; CSS2/PMT
	EM1/3364	91NOV21	EO/SRO	EWS/60%	S1C APR81-OCT81	SSBN 626/EWS; NUC FIELD A SCOL INSTRUCTOR; SSN 650/EO, SRO
	EM2/3354	92MAY25	AEA/SEO	EO/20%	S1C OCT91-APR92	
	EM2/3354	91NOV21	AEA/SEO	EO/50%	S1C APR91-OCT91	
	EM2/3354	92FEB14	EO	SRO/90%	D1G MAY89-NOV89	D1G STAFF INSTRUCTOR/SRO
	EM2/3354	91NOV21	AEA/SEO	EO/20%	A1W APR91-OCT91	

Encl (3)

NOTE 3540

SAMPLE REACTOR CONTROLS DIVISION ROSTER

Name	Rate/NEC	Report Date	Senior Special Quals	Watch in Training % Progress	Prototype	Experience
	ETC/3363	91NOV21	EWS/EDPO	QUALIFIED	A1W AUG82-FEB83	SSBN 641 (G)/RO SSBN 641 (B)/SRO SSBN 635/SRO NPTU INSTRUCTOR
	ET1/3363	91NOV21	SRO/RO	QUALIFIED	S8G APR81-OCT81	SSN 650/SRO SSN 709/SRO NSSF NLON/R8 QUALITY ASSURANCE
	ET1/3363	91NOV21	SRO/RO	QUALIFIED	S1W FEB84-AUG84	SPU S1W/RO SSN 662/RO, SRO, EDPO, EWS
	ET1/3363	91NOV21	SRO/RO	QUALIFIED	S7G DEC82-JUN83	SSBN 634/RO, SRO NSSF RADCON
	ET2/3353	92JAN20	RT/SEO	RO/80%	D1G MAY91-DEC91	
	ET2/3353	92JAN19	RT/SEO	RO/80%	D1G MAY91-DEC91	
	ET2/3353	92FEB14	RT/SEO	RO/30%	S1C JAN90-JUL90	
	ET2/3353	91DEC27	RT/SEO	RO/50%	S1C MAY91- NOV91	

Encl (3)

NOTE 3540

SAMPLE MACHINERY DIVISION ROSTER

Name	Rate/NEC	Report Date	Senior Special Quals	Watch in Training % Progress	Prototype	Experience
	MMCS/3365	92APR24	EWS/EDPO	QUALIFIED	D1G JUL73-JAN74	SSN 588/EWS; S8G PROTOTYPE/EWS AS 37/NUC PLANNING; SSN 712/EWS NSSF NUC PLANNING SSN 705 NSSF QUALITY ASSURANCE
	MMC/3365	91NOV21	EWS/EDPO	QUALIFIED	D1G JUL82-JAN83	SSN 717/EWS, EDPO CSS7/PMT
	MM1/3365	91NOV21	ERS	EWS/50%	S1C FEB82-AUG82	SSN 591/ERS SSN 678/EWS, EDPO
	MM1/3365	92JAN16	ERS	EWS/90%	S1W SEP81-MAR82	SSN 707/EWS, EDPO CSG7/MATERIAL
	MM1/3365	91NOV21	ERS	EWS/25%	S7G OCT83-MAR84	SSBN 728/ERS
	MM1/3365	91NOV21	ERS	EWS/25%	S1W MAR83-SEP83	SSBN 654/ERS NSSF NLON/NUC REPAIR
	MM1/3365	91NOV21	ERS	EWS/25%	S8G JAN87-AUG87	SSN 719/ERS
	MM1/3365	91DEC16	ERS	EWS/50%	S8G JAN88/JUL88	SSBN 658/EDPO, EWS

Encl (3)

NOTE 3540

SAMPLE REACTOR LABORATORY DIVISION ROSTER

Name	Rate/NEC	Report Date	Senior Special Quals	Watch in Training % Progress	Prototype	Experience
	MM1/3366	91NOV21	EWS/EDPO/LELT	QUALIFIED	S1W AUG83-MAY84	SSN 598/SRW SSN 607/ELT NSSF R-5/RCM SSN 725/EWS, EDPO, LELT SSN 762/EWS, EDPO, LELT
	MM1/3356	91NOV21	ERS	EWS/10%	S5G OCT88-APR89	S5G PROTOTYPE/ERS, ELT
	MM2/3356	91DEC31	ERUL	ERS/30%	S3G DEC88-JUN89	S3G PROTOTYPE/ELT, SRW
	MM2/3356	91NOV21	ERLL/ERF	ERUL/30%	MTS-635 JAN91-JUN91	
	MM2/3356	91NOV21	ERLL/ERF	ERUL/30%	S1C JAN91-JUN91	
	MM3/3356	92JUL17	ERF	ERLL/50%	S7G JUN91-MAR92	

Encl (3)

SAMPLE
ENGINEERING DEPARTMENT
INITIAL CRITICALITY
WATCHBILL

Watch Station	Section I	Section II	Section III
EOOW			
EWS			
ERS			
RO			
EO			
RT			
AEA			
CH/CD			
ELT			
ROD CONTROL MONITOR			
SRW			
SSW	**CO**	**XO**	**ENGINEER**
NI MONITORS			
OTHERS: PERSONNEL NOT ON WATCH:			

NOTES:

Encl (4)

SAMPLE
ENGINEERING DEPARTMENT
POWER RANGE TESTING
WATCHBILL

Watch Station	Section I	Section II	Section III
EOOW			
EWS			
ERS			
RO			
EO			
RT			
AEA			
FEED STATION			
ELT			
ERLL			
ERUL			
ERF			
MANEUVERING PHONE TALKER			
HOTWELL LEVEL CONTROLLER			
STEAM DUMP 1 **2** **3**			
SSW	**CO**	**XO**	**ENGINEER**
OTHERS: PERSONNEL NOT ON WATCH:			

NOTES:

Encl (4)

SAMPLE INTERVIEW SCHEDULE

INTERVIEWER - A -_____
SUBJECT AREA - FLUIDS
LOCATION: _____

(DATE) TIME	SENIOR WATCHSTATION	NAME(S)
0800	EOOW	
0830	EWS	
0900	ERS/ERF	
0930	ERS	
1000	ERS	
1030	EOOW	
1100	ERUL	
1130	ERUL	
1200	EWS/ERS	
1230	ERS	
1300	LUNCH	
1330	ERF	
1400	EOOW	
1430	EOOW	
1500	ERS/ERUL	

Note: Personnel not interviewed: (List)

SHIP'S MONITORS
PRIMARY: _____
ALTERNATE: _____

Encl (5)

SAMPLE INTERVIEW SCHEDULE

INTERVIEWER - B -_____
SUBJECT AREA - REACTOR THEORY
LOCATION: _____

(DATE) TIME	SENIOR WATCHSTATION	NAME(S)
0800	EWS	
0830	EO	
0900	EWS	
0930	EOOW	
1000	RO	
1030	RT	
1100	EOOW	
1130	EOOW	
1200	EOOW	
1230	EWS	
1300	LUNCH	
1330	TH	
1400	RO	
1430	RT	
1500		

Note: Personnel not interviewed: (List)

SHIP'S MONITORS
PRIMARY: _____
ALTERNATE: _____

NOTE 3540

SAMPLE INTERVIEW SCHEDULE

INTERVIEWER - C -_____
SUBJECT AREA - ELECTRICAL
LOCATION: _____

(DATE) TIME	SENIOR WATCHSTATION	NAME(S)
0800	EWS	
0830	EWS	
0900	RO/RO/RT	
0930	EO	
1000	EOOW	
1030	EWS	
1100	EOOW	
1130	EOOW	
1200	EO/EO/RT	
1230	AEA	
1300	LUNCH	
1330	EO	
1400	AEA	
1430	RO/RO/RT	
1500	EOOW	

Note: Personnel not interviewed: (List)

SHIP'S MONITORS
PRIMARY: _____
ALTERNATE: _____

Encl (5)

SAMPLE INTERVIEW SCHEDULE

INTERVIEWER - D -_____
SUBJECT AREA - CHEMISTRY/RADIOLOGICAL CONTROLS
LOCATION: _____

(DATE) TIME	SENIOR WATCHSTATION	NAME(S)
1000	EOOW	
1030	EOOW	
1100	EOOW	
1130	ELT	
1200	EWS	
1230	LELT	
(DATE)		
0800	EOOW	
0830	EOOW	
0900	ELT	
0930	EWS	

Note: Personnel not interviewed: (List)

SHIP'S MONITORS
PRIMARY: _____
ALTERNATE: _____

Encl (5)

SAMPLE INTERVIEW SCHEDULE

INTERVIEWER - E -_____
SUBJECT AREA - INTEGRATED PLANT OPERATIONS
LOCATIONS: _____

(DATE) TIME	SENIOR WATCHSTATION	NAME(S)
0800	EOOW	
0830	EOOW	
0900	EOOW	
0930	EOOW	
1000	N/A	
1030	N/A	
1100	N/A	
1130 - 1300	Observed Evolutions and Material Inspection	
1300 - 1330	LUNCH	
1330 - 1530	Observed Evolutions and Material Inspection	

Note: Personnel not interviewed: (List)

SHIP'S MONITORS
PRIMARY: _____
ALTERNATE: _____

Encl (5)

SAMPLE
ELT EVOLUTION SCHEDULE

(DATE)	TIME	NAME	EVOLUTION
	0800		PRIMARY SAMPLE
	0900		SECONDARY SAMPLE
	0930		SECONDARY SAMPLE
	1330		SECONDARY SAMPLE
	1400		SECONDARY SAMPLE
	1430		DOSIMETRY
	1450		DOSIMETRY
	1510		DOSIMETRY

Encl (6)

NOTE 3540

SAMPLE
STATUS OF PROPULSION PLANT SYSTEMS AND SPACES
FOR INITIAL CRITICALITY

1. Systems required for initial criticality not yet under the operational control of Ship's Force include:

   (List those systems or portions of systems and components which are required for initial criticality but are not yet under the operational control of Ship's Force.)

2. Systems under operational control of Ship's Force include:

   (List the systems, components and spaces under the control of Ship's Force.)

3. Significant propulsion plant material deficiencies:

   (List significant propulsion plant material deficiencies.)

Encl (7)

SAMPLE
STATUS OF PROPULSION PLANT SYSTEMS AND SPACES
FOR INITIAL CRITICALITY
(Cont'd)

TEMPORARY SYSTEMS INSTALLED TO SUPPORT TESTING

(List the temporary systems installed to support testing.)

DRILL SIMULATIONS AND LIMITATIONS

(List the conditions and limitations of simulations. System status and conditions which are outside the normal parameters and normal configuration will be defined. Staging of "temporary" equipment or identification of expected simulations must be specified.)

Encl (7)

SAMPLE
STATUS OF PROPULSION PLANT SYSTEMS AND SPACES
FOR INITIAL CRITICALITY
(Cont'd)

SIGNIFICANT ENGINEERING DEPARTMENT ADMINISTRATIVE DEFICIENCIES

Departmental

1. Qualifications. Due to significant shiftwork delays for Post-Core Fill and Hot-Ops, Phase II (Initial Criticality) qualifications are not complete. They will be completed by (Date).

2. CO RSE Interviews/Qualifications. Due to delays in qualifications noted in paragraph (1), these are not complete. The CO has issued a letter (Date) to the Engineering Department detailing the scope and conduct of these interviews. A copy of this letter has been provided to the Senior Member.

3. Change 11 to the qualification instruction is not implemented in all qualification cards (to be issued (Date)).

4. Some Department and EOOW/EWS exams from (Date) do not have a re-exam for exam failures.

Machinery Division

1. Material History

   a. Hull and tank information recorded on Material History Cards vice Hull Cards.

   b. No QA records - no QA work performed, no QAIs qualified.

Reactor Controls Division

1. Material History. Rod Control and SVFC Material History has not been updated with data that has just been received from recent Hot Operation Testing.

Electrical Division

1. Superseded cyclic primary PMS schedule has been accidentally destroyed.

Reactor Laboratory

(List deficiencies concerning the Reactor Laboratory.)

Encl (7)

APPENDIX D

IN-SERVICE COMPARTMENT SURVEILLANCE GUIDE (AIRCRAFT CARRIERS AND SUBMARINES ONLY)

1. As directed by OPNAVINST 4700.8, approximately two to four weeks for submarines, or two to four months for aircraft carriers, prior to the first Sea Trial, a nuclear ship is to be placed "In-Service". A prerequisite to placing the ship "In-Service" is satisfactory habitability conditions. There still remains industrial and fitting out work prior to ship completion and readiness for Sea Trials. The accepting authority must take this action into consideration when scheduling the habitability inspection prior to the crew moving on board. The purpose of this inspection is to ascertain whether the spaces within which the crew will live, primarily berthing and messing, are clean, safe, and ready to receive the crew.

2. Spaces that are considered finished and have been inspected by Ship's Force should be complete to approved plans.

3. The following is a list of attributes which should be checked for completeness during "In-Service" inspections of spaces in the final phases of construction.

a. Cable hanger and banding - properly installed.

b. Cleanliness - equipment, equipment space, and bilge area free of industrial dirt and debris (there may be areas of light dust).

c. System completeness - handwheels, spray shields, etc. are installed.

d. Bilges - free of standing oil.

e. Compartment free of damage - pipe scars, arc strikes, etc.

f. Grounding straps - properly installed.

g. Lockers - stowage and shelving solidly attached and operable.

h. Compartment lighting - installed and operable.

i. Compartments - to be free from construction material and any unsecured objects that may cause a threat to personnel safety.

j. Safety chains, ladders, and handrails - installed, fastened in place, and per plan.

k. Permanent deck plates - corners bolted down, well fitted, and do not present a tripping hazard (deck plates over bilge areas need not be bolted at this time).

l. Welding - all structures complete.

m. Preservation paint - neat and complete, with approved color schemes. Basic preservation applied to all structures and equipment (areas of minor rust and bare ferrous metal are acceptable at this time in compartments in the final phases of construction).

n. Appearance paint (applied for cosmetics rather than preservation) - applied to routinely visible surfaces and presents a neat appearance.

o. Accessibility of equipment - convenient for operation, repairs, replacement, maintenance, testing, and visible use.

p. Store Rooms - complete (installations and painting).

q. Marking of equipment - valve labels, name plates, instruction and warning plates installed and readable.

r. Protection of equipment from any damage - as required by plans or planned maintenance guidance (e.g., Scott Foam).

s. Berthing and Messing arrangement - proper type, accessibility, clearance, seating capacity, etc. per plan.

t. Joiner work - compartment bulkheads, overhead structures, moldings, and furniture installation complete and presents a neat appearance; Formica will be free of damage.

u. Condition of deck coverings (Tile and Terrazzo) - free of any damage and major discoloration.

v. Watertight and non-watertight doors - installation complete, well fitted, with proper operation (ease of opening and closing) and protection devices installed.

APPENDIX E

SAMPLE PRE-COMMISSIONING HABITABILITY INSPECTION CHECKLIST FOR NEW CONSTRUCTION SHIPS

Ref: (a) OPNAVINST 4700.8 - Trials, Acceptance, Commissioning, Fitting Out, Shakedown and Post Shakedown Availability of U.S. Naval Ships Undergoing Construction or Conversion

1. A pre-commissioning habitability inspection is required for new construction ships by reference (a). The purpose of the inspection is to verify that living and messing spaces are clean, safe and ready to receive the crew. Upon completion of the inspection, the inspection team leader will provide copies of the deficiency list to the Navy Shipbuilding Program Manager's representative, the Supervising Authority, the Commanding Officer of the ship's pre-commissioning unit and the TYCOM.

2. This assessment is not of the magnitude or detail required by the Supervising Authority to ensure shipbuilder compliance with all building specifications in the contract or by the Board of Inspection and Survey during acceptance trials. This assessment is a qualitative judgment of the ability of the crew to live on board safely and comfortably during the fitting out period. This assessment does not fulfill shipboard system certification requirements or other inspection requirements related to food service sanitation, laundry and dry cleaning, potable water and marine sanitation devices.

3. Areas to be inspected include general safety and sanitation, galley, scullery, messing, dry food storage spaces, refrigerated food storage spaces, berthing spaces, washrooms, showers, heads, lounges and potable water. Only spaces designated to support initial crew move aboard will be inspected. For example, if only the aft galley will be used at move aboard, the forward galley will not be inspected.

4. It is understood that not all equipment, spaces and systems aboard the ship will be completed and transferred to Ship's Force at the time of the assessment. If a space or system to be inspected has not been transferred to the crew, the shipbuilder and Supervising Authority will present the space or system to the inspector. If a space or system has been accepted by the crew, the crew will present the space; cognizant shipbuilder and Supervising Authority personnel should be present. As remaining habitability related spaces or systems are completed after crew move aboard, the Supervising Authority and Ship's Force are responsible for inspecting spaces or systems per the turnover procedure specified in the contract.

5. The pre-commissioning habitability inspection team will evaluate the following areas utilizing the enclosed inspection checklists:

A. General
B. Food Service
C. Living Spaces
D. Freshwater
E. Collection, Holding and Transfer (CHT) System (See Note)
F. Laundry and Dry Cleaning (See Note)

NOTE: OPERATIONAL LAUNDRY FACILITIES AND WASTE REMOVAL SYSTEMS ARE CONSIDERED DESIRABLE TO SUPPORT CREW MOVE

ABOARD. IF REQUESTED BY THE SUPERVISING AUTHORITY, THE INSPECTION TEAM WILL ASSESS THE READINESS OF THESE AREAS DURING THE HABITABILITY INSPECTION. OTHER CREW SUPPORT SPACES, SUCH AS BARBER SHOPS, MAY ALSO BE INCLUDED IN THE INSPECTION IF REQUESTED BY THE SUPERVISING AUTHORITY AND AGREED UPON BY THE INSPECTION TEAM.

SAMPLE PRE-COMMISSIONING HABITABILITY INSPECTION CHECK LIST FOR NEW CONSTRUCTION SHIPS (Cont'd)

Compartment Number: _____ Division: _____

	YES	NO
A. GENERAL		
1. All trash and rubbish removed.		
2. Spaces neat, clean and in a usable condition.		
3. Wireways and other exposed areas that could serve as a path for rats are free of foreign matter.		
4. Electrical wires or plugs are not located so as to be easily tripped over.		
5. Drains open with covers attached.		
6. Ventilation (heating and cooling) and lighting adequate to maintain healthful and comfortable conditions.		
7. Electrical outlets required for habitability are installed and operable.		
8. Spaces are free of major safety discrepancies.		
9. Damage Control equipment installed per ship plan and labeled.		
B. FOOD SERVICE		
1. Facility		
a. Decks sloped properly to allow drainage into deck drains.		
b. Adequate and convenient hand washing facilities with hot and cold running water, dispensed soap and single service disposable towels provided in or adjacent to food service facility (OPNAVINST 5100.19, Section IV CH2, Part D.2).		
c. Drain lines from refrigerators, ventilator hoods and other food service equipment drain through an air gap into a deck drain or funnel with removable grating (NAVSUPINST 4061.11; GEN SPECS sect. 528 (if cited in the contract)).		
d. Signs posted reminding personnel to wash hands and not smoke (NAVMED P-5010, Article 1-6).		
e. Equipment operating and safety instructions prominently posted on or conspicuously near the equipment to which it relates (OPNAVINST 5100.19, Section V).		
f. Steam and hot water lines properly lagged and sheathed (OPNAVINST 5100.19, Enclosure (1), Section III).		
g. Furniture installed in prescribed arrangement and neat, clean and in usable condition.		

Inspector: _____ Date: _____

	YES	NO
h. Racks and bins installed in storerooms.		
2. Equipment		
a. Deck mounted equipment sealed to the deck or elevated on legs that provide at least 8 inches of clearance between the deck and equipment (NAVMED P-5010, Article 1-8).		
b. Decks in food service areas maintained in good repair (NAVMED P-5010, Article 1-15).		
c. All equipment accessible.		
d. Food contact surfaces made of smooth, corrosion resistant, non-toxic (FDA Food, Drug and Cosmetic Act guidelines), stable non-absorbent materials that will not impart odors, color or taste, nor contribute to adulteration of food (NAVMED P-5010, Article 1-8 (3)).		
e. Vegetable peelers, vegetable slicers, can openers, meat slicers, ranges, ovens, grills, deep fat fryers, microwave ovens, toasters, mixing machines, pressure cookers, steam jacketed kettles, steam tables, steam table and salad bar inserts, soft ice cream machines, baking and roasting pans, cooking and serving utensils, food carts, storage racks and shelving properly installed, sanitized and operationally tested (NAVMED P-5010, Article 1-17; NAVSUP P-421, Chapter 2).		
f. On and off toggle switches on food service equipment have toggle switch guards installed to prevent inadvertent operation (OPNAVINST 5100.19, Section V).		
g. Safety interlocks on food preparation equipment maintained in proper operating condition.		
h. Steam Jacketed Kettles.		
(1) Equipped with functional steam safety release valve (GEN SPECS, Section 528, Article C 1905 g(4)) if applicable.		
(2) Chains at least 18 inches long attached to steam safety release valves (GEN SPECS, Section 528, Article C1905 g(4)) if applicable.		
(3) Steam discharge piped down to kettle coamings and directed away from operators feet (GEN SPECS, Section 651 b) if applicable.		
i. Equipment free from salt-water connections except NAVMEDCOM approved garbage grinders or refrigeration units (NAVMED P-5010, Article 1-8 (3)).		
j. Food service spaces and equipment free from cross connections with non-potable liquids or submerged freshwater inlets (NAVMED P-5010, Articles 1-47, 1-61 and 1-8 (3)).		

Inspector: _____ Date: _____

	YES	NO
3. Ventilation		
a. Grease filters and hoods are installed in appropriate places, are free from grease buildup and can be washed at least weekly (NAVMED P-5010, Article 1073; NAVSUPINST 4061.11).		
b. Ventilation grease interceptor hoods (Gaylords) are installed in proper places and are able to be cleaned daily (NAVSUPINST 4061.11).		
c. Spaces adequately ventilated to keep them free of excessive heat, steam, condensation, vapors, smoke or gases.		
d. Vent ducts free of excessive grease and debris which could be a fire hazard.		
4. Lighting		
a. Illumination levels adequate.		
b. Lighting fixtures in food service areas shielded.		
5. Refrigeration		
a. Frost build-up no more than 1/4 of an inch (NAVMED P-5010, Article 1-34).		
b. Refrigeration spaces clean (NAVMED P-5010, Article 1-31).		
c. One portable or built-in air measurement thermometer provided in all refrigerated storage spaces which is accurate to + or - 3°F.		
d. Refrigerated spaces maintained at (NAVMED P-5010, Article 1-34):		
(1) Freezers 0°F or lower.		
(2) Chilled Bulk Storage 33-36°F.		
(3) Thaw Boxes 36-38°F.		
(4) Dairy Products Box 32-34°F.		
(5) Milk Dispenser Cabinet 32-40°F.		
(6) Reach-in Refrigerator 34-40°F.		
e. Interior safety release latches installed and operable in all bulk refrigeration and freezer units (NAVSUPINST 4061.11).		
6. Serving Lines and Salad Bars		
a. Serving line areas clean.		
b. Functional sneeze shields installed on serving lines and salad bars (NAVMED P-5010, Article 1-40).		
c. Serving line inserts heatable to a minimum of 140°F (NAVMED P-5010, Article 1-40).		

Inspector: _____ Date: _____

	YES	NO
d. Salad bars capable of being maintained at 40°F or below (NAVMED P-5010, Article 1-40).		
7. Milk Dispensers and Holding Cabinets		
a. Bulk milk dispenser and holding cabinets capable of being maintained at 32-40°F (NAVMED P-5010, Article 1-21).		
b. Dispenser and holding cabinets have accurate temperature gages or thermometers.		
c. Dairy box capable of being maintained at 33-34°F (NAVMED P-5010, Article 1-34).		
8. Ice Machines		
a. Ice compartment drains are aligned to the deck drains with an air gap (NAVMED P-5010, Article 1-36).		
b. Ice scoop, stored handle up, in a covered and freely draining bracket outside ice storage compartment or inside the ice machine on a bracket above the highest level of the ice (NAVMED P-5010, Article 1-36).		
9. Manual Dishwashing		
a. Utensils move from dirty to clean side of wash area without risk of cross contamination by handling or splashing.		
b. A three-compartment sink installed for washing pots, pans and utensils.		
c. Booster heater installed and functional.		
d. Temperature gage installed or thermometer used to monitor wash and rinse temperatures.		
e. Wash water temperature ranges between 95-125°F.		
f. Final rinse water temperature reaches at least 170°F.		
g. Long-handled dip baskets available.		
10. Dishwashing Machine		
a. Center and end curtains installed.		
b. Temperature gages accurate to + or - 3°F.		
c. Multiple tank conveyor dishwashing machine meets following requirements (NAVMED P-5010, Article 1-9):		
(1) Wash temperature 150-160°F for 7 seconds.		
(2) Rinse temperature 160-180°F for 7 seconds.		
(3) Final rinse temperature 180-195°F with a conveyor speed of 15 feet per minute at 15 - 25 psi or as specified in the machine technical manual.		

Inspector: _____ Date: _____

	YES	NO
d. Operating instructions posted on, or conspicuously near, the machine (OPNAVINST 5100.19, Section V. 16).		
C. LIVING SPACES		
1. Bunks and lockers neat and in usable condition and bunk curtains installed.		
2. Plumbing fixtures installed in washrooms, showers and water closets, including showerheads and soap dishes and other necessary items.		
3. Prescribed deck covering installed.		
4. Adequate furniture and equipment installed to provide reasonable comfort, relaxation and entertainment in lounge areas.		
5. Berthing spaces are clean, adequately ventilated and well illuminated (OPNAVINST 9640.1 and NAVMED P-5010, Chapter 2).		
6. Drinking fountains are of the jet-angle type with clean bowls, orifices and orifice guards (NAVMED P-5010, Chapter 2).		
7. No Category I flammables, combustibles or aerosol containers stored in berthing spaces (NSTM 670).		
8. Sinks, urinals and commodes are clean, odor free and operable (NAVMED P-5010, Chapter 2).		
9. The temperature of the hot water supplied for personal use of the crew does not exceed 130°F (NSTM 533).		
10. Temperatures in berthing and messing spaces do not exceed 80°F (OPNAVINST 9640.1).		
11. Temperatures in living, sanitary, messing, medical, control spaces, and normal working stations are not lower than 65°F (OPNAVINST 9640.1).		
12. There are separate sleeping quarters for males and females (OPNAVINST 1300.17).		
D. FRESHWATER		
1. Surveillance		
a. Halogen residual present (NAVMED P-5010, Chapter 6, Article 52).		
b. Bacterial analysis obtained from points representative of the entire distribution system (NAVMED P-5010, Chapter 6, Article 53).		

Inspector: _____ Date: _____

	YES	NO
c. Ice machines tested for bacterial contamination (NAVMED P-5010, Chapter 6, Article 53).		
d. Potable water processed or obtained from an approved source (NAVMED P-5010, Chapter 6, Article 54).		
2. Bromination System and Equipment (when applicable)		
a. Brominators are properly installed and functional (NAVMED P-5010, Chapter 6, Article 21).		
b. Warning plate installed next to unit (NSTM Chapter 533, Section 3.1.3.2.3 and Figure 533-5).		
c. Four foot hose with quick opening valve and vacuum breaker installed nearby (NSTM Chapter 533, Section 3.1.3.2.2).		
d. Bromine cartridges stored in dry, clean, well-ventilated storeroom (NSTM Chapter 533, Section 3.1.3.2.1).		
e. Locker or bin has label plate inscribed “Bromine Cartridges” (NSTM Chapter 533, Section 3.1.3.2.1).		
f. Storage locker has warning plate (NSTM Chapter 533, Section 3.1.3.2.1 and Figure 533-6).		
3. Chlorination System and Equipment		
a. HTH stored in a metal box with three 1/4” holes, painted gray and labeled with red letters on white or black background “HAZARDOUS MATERIAL, CALCIUM HYPOCHLORITE” (OPNAVINST 5100.19, Chapter 23).		
b. HTH lockers not installed in machinery space, flammable liquids store room, berthing space or oil and water test lab areas (OPNAVINST 5100.19, Chapter 23).		
4. Sounding Tubes		
a. Equipped with screw caps (NAVMED P-5010, Article 6-8.3).		
b. Screw caps have keeper chains attaching them to sounding tubes (NAVMED P-5010, Article 6-8.3).		
c. Padlocks secure caps (NSTM, Chapter 533, Section 2.3.6).		
d. Label plates present (NAVMED P-5010, Article 19.1).		
e. Caps color coded dark blue (NAVMED P-5010, Article 19.1).		
5. Potable Water Hoses		
a. New hoses disinfected with solution not less than 100 ppm FAC for at least 2 minutes (NSTM, Chapter 533, Section 3.3.3).		
b. Labeled “Potable Water Only” at 10-foot intervals (NAVMED P-5010, Article 6-19 and NSTM Chapter 533, Section 2.1.3).		

Inspector: _____ Date: _____

	YES	NO
c. End couplings color coded dark blue (NAVMED P-5010, Article 6-19).		
d. Stored with ends capped or coupled together (NSTM, Chapter 533, Section 2.1.3).		
e. Hoses not used for any other purpose (NAVMED P-5010, Article 6-8 and NSTM Chapter 533, Section 2.1.3).		
6. Potable Water Hose Lockers		
a. Located at least 18 inches off deck and hose disinfecting instructions posted in a conspicuous location in the hose storage areas (NAVMED P-5010, Article 6-8 and NSTM 533, Section 2.1.3).		
b. Padlocked, vermin proof and labeled "Potable Water Hose" (NAVMED P-5010, Article 6-8 and NSTM 533, Section 2.1.3).		
7. Potable Water Receiving Connections		
a. Located at least 18 inches off deck, are not cross connected with any non-potable waterline or system and are turned down to protect against contamination (NAVMED P-5010, Article 6-8 and NSTM 533, Section 2.1.2).		
b. Conspicuously designated by warning plate "Potable Water Only", closed with screw cap when not in use, and cap has keeper chain attached to riser (NAVMED P-5010, Article 6-8 and NSTM 533, Section 2.1.2).		
c. Valve handwheel color-coded dark blue (NSTM 505).		
8. Cross Connections		
a. Potable water connections to the following equipment provided with either an air gap of at least two supply pipe diameters, or a vacuum breaker backflow preventer installed at least six inches above the maximum potable fill level (NSTM, Chapter 533, Sections 2.3.3.1 and 2.3.5.2):		
(1) X-ray and photo developing equipment and associated chemical mixing tanks.		
(2) Laundry washing machines.		
(3) Diesel engine cooling jackets.		
(4) Garbage disposals.		
(5) Gaylord hood automatic wash down system (vacuum breaker installed upstream from detergent injector) (GEN SPECS, Section 532b3) if applicable.		
(6) Steam tables, steam kettles, potato peelers, sinks and other food service equipment.		
(7) Bridge or helicopter control tower window washer tanks.		

Inspector: _____ Date: _____

	YES	NO
(8) Other equipment containing non-potable liquids.		
b. Continuous pressure backflow preventer with intermediate vent provided wherever a permanent or hose connection is made below the overflow level of equipment containing non-potable liquids and a manual or automatic cutout valve is installed downstream of the vacuum breaker (GEN SPECS, Section 532bl) if applicable.		
c. Reduced pressure backflow preventer provided wherever a permanent or hose connection is made to equipment or a system that could subject the potable water system to a positive pressure such as the chill water expansion tank (GEN SPECS, Section 532bl) if applicable.		
d. Sink and space faucets with standard 3/4 inch hose threads equipped with a hose connection vacuum breaker (NSTM 533, Section 2.3.5.1).		
e. Laboratory and shop (photo and battery shop) sinks with non-standard hose connections equipped with either an integral vacuum breaker or hose vacuum breaker (NSTM 533, Section 2.3.5.2).		
f. Hose connections to the potable water system disconnected when not in use (NSTM 533, Section 2.3.4).		
g. Label plate having the following wording in one inch high red letters installed in a conspicuous location near each hose connection to the potable water system: "CAUTION DISCONNECT HOSE WHEN NOT IN USE" (NSTM 533, Section 2.3.4).		
h. Two check valves installed in the potable water supply to carbonated beverage dispensers with no copper, brass or bronze pipe, valves or fittings downstream of check valves (GEN SPECS 532, Section 532bl) if applicable.		
E. CHT SYSTEM		
1. Personal Hygiene		
a. Handwashing facilities located in or near pump rooms or comminutor spaces (OPNAVINST 5100.19, C1504.1. (6) and NSTM 593, Section 4.2.14.7).		
b. Signs posted in CHT spaces near each sewage pump controller requiring hand washing with soap and water prior to leaving area, and prohibiting eating, drinking and smoking while work is in progress (NAVMED P-5010, Chapter 7, Article 19(6) and NSTM 593).		
2. Pump Room Safety		

Inspector: _____ Date: _____

	YES	NO
a. Slightly negative pressure exhaust ventilation with duct installed 9 inches from the deck in CHT pump rooms (NAVMED P-5010, Chapter 7, Article 22 and NSTM 512).		
b. Indicator light installed outside compartment indicating ventilation system is operating (NAVMED P-5010, Chapter 7, Article 22).		
c. Two emergency escape breathing devices (EEBD) placed in each CHT pump room (NAVMED P-5010, Chapter 7, Article 22 and NSTM 593, Section 4.2.21.3.1.4).		
d. Placard installed at the access of each CHT pump room outlining safety precautions to be followed if a sewage spill occurs (NAVMED P-5010, Chapter 7, Article 22d).		
e. Warning sign posted near each sewage pump controller: "CAUTION, WHEN HIGH LEVEL ALARM SOUNDS DIVERT UPPER DECK DRAINS OVERBOARD AND CLOSE ISOLATION VALVES ON DRAINS BELOW OVERBOARD DISCHARGE" (GEN SPECS 593a) if applicable.		
f. Audible and visual alarms for high and low sewage tank levels wired to signal in a continuously manned station and in the CHT pump room (NSTM 593, Section 4.2.5 and GEN SPECS 593a).		
3. Ship-Shore Transfer		
a. Sewage fuser properly labeled (GEN SPECS 593a).		
b. Label plates at each deck discharge connection with warning against disconnecting sewage hose while it is pressurized, hose hook-up and disconnect procedures and sanitary and health precautions (GEN SPECS 593a) if applicable.		
4. Surveillance		
a. Removable drip pans installed beneath comminutors mounted off deck, or a two to four inch coaming around deck-mounted comminutors to aid in detection of possible leakage (NSTM 593, Section 4.2.14).		
b. Removable drip pans provided in health sensitive areas under valves and takedown joints to detect possible leakage (NSTM 593, Section 4.2.14).		
5. General Requirements		
a. CHT space capable of containing sewage spills (NSTM 593, Section 4.2.14 and GEN SPECS 593a).		
b. Proper color-coding of handwheels, valves, fusers and caps (NSTM 505, Table 505-16).		
c. Functional eductor or sump pump installed in CHT spaces (NSTM 593, Section 4.2.14).		

Inspector: _____ Date: _____

	YES	NO
F. LAUNDRY AND DRY CLEANING		
1. Laundry and dry cleaning facilities are operational (OPNAVINST 9640.1).		
2. Adequate ventilation available (NAVMED P-5010, Article 2-40.1).		
3. Fixtures and appliances connected to prevent backflow or cross-connection with the potable water supply (NAVMED P-5010, Article 2-37.3).		
4. Adequate drinking water furnished by drinking fountain (NAVMED P-5010, Article 2-37.4).		
5. Rooms or spaces designed, and machines and equipment arranged, so that a separate flow of clean and soiled garments will be maintained through the laundry or cleaning process (NAVMED P-5010, Article 2-37.8).		
6. All steam and hot water pipes are insulated with approved (non-asbestos) lagging (NAVMED P-5010, Article 2-40.2).		
7. Adequate lighting levels are provided (NAVMED P-5010, Article 2-40.3).		
8. Automatic safety devices on all equipment clearly identified and operational (NAVMED P-5010, Article 2-40.7).		
9. Guard rails are installed for ironers, compressors, and other dangerous pieces of equipment. Drive shafts, exposed belts, and gears should be enclosed (NAVMED P-5010, Article 2-40.8).		

Inspector: _____ Date: _____

VOLUME I

CHAPTER 4

TRIALS

REFERENCES.

(a) OPNAVINST 9080.3 - Procedures for Tests and Trials of Navy Nuclear Powered Ships Under Construction, Modernization, Conversion, Refueling and Overhaul
(b) COMNAVAIRLANTINST 9080.2 - Conduct of Trials and Inspections Incident to Construction, Overhauls or Availabilities of Nuclear Powered Aircraft Carriers (CVN)
(c) COMNAVAIRLANT/COMNAVAIRPACINST 3500.20 - Aircraft Carrier Training and Readiness Manual
(d) OPNAVINST 4700.8 - Trials, Acceptance, Commissioning, Fitting Out, Shakedown and Post Shakedown Availability of U.S. Naval Ships Undergoing Construction or Conversion
(e) COMNAVSURFLANT/COMNAVSURFPACINST 3502.2 - Surface Force Training Manual
(f) INSURVINST 4730.2 - Trials and Material Inspections of Submarines
(g) NAVSEA S9086-C4-STM-000 - NSTM Chapter 094 (Trials)
(h) INSURVINST 4730.1 - Material Inspections (MI) of Surface Ships
(i) NAVSEAINST C9094.2 - Submarine Valve Operation Requirements for Builders and Post-Overhaul Sea Trial Test Dives
(j) OPNAVINST C3000.5 - Operation of Naval Nuclear Powered Ships
(k) OPNAVINST 4730.5 - Trials and Material Inspections of Ships Conducted by the Board of Inspection and Survey
(l) INSURVINST 4730.11 - Preparation of Deficiency Forms
(m) NAVSEAINST 4790.8/OPNAVINST 4790.4 - Ships' Maintenance and Material Management (3-M) Manual
(n) NAVSEA S0300-B2-MAN-010 - Supervisor of Shipbuilding, Conversion and Repair Operations Manual
(o) OPNAVINST C9210.2 - Engineering Department Manual for Naval Nuclear Propulsion Plants
(p) COMNAVSUBFOR OPORD 2000
(q) COMSUBLANTINST 5400.4/COMSUBPACINST 5400.7 - Submarine Force, U.S. Atlantic/Pacific Fleet Regulations

LISTING OF APPENDICES.

A Specific Dock Trial Test Areas
B Minimum Fast Cruise Requirements
C Listing of Tests to Be Performed During Aircraft Carrier Builder's Trials
D Listing of Tests to Be Performed During Initial Tightness Dive
E Escort Ship Capabilities for Submarine Sea Trials
F Listing of Tests to be Performed Prior to, During and Following First Dive to Test Depth

4.1 PURPOSE. To identify the Trials incident to new construction, provide a brief description of each, identify unique support requirements and list specific test areas.

4.2 DOCK TRIALS.

4.2.1 Purpose. To demonstrate that major systems and equipment is ready to support Fast Cruise and Sea Trials.

4.2.2 Conduct. Dock Trials are conducted by Ship's Force per reference (a) for nuclear powered ships and following the Builder's Contract for Surface Force Ships. Normally a period of one day is assigned for integrated Dock Trials, tests and evolutions.

4.2.3 Scheduling. Dock Trials must take place prior to crew certification for submarines, prior to Fast Cruise for aircraft carriers and prior to the first Ship's Force underway period for Surface Force Ships. Dock Trials should be scheduled by mutual agreement between the ship, shipbuilder and the Supervising Authority. Dock Trials should be completed with adequate time allowed to correct deficiencies.

NOTE: THE SHIPBUILDER OR SUPERVISING AUTHORITY MAY DESIRE TO CONDUCT "MACHINERY CHECKOUT" OR SYSTEM CHECKS PRIOR TO DOCK TRIALS IN ORDER TO TEST SHIP SYSTEMS. COMPLETION OF REPAIRS AND MODIFICATIONS ARE NOT REQUIRED EXCEPT FOR SYSTEMS THAT DIRECTLY SUPPORT THE TESTS. IN ORDER TO SUPPORT THESE EVOLUTIONS, CLOSE LIAISON BETWEEN THE PROSPECTIVE COMMANDING OFFICER (PCO) OR OFFICER IN CHARGE (OIC) AND THE SHIPBUILDER OR SUPERVISING AUTHORITY WILL BE REQUIRED.

NOTE: SHIP'S FORCE MUST HAVE OPERATIONAL CONTROL OF ALL SHIP'S SYSTEMS REQUIRED FOR SEA TRIALS PRIOR TO THE CONDUCT OF DOCK TRIALS.

4.2.4 Specific Test Areas. There are specific tests which relate to both system and ship safety which must be conducted in preparation for Fast Cruise and Sea Trials. Appendix A of this chapter lists the minimum alongside tests to be conducted by Ship's Force during Dock Trials. References (b) and (c) provide additional information for aircraft carriers.

4.3 FAST CRUISE.

4.3.1 Purpose. To train the crew and determine the crew's ability to safely take the ship to sea.

4.3.2 Conduct.

a. Fast Cruise is conducted per references (a), (d), and (e).

b. In addition to the normal underway routine, the Commanding Officer (CO) or OIC must have all equipment operated to check for proper operation and to determine the state of training of the crew. Fast Cruise must, as far as is practical, simulate at-sea operating conditions. It is to be conducted by Ship's Force and is to be unhampered by construction or repair work or by movement of industrial activity personnel through the ship. Neither the shipbuilder nor the Supervising Authority will schedule any trials, tests or other work on the ship during this period.

c. The ship will be operated as if underway, simulating the various evolutions required for safe operation. Each underway watch section must be exercised in the evolutions which are normally performed on a section basis. Check out all communication systems during each evolution. Ensure that each is in proper working order and that, where duplicate systems exist, a priority system is designated.

d. (Submarines only) The Fast Cruise should be a minimum of four days in duration. It should be completed within a five-day period. It should end not more than three days prior to underway trials. Normally, the ship will go to sea for underway trials within a day after completion of Fast Cruise. Should the 72-hour period be exceeded, the Type Commander (TYCOM) may direct an additional Fast Cruise.

4.3.3 Scheduling. Fast Cruise is scheduled immediately prior to underway trials. Approximately 7 days prior to the first underway trial, the Supervising Authority with the concurrence of the CO or OIC notifies the Navy Shipbuilding Program Manager that the ship is ready to commence Fast Cruise (Volume I, Chapter 2, paragraph 2.4.1.v of this manual refers).

4.3.4 Specific Test Areas. Appendix B of this chapter lists the minimum evolutions and drills to be conducted during Fast Cruise. Additional drills and evolutions are at the discretion of the PCO or OIC. References (b) and (c) provide additional information for aircraft carriers, reference (e) for Surface Force Ships.

4.3.5 Reports (Nuclear Powered Ships only). The Supervising Authority with concurrence from the PCO or OIC reports the successful completion of Fast Cruise using the format of Volume I, Chapter 2, Appendix B_7 of this manual (submarines only). Volume I, Chapter 2, paragraph 2.4.1 of this manual refers.

4.4 SEA TRIALS.

4.4.1 General.

a. The policies, procedures and responsibilities pertaining to Sea Trials for ships undergoing construction are set forth with reference (d). References (a), (f), (g) and (h) augment the basic instruction.

b. Sea Trials for the various platforms undergoing construction differ in complexity, conduct and scope of Ship's Force involvement. Surface Force Ship platforms such as the DDGs or LHDs go through Builder's Trials (BT) which for the most part are conducted with little to no involvement by Ship's Force. Industrial activity employees take the ship to sea and perform the majority of system or equipment testing. Paragraph 4.4.2 of this chapter provides additional information concerning BTs.

c. Nuclear powered ships' Sea Trials, however, are much more orientated to Ship's Force involvement. Ship's Force is responsible for taking the ship to sea and operating all shipboard equipment. The terms Alpha Trial, Bravo Trial, Charlie Trial, Combined Trial (CT) and Guarantee Material Inspection (GMI) are most often associated with submarine Sea Trials whereas aircraft carriers undergo BTs prior to Acceptance Trials (AT). Subsequent paragraphs provide amplifying information concerning these trials.

d. Underway trials following construction, particularly initial submerged and test depth trials for submarines, must be undertaken with the knowledge that the crew lacks

recent experience operating as a unit and that the ship's structure and fittings have not been tested in an at-sea environment. All tests and procedures must be conducted carefully and methodically. In the case of submarines, systems and components designed to operate at test depth should not be exercised at test depth for the sole purpose of proving the design. They should be operated at the deepest depth at which they might be used. Trials and tests which are inherently hazardous should not be conducted. For example, a submarine's hovering system should not be demonstrated at test depth. Reference (i) provides additional information concerning the testing of submarine seawater systems during underway Sea Trials. Sea Trials following new construction are normally conducted with a significant number of "riders". These riders represent Naval Sea Systems Command (NAVSEA), TYCOM, Shipbuilder and Board of Inspection and Survey (INSURV) personnel onboard to observe various tests and trial evolutions. The ship's normal load out of Lithium Hydroxide canisters, Lithium Hydroxide curtains, Emergency Air Breathing (EAB) masks, Submarine Escape Immersion Ensemble suits and Oxygen candles is not sufficient to support this increase in personnel. Therefore, an additional four Lithium Hydroxide canisters, four Lithium Hydroxide curtains, one EAB mask, one Submarine Escape Immersion Ensemble suit (as applicable), and two oxygen candles must be carried for each rider exceeding normal crew manning. Lithium Hydroxide canisters, EABs, Submarine Escape and Surface Survival Personnel Equipment (SESSPE) (as applicable) and Lithium Hydroxide curtains are to be obtained from the industrial activity.

e. The following general conditions apply:

(1) A shipbuilder generated, Supervising Authority, Navy Shipbuilding Program Manager or TYCOM approved agenda is required for each Sea Trial.

(2) All trial periods must be organized such that each member of the crew has an opportunity to get six uninterrupted hours of sleep during each 24-hour period. Sea Trial elements which can be accomplished by a normal watch section may be conducted concurrently with crew rest periods.

(3) Sea Trials should normally be scheduled to allow at least three weeks between CT or AT and the scheduled delivery date.

(4) The prerequisites for aircraft carrier and submarine Sea Trials are a Pre-Critical Reactor Safeguard Examination (RSE), Crew Certification, Dock Trials and Fast Cruise.

(5) Each submarine watch section must be provided with approximately two hours' experience submerged at moderate speeds prior to the deep dive or full power run.

(6) Critical operation of reactors while naval nuclear powered ships are in a Naval or private industrial activity will be governed by reference (j). Prior to delivery, permission to conduct critical reactor plant operations must be obtained by the Supervising Authority from NAVSEA Nuclear Propulsion Directorate (08).

(7) During inspections, deficiencies should be limited to those items for which a correction is mandatory to ensure safe operation during Sea Trials.

(8) At the start of Fast Cruise the ship should be ready in all respects for the commencement of Sea Trials with the exception of the additional training the crew will receive during Fast Cruise.

(9) Inspectors must determine that all work and testing necessary to support Sea Trials has been completed or identified for completion prior to commencement of Fast Cruise including the following:

(a) All ship systems which affect safe operation during Sea Trials must be operable.

(b) All work necessary for safe operation of the ship during Sea Trials has been satisfactorily completed and tested. Included must be a check for any special configuration or installations ensuring that they have been authorized by the proper authority (NAVSEA and TYCOM), that their impact has been fully assessed and that the Sea Trial agenda addresses these impacts or limitations.

(10) NAVSEA and the Supervising Authority are expected to properly discharge their responsibilities for quality assurance and control of authorized industrial work (e.g., it is not necessary for the Immediate Superior in Command (ISIC) inspections to inspect the quality of the pressure hull radiographs or other nondestructive test records of the industrial activity).

(11) Following completion of the required training and material readiness certification, the CO or OIC must keep the ISIC fully informed of any changes in personnel, training or material status which could affect the validity of certification. Prompt notification is required to permit revision of Operational Orders and services required.

(12) (Submarines only) Prior to getting underway for Sea Trials, Shipyard, Ship's Force and Type Commander must jointly agree that the required seven day supply of Oxygen (O2) and seven day supply of Carbon Dioxide (CO2) removal capacity will be available in each compartment, based upon the number of expected occupants of that compartment, independent of the supply and removal capacity in the other compartment(s).

(13) Sea Trial Situation Reports (SITREP) (Submarines only). Ships executing Sea Trials associated with a new construction program must submit daily SITREPs using the message format in Volume II, Part I, Chapter 3, Appendix BM of this manual following the SITREP guidelines contained in Volume II, Part I, Chapter 3, paragraph 3.6.8.3.9 of this manual.

4.4.2 Builder's Trials. BTs conducted by a private shipbuilder are normally comprised of a Builder's Dock Trial (BDT) and one or more Builder's Sea Trials (BST). Some DDGs are currently undergoing three BSTs. The first BST, referred to as an Alpha Trial by the DDG community, is primarily a propulsion plant trial. The second BST, referred to as a Bravo Trial, primarily covers Combat System evolutions and the third BST is the AT. While the actual content of BSTs will be dependent upon the platform, the primary purpose is still the same; the validation of ship's equipment and systems in preparation for Charlie Trials or AT. Appendix C of this chapter provides a sample listing of tests to be performed during an aircraft carrier's BT.

4.4.3 Alpha Sea Trial (Submarines only). A submarine's first underway period primarily conducted for propulsion plant testing and the initial tightness dive. (First ship of each class normally conducts a dive to Test Depth during this trial).

a. Testing. The tests and evolutions to be carried out while on the surface en-route to the test dive area, just prior to the initial dive and during the initial dive are identified in Appendix D of this chapter.

b. Restrictions. The following rules apply to the conduct of trials and tests associated with ship construction, Navy Shipbuilding Program Manager sponsored Trials and Tests or any other situation where the ship is requested to conduct trials or tests:

(1) No test or trial event will be conducted that requires crew intervention to avoid exceeding normal operating limits. Trial agendas will be based on the expectation that the ship will remain within normal operating limits of the Submerged Operating Envelope (SOE) and at angles less than 30 degrees.

(2) The trial director must be prepared to project whether the next event might exceed normal operating limits based on the empirical results of the previous event. A run that is predicted to exceed normal operating limits should be deleted along with the more demanding runs of that sequence.

(3) Any run which will result in exceeding normal limits of the SOE or 30 degree angles but which is essential to provide adequate test data must be specifically approved by the TYCOM. The test or trial sponsor will obtain this permission.

(4) A violation of the SOE limit or exceeding a 30-degree angle, not previously approved, must be reported by unit Situation Report (SITREP). No further testing or trials will be conducted until TYCOM concurrence is obtained.

(5) Specific written approval by the TYCOM is not required to operate outside the upper limits of the SOE, i.e., shallow and fast, while conducting the following operations during Sea Trials or tests following an agenda approved by the ISIC, Navy Shipbuilding Program Manager or higher authority:

(a) Conducting full power runs or cavitation curves.

(b) Navy Shipbuilding Program Manager sponsored acoustic trials following an approved acoustic trial agenda.

(6) The first underway will be limited in scope. The initial tightness dive will be a deliberate, planned, step-by-step evolution as defined in Appendix D of this chapter, using conservative angles and moderate speed. The maximum water depth for this dive must be 400 feet, as prescribed by Appendix D of this chapter.

c. Escort. The submarine must be accompanied by an escort properly equipped with sonar communication equipment. The escort ship must have the capabilities identified in Appendix E of this chapter. Specifically, an escort is required for:

NOTE: FOR ALPHA SEA TRIAL, A BACK-UP ESCORT WILL BE ASSIGNED AND READY IN CASE OF FAILURE OF THE PRIMARY ESCORT.

(a) Initial tightness dive after construction and the first dive to any deeper depth.

(b) Initial deep dive after construction.

(c) Emergency Main Ballast Tank (EMBT) blow test under the following conditions:

1 Blow for first time from each depth. Trial agenda will specify depths.

2 Any blow from greater than 400 feet. Rationale is to give submarine added protection to prevent interference from any surface contact.

NOTE: IN ALL CASES, HULL STRENGTH, TIGHTNESS AND VALVE OPERATIONS WILL HAVE BEEN TESTED TO A DEPTH EQUAL TO OR GREATER THAN EMBT BLOW DEPTH BEFORE TESTING EMBT BLOW SYSTEM.

(d) The second and subsequent underway periods if major hull and system work has been accomplished since the last Sea Trial.

(2) Alternate Escort. If a surface ship meeting the requirements of Appendix E of this chapter is not available, then a submarine with the required capabilities will be assigned. In any event, each situation must be examined on a case basis and approval by the TYCOM must be obtained to conduct the initial tightness or test depth dives.

(3) When an escort ship is other than a submarine, an officer qualified in submarines (Gold Dolphins) must be embarked during the escort duty.

(4) Assignment of Submarine Rescue Diving Recompression System (SRDRS). A SRDRS consisting of a designated SRDRS support ship, will be placed in a modified alert status at the beginning of those Sea Trials requiring an escort for:

(a) Ship's initial tightness and deep dive events.

(b) Subsequent Sea Trials until the completion of the initial dive to design test depth.

(c) If, in the TYCOM's judgement, a Sea Trial requires an escort due to major hull cuts, etc., the TYCOM must obtain Navy Shipbuilding Program Manager concurrence when determining the need for escort and SRDRS services. The ship conducting Sea Trials will notify Commander, Submarine Development Squadron Five and Commander Naval Sea Systems Command (COMNAVSEASYSCOM) when SRDRS is no longer required due to completion of the events necessitating the alert status or due to delays in completing Sea Trials.

(d) The cognizant shipyard activity and Commander Submarine Force Atlantic or Commander Submarine Force Pacific must notify COMNAVSEASYSCOM and Commander, Submarine Development Squadron Five 30 Days prior to the SRDRS need date. All changes in the requested modified alert date will be immediately identified to COMNAVSEASYSCOM and Commander, Submarine Development Squadron Five. Sample messages in Volume II, Part I, chapter 3, Appendices BN and CQ of this manual.

(e) Commander Submarine Force Atlantic or Commander Submarine Force Pacific must identify the SRDRS support ship in the tasking message. The TYCOM must ensure Airport and Seaport verification checks are current or accomplished to support SRDRS activation.

(f) The SRDRS is not required to be placed in a modified alert status for those Sea Trials requiring an escort solely for the accomplishment of an EMBT blow from depths greater than 400 feet.

d. Reporting Criteria. The Supervising Authority is responsible for reporting the satisfactory completion of Alpha Sea Trial to the Navy Shipbuilding Program Manager. Volume I, Chapter 2, Appendix C1 of this manual refers.

4.4.4 Bravo Sea Trial (Submarines only). Bravo Sea Trial is generally the submarine's second underway period and first dive to Test Depth.

NOTE: THE FIRST SHIP OF EACH CLASS NORMALLY CONDUCTS ITS FIRST DIVE TO TEST DEPTH DURING ALPHA TRIAL.

a. Testing.

(1) The tests and evolutions to be carried out following the initial tightness dive and prior to the deep dive, during the deep dive, submerged following the deep dive, and on the surface following the deep dive, are identified with Appendix F of this chapter.

(2) Shutter Stall Speed. Run ahead at maximum speed allowed by SOE. Operate torpedo tube shutters and ejection pump shutters. If shutters do not open, gradually reduce speed until shutters open. This establishes "stall speed" for each shutter.

b. Restrictions. As specified in paragraph 4.4.3.b of this chapter.

c. Escort. As specified in paragraph 4.4.3.c of this chapter.

d. Reporting Criteria. With the exception of reporting the deficiencies during the trial, reporting of the completion of Bravo Trial is not required. Daily SITREPs to the Supervising Authority and the Supervising Authority's message concerning the completion of all trials (Volume I, Chapter 2, Appendix D1 of this manual refers) satisfies the reporting requirements.

4.4.5 Charlie Sea Trial (Submarines only). Charlie Sea Trials are conducted prior to CT. Bravo Trial retest items are also included in this trial. The standard restrictions and escort requirements as specified per paragraphs 4.4.3.b and 4.4.3.c of this chapter apply.

4.4.6 Acoustic Trials (Platform and Radiated) (Submarines only). New construction acoustic trials, performed by the shipbuilder, are accomplished to determine, under various conditions of operation, the radiated and platform acoustic signatures of the submarine, the controlling noise offenders including those which are speed dependent, and whether or not the submarine meets its underway noise objectives. Proper operation of systems and components and the use of proper personnel quieting techniques is vital for successful acoustic measurements. Acoustic trials performed by Naval Surface Warfare Center Carderock Division (NAVSURFWARCEN CD) are used to establish the ship's baseline signature for normal operating conditions by performing independent measurements under preset conditions of speed, depth, aspect angle, and machinery line up. It is imperative that Ship's Force understand that this trial will determine its future operating conditions during various "patrol quiet" conditions.

4.4.7 Shock Trials. Shock Trials are designed to test the survivability characteristics of a ship under deliberate and controlled conditions. Normally scheduled for the first ship of a class just before Post Shakedown Availability (PSA); Shock Trials satisfy Congressionally mandated Live Fire Test and Evaluation requirements. Navy Shipbuilding Program Managers are responsible for the development of a management plan for the conduct of Shock Trials.

4.4.8 Acceptance Trials, Combined Trials, Final Contract Trials and Guarantee Material Inspection.

a. Reference (d) tasks the INSURV with conducting an independent verification of the readiness of a newly constructed ship prior to its acceptance into Naval Service. Reference (k) states that the procedures for conducting trials and inspections must be specified by the President, INSURV. References (f) and (h) provide those procedures for submarines and surface ships respectively. References (f) and (h) are augmented by reference (a) in their application to nuclear powered ships. References (l) and (m) provide detailed information concerning the documentation of deficiencies. In addition, each Supervising Authority, TYCOM, the Naval Ships' Technical Manual (NSTM) and reference (n) all provide additional information concerning AT, CT, GMI and Final Contract Trials (FCT). TYCOM directives are identified in the applicable TYCOM 5215 Notice.

b. Prior to the acceptance and delivery of a new ship, all machinery, electronics and weapons systems installed must be subjected to ATs to determine that the installations are capable of meeting performance specifications. Depending upon the platform type, these trials are referred to as either ATs, or CTs. This independent verification of the ship's readiness for acceptance and recommendation for fleet introduction, as specified in reference (d), is the responsibility of the President, INSURV.

c. These trials are generally two part evolutions. There is an underway portion during which time the INSURV observes the performance of the ship and all equipment and systems. Upon completion of the underway portion, trial board designated equipment and associated components are disassembled for post-trial examination (the open and inspect evolution). References (f) and (h) provide amplifying information concerning this issue.

d. CTs, usually the norm for submarines, are a combination of ATs and FCTs. The AT for non-submarine platforms results in a conditional acceptance primarily based on the

fact that the ship still requires fitting out. Submarines go through the fitting out period during the construction phase which produces a completed ready for sea vessel at delivery. The standard restrictions and escort requirements as specified per paragraphs 4.4.3.b and 4.4.3.c of this chapter apply.

e. FCTs are conducted after the ship has been fully equipped, armed, made complete and ready for service. These trials are normally held just prior to PSA and prior to the end of the guarantee period. Their objective is to determine if there are any defects, failures or deterioration, other than that due to normal wear and tear, directly related to shipbuilder fault which have not been corrected or resolved. The scope of FCTs is essentially the same as AT.

f. A GMI is a material inspection, conducted on submarines prior to PSA by an INSURV per reference (f).

g. INSURV reports from previous ships as held by the Supervising Authority provide familiarity with problems and corrective actions already taken. In addition, these reports provide a baseline for conducting shipboard inspections and generating inputs for the PCO's monthly progress reports.

APPENDIX A

SPECIFIC DOCK TRIAL TEST AREAS

Test Area	Class of Ship			
	MSC Ships	CVN	Surface Force Ships	SSN
1. Check all sound powered and interior communications circuits between all stations.	X	X	X	X
2. Test all alarms, i.e., General Quarters, Collision, etc.	X	X	X	X
3. Test each indication on Ballast Control Panel.				X
4. Test whistle.	X	X	X	X
5. Check emergency lights.	X	X	X	X
6. Operate all hydraulic plants using each installed pump.	X	X	X	X
7. Conduct a complete air charge using only ship's compressors.				X
8. Conduct a normal battery charge using only ship's power and equipment.				X
9. Conduct low-pressure blow of all MBTs. Thereafter conduct dockside operation portion of URO MRC 022.				X
10. Flood sanitary tanks and then blow or pump them.				X
11. Operate each main vent valve in hand and power. Following operation, with vent valves shut, conduct a controlled removal of MBT vent covers, one at a time, to check MBT vents for leaks.				X
12. Operate the outboard induction valve in hand and power.				X
13. Operate the diesel engine exhaust valve in hand and power.				X
14. Operate inboard induction valves.				X

Test Area	Class of Ship			
	MSC Ships	**CVN**	**Surface Force Ships**	**SSN**
15. Raise, train and lower periscopes, snorkel, radar and antenna masts and fairings.				X
16. Test operation of all radio transmitters and receivers using all antennas.	X	X	X	X
17. Operate all radar equipment at rated conditions.	X	X	X	X
18. Operate all sonar equipment at rated conditions.			X	X
19. Take and plot fixes using all navigation equipment and each antenna.	X	X	X	X
20. Test operation of drain pump(s) from all operating locations using each bilge suction.				X
21. Test operation of trim, ballast control and list control system and pump by pumping to and from each tank and by pumping to and from sea (from all operating locations).	X	X	X	X
22. Calculate and enter the diving trim compensation.				X
23. Test operation of portable submersible pump from each installed outlet.	X	X	X	X
24. Fire water slugs from torpedo room.				X
25. Fire water slugs from weapons launch console.				X
26. Test magazine and pyro flooding system.	X	X	X	X
27. Operate each lube oil system, including pumps, controllers, purifiers and indicators.	X	X	X	X
28. Energize the Navigation System and gyrocompass; determine that they settle out; take azimuth; check all repeaters.	X	X	X	X
29. Check fresh water system, have water samples analyzed.	X	X	X	X

Test Area	Class of Ship			
	MSC Ships	**CVN**	**Surface Force Ships**	**SSN**
30. Test capstans.	X	X	X	X
31. Test bow and stern planes in all modes following applicable class operating procedures.				X
32. Operate steering system. Test normal and emergency rudder angle indicators, if applicable.	X	X	X	X
33. Check alignment of periscopes, TBTs and all bearing and range repeaters.				X
34. Test engine order telegraphs.	X	X	X	X
35. Test ABTs.	X	X	X	X
36. Operate each watertight door and hatch.	X	X	X	X
37. Check operation of escape hatch or scuttle fittings.	X	X	X	X
38. Operate each bulkhead flapper and each inter-compartment air salvage valve.				X
39. Operate Signal Ejector by impulse and by hand. Demonstrate satisfactory operation of the Signal Ejector both locally and remotely by firing water slugs and operating the hand rammer through one complete cycle.				X
40. Turn on and check navigation and running lights for brightness and proper lenses (to be done at night). Includes Flight Deck lighting.	X	X	X	X
41. Check air conditioning, chill water, ventilation, and heating systems.	X	X	X	X
42. Check underwater log.	X	X	X	X
43. Check operation of all 400 cycle generating equipment.	X	X	X	X

Test Area	Class of Ship			
	MSC Ships	**CVN**	**Surface Force Ships**	**SSN**
44. Check out all galley, messing, and ship's service equipment.	X	X	X	X
45. Check fathometer.	X	X	X	X
46. Check bilge flooding alarms.	X	X	X	X
47. Check dummy log.	X	X	X	X
48. Check all HP and LP air system.	X	X	X	X
49. Operate distilling units.	X	X	X	X
50. Check out anchor windlass and brake operation.	X	X	X	X
51. Check battery water system.				X
52. Check out atmosphere monitoring equipment, both installed and portable.		X		X
53. Operate oxygen generator, CO_2 scrubbers, CO burners, and emergency air breathing system.				X
54. If possible, lower, train (if applicable), operate and raise secondary propulsion motor(s).				X
55. Ensure that all required planned maintenance to ship depth detectors is complete.				X
56. Operate the diesel.	X	X	X	X
57. Engage and disengage the clutch.			X	X
58. Test Main Engines; Submarines jack main engines.	X	X	X	X
59. Ensure 7-day supply of oxygen onboard.				X
60. Check out all TV monitoring systems.	X	X	X	X
61. Check out SASS upper and lower trolley cars.		X		

Test Area	Class of Ship			
	MSC Ships	**CVN**	**Surface Force Ships**	**SSN**
62. Check out small arms lockers and security devices.	X	X	X	X
63. Check out all IFF equipment.	X	X	X	X
64. Check out degaussing equipment (where applicable).	X	X	X	X
65. Check out Hangar Bay doors.	X	X	X	
66. Check out damage control equipment.	X	X	X	X
67. Inspect and operate oxygen and nitrogen systems.	X	X	X	X
68. Check out all tank level indicating systems.	X	X	X	X
69. Check out Flight Deck communications.	X	X	X	
70. Check out meteorological equipment.	X	X	X	
71. Check out graphics preparation and display equipment.	X	X	X	
72. Check out Weapon Systems. Check to include loading of dummy missile at each launch station, transmission of fire control signals and operation of launchers in all modes.	X	X	X	X
73. Operate all electrical and mechanical medical equipment.	X	X	X	X
74. Inspect all compartments for proper stowage and cleanliness.	X	X	X	X
75. Inspect boiler and diesel fuel oil systems.	X	X	X	X
76. Test and inspect jet blast deflectors.		X		
77. Test and inspect JP-5 fuel systems.	X	X	X	
78. Test and inspect all aircraft starting and handling equipment.	X	X	X	

Test Area	Class of Ship			
	MSC Ships	**CVN**	**Surface Force Ships**	**SSN**
79. Test and inspect aircraft landing equipment including landing signal officer equipment, arresting gear, crash barriers, as applicable.	X	X	X	
80. Operate all RAS equipment.	X	X	X	
81. Inspect paint lockers and sprinkling systems.	X	X	X	
82. Operate all accommodation ladders.	X	X	X	
83. Operate all conveyors.	X	X	X	
84. Launch and raise motor whaleboat.	X	X	X	
85. Operate all boats.	X	X	X	
86. Test and inspect lifeboat, life raft stowage and launch equipment.	X	X	X	
87. Test and inspect all elevators in all modes of operation.	X	X	X	
88. Test and inspect all firefighting systems.	X	X	X	X
89. Test and inspect refrigeration systems.	X	X	X	X
90. Test and inspect all seawater cooling systems.	X	X	X	X
91. Operate stern gate doors.			X	
92. Operate boat handling cranes.			X	
93. Conduct URO MRC 029.				X
94. Test and inspect Torpedo Handling System.				X
95. Test and inspect aircraft elevators.		X	X	
96. Test and inspect aircraft launching equipment including catapults.		X		

Test Area	Class of Ship			
	MSC Ships	**CVN**	**Surface Force Ships**	**SSN**
97. Record megger readings of all antennas where meggering is permissible. (Note: This evolution is not required for PSA unless antennas or hull fittings are specifically worked during PSA.)				X

APPENDIX B

MINIMUM FAST CRUISE REQUIREMENTS

Test Area	Class of Ship			
	MSC Ships	**CVN**	**Surface Force Ships**	**SSN**
1. Make all preparations for getting underway.	X	X	X	X
2. Station the maneuvering watch, sea and anchor detail.	X	X	X	X
3. Station the normal underway watch (section watches).	X	X	X	X
4. Simulate getting underway and return to port. (Day and Night)	X	X	X	X
5. Walk through all major Sea Trial evolutions.	X	X	X	X
6. Walk through the cycling of hull and back-up valves to be tested during the deep dive.				X
7. Exercise the reduced visibility detail.	X	X	X	X
8. Spot check storage and availability of spare parts and tools. Verify adequacy of stores and provisions.	X	X	X	X
9. Rig for dive and rig for surface.				X
10. Simulate diving and surfacing.				X
11. Rig for deep submergence.				X
12. Conduct the following emergency drills:				
a. Fire	X	X	X	X
b. Collision	X	X	X	X
c. Flooding	X	X	X	X
d. Toxic Gas				X
e. Abandon Ship	X	X	X	X
f. Man Overboard	X	X	X	X

Test Area	Class of Ship			
	MSC Ships	**CVN**	**Surface Force Ships**	**SSN**
g. Submarine Escape				X
h. Loss of AC Power	X	X	X	X
i. Emergency Ventilation				X
j. Loss of Air Conditioning or ACW		X		X
k. Loss of Lighting	X	X	X	X
l. Loss of Interior Communications	X	X	X	X
m. Loss of Steering	X	X	X	X
n. Engine Casualty Control	X	X	X	X
o. Flight deck and hangar deck crash drills, fire drills, barricade drills, and MOVLAS drills		X		
13. Set General Quarters. Exercise the crew at battle stations.	X	X	X	X
14. Conduct communication and ECM drills.	X	X	X	X
15. Conduct an air charge to all air banks.				X
16. Bleed oxygen and ventilate ship. Ensure 7-day supply of oxygen onboard.				X
17. Anchor (walk-through).	X	X	X	X
18. Exercise damage control party with emergency and damage control equipment.	X	X	X	X
19. Operate atmosphere control equipment and take air samples.				X
20. Perform the minimum Fast Cruise requirements for nuclear propulsion plants contained in reference (o).		X		X
21. Operate air conditioning plants to demonstrate ability to carry the maximum existing ship's air conditioning load or 100% capacity.	X	X	X	X

Test Area	Class of Ship			
	MSC Ships	**CVN**	**Surface Force Ships**	**SSN**
22. Operate fresh water and seawater heat exchangers at sufficient load to demonstrate proper operation.				X
23. Simulate underway conditions, performing all evolutions and operating all equipment.	X	X	X	X
24. Simulate boat transfer at sea.	X		X	
25. Conduct competitive and non-competitive drills and exercises such as aircraft tracking and aircraft control.	X	X	X	
26. Light-off main propulsion plant, shift to ship's power and run all engines with steam for a short period of time.	X	X	X	X
27. Man Towing, Salvage and Fueling Stations.	X	X	X	
28. Set Flight Quarters as applicable.	X	X	X	

APPENDIX C

LISTING OF TESTS TO BE PERFORMED DURING AIRCRAFT CARRIER BUILDER'S TRIALS

1. The following systems and components will be tested during Aircraft Carrier Builder's Trials:

   a. Auxiliaries

      Emergency Diesel Generators
      O_2N_2 Plants (Forward and Aft)
      Steering Gears
      Motor Driven Fire Pumps and Eductors
      Anchor Windlass
      Stores Conveyors
      Hot Water Heaters
      HP Air Compressors
      Ship Service and Control Air Compressors
      Air Filter Cleaning
      Air Conditioning and Refrigeration Systems
      Turbine Generator and Diesel Generator (Load Transfer Operations)

   b. Aviation

      Aircraft Elevators 1, 2, 3, 4
      Aircraft Starting and Servicing Power
      Boat and Airplane Crane
      Flight Deck Night Lighting
      Arresting Gear
      Aircraft Barricade
      Jet Engine Test Facility
      Elevator Doors and Hangar Bay Division Doors
      Landing Officer's Console and Windscreen
      Visual Landing Aid
      Catapults (No Load Launching)
      Jet Blast Deflectors
      Integrated Catapult Control Stations
      Hangar Bay Darken Ship Switches
      JP-5 Filling, Transfer and Service System

   c. Combat Systems

      Upper Stage Weapons Elevators
      Flight Deck Hatches
      Magazine Sprinkling and Alarms
      Lower Stage Weapons Elevator 7 Hatches
      Inspect Masts

   d. Damage Control

      Halon Fire Protection System

Machinery Space and Pump Rooms 2 and 3 AFFF
Diesel Driven Portable Pumps
Aqueous Potassium Carbonate System
Miscellaneous Sprinkling Systems
Electrical Driven Portable Pumps
List Control Pumps
Magazine Sprinkling and Alarms Systems
CO_2 Hose Reels
Hydraulically Operated Valves
Hangar Bay and Weapons Elevator AFFF
Turbine Driven Fire Pumps

e. Deck

Ship's Boats
Boat and Airplane Crane
Anchor Windlass
Sliding Padeyes
Replenishing-At-Sea Winches
Trash Burners
Mooring and Warping Capstans
Replenishing-At-Sea Support Legs

f. Electrical

Ship Service and Coolant Turbine Generators
Aircraft Elevators 1, 2, 3, 4
Emergency Diesel Generators
Aircraft Starting and Servicing Power
Steering Gear
Gyro-Compass Standby Power Supply
Anchor Windlass
Miscellaneous Alarms (Non-Navigational)
IC CKTs: BZ or JB, CX, DA, 1DL, 3DL, 4FD, 14FD
Degaussing System
General, Chemical and Collision Alarms From All Stations
Flight Deck Crash Alarms
Flight Deck Night Lighting
Navigation Lights
Hangar Bay Darken Ship Switches:
Turbine Generator and Diesel Generator Load Transfer Operations
Mooring and Warping Capstans
400 HZ MG Set Parallel Operations

NOTE: ALL SCUPPERS MUST BE OPERATED FOR CHT CERTIFICATION

g. Environmental Protection

Collection, Holding and Transfer (CHT) Dockside Pumping
CHT SYS - Switch To Holding Mode

CHT SYS - Switch To At-Sea Mode
CHT Valve Rooms 3 Through 9 Valve Operations (4th Deck)

h. Main Propulsion

Shaft Seals Including Inflatable Seals

i. Medical and Dental

Brominators

j. Navigation

Steering Gear
Engine Order Telegraph
Rudder Angle Indicating System
Gyro-Compass Standby Power Supply
General Announcing System
Bridge Announcing System
Ship's Whistles
Pelorus, Signal Lights and Big Eyes
Degaussing System
Visibility - Pilot House, Bridge and Lookout Stations
Navigation Lights
AN/SRN-25 Radio Navigation
AN/SRN-9 Satellite Navigation
AN/SPS-64 Navigation Radar
AN/WRN-6 GPS
Wind Direction
DRTs and DRAI
Magnetic Compass
AN/WSN-1 Navigation System
MK 19 Compass

k. Supply

Stores Conveyors
Laundry
Dumbwaiter
Bridge Crane
Scullery

APPENDIX D

LISTING OF TESTS TO BE PERFORMED DURING INITIAL TIGHTNESS DIVE (SUBMARINES ONLY)

1. The following tests and evolutions will be carried out on the surface en route to the test dive area and prior to the initial tightness dive:

a. Underway. Rig for dive (for Alpha Trial, rig for deep submergence is required for the initial dive). Compensate. Start-up reverse osmosis units.

b. Ship's Force instruct Sea Trial riders on the proper use of EAB masks.

c. Conduct operational test of rudder in normal and emergency modes.

d. Navigation system check. Take fixes by all electronic, celestial, and visual means and compare.

e. Test underwater log(s) using the base course and reciprocal course method (i.e., inertial reference method) or other approved functional procedures to determine accuracy.

f. Check accuracy of all bearing transmitters and indicators. Compare sonar, visual and radar bearings.

g. Check operation of all radar.

h. Check all radio transmitters, receivers and electronic equipment.

i. Inspect stern tube packing glands, seals and circulating water flow for excessive heating, leakage and audible noise.

j. Check Dead Reckoning Analyzer Indicator (DRAI), Dead Reckoning Analyzer (DRA), Dead Reckoning Tracers (DRT) and RPM indication. If certified for electronic navigation, verify satisfactory operation of the Voyage Management System including the ability to receive inputs from the Navigation System, Electromagnetic Logs, Radar bearings, Sonar bearings, fathometer and Gyrocompass, as applicable.

k. Test fathometer(s) and compare with charted soundings.

l. Run ahead at full power long enough for temperatures to reach a stable value. After readings have stabilized, operate rudder through full throw in each direction in normal and emergency power. Time evolution and compare with design values. Check out hand modes.

m. Ahead flank to back emergency.

n. Fire Control System operation.

o. Check operation and accuracy of ship's gyrocompass.

p. Check operation of magazine/pyro locker flooding if not tested in industrial activity.

q. Rendezvous with escort. Conduct radio and sonar communications checks. (See Note 1).

r. Test all bottomside sonar.

s. Test bow plane, sail plane and stern plane operations in all modes.

t. Flood variable tanks to computed compensation.

u. Record megger readings of all antennas where meggering is permissible. (See Note 8).

v. Operate trim and drain pumps.

w. Test variable ballast system for proper operation.

NOTE: CONDUCT PARAGRAPHS 1 AND 3 OF URO MRC 022 (DOCKSIDE OPERATION OF EMBT BLOW SYSTEM VALVES) OR EQUIVALENT SHIPYARD TEST PROCEDURE DURING DOCK TRIALS PER APPENDIX A OF THIS CHAPTER FOR THE TEST OF THE EMBT BLOW SYSTEM. ENSURE THE REMAINING PORTIONS OF URO MRC 022, OR AN EQUIVALENT NAVSEA APPROVED TEST PROCEDURE, THE TEST OF THE EMBT BLOW SYSTEM, ARE COMPLETED PRIOR TO INITIAL DIVE TO TEST DEPTH ON ALPHA SEA TRIAL (INITIAL BUILDER'S SEA TRIAL).

x. Perform a low pressure, normal and EMBT blow for as long as necessary to verify system operability. A static blow must not be used to test the EMBT blow system.

y. Operate on the Emergency Propulsion Motor (EPM) for 10 minutes.

z. Motor generator set operation.

aa. Ventilate ship.

ab. Start atmosphere control equipment.

ac. Additional requirements may be imposed at the discretion of the CO.

NOTE: REQUIRED SYSTEMS ARE LISTED IN PARAGRAPH 4b OF REFERENCE (i). OBSERVE RESTRICTIONS ON OPERATION OF SYSTEMS LISTED IN PARAGRAPH 4d OF REFERENCE (i). BALL VALVE TRASH DISPOSAL UNITS (TDU) (WITHOUT REMOTE CLOSURES) WILL NOT BE OPERATED BELOW 200 FEET.

2. The following tests and evolutions will be carried out immediately prior to or during the initial tightness dive:

a. Obtain navigational fix and take sounding. Maximum depth of water is 400 feet as specified in reference (p).

b. Conduct a dive to periscope depth. Obtain stop trim, if practical, at periscope depth. If sea state requires deeper submergence, proceed slowly to 150 feet for SSN 688 Class submarines (155 feet for SSN 774 Class submarines), (160 feet for SSN 21 and SSBN or SSGN 726 Class submarines) to obtain stop trim. Maximum keel depth must be per Table 1 of Appendix F.

c. Inspect the discharge of all automatic drains in each EMBT Blow quadrant for seawater leakage prior to the first dive when the ballast tanks are flooded (e.g., at periscope depth).

d. Check operation of ship control systems, including depth indication. (See Note 2).

e. Shoot pyrotechnics from each ejector by hand and impulse methods, as applicable (see Notes 3 and 4).

f. Communicate with escort on WQC at each depth increment or at ten-minute intervals, whichever is sooner. If communications are lost, return to depth at which communications can be established before continuing (see Note 1).

g. All hands inspect for leaks and report them to the Sea Trial coordinator.

h. Operate all periscopes, checking optics and for leakage. Operate all masts.

i. Test full throw of rudder and planes at slow speeds.

j. Test operation of trim and drain systems.

k. Check all sonar equipment on each hydrophone.

l. At 155 feet for SSN 774 Class submarines and at 160 feet for SSBN 826 Class submarines (if installed), verify operation of each BQN-13 transmitter using the ship's own SONAR.

m. Comply with the Command Control Systems (CS or CCS) Test Program regarding the shooting of water slugs. This event is not required by the TYCOM if not required by the CS or CCS Test Program (see Notes 3 and 4).

n. Snorkel, test operation of stills and air compressors (see Notes 4 and 5).

o. Operate all hull and back-up valves and equalize sea pressure on all systems designed for test depth (see Notes 4, 6 and 7).

p. Check hovering system (where applicable) (see Note 4).

q. Ensure air banks are charged to within 200 psi of full pressure.

r. Line up MBT blow system for maximum blow rate.

s. Conduct EMBT blow from 200 feet keel depth. Check bank pressure before and after surfacing. Surfacing with EMBT blow may be delayed to permit additional testing, commencing pre-transit valve operating cycling or transit submerged. However, first surface after initial tightness dive must be by EMBT blow from 200 feet.

t. Additional requirements may be imposed at the discretion of the CO.

NOTES

1. **In the execution of any Sea Trial, whether escorted or not, submarine COs are reminded of their responsibility to communicate with escorts or shore authorities, or both, within prescribed, previously agreed upon time limits to avoid initiation of inadvertent lost contact or submarine disaster procedures.**

2. **Compare all depth and pressure gages. Depth and pressure gages should be checked as soon as the next specified depth is reached.**
3. **Integrity of launchers or signal ejectors must be established by admitting sea pressure through equalizing lines or flooding connection and the muzzle valve or door operated before conducting operational tests. Shoot water slugs from specified launchers or signal ejectors, at specified depths, as required by the CS or CCS test program. Shoot pyrotechnics on initial dive and at test depth on the deep dive. Shooting of pyrotechnics during the initial dive must be accomplished in conjunction with the 200 foot EMBT Blow. Shooting of pyrotechnics at test depth during the deep dive must be accomplished in conjunction with the test depth EMBT blow.**
4. **Those seawater systems which are not required for normal safe operation of the ship at test depth but which have been designed for and may be subjected to test depth pressure should not be subjected to submergence pressure during the initial dive to any specified depth (e.g., a blown sanitary tank). (See reference (i)).**
5. **Check operation of electrodes; head valve and each snorkel safety circuit.**
6. **Depth increments for cycling vital sea valves are as set forth in reference (i).**
7. **This evolution (initial operation of hull and back-up valves in fully submerged condition) at depths other than specified in reference (i) is intended for crew training and is not technically required. Evolution may be abbreviated or deleted on a case basis with concurrence of the embarked TYCOM representative.**
8. **Meggering of antenna may be accomplished during dock trials but must be accomplished prior to initial deep dive.**

APPENDIX E

ESCORT SHIP CAPABILITIES FOR SUBMARINE SEA TRIALS

1. Radio Communication:

   a. Ability to transmit and receive on two Ultrahigh Frequency (UHF) and on High Frequency (HF) circuits simultaneously including 243.0 MHZ or equivalent system capabilities (Very High Frequency (VHF) and INMARSAT-C).

   b. Equipped to tape record all non-secure radio transmissions between the submarine and the escort.

   c. Capability to communicate on the submarine UHF, HF or equivalent system capabilities (VHF or INMARSAT-C) circuits.

2. Sonar and Sonar Communications:

   a. Equipped with underwater telephone capable of communicating to the submarine's test depth or equivalent system capabilities.

   b. Sufficient operators to man underwater telephone on a continuous basis, including a Continuous Wave (CW) capable operator on call if the requirement for CW communication develops.

   c. Equipped to tape record (installed or portable) all transmissions between the submarine and the escort by underwater telephone.

   d. Explosive charge signals or active sonar called for by AXP-1.

3. Navigation:

   a. Equipped with an operable LORAN C, Global Positioning System (GPS) or the latest accurate off-the-shelf navigational equipment.

   b. Equipped with an operable DRT or equivalent system capability.

   c. Possess navigational capability to fix his position to two miles' average accuracy.

   d. Fathometer.

   e. Gyrocompass.

   f. Underwater log or equivalent system capability.

4. Sea keeping and speed:

   a. Ability to remain at sea for one week in State 6 seas.

   b. Be capable of making 10 knots. Escorts will keep the submarine informed of any speed or sea state limitations. In addition, if the escort has an unfaired WQC hydrophone, it must notify the submarine of the maximum sea state and speed which will not restrict WQC communications. If the submarine requires a speed above this limit, the submarine should run a track about the escort within WQC range.

APPENDIX F

LISTING OF TESTS TO BE PERFORMED PRIOR TO, DURING AND FOLLOWING FIRST DIVE TO TEST DEPTH

1. The following tests and evolutions, as summarized in Table 1 of this appendix, will be carried out following the initial tightness dive and prior to the deep dive:

a. Six hours of Independent Ship Exercise for crew training. (See Note 1).

b. Charge air banks and battery if necessary. The ship may be submerged while charging air banks provided the depth of the ship does not exceed other guidelines in this instruction, or those of the flooding bill or ship's operating procedures.

c. Operate IFF and ESM equipment. If possible, use aircraft. (See Note 2).

2. The following tests and evolutions, as summarized in Table 1 of this appendix, will be carried out immediately prior to or during the first deep dive. Per Volume V of this manual, a second deep dive must be performed to complete valve cycling and operation of systems not required for normal safe operation of the ship, i.e., torpedo tubes, Trash Disposal Unit (TDU), hovering, plumbing. (See Note 3).

a. Ensure that air banks are charged to within 200 psi of full pressure.

b. Ensure all MBT blow systems are fully operational and in a normal line up configuration.

c. Take sounding. Maximum water depth is given in reference (p). Accurately fix the ship's position within the specified dive area (reference (p)).

d. Conduct a dive to periscope depth. Obtain speed trim, if practical, at periscope depth. If sea state requires deeper submergence, proceed slowly to (150 feet for SSN 688 Class submarines), (155 feet for SSN 774 Class submarines), (160 feet for SSN 21 and SSBN or SSGN 726 Class submarines) to obtain speed trim. (See Note 4).

e. Obtain stop trim. Take readings and water samples required to make a check of ballasting. Stop trim should be conducted at the most desirable time during the trials.

f. Trim ship to maintain neutral buoyancy. (See Note 5).

g. Line up propulsion plant for maximum reliability following ship's instructions.

h. Rig ship for deep submergence, except reverse osmosis units. All systems should be in the maximum secure condition with unnecessary sea systems isolated. (See Note 6).

i. Station personnel throughout the ship to inspect for leaks.

j. At depths specified in reference (i):

(1) Inspect for leaks.

(2) Adjust trim. (See Note 5).

(3) Communicate with escort at each 100 feet depth increment or at 10-minute intervals, whichever is sooner. If communications are lost, return to depth at which communications can be reestablished before continuing. (See Note 7).

NOTE REQUIRED SYSTEMS ARE LISTED IN PARAGRAPH 4b OF REFERENCE (i). OBSERVE RESTRICTIONS ON OPERATION OF SYSTEMS LISTED IN PARAGRAPH 4d OF REFERENCE (i). BALL VALVE TRASH DISPOSAL UNITS (TDU) (WITHOUT REMOTE CLOSURES) WILL NOT BE OPERATED BELOW 200 FEET.

k. At depths listed for hull valve cycling in reference (i) (as applicable) per NAVSEA approved Deep Dive Test Form:

(1) Check accuracy of gages and repeaters.

(2) Conduct operational test of signal ejectors. (See Note 8).

(3) Check shaft bearings and stern tubes for excessive heating, leakage and noise. Shaft seals must be tested at each depth and for the required time, as specified in the approved class test form.

(4) Cycle rudder and planes through full throw to check for binding. (See Note 9).

(5) Operate all hull and back-up valves (using remote closures, as applicable, from flooding control stations) of seawater systems required to maintain propulsion and other functions vital to the ship's operation at increments of depth specified in reference (i). Required systems are listed in paragraph 4.b. of reference (i). Observe restrictions on operation of systems listed in paragraph 4.d. of reference (i).

(6) Check operation of bulkhead flappers and watertight doors for binding.

(7) Operate trim and drain pumps, discharging to sea.

(8) Cycle components of each torpedo tube. Check for leakage. Establish integrity of torpedo tubes by admitting sea pressure through equalizing lines or flooding connection before cycling components (see Notes 3, 8 and 16).

(9) Vent negative tank inboard (if installed). (See Notes 3 and 10).

(10) Cycle main vents to check for binding.

l. At maximum authorized operating depth:

(1) Repeat item 2.k.(1) of this appendix - Depth gages and repeaters.

(2) Operate each signal ejector by impulse and hand, as applicable. (See Notes 3 and 8).

(3) Repeat item 2.k.(3) of this appendix - Shafting and bearings.

(4) Repeat item 2.k.(5) of this appendix - Hull and back-up valves.

(5) Repeat item 2.k.(6) of this appendix - Bulkhead flappers and watertight doors.

(6) Repeat item 2.k.(7) of this appendix - Trim and drain pumps.

(7) Repeat item 2.k.(8) of this appendix - Torpedo tubes. (See Notes 3 and 16).

(8) Repeat item 2.k.(9) of this appendix - Negative tank (if applicable).

(9) Equalize TDU with sea pressure through trim line. During conduct of the Deep Dive Test Form on new construction submarines, the TDU Hull Valve will be cycled at depths specified by reference (i) in order to meet material certification requirements. (See Note 3).

(10) Equalize sea systems and cycle hull and back-up valves as specified in reference (i).

(11) Repeat item 2.k.(10) of this appendix - Cycle main vents and check for binding.

m. After the deep dive, surface fully with EMBT blow from the depth required per the NAVSEA approved EMBT Test Procedure and the approved Sea Trial Agenda. Check air bank pressures before and after blow.

n. Additional requirements may be imposed at the discretion of the CO.

3. The following tests and evolutions will be carried out submerged following the deep dive:

a. Steering and diving operation at full speed. (See Notes 4 and 11).

b. Full power run. (See Notes 11, 12 and 13).

c. Steep angles - operate the ship through several depth changes using large up and down angles to check operation of ship machinery. (See Notes 11 and 14).

d. Time raising each periscope and mast at maximum depth and speed for which they were designed. Check training feature where applicable.

e. Run and observe air conditioning plants throughout trials. Operate the air conditioning plant to demonstrate ability to carry entire maximum existing ship's air conditioning load, or 100 percent capacity.

f. Run and observe refrigeration plant throughout trials.

g. Missile fire control erection performance tests (Vertical Launch System (VLS) on SSN).

h. Missile fire control alignment (VLS on SSN).

i. Missile tube muzzle hatch operation (VLS on SSN).

j. Missile compensation system operation submerged (VLS on SSN).

k. Additional requirements may be imposed at the discretion of the CO.

l. Comply with the CS or CCS test program with regard to firing of water slugs and testing of torpedo tubes. (See Notes 3, 8 and 16).

4. The following tests and evolutions will be carried out on the surface following the deep dive:

a. Note condition of periscope optics.

b. Measure resistance to ground of all external electrical cables.

c. Take radio antenna megger readings immediately after surfacing, again in one-half hour, and compare with readings obtained in Appendix D, step 1.v. of this chapter.

d. With ship proceeding at full speed, conduct low-pressure blow (if installed) to check whether circulation water systems and machinery become air bound.

e. Measure resistance, across and to ground from each side, of all sonar hydrophones, projectors and transducers. (See Note 15).

TABLE 1. SUMMARY OF SIGNIFICANT UNDERWAY TRIAL REQUIREMENTS

Sea Trials	Initial Tightness Dive	Transit	Deep Dive
Policy References	Appendix D, paragraph 2 of this chapter.	Appendix F, paragraph 1 of this chapter.	Appendix F, paragraph 2 of this chapter.
Start Depth	Surface	Surface to 400 ft.	Surface to 400 ft.
Conduct Depth	Periscope depth or about 150 ft for SSN 688 Class (155 ft for SSN 774 Class), (160 ft for SSN 21 and SSBN or SSGN 726 Class) if sea state dictates for trim. Remaining events of Appendix D, paragraph 2 of this chapter no deeper than 200 ft.	Surface to 400 ft but not to exceed deepest depth previously escorted or valve cycling accomplished. Additional trials and testing permitted within the Independent Ship Exercise, crew rest and other requirements of this instruction.	200 ft increments to one half Maximum Authorized Operating Depth, then 100 ft increments to Maximum Authorized Operating Depth.
Maximum Keel Depth	200 ft.	One half test depth.	Maximum Authorized Operating Depth.
Finish Event	Surface from 200 ft with EMBT blow.*	Rendezvous with escort.	Deep dive will be terminated with an EMBT blow from Maximum Authorized Operating Depth Appendix F section 2.
Escort Required	Yes**	No	Yes**
Water Depth	400 ft per reference (p)	Unlimited.	Reference (p).

* May be delayed to permit additional testing, commencing pre-transit valve operating cycling or transit submerged. However, first surface after initial tightness dive must be by EMBT blow from 200 feet.

** An escort is required on the initial tightness dive and on subsequent first dive to any deeper depths, i.e., the first dive to any depth requires an escort. EMBT blow escort requirements given in paragraph 4.4.3.c of this chapter.

NOTES

1. Each person involved in Sea Trials should be allowed a minimum of six hours of continuous, uninterrupted sleep during any 24-hour period encompassed by the Sea Trial.
2. Event is optional with regard to sequence. May be conducted at any time during Sea Trials and is not a prerequisite to the deep dive. If listed with initial tightness dive events, completion is not mandatory prior to proceeding with remainder of trials.
3. Those seawater systems which are not required for normal safe operation of the ship at test depth but which have been designed for and may be subjected to test depth pressure should not be subjected to submergence pressure during the initial dive to any specified depth (e.g., a blown sanitary tank). (See reference (i)).
4. At maximum safe speed, operate the rudder and planes through full throw in both directions in normal and emergency power. Time evolutions and check against design values.
5. Deep dive should be conducted using moderate speed, or as approved by NAVSEA, and constantly adjusting trim, at depths specified in reference (i), to maintain neutral buoyancy. Moderate speed must be defined as that range of speed that allows the ship to recover from a loss of stern plane control or flooding casualty.
6. Reference (i) prescribes procedures for systems operation during deep dive.
7. In the execution of any Sea Trial, whether escorted or not, submarine COs are reminded of their responsibility to communicate with escorts or shore authorities, or both, within prescribed, previously agreed upon time limits to avoid initiation of inadvertent lost contact or submarine disaster procedures.
8. Integrity of launchers or signal ejectors must be established by admitting sea pressure through equalizing lines or flooding connection and the muzzle valve or door operated before conducting operational tests. Shoot water slugs from specified launchers or signal ejectors, at specified depths, as required by the CS or CCS test program. Shoot pyrotechnics on initial dive and at test depth on the deep dive. Shooting of pyrotechnics during the initial dive must be accomplished in conjunction with the 200 foot EMBT Blow. Shooting of pyrotechnics at test depth during the deep dive must be accomplished in conjunction with the test depth EMBT blow.
9. Cycling of rudder and planes through full throw should be limited to 90% of test depth.
10. Test to demonstrate the ability of the tank to withstand external pressure.
11. The required sequence of events is initial dive, deep dive, full power run submerged, then high speed maneuverability and steep angle tests. On initial propulsion plant trials for new construction nuclear powered submarines, the deep dive will be to test depth minus 300 feet unless otherwise approved by NAVSEA or the TYCOM and reflected in the Sea Trial Agenda.
12. Run full power submerged for at least two hours. COs may schedule the full power run for four hours if deemed necessary. Operate at minimum non-cavitating depth but not to exceed 400 feet. Water depth is not limited for this event.

13. Propulsion Plant Tests. The full power trial for new construction submarines will follow building specifications or directions from the Navy Shipbuilding Program Manager. Submarine depth during the submerged full power trials should be limited to 400 feet. The submerged full power ahead test for commissioned nuclear powered submarines must be terminated by a back emergency bell. The duration of the back emergency bell must be limited to 45 seconds, to be followed immediately by an appropriate ahead bell. Caution must be exercised to avoid stern way.
14. Completion of full power, deep dives and EMBT Blow Test Forms are prerequisites for the high-speed maneuverability and steep angle tests. Initial high-speed ship control tests, steep angle tests and exercises of major casualties must be conducted in water that does not exceed one and one-half times design test depth, which equates to collapse depth.
15. The spherical array need not be done if an array purge or power into the array measurements are scheduled at a later date.
16. Fire water slugs from torpedo tubes at the depths and speeds required by the CS or CCS test program (or Combat Systems Assessment or Non-Propulsion Electronic System Operability, Verification and Evaluation, as applicable).

VOLUME I

CHAPTER 5

POST DELIVERY DEFICIENCIES

REFERENCES.

(a) NAVSEAINST 4790.8/OPNAVINST 4790.4 - Ships' Maintenance and Material Management (3-M) Manual
(b) INSURVINST 4730.1 - Material Inspections (MI) of Surface Ships
(c) INSURVINST 4730.2 - Trials and Material Inspections of Submarines

LISTING OF APPENDICES.

A Sample Page of 4760-1 Report with Representative Data
B Legend and Explanation of Symbols Used in Report 4760-1
C Preparation for Guarantee Material Inspection and Final Contract Trials

5.1 PURPOSE. The purpose of this chapter is to provide a procedure to identify and document deficiencies found in new construction ships. This chapter focuses on the period from initial Acceptance Trials (AT) until the termination of funding responsibility under the Shipbuilding and Conversion, Navy (SCN) appropriation. Proper management of these deficiencies is necessary to ensure:

a. Final settlement of the construction contract with the shipbuilder.

b. Correction of the maximum number of shipbuilder responsible deficiencies under terms of the construction contract.

c. Correction of the maximum number of government responsible deficiencies under the SCN appropriation.

d. Identification of all new construction deficiencies which must be corrected subsequent to the guarantee period under appropriations other than SCN, and identification of improvement items which have class application.

Deficiency items not adjudicated prior to Combined Trials (CT) and the Guarantee Material Inspection (GMI) for submarines or during ATs and Final Contract Trials (FCT) for all other ships are identified to the Navy by the Board of Inspection and Survey (INSURV). Additional items are identified during Naval Sea Systems Command (NAVSEA) Acoustic Trials, Combat System Certification Trials (CSCT) and by the Commanding Officer (CO) of the ship during the contract guarantee period and reported to the Supervising Authority.

5.2 DEFICIENCY CORRECTION. Deficiencies are addressed in terms of three general categories. The procedure for initiating corrective action for a deficiency is determined by the category.

5.2.1 Government Responsible Items. The obligation and work limiting date for all shipbuilding programs under the SCN appropriation will normally be at the end of the 11th month following completion of the fitting out period. For submarines, the fitting out period ends at delivery. Government responsible work accomplished in support of a new construction ship and funded under SCN is limited to work which can be completed prior to the end of this 11-month period.

Authorization for correction of non-reactor plant government responsible deficiencies is provided by the Navy Shipbuilding Program Manager based on a priority assignment by the ship and recommendations from the Type Commander (TYCOM). Authorization for correction of reactor plant government responsible deficiencies is provided by NAVSEA Nuclear Propulsion Directorate (08).

5.2.2 Shipbuilder Responsible Items. Construction contracts with private industrial activities contain a guarantee clause. The rights of the government concerning deficiencies identified during the guarantee period are set forth in the contract. Deficiencies must be identified and reported to the shipbuilder and cognizant government agencies prior to the end of the guarantee period in order for corrective action to be established. Correction of deficiencies designated shipbuilder responsible can be accomplished during any subsequent period that the ship is made available to the shipbuilder. Availability of the ship is usually limited to the Post Shakedown Availability (PSA), except under special circumstances when immediate corrective action prior to PSA is required to permit the ship to meet operational commitments. The ship may also be made available to the shipbuilder after PSA to permit follow-up corrective action on shipbuilder responsible deficiencies identified during the guarantee period but not satisfactorily corrected during PSA.

5.2.3 Recommended Changes in Characteristics, Design Specifications, or Plans. Improvements to the ship recommended by INSURV will be investigated by the Navy Shipbuilding Program Manager. Action, as appropriate, will be initiated by a government approved change. This change may be in the form of a Field Modification Request (FMR), Headquarters Modification Request (HMR), Ship Change, Strategic Systems Programs Alteration (SPALT), Service Change and Field or Engineering Change Proposal. Changes of this nature usually have application to more than one ship of the class. Improvements to the ship recommended by Ship's Force should be forwarded by the CO per Volume VI, Chapter 3 (submarines) or Volume VI, Chapter 36 (surface force ships and aircraft carriers), as appropriate, of this manual to the Navy Shipbuilding Program Manager via the Supervising Authority.

5.3 REQUIRED REPORTS. The responsibility for ensuring deficiencies are corrected rests jointly with the CO, the Supervising Authority and the Navy Shipbuilding Program Manager. The method of corrective action varies with the type of deficiency and may involve the coordinated action of several activities. In order to effectively prosecute each deficiency, special reporting and handling procedures are necessary. The Ship's Maintenance Data System must be implemented not later than delivery per reference (a). This will provide a smooth transition into the appropriate ship and shore based data management systems and permit Maintenance and Material Management (3-M) documentation of all INSURV deficiencies for use with the Consolidated Report. The Consolidated Report provides follow-up action on all deficiencies and minimizes administrative effort.

a. Consolidated Report. A Consolidated Report, compiled by the Navy Shipbuilding Program Manager, combines into one document the screening actions, reports of completed actions and significant information listed(as applicable):

(1) AT or CT INSURV Report.

(2) FCT or GMI INSURV Report.

(3) Post Delivery Deficiency Items (PDDI).

(4) CSCT.

(5) Silencing Deficiencies.

(6) HMRs.

(7) Navy Shipbuilding Program Manager action on all deficiencies.

(8) Shipbuilder Delivery Letter.

(9) Supervising Authority evaluation of shipbuilder comments on Deficiency Items.

(10) Priority assignment of all deficiencies.

(11) TYCOM action on all deficiencies.

(12) Authorized action for PSA for appropriate items.

(13) Final status of all deficiencies at the end of the SCN funding period (PSA Completion Report).

(14) TYCOM final action on each item uncorrected at the end of the SCN funding period.

(15) Identification of deficiencies requiring Navy Shipbuilding Program Manager action to develop corrective action.

(16) Estimated cost to the government for correction by Forces Afloat of shipbuilder responsible deficiencies.

(17) Antenna Inspection Deficiency Items.

b. Report Format. Appendix A of this chapter is an example of a completed page of the Consolidated Report, containing sample entries from various parts. The symbols used in defining the action taken by each activity are described in Appendix B of this chapter along with a discussion of the use of each column. The Consolidated Report typically consists of the following parts:

(1)	Part A	Key Definitions for Symbols used in the PSA Work Package.
(2)	Part B	INSURV Deficiencies.
(3)	Part C-I	Non-Nuclear HMRs.
(4)	Part C-II	Other Non-Nuclear Items.
(5)	Part C-III	Non-Nuclear CSCT Items.
(6)	Part D	Antenna Inspection Deficiency Items.
(7)	Part E	PDDIs.
(8)	Part F	Silencing Deficiencies.

c. Preparation.

(1) Part B:

(a) List of INSURV deficiency items: Prepared by the Navy Shipbuilding Program Manager and distributed following CT or AT.

(b) List of INSURV GMI or FCT items: Prepared by the ship per Appendix C of this chapter immediately following the GMI or FCT for use by NAVSEA at the GMI or FCT Card Conference. The Navy Shipbuilding Program Manager will distribute a finalized GMI or FCT list following the GMI or FCT Card Conference.

(2) Part C-I, C-II, C-III, D and F: Prepared and distributed by the Navy Shipbuilding Program Manager.

(3) Part E: Prepared by the ship as discussed in section 5.6 of this chapter.

d. Reporting.

(1) Thirty days after delivery, the ship will submit marked up copies of Part B indicating the priority assignment of each uncorrected CT or AT deficiency (Navy Shipbuilding Program Manager, TYCOM, Immediate Superior in Command (ISIC), Supervising Authority).

(2) The Navy Shipbuilding Program Manager will prepare and distribute marked up copies of Parts C-I, C-II, C-III, D and F as the information becomes available.

(3) Priority assignment for Part B deficiencies (including review of all uncorrected CT or AT deficiencies) is determined at the GMI or FCT Card Conference. Marked up copies are retained by all participants. (Navy Shipbuilding Program Manager, TYCOM, ISIC, Ship, Supervising Authority).

(4) The ship will report deficiencies discovered after GMI or FCT and before the end of the SCN period per section 5.6 of this chapter.

(5) Deficiencies listed in the Consolidated Report which are corrected by Forces Afloat are to be reported in writing to the Navy Shipbuilding Program Manager with copies to the TYCOM, the Supervising Authority as appropriate, and the scheduled PSA activity. This report will normally be submitted by the ship at the end of a refit or maintenance period. Negative reports are not required.

(6) The ship will submit a marked up copy of the Consolidated Report to the TYCOM; copy to the ISIC, Navy Shipbuilding Program Manager, Supervising Authority, Submarine Maintenance Engineering, Planning and Procurement (SUBMEPP) Activity (for submarines), Surface Maintenance Engineering, Planning Program (SURFMEPP) (for surface force ships) and the President of the INSURV Board thirty days after PSA or at the end of the guarantee period, whichever is later. This report will indicate the final status of all deficiencies identified during the guarantee period.

5.4 COMBINED TRIALS or ACCEPTANCE TRIALS. The CT or AT is scheduled by the Supervising Authority and conducted by the INSURV Board. The Supervising Authority in

conjunction with the ship's CO will present to the INSURV Board known deficiencies which require correction.

5.5 GUARANTEE MATERIAL INSPECTION or FINAL CONTRACT TRIALS. GMIs or FCTs are scheduled by the TYCOM and conducted by the INSURV Board after shakedown, prior to the end of the guarantee period. These inspections or trials provide a formal evaluation of the material condition of each newly constructed ship after limited service. GMIs or FCTs are conducted sufficiently in advance of PSA to allow "lead time" for the procurement of material and the advanced planning required for the correction of deficiencies during the availability. The CO will present the ship's material status to the INSURV Board following the guidance in Appendix C of this chapter. GMIs are conducted for submarines; all other ships will undergo an FCT.

5.6 POST DELIVERY DEFICIENCY ITEMS. The CO is responsible for reporting deficiencies not otherwise identified by INSURV, until the end of the SCN period per the following procedures. By using the same format for PDDI reporting as for INSURV items and by extending the use of the Consolidated Report to include these items, the same management attention is afforded to all construction deficiencies.

a. The following types of problems should be reported as PDDIs:

(1) Recurring failures in a piece of equipment or machinery such that the reliability is considered unsatisfactory.

(2) Major equipment or component malfunction which requires outside assistance to correct (vendor or industrial activity).

(3) Symptoms of major machinery problems which require investigation to determine the extent of the problem. (Improper temperatures, pressures, leakage, vibration, noise, etc.).

(4) Insufficient supply support for specific equipment or machinery based on operational experience. Allowance deficiencies reported as PDDIs should be supplemented by submission of Allowance Change Requests or Configuration Change Reports as appropriate.

(5) Excessive or accelerated wear, erosion, or corrosion determined through inspection.

(6) Improper bonding of preservation on surfaces that must be protected.

(7) Any casualty which results in a Casualty Report (CASREP). Insert an amplification data set immediately after the Parts Identification data set consisting of "AMPN/PDDI: ___- ___//", ensuring that the CASREP includes all appropriate PDDI addressees. A separate PDDI must also be submitted.

(8) Identification of any condition or defect which requires a Departure from Specification request.

(9) Improper alignment, clearance, or resistance to ground which indicates an unaccounted for change from baseline data.

(10) Significant internal and external valve leakage. (Primary, seawater, steam, air, hydraulics, etc.).

(11) Any significant AT or CT deficiency item reported corrected which has recurred. Refer to the AT or INSURV number in the text of the deficiency description.

(12) Any AT or CT deficiency item reported corrected by the shipbuilder which is not considered by the ship to be complete. Refer to the AT or INSURV number in the text of the deficiency description.

NOTE: DEFICIENCIES AND MATERIAL PROBLEMS WHICH ARE CORRECTED BY SHIP'S FORCE WITHOUT ASSISTANCE SHOULD NOT BE REPORTED AS PDDIs.

b. Reporting.

(1) Between delivery and GMI or FCT, uncorrected deficiencies of the nature described in paragraph 5.6 of this chapter should be documented in the Current Ship's Maintenance Project (CSMP) and presented to the INSURV Board for consideration during GMI or FCT.

(2) Problems requiring corrective action prior to PSA, or of such significance that planning will have to commence as early as possible, should be reported by OPNAV 4790/2K without delay. The OPNAV 4790/2K must contain the sequential identification number of the PDDI and a brief description of the problem being reported. Multiple PDDIs per report are encouraged. Items reported by OPNAV 4790/2K should be included in the next regular PDDI report. The OPNAV 4790/2K should also be sent by message, or e-mail where appropriate, and must be addressed to the Supervising Authority, with information copies to the Navy Shipbuilding Program Manager, TYCOM (N40), the ISIC, and NAVSEA 08 (for items with nuclear cognizance).

(3) Routine PDDIs must be reported by OPNAV 4790/2K and summarized at least monthly after the GMI or FCT.

(4) All PDDIs must be assigned a sequential number identifying the item for administrative purposes and a priority in the "ship" column of the 4760-1 Report. This forms Part E of the Consolidated Report. Report Form 4760-1 will be provided to the ship at the GMI or FCT Card Conference.

(5) Distribution of the PDDI report by the ship will be:

(a) Advance copy to the Supervising Authority.

(b) Advance copy to the Navy Shipbuilding Program Manager. (Nuclear deficiencies to NAVSEA 08).

(c) Copy to the ISIC.

(d) Original to the Supervising Authority via the TYCOM and the Navy Shipbuilding Program Manager.

(6) All PDDIs must be assigned a Job Sequence Number (JSN) in the ship's JSN log prior to input into the ship's CSMP. The CSMP summary line (Block 37, OPNAV 4790/2K) will contain the PDDI sequential number for cross reference.

APPENDIX A

SAMPLE PAGE OF 4760-1 REPORT WITH REPRESENTATIVE DATA

USS_____

REPORT 4760-1

Item	Description	N/S Action	K	SOS	Ship	TY	PSA	Final	TYCOM	N/S
1K1ax (CT)	Snorkel safety circuit high vacuum trip does not function.	K	KA	XK	XK	--	--	--	--	--
1A509ax (GMI)	Nitrogen stowage capacity insufficient to support requirements of oxygen generator operation for extended operations.	NA3 ShipAlt will be accomp IAW FMP	--	A	A		SA	SSN 1070 K		NA3
594-16 (PDDI)	SPM inoperable due to zero ground.				A	A	KA	XK	--	--
SI-2 (CSCT)	Bow area rattle, affects BQA-8 hydrophones #3 and #4.	K					K	XF	--	--

Page

APPENDIX B

LEGEND AND EXPLANATION OF SYMBOLS USED IN REPORT 4760-1

1. Each activity will enter in the applicable column the appropriate symbol to indicate status, position, priority, responsibility or authorization for each item.

2. Extra pages may be added to the package as necessary to provide history, results of investigations or comments to clarify the position or the item itself.

3. The action taken for each item in each of the columns from the "N/S Action" column through the "PSA" column will be an integrated action by all concerned following INSURV CT or AT, GMI or FCT, and PSA related conferences.

4. The following is a brief description of the purpose of each column:

a. Column "N/S Action" - Indicates Navy Shipbuilding Program Manager assignment of responsibility. No government SCN funded work is authorized in this column. Authorization of work will be as stated under the "PSA" column for each line item in the work package.

b. Column "K" - Column "K" is used to indicate the position of the shipbuilder for an item indicated in column "N/S Action" as being the responsibility of the shipbuilder to correct. The shipbuilder may prepare insert pages for comments as appropriate. A rationale is to be provided for all items not accepted (marked "KZ") by the shipbuilder.

c. Column "SOS" - This column is used to indicate the position of the Supervising Authority for each of the items as feasible but especially for those items on which the shipbuilder has responded in column "K".

d. Column "Ship" - This column is used by the ship to indicate the status or action desired for each item still considered open, including a priority assignment regardless of the responsibility or action indicated by INSURV or assigned by the Navy Shipbuilding Program Manager or reported corrected by the Supervising Authority. Comments from Ship's Force providing further information and clarification as insert pages are especially helpful in planning correction of any item.

e. Column "TY" - This column indicates the position of the TYCOM on the priority assignment of the ship.

f. Column "PSA" - This column is used by NAVSEA. Authorization of SCN funded work appears only in this column.

g. Column "Final" (Ship and Supervising Authority) - This column is used to indicate the final status of each deficiency at the end of the SCN funded period. This column may be used by the shipbuilder to report to the Supervising Authority the status of deficiencies at the end of the guarantee period. This column is used by Supervising Authority to provide the final status of all authorized work (government and shipbuilder) as reported by the shipbuilder at completion of PSA. This information should be used as a portion of the Departure Report which is to be forwarded to the Navy Shipbuilding Program Manager not later than 50 days following the end of the

ship's PSA. Comments and recommendations by the Supervising Authority advising correction or non-correction of open items are required.

h. Column "TYCOM" (Final) - This column is used to indicate the action desired by the TYCOM on all items still open at the end of the PSA period. This data will be reviewed at a "Disposition Conference" to be convened and chaired by the Navy Shipbuilding Program Manager.

i. Column "N/S" (Final) - This column will be used by the Ship Program Manager to report on agreements made between the TYCOM and the Navy Shipbuilding Program Manager during the "Disposition Conference" for each open deficiency item.

5. The following list of symbols is provided in alphabetical order for ease of use. In the interest of simplification, many symbols have been combined.

Key	Used In The Following Columns	Definition
A	Ship, TY, PSA	Navy Shipbuilding Program Manager authorize correction of the item by the industrial activity as an item for first priority.
B	Ship, TY, PSA	Navy Shipbuilding Program Manager authorize correction of the item by the industrial activity as a highly desirable second priority item of work.
C	Ship, TY, PSA	Navy Shipbuilding Program Manager authorize correction of the item by the industrial activity within available funds as third order of priority.
F	N/S Action thru N/S	Forces Afloat to correct using TYCOM funds. This includes TYCOM Alteration and Improvement (A&I) Items.
FL	Final, TYCOM	Ship's Force submit request for alteration or request for change to Ship's allowance.
FU	Ship, Final	Forces Afloat will follow-up on material through procurement and correct the deficiency.
FV	Ship thru Final	Forces Afloat will correct with technical assistance from equipment manufacturer, vendor or the Navy Shipbuilding Program Manager.
G	N/S Action	Government responsible to correct condition noted as necessary to comply with shipbuilding specifications. No work authorized except by specific Navy Shipbuilding Program Manager action.
G/F	N/S Action, PSA	Government responsible to approve for accomplishment for Forces Afloat. Navy Shipbuilding Program Manager or Supervising Authority will provide material, technical or design assist as required.
GI	All	Navy Shipbuilding Program Manager investigate and authorize correction as appropriate.
G/V	N/S Action, PSA	Government responsible - equipment still under guarantee. Vendor responsible for correcting condition as noted. Supervising Authority responsible to ensure vendor is available and correction is taken under vendor supervision.
K	N/S Action, PSA	Shipbuilder responsible, authorized to correct condition noted as necessary to comply with shipbuilding specifications.
KA	K	Shipbuilder accepts responsibility for correction with or without comment. Comment on attached supplementary page.

Key	Used In The Following Columns	Definition
K/F	N/S Action, PSA	Shipbuilder responsible to make installations and all repair work. Shipboard testing approved for accomplishment by Forces Afloat.
K/G	N/S	Shipbuilder responsible, authorized to investigate and correct condition noted as necessary to comply with shipbuilding specifications. Government responsible for defects in Government Furnished Equipment (GFE) or Government Furnished Information (GFI). No work authorized for government portion of item without separate specific Navy Shipbuilding Program Manager action.
KI	K	Shipbuilder accepts item for investigation with determination of responsibility to be made after investigation.
KZ	K	Shipbuilder does not accept the item as his responsibility. Rationale to be provided on attached supplementary page.
NA	N/S Action	Not authorized using SCN funds: 1. Cost not commensurate with gain. 2. No longer considered a deficiency. 3. Recommend correction be accomplished by a Ship Alteration (SHIPALT) during future availability.
SA	Final, TYCOM, N/S	Recommend SHIPALT be developed to correct.
SC	SOS	Comments of shipbuilder are accepted and concurred with by the Supervising Authority.
SI	N/S Action	Silencing deficiency items with responsibility and authorization to be determined by separate Navy Shipbuilding Program Manager action.
SM	PSA	Supervising Authority is authorized to procure material and turn same over to Ship's Force for installation. A copy of the requisitioning document will be provided to Ship's Force to allow supply follow-up action if necessary.
SZ	SOS	Item remains controversial. Comments of the Supervising Authority are provided on attached supplementary page.
TY	PSA	Approved for correction by the industrial activity when authorized and funded by the TYCOM.

Key	Used In The Following Columns	Definition
V	Ship, TY, PSA	Government provide vendor service for Forces Afloat to assist during PSA.
XF	SOS thru Final	Item was corrected by Forces Afloat.
XG	SOS thru Final	Item was corrected by shipbuilder or other industrial activity under a work specification, job order, or FMR funded by the government.
XK	SOS thru Final	Shipbuilder has completed corrective action.
#	N/S Action, PSA	Changes to Navy Shipbuilding Program Manager action.
*	PSA	Authority to be provided separately by NAVSEA 08 action.

APPENDIX C

PREPARATION FOR GUARANTEE MATERIAL INSPECTION OR FINAL CONTRACT TRIALS

1. To properly prepare for and document deficiencies for the GMI or FCT conducted by the INSURV Board and conduct the GMI Card Conference, the following guidance is provided.

a. Pre-GMI or FCT Documents

(1) Ship's Force provide to the INSURV Board:

(a) For previously reported CT or AT items, provide two copies of the Navy Shipbuilding Program Manager's Initial PSA Consolidated List with all INSURV items considered complete by Ship's Force lined out. Do not obliterate items lined out.

(b) Document all new deficiencies which have occurred since CT or AT on OPNAV 4790/2Ks per reference (a).

(2) Upon arrival, Ship's Force provide to Navy Shipbuilding Program Manager representative(s) one complete set of each of the Pre-GMI or FCT documents as outlined in paragraph 1.a.(1).

(3) Ship's Force submit required number of copies of all documents for entry into the CSMP per reference (a).

b. Action on Final GMI or FCT Documents

(1) The INSURV Board will return the complete listing of GMI or FCT findings to the Navy Shipbuilding Program Manager representative(s) for follow-up action. This listing will include all items in format per paragraph 1.a.(1). The Navy Shipbuilding Program Manager will assemble this listing and prepare the GMI or FCT Consolidated Report, Section B, as required by this instruction. Type only the new documented findings from the OPNAV 4790/2Ks (1.a.(1)(b)).

(2) Ship's Force will provide working spaces and administrative support as required by references (b) and (c).

VOLUME I

CHAPTER 6

POST SHAKEDOWN AVAILABILITY

REFERENCES.

(a) OPNAVINST 4700.8 - Trials, Acceptance, Commissioning, Fitting Out, Shakedown, and Post Shakedown Availability of U.S. Naval Ships Undergoing Construction or Conversion
(b) NAVSO P 1000 - Navy Comptroller Manual
(c) NAVSEAINST 4790.8/OPNAVINST 4790.4 - Ships' Maintenance and Material Management (3-M) Manual
(d) INSURVINST 4730.11 - Preparation of Deficiency Forms
(e) OPNAVINST 3540.3 - Naval Nuclear Propulsion Examining Boards

LISTING OF APPENDICES.

A Major Funding Milestones During Construction or Conversion
B Post Shakedown Availability Planning Events Milestone Schedule
C Summary of Major Milestones for Post Shakedown Availability

6.1 PURPOSE.

a. Post Shakedown Availability (PSA) is an industrial activity availability assigned to correct deficiencies found during the shakedown cruise or to accomplish other authorized improvements. PSAs are scheduled to commence after delivery and to be completed prior to the Shipbuilding and Conversion, Navy (SCN) obligation work limiting date. This date occurs at the end of the 11th month after the month in which the Fitting-Out Period completed for surface units or at the end of the 11th month after the month in which delivery occurs for submarines. Appendix A of this chapter, taken from reference (a), reflects the Major Milestones during Construction related to funding. Funding guidelines for PSA are outlined in reference (b).

b. The length of time designated for PSAs will vary dependent on the platform. Acceptance Trial (AT), Final Contract Trial (FCT), Combined Trial (CT) and Guarantee Material Inspection (GMI) related deficiencies constitute the majority of the PSA workload. Navy Shipbuilding Program Manager planned, authorized and funded modifications may also be included.

6.2 PLANNING AND EXECUTION. The events leading to a successful completion of PSA involve several activities and a variety of actions and reports. Appendix B of this chapter outlines the schedule of PSA planning events.

6.3 TRIALS, INSPECTIONS AND CREW CERTIFICATION. For nuclear and Surface Force Ships, Appendix C of this chapter provides a summary of major milestones required for PSA. For submarines, Appendices BC and CC in Volume II, Part I, Chapter 3 of this manual provide a summary of major milestones.

6.4 SEA TRIALS. Sea Trials are required to test work completed during PSA. The mandatory submarine requirements for PSA Sea Trials are identified in Volume II, Part I, Chapter 3 of this

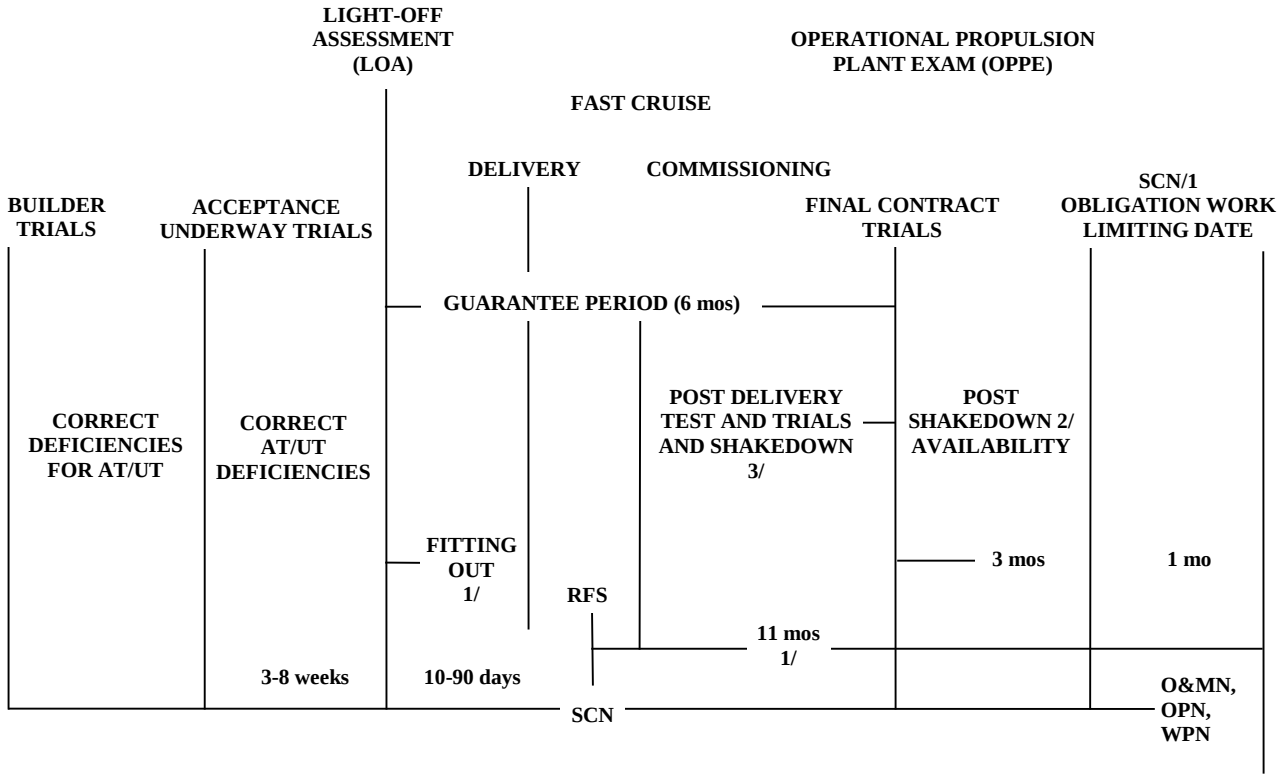
manual. Volume II, Part I, Chapter 3, Appendix K of this manual provides a list of the minimum tests to be performed during Sea Trials for Surface Force Ships. The industrial activity must include at least two days in the availability for Sea Trials. The industrial activity must prepare an agenda for Sea Trials conducted after a PSA. Extensions or reductions of the Sea Trial period may be granted where warranted by the scope of work accomplished. Where an extension of Sea Trial and a change in the availability schedule is required, requests for such extensions must be submitted by the industrial activity to the Type Commander (TYCOM) as early as practical. All deficiencies resulting from Sea Trials must be satisfactorily resolved prior to completion of the availability. If no Sea Trial deficiencies are found, the availability may be completed with TYCOM concurrence at the completion of Sea Trials.

6.5 DEFICIENCY CORRECTION PERIOD. A deficiency correction period will be scheduled after Sea Trials and prior to PSA completion. The scheduled length of this deficiency correction period will be determined by the type and magnitude of the remaining deficiencies.

6.6 PERIOD FOLLOWING POST SHAKEDOWN AVAILABILITY. Depending on the PSA contract, the industrial activity will normally guarantee work accomplished during an availability for a period of 90 days from the completion of the availability. This does not include responsibility for malfunctioning machinery and equipment due to normal wear, improper adjustment, or tuning by Ship's Force and failure of limited life components. Ship's Force is required to report guarantee items to the industrial activity prior to the guarantee period expiration date. If operational commitments prohibit reporting prior to the 90-day period, the ship should report problems as soon as operations permit. A message is the preferred method of reporting these items. The message outlining specific deficiencies should be submitted to the Supervising Authority with a copy to the TYCOM, the Immediate Superior in Command (ISIC) and the Navy Shipbuilding Program Manager who will pass a copy to Naval Sea Systems Command (NAVSEA) 04, and to NAVSEA 08 for nuclear cognizant issues. Additionally, any Casualty Reports (CASREP) submitted during the guarantee period must also be addressed to the Supervising Authority and the Navy Shipbuilding Program Manager with passing instructions to NAVSEA 04, and to NAVSEA 08 for nuclear cognizant issues.

APPENDIX A

MAJOR FUNDING MILESTONES DURING CONSTRUCTION OR CONVERSION



NOTE:

1. **SSN or CVN fitting out is complete prior to delivery. Hence, the SCN obligation work limiting date is at the end of the 11th month after the month in which delivery occurs.**
2. **PSA is normally scheduled to complete approximately one month prior to the obligation limiting date.**
3. **Total period of PDT&T and Shakedown must be a minimum of six months. A waiver may be granted for a period greater than eight months; a request to extend SCN obligation limiting date may be required.**

APPENDIX B

POST SHAKEDOWN AVAILABILITY PLANNING EVENTS MILESTONE SCHEDULE

NOTE: EVENT TIMES ARE IN DAYS BEFORE AND AFTER DELIVERY AND ARE APPROXIMATE. SIGNIFICANT ADJUSTMENT MAY BE REQUIRED FOR PSAs THAT COMMENCE AT OTHER TIMES AFTER DELIVERY.

Time	Event
-90	a. Ship review and update Out of Commission List.
-30	a. Ship review and update Maintenance Data System and Equipment Deficiency Log per reference (c).
-21	a. Supervising Authority prepare OPNAV 4790/2Ks for all deficiencies to be presented to the Board of Inspection and Survey (INSURV) at AT or CT per reference (d). b. AT or CT conducted by the INSURV Board. c. Conference following critique of AT or CT. (1) Purpose - to identify and resolve controversies over responsibility and timing for correction of deficiencies. (2) Participants - Navy Shipbuilding Program Manager, Supervising Authority, Shipbuilder and Ship. d. Supervising Authority provide ship one copy of each documented INSURV item for input at delivery into the Current Ship's Maintenance Project (CSMP) per reference (c).
0	a. Delivery. b. Navy Shipbuilding Program Manager issue Section B of Consolidated Report. c. Ship's Force submit OPNAV 4790/2Ks for all INSURV items and for all other material deficiencies that qualify for the CSMP.
10	a. Shipbuilder issues delivery letter.
20	a. Supervising Authority comments on delivery letter.
27	a. PSA Planning Conference. (1) Purpose - To establish PSA work package from input to date and to identify required advance planning actions. (2) Participants - Navy Shipbuilding Program Manager, Supervising Authority, TYCOM, Ship and Shipbuilder.
30	a. Ship submit priority list of AT or CT deficiencies.
35	a. TYCOM comments on ship's priority list.
40	a. Navy Shipbuilding Program Manager issue list of SCN funded items authorized for accomplishment during PSA.

Time	Event
42	a. TYCOM assign availability.
45	a. Supervising Authority issue initial PSA work package. b. (Submarines only) Latest date for the conduct of Navy Shipbuilding Program Manager sponsored Acoustic and Combat System Certification Trials in order to present to the INSURV Board at the GMI.
50	a. Prepare for FCT or GMI per reference (c). b. TYCOM representative places ship in "INSURV Window" and calls down ship's Pre-INSURV Package.
54	a. FCT or GMI by the INSURV Board. b. Conference following FCT or GMI critique (may coincide with Planning or Pre-Arrival Conference). (1) Purpose - To assign responsibility for correction of deficiencies and to assign ship or TYCOM priorities. (2) Participants - Navy Shipbuilding Program Manager, Supervising Authority, Shipbuilder, TYCOM, Ship, and ISIC (optional). c. Navy Shipbuilding Program Manager issue Section B of Consolidated Report. d. Ship comply with reference (c) for documenting INSURV items.
75	a. (Submarines only) Silencing Deficiency Conference: (1) Purpose - Naval Surface Warfare Center Carderock Division (NSWCCD) presents results of acoustic trials data analysis. (2) Participants - NSWCCD, Navy Shipbuilding Program Manager, Shipbuilder, TYCOM, Ship.
90	a. Navy Shipbuilding Program Manager issue final list of SCN funded items authorized for accomplishment during PSA.
100	a. Supervising Authority issue final PSA work package.
149	a. Pre-Arrival Conference: (1) Purpose - To review all work authorized by all customers with available cost estimates and to establish arrival procedures and conditions for the ship. Review and take action on Post Delivery Deficiency Items (PDDI). (2) Participants - Navy Shipbuilding Program Manager, Supervising Authority, Shipbuilder, TYCOM, ISIC and Ship.
154	a. Commence PSA. b. Arrival Conference (Navy Shipbuilding Program Manager and TYCOM participation not required unless specifically requested).

Time	Event
214-274	a. End PSA. (Completion date varies with platform).
	a. Ship submit final status report of all deficiencies (Departure Report).
*	a. TYCOM comment on final status report from ship and submit recommendations for Navy Shipbuilding Program Manager action.
**	b. TYCOM issue follow-up letter requesting Navy Shipbuilding Program Manager final resolution and action on government responsible uncorrected deficiencies.
***	a. Work limiting date for SCN appropriation.

* 30 days after completion of PSA

** 45 days after completion of PSA

*** Refer to Appendix A of this chapter, Note (1)

APPENDIX C

SUMMARY OF MAJOR MILESTONES FOR POST SHAKEDOWN AVAILABILITY

Event	Cognizance	Approximate Schedule see Note 1
A. Periodic Monitoring Inspections	ISIC or TYCOM	Start to completion
B. (Nuclear Powered Ships only) Pre-Criticality Inspection (required if reactor shutdown greater than 16 weeks)	ISIC or TYCOM	Criticality -4 weeks
C. (Nuclear Powered Ships only) Post-Overhaul Reactor Safeguard Examination (per reference (e) if reactor shutdown greater than 6 months)	Fleet Commander	Criticality -4 weeks
D. Light-Off Assessment (LOA) (if propulsion plant shut down greater than 120 days)	Fleet Commander or TYCOM	-30 days
E. (Nuclear Powered Ships only) Approve Sea Trials Agenda	ISIC or TYCOM	-30 days
F. Dock Trials	Commanding Officer (CO) of ship	-21 days
G. Crew Certification	ISIC or TYCOM	-9 days
H. (Nuclear Powered Ships only) Message Certifying Crew and Material Readiness to Navy Shipbuilding Program Manager	TYCOM	-8 days
I. (Nuclear Powered Ships only) Authorize Ship to Commence Fast Cruise upon receipt of NAVSEA Permission to Conduct Critical Operations	TYCOM	-8 days
J. Commence Fast Cruise	CO of Ship	-7 days (2 days on, 1 off, 2 on)(length of Fast Cruise may be reduced based on length and extent of availability)
K. Report Completion of Fast Cruise and Ready for Sea Trials Message	Supervising Authority to TYCOM (CO of Ship concur)	-1 day
L. Authorize Commencement of Sea Trials Message	TYCOM to ISIC or TYCOM to Ship	-1 day
M. Commence Sea Trials	CO of Ship	0
N. Sea Trials Completion Message	Supervising Authority	+1 day

NOTE 1: Unless otherwise indicated, scheduled date referenced to Sea Trials underway date.