JOINT FLEET MAINTENANCE MANUAL

VOLUME II

INTEGRATED FLEET MAINTENANCE

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APPENDIX A

LIST OF ACRONYMS

2-Kilo (2K)	3-M Maintenance Action Form
3-M	Maintenance and Material Management
A&I	Alteration and Improvement
ACRN	Accounting Classification Reference Number
AERP	Advanced Equipment Repair Program
AIT	Alteration Installation Team
AMCA	Automated Machinery Condition Analysis
ARRS	Analysis, Record and Report Section
ASF	Assist Ship's Force
AWP	Availability Work Package
AWPM	Availability Work Package Manager
AWR	Automated Work Request
AWS	Attack Weapons Systems
BAWP	Baseline Availability Work Package
BCP	Ballast Control Panel
BQC	Emergency Underwater Telephone
CAR	Corrective Action Request
CARPER	Aircraft Carrier Planned Equipment Replacement
CASREP	Casualty Report
CBM	Condition Based Maintenance
CDNS	Cancellation Deferral Notification System
CFR	Contractor Furnished Report
CHENG	Chief Engineer
CJ	Critical Job
CM	Continuous Maintenance
CMAV	Continuous Maintenance Availability
CMP	Class Maintenance Plan
CNO	Chief of Naval Operations
CNRMC	Commander, Navy Regional Maintenance Center
CNSL	Commander, Naval Surface Atlantic
CNSP	Commander, Naval Surface Pacific
CO	Commanding Officer
COMNAVSEASYSCOM	Commander Naval Sea Systems Command
COMSUBDEVRON	Commander Submarine Development Squadron
COMSUBLANT	Commander Submarine Force, United States Atlantic Fleet
COMSUBPAC	Commander Submarine Force, United States Pacific Fleet
COSAL	Coordinated Shipboard Allowance List
CPA	Central Planning Activity
CPJ	Critical Path Job
CS/CCS	Command and Control Systems
CSMP	Current Ship's Maintenance Project
CVN	Nuclear Powered Aircraft Carrier
CWP	Controlled Work Package
DFS	Departure From Specification
DSRA	Docking Selected Restricted Availability
DSS	Deep Submergence System
DSU	Deep Submergence Unit
DTG	Date Time Group

EA	Executing Activity
EAB	Emergency Air Breathing
ECM	Electronic Counter Measure
EDL/ESL	Equipment Deficiency/Status Log
EM	Emergent Availability
EMBT	Emergency Main Ballast Tank
EOC	Engineered Operating Cycle
EPCP	Expanded Process Control Procedures
EOG	Electrolytic Oxygen Generator
ESM	Electronic Warfare Support Measures
ESR	Engineering Service Request
FAC	Funding Activity Code
FBW SCS	Fly-By-Wire Ship Control Systems
FDNF	Forward Deployed Naval Forces
FFP	Firm Fixed Price
FMA	Fleet Maintenance Activity
FMP	Fleet Modernization Program
FMPMIS	Fleet Modernization Program Management Information System
FRP	Fleet Readiness Plan
FWP	Formal Work Procedure
FY	Fiscal Year
HM&E	Hull, Mechanical and Electrical
IDD	Interim Drydocking
IDIQ	Indefinite Delivery, Indefinite Quantity
IEM	Inactive Equipment Maintenance
IFF	Identification Friend or Foe
ILO	Integrated Logistics Overhaul
IMA	Intermediate Maintenance Activity
INSURV	Board of Inspection and Survey
ISE	Individual Ships Exercises
ISEA	In-Service Engineering Activity
ISIC	Immediate Superior In Command (Group or Squadron)
IWS	Integrated Work Schedule
JCN	Job Control Number
JFMM	Joint Fleet Maintenance Manual
KTR	Contractor
LAR	Liaison Action Request
LCPC	Life Cycle Planning Conference
LLTM	Long Lead Time Material
LMA	Lead Maintenance Activity
LOA	Light-Off Assessment
MA	Maintenance Activity
MACHALT	Machinery Alteration
MARMC	Mid Atlantic Regional Maintenance Center
MBT	Main Ballast Tank
MCA (Submarines)	Material Condition Assessment
MCA (Surface Ships)	Machinery Condition Analysis

MCAI	Material Condition Assessment Inspection
MCAP	Material Condition Assessment Process
MDCO	Maintenance Document Control Office
MDS	Maintenance Data System
MIP	Maintenance Index Page
MJC	Master Job Catalog
MM	Maintenance Manager
MMBP	Maintenance and Modernization Business Plan
MOA	Memorandum/Memoranda of Agreement
MRC	Maintenance Requirement Card
MSC	Master Specification Catalog
MSCMO	Master Specification Catalog Maintenance Office
MS/MO	Multi-Ship/Multi-Option
MSR	Master Ship Repair Contractor
MST	Maintenance Support Team
MT	Maintenance Team
MTT	Mobile Training Team
MWO	Maintenance Work Order
NAVAIR	Naval Air Systems Command
NAVIMFAC	Naval Intermediate Maintenance Facility
NAVSEA	Naval Sea Systems Command
NAVSEA 08	Naval Sea Systems Command Nuclear Propulsion Directorate
NDE	Navy Data Environment
NEC	Navy Enlisted Classification
NEMAIS	Navy Enterprise Maintenance Automated Information System
NMD	Navy Maintenance Database
NNSY	Norfolk Naval Shipyard
NPEB	Nuclear Propulsion Examining Board
NRL	Naval Research Laboratory
NRMC	Navy Regional Maintenance Center
NRMD	Nuclear Regional Maintenance Department
NRRO	Naval Reactor Representative Office
NSA	Naval Supervisory Authority
NSWC	Naval Surface Warfare Center
NSWCCD	Naval Surface Warfare Center, Carderock Division
NSY	Naval Shipyard
NWRMC	Northwest Regional Maintenance Center
OIC	Officer In Charge
OMMS-NG	Organizational Maintenance Management System - Next Generation
OPNAV	Naval Operations
OPORD	Operational Order
OPTAR	Operating Target
OQE	Objective Quality Evidence
ORDALT	Ordinance Alteration
PAC	Pre-Arrival Conference
PARM	Participating Managers
PB4M	Planning Board for Maintenance
PCD	Production Completion Date
PCO	Primary Contracting Officer
PE	Port Engineer
PEO	Program Executive Officer
PHNS	Pearl Harbor Naval Shipyard
PIRA	Pre-Inactivation Restricted Availability

PLAD	Plain Language Address Directory
PMA	Phased Maintenance Availability
PMR	Periodic Maintenance Requirement
PMS	Planned Maintenance System
PMT	Performance Monitoring Team
POET	Point of Entry Testing
PORSE	Post Overhaul Reactor Safeguards Examination
PPEA	Propulsion Plant Engineering Activity
PR	Planning Review
PRC	Project Review Conference
PTD	Provisioning Technical Documentation
PVI	Product Verification Inspection
QA	Quality Assurance
QAS	Quality Assurance Supervisor
QMP	Quality Maintenance Plan
QMS	Quality Management System
RCC	Request for Contract Change
RCD	Required Completion Date
REC	Re-Entry Control
RLAR	Reverse Liaison Action Request
RMAIS	Regional Maintenance Automated Information System
RMC	Regional Maintenance Center
RMO	Reactor Maintenance Officer
RMT	Regional Maintenance Team
ROV	Repair of Other Vessels
RPCCR	Reactor Plant Configuration Change Report
RPM	Revolutions Per Minute
RRC	Regional Repair Center
RSE	Reactor Safeguards Examination
RSG	Regional Support Group
SBAT	SUPSHIP Bath
SC	Ship Change
SCA	System Certification Authority
SDI	Ship's Drawing Index
SDM	Ship Design Manager
SEIE	Submarine Escape Immersion Ensemble
SERMC	Southeast Regional Maintenance Center
SF	Ship's Force
SHIPALT	Ship Alteration
SID	Ship Installation Drawing
SITREP	Situation Report
SJM	Selected Job Management
SNAP	Ship's Non-Tactical Automated Data Processing System
SNPMTT	Surface Nuclear Propulsion Mobile Training Team
SOE	Submerged Operating Envelope
SOSMIL	Safety of Ship Maintenance Item List
SPALT	Strategic Systems Programs Alteration
SPAWAR	Space and Naval Warfare Systems Command
SPM	Secondary Propulsion Motor
SPM	Ship Program Manager
SRA	Selected Restricted Availability
SRDRS	Submarine Rescue Diving Recompression System
SRF-JRMC	Ship Repair Facility - Japan Regional Maintenance Center

SSBN	Nuclear-Powered Ballistic Missile Submarine
SSCA	SUBSAFE Certification Audit
SSES	Ship System Engineering Station
SSGC	SUPSHIP Gulf Coast
SSGN	Nuclear-Powered Guided Missile Submarine
SSP	Ship Specification Package
SSP	Strategic Systems Programs
SSPINST	Strategic Systems Programs Instruction
SSR	Ship Selected Records
SSRAC	NAVSEA Standard Specification for Ship Repair and Alteration Committee
SUBLANT	Submarine Atlantic
SUBMEPP	Submarine Maintenance Engineering, Planning and Procurement Activity
SUBPAC	Submarine Pacific
SUBSAFE	Submarine Safety
SUPSHIP	Supervisor of Shipbuilding
SUPSHIP NN	Supervisor of Shipbuilding Newport News
SURFMEPP	Surface Maintenance Engineering Planning Program Activity
SWLIN	Ships Work List Item Number
SWRMC	Southwest Regional Maintenance Center
SWS	Strategic Weapon System
SYSCOM	Systems Command
T/A	Type Availability
TAMS	TYCOM Alteration Management System
TDA	Type Desk Assistant
TDO	Type Desk Officer
TEMPALT	Temporary Alteration
TEMPEST	National Policy on the Control of Compromising Emanations
TEMPMOD	Temporary Modification
TRIPER	TRIDENT Planned Equipment Replacement
TSO	Temporary Standing Order
TSRA	Total Ship Readiness Assessment
TWD	Technical Work Document
TYCOM	Type Commander
UIC	Unit Identification Code
UNF	Unfunded
UQC	Underwater Telephone
URO	Unrestricted Operation
WAF	Work Authorization Form
WDC	Work Definition Conference
WOO	Window of Opportunity
WPER	Work Package Execution Review
WQC	Underwater Telephone
WSS	Work Sequence Schedule
XAZ	Scheduled Continuous Maintenance Availability
XCM	Unscheduled Continuous Maintenance Availability
XCZ	CNO Scheduled Availability
XEM	Year-long Emergent Work Availability
YLCM	Year Long Continuous Maintenance

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VOLUME II

PART I

CHAPTER 2

MAINTENANCE AND MODERNIZATION PROGRAM

REFERENCES.

(a) NAVSEA Technical Specification 9090-310 - Alterations to Ships Accomplished by Alteration Installation Teams
(b) NAVSEAINST 5400.95 - Waterfront Engineering and Technical Authority Policy
(c) OPNAVINST 4700.7 - Maintenance Policy for U.S. Naval Ships
(d) NAVSEA S9002-AK-CCM-010/6010 - Industrial Ship Safety Manual for Submarines
(e) SSPINST 4720.1 - Policies and Procedures for Alteration of Strategic Weapon System Equipment
(f) NAVSEA 4350.2 - Contract Work Onboard Nuclear-Powered Ships
(g) NAVSEA S9AA0-AB-GOS-010 - General Specifications for Overhaul of Surface Ships
(h) NAVSEA T0300-AA-MMI-010 - Commercial Industrial Services (CIS) Manual
(i) NAVSEAINST 4710.6 - Submarine Advanced Equipment Repair Program (AERP); Assignment of Responsibilities for and Administration of
(j) SSN21-081-PMS350L-035 - Rotatable Pool Management Plan for the SEAWOLF Class SSN
(k) OPNAVINST 4720.2 - Fleet Modernization Program (FMP); Policy for
(l) NAVSEAINST C9210.4 - Changes, Repairs and Maintenance to Nuclear Powered Ships
(m) NAVSEAINST 4720.23 - Deep Submergence Systems Temporary Modifications
(n) NAVSEA SL720-AA-MAN-010 - Fleet Modernization Program (FMP) Management and Operations Manual
(o) NAVSEAINST 4130.9 - Configuration Control Procedures for Preparation of Ordnance Alterations (ORDALTS) to Expendable and Non-Expendable Items
(p) NAVSEAINST 4720.15 - Machinery Alterations on HM&E Equipment and Systems
(q) MIL-STD-2039 - Field Changes and Field Change Kit Preparation
(r) COMLANTFLTINST 4700.10 - Policies and Procedures for Fleet Technical Support (FTS) (Cancelled)
(s) COMPACFLTINST 4341.1 - Fleet Technical Assistance (FTA) Program (Cancelled)
(t) NAVSEA 0989-LP-043-0000 - Commissioned Surface Ship General Reactor Plant Overhaul and Repair Specification
(u) NAVSEAINST 4730.2 - Shipyard Inspection and Required Conditions of Propulsion Plant Systems (Non-Nuclear) for Nuclear-Powered Surface Ships
(v) NAVSEA STD DWG 605-5529700 - CVN 68 Class Commissioned Ships Reactor Plant Paint Schedule
(w) NAVSEA S9086-VD-STM-010-NSTM Chapter 631 - Preservation of Ships in Service - General
(x) TMIN SL700-AB-GYD-010 - Pictorial Guide for Painting Ships Interiors
(y) NAVSEA STD DWG 213-4362626 - Lagging and Insulation Schedule for Reactor Plant Systems
(z) CNAP/CNALINST 9210.4 - Nuclear Propulsion Note 9200-2
(aa) NAVSEAINST 9304.1 - Shipboard Electric Cable and Cableway Inspection and Reporting Procedures
(ab) DOD-STD-2003 - Military, Standard, Electric Plant Installation Standard Methods for Surface Ships and Submarines
(ac) NAVSEA 0989-LP-062-4000 - Naval Nuclear Quality Control Manual for Shipyards
(ad) NAVSEA 0989-031-4000 - Reactor Plant Instrumentation and Control Equipment Maintenance
(ae) NAVSEA 0989-LP-026-1000 - A4W/A1G Reactor Plant Manual
(af) OPNAVINST 3120.32 - Standard Organization and Regulations of the U.S. Navy
(ag) COMLANTFLTINST 5400.2 - U.S. Atlantic Fleet Regulations
(ah) COMPACFLTINST 5400.3 - U.S. Pacific Fleet Regulations
(ai) OPNAVNOTE 4700 - Representative Intervals, Durations, Maintenance Cycles, and Repair Mandays for Depot Level Maintenance Availabilities of U.S. Navy Ships
(aj) OPNAVINST 4780.6 - Policy for Administering Service Craft and Boats in the U.S. Navy
(ak) MIL-P-24534 - Planned Maintenance System: Development of Maintenance Requirement Cards, Maintenance Index Pages, and Associated Documentation

(al) MIL-STD-1388 - Logistic Support Analysis
(am) OPNAVINST 3120.33 - Submarine Extended Operating Cycle (SEOC) Program
(an) NAVSEAINST 4790.19 - Submarine Engineered Operating Cycle (SEOC) Program
(ao) NAVSEA TL710-AB-MAN-010 - Depot Modernization Period (DMP) Procedures Manual
(ap) OPNAVNOTE 4710 - Fleet Depot Maintenance Schedule
(aq) NAVSEAINST 4790.16 - SSBN Extended Operating Cycle (EOC) Program; Policy, Procedures and Responsibilities for
(ar) SSPINST 5600.11 - Preventive Maintenance Management Program for Strategic Weapon Systems Equipment and Associated Material
(as) NAVSEA SL720-AA-MAN-010 - Fleet Modernization Program (FMP) Management and Operations Manual

LISTING OF APPENDICES.

A Material Condition Assessment Process Timeline
B CVN Propulsion Plant Material Condition Assessments
C System Certification Checklist for CNO Availability Key Events (Aircraft Carriers Only)
D Scope of Visual Inspections of Reactor Plant Fluid Systems

2.1 PURPOSE. The purpose of this chapter is to provide Fleet Commanders' guidance for the maintenance of ships throughout their operating cycle in accordance with references (a) through (as). This includes maintenance levels, strategies, programs and modernization which define and support all maintenance accomplished in accordance with technical specifications and standards during a ship's operating cycle.

2.1.1 Naval Supervisory Authority.

a. Naval Supervisory Authority Definition. The Naval Supervisory Authority (NSA) is the single Naval activity, as indicated in Table 2-1 of this chapter, responsible for the integration, oversight and verification of all work accomplished by all activities (i.e., Naval Shipyards (NSY), Regional Maintenance Centers (RMC), Supervisors of Shipyards (SUPSHIP) contractors, Type Commander (TYCOM) sponsored contractors, Intermediate Maintenance Activities (IMA), Alteration Installation Teams (AIT) and Ship's Force) working within the assigned availability, and acts as the single point of contact for this work. The NSA will provide the oversight required to ensure that all work in the assigned availability (e.g., Chief of Naval Operations (CNO) availabilities, Continuous Maintenance Availability, Emergent Availability) is authorized and completed in compliance with applicable technical requirements and maintenance/modernization policy, and that all work meets schedule, quality and environmental/safety requirements. The NSA must possess a Naval Sea Systems Command (NAVSEA) technical warrant.

b. NSA Assignment. In most cases, the NSA is assigned by the Fleet Maintenance Officer and TYCOM in accordance with Table 2.1. An NSA must be assigned to all CNO availabilities and to all work that is contracted out to a private executing activity where the majority of the work is performed onboard the ship.

(1) Alterations installed by Alteration Installation Teams (AIT) per reference (a) can only be executed in availabilities that have a designated NSA. If the AIT install is being performed outside a CNO availability, the AIT Sponsor may propose NSA responsibility be assigned to any organization that is qualified as an NSA for the type of work being performed.

(2) An NSA is not required if the work is being performed by a U.S. Navy Lead Maintenance Activity (LMA) outside a CNO availability.

(3) The NSA will normally be the activity assigned based on the geographic area covered by the assigned RMC, NSY or SUPSHIP, as indicated in Volume VI, Chapter 2, Table 2-1 of this manual. If this is not practical, the NSA assignment will be made based on the area of responsibility of the cognizant Chief Engineer as delineated in reference (b).

4. The Tenders, Naval Submarine Support Facility New London, TRIDENT Refit Facility Kings Bay and Ship's Force are not NSAs. If the FMA is executing work the FMA will be the LMA. The Fleet Maintenance Officer may designate a NSA if necessary.

NOTE: THE LMA IS RESPONSIBLE TO THE NSA WHEN AN NSA IS ASSIGNED OR THE IMMEDIATE SUPERIOR IN COMMAND (ISIC) IF NO NSA IS ASSIGNED.

2.1.2 Lead Maintenance Activity. The single activity responsible for work being accomplished on U.S. Naval ships during any type of availability. For work conducted during periods in which the NSYs or RMCs do not have oversight, an LMA will be designated. LMAs are responsible for:

a. Conduct or attend routine progress review meetings with all assigned repair activities. Identify and resolve coordination problems and work conflicts. Advise the appropriate maintenance sponsors (e.g., NSA, NAVSEA, TYCOM, AIT Sponsor, Ship's Program Manager, etc.) of significant quality, cost and schedule impacts and problems.

b. (CNO Availabilities only) Coordinate work and testing controls to include Work Authorization Forms, tagouts and test sequencing per Volume IV, Chapter 10, paragraphs 10.3 and 10.4 of this manual.

c. Integrate the work of all repair activities. For CNO availabilities, this includes an integrated schedule. For non-CNO availabilities, an integrated schedule may be used, based on the complexity of the work as determined by the LMA. The schedule shall ensure adequate time is provided for crew training.

d. Report work status to Maintenance Brokers.

e. Request assistance via Maintenance Broker as needed for outside activity performance.

f. (CNO Availabilities only) Coordinate preparations by assigned repair activities for all key events (e.g., docking, undocking, hot ops, dock trials, fast cruise, sea trials, etc.) to include verification signature checklists of readiness to start.

g. Track progress of all maintenance activities.

h. (Submarines only) Provide management oversight of a ship safety council per reference (d).

i. (Submarines and CNO Availabilities only) Coordinate sail safety and sail closeout efforts among the assigned repair activities conducting work.

j. (CNO Availabilities only) Coordinate crane operations, pier laydown areas, dry dock work areas and resolve other real estate conflicts which may impede efficient execution of the availability.

k. (CNO Availabilities only) Provide sea trials agenda, with all repair activity input, for ship Commanding Officer's concurrence and Type Commander approval.

l. Maintain a list of activities authorized to work on the ship the LMA is responsible for and ensure the list is updated weekly or on an as-needed basis. Ensure activities working on ship have the proper credentials, work schedule and pedigree (authorized maintenance activity) prior to being added on the work authorization list (e.g., Submarine Safety, Scope of Certification, Fly-By-Wire, Radiological).

m. Ensure maintenance activities performing maintenance on assigned ships have proper MOA, Standard Work Practices, NAVSEA standard items and/or Strategic Systems Programs Alteration authorization per reference (e) in place and that the MOA, Standard Work Practices, NAVSEA standard items and/or

Strategic Systems Programs Alteration authorization address required support for work authorizations and work control. For SUBSAFE, Deep Submergence Systems (DSS), Scope of Certification and Fly-By-Wire work, ensure that the MOA identifies the certifying activity.

n. Direct maintenance providers to their proper points of contact.

o. Attend all production/maintenance management meetings to communicate/resolve priorities, problems, job interferences and issues.

p. Define, identify and provide resolution to coordination problems and work conflicts between the Maintenance Managers, Maintenance Activities, Maintenance Brokers and the ship.

q. Provide a copy of all Departures From Specifications to Ship's Force Quality Assurance Officer and the Type Commander (TYCOM) N43 organization.

r. Participate in critiques and problem investigations (e.g., Trouble Reports) as necessary.

s. Conduct Ship's Force and contractor orientation briefings and training per references (a) or (f), as applicable prior to commencement of shipboard work.

t. (CNO Availabilities only) Appoint a Ship Safety Officer to chair the Ship Safety Council and coordinate work that affects control of a ship's control system.

u. (Carrier Incremental Availabilities only) A Ship Safety Council is not required, but a Ship Safety Officer will be appointed and on site to oversee any high risk evolutions in accordance with Section 046 of reference (g).

2.1.3 Ship's Responsibility. The ship is responsible to:

a. Monitor all maintenance activities to ensure they are on the master authorization list.

b. Ensure a current master authorization list is maintained by the Ship's Duty Officer.

c. Provide the LMA with information on ship brokered work so all activities are placed on the master authorization list.

2.2 MAINTENANCE ACCOMPLISHMENT LEVELS.

2.2.1 Fleet Maintenance. Fleet maintenance encompasses Organizational and Intermediate level maintenance as defined in reference (a). It includes, but is not limited to:

a. Ship's Force maintenance that is planned and corrective maintenance which is within the capability and the responsibility of the ship's crew or Maintenance Support Team (if assigned). The work is a blend of equipment operation, condition monitoring, planned maintenance and repairs ranging from simple equipment lubrication to component changeout, and in some cases complete disassembly and repair in-place. The thrust of Ship's Force maintenance is to take advantage of operator experience and onboard rating skills and to ensure the ship is as maintenance self-sufficient as possible.

b. FMA maintenance is that requiring specialized ratings, skill training in special maintenance processes and technical proficiency or equipment/instrumentation not available to Ship's Force. FMA maintenance normally consists of calibration, repair, refurbishment or replacement of damaged or unserviceable parts, components or assemblies, the emergency manufacture of unavailable parts within the FMA capability, and providing technical assistance.

(1) FMAs will accomplish refurbishment level maintenance beyond Ship's Force capability to the maximum extent possible within the policies of this chapter and other directives consistent with the availability of funds, material and skilled manpower.

(2) TRIDENT Refit Facilities are additionally tasked and resourced to accomplish industrial restoration level maintenance to SSBN/SSGN 726 Class submarine components as part of the integrated overhaul maintenance strategy for these ships.

(3) FMAs include Regional Repair Centers and Regional Maintenance Teams which are capable of conducting in-depth maintenance on their assigned components using the latest available technology.

c. Strike Force Intermediate Maintenance Activity is composed of the collective StrikeForce elements capable of performing maintenance beyond the organizational level. A Strike Force Intermediate Maintenance Activity maximizes the Strike Force's ability to operate and sustain itself at sea during extended periods in forward areas through improved repair capabilities and material self-sufficiency.

d. The Commercial Industrial Services program accomplishes Fleet maintenance for essential Fleet repairs that the FMAs have the capability to accomplish but not the shop capacity. The Commercial Industrial Services concept provides a means of using commercial industrial activities to provide maintenance services on a rapid response basis while observing approved commercial contracting procedures. Reference (h) fully describes policies and procedures for Commercial Industrial Services.

2.2.2 Industrial Maintenance. Industrial maintenance is that restoration level maintenance which encompasses Depot level maintenance as defined in reference (c). It includes but is not limited to:

a. Industrial maintenance that is restoration level work requiring complex industrial processes, journeyman level technician skills, facilities, capabilities or manpower capacity not available at FMAs or to Ship's Force. This capability is provided within the Navy by naval industrial activities, ship repair facilities, Naval Aviation Depots, and commercial industrial activities and repair facilities under contract.

b. Ship maintenance work scheduled for accomplishment by industrial facilities that in the judgment of the TYCOM, Commander NAVSEA or Commander Space and Naval Warfare Systems Command in their specific areas of responsibility, is not feasible to be accomplished by FMAs or Ship's Force, due to:

(1) Having insufficient time or manpower.

(2) Being beyond the capabilities of the FMAs.

(3) Being of such a nature that split responsibility between Fleet and industrial maintenance activities may occur.

2.3 RELIABILITY CENTERED MAINTENANCE.

a. Reliability Centered Maintenance is a systematic analysis approach where the system design is evaluated for possible failures, the consequences of these failures, and the recommended maintenance procedures that should be implemented. The objective is to design a planned maintenance program to address possible failure consequences. The emphasis here is on the establishment of planned maintenance requirements (versus corrective maintenance requirements).

b. Maintenance plans for in-service ships, systems and equipments should be reviewed and modified to incorporate Reliability Centered Maintenance principles in areas where it can be determined that the expected results will be commensurate with associated costs.

2.4 CONDITION BASED MAINTENANCE. Condition Based Maintenance (CBM) is maintenance based on objective evidence of actual or predictable failure of ship's installed systems or components. This includes condition-directed maintenance and periodicity adjustments to time-directed planned maintenance.

a. A thorough knowledge and assessment of actual equipment condition in relation to its designed condition is the basis for most maintenance decisions. Equipment condition is a broad term which includes static parameters, such as size and shape, and dynamic parameters, such as speed, temperature, pressure, voltage, etc. While each Ship's Force is in the best position to know the condition of its ship and equipment, the complexities of modern design and engineering dictate that specialized assistance be utilized to determine the condition of much of the equipment. Diagnostics, inspections, non-intrusive monitoring for trending/analyses and tests shall be utilized to the maximum extent possible to determine performance and material condition of, and to predict and schedule required corrective maintenance action on, ships systems and equipment.

b. Further information on CBM is provided by reference (c).

c. Programs and organizations that are available to assess equipment conditions are described in paragraphs 2.4.1 through 2.4.8 of this chapter. Deficiencies identified by these and other programs and organizations shall be documented in the CSMP.

2.4.1 Unrestricted Operations (Submarines Only). The Unrestricted Operation (URO) program is designed to ensure continued safe submerged operations to design test depth. URO requirements shall be accomplished as scheduled and as described in Volume VI, Chapter 25, and Volume V, Part I, Chapter 5 of this manual.

2.4.2 Periodic Maintenance Requirements Program (Submarines Only). The Periodic Maintenance Requirement program has been established to integrate test, inspection, and maintenance directives from various Systems Commands and to control their input into each ship's CSMP for the required accomplishment by means of the Master Job Catalog. The phrase, "Periodic Maintenance Requirement" encompasses the URO program and the Submarine Engineering Management, Monitoring and Fleet Support Program Office Performance Monitoring Program. All requirements due for accomplishment shall be included in the CSMP at least six months prior to the due date to allow sufficient time for material procurement and maintenance planning. Specific requirements of the Periodic Maintenance Requirement program are described in Volume VI, Chapter 24, of this manual.

2.4.3 Material Condition Assessment Feedback Program (Submarines Only).

a. The submarine Material Condition Assessment (MCA) program is coordinated by NAVSEA and Submarine Maintenance Engineering, Planning and Procurement (SUBMEPP) Activity and is used to improve the maintenance efficiency of critical, non-nuclear Hull, Mechanical and Electrical (HM&E) components by optimizing component refurbishment periodicities. This assessment of a component's condition at refurbishment, along with other pertinent component data such as performance monitoring and corrective maintenance data, provides the foundation for extension or reduction of component refurbishment periodicity. Further, it allows for consideration of modification of component design configuration and/or the revision or elimination of component maintenance requirements with confidence that component reliability will not be diminished.

b. The MCA data collection program consists of MCA data sheets and pre-availability test and inspection information. Other feedback programs and sources of material condition data include, but are not limited to, UROs, Maintenance and Material Management (3-M) System, Casualty Reports, Advanced Equipment Repair Program (AERP), Performance Monitoring Program, etc.

c. The Integrated Maintenance Analysis Profile database displays planned and corrective maintenance feedback, historical configuration, job completion and alteration installation data in support of the MCA program.

2.4.4 Machinery Condition Analysis (Surface Force Ships and Aircraft Carriers).

2.4.4.1 General. The TYCOM Machinery Condition Analysis (MCA) and Ship's Force Machinery Vibration Analysis programs provide an objective assessment of the mechanical condition of propulsion plant and auxiliary rotating machinery. MCA surveys and Ship's Force Machinery Vibration Analysis and testing directly support the CBM strategy by determining specific maintenance requirements and priorities.

2.4.4.2 Automated Machinery Condition Analysis. The advent of real-time machinery digital sensors, analysis tools, data recording and data transfer has brought Automated Machinery Condition Analysis (AMCA) to the forefront of CBM. AMCA systems are being employed and installed on new ships-of-the-line and back-fitted where practicable on existing ships. The AMCA tools and systems support the MCA programs and MCA surveys. The systems are implementing prognostic, diagnostic and maintenance capabilities for both shipboard and off-ship personnel to utilize to enhance understanding of the mechanical condition of propulsion plant and auxiliary rotating machinery.

2.4.4.3 Machinery Condition Analysis Surveys. MCA surveys combine vibration analysis, visual inspections and a review of operating and maintenance records to objectively determine each machine's condition.

a. Surveys are conducted before and after each scheduled CNO maintenance availability period. The survey preceding the availability provides a comprehensive list of machines which require repair. The MCA survey after the availability allows time for corrective maintenance actions prior to the ship's deployment and, if applicable, repairs while machinery is still under the availability warranty period. The post-availability survey also establishes a baseline to which future surveys can be compared.

b. The key to the MCA program is onboard analysis of vibration data. MCA surveys identify machinery problems. A written report details prioritized repair recommendations with appropriate diagnostic and visual inspection data for all machines tested. The report also summarizes machinery repair history.

c. Reports of failure trends and recurring or continuing mechanical problems are available along with MCA history reports. These reports can be generated based on machine type, ship, ship class, and Fleet.

2.4.4.4 Ship's Force Machinery Vibration Analysis Program. The Ship's Force Machinery Vibration Analysis program uses a fully capable automated diagnostics system to provide many ships with the ability to perform vibration testing. A set of computer programs in the diagnostics system provides the equivalent of a full time vibration engineer so that Ship's Force can test and analyze machinery at any time. Periodic training is provided to Ship's Force.

2.4.5 Ship Assessment, Groom and Evaluation. Ship Assessment, Groom and Evaluation is an existing TYCOM program which provides assessment of the material condition of selected shipboard systems and equipment. Ship Assessment, Groom and Evaluation includes identification of discrepancies to support development of a comprehensive conditioned based industrial availability work package. This program is fully described in Volume VI, Chapter 42 of this manual.

2.4.6 Performance Monitoring Team. The Performance Monitoring Team provides technical support to the Fleet by obtaining data using CBM methodology to monitor mission/safety critical systems and material conditions of selected HM&E systems. Performance Monitoring Team functions include, but are not limited to, the following:

a. Collecting and analyzing equipment data.

b. Establishing and maintaining a master database to track equipment performance.

c. Providing feedback and technical guidance using trend analysis.

d. Making equipment repair and deferral recommendations.

2.4.7 Combat Systems Readiness and Review Program. Combat Systems Readiness and Review program is a TYCOM program which provides maintenance training and a comprehensive review and assessment of a ship's Combat Systems prior to deployment. It includes identification of discrepancies to support development of a comprehensive condition based availability work package for a ship's Combat Systems. For a complete description of the Combat Systems Readiness and Review program refer to applicable TYCOM instructions.

2.4.8 Electronic Systems Review (SSBN/SSGN 726 Class Submarines Only). Fleet Training Support Center Detachments perform periodic Electronic Systems Reviews on SSBN/SSGN 726 Class submarines. The major emphasis of the Electronic Systems Review is on the job training of Ship's Force personnel in the performance of the Planned Maintenance System and maintenance of selected electronic equipment. Areas of review include monitoring for safety related issues, monitoring of the Planned Maintenance System and verifying equipment operability for the following systems: Radar, Electronic Warfare Support Measures, Periscopes, Fire Control, Central Atmosphere Monitoring System, Gyrocompass, Radio, Sonar, Launchers, Torpedo tubes and handling equipment. Additionally, the Electronic Systems Review team will assist division 3-M Coordinators in administrative reviews, perform National Policy on the Control of Compromising Emanations (TEMPEST) inspections or small arms inspections if requested.

2.5 SYSTEM/COMPONENT MAINTENANCE PROGRAMS (SUBMARINES AND AIRCRAFT CARRIERS ONLY).

2.5.1 Advanced Equipment Repair Program (Submarines Only).

a. AERP is a system for providing new or refurbished non-nuclear components to support specific programmed industrial activity availability and Engineered Operating Cycle (EOC) maintenance requirements. A programmed requirement is one that is identified, budgeted and funded for ultimate end use on a specific submarine hull. Industrial activity availability and EOC requirements are defined as those assets necessary to support the accomplishment of a planned availability work package during scheduled CNO maintenance availabilities. Although similar in concept to the usual rotatable pool or repairable items, the AERP differs in that pool requirements are not determined by usage data. By its nature, the AERP is limited to items of significant value for which it would not be economical to stock on the basis of `normal' usage. Instead, requirements are specific and are determined by the overall schedule of submarine industrial activity availability and EOC requirements. Only so much material is provided as will meet the programmed needs of the specific ships involved. Range and depth of AERP assets will normally not exceed projected requirements for a two year period.

b. Components are furnished as Government Furnished Material to maintenance activities performing industrial activity availabilities and maintenance of submarines. The AERP provides the flexibility and speed-of-response required to ensure timely logistic support and engineering direction of complex maintenance planning.

c. Components selected for management under the AERP are those complex, high value items required to effect the accomplishment of programmed submarine industrial activity availability or EOC requirements in the shortest possible time. However, other factors may also affect the decision to manage certain items under the AERP. Reference (i) provides specific guidance for selection of components.

d. Various activities may initiate action to include additional components into the AERP. Such action may stem from independent study or the recognition of some Fleet requirement. In identifying potential AERP components, close coordination must be maintained with the Fleet and with the activity assigned responsibility for producing the availability work package for each submarine's availability. The final decision regarding inclusion of an item in the AERP rests with NAVSEA 07.

2.5.2 TRIDENT Planned Equipment Replacement Program (SSBN/SSGN 726 Class Submarines Only). Shipboard equipment which requires significant maintenance during the planned operating cycle, industrial level maintenance, which is beyond the capability of Ship's Force, and which cannot be accomplished during the refit period (without

unacceptable impact on other refit requirements), will be supported by TRIDENT Planned Equipment Repair (TRIPER) program. TRIPER equipment will be removed from the ship for refurbishment ashore, replaced with pre-tested, Ready for Issue units and the affected system restored to full operational condition prior to completion of the refit period. Replacement will be accomplished on a planned basis at intervals designed to preclude the failure of the equipment or significant degradation of its associated system. Deviations of greater or less than one refit from established TRIPER change-out periodicities shall require ISIC concurrence. A planned change to shelf stock TRIPER equipment will be accomplished only when sufficient change kits are available to effect the change in all units of a given model of the equipment held in shelf stock. Shelf stock TRIPER equipment is represented in configuration status accounting databases maintained by SUBMEPP.

2.5.3 Aircraft Carrier Planned Equipment Replacement Program (Nuclear Powered Aircraft Carriers Only). The Aircraft Carrier Planned Equipment Replacement (CARPER) program is designed to ensure that the planned incremental availabilities of the USS NIMITZ (CVN-68) class aircraft carriers are completed on time and within cost by having a pool of historically critical, hard-to-get equipment and components available both for planned replacement and for emergent issue if needed.

2.5.4 SEAWOLF Class Rotatable Pool Program.

a. The SEAWOLF Rotatable Pool is part of the class maintenance and availability planning process. The purpose of the program is to provide replacement components as scheduled by the Planned Maintenance Cycle Schedule, prior to failure or unacceptable degradation of installed components. Components which have been replaced are refurbished at a Designated Overhaul Point and returned in Ready for Issue status to repeat a similar cycle.

b. Reactor plant system and equipment under the cognizance of the NAVSEA Nuclear Propulsion Directorate (08) are excluded from the SEAWOLF Rotatable Pool Program.

c. SUBMEPP has been designated as the SEAWOLF Class Rotatable Pool Program Manager. Reference (j) provides specific guidance for managing the SEAWOLF Rotatable Pool program.

2.6 MODERNIZATION.

2.6.1 Fleet Modernization Program. The Fleet Modernization Program (FMP) is a CNO managed program to develop, plan, fund and accomplish Ship Alterations (SHIPALT), Machinery Alterations (MACHALT), ORDALT, Nuclear Alterations and Electronic Field Changes in accordance with policies mandated in reference (k). It is executed in accordance with Volume VI, Chapter 3 of this manual and applies to all alterations to commissioned ships and craft of the Navy except as follows:

a. Alterations to those portions of naval nuclear propulsion plants and facilities under the cognizance of the NAVSEA 08 identified in reference (l).

b. Strategic Systems Program Alterations affecting the configuration and/or capabilities of systems and equipments under the cognizance of the Strategic Systems Programs (SSP). Reference (e) defines the policies, controls, processes and procedures for the accomplishment of all SSP Alterations issued by the Director, SSP for all SSP cognizant equipment on both SSBNs and SSGNs.

c. TEMPALTs required for mission support or installed for test and evaluation or research and development programs.

d. Alterations affecting configuration of hardware, software and support equipment of a TRIDENT system is under the cognizance of NAVSEA PMS 392.

e. Temporary Modifications (TEMPMOD) are required for mission support or installed for test and evaluation or research and development programs associated with DSS and craft in accordance with reference (m). DSS systems on submarines and various craft such as Dry Deck Shelters and Advanced

Seal Delivery Vehicles are managed by NAVSEA PMS 399. DSS systems on various craft for Deep Submergence Rescue Systems are managed by NAVSEA PMS 394. TEMPMODs are managed in the same manner as a TEMPALT.

NOTE: TEMPORARY MODIFICATIONS TO DSS SYSTEMS PERMANENTLY INSTALLED ON SUBMARINES ARE MANAGED AS TEMPALTS.

2.6.2 Types of Ship Improvements. There are two types of improvements, each having their own approving authorities, managed under the FMP as outlined in reference (k).

a. Military Improvement. An improvement that results in a change of ship operational or military characteristics, qualities, or features, and increases the ability of the ship to perform its required operational capacities. Proposed military improvements are submitted to CNO (OP-03).

b. Technical Improvement. An improvement that results in a change to improve the safety of personnel and equipment and/or provides increased reliability, maintainability and efficiency of installed equipment. Proposed technical improvements are submitted to the cognizant NAVSEA program manager or the cognizant Naval Air Systems Command (NAVAIR) program manager for Aircraft Launch and Recovery Equipment.

2.6.3 Fleet Modernization Program Management Information System. FMP management functions are supported by a Fleet Modernization Program Management Information System (FMPMIS) containing all the planning and status information needed for timely and accurate decision making in evaluating proposed alterations. FMPMIS contains Ship Alteration Financial Execution, Ship Alteration Budget Reporting and Evaluation System and other management information systems supporting separately funded line items; i.e., ORDALTs, MACHALTs, etc. FMPMIS is the authoritative source of information used by FMP managers and activities to carry out their responsibilities in accordance with reference (k). All FMP managers are responsible to ensure that respective data contained in FMPMIS is current and accurate.

2.6.3.1 Proposed Alterations. Proposed alterations that have been approved are submitted to the cognizant NAVSEA program manager for development of a Justification/Cost Form. The Justification/Cost Form is the baseline document that consolidates all known technical material and cost information. Upon completion of the Justification/Cost Form the alteration will be given a number and placed in the Amalgamated Military and Technical Improvement Plan system for Title “K” and “KP” alterations or in the TYCOM Alteration Management System (TAMS) for Title “D” and “F” SHIPALTs. TEMPALTS may be managed on TAMS or any equivalent tracking system meeting TAMS criteria.

2.6.3.2 Alteration Development. ORDALTs, MACHALTs and Electronic Field Changes are developed and programmed separately from SHIPALTs. ORDALTs are programmed and developed by references (n) and (o), MACHALTs in accordance with reference (p) and Electronic Field Changes in accordance with reference (q). TEMPALTs on all ships and submarines (including DSS systems) converted to permanent conditions will be managed as a SHIPALT in accordance with reference (n) via the applicable program offices. TEMPMODs on DSS craft converted to a permanent condition will be managed as a Field Change in accordance with reference (q) via the applicable program offices.

2.6.4 Alterations. Approved alterations are issued as SHIPALTs, TEMPALTS, MACHALTs, ORDALTs, TEMPMODS, Nuclear Alterations or Electronic Field Changes depending on application and classification.

2.7 INTEGRATED FLEET MAINTENANCE MANAGEMENT. Integrated Fleet Maintenance Management is the business management model that allows for continuous maintenance by providing a seamless interface between all associated processes. It provides for processing work candidates including storage and retrieval of historical data and feedback to improve the process. The intent is to have a standard management model applicable to all platforms at all maintenance levels encompassing the following:

a. Discover and document work.

b. Validate and diagnose work.

c. Integrate and screen work.

d. Estimate and task work.

e. Plan work.

f. Execute work.

g. Collect feedback and analyze data.

2.7.1 Continuous Maintenance. Continuous Maintenance is a process that involves the near continuous flow of maintenance candidates to the most appropriate level and maintenance activity for accomplishment. Timed to best support operations, it migrates from a centralized timed based batch process to a decentralized condition based nearly continuous process.

2.7.1.1 Continuous Screening Process. Continuous Screening is a process of screening work as it is discovered. Continuous Screening:

a. Begins with identification and documentation of work candidates.

b. Includes validation, estimation and integration of work candidates and the screening of work candidates to availabilities.

c. Ends with the assignment and release of an availability or individual work candidate to a specific maintenance activity for execution during a specific maintenance period.

2.7.1.2 Continuous Planning Process. Continuous Planning is a process in which work is planned when tasked. Continuous Planning:

a. Begins with tasking of a work candidate to a planning activity for preparation of a work specification and cost estimate.

b. Ends when the specification is approved for execution. There is overlap between Continuous Screening and Continuous Planning.

2.7.1.3 Continuous Execution Process. Continuous Execution is a process in which selected emergent and non-emergent work candidates are executed outside of scheduled availabilities. Continuous Execution will not replace the current availability system. Availabilities will still be necessary to accomplish major repairs and extensive configuration changes, as well as provide the ship with a specific period of time to concentrate on maintenance and training. Continuous Execution will assist planning activities and repair activities in leveling their workload while providing the ships with a means of accomplishing repairs when needed with a minimum level of interruption to the ship's inport routine that is acceptable to the ship. The process is used when:

a. The work candidate is ready for execution.

b. Capacity exists in the selected repair activity.

c. Ship's inport schedule supports the required level of repair effort.

2.8 TECHNICAL ASSISTANCE.

2.8.1 Regional Maintenance Center.

a. The RMCs provide direct support to Fleet and TYCOMs in matters of waterfront technical assistance, maintenance training and logistics services associated with the installation, operation, maintenance, and readiness of shipboard equipment and systems. The RMCs promote Fleet readiness and maintenance self-sufficiency in shipboard systems and equipment through direct technical help in troubleshooting, maintenance and repair, on-the-job maintenance training, logistics reviews, and technical documentation support. These services help correct operational and maintenance problems which are beyond the technical capability or capacity of fleet units or FMAs.

b. References (r) and (s) have been cancelled. Volume VI, Chapter 2 of this manual fully describes policies and procedures for the RMCs.

2.8.2 Ship Assessment, Groom and Evaluation.

a. This program is managed and funded by the TYCOM and provides technical assistance to Ship's Force personnel in maintaining a select list of shipboard equipment and systems.

b. Volume VI, Chapter 42 of this manual provides further explanation of this program.

2.8.3 Carrier and Field Service Unit.

a. Carrier and Field Service Unit is a branch of the Naval Air Warfare Center designed to provide technical assistance to Fleet personnel for all launch, recovery, and visual landing aids systems.

b. Volume IV, Chapter 16 of this manual provides further explanation of this program.

2.8.4 Elevator Support Unit.

a. Elevator Support Unit is an element of NAVSEA's Weapons and Cargo Elevator Improvement Program funded and scheduled by the TYCOM to provide technical assistance for the maintenance, modernization and repair of weapons and cargo handling elevators.

b. Volume IV, Chapter 8 of this manual provides further explanation of this program.

2.8.5 Propulsion Plant Engineering Activity (Aircraft Carriers Only). CVN 68 Class aircraft carrier technical assistance is available from the Propulsion Plant Engineering Activity (PPEA) for non-nuclear propulsion plant systems. The PPEA provides an additional technical resource for assisting operating aircraft carriers with technical and/or operational issues not associated with SHIPALT installation and configuration control. PPEA Liaison services are requested using the Steam Plant Action Request per reference (t). The Steam Plant Action Request is not intended to replace the Liaison Action Request or Departure from Specifications processes described in Volume V, Part I, Chapter 8 of this manual. The PPEA, using the Steam Plant Liaison Inquiry described in reference (t), will request information, disseminate technical information and direct work that does not require a drawing change or affect system configuration control.

2.8.6 Waterfront Corrective Action Program.

a. Waterfront Corrective Action Program is a subprogram of the Shipboard Electromagnetic Compatibility Improvement Program, and is part of the RMCs, designed to provide training and technical assistance to Ship's Force in Electromagnetic Interference recognition and reduction.

b. Volume VI, Chapter 4 of this manual provides further explanation of this program.

2.8.7 Fleet Maintenance Support Branch.

a. Fleet Maintenance Support Branches' charter is to improve the Fleets ability to perform nuclear maintenance. This is accomplished by the following:

(1) Training.

(2) Providing on-site technical support.

(3) Acting as corporate memory.

b. Fleet Maintenance Support Branch support should be coordinated through the respective Surface Nuclear Maintenance Training Group and, for submarines, coordinated through the parent ISIC.

2.9 PROPULSION PLANT MATERIAL CONDITION (AIRCRAFT CARRIERS ONLY).

2.9.1 Purpose. This section presents a comprehensive approach to assessing and maintaining propulsion plant material condition on Nuclear Powered Aircraft Carriers (CVN). The cornerstone of this program is the Material Condition Assessment Process (MCAP) which employs incremental maintenance concepts to apply inspections, maintenance, training and both depot and afloat assets toward the consistent identification, evaluation, tracking and correction of propulsion plant material condition deficiencies. The program assigns specific duties to both Ship's Force and the TYCOM staff to ensure the ship has the assets, processes and support in place to effectively manage propulsion plant material condition over the life of the ship. The effectiveness of this process is measured by the material condition of the propulsion plants.

2.9.2 Applicability. The guidance provided in this section focuses on CVNs.

2.9.3 Ship's Force Requirements.

2.9.3.1 Reactor Maintenance Officer. The Reactor Maintenance Officer (RMO) is responsible for the long range planning and management of propulsion plant maintenance throughout the ship's cycle. Specific responsibilities include:

a. Coordinate with other Reactor Department Principal Assistants to ensure divisions are continuously identifying, evaluating and correcting material deficiencies in the propulsion plants. The RMO will periodically review the MCAP Database (Equipment Deficiency Log (EDL)) and the Equipment Status Logs (ESL) to ensure deficiencies are being identified and documented.

b. Coordinate with other Reactor Department Principal Assistants to ensure divisions are submitting work requests for inclusion into future availabilities and up-keeps, as necessary to correct significant or overly burdensome material deficiencies.

c. Function as the ship's liaison for all outside maintenance activities. The RMO shall be the primary point of contact for all matters pertaining to maintenance of the propulsion plants to include coordinating with the TYCOM in the planning, prioritizing and execution of scheduled repairs.

d. Request assistance as necessary, via the TYCOM, to accomplish nuclear and non-nuclear planned maintenance inspections.

e. Coordinate (with Reactor Training Assistant/Training Officer) all required shipyard and TYCOM training for the Reactor Department prior to the start of availabilities.

f. Request training, via the TYCOM, on the execution of material inspections. The training, conducted by a small (a notional five person team consisting of shipyard nuclear and non-nuclear engineers and a MCAP Zone Manager/Coordinator) group of shipyard MCAP experts, is normally conducted in conjunction with the pre-deployment Material Condition Assessment Inspection (Pre-Deployment MCAI). The primary goal of the training is to provide focused information and training to Ship's Force personnel on MCAP inspection attributes and techniques. The RMO shall be the single point of contact for scheduling TYCOM provided and/or funded maintenance and inspection training.

g. Coordinate, via the TYCOM, the use of groom teams, as needed. Groom teams may be shipyard or contractor personnel who can be scheduled to find and fix discrepancies associated with specific systems or components. Groom teams employ standard tests to evaluate system performance and may assist in the correction of deficiencies as well as their identification and documentation.

h. Coordinate, with other Reactor Department Principal Assistants, to ensure that deficiency lists generated by groom and inspection teams are incorporated into the MCAP Database (EDL).

i. During CNO availabilities, perform actions necessary for certification of Reactor Plant Support Systems required to support principal propulsion plant evolutions in accordance with reference (u). Prior to performing work on these components/systems, the RMO shall consult with the shipyard project team to ensure that a clear path to re-certification (or interim certification) is identified.

j. Assist the Reactor Officer and the other Principal Assistants in the planning and management of SHIPALTS and modifications to reactor plant systems and support systems.

k. Ensure that non-propulsion plant deficiencies identified as part of the MCAP are passed to the Ship's Maintenance Manager for action. The Ship's Maintenance Manager is responsible for coordinating and reporting the correction of these deficiencies in a timely manner. Increased emphasis on deficiency correction and reporting may be required by the Ship's Maintenance Manager during key event readiness periods.

2.9.3.2 Material Condition Assessment Process. Appendix A presents a notional, 27 to 36-month, MCAP Timeline. This timeline provides visibility of the many areas requiring consideration and action by both the ship and associated Project Team, both inside and outside of CNO availabilities. The timeline provides a template capturing the minimum efforts that should be undertaken throughout the ship's operational cycle to support improvement of propulsion plant material condition. It was developed by a detailed review of associated source documents and experience in MCAP implementation across the fleet and should be tailored by the RMO to suit the ship's individual schedule and circumstances. The following are events from the MCAP Timeline that are of particular significance to Ship's Force that are not specifically addressed in other source documents:

a. Pre-Deployment Material Condition Assessment Inspection. The Pre-Deployment MCAI is a non-intrusive walk through inspection of propulsion plant spaces conducted by Ship's Force (with shipyard support) prior to deployment. This inspection is conducted as a joint effort in conjunction with pre-inspection training provided by shipyard engineers and inspectors. The scope of the pre-deployment MCAI exceeds that of the ship's periodic zone inspections and is intended to be a mid-cycle assessment of propulsion plant material condition.

(1) The objectives of the inspection are:

(a) To validate the standards used in the material condition assessment process. This is accomplished through the pre-inspection training provided by shipyard engineers and inspectors. This training is intended to be the most significant opportunity to train and educate Ship's Force personnel with regard to inspection attributes and material standards.

(b) To identify deficiencies prior to deployment in time to order and receive material before departure. This ensures that Ship's Force has the material on hand to correct deficiencies while on deployment.

(c) To provide a mid-cycle review and validation of the health of the MCAP.

of stem packing leakage in conjunction with the MCAP inspection program. All valves having less than two valve isolation from high-energy systems should be inspected annually at a minimum. Prior to availabilities that will include a plant cool down, particular attention should be given to steam generator isolation valves, safety valves, blowdown and sampling system valves and all 500 series main feed and main steam system valves. Any valve that shows signs of packing leakage or has minimal packing gland adjustment remaining should be entered into the MCAP Database (EDL) for further evaluation.

(2) Structural Preservation. Areas of the propulsion plant are to be inspected for structural corrosion on a rotating basis in conjunction with the ship's MCAP inspection plan. Particular emphasis should be placed on areas exposed to salt spray (ventilation spaces, weather deck fittings), equipment foundations, low traffic areas, and all out of plant spaces owned by Reactor Department or that contain reactor support equipment. References (v), (w) and (x) provide additional guidance on applying and resurfacing plant structural components and coating color schemes.

NOTE: REFERENCE (x) WAS DISTRIBUTED TO ALL CVNs BY NAVSEA LTR 92T124/0418 DATED 5 NOV 01 AND PROVIDES AN EXCELLENT STANDARDIZED GUIDE OF THE VISUAL CONDITION OF PAINTED COMPONENTS AND SURFACES IN THE INTERIOR OF SHIPS DURING MAINTENANCE AVAILABILITIES OR CONTRACTED PRESERVATION TEAM WORK. ADDITIONAL COPIES ARE AVAILABLE IN SPIRAL BOUND BOOK FORM AND ON CD-ROM FROM THE NAVAL LOGISTICS LIBRARY (http://nll.navsup.navy.mil/). ACCESS THE P2003 SHOPPING CART AND INPUT EITHER TECH MANUAL NUMBER SL700-AB-GYD-010 OR NSN 0910-LP-100-4420.

(3) Lagging and Insulation. Damaged or worn lagging/insulation should be inspected and upgraded using the guidance of references (c), (h), and the CVN 68 Class Incremental Maintenance Plan, Sequencing Plan in conjunction with the ship's MCAP inspection program. Ships should consider maintaining a separate list of lagging removed by Ship's Force as a result of maintenance, wetting or becoming oil soaked. Guidance for installing and maintaining insulation can be found in reference (y). Painting of insulation is covered by the aforementioned Reactor Plant Paint Schedule.

(4) Paint and Preservation. In conjunction with the structural preservation and bilge preservation inspections discussed in this section, the ship must ensure that the paint and preservation status of general propulsion plant spaces is maintained over time with emphasis placed on the work that will be done during availabilities. The CVN 68 Class Incremental Maintenance Plan, Sequencing Plan provides guidance on rotation plans for propulsion plant spaces. Ships should consider maintaining a list of spaces annotating the dates when spaces were last painted/preserved to assist in long term planning. References (v), (w) and (x) (see NOTE in paragraph 2.9.3.2.c.(2) of this chapter) provide additional guidance on applying and resurfacing plant structural components and coating color schemes.

(5) Bilge Preservation. Invasive, below the deck level, inspections are the key to maintaining the integrity of bilges and bilge structural members. Ships should ensure that regular bilge inspections are scheduled in conjunction with the ship's MCAP inspection program with increased emphasis during the Pre-Availability and Pre-Deployment MCAI inspections. Progressive maintenance techniques are required for coatings in the propulsion plant bilges to wear as projected and must be resurfaced at the appropriate intervals. Guidance on inspection criteria and establishment of inspection zones can be found in CVN 68 Class Depot Maintenance Requirement Card MRC 631-01. References (v), (w), (x) and (z) (see NOTE in paragraph 2.9.3.2.c.(2) of this chapter) provide additional guidance on applying and resurfacing plant structural components and coating color schemes.

(6) Oil Leak Identification and Correction. Ships should aggressively identify and correct oil leaks, with particular attention to areas underneath the main engines, turbine generators, lube oil purifiers and in the vicinity of lube oil pumps. Inspection plans should divide the propulsion plant spaces into zones to ensure all areas are inspected annually at a minimum. The list of identified oil leaks can then be prioritized in the MCAP Database (EDL) for correction.

(7) Electrical Cableway Inspection. Shipboard electrical cableways for the most part are taken for granted. Improperly installed cables in the propulsion plant can not only damage existing cables but may also impact watertight/airtight integrity. Cableways must be properly installed and maintained in accordance with the requirements of references (aa) and (ab). Additional guidance for conducting cableway assessments in conjunction with the ship's MCAP inspection program is available in Volume VI, Chapter 28 of this manual.

(8) Typical Recurring Deficiencies. The ship should actively pursue the identification, documentation and correction of typical recurring deficiencies through the periodic MCAP inspections. Listed below are examples of the types of items that should be continuously identified and corrected. TYCOM will provide funding during availabilities, Planned Incremental Availabilities and Docking Planned Incremental Availabilities for the shipyard or other activity to provide assistance in resolution, as required.

(a) defective/missing spray shields

(b) missing deck plate screws

(c) lockwire/locking cable deficiencies

(d) mixed/missing/corroded fasteners

(e) small valve maintenance deficiencies

(f) loose/damaged stuffing tubes

(g) missing/damaged pipe hangers

(h) missing/misaligned/leaking funnels

(i) missing gage fasteners and gage line supports

(j) electrical cable and lighting deficiencies

(k) missing/damaged label plates

d. Acceptable-As-Is items. The MCAP database has the ability to provide the ship with information concerning material conditions that have been previously classified as "Acceptable As Is". Each entry should identify the equipment and its location, provide a description of the acceptable condition and a reference to the technical documentation that accepted the condition. Shipyards can use this data during depot availabilities to preclude repetitive research for acceptable, existing conditions that would otherwise be considered deficiencies. The shipyard will provide the ship with electronic copies of all waiver letters, Liaison Action Request responses, Departures from Specifications and any other acceptance documentation generated during an availability. The RMO with the assistance of the Reactor Plant Planning Yard should ensure the data is kept up to date between depot availability periods.

2.9.3.3 Methods for Assessment of Material Condition. There are several methods used to periodically assess and improve the material condition of the propulsion plants for CVN outside of depot availabilities. The existing programs provided by the fleet commanders to improve material condition are addressed in Volume VI, Chapter 42, of this manual. Other methods include:

a. Material inspections conducted by the Surface Nuclear Propulsion Mobile Training Teams (MTT).

b. Material inspections conducted by the Board of Inspection and Survey.

c. Material inspections conducted by the Nuclear Propulsion Examining Board (NPEB).

d. Periodic inspections conducted by shipyard engineering and inspection groups, usually in conjunction with availability planning. These inspections include Carrier Availability Planning System, Point of Entry Testing (POET), MCAIs and zone inspections of the propulsion plant spaces.

e. Carrier Engineering Material Assessment Team coordinators groom systems to include Leslie valves, high pressure air compressors, low pressure air systems, governor control systems, distilling plants, etc.

f. Periodic Ship's Force Zone Inspections.

g. Pre-Deployment Material Condition Assessment Inspection.

The table shown in Appendix B is a compilation of propulsion plant inspections and references.

2.9.3.3.1 Attributes and Acceptance Standards for Material Condition Inspections. The inspection criteria used for material inspections throughout the ship's operational cycle shall be uniform and consistent to provide an accurate assessment of the material condition of the propulsion plant.

a. Reference (u) shall be used to inspect non-nuclear propulsion systems and components. The checklist provided in Appendix C is to be used as a guide during CNO Availabilities when reference (t) is invoked for determination of system readiness to support execution of a Key Event. This checklist may also be used outside of availabilities to determine system readiness to support ship operations.

b. References (ac), (ad) and (t) shall be used to inspect nuclear propulsion systems and components. Inspection criteria for nuclear mechanical systems is listed in Appendix D. Inspection criteria for nuclear electrical systems is listed in reference (ad).

2.9.3.4 Propulsion Plant Planned Maintenance. Reference (ae) lists the planned maintenance pertinent to reactor systems and includes numerous inspections and checks to review material condition. It can be advantageous for the ship to request shipyard quality control inspector or production shop assistance when conducting the annual inspections of the Reactor Compartment and Pressurizer Shed. In addition, the ship should consider requesting assistance when performing periodic inspections of piping hangars, piping and supports in bilges, load centers and reactor vessel shielding.

2.9.3.5 Training for Ship's Force. The TYCOM, in conjunction with other activities (e.g., NSY, Fleet Maintenance Support Branch, Shore Intermediate Maintenance Activity (SIMA), Trident Training Facility), has developed specific training courses to enhance technical maintenance capabilities and inspection techniques. In addition, shipyard personnel can provide training on subjects such as lagging replacement, lockwire/locking cable installation and inspection techniques. Ship's Force requests for specific training topics (e.g., shipyard inspection training prior to conducting the pre-deployment MCAI) shall be processed through the TYCOM. Ship's Force should schedule this training early and ensure sufficient personnel are trained.

2.9.4 Type Commander Responsibilities.

a. Budget and plan for correction of both typical recurring deficiencies and other material deficiencies during all upkeeps, availabilities, Planned Incremental Availabilities and Docking Planned Incremental Availabilities.

b. Assign groom teams as necessary, to assist Ship's Force in maintaining the material condition of the propulsion plant.

c. Provide the maintenance and inspection training requested by Ship's Force. This provisioning of training will include funding a shipyard MCAP team requested by the RMO in support of the pre-deployment MCAI. This small team (five to ten person notional size) provides (1) targeted training and deckplate feedback to Ship's Force in support of the inspection, and (2) acts as an independent check for both the ship and the TYCOM that the ship's MCAP program is being administered in a manner that supports the intent of the program.

d. Provide training for RMOs through the TYCOM N9 and N43 organizations to ensure they understand common maintenance problems among carriers, the requirements of this chapter and how to better plan for availabilities.

e. For CNO Availabilities, maintain, with Ship's Force and shipyard input, an Availability Parts Support List containing special parts and routinely required support equipment necessary to support Ship's Force work (e.g., breaker locking clips, valve locking devices, tygon tubing, flexes, thread protectors, foreign material exclusion plugs, valve stems). These material items can then be ordered and procured early so that production work will not be disrupted.

f. Meet periodically with the Reactor Officer and/or RMO to review the ship's material condition. The need for TYCOM support in identifying and correcting material deficiencies should be addressed at this time.

g. Provide timely review and scheduling of deficiency correction for items identified during the inspections and grooms of paragraph 2.9.3.3 of this chapter.

2.9.4.1 Type Commander Mobile Training Team Visits. The MTT should periodically evaluate the ship's material condition including a review of the ship's MCAP Database (EDL) to ensure the ship has an effective program for identifying and correcting material condition deficiencies. It is important that the MTT does not critique lists that are too large, since this chapter specifically encourages ship's to document deficiencies that are beyond the capability of the ship or are too numerous to fix considering the ship's operational commitments. Attributes that should be checked include:

a. Ensure that the MCAP Database (EDL) is current and accurate based on MTT material condition inspections (i.e., is the ship's MCAP Database (EDL) an accurate representation of propulsion plant material condition based on the number, type and severity of items identified by the MTT? Are the plans for corrections realistic?)

b. Ensure that deficiencies have not remained in the MCAP Database (EDL) for an excessive amount of time (i.e., the turnover rate of the deficiencies). Large backlogs indicate the need for increased Ship's Force attention and/or TYCOM assistance to correct deficiencies.

2.9.5 Assessing Deficiency Impact and Scheduling Corrective Action. During scheduled CNO availabilities shipyard personnel must review applicable plans and specifications in order to determine whether correction of a deficiency is required to support propulsion plant testing key events. Factors that must be considered in making this determination are type and severity of the defect, service of the component involved, accessibility of the defect for repair during shipyard availability versus upkeep period, effect on personnel or equipment safety, impact on system operation and cleanliness or preservation (i.e., required to restore cosmetic appearance versus resistance to corrosion). Every attempt should be made to correct all deficiencies during scheduled CNO availabilities, however, propulsion plant testing key events shall not be delayed in order to correct deficiencies that are not required to support that event. Such deficiencies can be deferred and may be scheduled for correction outside of the

APPENDIX B

CVN PROPULSION PLANT MATERIAL CONDITION ASSESSMENTS

			REQUIREMENT			WHO			
ASSESSMENT/ INSPECTION/ TEST	**REFERENCE & PARAGRAPH # OF REQUIREMENT(S)**	**TYPE OF ASSESSMENT**	**"WHY"**	**WHEN**	**WHEN TYPICALLY CONDUCTED**	**PERFORMS**	**EVALUATES**	**INSPECTION/ ACCEPTANCE CRITERIA**	**COMMENTS**
CAPS	A	OPERATIONAL TESTING	DEVELOP AWP	PRE-PRC	A-12 TO A-8	SY, SF, OTHERS AS ASSIGNED BY TYCOM	SY ENGR	A,B,C,D,E,F,G,J,K,O,W	CAPS TASKING ACCOMPLISHED VIA TYCOM LETTER
PRE-DEPLOYMENT NUCLEAR TECH ASSESSMENT	C (9020-0-g) O (3.1.1)	VISUAL ZONE INSPECTION & RECORDS REVIEW	VALIDATE AWP	POM	TYPICALLY BY A-9	SY NUC ENGR	SY NUC ENGR	A,B,C,D,E,F,G,H,O,W	
PRE-DEPLOYMENT MATERIAL CONDITION ASSESSMENT INSPECTION (MCAI)	V	VISUAL ZONE INSPECTION	MID-CYCLE ASSESSMENT OF PROP PLT MATERIAL CONDITION	PRIOR TO DEPLOYMENT	TYPICALLY 2-4 MONTHS PRIOR TO DEPLOYMENT	SF	SF	A,B,D,E,F,G,H,K,O,W	SHIPYARD TRAINING REGARDING INSPECTION ATTRIBUTES AND STANDARDS PROVIDED TO SF IN ADVANCE
PROPULSION PLANT **GROOM TEAM	P	DEFINED BY TYCOM	MAINTAIN HIGH LEVEL OF MATERIAL CONDITION	TYCOM TASKING	PERIODICALLY	RMC, CEMAT	TYCOM	B,D,E,F,G,W	GROOM TEAMS SHOULD BE REQUESTED AND ARRANGED THROUGH THE TYCOM
MACHINERY CONDITION ANALYSIS (MCA) TESTING	L, S (#), U	COMPONENT VIBRATION ANALYSIS	SUPPORT CONDITION BASED MAINTENANCE DECISIONS	PMS AS SCHEDULED. FORMAL DLI MCA VISITS PRE	PERIODICALLY THROUGHOUT CYCLE	SSNN Code 1800, SF	SSNN Code 1800, SF	B,W	
SURFACE NUCLEAR PROPULSION MOBILE TRAINING TEAM (SNPMTT)	NONE	OPERATIONAL & VISUAL	ORSE/PORSE PREPS	ROUTINE	PERIODICALLY THROUGHOUT CYCLE	TYCOM N9	TYCOM N9	A,B,D,E,F,G,W	
ORSE	M	OPERATIONAL & VISUAL	OPNAV, NRC SAFEGUARD INSPECTION	EVERY 12 PLUS OR MINUS 3 MOS	TYPICALLY DURING WORKUPS AND RETURN FROM DEPLOYMENT	NPEB	NPEB	A,B,D,E,F,G,W	
INSURV	N, Q	OPERATIONAL & VISUAL (MI)	LIFECYCLE ASSESSMENT	36 - 54 MOS	AS SCHEDULED	BOARD OF INSPECTION AND SURVEY	BOARD OF INSPECTION AND SURVEY	B,D,E,F,G,N,W	
NON-NUCLEAR POINT-OF-ENTRY TESTING (POET)	R	COMPONENT VISUAL INSPECTION & OPERATIONAL TESTING	VALIDATES AWP & COMPONENT RELIABILITY TO SUPPORT CRITICALITY	PRE-AVAILABILITY	RETURN TRANSIT FROM DEPLOYMENT (A-2 TO A-4)	SY ENGINEERING AND PROJECT TEAM MEMBERS WITH ASSISTANCE FROM SF	SY ENGR	A,B,D,F,J,K,W	SOME GROOMING PERFORMED DURING POET
POST-DEPLOYMENT NUCLEAR TECH ASSESSMENT	C (9020-0-g) O (3.1.1)	VISUAL ZONE INSPECTION & RECORDS REVIEW	VALIDATE AWP	PRE-AVAILABILITY	AFTER RETURN FROM DEPLOYMENT	SY NUC ENGR	SY NUC ENGR	A,B,C,D,E,F,G,H,O,W	
NON-NUCLEAR TECH ASSESSMENT	K (4.a.(1)(a))	VISUAL ZONE INSPECTION & RECORDS REVIEW	VALIDATE AWP	PRE-AVAILABILITY	AFTER RETURN FROM DEPLOYMENT	SY ENGR	SY ENGR	A,B,D,F,J,K,W	
PRE-AVAIL MATERIAL CONDITION ASSESSMENT INSPECTION (MCAI)	C (9020-0-g) O (3.6) K (4.a.(1)(b))	VISUAL ZONE INSPECTION	IDENTIFY DEFICIENCIES FOR EARLY INCLUSION IN THE AWP	LESS THAN 90 DAYS PRIOR TO AVAILABILITY START	TYPICALLY AFTER RETURN FROM DEPLOYMENT	TEAM OF SF AND SY PROJ TM MEMBERS, ENGINEERS, NUCLEAR INSPECTORS	SY ENGR	A,B,C,D,E,F,G,H,K,O,W	
PMS	A, S	VARIOUS	MAINTAIN MATERIAL CONDITION	CONTINUOUS	CONTINUOUS	SF	SF	A,S,W	
NUCLEAR PRETEST INSPECTION	C (9020-0-g) O (3.1.1.(2))	VISUAL OF WORK PERFORMED	CERTIFY READINESS FOR TESTING	PRE-TEST	DURING AVAIL	SY NUC INSPECTORS	SY NUC ENGR	A,B,C,D,E,F,G,H,W	

			REQUIREMENT			WHO			
ASSESSMENT/ INSPECTION/ TEST	**REFERENCE & PARAGRAPH # OF REQUIREMENT(S)**	**TYPE OF ASSESSMENT**	**"WHY"**	**WHEN**	**WHEN TYPICALLY CONDUCTED**	**PERFORMS**	**EVALUATES**	**INSPECTION/ ACCEPTANCE CRITERIA**	**COMMENTS**
NON-NUCLEAR PRETEST INSPECTION	K (4.a.(1)(c))	VISUAL OF WORK PERFORMED	CERTIFY READINESS FOR TESTING	PRE-TEST	DURING AVAIL	SY ENGR	SY ENGR	A,B,D,E,F,G,H,K,W	
PORSE	T (6.a)	VISUAL ZONE INSPECTION & RECORD REVIEW	OPNAV, NRC SAFEGUARD	PRE-CRIT DURING AVAILS SKED GREATER THAN 6 MONTHS	PRIOR TO REACTOR START-UP DURING AVAILS SKED GREATER THAN 6 MONTHS	NPEB	NPEB	A,B,D,E,F,G,W	
NUCLEAR/NON-NUCLEAR PRE-EVENT INSPECTIONS	C (9020-0-g) O (3.7.3) K (4.a.(1)(d))	VISUAL ZONE INSPECTION	VALIDATES PROPULSION PLANT MATERIAL CONDITION FOR AVAIL KEY EVENTS	PRIOR TO HOT OPS/NON-CRIT STEAMING	TYPICALLY AFTER PRODUCTION COMPLETION DATE (PCD)	TEAM OF SF AND SY PROJ TM MEMBERS, ENGINEERS, NUCLEAR INSPECTORS	SY ENGR	A,B,C,D,E,F,G,H,K,O,W	
NUCLEAR/NON-NUCLEAR PRE-CRITICALITY CERTIFICATION	C (9020-0-g) O (3.7) K (4.a.(1)(d))	VISUAL ZONE INSPECTION	VALIDATES PROPULSION PLANT READY FOR CRITICAL OPERATIONS	PRE-CRIT, POST NON CRIT STEAMING	PRIOR TO CRIT	TEAM OF SF AND SY PROJ TM MEMBERS, ENGINEERS, NUCLEAR INSPECTORS	SY ENGR	A,B,C,D,E,F,G,H,K,O,W	
NRRO PRE-EVENT/PRE-CRITICALITY WALKTHROUGHS	NONE	VISUAL ZONE INSPECTION	VALIDATE PROPULSION PLANT READY TO SUPPORT ASSOCIATED KEY EVENT	UPON PROJECT TEAM DETERMINATION THAT PROP PLANT IS READY FOR ASSOCIATED KEY EVENT	TYPICALLY 2 DAYS PRIOR TO KEY EVENT	NRRO REPS	NRRO/SY ENGR	A,B,C,D,E,F,G,H,K,O,W	A SY SENIOR MGMT WALKTHROUGH MAY BE SCHEDULED BETWEEN THE PRE-EVENT CERTIFICATION AND THE NRRO WALKTHROUGHS
AVAILABILITY PERIODIC ZONE ASSESSMENTS	O (3.7.4) K	VISUAL ZONE INSPECTION	ENSURE CONTINUOUS IDENTIFICATION AND CORRECTION OF PROP PLT DEFICIENCIES TO SUPPORT DOWNSTREAM KEY EVENTS	AT PERIODICITY TO BE DETERMINED BY THE PROJECT TEAM	COMMENCE AT AVAILABILITY START AND SCHEDULED PERIODICALLY UNTIL 2-3 WEEKS PRIOR TO PRODUCTION COMPLETION DATE (PCD)	TEAM OF SF AND SY PROJ TM MEMBERS, ENGINEERS, NUCLEAR INSPECTORS AS APPROPRIATE	SY ENGR	A,B,C,D,E,F,G,H,K,O,W	

References:

A) NAVSEA 0989-026-1000
B) Component Technical Manuals
C) NAVSEA 0989-043-0000
D) Various System Diagrams & Piping Plans
E) NAVSEA Instructions (9210.18, 9210.36, Etc.)
F) Military Standards (MIL-STD-767, MIL-STD-2041, Etc.)
G) NAVSEA Manuals 389-0317, 250-1500-1, 389-0288, 0989-150-0000
H) Off-Yard Correspondence
I) OPNAVINST C9210.2
J) NAVSEA 0989-036-0000
K) NAVSEAINST 4730.2
L) SSNN Code 1800 Tasking Letter, 4710
M) OPNAVINST 3540.3
N) INSURVINST 4730.1
O) NAVSEA 0989-062-4000
P) COMUSFLTFORCOMINST 4790.3, Volume VI, Chapter 42
Q) COMUSFLTFORCOMINST 4790.3, Volume IV, Chapter 26
R) S9220-AC-MAN-010
S) NAVSEAINST 4790.8/OPNAVINST 4790.4
T) OPNAVINST 9080.3
U) COMUSFLTFORCOMINST 4790.3, Volume II, Part I, Chapter 2, Paragraph 2.4.4
V) COMUSFLTFORCOMINST 4790.3, Volume II, Part I, Chapter 2, Paragraph 2.9.3.2.a
W) COMUSFLTFORCOMINST 4790.3, Volume II, Part I, Chapter 2, Paragraph 2.9.5

** INCREMENTAL MAINTENANCE PLAN (IMP) MANUAL SHOWS RECOMMENDED GROOM TIMELINE
# MCA COVERED BY PMS, e.g.: MIP 2550/003-76 FOR MAIN FEED PUMPS, SYSCOM MRC 84 C1ZQ N APPLIES

APPENDIX C

SYSTEM CERTIFICATION CHECKLIST FOR CNO AVAILABILITY KEY EVENTS (AIRCRAFT CARRIERS ONLY)

PURPOSE: This checklist is provided as a guide during CNO Availabilities when reference (t) is invoked for determination of system readiness to support execution of a Key Event. This checklist may also be used outside of availabilities to determine system readiness to support ship operations.

NOTE: THIS CHECKLIST IS FOR USE TO CERTIFY SYSTEMS/COMPONENTS LISTED IN REFERENCE (T) ENCLOSURES (1) THROUGH (3) WHERE SHIPYARD RESPONSIBLE WORK WAS NOT PERFORMED IN ORDER TO MAKE SIGNATURES ON KEY EVENT PREREQUISITE LISTS. SPECIFIC ATTRIBUTES ARE LISTED IN REFERENCE (T) ENCLOSURE (4) AS A GUIDE.

System _____

Attribute	Yes/No
AWP reviewed to ensure all authorized work has been performed and any incomplete work (adjudicated at the appropriate supervisory level) does not affect certification.	
EDL, CSMP, Nuc and Non-Nuc DR Logs and DFS Log reviewed for unresolved deficiencies.	
WAF Log reviewed to ensure all authorized work is completed, tested or ready for testing.	
CWPs and FWPs reviewed for accuracy and completeness.	
Preventive maintenance complete and up to date (i.e., SU maintenance complete, PMS within periodicity).	
All standing orders, including temporary standing orders in effect for system, have been reviewed and adjudicated by the JTG.	
NOTE: THE INTENT OF THIS STEP IS FOR THE ZONE MANAGER AND PRINCIPAL ASSISTANT TO DETERMINE WHICH SYSTEM OR PORTIONS OF A SYSTEM/CIRCUIT REQUIRE AN INSPECTION USING HISTORICAL FAILURES AND TESTING TO BE PERFORMED. System inspection, based on history and deficiencies noted, completed and operating deficiencies resolved.	
Instrument (i.e., gages, pressure/temperature switches, meters) calibration is within periodicity and will not expire within two months of ship delivery.	
Operating logs are updated and approved for configuration changes/modifications.	
System/component safety features are set, tested and operational and all automatic controls necessary to support the planned testing are calibrated, tested and operational.	

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APPENDIX D

SCOPE OF VISUAL INSPECTIONS OF REACTOR PLANT FLUID SYSTEMS

INSULATION	- Wetted - Damaged - Missing
HANGERS	- Installed hangers are connected/welded and not damaged - Verify correct thread engagement on fasteners - Liners are acceptable
PIPING AND COMPONENTS	- Leakage - Arc strikes - Significant surface discontinuities - Corrosion/pitting - Dents, bends, visible cracks - Missing/damaged locking devices - Soundshorts (if applicable) - Missing/damaged/incorrect label plates - Proper clearance between vent and drain lines and associated funnels, funnel misalignment and clogged screens - Damaged or out of calibration gages and thermometers - Inadequate preservation - Foreign material on outside of piping/components
MECHANICAL CONNECTIONS	- Leaks - Missing or loose fasteners - Incorrect material (e.g., dissimilar materials) - Proper thread engagement - Misaligned flanged joints
VALVES	- Missing or damaged valve caps or vent plugs - Leaks - Loose, missing or non-functional handwheels - Damaged valve position indicators - Missing or damaged fasteners - Permanent identification of handwheels by system number and color coding (if required) - Bent stems - Packing glands with little or no remaining adjustment - Cocked packing glands - Corrosion
FOUNDATIONS	- Obvious damage - Corrosion/cracks - Integrity of attachment welds - Missing/loose fasteners and/or locking devices

LOCKING DEVICES	- Damaged, where installed - Serve intended function
SHIELDING	- Damaged shielding - Damaged or missing radiation area exclusion barriers (if applicable) - Corrosion/leaking of canning plate materials - Damaged viewing windows or periscopes - Missing/loose fasteners

VOLUME II

PART I

CHAPTER 3

CHIEF OF NAVAL OPERATIONS SCHEDULED MAINTENANCE AVAILABILITIES

REFERENCES.

(a) Integrated Project Teams for Aircraft Carrier Maintenance Handbook
(b) OPNAVINST C3000.5 - Operation of Naval Nuclear Powered Ships
(c) OPNAVNOTE 4700 - Representative Intervals, Durations, Maintenance Cycles, and Repair Mandays for Depot Level Maintenance Availabilities of U.S. Navy Ships
(d) OPNAVINST 4700.38 - Berthing and Messing During CNO Scheduled Maintenance Availabilities
(e) OPNAVINST 3120.32 - Standard Organization and Regulations of the U.S. Navy
(f) COMSUBLANT/COMSUBPACNOTE C3120 - Submarine Operating Restrictions and Depth Authorizations
(g) OPNAVINST 3120.33 - Submarine Extended Operating Cycle (SEOC) Program
(h) NAVSEA S9086-7G-STM-010 - NSTM Chapter 997 (Docking Instructions and Routine Work in Dry Dock)
(i) NAVSEAINST 4441.2 - Changes to Coordinated Shipboard Allowance List (COSAL); Procedures for
(j) COMNAVAIRLANTINST 9090.2 - Conduct of Shipyard Trials and Inspections Incident to Service Life Extension Program (SLEP), Overhauls or Availabilities of Conventionally Powered Aircraft Carriers
(k) COMNAVSURFLANT/COMNAVSURFPACINST 3502.2 - Surface Force Training Manual
(l) COMNAVAIRLANT/COMNAVAIRPACINST 3500.20 - Aircraft Carrier Training and Readiness Manual
(m) COMNAVAIRLANTINST 9080.2 - Conduct of Trials and Inspections Incident to Construction, Overhauls or Availabilities of Nuclear Powered Aircraft Carriers (CVN)
(n) OPNAVINST 9080.3 - Procedures for Tests and Trials of Navy Nuclear Powered Ships Under Construction, Modernization, Conversion, Refueling and Overhaul
(o) OPNAVINST 3540.3 - Naval Nuclear Propulsion Examining Boards
(p) OPNAVINST C9210.2 - Engineering Department Manual for Naval Nuclear Propulsion Plants
(q) COMNAVSUBFOR OPORD 2000
(r) NAVSEA S9086-DA-STM-000 - NSTM Chapter 100 (Hull Structures)
(s) NAVSEA S9086-C4-STM-000 - NSTM Chapter 094 (Trials)
(t) NAVSEA 0924-LP-062-0010 - Submarine Safety (SUBSAFE) Requirements Manual
(u) COMNAVSUBFORINST 5400.25 - Standard Submarine Supply Department Organization and Regulations Manual
(v) COMNAVSUBFORINST 5400.29 - Standard Submarine Navigation/Operations Department Organization and Regulations Manual
(w) COMNAVSUBFORINST 5400.40 - Standard Submarine Combat Systems Department Organization and Regulations Manual (SSN)
(x) COMNAVSUBFORINST 5400.41 - Standard Submarine SSBN 726 Class Weapons Department Organization and Regulations Manual
(y) COMNAVSUBFORINST 5400.47 - Standard Submarine Combat Systems Department Organization and Regulations Manual (SSGN)
(z) COMNAVSUBFORINST C3500.2 - Continuous Training Manual
(aa) OPNAVINST 9110.1 - Submarine Test and Operating Depths; Policy Concerning
(ab) COMSUBLANTINST 5400.4 - Submarine Force, U.S. Atlantic Fleet Regulations
(ac) COMSUBPACINST 5400.7 - Submarine Force, U.S. Pacific Fleet Regulations
(ad) COMLANTFLT OPORD 2000/COMPACFLT OPORD 201
(ae) NAVSEAINST C9094.2 - Submarine Valve Operation Requirements for Builders and Post Overhaul Sea Trial Test Dives

(af) NAVSEAINST 4790.8/OPNAVINST 4790.4 - Ships' Maintenance and Material Management (3-M) Manual
(ag) NAVSEAINST C9210.30 - Procedures for Administration of Nuclear Reactor Plant Preventive Maintenance and Tender Nuclear Support Facilities Preventive Maintenance on Ships
(ah) SSPINST 5600.11 - Preventive Maintenance Management Program for Strategic Weapon Systems Equipments and Associated Material
(ai) OPNAVINST 4700.7 - Maintenance Policy for U.S. Naval Ships
(aj) COMLANTFLTINST 5400.2 - U.S. Atlantic Fleet Regulations
(ak) COMPACFLTINST 5400.3 - U.S. Pacific Fleet Regulations
(al) NAVSEA 0989-LP-043-0000 - Commissioned Surface Ship General Reactor Plant Overhaul and Repair Specifications
(am) OPNAVINST 3540.4 - Propulsion Examining Boards for Conventionally Powered Ships
(an) NAVSEA 0989-LP-037-2000 - Commissioned Submarine General Reactor Plant Overhaul and Repair Specifications
(ao) NAVSEA 0989-064-3000 - Cleanliness Requirements for Nuclear Propulsion Plant Maintenance and Construction
(ap) NAVSEA S9AA0-AB-GOS-010 - General Specifications for Overhaul of Surface Ships (GSO) 2004 Edition
(aq) NAVSEA S9086-TX-STM-010 - NSTM Chapter 583 (Boats and Small Craft)
(ar) NAVSEA S9086-G9-STM-000 - NSTM Chapter 231 (Propulsion and SSTG Steam Turbines)
(as) NAVSEA S9086-GY-STM-010 - NSTM Chapter 221 (Boilers)
(at) NAVSEA S9086-HN-STM 010 - NSTM Chapter 244 (Propulsion Bearings and Seals)
(au) NAVSEA S9086-HK-STM-010 - NSTM Chapter 241 (Propulsion Reduction Gears, Couplings, Clutches and Associated Components)
(av) NAVSEA S9086-TV-STM-010 - NSTM Chapter 581 (Anchoring)
(aw) NAVSEA S9086-RK-STM-010 - NSTM Chapter 505 (Piping Systems)
(ax) NAVSEA S9086-TA-STM-010 - NSTM Chapter 562 (Surface Ship Steering)
(ay) NAVSEA S9086-TD-STM-010 - NSTM Chapter 565 (Surface Ship Stabilizing Systems)
(az) CNAFINST 3500.71 - Flight Deck Certification
(ba) OPNAVNOTE 5400 - DNS-33/10U229822 of 16 Sep 10
(bb) NAVSEA Technical Publication T-9630-AB-MMD-010 - Corrosion Control Assessment and Maintenance Manual
(bc) NAVSEAINST 5400.95 - Waterfront Engineering and Technical Authority Policy
(bd) NAVSEAINST 5450.142 - Mission and Function of the Surface Ship Life Cycle Management Activity

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3.1 PURPOSE. This chapter provides guidance for the implementation of policies set forth in references (a) through (bd). Reference (a) was implemented by Naval Sea Systems Command (NAVSEA) letter Ser 04X2/008 dated 14 March 2000. Submarine Sea Trials will follow NAVSEA approved agendas. Requirements listed here apply unless otherwise approved by NAVSEA. Where differences may exist, NAVSEA requirements take precedence.

3.2 CHIEF OF NAVAL OPERATIONS SCHEDULED MAINTENANCE AVAILABILITIES.

a. Chief of Naval Operations (CNO) scheduled maintenance availabilities greater than six months in duration are:

(1) Overhaul. An availability scheduled for accomplishment of industrial maintenance and modernization. Types of availabilities include:

(a) Regular Overhaul.

(b) Complex Overhaul.

(c) Engineered Overhaul.

(d) Refueling Overhaul.

(e) Refueling Complex Overhaul.

(f) Engineered Refueling Overhaul.

(2) Other availabilities. An availability scheduled primarily for industrial maintenance and installation of major, high priority alterations. Types of these availabilities include:

(a) Depot Modernization Period.

(b) Planned Incremental Availability.

(c) Docking Planned Incremental Availability.

(d) Extended Drydocking Phase Maintenance Availability.

(e) Post Shakedown Availability.

(f) Carrier Incremental Availabilities.

b. CNO scheduled maintenance availabilities less than six months in duration. Short, labor intensive availabilities scheduled for accomplishment of industrial maintenance and modernization. Types of these availabilities include:

(1) Selected Restricted Availability (SRA).

(2) Docking SRA.

(3) Phased Maintenance Availability (PMA).

(4) Docking Phased Maintenance Availability.

(5) Service Craft Overhaul.

(6) Extended SRA.

(7) Extended Docking SRA.

(8) Incremental SRA.

(9) Extended Refit Period.

(10) Post Shakedown Availability.

3.2.1 Early Start. An "early start" is defined as that time when ships or submarines are made available by Type Commanders (TYCOM) for the execution of maintenance/modernization, including dry-docking, prior to a scheduled CNO availability start date. Other terms such as "fast start" or "smart start" are considered synonymous with "early start" within this policy.

3.2.2 Early Start Concurrence. TYCOMs shall provide the cognizant Naval Supervisory Authority (NSA) (e.g., Naval Shipyard, Ship Repair Facility, Regional Maintenance Center, Supervisor of Shipbuilding (SUPSHIP)) with written concurrence to execute an "early start" period not later than A-75 days, A-12 months, or A-7 months from scheduled availability start for surface ships, aircraft carriers, and submarines, respectively. The cognizant maintenance activity will formally document each "early start" period using applicable availability management control tools (e.g., Navy Data Environment, Final Review Estimate provided to the TYCOM, etc.), and include NSA acknowledgement that the availability cost to the TYCOM will be the same, as if no "early start" period was utilized, within that documentation.

3.2.3 Readiness to Start Availability (Aircraft Carriers and Surface Force Ships Only). At A-2, the Project will conduct a Readiness to Start brief. The purpose of this briefing is for the Project Team to demonstrate its readiness to execute, test and certify the maintenance availability. The Project Team shall review the Availability Work

Package (AWP) for risks that would threaten the Project Team's ability to accomplish the work to the expected level of quality within the scheduled time and budget. The Project Team shall develop risk mitigation strategies that eliminate or minimize risks. These risk mitigation strategies shall be outlined in a letter provided to the TYCOM and the NSA's Immediate Superior In Command (ISIC) (e.g., Commander, Navy Regional Maintenance Center (CNRMC), NAVSEA 04X, Program Executive Officer (PEO)).

3.2.3.1 Readiness to Start Brief.

a. All required Technical Work Documents (TWD) are complete, reviewed and approved by the NSA Engineering Department. Any unfinished TWDs will be discussed.

b. The Quality Maintenance Plan (QMP) is complete and signed.

c. The initial conditions can be established to support the work (e.g., drained, depressurized, de-energized, tag out and Work Authorization Form (WAF)).

d. The required repair parts, materials (including pre-fabrication) and test equipment are available or will be available to support the work.

e. Assigned project team personnel are knowledgeable, trained and qualified. The Executing Activity shall provide appropriate written documentation to support the qualifications or certifications prior to personnel performing any work.

f. The milestones and key events schedule, critical path jobs and budget (including the overtime plan).

g. All required MOAs are signed and a communications plan has been established between the key participants of the availability.

h. A risk management plan is developed to mitigate or reduce risk. These mitigation or risk reduction options will be continuously evaluated throughout the availability.

i. A Fast Start strategy shall be developed and monitored. A 100 hour beginning of the availability strategy will be part of this plan.

j. Ship's Force availability related training plan.

k. Readiness to receive Ship's Force. Items to be discussed shall include: adequacy of work space, computer and telephone connectivity, completion of training and Ship's Force watchbill qualifications.

3.3 MAINTENANCE POLICIES AND PROCEDURES.

3.3.1 Critical Path Jobs. Critical Path Jobs (CPJ) are those jobs or series of jobs that require special management attention and normally present the greatest risk to on time completion of the Key Event or availability. Industrial activities should be judicious in designating jobs as CPJs to prevent diverting management attention from those jobs which are, in fact, critical to on time completion of the availability. Consideration shall be given to, but not limited to, the following in determining the CPJs:

a. Little or no room for delay exists.

b. Establishing plant conditions.

c. Long Lead Time Material (LLTM).

d. Complexity of job or special skills or resources required.

e. Significant test requirements.

f. Not previously accomplished by a Fleet Maintenance Activity (FMA) (alterations, etc.).

3.3.2 Work Sequence Schedule. The Work Sequence Schedule is an integrated timeline (Pert Chart, Gantt Chart, etc.) that includes plant conditions, major work steps, tests and recertifications used to identify and progress CPJs. The Work Sequence Schedule should include:

a. Staging.

b. Establishing plant conditions.

c. Issuing work procedures.

d. Identifying major production steps.

e. Testing/Recertifying.

f. Closing out work procedures.

3.3.3 Milestones. Appendices A, B and C of this chapter are representative of Typical CNO Maintenance Availability milestones for ships.

a. Appendix A of this chapter is applicable to submarines only. Naval Sea Systems Command (NAVSEA) will issue specific advance planning milestones for each CNO Maintenance Availability.

b. Appendix B of this chapter is applicable to the surface force only. It is a guide to aid the Commanding Officer (CO) in planning and executing the availability. Specific advance planning milestones are developed jointly by the ship, the TYCOM, and the planning and executing activities (if possible). A particular availability may require development of a complete off-load/storage/security plan or a tailored list of Inactive Equipment Maintenance (IEM) items, or may require office/training/flammable storage space, etc. These items should be added to the milestones through coordination with the responsible planning and engineering activity.

c. Appendix C of this chapter is applicable to aircraft carriers only. For specific availabilities, a listing of milestones is included as an enclosure to Supervisor of Shipbuilding Newport News PMS 312C, as applicable, Maintenance Planning Tasking letter. Subsequent to this, the TYCOM sends out periodic revisions until availability completion. Various activities which have specific responsibilities for the maintenance of aircraft carriers, composite listings of milestones for the TYCOM, NAVSEA, PMS 312C, planning yard and the CO of the ship, imposed by the TYCOM and higher authority are found in reference (a). The milestones are arranged in order of occurrence through the planning, execution, and post-repair phases of CNO Maintenance Availabilities.

3.3.4 Production Completion Date. Main machinery space/propulsion plant Production Completion Date (PCD) is an availability key event that provides sufficient time for the necessary steps to be taken by Ship's Force to shift from a maintenance environment back to operations. It is the intent that all major propulsion plant work and cold plant testing will be complete by all maintenance providers by the scheduled propulsion plant PCD. The time reserved between PCD and propulsion plant light off is set aside to allow Ship's Force to complete pre-event certifications, clearance of tagouts, complete any remaining discrepancy corrections, continued deep cleaning, small valve maintenance, Ship's Force startup maintenance, valve lineups, temporary service removal, and, if required, any groom teams in areas requiring special emphasis. This time is necessary to allow Ship's Force to transition to an operational environment and focus necessary training and complete final preparations for the Light Off Assessment (LOA)/propulsion plant light off. For availabilities in excess of 120 days (140 days for forward deployed CVNs), PCD will be scheduled 14 days prior to the LOA. For availabilities 120 days or less (140 days for forward deployed CVNs), PCD will be scheduled between 3-14 days prior to propulsion plant light off. The ship's CO, Chief Engineer, and maintenance provider's senior Project Manager will determine the number of days needed between PCD and propulsion plant light off for availabilities 120 days or less (140 days for forward deployed CVNs) based on the scope of work, length of availability, and other pertinent factors. PCD will not be less than 3 days prior to propulsion plant light off regardless of whether a LOA is scheduled. Generally, LOAs will be scheduled for

availabilities greater than 140 days. For availabilities 120 days and less (140 days for forward deployed CVNs), the requirement for a LOA will be determined by the TYCOM. The following list contains examples of items to be considered when deciding whether or not the ship is ready to call main machinery space/propulsion plant PCD and begin the shift from a maintenance environment back to operations:

a. Temporary services removed, except for those required by Ship's Force or late emergency industrial activity work required for LOA.

b. Access openings and ladders installed and clear for passage.

c. All damage control/firefighting systems operational.

d. Major lagging repairs completed. Some minor lagging repairs may remain.

e. All machinery in-place and assembled with cold checks completed satisfactorily in accordance with current instructions.

f. Missing deck plates and supports installed.

g. Boiler work completed including hydrostatic testing, with boiler under appropriate lay-up.

h. Loose industrial material and debris removed.

i. All main propulsion piping, valves, and systems intact, hydrostatic tightness tests completed satisfactorily and remote valve operator and associated/indicator tests completed satisfactorily.

In the event that the decision is made to delay the scheduled PCD, careful consideration should be given to ensure that the above listed times allotted for Ship's Force between PCD and the LOA/propulsion plant light off are preserved, even if the availability end date would be adversely affected. The ship's CO, Chief Engineer, and the availability senior Project Manager should carefully evaluate any and all work remaining within the main machinery spaces/propulsion plant that could impact Ship's Force ability to be successful in preparing for the LOA/propulsion plant light off. An exceptions list should be generated and agreed to by the ship's CO, Chief Engineer and the maintenance provider's senior Project Manager listing all outstanding propulsion plant work which will continue after PCD while the ship is preparing for the LOA/propulsion plant light off.

3.3.5 Memorandum of Agreement. The Memorandum of Agreement (MOA) shall be executed and jointly signed by the ship's CO, the NSA, the ISIC representative (if applicable) and the FMA representative (if applicable) prior to arrival. It is an agreement between the industrial activity and Ship's Force concerning the responsibilities of each party during the availability. It deals with a number of areas in which Ship's Force generally provides support to the industrial activity and vice versa. References (al) and (an) contain training requirements and additional guidance for MOAs involving aircraft carriers and submarines. As a minimum the MOA shall include:

a. Purpose.

b. Applicability.

c. Responsibilities for control of plant conditions and work area isolation.

d. Responsibilities for accomplishment of work.

e. Responsibilities for Quality Assurance (QA).

f. Responsibilities for support services/equipment.

g. Responsibilities for testing requirements.

h. Responsibilities for waivers, deviations, or Departure from Specifications.

i. Precise delineation of the Submarine Safety (SUBSAFE) responsibility of each activity for all phases of SUBSAFE work prior to issuing Re-Entry Controls (REC) for SUBSAFE work.

j. Responsibilities for training.

k. Miscellaneous responsibilities (as required) (i.e., Radiological Control, Hazardous Material, etc.).

l. Signatures of all activities (signifying agreement with the terms and responsibilities of the MOA).

3.3.6 Responsibilities. Responsibilities for the Maintenance Policies and Procedures for CNO scheduled availabilities are as follows:

3.3.6.1 Fleet Commander.

a. Maintain the Availability Intervals and Cycles issued in reference (c) to the maximum extent practical within operational requirements.

b. Inform the Chief of Naval Personnel of any significant changes which would affect ship manning requirements during an extended CNO Maintenance Availability.

c. Coordinate with the Program Executive Office, Direct Reporting Program Manager or Ship Program Manager, as applicable, in the accomplishment of CNO Maintenance Availability planning.

d. Implement Docking Officer Qualification and Certification requirements as issued in NAVSEA instructions.

e. Plan for and monitor availability execution to achieve a balance of cost and schedule for the scope of work authorized. Ensure that any growth in the scope of work authorized is necessary to reasonably assure safe, reliable operation of the ship during the subsequent operating cycle.

f. Plan for and provide berthing, messing, offices, classrooms, equipment stowage space, and Ship's Force repair shop in accordance with reference (d) when shipboard facilities are expected to become unusable or uninhabitable.

3.3.6.2 Type Commander.

a. Coordinate the scheduling of availabilities at industrial activities with Fleet Commander, NAVSEA and CNO.

b. Initiate the required budgetary actions for funding availabilities.

c. Coordinate the work assignments between the FMA and the industrial activity.

d. Seek resolution of all class and major technical problems and coordinate industrial requirements for modernization and repair.

e. Authorize AWPs prepared by Submarine Maintenance Engineering, Planning and Procurement (SUBMEPP) Activity (Submarines only)/PMS 312C (Aircraft Carriers only) with recommendations from the ship's CO, Maintenance Manager (MM) and ISIC (if applicable). Exercise all work candidate screening and follow up actions relating to the availability directly with the ship concerned. (Surface Force Ships only) Assume the lead role in managing the AWP from the Baseline Availability Work Package (BAWP) developed by Surface Maintenance Engineering Planning Program Activity (SURFMEPP).

f. (Submarines Only) Coordinate the interface of the Maintenance and Material Management (3-M) system with the Periodic Maintenance Requirement (PMR) scheduling and feedback reporting system.

g. Designate a TYCOM representative for the WDC/PRC and Pre-Arrival Conference (PAC) when such conferences are scheduled.

h. Recommend to CNO any high priority fleet modernization desired to be accomplished.

i. (Submarines Only) Send a Sea Trials Support Services message, if required, to specify Submarine Rescue Diving Recompression System (SRDRS) "modified-alert" requirements (see Appendices BA or CA of this chapter).

j. (Submarines Only) For minor CNO Maintenance Availabilities send a Waiver of Escort Requirements Message to NAVSEA when requested by the ISIC in accordance with paragraph 3.6.8.3.9.b.(4) of this chapter.

k. Conduct a QA audit of Ship's Force and FMA Controlled Work Packages in accordance with Volume V, Part I, Chapter 9 of this manual.

l. (Submarines Only) For major CNO Maintenance Availabilities issue the required messages for Fast Cruise, Sea Trials and Unrestricted Operations (URO) Certification in accordance with paragraph 3.6.8.4 of this chapter.

m. (Submarines Only) For CNO scheduled availabilities of less than six months in duration issue the required message for Sea Trials in accordance with paragraph 3.6.8.3 of this chapter.

3.3.6.3 Type Commander/Immediate Superior In Command (Group or Squadron).

a. All Ships.

(1) Assist the TYCOM, SUBMEPP (Submarines)/PMS 312C (Aircraft Carriers) and SURFMEPP (Surface Force Ships) in the preparation of the AWP.

(2) Monitor corrective maintenance action taken by industrial activities and Regional Support Groups (RSG)/Regional Maintenance Centers (RMC).

(3) Schedule and conduct inspections of Forces Afloat.

(4) Monitor progress of CNO Maintenance Availabilities.

(5) Ensure that a MOA is executed prior to availability start in accordance with paragraph 3.3.5 of this chapter.

b. Submarines Only.

(1) Ensure timely accomplishment and reporting of PMR maintenance actions on assigned ships. This should include the use of the PMR scheduling system and the SUBMEPP scheduling tape for automatic interface between the Master Job Catalog, the Current Ship's Maintenance Project (CSMP), and the Automated Material Requisitioning system.

(2) Ensure industrial activities and ships maintain current copies of Maintenance Standards, PMR schedules and PMR inventories.

(3) Review Ship's Force submitted deferrals for industrial activity assistance to determine if restoration in accordance with Maintenance Standard criteria is warranted in lieu of, or in addition to, requested industrial activity corrective maintenance.

(4) Ensure industrial activities provide the 3-M and Maintenance Standards feedback necessary for analysis by SUBMEPP.

(5) Request assistance from SUBMEPP as necessary in resolving problems with PMR scheduling and software.

(6) Report to SUBMEPP the inability to perform PMRs due to software technical inadequacy, non-availability of overhauling spares, insufficient manpower or inadequate industrial activity facilities.

(7) Designate an Availability Coordinator to coordinate industrial activity, FMA drydock and Ship's Force work to meet the availability completion date.

(8) Provide updated Sea Trials status by telephone to Commander, Submarine Development Squadron (COMSUBDEVRON) FIVE if SRDRS "modified-alert" support services are in use.

(9) For minor CNO Maintenance Availabilities issue the required messages for Sea Trials escort requirements/waiver of escort requirements as applicable, Fast Cruise, Sea Trials and URO Certification in accordance with paragraph 3.6.8.3 of this chapter.

c. Surface Force Ships Only.

(1) In coordination with the RMC Chief Engineer (CHENG), submit Change Deferral Requests and Change Notifications to SURFMEPP per Appendices AK and AL. These documents will provide adequate information to support a technical analysis, including the date the requirement was last accomplished (Lead Maintenance Activity (LMA) date), the proposed timeframe for accomplishment, reason for non-accomplishment using the deferral codes provided and a mitigation strategy with impact statement for non-accomplishment. In addition, TYCOM will maintain mandatory BAWP requirements proposed for non-accomplishment in an active planning status until adjudicated.

(2) Coordinate with SURFMEPP to update the AWP when Class Maintenance Plan (CMP) changes drive a change to the BAWP after A-360.

(3) Coordinate meetings as required at key milestones and as required to support resolution of major issues, such as those associated with large budget reductions or shipyard resource shortfalls due to scheduling conflicts.

3.3.6.4 Submarine Maintenance Engineering, Planning and Procurement Activity/Planning Engineering Repairs and Alterations.

a. Develop plans for accomplishing periodic maintenance or equipment replacement.

b. Maintain Baseline AWPs configured to each ship class and type availability and include the standard 3-M data elements controlled by the TYCOM.

c. Prepare and issue all phases of AWPs and AWP Supplements (if applicable).

d. Maintain custody of shore based spares under the direction of NAVSEA and the TYCOM.

e. (Submarines Only) Prepare, issue and maintain PMR computerized inventories and scheduling reports and associated Master Job Catalog/PMR computer tapes.

f. (Submarines Only) Prepare, issue and maintain Maintenance Standards under the guidance of NAVSEA and the TYCOM.

3.3.6.5 (Surface Force Ships Only) Surface Maintenance Engineering Planning Program (SURFMEPP).

a. Act as the surface force ship CMP development and management activity.

b. Build Technical Foundation Papers for each ship class and Shipsheets by hull.

c. Identify, track and process all mandatory (technical) maintenance requirements.

d. Develop and maintain the BAWP.

e. Capture all mandatory maintenance close-out/return costs as the Job Control Number and Ship's Work List Item Number (SWLIN) levels.

f. Review Change Deferral Requests for sufficient supporting documentation, mitigating actions and to determine the impact of reprogramming work or reducing scope.

g. Develop a response in conjunction with applicable Technical Authorities and Engineering Authorities such as Naval Air Systems Command, Space and Naval Warfare Systems Command, Naval Surface Warfare Centers and other stakeholders. If required, coordinate the revision of the mitigation strategy with Commander, Naval Surface Atlantic (CNSL)/Commander, Naval Surface Pacific (CNSP) N43.

h. Consolidate and forward recommended BAWP Change Deferral Requests to NAVSEA 05D with justification/recommendation for approval or disapproval within ten (10) calendar days of receipt.

i. Ensure the CMP configuration data, Last Maintenance Accomplished dates as designated in the Maintenance and Ship Work Planning program, next Due Dates and associated periodicities remain current using historical technical data to correct deficiencies when necessary.

j. Review NAVSEA 05D responses to Change Deferral Requests and send the Final Disposition Letter to TYCOM with copies to NAVSEA 05D, NAVSEA 21, CNSL/CNSP N43, ship's Maintenance Team (MT) and any other applicable agencies within ten (10) calendar days of receipt.

k. Coordinate the Life Cycle Planning Conference (LCPC), CSMP/Departure From Specifications (DFS)/BAWP Mid-Cycle Review and the BAWP Close-Out Verification and Assessment Meeting and summarize all Change Deferral Requests, Change Notifications and resulting actions for the current Fleet Readiness Plan (FRP) Maintenance Cycle. Submit the consolidated BAWP Close-Out Report to CNSL/CNSP N43 and local TYCOM representatives with copies to NAVSEA 05D, NAVSEA 21, Multi-Ship Multi-Option (MSMO) Contractor (or Planning Activity) and the ship's MT.

l. Track, monitor and trend BAWP changes and change process metrics to identify BAWP development and change management improvements, as well as monitor the mandatory maintenance backlog.

m. Issue and update the BAWP in the ship's CSMP.

n. Brand requirements residing in the CMP and applicable tasks in the CSMP.

o. Issue the BAWP planning schedule.

p. Integrate Modernization tasks into the BAWP prior to A-360 in accordance with an issued LOA. After BAWP/AWP turnover, enter authorized Modernization tasks into the CSMP in accordance with the Navy Modernization Process and brand "B3".

q. Attend TYCOM, RMC, and MSMO planning conferences for each ship in the BAWP process from A-360 to execution.

r. Provide the BAWP detailing the disposition of all CMP requirements.

s. Upon request, provide a list of CMP-required assessments to TYCOM, Navy Regional Maintenance Center (NRMC) and RMC Total Ship Readiness Assessment (TSRA) Planners and update this list throughout the TSRA process.

3.3.6.6 Ship's Commanding Officer. The CO is the TYCOM representative for monitoring the progress and quality of industrial work. As such he should review availability progress during weekly conferences with Department Heads and others as necessary. The Supervising Authority meets weekly with the CO and other industrial activity officials as described in paragraph 3.6.3.1 of this chapter. The CO should be prepared to discuss and assist in the resolution of scheduling, design, material, and production problems. The CO's responsibilities are defined in reference (e). Additionally, COs shall:

a. All Ships.

(1) Review AWPs and provide comments to the TYCOM, ISIC and SUBMEPP/PMS 312C during the WDC/PRC.

(2) Assign a Ship Selected Records (SSR) Coordinator to perform the functions of paragraph 3.6.6.b. of this chapter.

(3) Publish policy concerning the number of duty sections, liberty, ship cleanliness, tagout procedures, tank closeout and blanking of otherwise exposed fluid systems, waveguides and air systems before availability start.

(4) Ensure non-conformances (Waivers/Deviations or Departures from Specification) submitted during the availability by any activity are approved prior to trials at sea (if held) and not later than the completion of the availability.

b. Submarines Only.

(1) Review the status of PMR maintenance schedules and CSMP reports with parent ISIC prior to CNO Maintenance Availabilities in order to assist in planning for accomplishment of the required planned maintenance and corrective maintenance. Additional information and requirements concerning PMR are discussed in detail in Volume VI, Chapter 24 of this manual.

(2) Maintain a current SUBMEPP PMR inventory of maintenance requirements and Maintenance Standards applicable to the ship class.

3.3.6.7 Maintenance Team (Surface Force Ships Only).

a. BAWP requirements uploaded to the CSMP with a due date prior to the ship's A-470 milestone must be screened no later than 60 days prior to the requirement's due date.

b. Screen 50 percent of the BAWP requirements in the CSMP by A-470. If A-470 occurs within 30 calendar days of C+140, the MT may forgo this screening milestone and instead have 100 percent of the BAWP requirements screened by A-410.

c. Meet with TYCOM Representatives and SURFMEPP at A-410 to review the ship's BAWP, CSMP, active DFSs, Class Advisories and routines/services. All items will be reviewed and evaluated for branding per Appendix AN. MT will assign a Job Control Number (JCN) to active temporary DFSs with no open JCN in the CSMP (the MT shall update the DFS to reflect the new JCN as appropriate and ensure the "Job Closure Method" is set to "Both" as referred in Part II, Chapter 3 of this volume). Any updates to the BAWP will be completed by A-400.

d. Screen 100 percent of the BAWP requirements in the CSMP by A-410.

e. Screen any mandatory CMP requirement uploaded to the CSMP after A-410 within 60 days of its Regional Maintenance Automated Information System (RMAIS) Import Date.

NOTE: MT WILL SCREEN ALL REQUIREMENTS TO A SCHEDULED OR FUTURE MAINTENANCE PERIOD/AVAILABILITY (OTHER THAN UNFUNDED) WITHIN THE CURRENT FRP MAINTENANCE CYCLE.

f. Forward recommended BAWP Change Deferral Requests to the TYCOM AWP Manager with justification/recommendation for approval.

g. Provide timely close-out information for completed requirements.

h. When required, provide CMP configuration data corrections to SURFMEPP.

3.3.6.8 Technical Warrant Holders and In-Service Engineering Agents (Surface Force Ships Only).

a. When tasked and funded, evaluate BAWP requirement Change Deferral Requests.

b. Provide approval or disapproval recommendations to NAVSEA 05D.

3.3.6.9 NAVSEA 05D (Surface Force Ships Only).

a. Coordinate with the regional waterfront CHENG to review, adjudicate and provide a response for all Change Deferral Requests to SURFMEPP within ten (10) business days of receipt.

b. For Change Deferral Requests requiring other agency approvals (e.g., Naval Air Systems Command, Naval Ship Systems Engineering Station, etc.), NAVSEA 05D will coordinate with the appropriate Technical Authority for adjudication.

c. Provide a representative to all BAWP Process Milestone Meetings when practical.

3.3.6.10 Assessment Teams (Surface Force Ships Only).

a. Execute CMP assessments as assigned.

b. Upon completion of a CMP assessment requirement, the assessor will always start the Block 35 narrative for any Automated Work Request (AWR) with the words “Per (JCN)”, where ‘(JCN)’ is the Assessment JCN that generated the repair 2-Kilo followed by the characters “XX” (e.g., “Per YYYYYEM01ZA56XX”, where “YYYYY” is the ship’s Unit Identification Code and “XX” signifies a break between the JCN and the beginning of the 2-Kilo’s text description). This methodology allows maintenance personnel to connect each repair job to its initiating assessment.

3.4 AVAILABILITY WORK PACKAGE PLANNING.

3.4.1 Forces Afloat Planning Sources. The majority of the Forces Afloat Work Package can be identified in advance from the following sources:

a. Ship’s CSMP Integrated with the Life Cycle Maintenance Plan. This document contains work items deferred during the previous maintenance availabilities, outstanding Departures from Specifications, dry dock requirements, etc. To ensure the CSMP accurately reflects the required ships maintenance, the ISIC Material Officer/TYCOM will review each ship’s CSMP in detail with the ship prior to the WDC/PRC for CNO Maintenance Availabilities. The ISIC/TYCOM 3-M Coordinator and Maintenance Document Control Office (MDCO) should provide the necessary technical assistance and training to facilitate CSMP updates.

(1) (Submarines Only) PMR/URO. The ISIC will load scheduled PMRs into each ship's CSMP for a specific availability.

(2) Alterations.

(a) (Aircraft Carriers and Submarines only) The ISIC MDCO/TYCOM will enter alterations on the ship's CSMP which the TYCOM has authorized for accomplishment. The ISIC/TYCOM calls out alterations for a specific availability based on material availability as identified by the industrial activity. Within funding constraints and TYCOM guidance, all alterations authorized on the TYCOM Alteration Management System/Fleet Modernization Program are candidates for accomplishment during each availability.

(b) (Surface Force Ships only) SURFMEPP enters alterations on the ship's CSMP as discussed in section 3.6 of this chapter.

(3) Condition Based Maintenance. (Machinery Condition Analysis/Technical Assessment, Repair, Groom and Evaluation Team/Performance Monitoring Team (PMT), Combat System Readiness Review, etc.). The ISIC/TYCOM Material Officer and Ship's Force shall ensure that all material deficiencies identified by Condition Based Maintenance programs as identified in Part I, Chapter 2, section 2.4 of this volume are loaded into the CSMP for a specific availability.

(4) Life Cycle Planning Conference (Surface Force Ships Only). At or around C+130, representatives from SURFMEPP, TYCOM and the ship's Port Engineer (PE) will convene for a LCPC. SURFMEPP will be responsible for planning and conducting the conference. RMC Assessment Directors, NRMC Code 200, TYCOM TSRA Planners, Program Manager Representatives and representatives from NAVSEA 05D, NAVSEA 21 Modernization, CNSL/CNSP N43, MSMO Contractor (and/or Planning Activity) and the ship's MT shall attend the LCPC. Appendix AO illustrates the entire process timeline.

b. Work Routines. A set of Master Job Catalog standard work routines should be developed for every availability. The MDCO/TYCOM tailors each work routine package to the needs of the ship by calling out additional work routines to document periodic, interim drydocking, URO maintenance and calibration recall requirements, as applicable.

c. Pre-Availability Tests and Inspections. Ship's Force, PMTs and industrial activity inspectors perform and submit the results of these pre-availability tests and inspections to the industrial activity/SUBMEPP (Submarines)/PMS 312C (Aircraft Carriers)/applicable TYCOM (all other Surface Ships) for evaluation and inclusion in the AWP, as applicable. NAVSEA 07T provides results and recommendations for pre-availability tests performed by PMTs and Ship's Force.

d. Additional requirements for nuclear powered ships are contained in reference (b).

3.4.2 Forces Afloat Planning Actions. Ship's Force shall take the following maintenance availability planning actions, as applicable:

3.4.2.1 Forces Afloat Work Package Preparations.

a. Develop a Ship's Force concurrent Work Package that includes all major maintenance actions such as Planned Maintenance System (PMS), Reactor Plant PMS, repairs, PMRs, alterations, and testing to be conducted by Ship's Force during the availability, as applicable.

b. Identify CPJs in accordance with paragraph 3.3.1 of this chapter, and submit to the planning/industrial activity for integration into the availability schedule.

c. Establish a strategy for calibration of gages, instruments, and tools based on the Calibration Recall List.

d. Identify all industrial activity provided production and testing support equipment needed to accomplish Ship's Force work, or to recertify systems following Ship's Force work. Identify this equipment to the industrial activity prior to the start of the availability. This support equipment includes the following, as applicable:

(1) Reactor Plant PMS support equipment.

(2) System hydrostatic test equipment.

(3) Calibration equipment.

(4) Special tools.

e. Ship's Force should use Appendices A, B or C of this chapter as guidance to prepare for availabilities, as applicable. These appendices provide Typical CNO Maintenance Availability Planning Milestones for submarines, surface ships and aircraft carriers respectively.

3.4.3 Availability Work Packages.

3.4.3.1 Availability Work Package Content. The AWP includes all nuclear and non-nuclear authorized industrial work and associated Forces Afloat work for modernization, maintenance and repair during the availability. The work described is developed from NAVSEA and TYCOM instructions.

3.4.3.2 Availability Work Package Sources.

a. CMP.

b. NAVSEA authorized alterations.

c. TYCOM authorized alterations, repairs, PMRs, Engineering for Reduced Maintenance Costs items and baseline AWPs.

d. Results of pre-availability tests and inspections.

e. CSMP.

3.4.3.3 Availability Work Package Development. The five stages of AWP development include Baseline, Preliminary, Proposed, Approved, and Completed.

a. SUBMEPP (Submarines)/PMS 312C (Aircraft Carriers)/SURFMEPP Activity (all other Surface Ships) develop and maintain Baseline AWPs for each ship class and type of availability.

b. SURFMEPP (Surface Force Ships only) is responsible for BAWP development. The BAWP is comprised of mandatory periodic CMP requirements and mandatory corrective maintenance actions from the Technical Foundation Paper's Long Range Maintenance Schedule. Additional mandatory life cycle critical work (i.e., CSMP repairs that have been branded as mandatory by SURFMEPP and repairs associated with DFSs) as well as non-mandatory CMP items (i.e., TYCOM requested assessments, approved and authorized modernization jobs and CNO availability services) will be combined with the BAWP to develop the AWP as the maintenance cycle progresses. Mandatory life cycle critical work (identified by having an "A" brand in the category of work field), regardless of its origin (e.g., SURFMEPP, Ship's Force or RMC), will be tracked and/or adjudicated using processes described in this section.

c. SUBMEPP (Submarines)/PMS 312C (Aircraft Carriers)/applicable TYCOM (all other Surface Force Ships) consolidate the Baseline AWP, NAVSEA authorized alterations and TYCOM authorized alterations, repairs, PMRs and Engineering for Reduced Maintenance Costs items to produce the Preliminary AWP. This Preliminary AWP is issued approximately 12 to 14 months prior to the start of the availability.

d. Systems Command (SYSCOM), TYCOM, and the ship's CO should review the Preliminary AWP to ensure that it includes known work candidates and authorized alterations that will not be accomplished prior to availability start and for proposed work candidates, which in their opinion, are unnecessary. Appendix D of this chapter provides suggested guidelines for review of the AWP. Following the initial review of the Preliminary AWP, Ship's Force shall host a meeting with the TYCOM and SUBMEPP/ PMS 312C, as applicable to consolidate comments and recommendations for the WDC/PRC. This meeting is normally held early in the same week as the WDC/PRC.

e. SUBMEPP (Submarines only)/PMS 312C (Aircraft Carriers only)/TYCOM (Surface Force Ships) will host a WDC/PRC attended by NAVSEA, the Supervising Authority, FMA (if applicable), TYCOM, ISIC, PMT (Submarines Only), Strategic Systems Project Officer (SSBN/SSGN 726 Class submarines only) and Ship's Force when practical. During this meeting the Preliminary AWP is carefully reviewed and the SYSCOM and the TYCOM authorize the work. When actions are required before a decision is made, those actions are identified and subsequently monitored. The goal is to issue the Proposed AWP (one which represents all SYSCOM/TYCOM authorized work integrated and specifically tailored to the ship involved) within two months following this meeting. At this meeting, the SYSCOM/TYCOM authorizes the industrial activity to continue with planning on the basis of the work identified in the AWP. During this meeting any activity may submit new work candidates for consideration by the SYSCOM/TYCOM. The SYSCOM/TYCOM will authorize or reject each new work candidate submitted.

f. SURFMEPP (Surface Force Ships only) will host three scheduled meetings over the course of the ship's FRP Maintenance Cycle: the LCPC (C+130), the CSMP/DFS/BAWP Mid-Cycle Review (A-410) and the BAWP Close-Out Verification and Assessment Meeting (C+45). When possible, SURFMEPP conferences will be held in conjunction with other MT scheduled meetings, such as monthly Availability Advanced Planning Meetings and Planning Board for Maintenance (PB4M).

g. SYSCOM/TYCOM and the ship's CO should review the Proposed AWP to ensure that it contains all agreements made at the WDC/PRC. Appendix D of this chapter also provides suggested guidelines for review of this AWP.

h. The Supervising Authority will host a PAC attended by NAVSEA, FMA (if applicable), TYCOM, ISIC, SUBMEPP (Submarines)/PMS 312C (Aircraft Carriers), and Ship's Force when practical. During this meeting the Proposed AWP, with results of the pre-availability tests and inspections incorporated where possible, will be carefully reviewed and the SYSCOM/TYCOM will approve the work. The goal is to issue the Approved AWP at the conclusion of this meeting. During this meeting any activity may submit new work candidates for consideration by the SYSCOM/TYCOM. The SYSCOM/TYCOM will authorize or reject each new work candidate submitted.

i. Within six months after the completion of the availability, SUBMEPP (Submarines)/PMS 312C (Aircraft Carriers)/applicable TYCOM (all other Surface Ships) will issue the Completed AWP.

3.5 AVAILABILITY PLANNING.

3.5.1 Ship's Force Pre-Planning.

a. To effectively complete the Ship's Force and Maintenance Support Team (MST) (if assigned) responsibilities during the months preceding the start of the availability, it is necessary to assign an Officer/Chief Petty Officer as the Availability Coordinator, responsible for coordinating the completion of the milestones. The quality of the availability will be reflected in the preparations done by Ship's Force and MST (if assigned).

b. Prior to commencement of the availability, the industrial activity will request the ship to provide personnel Temporary Assigned Duty to the activity (approximately one month prior to the start date). The industrial activity will identify the personnel requirements of this pre-arrival team based on the type of availability and ship class.

NOTE: THE SUCCESS OF THE AVAILABILITY IS DIRECTLY RELATED TO THE QUALITY AND EXPERIENCE LEVEL OF THE TEAM MEMBERS ASSIGNED.

3.5.1.1 Industrial Activity Visit. The ship's CO, Executive Officer, MST Officer In Charge (OIC) (if applicable) and department heads will visit the industrial activity as soon as practical prior to the start of the availability. The CO shall meet key industrial activity managers involved in the availability, other COs of ships in availabilities at the same industrial activity and if applicable, the local Naval Reactors Representative. The Executive Officer, MST OIC (if applicable) and department heads shall meet their counterparts within the industrial activity Project Team and counterparts assigned to other ships in an availability at the same industrial activity. The Executive Officer shall also check available crew quarters and barge accommodations, if applicable. Ship's Force shall:

a. Coordinate with the industrial activity to conduct pre-availability training and indoctrination. The following are suggested topics for training:

(1) Industrial activity organization and Ship's Force/MST (if assigned) interface.

(2) Industrial activity procedures and practices, including:

(a) Operational Control Transfer.

(b) Tagout/Rip-Out/Work Authorization Form.

(c) SUBSAFE REC Procedures.

(d) Deficiency Reporting and Correcting.

(e) Radiological Controls Agreement.

(f) General Testing Requirements.

(g) Defueling/Fueling Requirements (Nuclear Reactor and Fossil Fuel).

(h) Industrial Activity Procedures for Accomplishing PMS of Equipment Under Their Cognizance.

(i) Nuclear Reactor/Radiological Accident Plan.

(j) Maintenance of Ship's Cleanliness.

(k) QA Interface with the Industrial Activity.

(3) General schedule of Key Events and phases of work and testing.

(4) Safety requirements including Ship's Force/MST (if assigned) industrial activity responsibilities for:

(a) Dry Dock Safety.

(b) Fire Watches.

(c) Watertight Integrity.

(d) Reactor Plant Safety.

(e) Personal Protective Equipment.

(5) Relationship with industrial activity management including responsibility regarding weekly management meetings.

(6) Functions and responsibilities of the joint test groups (Nuclear/Hull, Mechanical and Electrical/Combat Systems) and the Ship's Safety Council including the designation of Ship's Force group and council members.

(7) Control mechanism for work and tests affecting ship's conditions.

(8) Special evolutions and procedures to be conducted early in the availability such as dry docking and establishing plant conditions.

(9) QA.

(10) IEM.

(11) Hazardous Material Requirements.

(12) Special Environmental Requirements.

(13) Support of Trials and Inspections.

(14) System Experts.

(15) Space Turnover.

b. Develop training plan and watchstation requalification program in accordance with TYCOM directives.

c. Develop Plan of Action and Milestones for Ship's Force/MST (if assigned) responsibilities during the availability.

d. Review and prepare SSRs for turnover to the planning yard/industrial activity at the start of the availability (see paragraph 3.6.6 of this chapter).

e. Support the industrial activity's pre-availability shipchecks, tests and inspections.

3.5.1.2 BAWP Milestones for Surface Force Ships.

3.5.1.2.1 C+75. SURFMEPP will establish the date, location and agenda for the LCPC.

3.5.1.2.2 C+120. SURFMEPP will send a list of the FRP Maintenance Cycle CMP requirements and a list of recommended availability services to the ship's PE for review. This list is a preview of the initial BAWP and will be discussed in detail at the LCPC. SURFMEPP will provide a list of CMP-required assessments to TYCOM, NRMC and RMC as requested in support of the TSRA process.

3.5.1.2.3 C+130. The LCPC agenda will include a review of the planning schedule, required CMP assessments, Navy Data Environment (NDE) modernization forecasts, CNO Availability services/routines as applicable, organizational responsibilities and DFSs.

3.5.1.2.4 C+140.

a. SURFMEPP will upload a data file (MM0001 file) with all mandatory maintenance actions and expected CNO Availability services into the ship's CSMP in support of ship-specific MT screening and brokering requirements. The data file will span approximately ten (10) calendar quarters and will include the requirements through C+120.

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

c. Requirements uploaded to the maintenance screening and brokering system (e.g., RMAIS) with a due date prior to the ship's A-470 milestone must be screened no later than 60 days prior to the requirement's due date.

3.5.1.2.5 A-470.

a. Update the BAWP with new requirements resulting from configuration updates and completed mandatory requirements whose next due date falls within the current FRP Maintenance Cycle through C+120.

b. The PE shall screen 50 percent of the BAWP requirements in RMAIS and will only utilize RMAIS or the Maintenance Support Tool to accomplish this task. These requirements shall be screened by the PE to a scheduled or future maintenance period/availability (other than Unfunded) within the current FRP Maintenance Cycle.

NOTE: IF A-470 OCCURS WITHIN 30 CALENDAR DAYS OF C+140, THE PE MAY FORGO THE 50 PERCENT SCREENING MILESTONE AND INSTEAD HAVE 100 PERCENT OF THE BAWP REQUIREMENTS SCREENED BY A-410.

3.5.1.2.6 A-410.

a. SURFMEPP, TYCOM representatives, RMC and the ship's MT will meet to review the ship's BAWP and CSMP to ensure inclusion of all required services/routines and lifecycle impacting Class Advisories and active DFSs. NDE modernization forecasts are addressed as applicable. RMC Assessment Directors, RMC and TYCOM TSRA Planners, NRMC, Program Manager Representatives and representatives from NAVSEA 05D, NAVSEA 21 Modernization, CNSL/CNSP N43, MSMO Contractor (or Planning Activity), ISIC, and the ship's MT shall attend this meeting.

b. 100 percent of the BAWP requirements in the maintenance screening and brokering system (i.e., RMAIS) are required to be screened by the ship's PE. These requirements shall be screened by the PE to a scheduled or future maintenance period/availability (other than Unfunded) within the current FRP Maintenance Cycle.

c. Any mandatory CMP requirement pushed after C+140 (initial BAWP push) is required to be screened within 60 days of the maintenance screening and brokering system import date.

3.5.1.2.7 A-400.

a. SURFMEPP will update the BAWP with lifecycle critical repair tasks resulting from assessment requirements in addition to the results (i.e., deferral or technical challenges) from the CSMP/DFS/BAWP Mid-Cycle review.

b. Further changes to the BAWP must be submitted using a Change Request Deferral Letter or the RMAIS CMP Cancellation Deferral Notification System (CDNS).

c. CMP work completion, configuration updates and new CMP additions will require SURFMEPP to upload more CMP requirements into a ship's CSMP after A-400. These updates will be coordinated with the ship's PE prior to initiation. If the ship is beyond A-360, updates shall be coordinated with the respective TYCOM AWP Manager in addition to the ship's PE.

d. Mandatory CMP requirements pushed after C+140 (initial BAWP push) are required to be also screened within 60 days of their RMAIS import date.

e. Ship Design Manager authorization via SURFMEPP Platform Engineering will be obtained if stakeholders desire to withhold or delay CMP requirements generated by configuration updates and new CMP additions if these requirements will be due prior to the end of the current FRP Maintenance Cycle.

3.5.1.2.8 A-360. The TYCOM's AWP Manager will review the BAWP and assume responsibility for planning and developing the AWP as described in paragraph 3.5.4 of this chapter.

3.5.1.3 Availability Coordinator (Submarines Only). A submarine served, nuclear trained Limited Duty Officer will be assigned to augment the normal ship's complement during Depot Modernization Periods, Engineered Refueling Overhauls, or Engineered Overhauls and will act as the Availability Coordinator for the ship. Availability Coordinator responsibilities are specified in Volume V, Part I, Chapter 1, paragraph 1.5.6 of this manual.

3.5.2 Docking Conference. For availabilities involving a ship's dry docking, the industrial activity will conduct a Docking Conference prior to the ship entering the activity if scheduled to go directly into dry dock.

3.5.3 Ship's Force Administrative Preparations. Ship's Force administrative preparations for availabilities will include:

a. Necessary revisions to ship and department organization manuals to ensure compliance with established requirements.

b. Preparation of necessary ship and department directives to ensure that administration is formally supported in accordance with current requirements.

c. Formulation of procedures for qualification of underway/steaming watchstanders and maintenance of proficiency of inport watchstanders, including:

(1) Implementation of formal provisional qualification procedures.

(2) Establishment of qualification goals for Key Events, such as undocking, operational testing of ship and propulsion plant systems, steam testing, initial criticality, space turnover, etc.

(3) Incorporation of qualification requirements necessitated by alterations to ship or propulsion plant systems.

d. Procedures for maintenance and security of Ship's Force/MST (if assigned) barge or office spaces.

e. General overhaul plan for Ship's Force/MST (if assigned) responsible actions including provisions for:

(1) Ship off-load.

(2) Establishment of barge, berthing and messing facilities.

(3) Establishment of routine ship and barge watch bills.

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

(5) Provision for accomplishment of known Ship's Force/MST (if assigned) corrective maintenance.

(6) Establishment of Ship's Force PMS routines.

(7) Establishment of Integrated Logistics Overhaul (ILO) procedures.

(8) Provisions for shift work during known periods of intensive testing (e.g., Engine Room Steaming Operations, Hot Operations, Power Range Testing).

(9) Ship load-out.

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

f. Assignment of ship system experts, or QA Inspectors, capable of monitoring industrial activity work on assigned systems.

3.5.4 TYCOM AWP Schedule and Documentation Requirements (Surface Force Ships Only).

a. Assume lead responsibility for AWP management at A-360.

b. TYCOM will conduct Availability Planning Conferences periodically throughout the availability planning timeline. Normally these conferences will align with the A-360, A-240 and A-120 planning milestones. Further details concerning Availability Planning Conferences can be found in Appendix AM.

3.5.4.1 Resource Allocation.

a. Identify and evaluate the links between the technically mandated life cycle/service life requirements contained in the CMP, the known repair tasks mandated in the BAWP and the current readiness/corrective maintenance requirements identified in the ship's CSMP.

b. Across this mutually supportive prioritization and resource allocation process, TYCOM will function as the representative for making resource allocation recommendations in direct support of the AWP.

c. Submit Change Deferral Requests at any time to expedite reallocation of resources.

3.5.4.2 Prioritization. Review the MT prioritization of corrective maintenance and discretionary work requests and adjust the prioritization and add or delete maintenance items from the availability maintenance proposal based on available funding and resources. Differences between the cost of executing the defined availability maintenance requirement and available resources along with the CMP/mandatory ("A" brand) BAWP requirements that cannot be accomplished will be communicated to SURFMEPP via the Change Deferral Request Letter.

3.5.4.3 Technical Resolution. To resolve technical issues in a timely manner, A-240 and A-120 are the two major milestones for processing Change Deferral Requests and Change Notifications submitted by the TYCOM. All milestones and response times are represented in Appendix AO. See Appendix AP for Forward Deployed Naval Forces ships and Volume I, Chapter 2 of this manual for New Construction ships milestones.

a. At A-240, TYCOM will submit a Change Deferral Request Letter to SURFMEPP, which will include a list of Change Deferral Requests for subject FRP Maintenance Cycle. The information provided in the Change Deferral Request Letter shall have a sufficient level of detail to enable a complete evaluation by the Technical Warrant Holder and the Ship Design Manager. SURFMEPP will forward the Change Deferral Request Letter to NAVSEA 05D for adjudication.

b. At A-120, TYCOM will submit a second Change Deferral Request Letter to SURFMEPP providing a list of any additional Change Deferral Requests for the subject FRP Maintenance Cycle. This letter must also address BAWP requirements still in a proposed status, which do not have a pending reprogramming request. SURFMEPP will forward the Change Deferral Request Letter to NAVSEA 05D for adjudication.

c. Subsequent Change Deferral Request submissions occurring after TYCOM delivery of the A-120 Change Deferral Request Letter shall be individually submitted. It is incumbent upon MTs and TYCOMs to discuss Change Deferral Requests as early as possible to enable a technical evaluation and an approval/disapproval granted prior to A-35.

3.5.4.4 Change Notifications. Subsequent submissions occurring after delivery of the A-120 letter will be provided to SURFMEPP by TYCOM at the BAWP Close-Out Verification and Assessment Meeting using Appendix AL format and will include the same information provided at the A-240 and A-120 milestones.

3.5.4.5 Technical Deferral and Adjudication "Quick Button" Process. Supports post-AWP definitization (A-35) through the end of production work. This section specifically addresses the availability execution period after definitization through the end of availability execution (A-35 through completion of Sea Trials and correction of RMC-responsible Sea Trials discrepancies). This section describes the change process to be used during the availability execution phase to cancel, de-scope, or reprogram previously definitized and any growth/new work items branded in the "A" category. This process will be referred to as the "QUICK BUTTON" process.

NOTE: THIS SECTION DOES NOT GOVERN NOR MODIFY THE POST-AVAILABILITY TESTING AND CERTIFICATION OR CLOSE-OUT PROCESS.

a. The local RMC/Ship Repair Facility - Japan Regional Maintenance Center (SRF-JRMC) SEA 05 Chief Engineer will act as final decision authority for branding code assignments using the codes found in Appendix AN.

b. If the RMC Chief Engineer concurs with or assigns an "A" branding code to an assessment, a conjunctive repair deriving from an assessment and/or a repair from any other growth/new work generation process, the RMC Chief Engineer, as prescribed in reference (bc), will act as the technical adjudication and deferral approval authority during the availability execution timeframe from the end of the definitization process (A-35) through completion of Sea Trials and correction of RMC-responsible Sea Trials discrepancies.

(1) Completing the technical adjudication process during the execution window must not exceed seven (7) days in order to preclude any work stoppages.

(2) Tank and void deferrals are governed by reference (bb).

c. The TYCOM will provide a letter documenting all technically adjudicated and deferred work. This letter will be forwarded to SEA 21 and SEA 05, via SURFMEPP, prior to either Hull, Mechanical and Electrical or Combat Systems Production Completion date, whichever is later.

3.5.5 BAWP/AWP Change Management Process (Surface Force Ships Only).

3.5.5.1 Branding. To support work prioritization and authorization decisions, BAWP work items must be branded using the branding category codes in Appendix AN. Change Requests to "A" branded items require adjudication through the BAWP Change Management process per Appendix AK. Change Requests are adjudicated by NAVSEA 05D via SURFMEPP. Work Item Branding Categories will be entered in the "Category of Work" block of the AWR by SURFMEPP.

3.5.5.2 CMP Cancellation Deferral Notification System. The CDNS is imbedded in the maintenance screening and brokering system and is used to track the status of all CMP mandatory maintenance in a ship's shore file CSMP. If a particular maintenance requirement is screened to a maintenance period that starts greater than 90 days after the requirement's due date, if the requirement is screened by the ship's PE to an "unfunded availability", a series of e-mails are automatically sent from CDNS to key maintenance plan stakeholders. The stakeholders then communicate with the MT to provide technically sound adjudication for the situation surrounding that specific requirement. Deferrals using this system will be routed through SURFMEPP and NAVSEA 05D as appropriate. This system provides an automated, auditable process for monitoring each ship's accomplishment of CMP requirements. MTs are encouraged to use this system to request deferral or cancellation of mandatory CMP requirements as follows:

a. Once SURFMEPP has entered the ship's CMP requirements into maintenance screening and brokering system, the MT will screen each requirement to an appropriate maintenance period. Some CMP requirements may be identified by the MT as requiring deferral or correction based on errant configuration data, substitution JCNs or an inability to accomplish the requirement by the due date.

b. When the MT identifies such a condition, it shall contact the local SURFMEPP Detachment to review the situation.

c. If both parties agree this item should be addressed by higher technical authority, the MT will screen the item to an "Unfunded" availability or the proposed later maintenance period to initiate the CDNS process.

d. The CDNS adjudication process will be followed to resolve the request.

e. The PE will provide all approved deferrals to the TYCOM AWP Manager, who will list them on the BAWP Change Deferral Request letter.

f. This process is authorized for use from C+140 to A-35 (A-615 to A-35 for Forward Deployed Naval Forces ships).

3.5.5.3 BAWP Work Item Branding Categories.

a. Branding Category A (Mandatory – Technical). An approved Change Deferral Request or positive CDNS adjudication is required to defer the maintenance requirement (see Appendix AK). Only SURFMEPP or an authorized Technical Warrant Holder is authorized to brand items in this category. BAWP requirements in this branding category include maintenance actions which have high-level technical requirements and have been subdivided into branding categories as detailed in Appendix AN. Any "A" branded item whose deferral violates a technical requirement (e.g., CMP mandatory requirement) requires NAVSEA 05D adjudication via the CDNS or a Change Deferral Request Letter. See Figure 1 for further explanation. Late, cancelled or deferred execution of a technical requirement may require a DFS. See Volume V of this manual for guidance regarding DFS requirements.

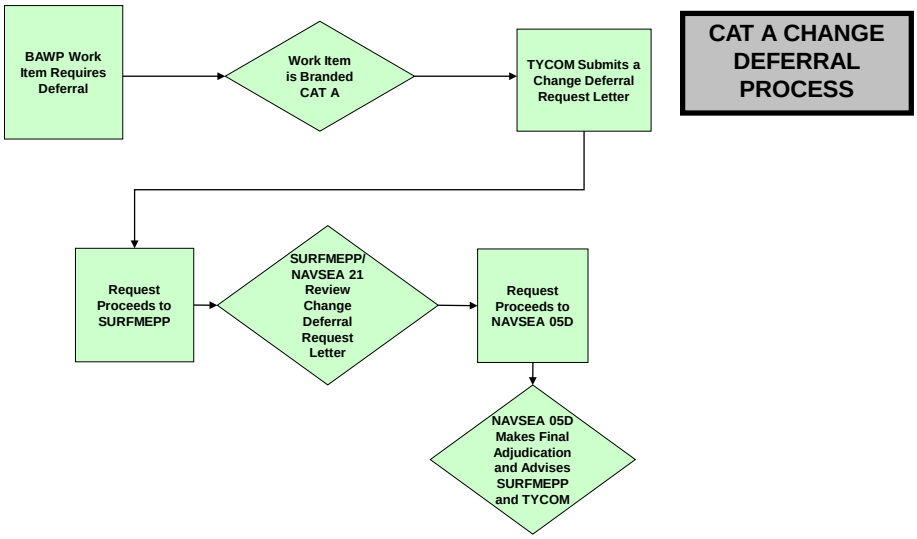

Figure 1. Branding Category (CAT) A Change Deferral Process (Appendix AK)

b. Branding Category B (Required – Non-Technical). Items in this branding category have TYCOM significant tasks that require its approval prior to non-accomplishment; however, non-accomplishment does not require adjudication via the technical chain of command. The PE shall use RMAIS or the Maintenance Support Tool to re-screen affected task(s) to a scheduled or future maintenance period/availability (other than Unfunded) within the current FRP maintenance cycle. Work items in this branding category have been subdivided into branding categories as detailed in Appendix AN.

3.5.5.4 Branding Responsibility.

a. SURFMEPP. Brands all technically-required, mandatory maintenance requirements residing in the CMP and any other tasks meeting branding Category "A" criteria. In addition, SURFMEPP will brand all approved and authorized Fleet and Program alterations "B3" per Appendix AN.

b. Assessment Team. Upon completion of a mandatory assessment, the assessment team is responsible for creating CSMP-ready repair AWRs. In all cases, the assessor will always start the Block 35 narrative for any AWR with the words "Per (JCN)", where '(JCN)' is the Assessment JCN that generated the repair 2-Kilo followed by the characters "XX" (e.g., "Per YYYYYEM01ZA56XX", where "YYYYY" is the ship's Unit Identification Code and "XX" signifies a break between the JCN and the beginning of the 2-Kilo's text description). This methodology allows maintenance personnel to connect each repair job to its initiating assessment.

3.5.5.5 Change Request Types. Change Requests and Change Notifications will be identified in one of the following three ways:

a. Reprogram. Requirements due during the current FRP Maintenance Cycle, but will be moved to a future FRP Maintenance Cycle.

b. Cancel. Requirements neither applicable nor due during the current FRP Maintenance Cycle and therefore should not be included in the BAWP, including items for which the configuration or requirement has changed and requirements with periodicities extending to a future FRP Maintenance Cycle beyond C+120 of the current cycle.

c. De-scope. Requirements that experienced a reduction in the original scope of work, where the portion of work not accomplished is reprogrammed.

3.5.6 Modernization (Surface Force Ships Only). NAVSEA and TYCOM Letters of Authorization (LOA) are issued showing all modernizations scheduled for the CNO Availability.

3.5.6.1 Modernization List. Forecasted ship changes may be viewed through the NDE database at C+130 and continuing throughout the BAWP to AWP development process. This list will be reviewed at each BAWP Milestone Meeting. Items from this list will not be entered into the ship's CSMP until they have been reconciled with an issued LOA. After this reconciliation, SURFMEPP is responsible for entering the modernization work into the ship's CSMP. Category A and Category B BAWP-branded assessment tasks that may be affected by forecasted Ship Change Documents shall be planned and executed, despite discussion of removal or upgrade of equipment due to pending ship changes. Since the majority of "approved and authorized" modernization alterations are completed during the CNO availability, executing the assessments throughout the cycle as scheduled in the BAWP is required to ensure operational readiness throughout the FRP Maintenance Cycle. For example, NDE indicates CG-XX is scheduled for the electric modification SHIPALT 588K, which, among other changes, removes the waste heat boilers. The 18-month and five (5) year mandatory boiler inspections were entered in the BAWP at C+140 for completion during the SRA. The MT, in this case, cannot cancel the scheduled assessment without following the established deferral/adjudication process.

3.5.6.2 BAWP/AWP Update. The BAWP/AWP will be updated as subsequent LOAs are issued by NAVSEA and TYCOM as ship changes mature. This process will continue through the advanced planning and execution phases of the availability to capture late and newly authorized alterations.

3.6 AVAILABILITY EXECUTION.

3.6.1 Responsibilities. Responsibilities for CNO scheduled Maintenance Availabilities are as follows:

3.6.1.1 Fleet Commander.

a. Monitor availability execution to achieve a balance of cost and schedule for the scope of work authorized. Ensure that any growth in the scope of work authorized is necessary to ensure safe, reliable operation of the ship during the subsequent operating cycle.

b. Ensure that testing of all systems and equipment installed or repaired during the availability, which require at sea testing, is conducted prior to availability completion.

c. Provide berthing, messing, offices, classrooms, equipment stowage space, and Ship's Force repair shops in accordance with reference (d), when shipboard facilities are unusable or uninhabitable.

3.6.1.2 Type Commander/Immediate Superior In Command (Group or Squadron).

a. Authorize new items and growth industrial work items.

b. Monitor and approve all changes in established milestones, not internal to industrial activity, including LOA and completion dates.

c. Issue direction when the quality or completeness of industrial activity work is in question.

d. Monitor off-ship crew messing and berthing arrangements when required.

e. Notify the TYCOM when essential Ship's Force work cannot be completed on the scheduled contract or Key Event completion date. Make recommendations for assistance where appropriate.

f. (Surface Ships Only). Periodically assess and monitor shipboard conditions using Appendix E of this chapter for guidance.

g. (Submarines Only). Periodically assess and monitor shipboard conditions in accordance with paragraph 3.6.8.4.4 of this chapter.

h. Monitor Ship's Force/MST (if assigned) preparation for LOA (if applicable).

i. (Nuclear Powered Ships Only). Conduct a Pre-Critical Inspection of the Engineering Department to determine the ship's readiness for either the Reactor Safeguards Examination (RSE) or the Fleet Commander Post-Overhaul Reactor Safeguards Examination (PORSE) as applicable.

j. (Submarines Only). Schedule a salvage inspection by Forces Afloat in time to have discrepancies corrected prior to the start of Fast Cruise. Normally, the salvage inspection should be completed not less than one week prior to the scheduled start of the Fast Cruise.

k. Conduct formal Phase I crew certification inspection(s) of the Ship's Force in accordance with the TYCOM Training Manual (when required). The purpose of this inspection shall be to audit the readiness and training of the Ship's Force, particularly in the areas of watchstander qualifications, damage control readiness, status of operational and emergency bills, presence on board of essential technical manuals, and general operational knowledge. This inspection shall 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 shall be made to ensure that the ship is adequately manned.

l. (Submarines Only). Prior to Fast Cruise, the ISIC QA Officer shall conduct a formal audit of Ship's Force REC, Departure from Specification Records and CSMP. Using the SUBMEPP PMR and URO Maintenance Requirement Card (MRC) scheduling reports and current industrial activity/Ship's Force updates to the latest report, ensure all required "D"-Level PMR and URO MRC accomplishment is current. The ISIC shall forward the audit results to the TYCOM via the cognizant Commander, Submarine Group. The ISIC will then report to the TYCOM by message in accordance with message sample format of Appendix BB or CB of this chapter the status of the crew/material certification. An update of this certification is needed prior to Sea Trial and following the rescinding of certification noted in paragraph 3.6.8.4.1.c. of this chapter.

m. Conduct Phase II crew certification. Witness and certify to the TYCOM that the state of crew training is satisfactory for at sea operations in accordance with the TYCOM Training Manual. This will be done during a two day period subsequent to Dock Trials and Phase I crew certification, and prior to Fast Cruise. This two day period shall 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 Volume I, Chapter 2, Appendix B of this manual.

n. Conduct a material inspection of the ship.

o. Satisfactory completion of the inspections of paragraphs 3.6.1.2.k. through 3.6.1.2.m. of this chapter should be reported to the TYCOM in one "PRIORITY" crew certification message in accordance with sample message format of Appendix BB or CB 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/material deficiencies, the TYCOM shall be immediately advised by telephone and by message. The Supervising Authority will be included as an information addressee.

p. Receive from the ship's CO/Supervising Authority the scope, schedule and agenda of tests for Sea Trials for review and approval. When approved, forward copies of the agenda to the TYCOM. The concurrence of NAVSEA is required for the sequencing and scheduling of nuclear propulsion plant Sea Trials for CNO Maintenance Availabilities.

q. (Submarines only) Prior to Sea Trials, report material certification of the ship by message in accordance with message sample format of Appendix BB or CB of this chapter, to the TYCOM.

r. Monitor the progress of the availability.

s. (Submarines Only) If required, initiate Operating Cycle Extension Assessment in accordance with references (f) and (g).

3.6.1.2.1 Extended Operating Cycles. (Submarines only) An extended operating cycle is the period of time from the end of the current operating cycle to the anticipated start of the next major depot availability (Depot Modernization Period, Engineered Overhaul, Engineered Refueling Overhaul, Inactivation). The Interim Drydocking/Pre-Inactivation Restricted Availability (IDD/PIRA) AWP is comprised of minimum maintenance requirements that are required to support the specific operating cycle extension, as well as necessary repairs based on the submarine's material condition.

a. For extended operating cycles less than 24 months performed by naval shipyards, the TYCOM shall certify completion of IDD/PIRA availabilities. For extended operating cycles less than 24 months performed by private shipyards, the SUPSHIP, with assistance from NAVSEA, will certify completion of IDD/PIRA availabilities.

b. For extended operating cycles of 24 months and greater, NAVSEA shall certify completion of IDD/PIRA availabilities.

3.6.1.3 Fleet Maintenance Activity. A scheduled CNO Maintenance availability may involve a concurrent FMA availability or similar FMA repairs. During such availabilities, it is imperative that the industrial activity and the FMA involved maintain a close working relationship, both between themselves and Ship's Force, to ensure a successful, on-time availability completion. As a minimum, the FMA must:

a. Carry out all FMA work consistent with the procedures described in Part I, Chapter 4 of this volume.

b. Participate in all Weekly Management Meetings. (See paragraph 3.6.3.1 of this chapter.)

c. Provide information on FMA Job Status for ship's Weekly Situation Report (SITREP). (See Appendices F_1 or F_2, as applicable, of this chapter.)

d. Closely coordinate all jobs affecting Key Event/Milestone completion dates with the industrial activity and Ship's Force.

e. Assist the industrial activity and Ship's Force by maintaining good housekeeping on all job sites.

3.6.1.4 Ship's Force and MST (if assigned).

a. Support work authorization, tagout and REC programs.

b. (Submarines Only) Ensure no work is conducted within the certified SUBSAFE boundaries without proper authorization.

c. Monitor the quality of the industrial activity's performance.

d. Support industrial activity test programs and witness equipment testing.

e. Perform IEM.

f. Ensure Ship's Force work is integrated into the industrial activities schedule.

NOTE: FLEET POLICY DOES NOT PROHIBIT SHIP'S FORCE FROM ACCOMPLISHING WORK ON EQUIPMENT, COMPONENTS OR SYSTEMS NOT OTHERWISE ASSIGNED TO THE INDUSTRIAL ACTIVITY AS LONG AS SUCH WORK DOES NOT IMPEDE THE INDUSTRIAL ACTIVITY SCHEDULE OR IMPACT PRIMARY SHIP'S FORCE RESPONSIBILITIES. THE MAJORITY OF PERSONNEL LEAVE, PARTICULARLY FOR THE WEAPONS AND ENGINEERING DEPARTMENTS, SHOULD BE PROGRAMMED EARLY IN THE AVAILABILITY SO THAT NECESSARY PERSONNEL WILL BE AVAILABLE FOR SUCH THINGS AS COMBAT SYSTEM TESTING, HOT OPERATIONS, ENGINE ROOM STEAMING, POWER RANGE TESTING AND FAST CRUISE.

g. Train and qualify personnel to support the Key Event schedule.

h. Perform site visits where contractor services are being used for equipment refurbishment.

i. Ensure LOA preparations are progressing on schedule.

j. Attend weekly progress meetings.

k. Ensure that equipment returned to the ship has passed required shop tests.

l. (Surface Ships Only) For dry docking availabilities:

(1) Make sure that bilges are properly preserved. To avoid moisture from condensation, plan to complete bilge painting before the ship undocks.

(2) Make sure that air testing scheduled for tanks below the water line is completed before the ship undocks.

(3) Make sure that all hull valves are reinstalled and tested before the ship undocks.

(4) Make sure that underwater preservation is completed, that water line boot is painted evenly and draft marks restored before the ship undocks.

m. Arrange for a post repair boiler inspection by Naval Surface Warfare Center Carderock Division (NSWCCD), and ISIC representatives. Detailed information concerning this inspection can be found in Volume IV, Chapter 3 of this manual.

n. Schedule Combat Systems Mobile Training Team visit with the ISIC.

o. Develop a Plan of Action and Milestones for LOA.

3.6.2 Arrival Conference.

3.6.2.1 Scheduling and Conducting. The arrival conference is scheduled shortly after the start of an availability and conducted by the industrial activity and attended by the CO, Executive Officer, MST OIC (if applicable), heads of department and their principal assistants, key shipboard personnel and a TYCOM representative. This meeting also provides an excellent opportunity for Ship's Force to meet key industrial activity personnel.

a. The conference agenda should include, as a minimum, the following topics:

(1) Resolve problems not completed at the WDC/PRC/PAC.

(2) A discussion of work scheduling and production planning requiring close cooperation between Ship's Force and industrial activity personnel. Changes to dates for Key Events such as dry docking, Dock Trials, Fast Cruise, and Sea Trials shall be made known and agreed upon at this time.

(3) Dissemination of planning information, such as job orders that have resulted from the deferral actions approved for industrial activity accomplishment.

(4) Resolution of any problems regarding work to be undertaken or material or scheduling problems.

(5) Reporting of plans and material status on Key Events or CPJs.

(6) Discussion of industrial activity regulations and other pertinent requirements affecting the ship.

(7) Dissemination of general administrative information of interest to Ship's Force, such as industrial activity and local facilities for training, recreation, housing accommodation, parking, etc.

b. Activities may submit new work items for consideration.

c. Industrial activity schedule daily/weekly meetings.

d. Submit an Availability Start Message to cognizant Fleet Commander at the start of an industrial availability.

3.6.3 Routine Meetings and Conferences.

3.6.3.1 Weekly Management Meetings. Senior industrial activity management officials should meet weekly with the CO of the ship during the availability.

a. Purpose. These meetings provide a formal means by which attendees can address important specific issues with the senior industrial activity official to obtain appropriate resolution. Questions not answered relative to the conduct of this meeting should be addressed by the CO through the ISIC (if applicable) to the TYCOM.

b. Execution.

(1) The industrial activity Senior Officer/Manager will designate the time and day of the week for the meeting.

(2) Attendees will submit agenda items normally within 24 hours before the meeting. The industrial activity will collect, collate, and prepare all agenda items in writing and distribute them to attendees at the meeting.

(3) Attendees will discuss agenda items at the meeting.

c. Attendees. The industrial activity chairs the meeting. The following personnel shall attend and participate:

(1) The CO of the ship being repaired. The Executive Officer should attend if the CO cannot be personally present for any meeting.

(2) At some industrial activities, the TYCOM may designate a representative to attend. If so, he may submit agenda items in addition to those submitted by CO's that may be broadly applicable to all ships in specific availabilities. In the record, there shouldn't be any "TYCOM Position" on any items. The CO has the responsibility to deal with the senior industrial activity official on problems relating to his ship.

(3) The industrial activity Project Manager or equivalent.

(4) (Nuclear Powered Ships Only). The Naval Reactor Representative at industrial activities authorized to conduct naval nuclear work.

(5) Industrial Activity Senior Management (e.g., Engineering Department Head, QA Head, Production Officer).

(6) Any industrial activity personnel as required to support specific agenda items.

(7) MST OIC (if applicable).

d. General Guidelines.

(1) Before submitting an agenda item, the ship CO should have made an attempt to resolve the problem at an appropriate level within the industrial activities organization.

(2) When agenda items are general subjects such as overall schedule adherence, overall industrial activity manning of ships, overall ship cleanliness, performance of workers and overall ship safety, sufficient factual data should be included to substantiate them.

(3) (Nuclear Powered Ships Only). Ship COs should not routinely submit their agenda items to the Naval Reactors Representative Office (NRRO) for review prior to giving them to the industrial activity's Senior Manager. This does not mean that specific questions related to agenda items cannot be discussed with the NRRO. They should be. Ship COs should not expect the NRRO to be a screen for checking the appropriateness of the item.

(4) Ship COs in private activities must be extremely careful in wording their agenda items, in the discussions at the meeting and in agreeing to words in the minutes to assure that they do not introduce or give tacit agreement to contractual matters.

(5) Ship COs should not submit items for the management meeting as a means to merely determine the status of a job.

(6) If required by the TYCOM, ship COs shall provide a copy of the minutes of each meeting to their ISIC/TYCOM.

e. The Weekly Management Meeting is used as a forum to produce a Progress Report, which is intended to form a brief word picture of the availability progress and identify problems that may require action/resolution. (Paragraphs 1 and 2 in Appendices F_1 or F_2, as applicable, of this chapter should not exceed one typewritten page.)

(1) If required by the TYCOM, COs will submit weekly Progress Reports by message of the overall status of work. As a minimum, quality of work, progress, significant problem areas, and action taken towards their resolution shall be addressed. In addition, if the availability completion or readiness-for-sea dates appear to be in jeopardy, the estimated period and reasons for delay will be reported and identified. The Progress Reports will be routed via the industrial activity and FMA (if applicable) for comments and transmitted in time to reach the TYCOM by the first workday of each week. Appendices F_1 and F_2, as applicable, of this chapter are the desired format for the report.

(2) If, as a result of his inspections, the CO considers that the progress or the quality of work is unsatisfactory, he will promptly bring the matter to the attention of the industrial activity. If satisfactory corrective measures are not taken, he will report by letter, or if time is critical, by message, to the TYCOM with a copy to the industrial activity stating specifically in what respects the work is unsatisfactory. If the condition reported is not corrected to the CO's satisfaction, a report will be made to CNO via the TYCOM in accordance with reference (e). Copies of this report will be sent to the industrial activity and appropriate Fleet Commander.

(3) During the course of the availability, periodic progress reviews are conducted at the 25/50/75 percent points of elapsed time of the availability. As a minimum, discussion should include the actions towards resolution of previously reported significant problem areas not yet resolved, upcoming Key Events that may be in jeopardy, any significant changes that may be required to meet availability milestones, status of new work and any other issues deemed necessary. The report of the periodic review will be annotated in the weekly SITREP.

3.6.3.2 Docking/Undocking Conferences. For availabilities involving a ship's dry docking, the industrial activity will conduct both a Docking and Undocking Conference, normally within one week prior to the expected evolution. These conferences will be conducted by the assigned industrial activity Docking Officer. Requirements for the conference agenda, attendees, and Ship's Force support are found in reference (h).

3.6.3.3 Interim Completion Conferences (Surface Force Ships Only). The NSA and LMA shall conduct 25/50/75 percent completion conferences. These conferences will review all completed work, testing and certification. All open and remaining work shall be discussed to include: schedule, upcoming key events, milestones, planned production manning versus actual production manning, integrated test plan, certification and Departures From Specification. All open and inspect work shall be completed in the first 20 percent of the maintenance availability. Two days prior to the 25 percent review conference, the LMA shall provide the status of all open and inspect results so final adjudication on any growth or new work items may be completed.

3.6.4 Assist Ship's Force Funds. The TYCOM may set aside a portion of the maintenance funds for CNO availabilities as an Assist Ship's Force (ASF) fund. This fund is controlled by the CO and is used to obtain minor industrial activity assistance in the nature of services and/or labor, to assist in completing assigned Ship's Force work. The following restrictions apply to the use of ASF funds:

a. No work in the nature of an alteration will be undertaken, unless authorized by the TYCOM.

b. No work using ASF funding will be undertaken in which Ship's Force is not the main participant.

c. Only incidental material will be purchased with ASF funds. Normally this will not exceed ten percent of the total job cost.

d. A detailed account of ASF expenditures will be maintained. This account may be audited periodically by the TYCOM to ensure compliance with the restrictions in paragraphs 3.6.4.a. through c of this chapter.

3.6.5 Integrated Logistics Overhaul.

a. The ILO concept was developed to provide improved maintenance support to the Fleet in response to the need for complete on board logistics support. An ILO focuses on both maintenance and supply requirements by ensuring that technical documentation and repair parts support the equipment which is actually on board. During an ILO, both maintenance and supply personnel are trained in the use and maintenance of shipboard logistics support documentation and systems to enable them to sustain the effects of the ILO during the operating cycle. The objective of an ILO is to improve readiness by providing a ship completing a specified availability with logistics support that accurately reflects the ship's configuration. A secondary objective is to train Ship's Force in the use of on board support documents and in recognizing and correcting support deficiencies.

b. An ILO is a process which improves ship's readiness and equipment availability through verification of configuration status accounting data, ordering of proper logistics support, and training of Ship's Force in the use and maintenance of its logistics support documentation. An ILO is comprised of five functional elements:

(1) Configuration Analysis and Coordinated Shipboard Allowance List (COSAL) QA consists of verification of start of availability configuration data (including planned changes) with Weapons System File data and other documentation to ensure that the Start of Overhaul COSAL fully supports the projected end of availability equipment configuration. In addition, changes in configuration reported by the accomplishing activity are verified to ensure final COSAL documents include required support.

(2) PMS Analysis. Includes verification of applicable Maintenance Index Pages (MIP) with ship's existing configuration and all changes to this configuration reported by the accomplishing activity. Resolution of discrepancies with PMS managers is accomplished as required. Analysis of individual MRCs is performed to ensure that required PMS repair parts and special tools are identified, included in the applicable documents, and ordered.

(3) Technical Manual Analysis. Ensures that the technical manuals required to support the end of availability configuration are identified and requisitioned. Technical manuals, both those off-loaded and those received during the availability, are inventoried and reviewed for applicability, correct change level, and status of changes. Technical manuals applicable to final configuration are retained. Discrepancies are resolved with the Naval Sea Data Support Activity. Technical manuals missing from the required inventory are requisitioned as are any changes needed to upgrade manuals already held. The ship's Index of Technical Publications is updated to reflect the final configuration and is provided to the ship at the end of availability by the Naval Sea Data Support Activity. Also provided are the Technical Manual requisitions still outstanding. Finally, to ensure minimum deterioration of stock after the availability, selected ship personnel are trained in technical manual maintenance procedures.

(4) Repair Parts Analysis. Ensures the accuracy of the repair parts inventory to be back loaded to the ship at the conclusion of the availability. This analysis includes a complete inventory of all parts aboard and identification of any parts for which there is incomplete data. It also includes recomputation of allowances based on usage or new equipment installation, turn-in of parts no longer allowed and numerous location/quality checks prior to backloading.

(5) Training. Focuses on proper accomplishment of the first four functional elements of the ILO to ensure that correct logistics support is identified and delivered for shipboard equipment. Efforts are made to ensure that shipboard personnel are fully able to utilize and maintain the ship's logistics support and configuration documentation, both for ILO purposes and for ongoing operating cycle requirements. COSAL use and maintenance training provides shipboard personnel with a working knowledge of the COSAL, its relationship to other maintenance documents and the procedures to ensure that logistics support remains current, (e.g., use of OPNAV 4790/CK Forms).

c. The Ship's Force team will develop an off-load schedule of all ship's spare parts. The ship's spare part stowage plan will be updated to reflect changes in the desired location of individual spare parts. Additionally, provisions must be made for the Aviation Consolidated Allowance List to support the embarking air wing.

d. A ship load-out schedule, including stores, repair parts, yellow gear, and removal of industrial activity equipment, will be prepared by the ship with the assistance of the industrial activity.

e. During a CNO maintenance availability, the ship will ensure that new/removed equipment is reflected in the COSAL and that the required spare parts are added/subtracted as applicable. Allowance changes are to be requested in accordance with reference (i).

f. Spare parts, test equipment, and special tools are the hardware portion of new and old equipment. The other portions are software: drawings, technical manuals, allowance lists, operating instructions, and any other technical documentation. Prior to commencement of an availability, NAVSEA will task the industrial activity with providing a listing and schedule, for installation on board the ship, of all technical documentation for new equipment, including changes to SSR drawings and data. The ship is responsible for the installation and maintenance of technical documentation for all existing equipment.

g. The status of the installation of technical documentation will be reported in the Material Condition/Crew Readiness Status Report.

3.6.6 Ship's Selected Records.

a. The SSRs include various tables, charts, drawings, damage control books and plates, technical manuals and other data selected for their reference value and kept current throughout the life of the ship. Accurate SSRs are necessary for configuration control, maintenance support and troubleshooting. SSR items are:

(1) Ship's Information Books.

(2) Technical Manuals.

(3) Damage Control Books and Plates.

(4) Propulsion Operating Guides/Engineering Operational Sequencing System.

(5) Ship's Drawing Index (SDI).

(6) Index of Technical Publications.

(7) Docking Drawings (plan showing each of the docking positions).

(8) Booklet of General Drawings.

(9) Tank Capacity and Vehicle Center of Gravity Curves.

(10) Tank Sounding Tables.

(11) Other tables, charts, allowance lists, etc.

(12) Docking Reports (most recent two industrial availability dockings, and any interim reports).

b. The ship should appoint a SSR Coordinator for the availability. The Coordinator should review the SSRs in paragraph 3.6.6 of this chapter, determine which items will be affected by work candidates listed in the approved work package, and send copies of these SSRs to the industrial activity responsible

for executing the availability. The copies sent must include markups showing any changes accomplished during previous availabilities since last update. The ship must retain a master copy of each SSR item and keep it current. If SSR is on microfilm/electronic media, mark up hard copy prints.

c. The SSR Coordinator will serve as the ship point of contact for dispatch, receipt and monitoring status of SSR items during the availability.

3.6.7 New Work.

a. New work is any repairs requiring industrial level assistance which are not authorized until after the PAC for public industrial activity availabilities or after the receipt of proposals or bids for private industrial activity availabilities.

b. New work must be requested by message or letter to the appropriate TYCOM (information copy to the Supervising Authority, ISIC, SUBMEPP (Submarines), or PMS 312C (Aircraft Carriers), as applicable). Sample letter/message formats are provided in Appendices G and H of this chapter for requesting new work authorization. Work not currently in ship's CSMP must be added to CSMP prior to requesting new work approval.

c. All new work candidates must be reviewed by and agreed to by the assigned MM. MM recommendations regarding requirement to perform repairs, risk assessment, and schedule impact are mandatory. The TYCOM, or the formally designated TYCOM representative, shall be the approving authority for all new work. In the case of private industrial activity availabilities, the TYCOM will certify that, in accordance with Federal Acquisition Regulations, the accomplishment of the new work is of such unusual and compelling urgency so as to require waiving of Competition In Contracting Act public law regulations.

d. (COMNAVSURFLANT Ships Only) New work on all Naval Surface Force, U.S. Atlantic Fleet availabilities will only be authorized as follows:

(1) Where there is no assigned MM, Type Desk Officer (TDO) authorization is required for all new work when the government estimate exceeds $5,000. Only new work absolutely necessary to carry out the intent of the Ship Alteration (SHIPALT) and Repair Package work item may be authorized.

(2) Where a MM is assigned, all new work requires Commander, Naval Surface Force, U.S. Atlantic Fleet (TYCOM) authorization. The MM communicates the TYCOM's authorization.

3.6.8 Trials, Inspections and Crew Certification.

3.6.8.1 Surface Force Ship.

a. Crew Certification. Crews in ships undergoing major CNO Maintenance Availabilities must be effectively trained in standard operating procedures, emergency bills, casualty drills, etc., and be thoroughly cognizant of equipment either newly installed or relocated during the availability. Based on the length and type of availability, Crew Certifications will be conducted in accordance with references (j), (k) and (l), as applicable.

b. LOA. LOA will be conducted, if the availability exceeds 120 days or as deemed necessary by the TYCOM. The ISIC, assisted by an assessment team provided by Fleet Commander N7, will conduct the LOA. LOAs will be scheduled by means of the ISICs input into the normal scheduling process.

c. Steam Testing. All steam systems/equipment worked by the industrial activity shall be tested in accordance with the Testing Plan developed by the industrial activity. Ship's Force shall work closely with the industrial activity, providing necessary assistance and support, to carry out the Test Plan.

d. Dock Trials. During an industrial activity availability and prior to conducting post-repair trials, the engineering plant shall be tested to ensure its readiness for sea. All special sea details and required general quarters will be manned throughout the trials. Ordinarily, dock trials can be completed in one day or less. The minimum requirements for Dock Trials are listed in Appendix I of this chapter.

e. Fast Cruise.

(1) All ships completing a CNO Maintenance Availability shall conduct a Fast Cruise where the ship assumes, insofar as practical, an "at sea" posture while inport with all equipment/systems used to the maximum extent possible. The primary purpose of the Fast Cruise is to determine and certify the state of training of ship's company as adequate to conduct at-sea operations. The progress toward this goal is a critical evolution ongoing throughout the availability requiring the TYCOM and ship's CO attention. The training program must be designed to have completed all training necessary to safely operate the ship at sea prior to Fast Cruise. The Fast Cruise provides the opportunity to measure ship's preparedness; it is not a basic training period. Commencement of Fast Cruise requires TYCOM permission. Appendix AA of this chapter provides a sample message format for Ship’s Request for Permission to Commence Fast Cruise.

(2) The following procedures pertain to the conduct of Fast Cruise:

(a) Fast Cruise will be included as a major event and scheduled for at least two days duration by the industrial activity in the case of ships undergoing a CNO maintenance availability greater than six months in duration or at least one day for ships undergoing a CNO maintenance availability less than six months in duration. The Fast Cruise shall follow Dock Trials and precede Sea Trials.

(b) A schedule of proposed events shall be promulgated by the ship to all activities concerned and shall be concurred with by the industrial activity.

(c) Limited numbers of industrial activity personnel may be permitted to be aboard as necessary to continue testing and production work on systems as required. Shop and technical personnel shall be permitted on board as instructors, troubleshooters and QA representatives of the industrial activity. Equipment that is not complete shall not be included in the Fast Cruise. Settlement of the foregoing provisions shall be reached by mutual agreement between the CO and the industrial activity, as warranted.

(d) As a minimum standard, system operation tests and drills described in Appendix J of this chapter shall be conducted in all Fast Cruises. It is intended that the necessary prerequisite training shall have already been accomplished.

(3) The Ship’s CO will report completion of Fast Cruise to the TYCOM. Appendix AB of this chapter provides a sample message format.

f. Rest and Repair Period. All ships completing a CNO Maintenance Availability shall normally conduct a 48 Hour Rest and Repair Period to ensure Ship’s Force is mentally and physically prepared after completing Fast Cruise and before the start of Sea Trials. The ship assumes, insofar as practical, an “at sea” posture while inport with all equipment/systems used to the maximum extent possible. The primary purposes of the Rest and Repair Period are to evaluate the results of Fast Cruise; to consider ship condition; to conduct necessary repairs on ship’s equipment and systems; and to evaluate and conduct additional training for Ship’s Company to ensure ship is prepared to the highest possible standard.

g. Sea Trials.

(1) Sea Trials (or Post Repair Trials) constitute the final determination of a ship's material readiness and ability to rejoin the Fleet as a fully operational unit. Each Sea Trial will be conducted in accordance with an agenda prepared by the industrial activity, concurred with by the ship's CO, and approved by the TYCOM. The Sea Trial Agenda will be prepared in four phases and will contain the minimum requirements of Appendix K of this chapter, a time-oriented sequence of events in Gantt chart form, and a matrix of fleet services required to support the trial. The requesting ship/industrial activity will arrange for these Fleet services in accordance with Fleet Commander Instructions. Since the purpose of the trial is to determine the material readiness of the ship, all systems/equipments overhauled by the industrial activity will be tested in accordance with an industrial activity prepared test procedure which will document the results of the test and require operation of the system/equipment in all modes. A Ship's Force Trial Officer will be appointed to coordinate with the industrial activity Trial Coordinator throughout the Sea Trial. The Trial Officer will accept the results of all tests for the ship. Ship's Force personnel will operate all equipment during the Sea Trial in accordance with standard operating instructions or Sea Trial test procedures, as appropriate. Commencement of Sea Trials requires TYCOM permission. Appendix AC of this chapter provides a sample message format for the Supervising Activity to report all work necessary for Sea Trials has been satisfactorily completed.

(2) During Sea Trials the ship's CO will advise the TYCOM of major events accomplished and/or significant problems encountered/outstanding on a daily basis. Appendices F_1 or F_2 as applicable, of this chapter provide the desired format for this report.

3.6.8.1.1 Availability Work Certification and Completion Requirements (Surface Force Ship Only). Timely and technically correct planning and execution of availabilities demands a rigorous approach to certifying major Key Events leading to availability completion. A NSA certification plan verifies that work is completed and technically correct and must include Executing Activity qualifications, NSA approval of mandatory technical requirements, an integrated test plan and adequate NSA oversight of all availability work. These elements provide the NSA with maximum reasonable assurance that availability work is complete and technically correct. Executing Activity work completion starts with assurance that each Executing Activity has an approved and current Quality Management System. Each Executing Activity must provide certification of technically correct work completion and Objective Quality Evidence (OQE) as required in NAVSEA Standard Items or other technical requirements. NSA work oversight must include a minimum level of supervision to provide assurance that all mandatory technical requirements have been met and sufficient review of work specifications, integrated test plan, technical work documents, audit of work items, in-process surveillance (Planning Review (PR), Procedures Evaluation, Product Verification Inspection (PVI)) and review of OQE. The NSA shall utilize a risk-based availability QMP as discussed in Volume VII, Chapter 11 and Appendix R. NSA certification includes assurance that technical review/approval has been conducted on all OQE for work items requiring mandatory technical review. NSA certification includes technical review and approval of all waivers and deviations by the NSA CHENG. This includes assurance that any exceptions to completion have been approved as to not adversely impact Key Event completion.

3.6.8.1.2 Key Event/Milestone Readiness (Surface Force Ship Only). Minimum Key Events/Milestones that require certification and prerequisite lists to assure proper completion are listed below. These Key Events constitute the critical availability completion events for the crew to transition from the maintenance phase to an operational phase. Certification of required work and testing supporting each Key Event/Milestone shall be accomplished using a detailed prerequisite list. Appendix Q will be tailored for each Key Event/Milestone and be used to certify work required for each specific Key Event/Milestone. In addition to giving the NSA reasonable assurance that work accomplished is technically correct to support the specific Key Event/Milestone, certification of Key Events/Milestone assures that certification for Fast Cruise/Sea Trial is properly completed to certify the availability. The NSA will normally designate the LMA to develop and track an Event Readiness List utilizing NAVSEA Standard Items 009-60 and 009-67. The Event Readiness List will consist of all prerequisites including work items and actions to be completed by the NSA and all executing activities that have been associated with the Key Event/Milestone. These associations shall include technical connections (technically required to support follow-on training/testing) and strategic ties (work deemed relevant by the maintenance team as required to meet the Key Event). Appendix Q will be tailored to the Key Event and utilized by the NSA for Undocking, Propulsion Plant

PCD/Combat Systems PCD, Dock Trials and work completion and certification by all maintenance activities. In lieu of Naval Message, a signed letter/memorandum or centrally managed exception list may be utilized to document completion of all prerequisites for the Key Event/Milestone. If there are exceptions to completion, exceptions will be clearly identified and concurred with by Technical Authority. The Project Manager, Ship's CO, TYCOM, Port Engineer and the NSA will sign the letter/memorandum or centrally managed list for the record noting agreement with Key Event/Milestone completion, including listed exceptions. When memoranda are used as an exception list, sample letters/memorandums (Appendix AD through AJ) shall be tailored to each Key Event and used to certify that work and testing is complete.

a. Interim Completion Conferences. Milestone to document the availability completion percentage. For these Milestones, the maintenance team shall review and document work listed as complete and verify against OQE and proof of work certification. The emphasis for the maintenance team shall be to certify all work as soon as possible after completion. For any work listed as complete, there shall be follow-on status entries to document OQE on file and completion of Work Certification. If OQE and Work Certification have not been completed, there shall be follow-on status entries to document when it is scheduled to be performed.

b. Undocking (If applicable). Key Event to document that the ship is ready in all aspects for Undocking. The NSA must certify all related work and testing is completed prior to commencing the ship's Undocking, with any exceptions noted and approved by the appropriate technical authority and agreed to in writing by the Ship's CO, Project Manager, TYCOM and the NSA.

c. Propulsion Plant PCD. Key Event to document all production work supporting Propulsion Plant testing is complete. The NSA is responsible for thorough and rigorous management of this Key Event and minimizing exceptions. PCD is set to provide the Propulsion Plant and Main Machinery spaces sufficient time to allow the crew to shift from a maintenance environment back to operations and to train in preparation for LOA. The NSA must certify all related work and testing is completed for Propulsion Plant PCD, with any exceptions noted and approved by the appropriate technical authority and agreed to in writing by the Ship's CO, Project Manager, TYCOM and the NSA.

d. Combat Systems PCD (AEGIS Light Off for AEGIS Ships). Key Event to document all production work supporting Combat Systems testing is complete. The NSA is responsible for thorough and rigorous management of this Key Event and keeping any exceptions to a minimum. PCD is set to provide the spaces sufficient time to allow the crew to shift from a maintenance environment back to operations and to train in preparation for required Readiness Assessments and Certifications. The NSA must certify all related work and testing is completed for Combat Systems PCD, with any exceptions noted and approved by the appropriate technical authority and agreed to in writing by the Ship's CO, Project Manager, TYCOM and the NSA.

e. Dock Trials. Key Event ship trial conducted during an industrial activity availability to determine the ability of a ship's readiness for sea and capability to safely conduct Sea Trials. The NSA is responsible for conducting integrated dockside system testing, with special sea and anchor detail and general quarters manning to ensure system readiness for sea. The NSA must certify all required work and testing is completed prior to commencing Dock Trials, with any exceptions noted and approved by the appropriate technical authority and agreed to in writing by the Ship's CO, Project Manager, TYCOM and the NSA. The minimum requirements for Dock Trials are listed in Appendix I.

f. Fast Cruise. Key Event ship trial conducted immediately prior to underway trials during which Ship's Force operates the ship for dockside training. The primary purpose of the Fast Cruise is to determine and certify the state of training of Ship's Company as adequate to conduct at-sea operations. The Ship's CO is responsible for conducting Fast Cruise, the final event prior to Sea Trials where the ship assumes an "at-sea" posture to exercise all equipment and systems to the maximum extent possible. The NSA must certify all required work and testing is completed prior to commencing Fast Cruise, with any exceptions noted and approved by the appropriate technical authority and agreed to in writing by the Ship's CO, Project Manager, TYCOM and the NSA. The minimum requirements for Fast Cruise

are listed in Appendix J. Commencement of Fast Cruise requires TYCOM permission. Appendix AA provides a sample message format for ship's request for permission to commence Fast Cruise. Appendix AB provides a sample message format for ships to report Fast Cruise completion.

g. Sea Trials. Key Event Sea Trial that constitutes the final determination of a ship's material readiness and ability to rejoin the Fleet as a fully operational unit. The Ship's CO is responsible for conducting Sea Trials in accordance with an agenda developed by the NSA, concurred on by the Ship's CO and approved by the ISIC. The NSA must certify all required work and testing is completed prior to commencing Sea Trials, with any exceptions noted and approved by the appropriate technical authority and agreed to in writing by the Ship's CO, Project Manager, TYCOM and the NSA. The minimum requirements for Sea Trials are listed in Appendix K. Commencement of Sea Trials requires TYCOM permission. The NSA must certify to the TYCOM that all work and testing is complete and readiness to start Sea Trials (with exceptions noted) via the Readiness for Sea Trials message. Appendix AC provides a sample message format for the Supervising Activity to report all work necessary for Sea Trials has been satisfactorily completed. Completion of Sea Trials requires a formal report from the Ship's CO to the TYCOM via the ISIC.

h. Availability Completion. Key Event to document the Availability Completion. The NSA must certify all work and testing is complete, OQE is completely reviewed and is on file and all work has been properly certified to report Availability Completion, with any exceptions noted and approved by the appropriate technical authority and agreed to in writing by the Ship's CO, Project Manager, TYCOM and the NSA. The NSA shall report Availability Completion to the TYCOM via message upon the satisfactory completion of Sea Trials and the correction or resolution of mandatory deficiencies.

i. End of Maintenance Phase. Milestone to document the end of the Maintenance Phase and entrance into the Basic Training Phase. The Maintenance Phase exit criteria for equipment shall include, but not be limited to: successful passing of Readiness Assessments and Certifications for non-Engineering systems (i.e. AEGIS Light-Off, Aviation Certification, TSRA, etc.), and a Light-Off Assessment for Engineering systems, and successful completion of comprehensive post-Availability Sea Trials that tests all systems. Minimum Equipment (Redlines) must be met and maintained for all Mission Areas.

3.6.8.1.3 Availability/Key Event/Milestone Certification Procedures (Surface Force Ship Only).

a. The procedures outlined in the following sections provide the minimum requirements to (RMCs/NSA) to utilize during execution of CNO Availabilities and major Continuous Maintenance Availabilities (as directed by the Fleet or TYCOM) for Availability Certification and Key Event/Milestone Management. This process is developed to provide the RMC Commander, via the RMC Project Manager and RMC CHENG, the maximum reasonable assurance that all availability work has been properly completed and that the ship is materially ready for the next Key Event or Sea Trial. This process provides assurance that all technical waivers/deviations have been reviewed and approved, any work exceptions (incomplete work) have been approved to not impact the Key Event/Sea Trials and work was planned, executed and tested technically correct.

b. The following process defines the steps to be taken by the NSA and all Executing Activities when certifying work to support readiness for Key Event/Milestone. When Key Events/Milestones are accomplished sequentially and in conjunction with a tailored availability QMP, (Appendix R), this process will support incremental certification of Readiness for Fast Cruise/Sea Trials and Availability Completion and avoid late gathering of data and certifications to ensure readiness for Fast Cruise/Sea Trials. Certification may be tracked via a centralized signature sheet and central exceptions list or through each Executing Activity providing memoranda documenting work certification and exceptions. When memoranda are used, the Appendix Q signature sheet and Appendix AD through AJ certification letters/memorandums shall be collected in an Availability Certification Book maintained by the Project Support Engineer on the Project Team. Normally, the Project Support Engineer works closely with the Integrated Test Engineer to manage the availability certification process for the Project Manager. The paragraphs below describe minimum requirements associated with each action leading to certification.

3.6.8.1.4 Availability Certification Requirements and Procedures (Surface Force Ship Only).

a. Work Authorization. This step is required for Fast Cruise/Sea Trial Certification and Availability Completion Certification, but is not normally required for Key Event/Milestone Certification. TYCOM work authorization is screened and brokered by availability vice by availability Key Event. TYCOM certification of work authorization may be completed prior to Fast Cruise/Sea Trial and does not need to be repeated prior to availability completion unless new/growth work is identified during Sea Trials which is required to be added to the AWP as a condition of availability completion.

(1) The TYCOM's agent (Port Engineer) or Business Agent SRF-JRMC will certify that all authorized CNO Availability or Continuous Maintenance Availability work identified in the AWP has been tasked to the Prime Contractor (Multi-Ship/Multi-Option or Firm Fixed Price), Naval Shipyard (NSY), FMA, Alteration Installation Team (AIT) or Ship's Force.

(2) The TYCOM's agent (Port Engineer) or Business Agent (SRF-JRMC) will certify that all work identified after work package definition (new/growth work) has been branded and authorized for accomplishment or deferred. If work branded as "A" or technically mandated as required to be deferred, it must be concurred on by the waterfront Technical Warrant Holder (NSA CHENG).

(3) The TYCOM's agent (Port Engineer) or Business Agent (SRF-JRMC) will certify that a review has been accomplished on all existing deviations, waivers, and records of out-of-commission equipment. This review shall include all conditions resulting in Temporary Standing Orders (TSO), DFSs and Casualty Reports (CASREP). Deviations have either been included in the AWP or an extension of the technical deviation has been submitted to the NSA CHENG for approval and concurred on by the TYCOM. If the condition resulting in a TSO or CASREP does not require technical concurrence for extension, the TYCOM must concur with not correcting the condition that resulted in the TSO or CASREP.

(4) Prior to Fast Cruise/Sea Trial, the TYCOM will certify to the NSA via signature on central signature sheet or serialized letter/memorandum that the above conditions have been met. Exceptions will be noted and provided for approval by the NSA.

(5) The NSA/RMC certification signature will be provided by the Project Manager with the TYCOM signature or letter/memorandum and serial number noted, verifying receipt of TYCOM certification or proper work authorization accomplished.

b. Work Documents Issued/Prime Contractor (KTR). (This step shall be completed by Key Event/Milestone for work tied to each Key Event/Milestone.)

(1) Code 200 & 130 Review of Work Specifications and Test Procedures. The RMC/NSA Code 200 Project Support Engineer or Test Engineering (SRF-JRMC) and RMC/NSA Code 130 Quality Assurance Supervisor (QAS) will validate that Work Specifications and Test Procedures issued by the Master Ship Repair Contractor have received a technical review in accordance with RMC attributes checklist. At a minimum, work specifications will receive technical review in accordance with approved Availability QMP requirements and as outlined in Volume VII, Chapter 11, paragraph 11.2.3 of this manual.

(2) Code 300 Review of Work Specifications and Test Procedures. The RMC/NSA Project Manager shall validate that all work specifications and test procedures issued by the prime contractor have received a government review for compliance with contractual requirements in accordance with Volume VII, Chapter 4, Appendix E of this manual and approved in Navy Maintenance Database.

(3) Contractor Furnished Reports (CFR). The RMC/NSA Project Manager will verify that all required CFRs have been received as required by NAVSEA Standard Item 009-01, paragraph 3.2.

(4) CFRs. The RMC/NSA Project Support Engineer will verify that all CFRs requiring Code 200 action have been reviewed and answered, all deferred maintenance action and/or test result CFRs have been technically adjudicated, and all CFRs screened to Code 200 for action have been documented via Engineering Service Request (ESR).

c. Key Event/Availability Completion/Prime KTR. (This step shall be completed by Key Event/Milestone for work tied to each Key Event/Milestone.) The Prime KTR will provide to the NSA a signed letter/memorandum (Appendix AD) or sign a centrally managed list certifying all authorized work is completed satisfactorily, with any exceptions noted. Exceptions must be itemized and technically approved by the RMC/NSA CHENG as to not impact Key Event/Milestone completion or Readiness for Sea Trials. Exceptions must include a plan for accomplishment. Testing scheduled to be conducted on Sea Trials does not need to be itemized on this letter/memorandum or centrally managed list, but can be referred to as "except testing included on Sea Trials agenda." Signature of the centrally managed signature sheet or a letter/memorandum will be received prior to Key Event/Sea Trials. The RMC/NSA Project Manager will sign the signature sheet acknowledging receipt of letter/memorandum and noting serial number or signed list as noted above.

d. Key Event/Availability Completion/FMA (I-Level). (This step shall be completed by Key Event/Milestone for work tied to each Key Event/Milestone.) The FMA/RMC Code 900 will provide to the NSA assigned letter/memorandum (Appendix AE) or sign a centrally managed list certifying that all Formal Work Procedures/Controlled Work Packages (FWP/CWP) and test procedures planned and accomplished by the FMA are technically correct and completed. Exceptions will be noted and technically approved by the RMC/NSA CHENG as to not impact Key Event/Milestone completion or Readiness for Sea Trials. Exceptions must include a plan for accomplishment. Testing scheduled to be conducted on Sea Trials does not need to be itemized on this letter/memorandum or centrally managed list, but can be referred to as "except testing included on Sea Trials agenda." The RMC/NSA Project Manager will sign the signature sheet acknowledging receipt of letter/memorandum and noting serial number or signed list as noted above.

e. Key Event/Availability Completion/NSY. (This step shall be completed by Key Event/Milestone for work tied to each Key Event/Milestone.) The NSY Project Superintendent will provide to the NSA a signed letter/memorandum (Appendix AF) or sign a centrally managed list certifying that all TWDs and test procedures planned and accomplished by the NSY are technically correct and completed. Exceptions will be noted and technically approved by the RMC/NSA CHENG as to not impact Key Event/Milestone completion or Readiness for Sea Trials. Exceptions must include a plan for accomplishment. Testing scheduled to be conducted on Sea Trials does not need to be itemized on this letter/memorandum or centrally managed list, but can be referred to as "except testing included on Sea Trials agenda." The RMC/NSA Project Manager will sign the signature sheet acknowledging receipt of letter/memorandum and noting serial number or signed list as noted above.

f. Key Event/Availability Completion/AIT. (This step shall be completed by Key Event/Milestone for work tied to each Key Event/Milestone.) Each AIT On-Site Installation Coordinator will provide to the NSA a signed letter/memorandum (Appendix AG) or sign a centrally managed list certifying that respective AIT work and test procedures are technically correct and complete, with exceptions noted. Exceptions must be itemized and technically approved by the RMC/NSA CHENG as to not impact Key Event/Milestone completion or Readiness for Sea Trials. Exceptions must include a plan for accomplishment. Testing scheduled to be conducted on Sea Trials does not need to be itemized on this letter/memorandum or centrally managed list, but can be referred to as "except testing included on Sea Trials agenda." Signature of the centrally managed signature sheet or a letter/memorandum will be received prior to Key Event/Milestone. The Project Manager or AIT Manager (if assigned) will sign the signature sheet acknowledging receipt of letter/memorandum and noting serial number or signed list as noted above.

g. Key Event/Availability Completion/Ship's Force (SF). (This step shall be completed by Key Event/Milestone for work tied to each Key Event/Milestone.) Ship's Force CO will submit to the NSA a signed letter/memorandum (Appendix AH) or sign a centrally managed list certifying all Ship's Force FWPs and CWPs are technically correct and complete to support Key Event/Milestone completion or readiness for Fast Cruise/Sea Trials. At a minimum, this certification shall include a review of:

(1) Ship's Force Work Package derived from the CSMP.

(2) Inactive Equipment Maintenance is properly performed.

(3) TSO review.

(4) PMS review, including all checks to remove equipment/systems from IEM.

(5) Pre-underway or Pre-Event check-off list checks are complete.

(6) The RMC/NSA Project Manager will sign the signature sheet acknowledging receipt of Ship's Force CO letter/memorandum and noting serial number or signed list as noted above.

h. Key Event/Availability Completion/RMC Engineering. (This step shall be completed by Key Event/Milestone for work tied to each Key Event/Milestone.)

(1) RMC/NSA CHENG to certify that all work assigned has been tasked and properly executed prior to Fast Cruise/Sea Trials and at the end of an availability where RMC is the NSA. This process also ensures that there are no outstanding technical waivers/deviations or QA deficiencies that have not been properly adjudicated and identifies any exceptions to completion, including work or testing that will occur after Sea Trials completes and assures these work items have been technically adjudicated to prevent adverse impact on availability completion.

(2) RMC/NSA CHENG shall certify that all assigned assessments (TSRA) or Fleet Technical Assists (FTA) tied to Key Event/Milestone or Fast Cruise/Sea Trial are completed. If TSRA assessments or FTA are ongoing, the RMC/NSA CHENG will certify that they do not impact the Key Event or Fast Cruise/Sea Trial.

i. Testing. (This step shall be completed by Key Event/Milestone, utilizing the approved Test and Inspection Plan required under NAVSEA Standard Item 009-67 for the Integrated Test Plan.

(1) The LMA Test Engineer shall certify that all Hull, Mechanical and Electrical and C51 test procedures identified in NAVSEA Standard Item 009-67 Integrated Test Plan were completed with OQE documentation or added to the exceptions list and that all tests required to be completed at sea have been identified for inclusion on the Sea Trial agenda. The LMA Test Engineer will provide to the NSA this certification via signature of a centrally managed signature sheet or letter/memorandum. The RMC/NSA Integrated Test Engineer (or Project Support Engineer) will verify compliance and sign the signature sheet, noting the LMA Test Coordinator memorandum/serial number or signed list as noted above.

(2) The LMA WAF/Coordinator and Ship's CO will verify that all WAFs and Tag Outs required for Key Event/Milestone have been closed and cleared in accordance with NAVSEA Standard Item 009-106. Signature of a centrally managed signature sheet or a supporting memorandum documenting WAF and Tag Out clearance will be provided to the RMC/NSA Integrated Test Lead. The RMC/NSA Integrated Test Coordinator will verify and sign the signature sheet acknowledging WAF/Tag Out completion to support Key Event of Sea Trials.

j. Waivers and Deviations. (This step shall be completed for work tied to each Key Event/Milestone.) The RMC/NSA CHENG will certify that all technical non-conformances have been satisfactorily resolved in order to support Key Event/Milestone to include availability completion. This includes certifying that all:

(1) DFSs have been properly adjudicated and DFSs expiring during the availability have been corrected or extended.

(2) AIT/PMR Liaison Action Request (LAR)/Reverse Liaison Action Requests (RLAR) have been incorporated and all RMC Design Service Requests/LARs/RLARs have been answered and incorporated.

k. Quality Assurance. (This step shall be completed by Key Event/Milestone for work tied to each Key Event/Milestone.)

(1) The RMC/NSA Code 130 QA Manager will submit to the Project Manager a signed letter/memorandum (Appendix AI) or sign a centrally managed list certifying that all QA Office actions regarding resolution of QA Audits and Surveillances necessary to support Key Events/Milestones are completed.

(2) All Contractor Corrective Action Requests (CAR – Method B-D) issued during the availability are either closed or at an acceptable level of completion to support work certification. Include a letter/memorandum (Appendix AI) describing outstanding items, remaining actions, and Estimated Completion Dates, if applicable.

l. Final Key Event/Readiness for Sea Trials Completion Certificate. (Sub-paragraphs (1), (2), and (3) below shall be completed for work tied to each Key Event/Milestone and before Fast Cruise/Sea Trial. Sub-paragraph (4) below is only required prior to Fast Cruise/Sea Trial.)

(1) The NSA Project Manager shall verify that availability work required to commence Key Event/Readiness for Sea Trials is complete. NSA oversight (PR, Procedures Evaluation, PVI) and G points have been completed in accordance with the Availability QMP (Appendix R). Non-conformances identified have been corrected or provided to NSA Technical Authority for adjudication. Any exceptions to completion have been reviewed and do not impact Key Event/Sea Trials completion.

(2) The NSA CHENG will verify that availability work required to support Sea Trials has been completed in a technically correct manner and that all exceptions listed have been reviewed and authorized. NSA technical review of work items has been conducted in accordance with the Availability QMP (Appendix R).

(3) The RMC/NSA Project Manager and RMC/NSA CHENG will sign a letter/memorandum (Appendix AJ) or centrally managed list for the record acknowledging completion of all actions required for Key Event/Milestone. Any exceptions will be listed and concurred with by the RMC, TYCOM and Ship's CO.

NOTE: THIS STEP (SUB-PARAGRAPH (4)) REQUIRED PRIOR TO FAST CRUISE/SEA TRIAL ONLY.

(4) When the signature sheet (Appendix Q) is complete and any exceptions have been concurred on by Technical Authority, the NSA will release a message utilizing the format provided in Appendix AC. Sea Trials will commence after Ship's satisfactory report of Fast Cruise is completed by Ship's CO to the TYCOM per Appendix AB, mandatory 48 hour rest period, and NSA report of readiness for Sea Trials to the TYCOM. TYCOM authorization of Sea Trials commencement will reference Ship's Fast Cruise completion message and NSA Readiness for Sea Trials message.

m. Final Availability Certification. Upon completion of Sea Trials, a final certification will be accomplished utilizing test results from Sea Trials. If Sea Trials testing resulted in new/growth work that does not support completion of the availability (after consultation with TYCOM), this new/growth work and re-testing must be completed prior to final availability certification. If all availability testing completed satisfactorily, or identified new/growth work does not impact availability completion, the NSA will certify availability completion.

(1) RMC/NSA Project Manager. Verify all testing required for availability completion has been completed on Sea Trials. Exceptions to completion (including any new/growth identified on Sea Trials) have been adjudicated via Technical Authority and agreed by TYCOM as to not impact availability completion. These exceptions will be tracked to completion by the Project Manager via the Availability Closeout process.

(2) RMC/NSA CHENG. Verify that all testing required for availability completion has been completed on Sea Trials. Any exceptions to completion (including new/growth work identified on Sea Trials) have been reviewed and do not impact availability completion.

(3) Availability Completion. The NSA will utilize Appendix Q to track signatures required to document Sea Trial testing completion and adjudication of any availability completion exception items. After gaining concurrence from TYCOM and the Ship's CO, the NSA will report availability completion to TYCOM utilizing Appendix F2 via CNRMC.

n. End of Maintenance Phase. This documents the end of the Maintenance Phase and entrance into the Basic Training Phase for the ship.

(1) RMC/NSA Project Manager. Coordinate with Ship's Force to verify those systems and equipment not worked during the maintenance availability and operationally tested to ensure the ship is ready to transition from the maintenance phase to the training phase. Adjudicate all found deficiencies.

(2) Ship's Force. Operate all equipment and systems not worked during the maintenance availability. Identify and document any deficiencies. Coordinate with the RMC/NSA Project Manager to adjudicate all deficiencies that were found.

3.6.8.2 Aircraft Carriers.

a. Crew Certification. Crews in ships undergoing major CNO Maintenance Availabilities must be effectively trained in standard operating procedures, emergency bills, casualty drills, etc., and are thoroughly cognizant of equipment either newly installed or relocated during the availability. Based on the length and type of availability, Crew Certifications will be conducted in accordance with references (k), (l), (m) and (n), as applicable.

b. Steam Testing. All steam systems/equipment worked by the industrial activity shall be tested in accordance with the Testing Plan developed by the industrial activity. Ship's Force shall work closely with the industrial activity, providing necessary assistance and support, to carry out the Test Plan.

c. PORSE/RSE. Based on the length of the availability, crew turnover and cold iron time, a PORSE/RSE will be scheduled and conducted in accordance with reference (o).

d. Dock Trials. During an industrial availability and prior to conducting post-repair trials, the engineering plant shall be tested to ensure its readiness for sea. All special sea details and required general quarters will be manned throughout the trials. Ordinarily, dock trials can be completed in one day or less. The minimum requirements for Dock Trials are listed in Appendix I of this chapter.

e. Fast Cruise.

(1) All ships completing a CNO maintenance availability shall conduct a Fast Cruise where the ship assumes, insofar as practical, an “at-sea” posture while inport with all equipment/systems utilized to the maximum extent possible. The primary purpose of the Fast Cruise is to determine and certify the state of training of ship’s company as adequate to conduct at-sea operations. The progress toward this goal is a critical evolution ongoing throughout the availability requiring TYCOM and ship’s CO attention. The training program must be designed to have completed all training necessary to safely operate the ship at sea prior to Fast Cruise. The Fast Cruise provides the opportunity to measure ship's preparedness; it is not a basic training period. Commencement of Fast Cruise requires TYCOM permission. Appendix AA of this chapter provides a sample message format for Ship's Request for Permission to Commence Fast Cruise. For ships completing Complex Overhaul or Complex Refueling Overhaul, additional requirements for obtaining permission to commence Fast Cruise are contained in reference (n).

(2) The following procedures pertain to the conduct of Fast Cruise:

(a) Fast Cruise will be included as a major event and scheduled for at least two days duration by the industrial activity in the case of ships undergoing a CNO maintenance availability greater than six months in duration or at least one day for ships undergoing a CNO maintenance availability less than six months in duration. The Fast Cruise shall follow Dock Trials and precede Sea Trials.

(b) A schedule of proposed events shall be promulgated by the ship to all activities concerned and shall be concurred with by the industrial activity.

(c) Limited numbers of industrial activity personnel may be permitted to be aboard as necessary to continue testing and production work on systems as required. Shop and technical personnel shall be permitted on board as instructors, troubleshooters and QA representatives of the industrial activity. Equipment that is not complete shall not be included in the Fast Cruise. Settlement of the foregoing provisions shall be reached by mutual agreement between the ship's CO and industrial activity, as warranted.

(d) As a minimum standard, system operation tests and drills described in Appendix J of this chapter shall be conducted in all Fast Cruises. It is intended that the necessary prerequisite training shall have already been accomplished.

(e) Fast Cruise will be included as a major event and scheduled for at least four days (usually two days of operation, one day shutdown to allow shipyard and/or contractors to correct deficiencies, and two more days of operation) for CNO maintenance availabilities scheduled for greater than 9 months in duration. For ships undergoing a CNO maintenance availability less than 9 months, but greater than 6 months, a two-day Fast Cruise is required. For ships undergoing a CNO maintenance availability less than 6 months, a one-day Fast Cruise is required. The Fast Cruise shall follow Dock Trials and precede Sea Trials. Additional requirements pertaining to nuclear powered ship Fast Cruises are contained in reference (p).

(3) Ship's CO shall report completion of Fast Cruise to the TYCOM. Appendix AB of this chapter is a sample message format for Ship’s Report of Fast Cruise Completion.

f. Sea Trials.

(1) Sea Trials (or Post Repair Trials) constitute the final determination of a ship's material readiness and ability to rejoin the Fleet as a fully operational unit. Each Sea Trial will be conducted in accordance with an agenda prepared by the industrial activity, concurred with by the ship's CO, and approved by the TYCOM. The Sea Trial Agenda will contain the minimum requirements of Appendix K of this chapter, a time-oriented sequence of events required to

support the trial. The requesting ship/industrial activity will arrange for these Fleet services in accordance with Fleet Commander Instructions. Since the purpose of the trial is to determine the material readiness of the ship, all systems/equipment overhauled by the industrial activity will be tested in accordance with an industrial activity prepared test procedure which will document the results of the test and require operation of the system/equipment in all modes. A Ship's Force Trial Officer will be appointed to coordinate with the industrial activity Trial Coordinator throughout the Sea Trial. The Trial Officer will accept the results of all tests for the ship. Ship's Force personnel will operate all equipment during the Sea Trial in accordance with standard operating instructions or Sea Trial test procedures as appropriate. Commencement of Sea Trials requires TYCOM permission. Appendix AC of this chapter is a sample message format.

(2) During Sea Trials the ship's CO will advise the TYCOM of major events accomplished and/or significant problems encountered/outstanding on a daily basis. Appendix F_1 of this chapter provides the desired format for this report.

3.6.8.3 Trials, Inspections and Certification Minor Availabilities (Less Than Six Months) (Submarines Only).

a. Duties and Responsibilities for Sea Trials and Inspections. Reference (q) as applicable delineates the TYCOM's responsibility for operational control of assigned submarines during trials and for assuring that the crew and ship have attained satisfactory state of training, administrative, operational and material readiness for at-sea operations during the trials. Appendix BC of this chapter provides a detailed summary of trial and inspection milestones required for minor submarine availabilities.

b. General Instructions for Industrial Activity Availability Trials and Inspections.

(1) Fast Cruise may not commence until Dock Trials have been satisfactorily completed and a satisfactory state of crew training (if required) and material readiness (if required), as delineated by this manual, has been certified. The required inspections and tests and their associated time periods may be modified by the TYCOM upon request from the cognizant ISIC.

(2) Sea Trials involving escorts will not normally be scheduled to commence on a weekend. When circumstances are such that Sea Trials must be rescheduled or planned to commence on a weekend to avoid costly delays, TYCOM approval will be obtained by the ISIC.

(3) Critical operation of reactors while nuclear powered ships are in a naval or commercial industrial activity will be governed by reference (b). The CO may authorize critical operation of the reactor in support of tasks assigned the ship. However, as long as the ship remains in an industrial activity, the CO will notify the Supervising Authority well in advance of any critical operation of the ship's reactor. This notification shall include the nature and duration of such operations.

(4) In conducting the inspections required herein, inspectors should be guided by the concept that at the start of Fast Cruise, the ship should be, in all respects, ready for Sea Trials with the exception of the additional training the crew will receive during the Fast Cruise.

(5) The requirement for TYCOM SUBSAFE certification of SUBSAFE boundaries not entered by the industrial activity and the material readiness upon completion of an industrial activity availability imposes additional responsibilities on the ISIC inspectors. Included in the material inspection will be a review of all outstanding Forces Afloat Departures from Specifications as defined in Volume V, Part I, Chapter 8 of this manual. A review of the Ship's Force REC Records is necessary for SUBSAFE work accomplished by Forces Afloat in accordance with Volume V, Part I, Chapter 5 of this manual, along with a review of the applicable URO MRC status. The ISIC certification message, in accordance with Appendix BB, will also provide a

status report of any outstanding Re-Entries, Forces Afloat Departures from Specifications and delinquent URO MRCs. The scope and nature of this inspection will vary dependent upon the extent and length of the availability. In this regard:

(a) Material certification may be made subject to the correction of specific deficiencies. (Deficiencies are such that they can be readily identified and listed.)

(b) Material certification should be postponed to a later date when deficiencies are so significant or so numerous as to preclude correction in the time remaining before the scheduled start of Fast Cruise.

(c) Deficiencies that could affect the safe operation of the ship during Sea Trials must be corrected, reinspected and reported to the TYCOM as having been corrected prior to the start of Fast Cruise.

(d) For ships with Fly-By-Wire Ship Control Systems (FBW SCS), if Upgrades/Alterations or Major Repair Work of the FBW SCS was performed, a 100% audit of the work, as defined in Volume V, Part I, Chapter 9 of this manual, will be performed by the ISIC. The ISIC shall report certification of work and recommend at-sea operations using the message format of Appendix BQ.

(6) Inspectors must determine that all work/testing necessary to support Sea Trials has in fact been completed or identified for completion prior to the start of Fast Cruise including the following:

(a) All ship's systems which affect safe operation during Sea Trials must be operable.

(b) All work necessary for safe operation of the ship during Sea Trials which was undertaken by the industrial activity, Ship’s Force, FMA, or other outside activities must have 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, that their impact has been fully assessed and that the Sea Trial Agenda includes these impacts or limitations.

(c) If Upgrades/Alterations or Major Repair Work of the FBW SCS was performed, a 100% audit of the work will be performed by the ISIC.

(7) Following the completion of the required training and material readiness certification, COs must keep the cognizant ISIC fully informed of any changes in personnel, training and/or material status which could affect the validity of certification. Prompt TYCOM notification is required to permit revision or Operational Orders and services required.

(8) Underway trials following an availability, particularly initial submerged and test depth trials, 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. Systems and components designed to operate at test depth should **not** be demonstrated at that depth for the sole purpose of proving the design, but instead should be operated at the deepest depth at which they might be used. For example, the hovering system should not be demonstrated at test depth. Trials and tests which are inherently hazardous should not be conducted.

(9) A schedule is required for each underway, dockside or simulated trial. Prerequisites of the first underway period are: satisfactory ship's material condition as shown by the successful completion of alongside tests, salvage inspection, Ship's Force Dock Trial, and a satisfactory state of training as shown by the successful completion of crew certification inspection and Fast Cruise. Fast Cruise deficiencies affecting safe operations revealed in either material conditions or state of training must be corrected prior to getting underway for Sea Trials.

(10) Provide an operational order to be used incorporating the provisions of reference (q). Provide a copy to the TYCOM and, where appropriate, the local ISIC. Include within the operational orders pertaining to post-availability trials, instructions to send specific messages announcing the start and completion of initial deep dive with the TYCOM as an information addressee.

(11) The trial schedule shall include a minimum of six hours of Individual Ship Exercises (ISE) for Ship's Force training. This ISE should be sequenced as soon as practical after the initial tightness dive and should include the necessary evolutions to allow each watch section ship control party to familiarize themselves with their assigned stations and duties. The ship should be operated at moderate speed to develop proficiency prior to the deep dive and full power run. Testing may be scheduled during the ISE period on a not-to-interfere basis with training. The time spent in the initial tightness dive, if at moderate speed, may be included as one section's training. The requirement to provide each watch section ship control party with about two hours experience submerged at moderate speed prior to the deep dive and full power run is mandatory for ship's safety.

(12) All trial periods must be organized such that each member of the command has an opportunity to get six uninterrupted hours of rest during each 24 hour period encompassed by the trials. Sea Trial events which can be accomplished by normal watch sections may be conducted concurrently with crew rest periods.

(13) Prior to getting underway for Sea Trials, Shipyard, Ship’s Force and Type Commander shall 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).

(14) For industrial activity availabilities, a one to five day deficiency correction period will normally be scheduled subsequent to the Sea Trials and prior to the completion date. The requirement to return to the availability site to correct deficiencies may be waived on a case basis with TYCOM authorization and agreement of the ship's CO and the Supervising Authority if the material condition of the ship so warrants.

(15) After the conclusion of Sea Trials, the submarine shall not be operated at depths greater than 1/2 Test Depth plus 50 feet, unless specifically authorized by the TYCOM, and shall not be released for unrestricted operations until all RECs are closed and the TYCOM issues the unrestricted operations authorization message.

(16) After the conclusion of Sea Trials, and based upon a review of Sea Trial deficiencies and TYCOM authorization, the submarine may transit to a port other than the industrial activity.

c. If equipment malfunctions (except for casualties affecting recoverability, salvage, watertight integrity, or operation of ship’s control surfaces), or seawater leakage in excess of the specification is found during the conduct of the initial tightness dive or the controlled dive to test depth, the ship should continue to the required depth and execute the sea trial agenda unless the Commanding Officer determines it appropriate to abort the dive. The Commanding Officer and Trials Director should be particularly circumspect in the case of leakage locations not isolable by flood control/other closures (e.g., electrical hull penetrators, periscope hoist rods, etc.).

d. Following completion of the initial tightness dive and the controlled dive to test depth, SUBSAFE deficiencies which result in seawater leakage exceeding the specification for acceptance shall be reported to the TYCOM, NAVSEA and info to all concerned.

e. If leakage is from an unisolable joint, ship’s depth will be limited to 1/2 test depth plus 50 feet until approval from the TYCOM is received to continue trials at depths greater than 1/2 test depth plus 50 feet.

3.6.8.3.1 Operating Depth Policy. The TYCOM's policy with respect to maximum allowable operating depths during trials, evolutions to be performed at the various depths, and the prescribed maximum water depth applicable in each case is stated in Volume VI, Chapter 26 of this manual. In every instance where the maximum authorized operating depth is exceeded, a report shall be made in accordance with reference (r), paragraphs 3.10 and 3.26 through 3.28.

3.6.8.3.2 Propulsion Plant Tests (If Required). For full power trials provisions of reference (s), Section 6 apply. Submarine depth during the submerged full power trial should be consistent with the applicable Submerged Operating Envelope (SOE), based on the Emergency Main Ballast Tank (EMBT) blow from maximum authorized operating depth being previously accomplished. The full power submerged ahead test for commissioned nuclear powered submarines shall be terminated by a back emergency bell. The duration of the back emergency shall be limited to 45 seconds, to be followed immediately by an appropriate ahead bell. Caution must be exercised to avoid developing stern way.

3.6.8.3.3 Ocean Engineering Project Availability. Certain submarines have been assigned to provide dedicated support to NAVSEA Ocean Engineering Projects. Ships dedicated to these projects have been assigned to a parent industrial activity which provides Logistic support, performs the maintenance actions required by the Submarine Extended Operating Cycle program and other functions normally provided by an industrial activity. Routine and Submarine Extended Operating Cycle maintenance is factored into the Availability Work Package prepared by the cognizant technical activity in support of the Ocean Engineering Project. Certification of the work during these availabilities is governed by reference (t), Volume V of this manual and the applicable requirements of paragraph 3.6.8.3 of this chapter for availabilities less than six months duration or paragraph 3.6.8.4 of this chapter for availabilities greater than six months duration. Specific actions and reporting requirements which are mandatory prior to completion of an availability are summarized in Appendix BC or Appendix CC of this chapter, as applicable. The TYCOM will reiterate these requirements during the availability by a "Countdown Message" for availabilities greater than six months in duration. A sample format of this "Countdown Message" is shown in Appendix CD of this chapter.

3.6.8.3.4 Salvage Inspection (As Required). Conduct a Salvage Inspection in accordance with Volume IV, Chapter 18 of this manual. The Salvage Inspection should be conducted early enough in the availability to allow time to complete any mandatory corrective maintenance prior to Fast Cruise.

3.6.8.3.5 Phase II Crew/Material Condition Inspection. A Phase II Crew Certification Inspection is normally not required, but should be determined on a case basis by the parent ISIC. If there will be less than 15% personnel turnover, crew certification may be waived. Should the CO determine that alterations accomplished or the transfer of experienced personnel warrant a crew certification, a formal request shall be submitted to the ISIC. When required, crew certification will be performed in accordance with references (u) through (z). The material certification consisting of an ISIC audit of all Ship's Force SUBSAFE work in accordance with Volume V, Part I, Chapter 9 of this manual will need to be conducted for all industrial activity availabilities since the extent of the availability is such that an independent evaluation by an organization other than Ship's Force is required.

3.6.8.3.6 Pre-Critical Inspections. For availabilities where the reactor will be shutdown for 16 weeks or more, it is considered prudent to use an inspection plan similar to that employed by NAVSEA. Normally, the crew's readiness can be assessed within two days using such a plan, which should encompass the following:

a. An administrative review.

b. Observation of basic drills and evolutions not requiring reactor operation.

c. Personnel interviews.

d. Material inspection.

3.6.8.3.6.1 Scheduling of Pre-Critical Inspections. The ISIC Pre-Critical Inspection should be scheduled by the responsible ISIC about four weeks prior to criticality. The TYCOM should be advised as soon as possible in advance of the tentative date for the ISIC Pre-Critical Inspection and confirmed dates should be established about one month in advance of the inspection.

3.6.8.3.6.2 Composition of the Inspection Team. The Pre-Critical Inspection Team should consist of:

a. A nuclear trained member of the cognizant ISIC Staff, usually the Squadron Training Officer.

b. A qualified nuclear trained officer with experience as an Engineer Officer.

3.6.8.3.6.3 Reports of Inspection.

a. The Senior Inspector should provide the inspected unit with an informal report of findings by the inspection team, copy to the cognizant ISIC and TYCOM.

b. The ship's CO shall review the findings of the inspection team and make necessary adjustments to his training program to ensure his crew's readiness for criticality. He shall keep the cognizant ISIC advised of his training plan and his assessment of his crew's progress.

c. The cognizant ISIC shall review the inspection findings, the CO's training plan and progress evaluations and direct follow-up reviews and/or inspections necessary to verify the ship's readiness for criticality.

3.6.8.3.7 Dock Trials. Dock Trials must, as a minimum, test those systems/equipments repaired or altered during the availability. The CO should use Appendix L of this chapter as a guide in preparing the Dock Trial Agenda.

3.6.8.3.8 Fast Cruise. Fast Cruise may commence immediately upon completion of Dock Trials and shall consist of the minimum requirements as set forth in Appendix M. The requirement for a Fast Cruise may be less than or greater than 24 hours in length depending upon the length of the availability and the time since the crew last operated the ship at sea. The CO, with ISIC concurrence, will determine length of the Fast Cruise. Prior to the ship commencing Fast Cruise, the Supervising Authority shall report to the ship, by message, that all mandatory work approved for accomplishment during the availability is completed. When the ship is ready for sea with the exception of conducting Fast Cruise and after receipt of the SUBSAFE material certification report from the performing activity as required by references (s), (u) through (z) and Volume V of this manual, the ship will request permission from the ISIC by priority message to commence Fast Cruise. The ISIC will then, if satisfied with the state of crew training and material readiness, authorize the ship to commence Fast Cruise by message, information copy to CNO, Fleet Commander, NAVSEA, and the TYCOM.

a. A 24 hour rest and repair period will normally be scheduled following Fast Cruise and prior to the start of Sea Trials. This rest and repair period may be extended or reduced at the discretion of the ISIC.

b. COs should consider the work and alterations accomplished during the availability when determining the extent of the Fast Cruise. The minimum requirements are listed and identified with an asterisk in Appendix M of this chapter.

3.6.8.3.9 Sea Trials. Upon receipt of the report of successful completion of Fast Cruise from the ship, the ISIC authorizes the ship to get underway for Sea Trials. For submarines, following completion of Fast Cruise the ISIC will notify the TYCOM of satisfactory completion of Fast Cruise and readiness for Sea Trials using the message format of Appendix BB. The submarine TYCOM will authorize the ISIC to allow the ship to get underway for Sea Trials using the message format of Appendices BD and BR if the ship had Upgrades/Alterations or Major Repair Work of the FBW SCS. The submarine CO will keep the TYCOM aware of the progress of the Sea Trial through periodic SITREPs using the message format of Appendix BM of this chapter. SITREPs will be submitted following completion of the initial tightness dive, following completion of the deep dive to test depth and daily at a minimum and as identified by the TYCOM or the Sea Trial Agenda. Sea Trials following availability are normally conducted with a significant number of "riders". These riders represent NAVSEA, TYCOM and Shipbuilder personnel onboard to observe various tests and trial evolutions. The ship’s normal loadout of Lithium Hydroxide canisters,

Lithium Hydroxide curtains, Emergency Air Breathing (EAB) masks, Submarine Escape Immersion Ensemble (SEIE) 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 SEIE suit and two Oxygen candles shall be carried for each rider exceeding normal crew manning. Lithium Hydroxide canisters, EABs, SEIE suits and Lithium Hydroxide curtains are to be obtained from the industrial activity. Sea Trials are required only as necessary to test work completed during the availability but must include those mandatory requirements identified in Appendix N of this chapter. The industrial activity shall include at least four days in the availability for conduct of Sea Trials. The industrial activity shall prepare a Sea Trial Agenda for Sea Trials conducted after an availability. The submarine involved shall submit the Sea Trial Agenda to the ISIC for approval, with an information copy to the TYCOM. Extensions or reductions of the Sea Trial period may be granted where warranted by the scope of the work accomplished. Where extension of the Sea Trial period and a change in the availability schedule is required, requests for such extensions must be submitted by the industrial activity to the TYCOM as early as practical. All deficiencies resulting from Sea Trials will be satisfactorily resolved prior to the 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.

a. EMBT Blow: An EMBT blow is required for each Sea Trial following an industrial activity availability, availability docking, or availability of less than six months duration. EMBT blow shall be conducted in accordance with the applicable URO MRC and does **not** require an escort for EMBT blow at depths of 400 feet or less.

b. Assignment of Escort Ship.

(1) In accordance with reference (aa), a surface escort shall be provided during deep dive submergence trials for ships completing an availability for repair of collision/grounding damage where deformation is observed to be in the hull integrity envelope and/or supporting structure.

(2) In accordance with reference (aa), the requirement for providing an escort during deep dive submergence trials upon completion of all other availabilities will be evaluated by Commander, NAVSEA on a case basis. Commander, NAVSEA will advise the applicable Submarine Force Commander in writing whether or **not** an escort will be required based on the scope of work in the availability. In general, an industrial activity availability of less than six months duration should **not** require an escort, since the work typically performed in these availabilities is limited in scope, is carefully controlled and, therefore, does not result in substantial risk of unidentified or incomplete work adversely affecting the SUBSAFE boundary.

(3) Escort requirements should be determined early so that an escort satisfying the requirements of paragraph 3.6.8.4.7.b.(6) of this chapter can be scheduled if required. The TYCOM will in turn request services from the Fleet Commander as applicable. As a general rule, pressure hull work which could not affect hull circularity will not require an escort.

(4) Waiver of escort requirements may be requested by message when necessary. The ISIC will request the waiver as soon as possible. The TYCOM will pass the request to Commander, NAVSEA for approval. An escort waiver request message is to include all of the following specific statements, as applicable:

(a) A ( ) inch by ( ) inch hull cut between frames ( ) and ( ) including a ( ) inch section of frame ( ) was the only major hull integrity work accomplished during the availability. If no hull frame cut was made, a positive statement to that effect is required.

(b) The hull cut weld satisfactorily passed RT and 7 day MT non-destructive tests.

(c) Post repair frame circularity check readings are within specifications.

c. Assignment of SRDRS During Submarine Sea Trials.

(1) A SRDRS will be placed in a modified alert status at the beginning of Sea Trials requiring an escort following in industrial availability or major maintenance availability for:

(a) Ships 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 judgment, a Sea Trial requires an escort due to major hull cuts.

(2) A modified alert message will be sent by the industrial activity with the required SRDRS support dates 6 weeks prior to the requested date. Any changes in this request date will require immediate notification to the Fleet commander, Commander Naval Sea Systems Command (COMNAVSEASYSCOM) and Commander, Submarine Development Squadron (COMSUBDEVRON) FIVE. Sample messages in Appendices BN and CQ of this chapter.

(3) The ship conducting Sea Trials will notify COMSUBDEVRON FIVE in Silverdale, WA and COMNAVSEASYSCOM when SRDRS services are no longer required due to completion of the events in paragraph 3.6.8.3.9.c.(1) of this chapter or due to delay in completing Sea Trials.

(4) 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.

3.6.8.3.10 Interrupted Sea Trials. In the event a Sea Trial is interrupted, or an additional Sea Trial becomes necessary, the following requirements are to be met. These requirements shall be invoked if the ship returns to port for industrial activity repairs which affect SUBSAFE certification or which will require at-sea testing.

a. The industrial activity will draft a revised Sea Trials agenda to support resumption of the trials. This agenda shall be provided to the ISIC for concurrence and TYCOM for information.

b. The Ship will report by message (format of Appendix BE of this chapter) that Ship's Force is ready for follow-on sea trials.

c. The ISIC shall report by message (format of Appendix BF of this chapter) to the TYCOM that the material condition of those SUBSAFE Certification boundaries that were installed, repaired and/or tested by Ship's Force is satisfactory for resuming Sea Trials.

d. Upon completion of all of the requirements in paragraphs 3.6.8.3.10 a. and b. above, the TYCOM will provide a message (Appendix BG of this chapter) to the ISIC granting permission to proceed with the conduct of Sea Trials and authorize the ship to dive to the Sea Trial operating depth.

e. The industrial activity will identify by message to COMNAVSEASYSCOM and COMSUBDEVRON FIVE any additional SRDRS requirements to support the interrupted trials. Sample message in Appendices BN and CQ of this chapter.

f. Submarine surface transits from industrial port in advance of completion of CNO availabilities (prior to certification for unrestricted operations) to a different or homeport can be executed without a sea trial, without an escort and without an SRDRS after obtaining NAVSEA concurrence and authorization from the TYCOM. The submarine shall not be authorized to dive and no testing is permitted during the transit. Operational need for transit and mitigating actions, if applicable, shall be determined by the TYCOM.

3.6.8.3.11 Availability Completion Prerequisites. Upon completion of Sea Trials and correction/resolution of deficiencies, the following requirements must be met prior to completion of an industrial availability less than six months duration:

a. The Supervising Authority shall report by message (format similar to reference (t), Appendix B.3.8) to the TYCOM, satisfactory completion of all Sea Trials, completion of controlled dives, correction of all mandatory and Sea Trial deficiencies. Report that the SUBSAFE material condition of the ship installed, repaired, and/or tested by the industrial activity is satisfactory for URO to test depth. Identify any deferred SUBSAFE work and/or conditionally approved deviations and waivers.

b. Following verification from the ship Commanding Officer and the Supervising Authority of satisfactory completion of all Sea Trials, completion of controlled dives, correction of all mandatory Sea Trial deficiencies, certification that the SUBSAFE material condition of those parts of the ship installed, repaired, and/or tested by the industrial activity is satisfactory, and upon confirmation of maintenance of SUBSAFE certification of portions of ship not affected by the industrial activity, the TYCOM shall report by message (Appendix BO of this chapter) to the ship, with copies to CNO and NAVSEA, reporting status of SUBSAFE certification and authorizing URO to test depth.

c. ISIC. Following verification from the In-Service Engineering Activity (ISEA)/activity performing the work of satisfactory completion of all at-sea testing or trials, completion of controlled dives, correction of all mandatory sea trial deficiencies and resolution of all ISIC FBW SCS Certification Audit Deficiencies recommendations, certify to the TYCOM using Appendix BS, with information copies to CNO, the appropriate Fleet Commander and NAVSEA, the FBW SCS material condition of those parts of the ship installed, repaired and/or tested by the ISEA/activity performing the work is satisfactory, and recommend authorization for FBW SCS unrestricted use in support of submarine unrestricted operations, subject to ISIC verification that FBW SCS certification of areas outside ISEA/activity performing the work tasking has been sustained, or specifically identify any operating restrictions of the ship and/or system.

d. TYCOM. Following verification from the ISIC of satisfactory completion of all at-sea testing, correction of all mandatory deficiencies, receipt of certification that the FBW SCS material condition of those parts of the ship installed, repaired and/or tested by the ISEA/activity performing the work is satisfactory, and upon confirmation that FBW SCS certification was not affected for those portions of ship FBW SCS not affected by the ISEA/activity performing the work, issue a message to the ship using Appendix BT, with copies to CNO, ISIC and NAVSEA, certifying the FBW SCS and authorizing FBW SCS unrestricted use in support of submarine unrestricted operations or specifically identify any operating restrictions of the ship and/or system.

3.6.8.4 Trials, Inspections and Certification Major Availabilities (Greater Than Six Months) (Submarines Only). The following paragraphs summarize policies and responsibilities with respect to trials, tests and inspections incident to completion of major submarine availabilities. The TYCOM will maintain operational control of the submarine throughout the overhaul, conversion, refueling or post-conversion availability through the designated ISIC. For Atlantic/Pacific submarine units undergoing availabilities in West/East coast industrial activities, respectively, the TYCOM responsible for conducting all trials and inspections specified in this manual is the TYCOM with Operational Control of the unit.

a. Policy. Major availabilities require a succession of inspections and tests which culminate in a series of underway trials. References (n), (s), (ab) and (ac) set forth the philosophy and sequencing of the various categories of these tests and trials, the results of which determine the readiness of the ship at the completion of overhaul or repair. References (ad) and (q) delineate the Force Commander's responsibility for operational control of submarines assigned during trials and for assuring that the crew and ship have attained a satisfactory state of training, administrative, operational and material readiness for at-sea operations during the trials. ISICs and COs shall comply with the provisions of this volume in the conduct of trials incident to the conversion, overhaul and refueling of submarines assigned.

b. General Information for Industrial Activity Availability Trials and Inspections.

(1) The normal sequence of events leading up to Sea Trials is described in paragraph 3.6.8.4.b.(2) of this chapter. Fast Cruise may not commence until Dock Trials have been satisfactorily completed and a satisfactory state of crew training and material readiness, has been certified. The required inspections and tests and their associated time periods may be modified by the TYCOM upon request from the cognizant ISIC.

(2) The following inspections and tests are required:

(a) Periodic Monitoring Inspections.

1 Arrival Assist (on or about A+30) using the attributes of Volume I, Chapter 3, paragraph 3.3.1 of this manual.

2 Engineering Readiness Review(s).

3 Departmental Readiness Review(s).

(b) Pre-Critical Inspection (two days).

(c) Phase I Inspection (one day).

(d) Salvage Inspection (one day).

(e) Dock Trials (one day).

(f) Phase II Crew/Material Certification (two days).

(g) Audit of Ship's Force REC and Departure from Specification records.

(h) Minimum of 48 hours for industrial activity work (following Phase II crew certification) (two days).

(i) Fast Cruise normally consists of two days of uninterrupted operation, one day to allow the industrial activity and Ship's Force personnel to correct deficiencies, followed by two more days of uninterrupted operation (five days).

(j) Rest and repair period (about one day).

(k) Underway for initial Sea Trials.

(l) Appendix CC of this chapter provides a detailed summary of major trial and inspection milestones required for industrial activity availabilities of six months or greater in duration.

(3) When circumstances are such that Sea Trials must be rescheduled or planned for a weekend to avoid costly delays, Fleet Commander approval will be obtained by the Supervising Authority on a case basis.

(4) Critical operation of reactors while nuclear powered ships are in a naval or commercial industrial activity will be governed by reference (b). Until satisfactory completion of post repair propulsion plant trials (in the case of ships in industrial availabilities), permission to conduct critical reactor plant operations must be obtained from NAVSEA. Subsequent to completion of propulsion plant post repair trials, the CO may authorize critical operation of the reactor in support of tasks assigned the ship. However, so long as the ship remains in an industrial activity, the CO will notify the industrial activity, as appropriate, well in advance of

any critical operations of the ship's reactor. This notification shall include the nature and duration of such operations. Crew certification inspections will not involve or require critical operation of the reactor.

(5) In conducting the inspections required herein, inspectors should be guided by the concept that at the start of Fast Cruise the ship should be, in all respects, ready for Sea Trials with the exception of the additional training the crew will receive during Fast Cruise.

(6) NAVSEA SUBSAFE Certification Audit (SSCA). During major CNO Maintenance Availabilities NAVSEA will conduct a SSCA as required by reference (t). A copy of the SSCA will be provided to the Supervising Authority, the ship's CO, the TYCOM and Fleet Commander. Prior to conducting Fast Cruise the Supervising Authority must report to NAVSEA and the TYCOM that those parts of the ship installed, repaired and/or tested by the industrial activity are certified satisfactory for post repair Sea Trials, including the resolution of NAVSEA SSCA Category I recommendations, status of all incomplete SSCA Category IA recommendations, and report that the ship is ready for commencement of Fast Cruise.

(7) The requirement for TYCOM certification of SUBSAFE boundaries not entered by the industrial activity and material readiness upon completion of an industrial activity imposes additional responsibilities on the ISIC inspectors. A formal audit of Ship's Force REC and Departure from Specification records shall be conducted by the ISIC QA Officer prior to Fast Cruise. Included in the audit and material inspection will be a review of ship procedures to ensure no unauthorized work was conducted within certified boundaries, and all outstanding Forces Afloat Departures from Specification, as defined in Volume V, Part I, Chapter 8 of this manual, granted prior to the availability which required corrective action. There may or may not have been restrictions involved with these departures. A review of the Ship's Force REC Records and Procedures is necessary for SUBSAFE work accomplished by Forces Afloat in accordance with Volume V, Part I, Chapter 5 of this manual, along with a review of the applicable URO MRC status. The ISIC certification message will also provide a statement certifying that ship and industrial activity procedures ensured that no unauthorized work was conducted within the certified boundaries and, when required, will also provide a status report of any outstanding Re-Entries, Forces Afloat Departures from Specification and delinquent URO MRCs. The scope and nature of this inspection will vary dependent upon the extent and length of the availability. In this regard:

(a) Material certification may be made subject to the correction of specific deficiencies. (Deficiencies are such that they can be readily identified and listed.)

(b) Material certification should be postponed to a later date when deficiencies are so significant or so numerous as to preclude correction in the time remaining before scheduled commencement of Fast Cruise.

(c) Deficiencies that could affect the safe operation of the ship during Sea Trials must be corrected, reinspected and reported to the TYCOM as having been corrected prior to the start of Fast Cruise.

(8) Inspectors must determine that all work/testing necessary to support Sea Trials has in fact been completed or identified for completion prior to the commencement of Fast Cruise including the following.

(a) All ship systems which effect safe operation of the ship during Sea Trials must be operable.

(b) All work necessary for safe operation during Sea Trials which was undertaken by the industrial activity, Ship's Force, FMA, or other outside activities must have been satisfactorily completed and tested. Included must be a check for any "special configuration or installations" ensuring that they have been authorized by proper authority, that their impact has been fully assessed and that the Sea Trial Agenda considers these impacts or limitations.

(9) Following completion of the required training and material readiness certification, COs must keep the cognizant ISIC fully informed of any changes in personnel, training and/or material status which could affect the validity of certification. Prompt notification is required to permit revision of Operation Orders and services required.

(10) Underway trials following major availabilities, particularly initial submerged and test depth trials, 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. Systems or 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, the automated hovering system should not be demonstrated at test depth. Reference (ae) provides pertinent information regarding the testing of seawater systems during underway trials.

(11) An approved agenda is required for each underway period. The prerequisites for the first underway period are set forth in paragraphs 3.6.8.4.4 through 3.6.8.4.7 of this chapter.

(12) The first underway tests will be of limited scope. The initial tightness dive will be a deliberate, planned, step-by-step evolution using conservative angles and moderate speed. The submarine shall be accompanied by an escort ship properly equipped with sonar communication equipment as described in paragraph 3.6.8.4.7 of this chapter. The maximum water depth for this dive shall be 400 feet, as prescribed by reference (q).

(13) The initial trial schedule shall include a minimum of six hours of submerged ISE for Ship's Force training. This ISE should be sequenced as soon as practical after the initial tightness dive and should include the necessary evolutions to allow each watch section ship control party to familiarize themselves with their assigned stations and duties. The ship should be operated at moderate speed to develop proficiency prior to the deep dive and full power run. Testing may be scheduled during the ISE period on a not-to-interfere basis with training. The time spent in the initial tightness dive, if at moderate speed, may be included as one section's training. The requirement to provide each watch section ship control party with about two hour's experience submerged at moderate speeds prior to the deep dive and full power run is mandatory for ship safety.

(14) All trial periods must be organized such that each member of the command has an opportunity to get six uninterrupted hours of rest during each 24 hour period encompassed by the trials. Sea Trial events which can be accomplished by normal watch sections may be conducted concurrently with crew rest periods.

(15) Prior to getting underway for Sea Trials, Shipyard, Ship’s Force and Type Commander shall 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).

(16) A deficiency correction period will be scheduled subsequent to the last Sea Trial and prior to the completion date. The scheduled length and location of this deficiency correction period will be determined by the type and magnitude of the deficiencies to be corrected.

(17) After the conclusion of Sea Trials, the submarine shall not be operated at depths greater than 1/2 Test Depth plus 50 feet, unless specifically authorized by the TYCOM, and shall not be released for unrestricted operations until all RECs are closed and the TYCOM issues the unrestricted operations authorization message.

(18) After the conclusion of Sea Trials, and based upon a review of Sea Trial deficiencies and TYCOM authorization, the submarine may transit to a port other than the industrial activity.

c. If equipment malfunctions (except for casualties affecting recoverability, salvage, watertight integrity, or operation of ship's control surfaces), or seawater leakage in excess of the specification is found during the conduct of the initial tightness dive or the controlled dive to test depth, the ship should continue to the required depth and execute the sea trial agenda unless the Commanding Officer determines it appropriate to abort the dive. The Commanding Officer and Trials Director should be particularly circumspect in the case of leakage locations not isolable by flood control/other closures (e.g., electrical hull penetrators, periscope hoist rods, etc.).

d. Following completion of the initial tightness dive and the controlled dive to test depth, SUBSAFE deficiencies which result in seawater leakage exceeding the specification for acceptance shall be reported to the TYCOM, NAVSEA and info to all concerned.

e. If leakage is from an unisolable joint, ship's depth will be limited to 1/2 test depth plus 50 feet until approval from the TYCOM is received to continue trials at depths greater than 1/2 test depth plus 50 feet.

3.6.8.4.1 Responsibilities. The responsibilities for trials and inspections are as follows:

a. NAVSEA.

(1) Provide approved procedures for tests of the reactor plant required for nuclear refueling and for reactor plant repairs and alterations accomplished in the availability.

(2) Authorize critical operation of the reactor as outlined in paragraph 3.6.8.4.b.(4) of this chapter.

(3) Approve the scheduling and the sequencing of nuclear propulsion plant tests and concur in the schedule and sequence for nuclear propulsion plant trials.

(4) Arrange for technical assistance from the U.S. Department of Energy as required.

(5) Conduct SSCAs and provide to the Supervising Authority, the ship's CO and the TYCOM and Fleet Commander a copy of the SSCA report.

(6) Review and concur with the Sea Trial Agenda submitted by the Supervising Authority.

(7) Certify (reference (t), Appendix B.3.2) to the TYCOM, information copies to CNO and Fleet Commander, that the material SUBSAFE condition of those parts of the ship installed, repaired and/or tested by the industrial activity are certified as satisfactory for Sea Trials and controlled dives to a specified depth (usually test depth).

(8) Following verification from the Supervising Authority of satisfactory completion of all Sea Trials, completion of controlled dives, correction of all mandatory Sea Trial deficiencies, and resolution of all NAVSEA SSCA Category IA recommendations, certify to the TYCOM, with information copies to CNO and the appropriate Fleet Commander, the SUBSAFE material

condition of those parts of the ship installed, repaired, and/or tested by the industrial activity is satisfactory, and recommend authorization for URO to design test depth subject to TYCOM verification that SUBSAFE certification of areas outside the industrial activity AWP has been sustained.

b. Supervising Authority.

(1) Accept custody of and responsibility for special nuclear material upon delivery from the U.S. Department of Energy.

(2) Accept custody of and responsibility for spent nuclear fuel and other special nuclear material removed from the submarine incident to refueling until transferred to the U.S. Department of Energy.

(3) Transfer custody of and responsibility for nuclear fuel and other special nuclear material to the CO of the submarine undergoing refueling when it has been installed in the submarine.

(4) Provide sufficient time for crew training during the major availability period to permit the Ship's Force to attain a state of training adequate to ensure proper operation and safety of the ship and its personnel during Fast Cruise and Sea Trials.

NOTE: THE SCHEDULING AND SEQUENCING OF TRIALS INVOLVING TESTS OF A REACTOR PLANT PROPULSION PLANT MUST BE APPROVED BY THE FLEET COMMANDER AND CONCURRED TO BY NAVSEA.

(5) Prior to Fast Cruise, submit the Sea Trial Agenda to NAVSEA for concurrence and to the TYCOM for approval. Resolve any differences between NAVSEA and the TYCOM. Submit the Deep Dive Test Form and EMBT Blow Test Procedures to NAVSEA for approval. The Sea Trial Agenda shall provide the detailed sequence of events for conducting the Sea Trials required to be performed.

(6) Schedule the ship salvage inspection to ensure sufficient time for the TYCOM to conduct the inspection and for correction of deficiencies.

(7) Report the status of the material condition of those parts of the ship installed, repaired and/or tested by the industrial activity prior to each Sea Trial.

(a) Report by message (reference (t), Appendix B.3.1) to NAVSEA and TYCOM, in advance of the scheduled start of Fast Cruise, that those parts of the ship installed, repaired and/or tested by the industrial activity are certified satisfactory for post repair Sea Trials, including resolution of NAVSEA SSCA Category I recommendations and status of all incomplete NAVSEA SSCA Category IA recommendations, and report that the ship is ready for commencement of Fast Cruise. The message shall also state that there are no conditional SUBSAFE Deviations or Waivers which have not been satisfied or cite those that exist, and that, subject to satisfactory completion of Fast Cruise and resolution of mandatory deficiencies, the material condition of the ship is satisfactory for commencement of Sea Trials.

NOTE: SUBSEQUENT TO THE MESSAGE IN PARAGRAPH 3.6.8.4.1.b. (7)(a) OF THIS CHAPTER, ANY DEFICIENCY DISCOVERED AND THE CORRECTIVE ACTION TAKEN WHICH AFFECTS THE WATERTIGHT INTEGRITY, THE RECOVERABILITY OF THE SHIP, THE OPERATION OF THE SHIP'S CONTROL SURFACES, OR THE SHIP'S SALVAGE CAPABILITY SHALL BE REPORTED TO NAVSEA AND THE APPROPRIATE FLEET COMMANDER AND TYCOM BY MESSAGE CITED IN PARAGRAPH 3.6.8.4.1.b. (7)(a) OF THIS CHAPTER. PREVIOUS CERTIFICATION OF MATERIAL CONDITION SHALL BE SUSPENDED UNTIL NAVSEA AND TYCOM REVIEW THE REPORT AND NAVSEA

CERTIFIES TO THE TYCOM BY MESSAGE THAT THE MATERIAL CONDITION OF THE PARTS OF THE SHIP COVERED BY THE INDUSTRIAL ACTIVITY AWP IS SATISFACTORY FOR SEA TRIALS TO A SPECIFIED DEPTH, AND THE TYCOM IN TURN CERTIFIES TO THE SHIP THAT THE SHIP'S SUBSAFE CERTIFICATION BOUNDARY IS SATISFACTORY FOR SEA TRIALS TO A SPECIFIED DEPTH.

(b) Report by message (reference (t), Appendix B.3.3) to NAVSEA and TYCOM, with the concurrence of the CO, the successful completion of Fast Cruise and SUBSAFE material condition readiness as a prerequisite to start of Sea Trials.

(c) Where a previous Sea Trial was aborted, or corrective actions for Sea Trial deficiencies require an additional deep dive, report by message (reference (t), Appendix B.3.5) to NAVSEA that the SUBSAFE material condition of those parts of the ship installed, repaired, and/or tested by the industrial activity is satisfactory for Follow-On Sea Trials to test depth.

(8) Report by message (reference (t), Appendix B.3.8) to NAVSEA, satisfactory completion of all Sea Trials, completion of controlled dives, correction of all mandatory Sea Trial deficiencies, and resolution of all NAVSEA SSCA Category IA recommendations. Report that the SUBSAFE material condition of those parts of the ship installed, repaired, and/or tested by the industrial activity is satisfactory for URO to test depth. Identify any deferred SUBSAFE work and/or conditionally approved deviations and waivers.

(9) Coordinate the schedule for Fast Cruise and post repair trials with the TYCOM/ISIC representative.

(10) Recommend to the President, Board of Inspection and Survey and the TYCOM, information to NAVSEA, Fleet Commander and TYCOM/ISIC representative, when post availability Material Inspection and Underway Trials by the Board of Inspection and Survey are required.

c. TYCOM.

(1) Schedule the Fleet Commander PORSE as recommended by the industrial activity in the Key Events Schedule and confirmed by the parent TYCOM/ISIC representative upon completion of the ISIC Pre-Critical Inspection.

(2) Provide Fast Cruise, Sea Trial and completion prerequisites message (Appendix CD of this chapter) to the ship approximately 90 days prior to the start of Sea Trials.

(3) Assign material representatives to be embarked during trials as required by paragraph 3.6.8.4.2 of this chapter.

(4) Inform the CNO and Fleet Commander of the scope and schedule of the trials. This is normally done by copy of the TYCOM/ISIC representative Operation Order to the CNO and Fleet Commander.

(5) Provide escorts as required. Send a Sea Trials Support Services message (Appendix CA of this chapter) to specify SRDRS "modified alert" requirements.

(6) Approve Sea Trial Agenda.

(7) Report, by message (Appendix CE of this chapter), to NAVSEA crew readiness for Sea Trials and request NAVSEA Nuclear Propulsion Directorate (08) authorization for critical operations.

(8) Prior to each Sea Trial, following certification from the Supervising Authority and NAVSEA that the material condition of those parts of the ship installed, repaired and/or tested by the industrial activity is satisfactory for Sea Trials and TYCOM verification that the SUBSAFE certification of those parts of the ship not affected by the industrial activity AWP has been sustained, report by message (Appendix CF of this chapter) to the ship, with copies to CNO and NAVSEA, reporting that the status of the SUBSAFE Certification Boundary is satisfactory and authorizing the conduct of Sea Trials and dives to specified depth. If the ship had Upgrades/Alterations or Major Repair Work of the FBW SCS, and following a recommendation from the ISIC, authorize underway operation of the FBW SCS using Appendix CT.

(9) Following verification from NAVSEA of satisfactory completion of all Sea Trials, completion of controlled dives, correction of all mandatory Sea Trial deficiencies, certification that the SUBSAFE material condition of those parts of the ship installed, repaired and/or tested by the industrial activity is satisfactory, and upon confirmation of maintenance of SUBSAFE certification of portions of ship not affected by the industrial activity, report by message (Appendix CG of this chapter) to the ship, with copies to CNO and NAVSEA, reporting status of SUBSAFE certification and authorizing URO to test depth. If the ship had Upgrades/Alterations or Major Repair Work of the FBW SCS, following verification from the ISIC of satisfactory completion of all at-sea testing, correction of all mandatory deficiencies, receipt of certification that the FBW SCS material condition of those parts of the ship installed, repaired and/or tested by the ISEA/activity performing the work is satisfactory, and upon confirmation that FBW SCS certification was not affected for those portions of ship FBW SCS not affected by the ISEA/activity performing the work, issue a message to the ship using Appendix CV, with copies to CNO, ISIC and NAVSEA, certifying the FBW SCS and authorizing FBW SCS unrestricted use in support of submarine unrestricted operations or specifically identify any operating restrictions of the ship and/or system.

NOTE: SUBSEQUENT TO THE MESSAGES, APPENDICES CB AND CE OF THIS CHAPTER, AND REFERENCE (t), APPENDICES B.3.1 AND B.3.2, ANY DEFICIENCY DISCOVERED AND THE CORRECTIVE ACTION TAKEN WHICH AFFECTS THE WATERTIGHT INTEGRITY, THE RECOVERABILITY OF THE SHIP, THE OPERATION OF THE SHIP'S CONTROL SURFACES OR THE SHIP'S SALVAGE CAPABILITY SHALL BE REPORTED TO NAVSEA, TYCOM AND FLEET COMMANDER BY THE SUPERVISING AUTHORITY (INDUSTRIAL ACTIVITY DEFICIENCY) OR SHIP CO (FORCES AFLOAT DEFICIENCY) IN MESSAGE FORMAT. PREVIOUS CERTIFICATION SHALL BE CONSIDERED RESCINDED. WHEN A REVIEW OF THE DEFICIENCY IS COMPLETED BY NAVSEA FOR INDUSTRIAL ACTIVITY ITEMS AND TYCOM FOR SHIP'S FORCE ITEMS, NAVSEA WILL CERTIFY TO THE TYCOM THAT THE MATERIAL CONDITION OF THE PARTS OF THE SHIP COVERED BY THE INDUSTRIAL ACTIVITY AWP IS SATISFACTORY FOR SEA TRIALS TO A SPECIFIED DEPTH. THE TYCOM IN TURN CERTIFIES THAT THE SHIP'S SUBSAFE CERTIFICATION BOUNDARY IS SATISFACTORY FOR SEA TRIALS TO A SPECIFIED DEPTH.

d. ISIC/TYCOM Representative.

(1) Conduct periodic monitoring of ships using paragraph 3.6.8.4.4 of this chapter as a guide to include:

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

(b) Evaluation visits to determine the state of administration and training (Work-Ups).

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

(d) Monitor Maintenance Reports that require post availability actions (Liaison Action Requests, Deficiency Management Tracking System items, Departure From Specifications, Deficiency Reports, etc.) for inclusion in the ship's CSMP, as required.

(2) Conduct a Pre-Critical Inspection of the Engineering Department in accordance with paragraph 3.6.8.4.4 of this chapter to determine the ship's readiness for either the RSE or the Fleet Commander PORSE (as applicable).

(3) Schedule a salvage inspection by the operating forces in time to have discrepancies corrected prior to the start of Fast Cruise.

(4) Conduct a formal Phase I certification inspection of the ship’s company in accordance with references (u) through (z). The purpose of this inspection shall be to audit the readiness and training of the Ship's Force, particularly in the areas of watchstander qualifications, damage control readiness, status of operational and emergency bills, present on board of essential technical manuals, and general operational knowledge. This inspection shall be scheduled about one month prior to Fast Cruise and should include written examinations and personal interviews with officers and key enlisted men 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 shall be made to ensure that the ship is adequately manned.

(5) Prior to Fast Cruise, the ISIC QA Officer shall conduct a formal audit of Ship's Force REC and Departure from Specification Records and CSMP. Using the SUBMEPP PMR and URO MRC scheduling reports and current industrial activity/Ship's Force updates to the latest report, ensure all "D"-Level PMR and URO MRC accomplishment is current. The ISIC shall forward the audit results to the TYCOM via the cognizant Commander, Submarine Group. The ISIC will then report to the TYCOM by message (Appendix CB of this chapter) the status of the crew/material certification. An update of this certification is needed prior to Sea Trials and following the rescinding of certification noted in the NOTE following paragraph 3.6.8.4.1.c.(9) of this chapter. If Upgrades/Alterations or Major Repair Work of the FBW SCS was performed, a 100% audit of the work, as defined in Volume V, Part I, Chapter 9 of this manual, will be performed by the ISIC. The ISIC shall report certification of work and recommend at-sea operations using the message format of Appendix CS.

(6) Witness and certify to the TYCOM that the state of crew training is satisfactory for at-sea operations in accordance with references (u) through (z). This will be done during a two day period subsequent to Dock Trials and prior to Fast Cruise as outlined in paragraph 3.6.8.4.4.e. of this chapter. This two day period shall 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 most 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 the submarine's safety must not be permitted to influence the judgment of the certifying officers. The desired overall sequence of these events is shown in Appendix CC of this chapter.

(7) Conduct a material inspection of the ship concurrent with the inspection of paragraph 3.6.8.4.1.d.(5) of this chapter. This inspection should be conducted using the guidelines contained in paragraphs 3.6.8.4.b.(5) and 3.6.8.4.b.(7) of this chapter.

(8) Satisfactory completion of the inspections of paragraphs 3.6.8.4.1.d.(5) through 3.6.8.4.1.d.(7) of this chapter should be reported to the TYCOM in one "PRIORITY" crew certification message in accordance with sample message format of Appendix CB 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 extension of time is required to correct training/material deficiencies, the TYCOM shall be immediately advised by telephone and by message. The Supervising Authority will be included as an information addressee.

(9) Receive from the CO/Supervising Authority the scope, schedule and agenda of tests for Sea Trials for review. The concurrence of NAVSEA is required for the sequencing and scheduling of propulsion plant Sea Trials for industrial activity availabilities.

(10) Prior to Sea Trials, report by message (Appendix CH of this chapter) to the TYCOM the material certification of the ship.

(11) Advise the TYCOM by message of escort requirements and ensure that an escort is provided during the initial tightness dive, during the deep dive and during emergency blow tests as required by paragraph 3.6.8.4.7.a. of this chapter.

(12) Arrange for a SRDRS to be on "modified alert" during the Sea Trials via message (Appendix CA of this chapter) to COMSUBDEVRON FIVE.

(13) Provide updated sea trials status by telephone to COMSUBDEVRON FIVE if SRDRS "mod-alert" support services are in use in accordance with paragraph 3.6.8.4.7.b.(6) of this chapter.

(14) Provide an operation order to be used incorporating the provisions of reference (q). Provide a copy to the TYCOM and, where appropriate, the local ISIC, information to CNO and Fleet Commander. Include within operation orders pertaining to post-availability trials, instructions to send specific messages announcing the start and completion of initial deep dive with the TYCOM as an information addressee.

(15) Arrange for the embarkation of technical personnel who may be assigned by NAVSEA to observe tests or trials.

(16) Arrange for the assignment of operating areas and communications frequencies.

(17) Assign a submarine qualified officer to act as TYCOM representative embarked during Sea Trials as required by paragraph 3.6.8.4.2 of this chapter. When necessary, provide a gold dolphin wearer to ride the escort vessel.

(18) When authorized by the TYCOM, grant permission for the ship's CO to commence Sea Trials in accordance with the approved Sea Trials Agenda.

(19) Upon completion of Sea Trials, report by message (Appendix CI of this chapter) to the TYCOM the status of any work performed by Forces Afloat within the SUBSAFE boundary, status of Departures from Specification and status of URO MRCs. If Upgrades/Alterations or Major Repair Work of the FBW SCS was performed, following verification from the ISEA/activity performing the work of satisfactory completion of all at-sea testing or trials, completion of controlled dives, correction of all mandatory sea trial deficiencies, and resolution of all ISIC FBW SCS Certification Audit Deficiencies recommendations, certify to the TYCOM using Appendix CU, with information copies to CNO, the appropriate Fleet Commander and NAVSEA, the FBW SCS material condition of those parts of the ship installed, repaired, and/or tested by the ISEA/activity performing the work is satisfactory, and recommend authorization for FBW SCS unrestricted use in support of submarine unrestricted

operations, subject to ISIC verification that FBW SCS certification of areas outside ISEA/activity performing the work tasking has been sustained, or specifically identify any operating restrictions of the ship and/or system.

e. Ship CO.

(1) Carry out his command responsibilities in accordance with reference (e).

NOTE: SUBMARINES UNDERGOING INDUSTRIAL ACTIVITY AVAILABILITIES NORMALLY REMAIN IN COMMISSION WITH A CREW ASSIGNED. THE CO REMAINS FULLY RESPONSIBLE FOR THE NUCLEAR PROPULSION PLANT DURING ALL PHASES OF THE AVAILABILITY, INCLUDING ALL POST REPAIR TESTS AND TRIALS.

(2) Develop and execute training plans and documents in order to maintain the state of training of the crew adequate to support post repair tests, inspections and trials. The nature and scope of the training required will depend to a great extent on the length of the availability. Care shall be taken to ensure that these plans and documents are in conformance with instructions and procedures approved by NAVSEA.

(3) Supervise operation of the nuclear propulsion plant. Critical operations will be conducted as set forth in paragraph 3.6.8.4.b.(4) of this chapter.

(4) Prepare the ship's engineering personnel and propulsion plant and spaces for examination by the Director, Division of Naval Reactors, U.S. Department of Energy or the Fleet Commander Nuclear Propulsion Examining Board. For PORSE conducted by the Nuclear Propulsion Examining Board, direct liaison is authorized with the industrial activity to ensure estimated dates are included in the Key Events schedule.

(5) Maintain PMS in accordance with reference (af), SUBSAFE REC in accordance with Volume V, Part I, Chapter 5 of this manual to ensure no unauthorized Ship's Force work is conducted within the certified SUBSAFE boundaries, Reactor Plant PMS in accordance with reference (ag) and Planned Maintenance Management Program in accordance with reference (ah), for work performed by Forces Afloat. Ensure records are ready for ISIC audit conducted prior to Fast Cruise.

(6) Participate in at-sea periods prior to the first Sea Trials as follows:

(a) If possible accompany the preceding ship in overhaul on the first Sea Trial to learn how the propulsion trial is run.

(b) For ships in availabilities 18 months or longer, the CO shall participate in an underway period of sufficient duration about six months before Phase II Crew Certification. The purpose of this ride is to refresh him on what is important to ensure the safe conduct of his own Sea Trials and to insure his crews training program is emphasizing those matters. This underway should be on a ship, preferably of the same class, which is concentrating on basic submarine operations, such as Selected Refresher Training or ISE, in order for the CO to see evolutions such as coming to periscope depth, snorkeling, ventilating, casualty training, etc. If the availability schedule has 10-12 weeks between Power Range Testing and Phase II Crew Certification, the CO should go to sea about two months before Power Range Testing. The intent is for the CO 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 underways, the CO should have time on the bridge and also observe piloting and navigation.

(7) Determine, in conjunction with the Supervising Authority, the nature and extent of the post-repair Sea Trials. Review the Sea Trial Agenda, including the sequence and duration of each test. The CO will concur with the trial agenda, then the Supervising Authority will submit it to NAVSEA for concurrence and the TYCOM for approval. Provide copies of the approved detailed schedule and agenda for underway trials to the local ISIC, if appropriate, the escort ship and embarked TYCOM representative, if assigned. This schedule and agenda shall include:

(a) The minimum requirements in paragraph 3.6.8.4.7 of this chapter.

(b) A firm time scheduled for the conduct of all tests and trials showing their sequence and duration.

(c) General prerequisites for the conduct of each test. Detailed prerequisites should be itemized as part of individual test requirements.

(d) Responsibility for the conduct of each test (industrial activity or ship).

(e) Support required from the operating forces for the conduct of each test.

(f) Provision for adequate crew rest time during Sea Trials. Opportunity for six uninterrupted hours of rest in each twenty-four hour period is a minimum for each member of the command.

(g) Provision for a minimum of six hours of uninterrupted independent ship exercises for crew training following the initial tightness dive and prior to the deep dive.

(h) 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 of 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.

(8) Undergo a salvage inspection in accordance with Volume IV, Chapter 18 of this manual.

(9) Conduct one day Ship's Force Dock Trials in accordance with paragraph 3.6.8.4.5 of this chapter.

(10) Demonstrate the state of training of the crew in accordance with references (u) through (z).

(11) Ensure that all pertinent alongside tests, inspections, and trials are conducted.

(12) Certify to the designated ISIC/TYCOM representative that all salvage inspection discrepancies affecting safe conduct of Sea Trials have been corrected. Deliver a copy of the salvage plan to the escort ship, if required, and confer with the escort ship to coordinate communications and operational procedures, ensuring that the escort is fully informed as to the submarine's condition and intentions.

(13) Concur with Supervising Authority message (reference (t), Appendix B.3.1) concerning Fast Cruise/Sea Trial readiness.

(14) Report by message (Appendix CJ of this chapter) to the TYCOM that crew and ship are ready for Sea Trials. List exceptions such as completion of Fast Cruise, removal of shore power connections, etc.

(15) When authorized by the TYCOM and, when permission has been granted by NAVSEA 08 for critical reactor operations, conduct a Fast Cruise in accordance with paragraph 3.6.8.4.6 of this chapter.

(16) Concur with Supervising Authority message (reference (t), Appendix B.3.3) that Fast Cruise was successfully completed, all mandatory deficiencies for Sea Trials have been corrected and recommend commencement of Sea Trials.

(17) Report completion of Fast Cruise to the TYCOM by message (Appendix CK of this chapter) and request permission to commence Sea Trials.

(18) When all the requirements of this instruction are completed and permission has been received from the TYCOM, proceed to sea in accordance with operation order. At sea, carry out the approved Sea Trial Agenda and Schedule.

NOTE: SUBSEQUENT TO THE MESSAGES, APPENDICES CF AND CH OF THIS CHAPTER, ANY DEFICIENCY DISCOVERED AND THE 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 SHALL BE REPORTED TO NAVSEA, TYCOM AND FLEET COMMANDER BY THE SUPERVISING AUTHORITY/ISIC/TYCOM REPRESENTATIVE BY MESSAGE. PREVIOUS CERTIFICATION MESSAGES SHALL BE SUSPENDED. WHEN A REVIEW OF THE DEFICIENCY IS COMPLETED BY NAVSEA FOR INDUSTRIAL ACTIVITY ITEMS AND TYCOM FOR SHIP'S FORCE ITEMS, NAVSEA WILL CERTIFY TO THE TYCOM THAT THE MATERIAL CONDITION OF THE PARTS OF THE SHIP COVERED BY THE INDUSTRIAL ACTIVITY AWP IS SATISFACTORY FOR SEA TRIALS TO A SPECIFIED DEPTH. THE TYCOM IN TURN CERTIFIES THAT THE SHIP'S SUBSAFE CERTIFICATION BOUNDARY IS SATISFACTORY FOR SEA TRIALS TO A SPECIFIED DEPTH.

3.6.8.4.2 Type Commander Embarked Representative. For the first Sea Trial after a major industrial activity availability of a nuclear powered submarine, an unrestricted line officer (a former CO senior to the CO) normally provided by the ISIC/TYCOM will be the TYCOM embarked representative. This officer has the authority to act for the TYCOM in making on the spot changes to the approved Sea Trial Agenda. A TYCOM material representative may also be assigned. When assigned, he will serve as a technical advisor to the TYCOM embarked representative on matters pertaining to Sea Trial Agenda changes, compliance with this manual and disposition of emergent material deficiencies.

a. During Sea Trials, assume the duties of Officer In Tactical Command unless otherwise designated by the ISIC. As Officer In Tactical Command, this officer must comply with direction found in Annex C of reference (q).

b. When no officer senior to the CO is embarked for sea trials, the following officers shall act for the TYCOM in approving on-the-spot changes to the Sea Trial Agenda in the order of precedence listed:

(1) TYCOM material representative if embarked.

(2) Designated ISIC representative if embarked.

(3) Ship's CO.

NOTE: SEA TRIAL AGENDAS ARE DEVELOPED AS A RESULT OF LESSONS LEARNED OVER A LONG PERIOD OF TIME. EVENTS AND SEQUENCES OF EVENTS ARE IMPORTANT AND SHOULD BE CHANGED ONLY AFTER THOROUGH DELIBERATION.

3.6.8.4.3 Availability Completion Prerequisites. The following requirements will be included in the TYCOM "Countdown Message" outlined in paragraph 3.6.8.4.8 of this chapter:

a. The Supervising Authority will report by message (reference (t), Appendix B.3.8) to NAVSEA, satisfactory completion of all Sea Trials, completion of controlled dives, correction of all mandatory Sea Trial deficiencies, and resolution of all NAVSEA SSCA Category IA recommendations. Report that the SUBSAFE material condition of those parts of the ship installed, repaired, and/or tested by the industrial activity is satisfactory for URO to test depth. Identify any deferred SUBSAFE work and/or conditionally approved deviations and waivers.

b. Following verification from the Supervising Authority of satisfactory completion of all Sea Trials, completion of controlled dives, correction of all mandatory Sea Trial deficiencies, and resolution of all NAVSEA SSCA Category IA recommendations, NAVSEA shall certify by message (reference (t), Appendix B.3.9) to the TYCOM, with information copies to CNO and the appropriate Fleet Commander, the SUBSAFE material condition of those parts of the ship installed, repaired, and/or tested by the industrial activity is satisfactory, and recommend authorization for URO to design test depth subject to TYCOM verification that SUBSAFE certification of areas outside industrial activity AWP has been sustained.

c. Following verification from NAVSEA of satisfactory completion of all Sea Trials, completion of controlled dives, correction of all mandatory Sea Trial deficiencies, certification that the SUBSAFE material condition of those parts of the ship installed, repaired and/or tested by the industrial activity is satisfactory, and upon confirmation of maintenance of SUBSAFE certification of portions of the ship not affected by the industrial activity, the TYCOM shall report by message (Appendix CG of this chapter) to ship, with copies to CNO and NAVSEA, reporting status of SUBSAFE certification and authorizing URO to test depth.

3.6.8.4.4 Inspection Procedures.

a. Periodic Monitoring, Inspections, and Visits.

(1) Purpose.

(a) To provide to ships in availability such administrative and training assistance as is necessary to improve the Ship's Force conduct of the availability, maintenance and training tasks. Visits of this nature are termed Tech Assists.

(b) To evaluate the effectiveness of administration and training. Inspections of this nature are termed Work-Ups.

(c) To conduct spot checks to monitor progress in specific material, administrative and training areas. Visits of this nature are termed Monitor Visits.

(2) Discussion. The extent, type and frequency of periodic monitoring, inspections, and visits should be determined on a case basis by the responsible ISIC or TYCOM representative. The initial inspection should be broad in scope in order to appraise the responsible ISIC of the adequacy of the ship's performance and progress. Normally, the initial visit will indicate the necessary frequency and scope of subsequent Tech Assists and Monitor Visits. In general, any required Work-Ups should be scheduled in advance of Key Events during the availability.

(3) Areas of Inspection Coverage. Initial inspections normally examine the effectiveness of Ship's Force preparations for an availability. Subsequent inspections and visits should review the following areas as appropriate for the purpose of the specific inspection.

(a) Review procedures and administrative steps for provisional watch station qualifications.

(b) Review department organization manuals.

(c) Review department instructions and administrative procedures.

(d) Review ship's instructions and administrative procedures.

(e) Review department logs, operating instructions and casualty procedures.

(f) Review ship's standard operating procedures and the ship's organization and regulations manual.

(g) Review training conducted and planned to support the goal of requalifying or reestablishing proficiency of watchstanders.

(h) Monitor performance of watchstanding.

(i) Conduct spot check of ship's records and logs in use.

(j) Review Ship's Force controlled work (SUBSAFE, Level I and Nuclear) and procedures to ensure proper controls and documentation in accordance with this manual and no unauthorized work is conducted within the SUBSAFE boundaries.

(k) Review status of Ship's Force responsible PMS/IEM.

(l) Inspect installed equipment for cleanliness and adequate protection from damage.

(m) Review Tag-Out and Work Authorization Logs. Spot check for compliance in accordance with current directives.

(n) Inspect ship for hazards.

(o) Inspect provisions for casualty control including watertight integrity.

(p) Verify that all COSAL material including operating space items, have been off-loaded to processing areas which provide appropriate security.

(q) Inspect the processing area to verify provisions and procedures for careful ILO inventory.

(r) Review response of supply system to requisitions in support of Ship's Force work.

(s) Verify that items are withdrawn from the ship's COSAL stock undergoing inventory/ILO only on an emergency basis and that such issues are well documented with appropriate adjustments to the inventory records.

(t) Evaluate general safety practices.

(4) Scheduling of Periodic Monitoring, Inspection and Visits. Periodic Monitoring, Inspections, and Visits should be scheduled by the responsible ISIC as appropriate for the purposes of the inspection concerned. Some monitoring visits should be conducted on an unannounced basis. These inspections should be given so as to minimize interference with industrial activity and Ship's Force work.

(5) Reports of Inspection. Formal reports of the results of periodic monitoring, inspection and visits are not required by the TYCOM. However, the responsible ISIC should advise the TYCOM in situations when the attainment of required progress toward completion of Key Events is in jeopardy.

b. Pre-Critical Inspection.

(1) Purpose. To evaluate the readiness of the engineering department to undergo a PORSE by the Fleet Commander Nuclear Propulsion Examining Board or a RSE by representatives from NAVSEA 08.

(2) Discussion. The conduct of the Pre-Critical Examination by the ISIC is not intended to duplicate the inspections for which readiness is being evaluated. It is considered prudent, however, to use an inspection plan similar to that employed by NAVSEA. Normally, the crew's readiness can be assessed within two days using such a plan, which should encompass the following:

(a) An administrative review.

(b) Observation of basic drills and evolutions not requiring reactor operation.

(c) Personnel interviews.

(d) Material inspection.

NOTE: FOR SSBN/SSGN PRE-CRITICAL INSPECTIONS, THE CREW TO BE INSPECTED IS THE COMPOSITE CREW SELECTED FOR INITIAL CRITICALITY AND POWER RANGE TESTING.

(3) Scheduling of Pre-Critical Inspections. The ISIC Pre-Critical Inspection should normally be scheduled by the responsible ISIC about four weeks prior to criticality (non- refueling availability) and six weeks prior to initial criticality for an overhaul involving refueling. The TYCOM should be advised as soon as possible in advance of the tentative date for the ISIC Pre-Critical Inspection and confirmed dates should be established about one month in advance of the inspection.

(4) Composition of the Inspection Team. The Pre-Critical Inspection Team should consist of:

(a) A nuclear trained member of the cognizant ISIC Staff, usually the Squadron Training Officer.

(b) A nuclear trained officer with experience as an Engineer Officer.

(c) When available, a nuclear trained officer from the TYCOM's Staff will participate in ISIC Pre-Critical Inspections involving refueling. Arrangements for participation of the TYCOM Staff member should be initiated by the responsible ISIC at least one month in advance of the anticipated ISIC Pre-Critical Inspection.

(5) Reports of Inspection.

(a) The Senior Inspector should provide the inspected unit with an informal report of findings by the inspection team, copy to the cognizant ISIC and TYCOM.

(b) The ship's CO shall review the findings of the inspection team and make necessary adjustments to the training program to ensure the crew's readiness for the examination. The ship's CO shall keep the cognizant ISIC advised of the training plan and the assessment of the crew's progress.

(c) The cognizant ISIC shall review the inspection findings, the CO's training plan and progress evaluations, and direct follow-up reviews and/or inspections necessary to verify the ship's readiness for the examination.

c. Phase I Certification Inspection.

(1) Purpose. To determine the state of readiness and training of the Ship's Force, particularly in the areas of watchstander qualification, damage control readiness, status of operational and emergency bills, present onboard supply of essential technical manuals and general operational knowledge.

(2) Discussion. The guidelines for the Phase I inspection are provided in references (u) through (z). The intent of the inspection is to provide a preliminary estimate of readiness and to identify areas requiring action prior to final certification (Phase II).

(3) Scheduling of Phase I Certification Inspection. Phase I Inspections should be scheduled by the responsible ISIC about 35 days before scheduled initial Sea Trials.

(a) Chief Inspector - ISIC representative of appropriate seniority.

(b) Assistant Chief Inspector - a submarine CO.

(c) Assistant inspectors for the following departments/areas - overall training, executive, operations, navigation, communications, weapons, first lieutenant, engineering and material.

(d) The inspector for the engineering areas of nuclear powered submarines will be a nuclear trained officer qualified as an Engineer Officer.

(4) Reports of Inspection.

(a) The Chief Inspector shall provide the inspected ship with an informal report of findings by the inspection team.

(b) In the event that inspection results indicate the readiness for final (Phase II) certification in the required time cannot be assured, the responsible ISIC should advise the TYCOM of the circumstances.

d. Material Inspection. Prior to certifying commissioned ships' readiness for at-sea operations, conduct a material inspection to determine that the ship is materially ready for at-sea operations in accordance with Volume V of this manual. In addition, on all ships conduct a Salvage Inspection in accordance with Volume IV, Chapter 18 of this manual. Results of material inspections should be reported with Phase II crew certification reports.

e. Phase II Certification Inspection.

(1) Purpose. To certify that the state of training of the crew is satisfactory for at-sea operations.

(2) Discussion. The requirements for Phase II certification inspection are provided in references (u) through (z).

(3) Scheduling of Phase II Certification Inspections. Phase II inspections should be scheduled by the responsible ISIC about nine days prior to Sea Trials.

(4) Composition of the Inspection Team. The requirements for Phase II Certification Team composition are the same as those for Phase I.

(5) Reports of Certification. The Phase II Certification and Material Certification Reports are combined and submitted in accordance with Appendix CB of this chapter.

3.6.8.4.5 Dock Trials. Ship's Force Dock Trials provide the opportunity to test and check out systems, components and portable equipment prior to the Fast Cruise training period simulating underway conditions. Although normally a period of one day is assigned for integrated Ship's Force Dock Trials, tests and evolutions performed in the one to two weeks prior to the Dock Trial date may be accepted by the CO as fulfilling the requirements of this paragraph. The purpose of Dock Trials is to afford the ship an opportunity to demonstrate that major systems and equipments are in fact ready to support Sea Trials. It is expected that individual equipments will have been satisfactorily tested prior to commencement of the integrated operational tests afforded by Ship's Force Dock Trials. Appendix L of this chapter lists the minimum requirements for Dock Trials and will be used by the ship's CO in preparing for and conducting Dock Trials.

3.6.8.4.6 Fast Cruise. The overall objective of the Fast Cruise is to train the crew and determine the crew's ability to take the ship to sea safely. In addition to the normal underway routine, the CO shall have all equipments operated to check for proper operation and to determine the state of training of the crew. Fast Cruise shall, as far as is practicable, simulate at sea operating conditions. It is to be conducted by the Ship's Force and is to be unhampered by repair work or by movement of industrial activity personnel through the ship. The Supervising Authority shall **not** schedule any trials, tests or other work to be performed on the ship during this period. The Fast Cruise should be four days in duration for nuclear ships and two days for non-nuclear submarines. 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 trial within a day after completion of Fast Cruise. Should the 72 hour period be exceeded, the TYCOM may direct an additional Fast Cruise. The parent ISIC will make formal recommendations to the TYCOM as to the desired period of Fast Cruise. Appendix M of this chapter lists the minimum requirements for Fast Cruise and will be used by the ship's CO in preparing for and conducting Fast Cruise. Additional drills and operations are at the discretion of the ship's CO. The ship shall be operated as if underway, simulating the various evolutions required for safe operation of the ship. Each underway section shall be exercised in the evolutions which are normally performed on a section basis. During each evolution, check out all communication systems. Ensure that each is in proper working order and that, where duplicate systems exist, a priority system is designated.

3.6.8.4.7 Sea Trials. Appendix O of this chapter delineates the minimum requirements incident to Sea Trials following industrial activity availabilities. For submarines, following completion of Fast Cruise the ISIC will notify the TYCOM of satisfactory completion of Fast Cruise and readiness for Sea Trials using the message format of Appendix CH. The submarine TYCOM will authorize the ISIC to allow the ship to get underway for Sea Trials using the message format of Appendix CF. The submarine CO will keep the TYCOM aware of the progress of the Sea Trial through periodic SITREPs using the message format of Appendix CP of this chapter. SITREPs will be submitted following completion of the initial tightness dive, following completion of the deep dive to test depth and daily at a minimum and as identified by the TYCOM or the Sea Trial Agenda. Sea Trials following availability are normally conducted with a significant number of "riders". These riders represent NAVSEA, TYCOM and Shipbuilder personnel onboard to observe various tests and trial evolutions. The ship's normal loadout of Lithium Hydroxide canisters, Lithium Hydroxide curtains, EAB masks, SEIE 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 SEIE suit and two oxygen candles shall be carried for each rider exceeding normal crew manning. Lithium Hydroxide canisters, EABs, SEIE suits and Lithium Hydroxide curtains are to be obtained from the industrial activity. The Supervising Authority and ship's CO will use Appendix O of this chapter in preparing for and conducting Sea Trials.

a. Assignment of Escort Ship. An escort is required for:

(1) Initial tightness and deep dives after a major industrial activity availability, including EMBT blow at the completion of each of these dives.

(2) Any EMBT blow from greater than 400 feet. Rationale is to give the 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.

(3) For second and subsequent underway periods if major hull or sea connected system work has been accomplished since last Sea Trials.

b. Escort Ship Capability Requirements. The surface escort ship must have the following capabilities with the necessary equipment in an operating condition:

(1) Radio Communication:

(a) Ability to transmit and receive on two UHF and on 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 HF/UHF or equivalent system capabilities (VHF/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 CW capable operator on call if the requirement for CW communications 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 Dead Reckoning Tracers or equivalent system capability.

(c) Possess navigational capability to fix his position to two mile 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/sea state limitations. In addition, if the escort has an unfaired WQC hydrophone, it shall 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.

(5) When an escort ship is other than another submarine, the ISIC will designate a minimum of one officer qualified in submarines (Gold Dolphins) and ensure a sufficient number of officers qualified in submarines (Gold Dolphins) will be embarked during the escort duty. An escort is not required on Board of Inspection and Survey (INSURV) trials since the EMBT blow is done in accordance with applicable URO MRC vice from maximum authorized operating depth.

(6) Assignment of SRDRS During Submarine Sea Trials.

(a) A SRDRS will be placed in a modified-alert status at the beginning of Sea Trials requiring an escort following an industrial activity availability or major maintenance period for:

1 The ship's initial tightness and deep dive event.

2 Subsequent Sea Trials until the completion of the initial dive to design test depth.

3 If, in the TYCOM's judgment, a Sea Trial requires an escort due to major hull cuts, etc. The TYCOM shall obtain NAVSEA concurrence when determining the need for escort/SRDRS services.

(b) The ship conducting Sea Trials will notify COMSUBDEVRON FIVE in Silverdale, WA and COMNAVSEASYSCOM when SRDRS services are no longer required due to completion of the events in paragraph 3.6.8.4.7(6)(a) of this chapter or due to delay in completing Sea Trials.

(c) 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.

(7) A modified alert message will be sent by the industrial activity with the required SRDRS support dates 6 weeks prior to the requested date. Any changes in this request date will require immediate notification to the Fleet Commander, COMNAVSEASYSCOM and COMSUBDEVRON FIVE. Sample messages in Appendix BN and CQ of this chapter.

3.6.8.4.8 Interrupted/Additional Sea Trials. In the event a Sea Trial is interrupted, or an additional Sea Trial becomes necessary, the following requirements are to be met. These requirements shall be invoked if the ship returns to port for industrial activity repairs which affect SUBSAFE certification or which will require at-sea testing. These requirements will be reiterated by the TYCOM via a special "Countdown Message" Appendix CL of this chapter when the need arises:

a. The industrial activity will draft a revised Sea Trials Agenda to support resumption of the trials. This Agenda shall be provided to NAVSEA for concurrence and TYCOM for approval.

b. The ISIC shall report by message (format of Appendix CM of this chapter) to the TYCOM that the material condition of those SUBSAFE Certification boundaries that were installed, repaired and/or tested by Ship's Force is satisfactory for resuming Sea Trials.

c. The Supervising Authority shall provide a report, by message (reference (t), Appendix B.3.5), to NAVSEA (information copy to the TYCOM) that the material condition of the systems installed, repaired and/or tested by the industrial activity is satisfactory for resumption of Sea Trials. As a minimum, the report should state the status of all incomplete Category IA Audit Items resulting from the NAVSEA SSCA and that all SUBSAFE work has been performed in accordance with the requirements of reference (t).

d. The CO of the ship shall provide a report by message (format of Appendix CN of this chapter) to the TYCOM stating that the crew and ship are ready for Sea Trials. Any exceptions are to be listed in this message.

e. NAVSEA (PMS 392), upon receipt of the Supervising Authority report, shall recertify the material condition of the ship for operation to a specific operating depth for Sea Trials and report recertification by message (reference (t), Appendix B.3.6) to the TYCOM.

f. Upon completion of all of the requirements in paragraphs 3.6.8.4.8.a. through e above, the TYCOM will provide a message (Appendix CO of this chapter) to the ship granting permission to proceed with the conduct of Sea Trials and authorize the ship to dive to the Sea Trial operating depth recommended by NAVSEA.

g. Submarine surface transits from industrial port in advance of completion of CNO availabilities (prior to certification for unrestricted operations) to a different or homeport can be executed without a sea trial, without an escort and without an SRDRS after obtaining NAVSEA concurrence and authorization from the TYCOM. The submarine shall not be authorized to dive and no testing is permitted during the transit. Operational need for transit and mitigating actions, if applicable, shall be determined by the TYCOM.

3.6.8.4.9 Availability Completion Prerequisites. Upon completion of Sea Trials and correction/resolution of deficiencies, the following requirements must be met prior to completion of an industrial availability greater than six months duration. These requirements will be reiterated in the TYCOM "Countdown Message" Appendix CD or CL of this chapter:

a. The Supervising Authority shall report by message (reference (t), Appendix B.3.8) to NAVSEA, satisfactory completion of all Sea Trials, completion of controlled dives, correction of all mandatory sea trial deficiencies, and resolution of all NAVSEA SSCA Category IA recommendations. Report that the SUBSAFE material condition of the ship installed, repaired, and/or tested by the industrial activity is satisfactory for URO to test depth. Identify any deferred SUBSAFE work and/or conditionally approved deviations and waivers.

b. Following verification from the Supervising Authority of satisfactory completion of all Sea Trials, completion of controlled dives, correction of all mandatory Sea Trial deficiencies, and resolution of all NAVSEA SSCA Category IA recommendations, NAVSEA shall certify by message (reference (t) Appendix B.3.9) to the TYCOM, with information copies to CNO and the appropriate Fleet Commander, the SUBSAFE material condition of those parts of the ship installed, repaired, and/or tested by the industrial activity is satisfactory, and recommend authorization for URO to design test depth subject to TYCOM verification that SUBSAFE certification of areas outside the industrial activity AWP has been sustained.

c. Following verification from NAVSEA of satisfactory completion of all sea trials, completion of controlled dives, correction of all mandatory sea trial deficiencies, certification that the SUBSAFE material condition of those parts of the ship installed, repaired, and/or tested by the industrial activity is

satisfactory, and upon confirmation of maintenance of SUBSAFE certification of portions of ship not affected by the industrial activity, the TYCOM shall report by message (Appendix CG of this chapter) to the ship, with copies to CNO and NAVSEA, reporting status of SUBSAFE certification and authorizing URO to test depth.

3.7 COMPLETION OF AVAILABILITY.

a. (Surface Force Ships and Aircraft Carriers) In order to standardize reporting practices, the official end of a CNO Availability will be upon completion of the TYCOM approved Sea Trials Agenda. Ships shall report Sea Trial Completion in the form of Appendix F1 or Appendix F2 of this chapter.

b. (Submarines only) CNO availabilities are complete when the TYCOM transmits one of the two following messages:

(1) Appendix BO of this chapter. (SAMPLE TYCOM MESSAGE TO SHIP CONCERNING URO FOR INDUSTRIAL ACTIVITY AVAILABILITIES LESS THAN SIX MONTHS IN DURATION (SUBMARINES ONLY)).

(2) Appendix CG of this chapter. (SAMPLE TYCOM MESSAGE TO SHIP CONCERNING URO FOR INDUSTRIAL ACTIVITY AVAILABILITIES GREATER THAN SIX MONTHS IN DURATION (SUBMARINES ONLY)).

3.8 AVAILABILITY COMPLETION DEPARTURE CONFERENCE.

3.8.1 Departure Conference and Availability Completion Message. At the end of the availability, the Supervising Authority, FMA (if applicable), and Ship's Force will conduct a Departure Conference to finalize the status of all work performed during the availability. The conduct of this conference is similar to that of the Progress Reviews conducted in accordance with paragraph 3.6.3.1.b. of this chapter, and should be used to gather all necessary information to draft and send the Availability Completion Message. As a minimum, the Availability Completion Message should address all areas addressed in the Weekly Progress Message, Appendices F1 or F2 of this chapter as applicable, as well as the following:

a. Unresolved maintenance issues and guarantee work items.

b. Report of configuration changes resulting from alterations installed during the availability.

c. Summarize the NAVSEA waivers issued during the availability.

d. Identify those work candidates that will be deferred until the next industrial availability.

3.9 POST AVAILABILITY.

3.9.1 Completed Availability Work Package. Within six months after the completion of the availability, SUBMEPP (Submarines)/PMS 312C (Aircraft Carriers)/applicable TYCOM (all other Surface Ships) will issue the Completed Work Package.

3.9.2 End-of-Cycle Analysis (Surface Force Ships Only). Provide inputs to support the SURFMEPP End-of-Cycle Analysis. These inputs will include DFSs approved during the availability and work that was accomplished, but not in the approved AWP.

3.9.2.1 Post-Availability Analysis (Surface Force Ships Only). TYCOM will participate in the post-availability analysis process, attend CNO Availability completion Maintenance and Modernization Performance Reviews in accordance with Volume VI, Chapter 44 of this manual and provide post-availability lessons learned to SURFMEPP.

3.10 BASELINE AVAILABILITY WORK PACKAGE CLOSE-OUT.

3.10.1 Fleet Readiness Plan Maintenance Cycle BAWP Close-Out (Surface Force Ships Only). The following procedures will be utilized to close-out and complete the FRP Maintenance Cycle and associated BAWP.

3.10.2 BAWP Close-Out Verification and Assessment Meeting. No later than 45 days after CNO Availability completion, SURFMEPP will conduct a BAWP Close-Out Verification and Assessment Meeting. This meeting will determine the status of all life cycle branded BAWP items and modernization work scheduled for the availability. A list of all BAWP work items that were not accomplished and the reason(s) for non-accomplishment will be compiled for inclusion in the BAWP Close-Out Report. This meeting may be held in conjunction with lessons learned conferences or similar meetings.

a. Attendees. The BAWP Close-Out Verification and Assessment Meeting will be chaired by a SURFMEPP representative. The following personnel are encouraged to attend this meeting:

(1) Ship's CO (or designated representative).

(2) Engineer Officer and Availability Coordinator.

(3) Project Engineer and Combat Systems Project Engineer.

(4) Project Manager and/or Class Team Lead.

(5) Multi-Ship/Multi-Option/LMA/Planning Activity Representative.

(6) TYCOM Representative.

(7) ISIC Representative.

(8) Planning Yard Representative.

(9) Program Manager's Representative.

(10) Navy Regional Maintenance Center Representative.

(11) RMC Assessment Director.

(12) NAVSEA 05D Representative.

(13) NAVSEA 21 Modernization Representative.

(14) SURFMEPP Modernization and Integration Representative.

b. Agenda. The following agenda will be used for reviewing, assessing and closing out the BAWP. Additional agenda items may be added at the discretion of the TYCOM, ISIC, Planning Activity or ship. Attendees will be prepared to address their respective portions of the agenda.

(1) Identify life cycle critical BAWP and AWP work completed during the recent FRP.

(2) Identify life cycle critical BAWP and AWP work affected by de-scoping during the availability.

(3) Identify and reschedule work not deferred from the BAWP and not fully accomplished during the FRP Maintenance Cycle.

(4) Establish the basic requirements for the next FRP Maintenance Cycle.

(5) Review the status of active, life cycle-impacting DFSs.

(6) Assess the quality of BAWP and AWP documents and provide recommendations for improvement.

(7) Review recommendations for SURFMEPP process improvements and possible Lean initiatives.

3.10.3 BAWP Close-Out Report. No later than 90 days after the completion of a CNO Availability, SURFMEPP will issue a BAWP Close-Out Report. This report will detail all non-accomplished "A" branded BAWP items and their deferral status as well as all BAWP Job Control Numbers that were not properly closed. Requested action items will be annotated where applicable. This report will be submitted to COMNAVSURFLANT/ COMNAVSURFPAC N43 and the local TYCOM representatives with copies to NAVSEA 05D, NAVSEA 21, Multi-Ship/Multi-Option Contractor (or Planning Activity) and the ship's Maintenance Team.

a. The report shall include the following general information: Type and location of availability, availability start and end date, contractor, amount of growth and an estimate in man days of the non-accomplished work's impact to the ship's follow-on maintenance cycle costs.

b. The BAWP Close-Out Report shall also include a summary of SURFMEPP's response to recommended policies, processes and proposed actions to improve the effectiveness of future BAWPs.

c. BAWP Close-Out Cost Data. SURFMEPP's Cost Planning Division will annotate and correct the close-out costs for all BAWP and AWP Job Control Numbers using the Open Architectural Retrieval System, Navy Maintenance Database, Request for Contract Change Logs and Departure Reports. These costs will be retained in the 3M system at the Job Control Number level.

APPENDIX B

TYPICAL CNO AVAILABILITY PLANNING MILESTONES

(SURFACE FORCE SHIPS ONLY)

* 1 - Both Naval and Private Industrial Activities
2 - Private Industrial Activities only
3 - Naval Activities

MILESTONES	*CODE	RESPONSIBLE ACTIVITY	TIMELINE (Days)
1. Review CSMP and make sure that all ship deferred maintenance actions desired for accomplishment are documented.	1	Maintenance Team (MT)	Continuous
2. Review SURFMEPP PRE-BAWP.	3	MT	C+120 (after last CNO avail completion)
3. Life Cycle Planning Conference (LCPC) Meeting.	1	SURFMEPP	C+130 (after last CNO avail completion)
4. Upload BAWP tasks to ship's CSMP.	3	SURFMEPP	C+140 (after last CNO avail completion)
5. Review SURFMEPP Planning Schedule Letter for action items.	3	SURFMEPP	C+140 (after last CNO avail completion)
6. Review FMPMIS and prepare recommended list of Title "D" and "F" SHIPALTs for the TYCOM.	1	TYCOM	A-548 to A-487
7. 50 percent of BAWP is screened to maintenance availabilities.	1	MT/RMC	A-470
8. Update BAWP with new requirements.	3	SURFMEPP	A-470
9. Participate in SURFMEPP CSMP/DFS/BAWP Review.	1	SURFMEPP/RMC/TYCOM	A-410
10. Ensure 100 percent of BAWP is screened to maintenance availabilities.	1	MT	A-410
11. Update BAWP with new requirements.	1	SURFMEPP	A-400
12. Issue Letter of Authorization (including AITs).	1	Ship's Program Manager/TYCOM	A-360

MILESTONES	*CODE	RESPONSIBLE ACTIVITY	TIMELINE (Days)
13. Issue Title "K" SHIPALT advance planning letter.	1	NAVSEA	A-360
14. Integrated Planning Conference (Issue AWP).	1	TYCOM/MT	A-360
15. Design shipcheck before development of Ship Installation Drawings.	1	Design Agent	A-425 to A-360
16. Advance planning briefing.	1	TYCOM	A-425 to A-360
17. Pre-Availability Test and Inspection or Work Package Definition Conference, including combat systems and inspection of boilers (if possible).	1	TYCOM/Industrial Activity/MT	A-360 to A-304
18. Pre-Availability Test and Inspections or WDC completion meeting.	1	TYCOM/MT/Industrial Activity	A-360 to A-304
19. Issue Pre-Availability Test and Inspections or Work Package Definition Conference Meeting report (within 10 days after conference).	1	TYCOM/Industrial Activity	A-334 to A-274
20. Attend TYCOM A-240 Advanced Planning Conference.	1	MT	A-240
21. 50 percent of D-Level maintenance locked based on funding.	3	MT	A-240
22. Submit A-240 Deferral Letter with Maintenance Team Assistance.	1	TYCOM	A-240
23. Initiate Ship's Force material planning and procurement.	1	Ship	A-213
24. Issue Post-WDC report.	3	TYCOM	A-245 to A-135
25. Initiate discussions with Naval Research Laboratory (NRL) to determine potential NRL projects.	1	RMC/NRL	A-180
26. Issue list of work items screened for Forces Afloat accomplishment.	1	TYCOM	A-150 to A-110
27. Complete Bid Specifications.	1	RMC	A-135 to A-110
28. Review Bid Specifications for errors, omissions, duplications (may require conference to resolve).	1	TYCOM/RMC/MT	A-135 to A-110
29. 80 percent of D-Level maintenance work package locked based on funding.	3	MT	A-120
30. 100 percent of O-Level maintenance work package locked.	3	MT	A-120

MILESTONES	*CODE	RESPONSIBLE ACTIVITY	TIMELINE (Days)
31. Work Package Integration Conference.	1	RMC	A-120
32. Finalize/lock NRL projects.	1	NRL	A-120
33. Submit A-120 Deferral Letter with Maintenance Team Assist.	3	TYCOM	A-120
34. Develop General Purpose Electronic Test Equipment management program.	1	Ship	A-110 to A-30
35. Order material for Ship's Force work.	1	Ship	A-90 to A-45
36. 100 percent of D-Level maintenance work package locked based on funding.	3	MT	A-75
37. Issue solicitation for bids or proposals to contractors.	3	RMC	N/A
38. Award Contract.	3	RMC	N/A
39. Develop Off-Load Plan for arrival at industrial activity (including off-load assistance, security and storage arrangements).	1	Ship	A-60 to A-10
40. Review SSRs for changes required as a result of authorized work. Turn over items (including changes previously accomplished) to Planning industrial activity.	1	Ship/Planning Yard	A-90 to A-45
41. Ship representative visit industrial activity for preliminary off-ship berthing and storage inspection.	1	Ship/Industrial Activity	A-30 to A
42. Definitize Work Package.	3	RMC	A-35
43. Work Package Execution Review (WPER).	2	MT	A-30
44. Phase II Pre-availability Tests and Inspections, Boiler Start of Availability Inspection (as applicable).	1	Ship/TYCOM/Naval Surface Warfare Center (NSWC)/ Industrial Activity	A-60 to A
45. Off-load ammunition and fuel as required (TYCOM approval required). Also off-load hazardous material and oily waste.	1	Ship	A-30 to A-1
46. Start availability, start ILO, start Combat System Technical Training.	1	Ship/Industrial Activity	A
47. Send start message to Fleet Commander.	1	TYCOM	A
48. Arrival Conference.	1	Industrial Activity/ISIC/Ship	A to A+3

MILESTONES	*CODE	RESPONSIBLE ACTIVITY	TIMELINE (Days)
49. Cancel all outstanding Casualty Reports (CASREP) which are scheduled to be corrected during the industrial availability.	1	Ship	A to A+3
50. Execute MOA with Industrial Activity.	1	Ship/Industrial Activity	A to A+7
51. Submit Weekly Progress Reports.	1	Ship	A to C
52. 25 percent, 50 percent 75 percent point review conferences.	1	Ship/ TYCOM/Industrial Activity	A to C
53. Start crew training in preparation for Initial LOA.	1	Ship/ISIC	C-120
54. Start Combat System Level Testing.	1	Ship/Industrial Activity	C-90
55. Prepare Dock Trial, Fast Cruise, and Sea Trial agendas.	1	Ship	C-45
56. Post-Repair Boiler Inspection.	1	TYCOM/ Ship/NSWC	C-45
57. LOA.	1	ATG/ISIC/Ship	C-40
58. Start crew training in preparation for Sea Trials.	1	Ship	C-40
59. Send Sea Trials Discrepancy Report.	1	Ship	Completion of Sea Trials
60. Visual National Policy for the Control of Compromising Emanations (TEMPEST) Inspection (with Configuration Control Diagram).	1	Industrial Activity	C-10
61. Completion Review Conference.	1	Industrial Activity/Ship/ TYCOM/ISIC	C-5
62. Send Completion Message to Fleet Commander.	1	TYCOM	C
63. CSMP Update. Report completion of all SHIPALTs, Field Changes, Ordnance Alterations (ORDALTs).	1	Ship	C
64. Send letter report of any unsatisfactory work (photographs and later updates may also be sent).	1	Ship	C+10
65. Combat System Post-Overhaul Exam. (If required).	1	Ship/ISIC	C+15
66. Attend SURFMEPP BAWP Close-Out Meeting.	3	MT/RMC/TYCOM	C+45
67. Submit Final BAWP Close-Out Report.	3	SURFMEPP	C+90

MILESTONES	*CODE	RESPONSIBLE ACTIVITY	TIMELINE (Days)
68. End of guarantee period for work performed by Industrial Activity. All unsatisfactory work must be reported by this date to be corrected by industrial activity. Deficiencies discovered later should also be reported.	1	Ship	C+90
69. Complete SSR update.	1	Planning Yard	C+90
70. Issue Completed AWP.	1	TYCOM	C+180

NOTE: "A" AND "C" IN THE "TIMELINE" COLUMN REPRESENT THE START AND COMPLETION DATES, RESPECTIVELY. THE DATES SHOWN ARE FOR ILLUSTRATION ONLY, SINCE ACTUAL MILESTONES VARY DEPENDING ON SHIP OPERATING SCHEDULES, START DATE CHANGES, AND OTHER CONSIDERATIONS.

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APPENDIX D

SUGGESTED GUIDELINES FOR FORCES AFLOAT REVIEW OF AVAILABILITY WORK PACKAGES

a. The preliminary AWP includes information which SUBMEPP (Submarines)/PMS 312C (Aircraft Carriers)/applicable TYCOM (all other Surface Ships)/Maintenance Manager extracts from the CSMP 21 to 24 months prior to the availability. SUBMEPP/PMS 312C/TYCOM (as applicable) and Maintenance Manager only reviews items in the CSMP which are coded 1 under the type availability column. SUBMEPP/PMS 312C/TYCOM (as applicable) and Maintenance Manager continues to monitor the CSMP until submission of the first Supplementary Work List. It is essential that the CSMP be up-to-date and reflect what work the ship requires the industrial activity to accomplish. The CSMP is the primary means of communicating unique work items not already covered by the AWP until submission of the first Supplementary Work List.

b. Ship's Force should review each maintenance item on the CSMP deferred for accomplishment to ensure that the deficiency reported and the work involved to correct it are complete and accurate.

c. To the maximum extent possible, work items that are within the capability of an FMA to accomplish should be accomplished as T/A-2 work prior to the CNO Maintenance Availability.

d. Ship's Force will identify CSMP repair items previously deferred for other than industrial activity action which Forces Afloat will not likely accomplish prior to the availability and change the type availability code to T/A-1, with ISIC concurrence, on these items.

e. Ship's Force will review each outstanding alteration for applicability and ensure that the record of completed alterations is correct. Alterations erroneously reported complete result in plans and tests which do not fit the ship. Completed alterations not reported as complete will cause unnecessary expenditure of shipcheck funds and/or duplication of effort during the availability.

f. During AWP review meetings, Ship's Force should mark up both the index and applicable SWLIN as an aid in recalling information. Appropriate corrections to the TAMS and FMPMIS should be made as early as possible via normal channels.

g. Ship's Force will review the AWP to see if any component/equipment requiring attention of any kind has been omitted. Note that the Advanced Equipment Repair Program and TRIDENT Planned Equipment Replacement (TRIPER) Program (SSBN/SSGN 726 Class), SEAWOLF Rotatable Pool Program and Aircraft Carrier Planned Equipment Replacement Program replace many components with refurbished units. Repair work on components that will be replaced by Advanced Equipment Repair Program can be canceled or noted as covered by the replacement SWLIN.

h. On receipt of the Proposed AWP, Ship's Force should review each Ship System Work Description. Ship's Force should prepare comments as to whether the extent of planned restoration, maintenance or repairs is sufficient or excessive. Additional comments regarding abnormal operation or configuration will be of interest to the industrial activity even if the AWP covers the particular component for repair because the scope of the job can be exactly defined early, avoiding "growth within scope" and schedule slippage later in the availability.

i. Ship's Force should review the General Information Section, "zero" series SWLINs and the glossary for a definition of terms used in the AWP to obtain a general understanding of availability procedures, philosophy and the pre-availability planning requirements.

j. Ship's Force should review all outstanding Departures from Specification to ensure they identify, for correction during the availability, all known non-standard repairs or installations not in accordance with class plans.

k. Ship's Force should identify any recently completed repair actions on components assigned to industrial activities and alterations that may negate the need for, or reduce the extent of, industrial activity refurbishment.
l. Ship's Force should identify any equipment not presently addressed in the AWP. SUBMEPP/PMS 312C/TYCOM (as applicable) and Maintenance Manager are interested in identifying special or temporary equipment installations which may need maintenance during the availability.
m. Ship's Force should identify any equipment listed for restoration, that is in exceptionally good material condition.
n. Ship's Force should review, "Forces Afloat Actions to be Accomplished Prior To or At Arrival" index in the AWP to ensure these actions are understood.

APPENDIX E

MONITORING PROCEDURES

(SURFACE FORCE SHIPS AND AIRCRAFT CARRIERS)

1.1 Periodic Monitoring.

a. Purpose. To provide to ships in availability such administrative and training assistance as is necessary to improve the Ship's Force conduct of the overhaul, maintenance and training tasks. Visits of this nature are termed Tech Assists.

b. To evaluate the effectiveness of administration and training. Visits of this nature are termed Work-Ups.

c. To conduct spot checks to monitor progress in specific material, administrative and training areas. Visits of this nature are termed Monitor Visits.

d. The extent, type and frequency of periodic monitoring and visits should be determined on a case basis by the responsible ISIC or TYCOM Representative. The initial inspection should be broad in scope in order to apprise the responsible ISIC of the adequacy of the ship's performance and progress. Normally, the initial visit will indicate the necessary frequency and scope of subsequent Tech Assists and Monitor Visits. In general, any required Work-Ups should be scheduled in advance of key events during the availability.

e. Examine the effectiveness of Ship's Force preparations for overhaul during initial inspections. Subsequent visits should review the following areas as appropriate for the purpose of the specific inspection.

(1) Review procedures and administrative steps for provisional watch station qualifications.

(2) Review department organization manuals.

(3) Review department instructions and administrative procedures.

(4) Review ship's instructions and administrative procedures.

(5) Review department logs, operating instructions and casualty procedures.

(6) Review ship's standard operating procedures and the ship's organization and regulations manual.

(7) Review training conducted and planned to support the goal of requalifying or reestablishing proficiency of watchstanders.

(8) Monitor performance of watchstanding.

(9) Conduct spot check of ship's records and logs in use.

(10) Review Ship's Force controlled work (Level I and Nuclear) and procedures to ensure proper controls and documentation are in accordance with Volume V, Part I, Chapter 2 of this manual.

(11) Review status of Ship's Force responsible PMS/IEM.

(12) Inspect installed equipment for cleanliness and adequate protection from damage.

(13) Review Tagout and Work Authorization Logs. Spot check for compliance in accordance with current directives.

(14) Inspect ship for hazards.

(15) Inspect provisions for casualty control including watertight integrity.

(16) Verify that all COSAL material including operating space items, have been off-loaded to processing areas which provide appropriate security.

(17) Inspect the processing area to verify provisions and procedures for careful ILO inventory.

(18) Review response of supply system to requisitions in support of Ship's Force work.

(19) Verify that items are withdrawn from the ship's COSAL stock undergoing inventory/ILO only on an emergency basis and that such issues are well documented with appropriate adjustments to the inventory records.

(20) Evaluate general safety practices.

f. Scheduling of Periodic Monitoring Visits. Periodic Monitoring Visits should be scheduled by the responsible ISIC/TYCOM as appropriate. Some monitoring visits should be conducted on an unannounced basis. These visits should be given so as to minimize interference with industrial activity and Ship's Force work.

g. Reports of Visits. Formal reports of the results of periodic monitoring visits are not required by the TYCOM. However, the responsible ISIC should advise the TYCOM in situations when the attainment of required progress toward completion of Key Events is in jeopardy.

APPENDIX F_1

SITREP/PROGRESS REPORT

(Aircraft Carriers Only)

FM USS (SHIP NAME)//
TO (APPLICABLE TYCOM)//N43//
INFO (APPLICABLE FLEET COMMANDER)//N43//
COMNAVSEASYSCOM//04X/04X1/04X2/08/071/911/931/PMS312/ (AS APPLICABLE)//
COMNAVAIRSYSCOM (AS APPLICABLE)//
CNO WASHINGTON DC/N4/N43/N88/N885//
ISIC (IF APPLICABLE)//
SUPERVISING AUTHORITY//
PMS 312C//
Local RSG/RMC (IF APPLICABLE)//RO//
FMA//
(OTHER UNITS IN AREA IF APPLICABLE)//
(OTHER UNITS OF CLASS OF APPLICABLE)//
BT
UNCLAS //N04790//
MSGID/GENADMIN/USS _____//
SUBJ/(TYPE AVAILABILITY) SITREP (SEQUENTIAL NUMBER)//
REF/A/DOC/COMUSFLTFORCOM/(DATE)//
AMPN/REF A IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOL II//
RMKS/1. THE FOLLOWING PROGRESS REPORT IS SUBMITTED IAW REF A. CO'S SUMMARY:
A.
B.
C.
2. CRITICAL PATH WORK, INDUST, FMA, AND OTHER AREAS OF CONCERN:
A.
B.
C.
3. STATUS OF WORK (FOR THE WEEK OF DDMMMYY-DDMMMYY)

A.	INDUSTRIAL ACTIVITY 1	(MAN-DAYS)	FOR WEEK	FOR AVAILABILITY
	SCHEDULED			
	PROGRESSED			
	EXPENDITURES			
B.	INDUSTRIAL ACTIVITY 2	(MAN-DAYS)	FOR WEEK	FOR AVAILABILITY
	SCHEDULED			
	PROGRESSED			
	EXPENDITURES			
C.	SHIP'S FORCE	(MAN-DAYS)	FOR WEEK	FOR AVAILABILITY
	SCHEDULED			
	PROGRESSED			
D.	IMF	(MAN-DAYS)		
	SCHEDULED			
	PROGRESSED			
	EXPENDITURES			

4. STATUS OF TESTING
A. TOTAL TESTS (NUC/Non-NUC)
TESTS STARTED
TESTS SCHEDULED TO COMPLETE
TESTS COMPLETE
5. STATUS OF KEY EVENTS

6. REACTOR DEPARTMENT TRAINING ASSESSMENT (READINESS TO SUPPORT KEY EVENTS AND READINESS TO CONDUCT AT-SEA OPERATIONS)
7. SUPERVISING AUTHORITY COMMENTS.//
BT

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

APPENDIX F_2

SITREP/PROGRESS REPORT

(Surface Force Ships Only)

FM USS (SHIP NAME)//
TO (APPLICABLE TYCOM)//N43//
INFO (APPLICABLE FLEET COMMANDER)//N43//
COMNAVSEASYSCOM//04X/04X1/04X2/08/04M//
COMNAVAIRSYSCOM (AS APPLICABLE)//
ISIC (IF APPLICABLE)//
SUPERVISING AUTHORITY//
Local RSG/RMC (IF APPLICABLE)//RO//
FMA//
PEO THEATER SURFACE COMBATANTS//PMS400F//(AS APPLICABLE FOR COMBATANTS)//
PEO EXW//PMS470/PMS325//(AS APPLICABLE FOR AUXILIARIES, LITTORALS AND PATROL CRAFT)//
PEO MUW//PMS490//(AS APPLICABLE FOR MINE WARFARE)//
(OTHER UNITS IN AREA IF APPLICABLE)//
(OTHER UNITS OF CLASS OF APPLICABLE)//
BT
UNCLAS //N04790//
MSGID/GENADMIN/USS _____//
SUBJ/(TYPE AVAILABILITY) SITREP (SEQUENTIAL NUMBER)//
REF/A/DOC/COMUSFLTFORCOM/(DATE)//
AMPN/REF A IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOL II//
RMKS/1. THE FOLLOWING PROGRESS REPORT IS SUBMITTED IAW REF A. CO'S SUMMARY:

A.
B.
C.

2. CRITICAL PATH WORK, INDUST, FMA, AND OTHER AREAS OF CONCERN:

A.
B.
C.

3. STATUS OF PLANNING

A.
B.
C.

4.	STATUS OF WORK	FOR WEEK	FOR AVAILABILITY	
	A. INDUSTRIAL ACT			
	PLANNED	(MAN-DAYS)		
	EXPENDED	(MAN-DAYS)		
	B. FMA			
	ASSIGNED JOBS	N/A	( )	
	SCHEDULED COMPL	(#)	( )	
	ACTUAL COMPL	(#)	( )	
	C. SHIP'S FORCE			
	SCHEDULED	(MAN-DAYS)	( )	
	EXPENDED	(MAN-DAYS)	( )	
	(45)	(45)	(20)	(95)

5.	PROGRESS			
	A. AVAILABILITY	INDUST ACT	FMA	SHIP'S FORCE
	TIME EXP(%)	PROGRESS(%)	PROGRESS(%)	PROGRESS(%)
	(45)	(45)	(20)	(95)

6. STATUS OF TESTING
   A. INDUSTRIAL ACTIVITY
      TOTAL TESTS AUTHORIZED ( )
      TESTS STARTED ( )
      TESTS COML ( )
      TESTS CANCELLED ( )
   B. FMA
      TESTS SCHED TO START (100)
      TESTS STARTED ( )
      TESTS SCHED TO COMPL ( )
      TESTS COMPL ( )
7. STATUS OF KEY EVENTS

	ORIG SCHED	REV DATE	ACT COMP
COMMENCE AVAIL	2/1	2/11	2/12
DRY-DOCKING (IF APPLICABLE)	2/1	2/11	3/20
ELEX REMOVALS COMP	4/11		
UNDOCK		6/2	
SPACE TURNOVER			
#1MMR	6/23		
#2MMR	7/1		
LOA		7/20	
CREW CERT			
COMPLETE AVAIL	9/15		
HOT WASH	MM/DD/YYYY		

(THIS IS NOT AN ALL INCLUSIVE LISTING. SUPERVISING AUTHORITY WILL ISSUE THEIR LIST OF KEY EVENTS)

8. STATUS OF SELECTED RECORDS. (SHORT NARRATIVE HIGHLIGHTING ANY PROBLEM AREAS).
9. FOL IS STATUS OF USS XXXXXX BLUE AND GREEN (IF NECESSARY) COMMAND, CONTROL, COMMUNICATIONS, COMPUTERS, COMBAT SYSTEMS, INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE (C5ISR), INFORMATION TECHNOLOGY FOR THE 21ST CENTURY (IT-21) AND CNSL/SPAWAR ALTERATION INSTALL TEAM (AIT) HARDWARE AND SOFTWARE INSTALLS/UPGRADES FOR THE WEEK ENDING DDMMMYY: (READ IN FIVE COLUMNS)

SYSTEM/EQUIP/ALT	START DATE COMPLETION DATE	ESTIMATED PERCENTAGE COMPLETED	ESTIMATE (Y/N)	TCD BUST

10. THE FOLLOWING C5ISR, IT-21 AND AITs ARE SCHEDULED FOR INSTALLATION: (READ IN FIVE COLUMNS)

SYSTEM/EQUIP/ALT	SPONSOR	STATUS	ESD	ECD

STATUS NOTES
NOTE 1 - WAITING RMMCO CHECK-IN
NOTE 2 - RMMCO CHECK-IN COMPLETE
NOTE 3 - AWAITING SHIP IN-BRIEF
NOTE 4 - WORK STARTED (TAGOUT/WAF SUBMITTED)
NOTE 5 - PLANNED, BUT NOT YET AUTHORIZED

11. FOL C5ISR, IT-21 AND AIT INSTALLS ARE COMPLETE:
    SYSTEM ALT SOVT (Y/N) SOVT COMP MSG (Y/N)
12. POSSIBLE HOT WASH ITEMS
13. SUPERVISING AUTHORITY COMMENTS.//

BT

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

APPENDIX G

SAMPLE NEW WORK FORWARDING LETTER AND INDEX

From: Commanding Officer, USS (Ship Name and Hull No.)
To: (TYCOM)
Via: (ISIC) (See Note 1)

Subj: NEW WORK AUTHORIZATION REQUEST NO. (1) (See Note 2)

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

Encl: (1) Index of New Work Requests
(2) Supplementary Work Requests (IPN 002-064) (See Notes 3 and 4)

1. Enclosures (1) and (2) are submitted in accordance with reference (a) as the (first) supplementary work request (See Note 2).

Commanding Officer

Copy to:

SUBMEPP (Submarines only)/PMS 312C (Aircraft Carriers only)
ISIC (See Note 1)
Supervising Authority (See Note 5)

NOTES:

1. SUBMIT VIA ISIC BEFORE AVAILABILITY START, SUBMIT DIRECTLY TO TYCOM AFTER AVAILABILITY START. PROVIDE COPY TO ADMINISTRATIVE COMMANDER (GROUP/SQUADRON) AFTER AVAILABILITY START.

2. SUPPLEMENTARY WORK LISTS ARE NUMBERED CONSECUTIVELY THROUGH AVAILABILITY COMPLETION.

3. ONLY THE ORIGINAL OPNAV 2K (AND 2L IF REQUIRED) SHALL BE ATTACHED TO THE INDEX. MULTIPLE COPIES ARE NOT REQUIRED.

4. THE FIRST SUPPLEMENTAL IS INTEGRATED PRIORITY NUMBER (IPN)-002. AWP IS CONSIDERED IPN-001. IPNS SHALL BE SEQUENTIALLY NUMBERED AND RECORDED ON INDEX FROM FINAL SUBMISSION TO AVAILABILITY COMPLETION.

5. COPY TO SUPERVISING AUTHORITY OFFICE.

USS_____ (Hull No.) Index of New Work Requests

IPN	PRI	JSN From CSMP	Brief Title	ISIC Comment	TYCOM Action	Remarks
(Ex) 002	03	EA01-5493	VH-5 hard to operate		Assign to Industrial Activity	Authorized for Industrial Activity
NUMBERED SEQUENTIALLY						

See Note 4

APPENDIX I

MINIMUM DOCK TRIALS REQUIREMENTS

(SURFACE FORCE SHIPS AND AIRCRAFT CARRIERS)

REQUIREMENT	AIRCRAFT CARRIERS	SURFACE FORCE SHIPS
1. Check all Telephone, Announcing and Interior Communications circuits between all stations.	X	X
2. Test all alarms, i.e., General Quarters, Collision, etc.	X	X
3. Check all operational status readout interior communications circuits.	X	X
4. Test whistle.	X	X
5. Check adequacy of interior lighting and emergency lighting.	X	X
6. Operate all hydraulic systems using each installed pump.	X	X
7. Test operation of all radio transmitters and receivers using all antennas.	X	X
8. Operate all radar equipment.	X	X
9. Operate all sonar equipment.	X	X
10. Take and plot fixes using all navigation equipment and each antenna.	X	X
11. Test operation of trim/ballast control/list control system and pump (from all operating locations) in accordance with local instructions.	X	X
12. Test operation of portable submersible pump from each installed outlet.	X	X
13. Test engine order telegraphs.	X	X
14. Test magazine/pyro flooding systems.	X	X
15. Operate each lube oil system, including pumps, controllers, purifiers and indicators.	X	X
16. Energize the Navigation System and gyrocompass; determine that they settle out; take azimuth; check all repeaters.	X	X
17. Check potable water system, have water samples analyzed.	X	X
18. Test capstans and winches.	X	X
19. Operate steering system in all modes. Test normal and emergency rudder angle indicators.	X	X

REQUIREMENT	AIRCRAFT CARRIERS	SURFACE FORCE SHIPS
20. Remove all brows.	X	X
21. Test Automatic Bus Transfer devices.	X	X
22. Operate each watertight door and hatch.	X	X
23. Check operation of escape hatches/scuttle fittings.	X	X
24. Check navigation/running lights for brightness and proper lenses (to be done at night). Includes Flight Deck lighting. (if applicable)	X	X
25. Check air conditioning, chill water, ventilation, and heating systems.	X	X
26. Test underwater log and dummy log if water depth permits.	X	X
27. Check operation of all 400 cycle generating equipment.	X	X
28. Check all galley, messing, and ship's service equipment.	X	X
29. Check fathometer.	X	X
30. Check that mooring lines are doubled and taut and that camels are secured to the pier not the ship.	X	X
31. Check bilge flooding alarm.	X	X
32. Check all High Pressure and Low Pressure air systems/components.	X	X
33. Operate distilling units.	X	X
34. Check anchor windlass and brake operation.	X	X
35. Check atmosphere monitoring equipment, both installed and portable.	X	
36. If possible, operate Secondary Propulsion Motor(s) (SPM), auxiliary propulsion units and thrusters.		X
37. Operate the emergency diesel generator(s).	X	X
38. Engage and disengage propulsion shaft clutch(es).	X	X
39. Test Main Engines; Nuclear Powered ships jack main engines.	X	X
40. Check all TV monitoring systems.	X	X
41. Check Special Aircraft Service Stores upper and lower trolley cars.	X	X
42. Check small arms lockers and security devices.	X	X

REQUIREMENT	AIRCRAFT CARRIERS	SURFACE FORCE SHIPS
43. Operate all Identification Friend or Foe (IFF) Equipment.	X	X
44. Check degaussing equipment.	X	X
45. Check hangar bay doors.	X	X
46. Inventory and check all damage control equipment.	X	X
47. Inspect and operate oxygen and nitrogen systems.	X	
48. Check out all Tank Level Indicating systems.	X	X
49. Check out Flight Deck communications. (if applicable)	X	X
50. Check meteorological equipment.	X	X
51. Check graphics preparation/display equipment.	X	X
52. Check 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
53. Operate all electrical/mechanical medical equipment.	X	X
54. Inspect all compartments for proper stowage and cleanliness and operability of equipment.	X	X
55. Test operation of all data processing equipment.	X	X
56. Test and inspect jet blast deflectors.	X	X
57. Test and inspect JP-5 fuel systems.	X	X
58. Test and inspect all aircraft starting, handling and launching equipment including catapults.	X	X
59. Test and inspect aircraft landing equipment including land signal officer equipment, arresting gear, barricades, as applicable.	X	X
60. Operate all Refueling at Sea equipment.	X	X
61. Check bridge window wiper system.	X	X
62. Operate all accommodation ladders.	X	X
63. Operate all conveyors.	X	X
64. Launch and raise motor whaleboat.	X	X
65. Operate all Boats.	X	X

REQUIREMENT	AIRCRAFT CARRIERS	SURFACE FORCE SHIPS
66. Test and inspect Lifeboat/Life Raft stowage and launch equipment.	X	X
67. Test and inspect all elevators in all modes of operation.	X	X
68. Test and inspect all fire fighting systems.	X	X
69. Test and inspect refrigeration system.	X	X
70. Test and inspect all sea water cooling systems.	X	X
71. Operate stern gate doors.		X
72. Operate cranes.	X	X
73. Operate all ship's service generators.	X	X
74. Check all photographic processing and recording equipment.	X	X

APPENDIX J

MINIMUM FAST CRUISE REQUIREMENTS

(SURFACE FORCE SHIPS AND AIRCRAFT CARRIERS)

REQUIREMENT	AIRCRAFT CARRIERS	SURFACE FORCE SHIPS
1. Make all preparations for getting underway.	X	X
2. Station the maneuvering watch/sea and anchor detail.	X	X
3. Station the normal underway watch (section watches).	X	X
4. Simulate getting underway and return to port. (Day and Night)	X	X
5. Walk through all major Sea Trial evolutions.	X	X
6. Exercise the reduced visibility detail.	X	X
7. Spot check storage and availability of spare parts and tools. Verify adequacy of stores and provisions.	X	X
8. Conduct the following emergency drills:		
a. Fire	X	X
b. Collision	X	X
c. Flooding	X	X
d. Abandon Ship	X	X
e. Man Overboard	X	X
f. Loss of AC Power	X	X
g. Loss of Air Conditioning/ACW	X	X
h. Loss of Lighting	X	X
i. Loss of Interior Communications	X	X
j. Steering Casualty	X	X
k. Engine Casualty Control	X	X
9. Set General Quarters. Exercise the crew at battle stations.	X	X
10. Conduct communication and Electronic Counter Measures (ECM) drills.	X	X
11. Anchor (walk-through).	X	X
12. Exercise damage control party with emergency and damage control equipment during conduct of item 12.	X	X
13. Perform the minimum Fast Cruise requirements for nuclear propulsion plants contained in reference (p).	X	

REQUIREMENT	AIRCRAFT CARRIERS	SURFACE FORCE SHIPS
14. Operate air conditioning plants to demonstrate ability to carry the maximum existing ships air conditioning load or 100% capacity.	X	X
15. Operate fresh water/seawater heat exchangers at sufficient load to demonstrate proper operation.	X	X
16. Simulate underway conditions, performing all evolutions and operating equipment normally.	X	X
17. Simulate boat transfer at sea.	X	X
18. Conduct competitive and non-competitive drills and exercises such as aircraft tracking, and aircraft control.	X	X
19. Man Towing/Salvage/Fueling Stations.	X	X
20. Set Flight Quarters as applicable.	X	X
21. Check all interior communications circuits.	X	X

APPENDIX K

MINIMUM TESTS TO BE PERFORMED DURING SEA TRIALS

(SURFACE FORCE SHIPS AND AIRCRAFT CARRIERS)

I. RESPONSIBILITIES (reference (ap), Chapter 094).

The Ship's Force or Ship Trial Coordinator is responsible for:

1. The scheduling of the various trials and for conducting tests during trials while underway. A schedule of equipment tests should be available so all personnel are prepared for the evolutions.

2. Equipment operation during testing and for conducting the trials in accordance with reference (s) and TYCOM directives.

3. Verifying necessary trial documentation and technical data is on board.

4. Review of Personnel Qualification Standard (PQS) programs to identify new equipment and systems requiring PQS coverage, to implement PQS standards for new personnel, and to determine required watch station qualification in preparation for propulsion plant light-off and Sea Trials.

5. Providing a Sea Trial watch organization to accomplish the trial agenda.

6. Preparing and providing fire and abandon ship bills and holding emergency underway drills (can be completed and certified as part of Dock Trials or Fast Cruise).

II. PREPARATION FOR SEA TRIALS (reference (ap), Chapter 094c).

Prior to Sea Trials, every reasonable effort shall be made to complete all prerequisites:

1. Dockside tests shall be satisfactorily completed and all safety requirements met. Incomplete non-safety items shall be documented, including plans for timely resolution and completion. Should it be impractical to conduct any of these prerequisite tests dockside, the Naval Supervisory Authority (NSA) may permit the test to be conducted while underway.

2. All equipment, furniture and systems necessary to the conduct of the trials shall be installed and in operating condition. All labeling, painting, sheathing, insulation and deck covering shall be completed.

3. An inclining experiment, if required, shall be performed and the results certified in writing to the NSA that the ship meets stability requirements and is safe for sea.

4. All temporary rigging and equipment, except that necessary for collection of Sea Trial test data, and all debris shall be removed from the ship.

5. Painting that will not be dry at time of trials shall be avoided.

6. Messing, sanitary and berthing facilities shall be operational and available for use during Sea Trials.

7. The ship shall be prepared for possible emergencies at sea. The NSA shall certify in writing that equipment or systems listed that have been installed, overhauled or disturbed during the overhaul have been restored to their normal operating status. The minimum readiness includes:

   a. Power boats to be utilized in an emergency shall be fully operational, fitted-out and provisioned as prescribed by reference (aq).

   b. All davits shall be operational.

   c. Air inflatable lifeboats shall be onboard and properly installed and within PMS certification requirements.

   d. Emergency radios shall be onboard and operable.

   e. Life rings and float lights shall be rigged in stowage brackets.

   f. Life jackets for all personnel embarked plus 5 percent spares shall be onboard and distributed in readily accessible areas.

   g. Adequate first aid kits and emergency medical equipment shall be onboard.

   h. Fire fighting and damage control equipment shall be returned to the ship (if removed), verified to be fully operational/ready for use and properly stowed.

   i. All navigation devices and equipment shall be tested to ensure proper operation.

   j. Work on all compartments whose water tight integrity is essential to the safety of the ship shall be completed and, where authorized, satisfactorily tested.

III. PRIOR TO GETTING UNDERWAY.

1. Prior to Sea Trials following extended in-port or lay-up time, the following preliminary inspections should be conducted (reference (s), section 1.3.2):

   a. Inspect the underwater sea chests.

   b. Clean the sea chests of marine growth and debris if required.

   c. Inspect underwater hull for foreign material or objects.

   d. Inspect and clean as necessary condenser sea water sides.

   NOTE: CVNS IN JAPAN HAVE THEIR HULLS INSPECTED PER QUARTERLY REQUIREMENTS SET BY NAVSEA.

   e. Ensure correct hoses for blowing sea chests are available on board and can be made up to hose connections provided for this purpose.

   f. Establish operability of each item of machinery to be used during the trial.

      (1) Test equipment to validate minimal equipments available to conduct operations in accordance with technical specifications.

APPENDIX N

MINIMUM SEA TRIALS REQUIREMENTS FOR CHIEF OF NAVAL OPERATIONS AVAILABILITIES LESS THAN SIX MONTHS DURATION

(SUBMARINES ONLY)

1. Sea Trial Agenda. This Appendix delineates the minimum requirements incident to Sea Trials following a Chief of Naval Operations availability of less than six months duration. Additional events listed in Appendix O, Minimum Sea Trials Requirements for Chief of Naval Operations Availabilities Greater Than Six Months Duration (Submarines only), may be included by the shipyard based on the scope of the work accomplished and/or as desired by the CO.

2. Sea Trial Policy. The following policies apply to conduct of trials and tests associated with industrial activity availabilities, NAVSEA or Naval Surface Warfare Center, Carderock Division sponsored Trials/Tests or any other situation where the ship is requested to conduct trials or tests:

a. No test or trial event shall 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 SOE and at angles less than 30 degrees.

b. The trial director(s) 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.

c. Any run which will result in exceeding normal operating 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/trial sponsor will obtain this permission.

d. A violation of the SOE limit or exceeding a 30 degree angle, not previously approved, should be reported by unit SITREP. The TYCOM will resolve the situation.

e. 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 in accordance with an agenda approved by the ISIC, NAVSEA or higher authority:

(1) Conducting full power runs or cavitation curves.

(2) NAVSEA sponsored acoustic trials in accordance with Naval Surface Warfare Center, Carderock Division acoustic trial agenda.

f. In cases where troubleshooting is required, it must meet the following criteria or a formally approved change to the agenda is mandatory.

(1) The troubleshooting does not violate any policy listed in paragraphs 2.a. through 2.e. of this Appendix or any other requirement of the trials agenda.

(2) The troubleshooting will not result in the ship being in a certain condition before that condition is reached during the normal testing sequence. For example, troubleshooting requiring the ship to be deeper than 200 feet cannot be done until after the deep dive. Likewise, troubleshooting requiring large angles or turn rates cannot be done until after the completion of the steering and diving operational tests and the large angle tests.

g. Each person involved in Sea Trials should be allowed to obtain a minimum of six hours of continuous, uninterrupted sleep during any 24-hour period.

3. Test Phasing. The Sea Trials should be scheduled and phased to support actions enroute to the test dive area, in the test dive area, prior to the deep dive, etc., subject to the amplifying notes.

a. The following tests and evolutions shall be carried out on the surface enroute to the test dive area and prior to the initial tightness dive:

(1) Underway. Rig for dive.

(2) Ship's Force instruct Sea Trials riders on the proper use of Emergency Air Breathing System.

(3) At slow speed, conduct operational test of rudder in all modes (local and remote) in accordance with applicable class operating procedures.

(4) Navigation system check. Take fixes by all means available and compare.

(5) Test underwater log(s) using the base course/reciprocal course method (i.e., inertial reference method) or other approved functional procedures to determine accuracy.

(6) Test accuracy of all bearing transmitters and indicators. Compare sonar, visual and radar bearings.

(7) Check operation of all radars. Demonstrate accuracy by conducting simultaneous radar and visual plot.

(8) Inspect stern tube packing gland/seals and circulating water flow for excessive heating, leakage and audible noise.

(9) Test fathometer(s) and compare with charted soundings.

(10) Run ahead at maximum allowable surface speed long enough for temperatures to reach a stable value. After readings have stabilized, at maximum allowable surface speed, operate the rudder through full throw in each direction, in all remote modes of operation.

(11) Ahead, at maximum allowable surface speed, to back emergency.
For SSBN/SSGN 726 Class only - Answer ahead standard. Once ship speed has stabilized, perform back emergency for 5 minutes.

(12) Run astern up to a back full bell. Full power run astern to be consistent with the main engine limits of the applicable Steam and Electric Plant Manual. Operate rudder through full throw.
For SSBN/SSGN 726 Class only - Run astern up to a back full bell for 5 minutes, followed by 60 SRPM for 5 minutes. Operate rudder through full throw (See Note 1).

(13) Check operation and accuracy of ship's gyro compass.

(14) Rendezvous with escort, if an escort is required. Conduct radio and sonar communications checks (See Note 2).

(15) Rig out bow planes, if applicable. Test bow/fairwater and stern planes in all modes.

(16) Flood variable tanks to computed compensation less a safety factor.

(17) Operate trim and drain pumps.

(18) Test variable ballast system for proper operation.

APPENDIX O

MINIMUM SEA TRIALS REQUIREMENTS FOR CHIEF OF NAVAL OPERATIONS AVAILABILITIES GREATER THAN SIX MONTHS DURATION

(SUBMARINES ONLY)

1. Sea Trial Agenda. This Appendix provides the minimum requirements following a major Depot availability of greater than six months duration. Due to unique ship configuration, work performed or operational area requirements, these events may be re-sequenced as they are integrated with the testing required to certify shipyard and Ship's Force work, and the additional events required by the Commanding Officer of the submarine. TYCOM approval and NAVSEA concurrence with these changes is obtained when NAVSEA concurs and the cognizant TYCOM approves the agenda.

2. Sea Trial Policy. The following applies to the conduct of trials and tests associated with ships following major industrial activity availabilities, NAVSEA or Naval Surface Warfare Center, Carderock Division sponsored Trials/Tests or any other situation where the ship is requested to conduct trials or tests:

a. No test or trial event shall 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 the normal operating limits of the SOE and at angles less than 30 degrees.

b. The trial director(s) 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.

c. Any run which will result in exceeding normal operating 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/trial sponsor will obtain this permission.

d. A violation of the SOE limit or exceeding a 30 degree angle, not previously approved, should be reported by unit SITREP. The TYCOM will resolve the situation.

e. 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 in accordance with an agenda approved by the ISIC, NAVSEA or higher authority:

(1) Conducting full power runs or cavitation curves.

(2) Conducting NAVSEA sponsored acoustic trials in accordance with Naval Surface Warfare Center, Carderock Division acoustic trial agenda.

(3) The 200 foot EMBT blow conducted at the conclusion of the initial tightness dive.

f. In cases where troubleshooting is required, it must meet the following criteria or a formally approved change to the agenda is mandatory.

(1) The troubleshooting does not violate any policy listed in paragraphs 2.a. through 2.e. of this Appendix or any other requirement of the trials agenda.

(2) The troubleshooting will not result in the ship being in a certain condition before that condition is reached during the normal testing sequence. For example, troubleshooting requiring the ship to be deeper than 200 feet cannot be done until after the deep dive. Likewise, troubleshooting

requiring large angles or turn rates cannot be done until after the completion of the steering and diving operational tests and the large angle tests.

(3) The depth authorization for sea trials is automatically suspended upon re-entry to the SUBSAFE certification boundary or casualty affecting recoverability, salvage, watertight integrity or operation of the ship's control surfaces. The ship shall not operate at a depth greater than 200 feet until re-entry is certified to the TYCOM and the TYCOM grants approval to operate (resume sea trials) to test depth.

(4) In the instance of SUBSAFE REC conducted only to adjust Flood Control hydraulic valve/hull closure timing (discovered during individual valve/hull closure cycling or during Flood Control System Operation), the ship is authorized to continue with Sea Trials without specific message correspondence from TYCOM and the most recent depth message is considered valid, provided that:

(a) The ship initiates a REC to correct the identified valve/hull closure timing deficiency and the ship operates no deeper than 200 feet while valve/hull closure timing adjustments are in progress.

(b) Valve/hull closure timing, as well as applicable flood control system timing, is verified to be within specification prior to resumption of the deep dive or proceeding to depths greater than 200 feet.

(c) The REC is closed and a report is made to TYCOM on material deficiencies and corrective actions taken related to Flood Control valve/hull closure timing adjustments prior to resumption of the deep dive or proceeding to depths greater than 200 feet.

g. Each person involved in Sea Trials should be allowed to obtain a minimum of six hours of continuous, uninterrupted sleep during any 24 hour period.

3. Test Phasing. The Sea Trials should be scheduled and phased to support actions en route to the test dive area, in the test dive area, prior to the deep dive, etc., subject to amplifying notes as follows:

a. The following tests and evolutions may be carried out at any time during Sea Trials.

(1) Test operation of fresh water production (distilling plants or reverse osmosis systems) noting deficiencies.

(2) Test operation of high pressure and low pressure air compressors.

(3) Run and observe air conditioning plants throughout trials noting deficiencies. Operate air conditioning plant to demonstrate ability to carry the maximum existing ship's air conditioning load, or 100 percent capacity.

(4) Run and observe refrigeration plant throughout trials, noting deficiencies.

(5) Operate IFF and ESM equipment. If possible, use aircraft.

(6) Test all radio transmitters, receivers, and electronic equipment. Test on all possible antenna combinations including emergency antennas and emergency radio equipment.

(7) Fire control system operation. Check target designation system, alignment of sensors to bench marks and transmissions to receivers. Compute fire control solutions on available contacts. Conduct transmission checks to tubes.

(8) Check operation of magazine flooding if not tested in industrial activity.

(9) Additional requirements may be imposed at the discretion of the CO.

b. The following tests and evolutions, summarized in Appendix P, shall be carried out on the surface en route to the test dive area and prior to the initial tightness dive:

(1) Underway. Rig for dive.

(2) Ship's Force instruct Sea Trial riders on the proper use of Emergency Air Breathing system.

(3) At slow speed, conduct operational tests of rudder in all modes (local and remote) in accordance with applicable class operating procedures.

(4) Navigation system check. Take fixes by all means available and compare.

(5) Test underwater log(s) using the base course/reciprocal course method (i.e., inertial reference method) or other approved functional procedures to determine accuracy.

(6) Test accuracy of all bearing transmitters and indicators. Compare sonar, visual and radar bearings.

(7) Check operation of all radars. Determine accuracy by conducting simultaneous radar and visual plot.

(8) Inspect stern tube packing gland/seals and circulating water flow for excessive heating, leakage and audible noise.

(9) Test Dead Reckoning Analyzer Indicator (if installed) or Dead Reckoning Analyzer (if installed), Dead Reckoning Tracers (if installed) and Revolution Per Minute (RPM) indication.

(10) Test fathometer(s) and compare with charted soundings.

(11) Run ahead at maximum allowable surface speed long enough for temperatures to reach a stable value. After readings have stabilized, at maximum allowable surface speed, operate the rudder through full throw in each direction, in all remote modes of operation. Time evolution and compare with design values. (See Note 1).

(12) Ahead, at maximum allowed surface speed, to back emergency.
For SSBN/SSGN 726 Class **only** - Answer ahead standard. Once ship speed has stabilized, perform back emergency for 5 minutes. This event may be conducted after the submerged full power run.

(13) Run astern up to a back full bell for 10 minutes or to meet the intent of a more restrictive industrial activity test. Full power run astern to be within the main engine limits of the applicable Steam and Electric Plant Manual. Operate rudder through full throw (measure degrees per second travel and compare with design values).
For SSBN/SSGN 726 Class **only** - Run astern up to a back full bell for 5 minutes, followed by 60 SRPM for 5 minutes. Operate rudder through full throw (measure degrees per second travel and compare with design values). (See Note 3).

(14) Check operation and accuracy of ship's gyrocompass.

(15) Rendezvous with escort. Conduct radio and sonar communications checks (See Note 4).

(16) Test all bottomside sonars.

(17) Rig out bow planes, if applicable. Test bow/fairwater and stern planes in all modes.

(18) Flood variable tanks to computed compensation less a safety factor.

(19) Record megger/capacitance readings of all antennas, as appropriate.

(20) Operate trim and drain pumps (See Note 5).

(21) Test variable ballast system for proper operation.

(22) Perform both a low pressure blow and an EMBT blow for as long as necessary to verify system operability. A static blow shall not be used to test the EMBT blow system. For SSN 23 only: Additionally, perform an MBT 6 normal blow from the BCP for a minimum duration of 2 seconds to verify that air flows into MBT 6 as indicated by a reduction in air bank pressure. For SSBN/SSGN 726 Class submarines only: Additionally, perform a high pressure blow for as long as necessary to verify system operability.

(23) Operate the Emergency Propulsion Motor for 10 minutes.

(24) Surface ventilate ship.

(25) Check that initial EMBT Blow system actuating air pressure and air bank pressure is within +0 PSIG, -200 PSIG of nominal operating air pressure.

(26) Ensure all MBT blow systems are in a normal line up.

(27) Start atmosphere control equipment.

(28) Additional requirements may be imposed at the discretion of the CO.

c. The following tests and evolutions, summarized in Appendix P, shall be carried out immediately prior to or during the initial tightness dive:

(1) Obtain navigational fix and take soundings. Maximum depth of water is 400 feet as specified in reference (q).

(2) Rig ship for Deep Submergence. Line up propulsion plant for maximum reliability. All systems shall be in the maximum secure condition with unnecessary sea systems isolated (See Note 6).

(3) Station additional personnel throughout the ship to inspect for leaks.

(4) Transmit commencing initial tightness dive message. Submerge the ship per the Ship Systems Manual Operating Procedures. If desired to conduct periscope depth tests, the ship may be submerged to periscope depth.

(5) Check operation of ship control systems, including depth indication (See Note 7).

(6) Equalize signal ejectors or launchers. Shoot pyrotechnics from each by hand and impulse methods (See Note 8).

(7) Communicate with escort on RAC/WQC at each depth increment or at 10 minute intervals, whichever is sooner. If communications are lost, return to depth at which communications can be established before continuing (See Note 4).

APPENDIX P

SUMMARY OF SIGNIFICANT POST REPAIR SEA TRIAL REQUIREMENTS

(SUBMARINES ONLY)

SEA TRIALS	TRANSIT TO	INITIAL TIGHTNESS DIVE	TRANSIT BETWEEN DIVES	DEEP DIVE	TRANSIT BACK
Policy Reference	Appendix O Paragraph 3.b.	Appendix O Paragraph 3.c.	Appendix O Paragraph 3.d.	Appendix O Paragraph 3.f.	Appendix O Paragraph 3.g.
Start Depth	Surface	Surface	Surface to 400 Ft	Surface to 400 Ft	Surface
Conduct Depth	Surface	Periscope depth or about 150 ft for SSN 688 Class (155 ft for SSN 774 Class), (160 ft SSN 21 and SSBN/SSGN 726 Class) if sea state dictates for trim. Remaining events of Appendix O, Paragraph 3.c. 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 ISE, crew rest and other requirements of this instruction.	200 Ft increments to ½ max Op depth, then 100 ft increments to max Op depth in accordance with Appendix O, Paragraph 3.f.	½ Test depth plus 50 ft.
Maximum Keel Depth	Surface	200 Ft	400 Ft	Maximum Authorized Operating Depth.	½ Test depth plus 50 ft.
Finish Event	Rendezvous with escort.	Surface from 200 Ft with EMBT blow.*	Rendezvous with escort	Deep dive will be terminated with an EMBT blow from max authorized Op depth.	TYCOM issue URO authorization message.
Escort Required	No	Yes**	No	Yes	No
SRDRS Required	No***	Yes	No***	Yes	No
Water Depth	Surface	400 Ft in accordance with reference (q).	Unlimited.	Reference (q).	

* - **May be delayed to permit additional testing, commencing pre-transit valve cycling or transit submerged. However, first surface after initial tightness dive must be by EMBT blow from 200 feet and must be conducted prior to deep dive.**

** - **An escort is required on the initial tightness dive and on subsequent first dives to any deeper depths, i.e., the first dive to any depth requires an escort. EMBT blow escort requirements given in paragraph 3.6.8.4.7 of this chapter.**

*** - SRDRS required during tightness dives. For ease of scheduling SRDRS modified alert time, SRDRS will be placed on modified alert from start of Sea Trial until completion of deep dive, including final EMBT blow from maximum operating depth, in accordance with paragraph 3.6.8.3.9.c or 3.6.8.4.7.b of this chapter.

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APPENDIX Q

APPLICABLE RMC AVAILABILITY COMPLETION CERTIFICATION SHEET
(SURFACE FORCE SHIPS ONLY)

CATEGORY/ITEM	REQUIREMENT	MILESTONE	SIGNATURE/DATE
PRIOR TO KEY EVENT/SEA TRIALS			
I. Work Authorization	TYCOM will certify via letter/memo: a. All authorized CNO availability/CMAV work identified in the Availability Work Package (AWP) has been tasked to the Master Ship Repair Contractor, Naval Shipyard (NSY), Fleet Maintenance Activity (FMA), Alteration Installation Team (AIT), or Ship's Force for accomplishment. b. All deferred new/growth branded "A" (mandatory) has been concurred on by Technical Authority. c. All Temporary Standing Orders (TSO), Departures from Specifications (DFS) and CASREPs have been included in AWP or have Technical Authority approval, if deferred.	Prior to Sea Trials	Business Agent/ Project Manager/date _____/_____ TYCOM memorandum/Ser #/date _____/___/_____
II. Work Documents Issued/Prime KTR	a. The Project Support Engineer and QAS shall validate that Work Specifications and Test Procedures issued by the Prime KTR have received a government technical review in accordance with Availability Quality Management Plan (QMP) and Local Attribute Checklist.	a. Prior to Key Event/Sea Trials	a.. Project Support Engineer/date _____/_____ Code 130 QAS/date _____/_____

CATEGORY/ITEM	REQUIREMENT	MILESTONE	SIGNATURE/DATE
PRIOR TO KEY EVENT/SEA TRIALS			
II. Work Documents Issued/Prime KTR (Cont'd)	b. Project Manager shall validate that all work specifications and test procedures issued by the Prime KTR have received a government review in accordance with Volume VII, Chapter 4, Appendix E of this manual. c. Project Manager will verify that all required CFRs have been received as required by NAVSEA Standard Item 009-01 paragraph 3.2. d. Project Support Engineer will verify that all C 200 CFRs have been reviewed and answered. Deferred maintenance action and/or test result CFRs have been technically adjudicated. All CFRs screened to C 200 for action shall be documented via Engineering Service Request (ESR).	b. Prior to Key Event/Sea Trials c. Prior to Key Event/Sea Trials d. Prior to Key Event/Sea Trials	b. Project Manager/date _____/_____ c. Project Manager/ date _____/_____ d. Project Support Engineer/ date _____/_____
III. Work Completion/Prime KTR	Verify that all Prime KTR work (including sub-contractors) has been certified as complete by Prime KTR (include letter/memo Ser/date). All Sea Trials testing is included on Sea Trials Agenda. Verify that any incomplete work (exception items) have been provided to RMC/NSA CHENG for technical concurrence to not impact key Event/Sea Trials.	Prior to Key Event/Sea Trials	Project Manager/date _____/_____ Prime KTR Memorandum/Ser _____/_____

CATEGORY/ITEM	REQUIREMENT	MILESTONE	SIGNATURE/DATE
PRIOR TO KEY EVENT/SEA TRIALS (Cont'd)			
IV. Work Completion/FMA	Verify that all FMA FWP/CWPs have been certified as complete and technically correct by FMA (include letter/memo Ser/date). All Sea Trials testing is included on Sea Trials Agenda. Verify that any incomplete work (exception items) have been provided to RMC/NSA CHENG for technical concurrence to not impact Key Event/Sea Trials.	Prior to Key Event/Sea Trials	Project Manager/date _____/_____ FMA Memorandum/Ser _____/_____
V. Work Completion/NSY	Verify that all NSY work has been certified as complete and technically correct by NSY(include letter/memo Ser/date). All Sea Trials testing is included on Sea Trials Agenda. Verify that any incomplete work (exception items) have been provided to RMC/NSA CHENG for technical concurrence to not impact Key Event/Sea Trials.	Prior to Key Event/Sea Trials	Project Manager/date _____/_____ NSY Memorandum/Ser _____/_____
VI. Work Completion/AIT	Verify that all AIT work and test procedures have been certified as technically correct and complete by each AIT On-Site Installation Coordinator (include each letter/memo Ser/date). All Sea Trials testing is included on Sea Trials Agenda. Verify that any incomplete	Prior to Key Event/Sea Trials	Project Manager or AIT Coordinator/date _____/_____ AIT On-Site Installation Coordinator Memorandum/Ser. _____/_____

CATEGORY/ITEM	REQUIREMENT	MILESTONE	SIGNATURE/DATE
PRIOR TO KEY EVENT/SEA TRIALS (Cont'd)			
VI. Work Completion/AIT (Cont'd)	work (exception items) have been provided to RMC/NSA CHENG for technical concurrence to not impact Key Event/Sea Trials	Prior to Key Event/Sea Trials (Cont'd)	
VII. Work Completion/SF	Verify that all SF FWP/CWPs have been certified as technically correct and complete by Ship's CO (include letter/memo Ser/date). All Sea Trials testing is included on Sea Trials Agenda. Verify that any incomplete work (exception items) have been provided to RMC/NSA CHENG for technical concurrence to not impact Key Event/Sea Trials.	Prior to Key Event/Sea Trials	Project Manager/date _____/_____ SF Memorandum/Ser _____/_____
VIII. Work Completion/RMC Engineering	Certify that all assigned assessments (TSRA) or Fleet Tech Assists (FTA) tied to Key Event or Fast Cruise/Sea Trial are completed. For ongoing TSRA assessments or FTA, the RMC/NSA CHENG will certify that these assessments/FTA do not impact the Key Event or Fast Cruise/Sea Trial.	Prior to Key Event/Sea Trials	RMC/NSA CHENG/date _____/_____

CATEGORY/ITEM	REQUIREMENT	MILESTONE	SIGNATURE/DATE
PRIOR TO KEY EVENT/SEA TRIALS (Cont'd)			
IX. Testing	The RMC/NSA Integrated Test Coordinator will verify that: a. LMA Test Coordinator has certified that all Hull, Mechanical and Electrical and C5I testing identified per NAVSEA Standard Item 009-67 are complete with requisite OQE. Testing not complete is included on Sea Trials Agenda or added to exceptions list and provided to RMC/NSA CHENG for technical concurrence not to impact Key Event/Sea Trials. b. LMA WAFCO and Ship's CO have certified that all WAFs and Tag-outs required to Support Key Event/Sea Trials have been closed and cleared.	a. Prior to Key Event/Sea Trials b. Prior to Key Event/Sea Trials	a. Integrated Test Coordinator/date _____/_____ LMA memorandum/ser _____/_____ b. Integrated Test Coordinator/date _____/_____ LMA memorandum/ser _____/_____ SF memorandum/ser _____/_____
X. Waivers and Deviations	The RMC/NSA CHENG will certify that all technical non-conformances have been satisfactorily resolved in order to support Sea Trials and availability completion. This includes certifying that all Departures from Specifications (DFS) have been properly adjudicated, all PMR/AIT LAR/RLARs have been incorporated and that all RMC ESRs/Design	Prior to Key Event/Sea Trials	RMC/NSA CHENG/date _____/_____

CATEGORY/ITEM	REQUIREMENT	MILESTONE	SIGNATURE/DATE
PRIOR TO KEY EVENT/SEA TRIALS (Cont'd)			
X. Waivers and Deviations (Cont'd)	Service Requests/LARs/RLARs have been answered and incorporated. The NSA CHENG will also certify that all conditionally approved technical non-conformances that expire during the availability have been resolved.		
XI. Quality Assurance	Certify that all QA Office actions are satisfactory regarding resolution of QA Audits and Surveillances necessary to support Key Event/Sea Trials. All contractor Corrective Action Requests (CAR - Method B-D) issued during the availability are either closed or at an acceptable level of completion to support work certification. Include a memo describing outstanding items, remaining actions and Estimated Completion Dates, if applicable.	Prior to Key Event/Sea Trials	Quality Assurance Manager/date _____/_____ C130 Memorandum/Ser _____/_____

CATEGORY/ITEM	REQUIREMENT	MILESTONE	SIGNATURE/DATE
PRIOR TO KEY EVENT/SEA TRIALS (Cont'd)			
XII. Availability Completion	a. RMC/NSA Project Manager verifies that all Sea Trials testing required for availability completion has been completed on Sea Trials. Exceptions to completion (including any new/growth work identified on Sea Trials have been approved by Technical Authority as to not impact availability completion and agreed upon by TYCOM. Exceptions will be tracked via Availability Closeout process. b. RMC/NSA CHENG verifies that all Sea Trials testing required for availability completion has been completed on Sea Trials. Any exceptions to completion (including new/growth work identified on Sea Trials) have been reviewed and approved as not to impact availability completion. c. The RMC/NSA CO releases message certifying availability completion.	a. Prior to Availability Completion b. Prior to Availability Completion c. Prior to Availability Completion	a. Project Manager/date _____/_____ b. NSA CHENG/date _____/_____ c. RMC Commander/date _____/____ Message Date Time Group (DTG)_____/____

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APPENDIX R

AVAILABILITY QUALITY MANAGEMENT PLAN (QMP)

(SURFACE FORCE SHIPS ONLY)

1. NSA Certification Requirements. Naval Supervising Activity (NSA) certification of readiness for major Key Events, Fast Cruise/Sea Trials and availability completion is required. NSA certification of readiness for events must include a basis for certification. For surface force ship availabilities, this basis includes:

a. Approved QMS. The Executing Activity performing the work has a NAVSEA approved QMS. The QMS is audited periodically and includes ongoing in-process surveillance and follow-up to assure that recurring, systemic problem areas are identified and corrective action is taken. The QMS is further defined in NAVSEA Standard Item 009-04, Quality System Management.

b. Mandatory Oversight. The NSA or Government activity performing the oversight of contract execution provides mandatory oversight to include "G" point observation and mandatory review of test data when required by the contract for critical work as required by Volume VII, Chapter 11, Section 11.5 of this manual and other higher level documentation.

c. Non-Mandatory Oversight. The NSA or Government activity performing oversight of contract execution must also perform adequate oversight of contract work not identified as mandatory. Although not specified, frequency or degree of oversight is often described as "random." There should be a systematic approach taken to defining where government oversight should be applied in order to provide the NSA with the maximum reasonable level of assurance that work is planned, executed and tested correctly.

2. QMP Requirement. The Availability Quality Management Plan (QMP) provides a risk-based methodology for the NSA to utilize and provide this maximum reasonable level of assurance in work planning, execution and testing without requiring 100 percent oversight or review of contractor work products. An Availability QMP is required by Volume VII, Chapter 11 of this manual (Contract Administration Quality Assurance Program). Specifically, paragraph 11.5.1.a requires "Development of a QA plan for each work item in the contract based on degree of risk and contractor quality history."

3. QMP Methodology. The Availability QMP then is a product of review(s) conducted on the Availability Work Package (AWP) that evaluates each work item based on probability of failure and criticality of failure. The evaluation of the work items for these two attributes, discussed below, should result in a plan which dictates which work items should get a detailed Document Review/Planning Review (PR), or technical "Work Specification Review" by Engineering/QA and which items will have increased levels of Procedures Evaluation (PE) and Product Verification Inspection (PVI) by Engineering, QA and Waterfront Operations Departments. In addition, the Availability QMP should determine which work items will receive Quality Audits by QA Department.

a. Probability of Failure. Contractor's past performance history in different work areas, as captured in Code 130 Quality Data Evaluation, is utilized to evaluate work items that will require additional oversight based on contractor's past performance. If a contractor does not have any previous experience in a work area, probability of failure should be evaluated as high, unless there is work experience in a related area sufficient to build confidence in expectation of good contractor performance.

b. Criticality of Failure. A consistent approach needs to be utilized by the NSA when developing Availability QMPs to identify work items which have higher criticality of failure. Simply put, equipments/systems that, by their failure alone, will result in the inability of the ship to get underway or meet primary mission requirements, (C4 CASREP) would equate to highest criticality of failure impact. Those systems/equipments that, by their failure alone, would result in a major degradation to ship's

ability to meet mission requirements, (C3 CASREP) would have next highest criticality of failure consideration. Systems/equipments that, by their failure alone, would result in minor degradation to ship's ability to meet mission requirements, (C2 CASREP) would have the lowest criticality of failure consideration. There is no single source of input to determine criticality of failure. CNSP/CNSLINST 3504.1 identified "Redlines" requirements for surface force ships and should be utilized when identifying criticality of failure of systems/equipments being worked in the availability. Additional discussion on these requirements is provided below:

(1) Critical Systems. Regardless of contractor past performance, if a higher level document requires 100 percent review and oversight by the government, this oversight is provided via contractor's use of Expanded Process Control Procedures (EPCP). These EPCPs require 100 percent government review and approval to assure correct technical references are utilized and to assure that correct government checkpoint "G" points, as well as contractor QA checkpoint ("I" and "V" points), are utilized. These types of systems and equipment require mandatory Objective Quality Evidence (OQE) consisting of QA forms to document critical steps in the EPCP and reviewed/approved by the NSA prior to work certification. The Availability QMP should account for critical systems requiring EPCPs and assure that additional PEs and PVIs are scheduled for these systems.

(2) Redlines Systems. CNSP/CNSLINST 3504.1 includes matrices which identify minimum equipment lists by ship class. The NSA should utilize the redlines instruction as a guideline for determining "criticality of failure" when evaluating work items that may require additional oversight. Consideration should be given to redundancy, for example: On a DDG, relative level of oversight on a boat davit (1 of 1 required) would likely dictate more oversight than work on an air conditioning plant (2 of 5 required). For all redlines systems/equipments, contractor past performance discussed in paragraph 3.a. above should be considered.

(3) Non-Redlines Systems. Systems/equipments that are not addressed by CNSP/CNSLINST 3504.1 normally require less oversight. An exception would be if there is a record of poor past performance. For example, poor performance on critical coatings systems application in tanks/voids. While Volume VII, Chapter 11 of this manual requires increased RMC inspection requirements for these systems, additional PE, PR, PVI or QA audit may also be required by the RMC due to a contractor's past performance.

(4) QMP Applicability to FMA (I-level), Ship's Force (SF), Naval Shipyards (NSY) and Alteration Installation Teams (AIT). While the QA Plan described herein generally refers to work contracted through the RMC, the NSA availability certification includes all work accomplished in the availability to include I-level (FMA), SF, NSY and AIT. Each of these executing activities is also required to maintain an approved QMS. The NSA may not have direct oversight responsibility for these executing activities or provide auditing of their QMS. Oversight for NSY, FMA and SF work is provided organic to those organizations and does not normally require additional oversight by the NSA. The AWP review conducted concurrent with development of the QMP should, however, include a determination of high risk jobs being conducted that may require additional NSA oversight. This oversight, if required, should be part of the Availability QMP. For AIT work, NAVSEA Technical Standard 9090310E requires that AIT contractors maintain a QMS approved by NAVSEA 04XQ and audited by respective government sponsor. NAVSEA Technical Standard 9090310E also requires that respective AIT government sponsors provide on-site oversight of AIT contractors, including specification review and approval, G point checks, and in-process surveillance of work. The NSA should include AIT work in the QMP development and make a determination on what additional oversight may be required to include in the QMP for AIT work.

APPENDIX AA

SAMPLE SHIP'S REQUEST FOR PERMISSION TO COMMENCE FAST CRUISE

(SURFACE FORCE SHIPS AND AIRCRAFT CARRIERS)

FM USS (SHIP NAME)//
TO(APPLICABLE TYCOM)/N43//
INFO CNO WASHINGTON DC//OP55//N86 OR N88//
SUPERVISING AUTHORITY//
COMNAVSEASYSCOM WASHINGTON DC//04X/04X1/04X2/08//
COMCARGRU (GROUP NO.)//
PEO CARRIERS//PMS312// (AS APPLICABLE FOR CARRIERS)//
PEO THEATER SURFACE COMBATANTS//PMS400F// (AS APPLICABLE FOR COMBATANTS)//
PEO EXW//PMS470/PMS325// (AS APPLICABLE FOR AUXILIARIES, LITTORALS AND PATROL CRAFT)//
PEO MUW//PMS490// (AS APPLICABLE FOR MINE WARFARE)//
OTHER UNITS (IF APPLICABLE)//
BT
UNCLAS //N09080//
MSGID/GENADMIN/(ORIG)//
SUBJ/(SHIP NAME AND HULL NO.) FAST CRUISE//
REF/A///
AMPN/REF A IS //
RMKS/1. ALL FORCES AFLOAT WORK ITEMS AND TRAINING NECESSARY FOR SEA TRIALS INCLUDING THOSE DEFICIENCIES LIST REF A HAVE BEEN SATISFACTORILY COMPLETED.
2. USS _____ READY FOR SEA WITH EXCEPTION OF REMOVING SHORE SERVICES. ALL REQUIRED STORES AND SPARE PARTS ON BOARD.
TECHNICAL DOCUMENTATION ON BOARD.

A.
B.
C.
D.

3. REQUEST PERMISSION TO COMMENCE FAST CRUISE//
BT

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

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APPENDIX AB

SAMPLE SHIP'S REPORT OF FAST CRUISE COMPLETION

(SURFACE FORCE SHIPS AND AIRCRAFT CARRIERS)

FM USS (SHIP NAME)//
TO (APPLICABLE TYCOM)//N43//
INFO CNO WASHINGTON DC//OP55//N6 OR N8//
COMNAVSEASYSCOM WASHINGTON DC//04X/04X1/04X2/08//
SUPERVISING AUTHORITY//
(APPLICABLE FLEET COMMANDER)//N43//
COMCARGRU (GROUP NO.)//
PEO CARRIERS//PMS312// (AS APPLICABLE FOR CARRIERS)//
PEO THEATER SURFACE COMBATANTS//PMS400F// (AS APPLICABLE FOR COMBATANTS)//
PEO EXW//PMS470/PMS325// (AS APPLICABLE FOR AUXILIARIES, LITTORALS AND PATROL CRAFT)//
PEO MUW//PMS490// (AS APPLICABLE FOR MINE WARFARE)//
BT
UNCLAS //N09080//
MSGID/GENADMIN/(orig)//
SUBJ/(SHIP NAME AND HULL NO.) FAST CRUISE//
REF/A/RMG/(orig)/(dtg)//
REF/B/DOC/COMUSFLTFORCOM/(DATE)//
NARR/REF A IS TYCOM MSG AUTHORIZING COMMENCEMENT OF FAST CRUISE. REF B IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOL II. //
RMKS/1. FAST CRUISE AUTHORIZED BY REF A COMPLETED AT (DATE/TIME). NO MAJOR DEFICIENCIES NOTED IN CREW OR EQUIPMENT. REQUEST PERMISSION TO COMMENCE SEA TRIAL IN ACCORDANCE WITH REF B AT (DATE/TIME).//
BT

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

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APPENDIX AC

SAMPLE SUPERVISING AUTHORITY READINESS FOR SEA TRIAL MESSAGE

(SURFACE FORCE SHIPS AND AIRCRAFT CARRIERS)

FM (SUPERVISING AUTHORITY)//
TO USS (SHIP'S NAME)//
INFO CNO WASHINGTON DC//OP66//N86 OR N88//
COMNAVSEASYSCOM WASHINGTON DC//04X/04X1/04X2//
(APPLICABLE FLEET COMMANDER)//N43//
(APPLICABLE TYCOM)//N43//
(ISIC)//
PEO CARRIERS//PMS312// (AS APPLICABLE FOR CARRIERS)//
PEO THEATER SURFACE COMBATANTS//PMS400F// (AS APPLICABLE FOR COMBATANTS)//
PEO EXW//PMS470/PMS325// (AS APPLICABLE FOR AUXILIARIES, LITTORALS AND PATROL CRAFT)//
PEO MUW//PMS490// (AS APPLICABLE FOR MINE WARFARE)//
BT
UNCLAS //N09080//
MSGID/GENADMIN/(SUPERVISING AUTHORITY NAME)//
SUBJ/USS (SHIP NAME AND HULL NO.) READINESS FOR SEA TRIALS//
REF/A/DOC/COMUSFLTFORCOM (DATE)//
AMPN/REF A IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II//
RMKS/1. IAW REF A (SUPERVISING AUTHORITY) REPORTS THAT ALL WORK NECESSARY FOR SEA TRIALS, HAVE BEEN SATISFACTORILY COMPLETED.
2. SEA TRIALS TO COMMENCE AT (TIME AND DATE) CONTINGENT UPON (APPLICABLE TYCOM) APPROVAL//
BT

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

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APPENDIX AD

SAMPLE PRIME CONTRACTOR AVAILABILITY KEY EVENT READINESS CERTIFICATION MEMORANDUM

(SURFACE FORCE SHIPS ONLY)

XXXX

Ser ____

DD MMM YY

MEMORANDUM

From: Project Manager, _____ Regional Maintenance Center

To: Chief Engineer, _____ Regional Maintenance Center

Subj: PRIME CONTRACTOR READINESS FOR UNDOCKING CERTIFICATION FOR USS PILOT SHIP (XXX XX)

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

Encl: (1) Prime Contractor Undocking Exception List, USS Pilot Ship (XXX XX) DSRA

1. In accordance with reference (a), this memorandum is to certify that all Prime Contractor contracted work for subject DSRA is complete in support of Undocking and unless listed as an exception, none of the remaining Prime Contractor contracted work meets the following definition of "Dry Dock Critical":

Dry Dock Critical Items:

a. All work/work items that require the ship to be in dry dock in order to perform the work.

b. Work could be performed after undocking but would require additional costs, create an impact to schedule, or require the need for additional equipment and specialized personnel to perform the task that is not already covered by the original basic work package.

c. This includes associated checkpoints, required OQE, and equipment testing required by the work/work item.

2. Exceptions listed in the attached enclosure were not completely accomplished and have been technically adjudicated in support of Undocking.

F M LAST

Project Manager

COPY TO:

RMC Integrated Test Coordinator, Code XXX

Commanding Officer, USS Pilot Ship (XXX XX)

Enclosure (1)

PRIME CONTRACTOR UNDOCKING EXCEPTION LIST, USS PILOT SHIP (XXX XX) DSRA

Work Item Number	Equipment	Remarks

APPENDIX AE

SAMPLE FLEET MAINTENANCE ACTIVITY AVAILABILITY KEY EVENT READINESS CERTIFICATION MEMORANDUM

(SURFACE FORCE SHIPS ONLY)

XXXX

Ser ____

DD MMM YY

MEMORANDUM

From: Project Manager, _____ Regional Maintenance Center

To: Chief Engineer, _____ Regional Maintenance Center

Subj: FLEET MAINTENANCE ACTIVITY READINESS FOR DOCK TRIALS CERTIFICATION FOR USS PILOT SHIP (XXX XX)

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

Encl: (1) Fleet Maintenance Activity Dock Trials Exception List, USS Pilot Ship (XXX XX) PMA

1. In accordance with reference (a), this memorandum is to certify that all major propulsion plant work and cold plant testing assigned to XXRMC for subject PMA is complete and supports Propulsion Plant Operation and unless listed as an exception, none of the remaining FMA work will interfere with propulsion plant operation.

2. Exceptions listed in the attached enclosure were not completely accomplished and are subject to agreement upon by the Ship's Commanding Officer (CO), appropriate technical authority, and the XXRMC before proceeding with scheduled Propulsion Plant Operations.

F M LAST

Project Manager

COPY TO:

RMC Integrated Test Coordinator, Code XXX

Commanding Officer, USS Pilot Ship (XXX XX)

Enclosure (1)

FLEET MAINTENANCE ACTIVITY DOCK TRIALS EXCEPTION LIST, USS PILOT SHIP (XXX XX) PMA

Work Item Number	Equipment	Remarks

APPENDIX AF

SAMPLE NAVAL SHIPYARD AVAILABILITY KEY EVENT READINESS CERTIFICATION MEMORANDUM

(SURFACE FORCE SHIPS ONLY)

XXXX

Ser ____

DD MMM YY

MEMORANDUM

From: Project Manager, _____ Regional Maintenance Center

To: Chief Engineer, _____ Regional Maintenance Center

Subj: NAVAL SHIPYARD READINESS FOR FAST CRUISE CERTIFICATION FOR USS PILOT SHIP (XXX XX)

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

Encl: (1) Naval Shipyard Fast Cruise Exception List, USS Pilot Ship (XXX XX) DSRA

1. In accordance with reference (a), this memorandum is to certify that all major propulsion plant work and cold plant testing assigned to the Naval Shipyard (NSY) for subject DSRA is complete and supports Propulsion Plant Operation and unless listed as an exception, none of the remaining NSY work will interfere with propulsion plant operation.

2. Exceptions listed in the attached enclosure were not completely accomplished and are subject to agreement upon by the Ship's Commanding Officer (CO), appropriate technical authority, and the XXRMC before proceeding with scheduled Propulsion Plant Operations.

F M LAST

Project Manager

COPY TO:

RMC Integrated Test Coordinator, Code XXX

Commanding Officer, USS Pilot Ship (XXX XX)

Enclosure (1)

NAVAL SHIPYARD FAST CRUISE EXCEPTION LIST, USS PILOT SHIP (XXX XX) DSRA

Work Item Number	Equipment	Remarks

APPENDIX AG

SAMPLE ALTERATION INSTALLATION TEAM AVAILABILITY KEY EVENT READINESS CERTIFICATION MEMORANDUM

(SURFACE FORCE SHIPS ONLY)

XXXX

Ser ____

DD MMM YY

MEMORANDUM

From: AIT Government Sponsor

To: Chief Engineer, _____ Regional Maintenance Center

Subj: ALTERATION INSTALLATION TEAM READINESS FOR PRODUCTION COMPLETION DATE CERTIFICATION FOR USS PILOT SHIP (XXX XX)

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

Encl: (1) Alteration Installation Team Production Completion Date Exception List, USS Pilot Ship (XXX XX) DSRA

1. In accordance with reference (a), this memorandum is to certify that all work and testing assigned to the Alteration Installation Team and installed during the subject DSRA are complete and supports Production Completion Date (PCD) and unless listed as an exception, none of the remaining work will interfere with PCD.

2. Alterations installed:

3. Exceptions listed in the attached enclosure were not completely accomplished and are subject to agreement upon by the Ship's Commanding Officer (CO), appropriate technical authority, and the XXRMC before proceeding with scheduled Propulsion Plant Operations.

F M LAST

AIT Government Sponsor

COPY TO:

RMC Integrated Test Coordinator, Code XXX

Commanding Officer USS Pilot Ship XXX XX

Enclosure (1)

ALTERATION INSTALLATION TEAM PRODUCTION COMPLETION DATE EXCEPTION LIST, USS PILOT SHIP (XXX XX) DSRA

Work Item Number	Equipment	Remarks

APPENDIX AH

SAMPLE SHIP'S FORCE AVAILABILITY KEY EVENT READINESS CERTIFICATION MEMORANDUM

(SURFACE FORCE SHIPS ONLY)

XXXX

Ser ____

DD MMM YY

MEMORANDUM

From: Commanding Officer USS _____

To: Chief Engineer, _____ Regional Maintenance Center

Subj: USS PILOT SHIP (XXX XX) READINESS FOR SEA TRIALS CERTIFICATION

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

Encl: (1) Ship's Force Sea Trials Exception List, USS Pilot Ship (XXX XX) DSRA

1. In accordance with reference (a), this memorandum is to certify that all major propulsion plant work and cold plant testing conducted by Ship's Force during subject DSRA is complete and supports Propulsion Plant Operation and unless listed as an exception, none of the remaining Ship's Force work will interfere with propulsion plant operation. A review of the Ship's Current Ship's Maintenance Project (CSMP), WAF Log, and Tagout Log has been conducted and there are no outstanding work items that would impact Propulsion Plant Operation.

2. Exceptions listed in the attached enclosure were not completely accomplished and are subject to agreement upon by the Ship's Commanding Officer (CO), appropriate technical authority, and the XXRMC before proceeding with scheduled Propulsion Plant Operations.

F M LAST

Project Manager

COPY TO:

RMC Integrated Test Coordinator, Code XXX

Commanding Officer USS Pilot Ship XXX XX

Enclosure (1)

SHIP'S FORCE SEA TRIAL EXCEPTION LIST, USS PILOT SHIP (XXX XX) DSRA

Work Item Number	Equipment	Remarks

APPENDIX AI

SAMPLE QUALITY ASSURANCE AVAILABILITY KEY EVENT READINESS CERTIFICATION MEMORANDUM

(SURFACE FORCE SHIPS ONLY)

XXXX

Ser ____

DD MMM YY

MEMORANDUM

From: Project Manager, _____ Regional Maintenance Center

To: Chief Engineer, _____ Regional Maintenance Center

Subj: QUALITY ASSURANCE READINESS FOR SEA TRIALS CERTIFICATION FOR USS PILOT SHIP (XXX XX)

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

Encl: (1) Quality Assurance Sea Trials Exception List, USS Pilot Ship (XXX XX) DSRA

1. In accordance with reference (a), this memorandum is to certify that all Quality Assurance (QA) office actions for subject availability are satisfactory regarding resolution of QA audits and surveillances necessary to support Sea Trials.

2. Exceptions listed in the attached enclosure were not completely accomplished and are subject to agreement upon by the Ship's Commanding Officer (CO), appropriate technical authority, and the XXRMC before proceeding with scheduled Propulsion Plant Operations.

F M LAST

Quality Assurance Manager

COPY TO:

RMC Integrated Test Coordinator, Code XXX

Commanding Officer, USS Pilot Ship (XXX XX)

Enclosure (1)

QUALITY ASSURANCE SEA TRIALS EXCEPTION LIST, USS PILOT SHIP (XXX XX) DSRA

Work Item Number	Equipment	Remarks

APPENDIX AJ

SAMPLE FINAL AVAILABILITY KEY EVENT READINESS CERTIFICATION MEMORANDUM

(SURFACE FORCE SHIPS ONLY)

XXXX

Ser ____

DD MMM YY

MEMORANDUM

From: Chief Engineer, _____ Regional Maintenance Center

To: Commanding Officer, _____ Regional Maintenance Center

Subj: FINAL READINESS FOR UNDOCKING CERTIFICATION FOR USS PILOT SHIP (XXX XX)

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

(b) Prime Contractor readiness for Undocking Certification Memorandum / Ser XXX

(c) Fleet Maintenance Activity readiness for Undocking Certification Memorandum / Ser XXX

(d) Naval Shipyard readiness for Undocking Certification Memorandum / Ser XXX

(e) Alteration Installation Team readiness for Undocking Certification Memorandum / Ser XXX

(f) USS Pilot Ship (XXX XX) readiness for Undocking Certification Memorandum / Ser XXX

(g) XXRMC Code 130 Quality Assurance readiness for Undocking Certification Memorandum / Ser XXX

1. In accordance with references (a) through (g), this memorandum acknowledges that all executing activities have certified completion of all work and testing required to support readiness for Undocking.

2. Exception items provided in references (b) through (g) have been reviewed and do not impact readiness for Undocking.

AA FIRST

Commanding Officer, USS Pilot Ship (XXX XX)

BB NEXT

Project Manager, ___ Regional Maintenance Center

CC MIDDLE

Port Engineer/TYCOM

DD LAST

NSA CHENG

COPY TO:

Commanding Officer, USS Pilot Ship (XXX XX)

Project Manager, ___ Regional Maintenance Center

Port Engineer/TYCOM

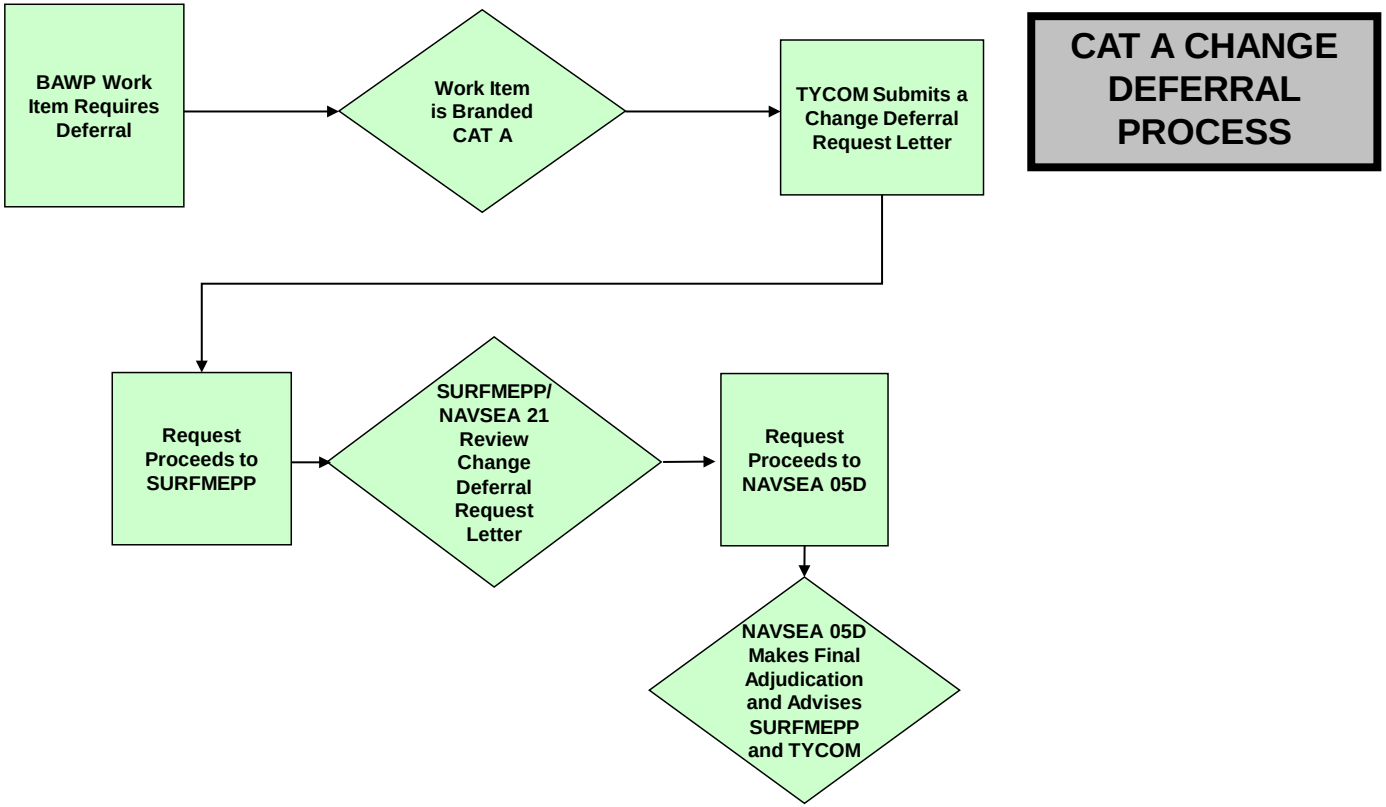
NSA CHENG

RMC Integrated Test Coordinator, Code XXX

APPENDIX AK

BRANDING CATEGORY (CAT) A CHANGE DEFERRAL PROCESS

(SURFACE FORCE SHIPS ONLY)



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APPENDIX AL

BAWP CHANGE DEFERRAL REQUEST (SAMPLE)

4700
XX/XXXX
DD MMM YY

From: Commander, U.S. Atlantic/Pacific Fleet

To: Commanding Officer, Surface Maintenance Engineering Planning Program

Subj: USS SHIP (HULL NUMBER) FYXX-FYXX FLEET READINESS PLAN MAINTENANCE CYCLE BASELINE/AVAILABILITY WORK PACKAGE CHANGE DEFERRAL REQUEST/NOTIFICATION

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

(b) USS SHIP (HULL NUMBER) FYXX-FYXX Baseline Availability Work Package (BAWP)

Encl: (1) USS SHIP (HULL NUMBER) FYXX-FYXX BAWP Change Request Sheet

(2) List of Previously Deferred CMP Requirements

1. USS SHIP (HULL NUMBER) FYXX XXX/SRA is scheduled to commence DD MMM YYYY. This letter confirms completion of Milestone 31 (A-240) in reference (a).

2. Enclosure (1) lists BAWP maintenance requirements recommended for non-accomplishment which require technical adjudication. Request adjudication of branding category “A” items identified in enclosure (1).

3. Operational Risk Summary: USS SHIP (HULL NUMBER) is/is not at risk of attaining a clear path to light-off at LOA. Additionally, the ship will/will not be materially ready to begin Unit-Level Training in one or more mission areas.

4. In accordance with reference (a), the list below contains the remaining planning milestones and dates (tasks are based on the “CNO MSMO Entitled Process”):

TASK	DATE
MSMO CONTRACTOR COMPLETE PLANNING & ESTIMATING OF WORK ASSIGNED BY A-240	DDMMMYY
80% D-LEVEL WORK PACKAGE LOCKED BASED ON $	DDMMMYY
MSMO CONTRACTOR COMPLETE PLANNING & ESTIMATING OF WORK ASSIGNED BY A-120 DATE	DDMMMYY
100% D-LEVEL WORK PACKAGE LOCKED BASED ON $	DDMMMYY
100% D-LEVEL WORK PACKAGE PLANNED/ ESTIMATED	DDMMMYY

5. A list of CMP and repair items already approved for deferral is included in enclosure (2).

6. Point of Contact: NAME, COMMAND, PHONE NUMBER.

X.X.XXXXXXXX

RANK, USN

Copy to:

NAVSEA 05D

COMNAVSURFLANT/COMNAVSURFPAC (N43)

RMC

USS SHIP (HULL NUMBER)

USS SHIP NAME (HULL NUMBER) List of Previously Deferred CMP Items			
JCN	Task Description	Date Authorized	Method Authorized
EX01 ZA00	G1N6 Assessment of Store Room	15 Nov 2009	CMP Electronic Notification System
EM01 ZA55	G1E8 Assessment of GTM 2A	10 Dec 2009	SDM/SURFMEPP E-Mail

APPENDIX AM

AVAILABILITY PLANNING CONFERENCE AGENDA SAMPLE

(SURFACE FORCE SHIPS ONLY)

1. Introduction of Attendees. (Chair)
   a. TYCOM Type Desk. (TDO/Availability Work Package Manager (AWPM)/PE) (Chair)
   b. Ship's Force.
   c. Maintenance Team.
   d. SURFMEPP.
   e. TSRA.
   f. Program Office Management Representative.
   g. Planning Yard Representative.
   h. Space and Naval Warfare Systems Command (SPAWAR) Representative.
   i. Government Planners.
   j. MSMO Contractor Representatives.
2. Meeting Overview - Agenda Topics. (Chair)
3. Availability Overview. (Chair)
   a. Type.
   b. Location.
   c. Start Date/End Date/Duration.
   d. Notional Mandays/Dollars/AP Dollars.
   e. Expected Control Mandays/Dollars/AP Dollars.
4. Availability Budget. (TYCOM Type Desk)
   a. Expected Control Breakdown.
      (1) Fees.
      (2) Reservations.
      (3) Farm-Out.
   b. Cost of work screened to date.
   c. Budget Assessment.
5. Review ship's schedule. (Chair)
   a. Home port.
   b. Deployments and Underway periods.
   c. Scheduled Availabilities. (CMAV and TSRA)
   d. Inspections and Assessment Visits.
   e. Alteration Installation Teams.
   f. Special evolutions that affect ship access.

6. Review remaining advance planning milestones highlighting key dates and deadlines. (TYCOM (AWPM/PE))

7. Brief BAWP contents including status of all mandatory repair and assessment tasks due during the cycle, showing those completed, scheduled and overdue. (SURFMEPP) (A-360 only)

8. SURFMEPP Turnover BAWP to TYCOM. (SURFMEPP) (A-360 only)

9. Brief CSMP showing the screening of all off-ship jobs. Highlight potential technical issues, including Departures from Specifications (DFS) and other jobs that may later be deemed mandatory. Discuss any other concerns. (TYCOM (PE))

10. Brief status of all mandatory repair and assessment tasks due during the cycle, showing remaining tasks scheduled and overdue and discuss concerns. (SURFMEPP) (A-240, A-120)

11. Brief status of all mandatory CMP task Change Deferral Requests, showing those approved, approval pending and disapproved. (SURFMEPP)

12. Assess impact of disapproved CMP task Change Deferral Requests. (TYCOM (PE))

13. Brief schedule of remaining TSRA availabilities and mitigation strategy to accomplish those mandatory CMP assessments that were not executed as scheduled. (TSRA)

14. Assess impact of remaining inspections and assessments. (TYCOM (PE))

15. Brief Program/Fleet Alteration changes since last briefed. (TYCOM (AWPM) (SEA21 briefs Program Alterations changes, if present, else AWPM briefs both))

16. Assess impact of modernization changes on other work. (TYCOM (AWPM)/TYCOM (PE)/Planner)

17. Assess impact of AWP on habitability. (TYCOM (PE))

18. Review and assess Ship's Force planned work that may impact other work. (TYCOM (PE)) (A-120 only)

19. Review and assess Ship's Force deferred work that may need to be included in the AWP. (TYCOM (PE)) (A-120 only)

20. New Issues.

21. Ship Commanding Officer Concerns.

22. Action Required after the Meeting:

    a. TYCOM (AWPM) distributes meeting minutes with action items.

    b. TYCOM Type Desk briefs chain of command of the Commanding Officer Concerns.

    c. SURFMEPP negotiates the uploading of all new CMP tasks identified after this point with the TYCOM. (AWPM/PE) (A-360 only)

APPENDIX AN

BAWP WORK ITEM BRANDING CATEGORIES

(SURFACE FORCE SHIPS ONLY)

Mandatory (Technical): Requires an approved Change Request prior to non-accomplishment. Only SURFMEPP is authorized to brand items in this category. BAWP work items in this branding category include maintenance actions, which have high-level technical requirements and/or are NAVSEA-mandated. Adjudication is managed by the applicable Technical Warrant Holder.	
A1	Mandatory maintenance by direction of higher authority.
A6	Reprogrammed BAWP items from previous maintenance cycles.
AH	Mandatory maintenance approved for deferral in the current maintenance cycle.
AR	Repair task that must be accomplished within the current FRP Maintenance Cycle.
Required (Non-Technical): Requires TYCOM approval and subsequent notification to SURFMEPP prior to non-accomplishment.	
B3	All other modernization not included as categories B1 or B2. (Note: “B1” and “B2” N/A to Surface Ships)
B6	Availability Services. (Temp/Routine)
B7	Repair work related to an active CASREP or DFS.
B9	Assessments in support of shipboard inspections (e.g., TSRA, C5RA) or mandatory CMP items requested for early accomplishment.

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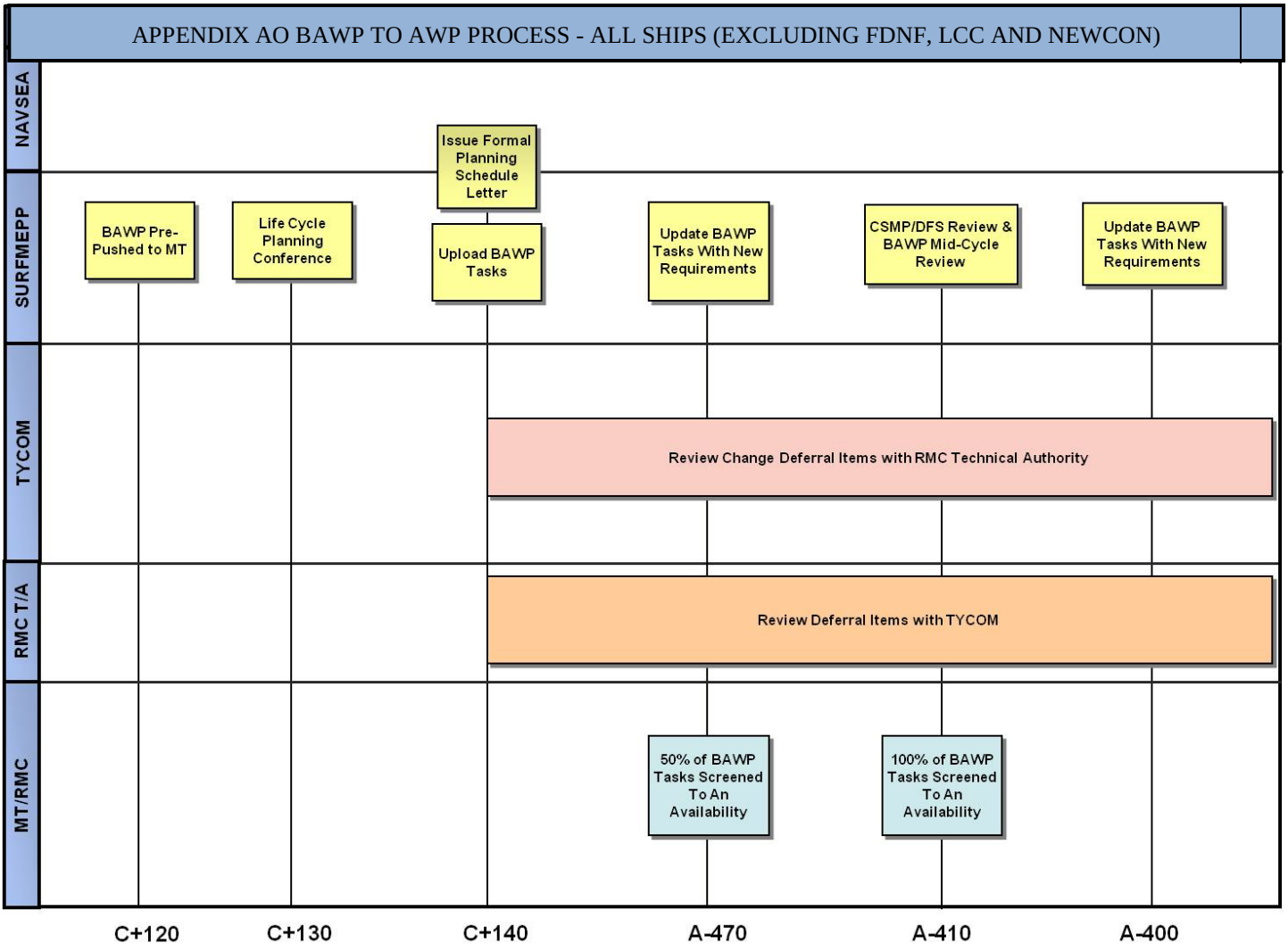
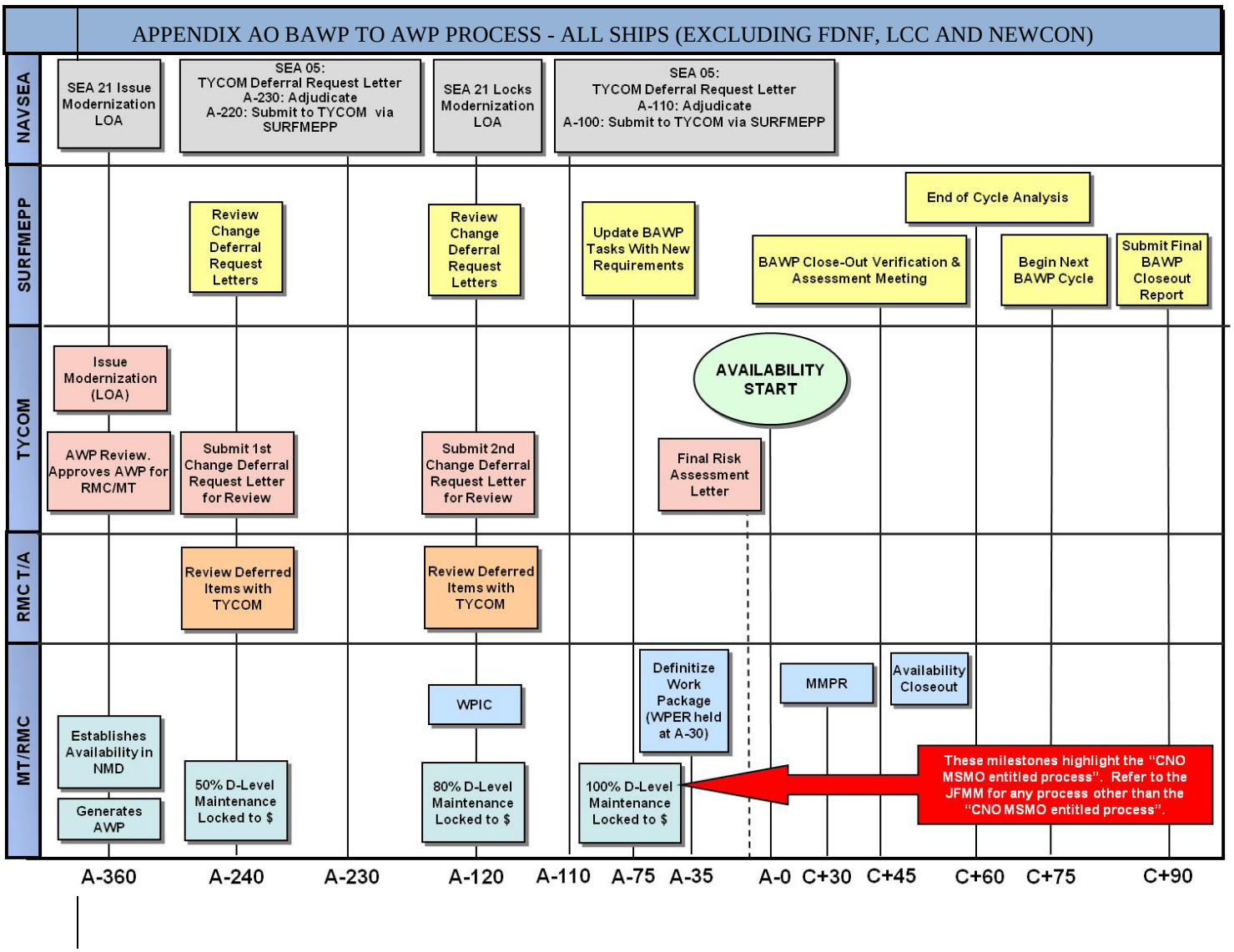
APPENDIX AO

BASELINE AVAILABILITY WORK PACKAGE (BAWP) TO AVAILABILITY WORK PACKAGE (AWP) PROCESS

(SURFACE FORCE SHIPS ONLY)




APPENDIX AO BAWP TO AWP PROCESS - ALL SHIPS (EXCLUDING FDNF, LCC AND NEWCON)
NAVSEA
SURFMEPP
TYCOM
RMC T/A
MT/RMC
SEA 21 Issue Modernization LOA
SEA 05: TYCOM Deferral Request Letter A-230: Adjudicate A-220: Submit to TYCOM via SURFMEPP
SEA 21 Locks Modernization LOA
SEA 05: TYCOM Deferral Request Letter A-110: Adjudicate A-100: Submit to TYCOM via SURFMEPP
Review Change Deferral Request Letters
Review Change Deferral Request Letters
Update BAWP Tasks With New Requirements
End of Cycle Analysis
BAWP Close-Out Verification & Assessment Meeting
Begin Next BAWP Cycle
Submit Final BAWP Closeout Report
Issue Modernization (LOA)
AWP Review. Approves AWP for RMC/MT
Submit 1st Change Deferral Request Letter for Review
Submit 2nd Change Deferral Request Letter for Review
AVAILABILITY START
Final Risk Assessment Letter
Review Deferred Items with TYCOM
Review Deferred Items with TYCOM
Establishes Availability in NMD
Generates AWP
50% D-Level Maintenance Locked to $
WPIC
80% D-Level Maintenance Locked to $
Definitize Work Package (WPER held at A-30)
100% D-Level Maintenance Locked to $
MMPR
Availability Closeout
These milestones highlight the "CNO MSMO entitled process". Refer to the JFMM for any process other than the "CNO MSMO entitled process".
A-360
A-240
A-230
A-120
A-110
A-75
A-35
A-0
C+30
C+45
C+60
C+75
C+90

APPENDIX AP

FDNF BAWP TO AWP PROCESS

(SURFACE FORCE SHIPS ONLY)

1. SURFMEPP has lead responsibility for BAWP development. At A-615, representatives from SURFMEPP, TYCOM and the ship's PE will convene for a LCPC. RMC Assessment Directors, Program Manager Representatives (PMR), and Representatives from NAVSEA 05D, NAVSEA 21 Modernization, CNSL/CNSP N43, Planning Activity, ISIC, and the ship's MT are encouraged to attend the LCPC. This appendix illustrates the Forward Deployed Naval Forces (FDNF) BAWP to AWP process. Due to the compressed cycle for FDNF ships, TYCOM will submit only one deferral letter at A-220.

NOTE: SURFMEPP WILL HOST THREE (3) SCHEDULED MEETINGS OVER THE COURSE OF THE SHIP'S FRP MAINTENANCE CYCLE: THE LCPC (A-615), THE CSMP/DFS/BAWP MID-CYCLE REVIEW (A-410) AND THE BAWP CLOSE-OUT VERIFICATION AND ASSESSMENT MEETING (C+45). DUE TO A COMPRESSED FDNF FRP MAINTENANCE CYCLE, TWO MAINTENANCE CYCLES ARE PLANNED CONCURRENTLY. THE FOLLOW-ON CYCLE'S LCPC OCCURS AFTER TYCOM'S CURRENT CYCLE DEFERRAL LETTER SUBMISSION AT A-220 AND PRIOR TO THE START OF THE CURRENT CYCLE'S CNO AVAILABILITY. WHEN POSSIBLE, SURFMEPP CONFERENCES WILL BE HELD IN CONJUNCTION WITH OTHER MT SCHEDULED MEETINGS, SUCH AS MONTHLY AVAILABILITY ADVANCED PLANNING MEETINGS AND PLANNING BOARD FOR MAINTENANCE (PB4M).

2. A-670. SURFMEPP will establish the date, location and agenda for the LCPC.

3. A-625. SURFMEPP will send a list of the FRP Maintenance Cycle CMP requirements and a list of recommended availability services to the ship's PE for review and correction. This list is a preview of initial BAWP and will be discussed in detail at the LCPC. Upon request SURFMEPP will provide a list of CMP-required assessments to TYCOM, NRMC and RMC in support of the TSRA process.

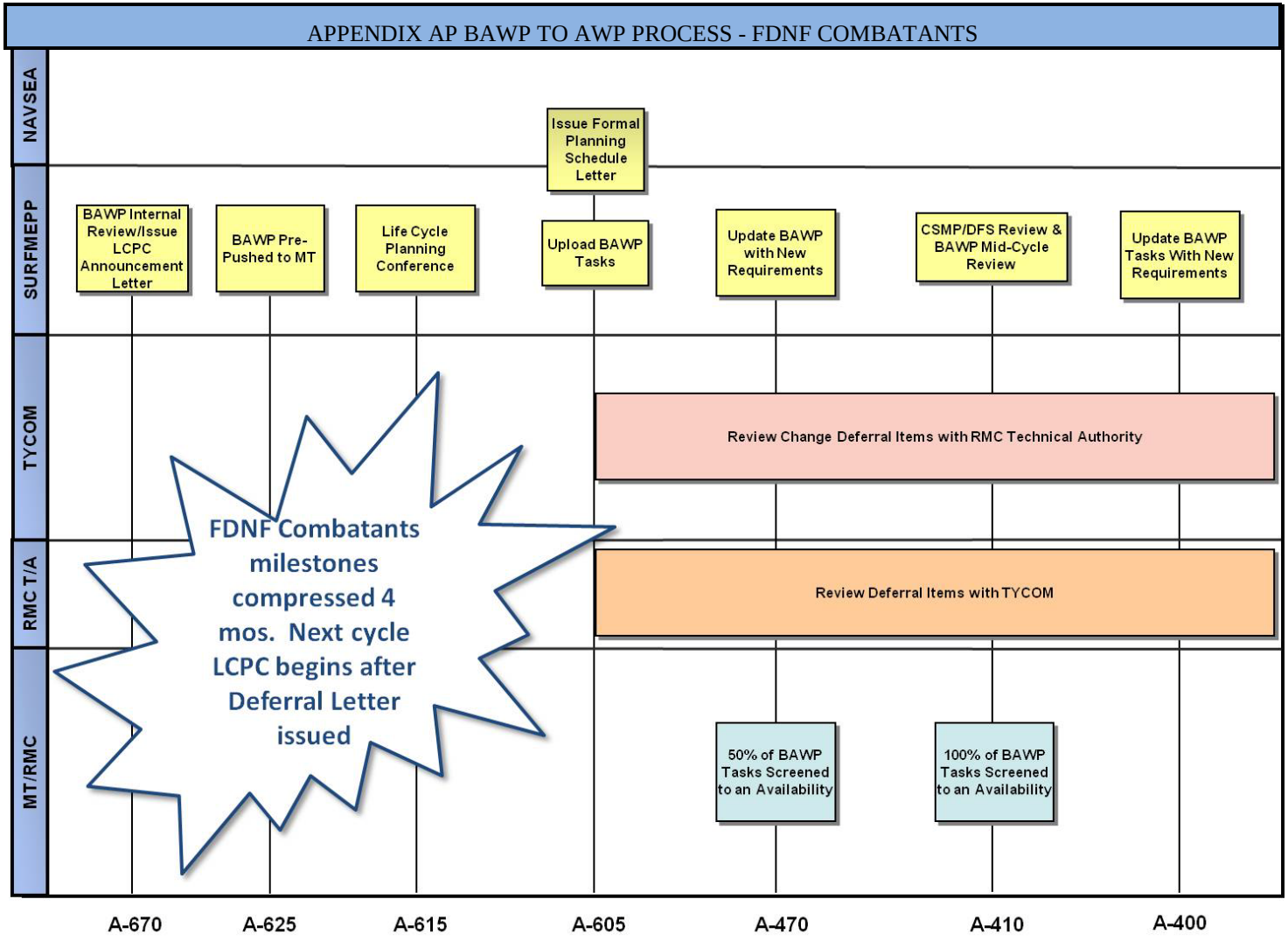
4. A-615. The LCPC agenda will include a review of the planning schedule, required CMP assessments, Navy Data Environment (NDE) modernization forecasts, CNO Availability services/routines as applicable, organizational responsibilities, and DFSs.

5. A-605.

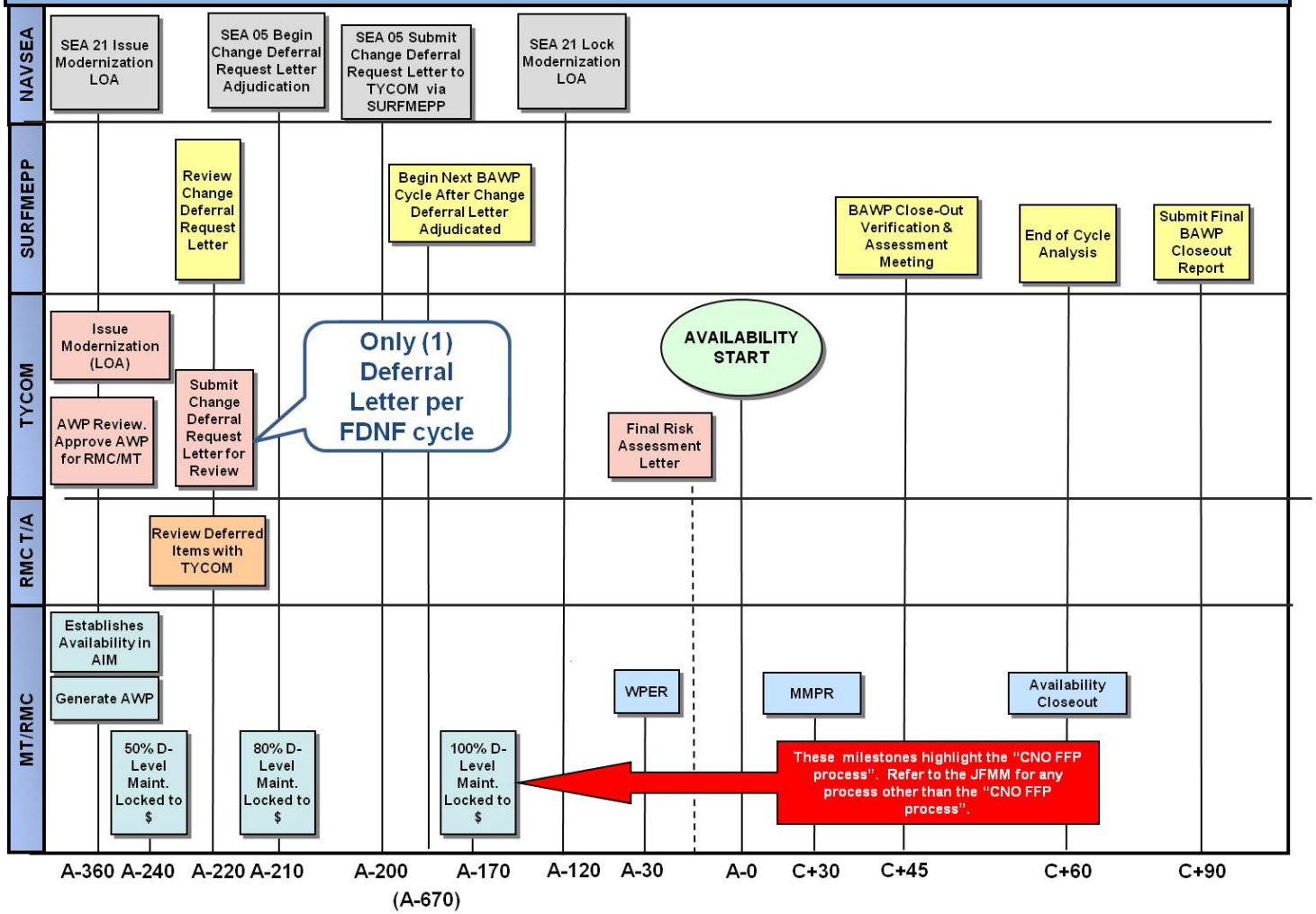
   a. SURFMEPP will upload a data file (MM0001 file) with all mandatory maintenance actions and expected CNO Availability services into the ship's CSMP in support of ship-specific MT screening and brokering requirements. The data file will span approximately six (6) calendar quarters.

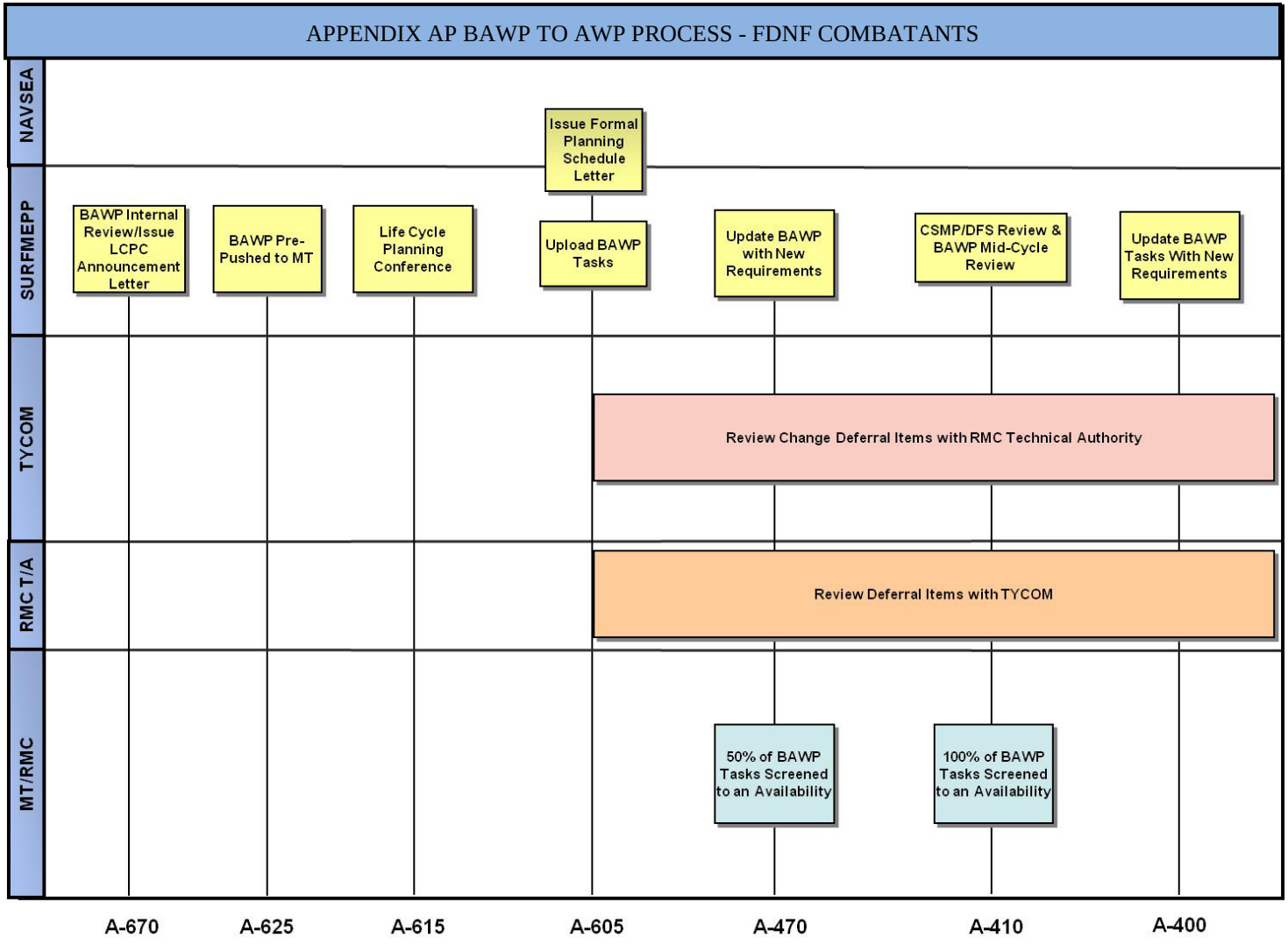
   b. SURFMEPP will issue formal correspondence detailing the planning schedule and outstanding action items from the LCPC.

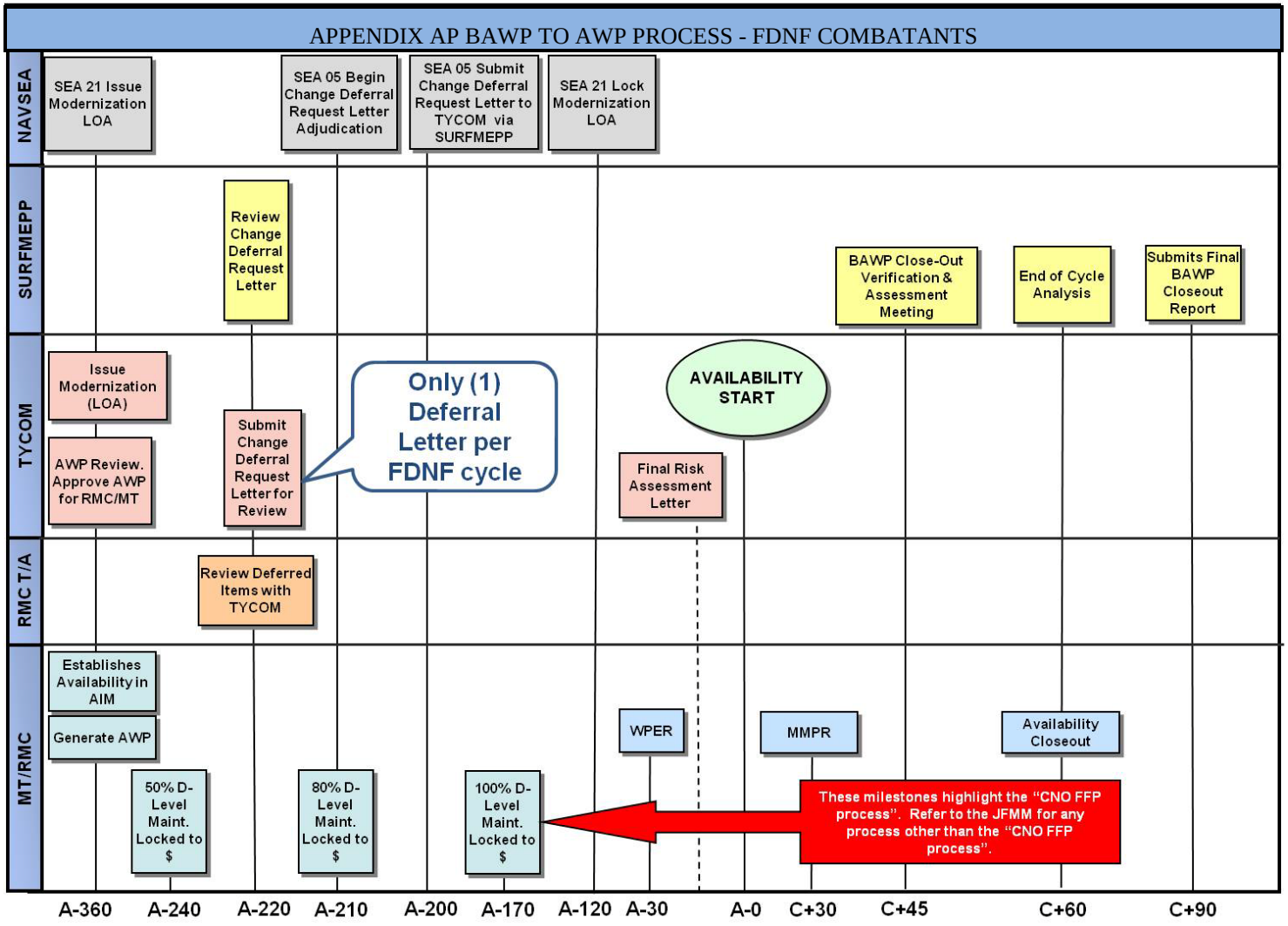
6. All other requirements listed in the body of this manual are germane (refer to Volume II, Part I, Chapter 3).


APPENDIX AP BAWP TO AWP PROCESS - FDNF COMBATANTS
NAVSEA
SURFMEPP
TYCOM
RMC T/A
MT/RMC
Issue Formal Planning Schedule Letter
BAWP Internal Review/Issue LCPC Announcement Letter
BAWP Pre-Pushed to MT
Life Cycle Planning Conference
Upload BAWP Tasks
Update BAWP with New Requirements
CSMP/DFS Review & BAWP Mid-Cycle Review
Update BAWP Tasks With New Requirements
Review Change Deferral Items with RMC Technical Authority
Review Deferral Items with TYCOM
FDNF Combatants milestones compressed 4 mos. Next cycle LCPC begins after Deferral Letter issued
50% of BAWP Tasks Screened to an Availability
100% of BAWP Tasks Screened to an Availability
A-670
A-625
A-615
A-605
A-470
A-410
A-400

APPENDIX AP BAWP TO AWP PROCESS - FDNF COMBATANTS




APPENDIX AP BAWP TO AWP PROCESS - FDNF COMBATANTS
NAVSEA
SURFMEPP
TYCOM
RMC T/A
MT/RMC
Issue Formal Planning Schedule Letter
BAWP Internal Review/Issue LCPC Announcement Letter
BAWP Pre-Pushed to MT
Life Cycle Planning Conference
Upload BAWP Tasks
Update BAWP with New Requirements
CSMP/DFS Review & BAWP Mid-Cycle Review
Update BAWP Tasks With New Requirements
Review Change Deferral Items with RMC Technical Authority
Review Deferral Items with TYCOM
50% of BAWP Tasks Screened to an Availability
100% of BAWP Tasks Screened to an Availability
A-670
A-625
A-615
A-605
A-470
A-410
A-400


APPENDIX AP BAWP TO AWP PROCESS - FDNF COMBATANTS
NAVSEA
SURFMEPP
TYCOM
RMC T/A
MT/RMC
SEA 21 Issue Modernization LOA
SEA 05 Begin Change Deferral Request Letter Adjudication
SEA 05 Submit Change Deferral Request Letter to TYCOM via SURFMEPP
SEA 21 Lock Modernization LOA
Review Change Deferral Request Letter
BAWP Close-Out Verification & Assessment Meeting
End of Cycle Analysis
Submits Final BAWP Closeout Report
Issue Modernization (LOA)
AWP Review. Approve AWP for RMC/MT
Submit Change Deferral Request Letter for Review
Only (1) Deferral Letter per FDNF cycle
AVAILABILITY START
Final Risk Assessment Letter
Review Deferred Items with TYCOM
Establishes Availability in AIM
Generate AWP
50% D-Level Maint. Locked to $
80% D-Level Maint. Locked to $
100% D-Level Maint. Locked to $
WPER
MMPR
Availability Closeout
These milestones highlight the "CNO FFP process". Refer to the JFMM for any process other than the "CNO FFP process".
A-360
A-240
A-220
A-210
A-200
A-170
A-120
A-30
A-0
C+30
C+45
C+60
C+90

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APPENDIX BA

SAMPLE TYCOM MESSAGE CONCERNING ESCORT SERVICES FOR INDUSTRIAL ACTIVITY AVAILABILITIES OF LESS THAN SIX MONTHS DURATION

(SUBMARINES ONLY)

FM COMSUB <LANT/PAC><NORFOLK VA/PEARL HARBOR HI>//N4//
TO COMSUB<RON/GRU NO.>//{ISIC of Escort Ship}
USS <ESCORT SHIP NAME>//
INFO CNO WASHINGTON DC//N77//
COM<LANT/PAC>FLT <NORFOLK VA/PEARL HARBOR HI>//N43//
COMNAVSEASYSCOM WASHINGTON DC//PMS 392/PMS 394 and PMS 399 (AS APPLICABLE)/08O/07Q//
DIRSSP WASHINGTON DC //205//{For SSBN/SSGN only}
<SUPERVISING AUTHORITY>//<CODES>//
<SUBOPAUTH>// {If other than parent TYCOM}
COMSUBDEVRON FIVE SILVERDALE WA//N3//
COMSUB<RON/GRU NO.>//{ISIC of Sea Trial Ship}
CTF TWO SIX//
CTG TWO SIX PT ONE//
NSCSES NORFOLK VA//112//
DSU SAN DIEGO CA//00//
NAVUNSEAWARCENDIV NEWPORT RI//02245//
NAVUNSEAWARCENDET WEST PALM BEACH FL//3812//
NAVUNSEAWARCENDET AUTEC ANDROS ISLAND BAHAMAS//05//
NAVSURFWARCEN CARDEROCKDIV BETHESDA MD//1921//
PEOSUBCBTWPNSYS WASHINGTON DC//PMO417//
NAVORDTESTU CAPE CANAVERAL FL//SPP40//{For SSBN/SSGN only}
COMSUBGRU <NINE/TEN> //N3//{For SSBN/SSGN only}
USS <SEA TRIAL SHIP NAME> //
BT
UNCLAS //N03120//
MSGID/GENADMIN/COMSUB<LANT/PAC>//
SUBJ/(SUBS) SUBMARINE SEA TRIAL SUPPORT SERVICES//
REF/A/<RMG/DOC>/<SUPERVISING AUTHORITY>/<DATE/DTG>//
REF/B/DOC/COMUSFLTFORCOM/<DATE>//
NARR/REF A IS SEA TRIAL SUPPORT REQUEST. REF B IS JOINT FLEET MAINTENANCE MANUAL//
RMKS/1. REF A REQUESTED AND IAW REF B USS <NAME OF ESCORT SHIP> IS APPROVED AS ESCORT FOR USS <SEA TRIAL SHIP NAME> FOR SEA TRIALS OCCURRING <DDMMMYY>.
2. FOR COMSUB<RON/GRU NO.> PROVIDE GOLD DOLPHIN RIDER ONBOARD USS <NAME OF ESCORT SHIP>.
3. DIRLAUTH ALCON FOR EVENT SCHEDULES AND SCHEDULE CHANGES.//
BT

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

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APPENDIX BB

SAMPLE ISIC MESSAGE TO TYCOM CONCERNING CREW CERTIFICATION AND MATERIAL CONDITION FOR FAST CRUISE AND SEA TRIALS FOR INDUSTRIAL ACTIVITY AVAILABILITIES LESS THAN SIX MONTHS IN DURATION

(SUBMARINES ONLY)

FM COMSUB<RON/GRU NO.>//
TO COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N4/40//
INFO <SUPERVISING AUTHORITY>//<CODES>//
USS <SHIP NAME>//
COMSUBGRU<NO.>//N4//
BT
UNCLAS//N09094//
MSGID/GENADMIN/COMSUB<RON/GRU NO.>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.> CREW AND MATERIAL CERTIFICATION//
REF/A/DOC/COMUSFLTFORCOM/<DATE>//
REF/B/DOC/NAVSEA/<DATE>//
REF/C/DOC/NAVSEA/<DATE>//
NARR/REF A IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL. REF B IS SUBMARINE SAFETY (SUBSAFE) REQUIREMENTS MANUAL, NAVSEA 0924-LP-062-0010. REF C IS NAVSEA URO MRC TECHNICAL MANUAL//
RMKS/1. CREW CERTIFICATION CONDUCTED AND SATISFACTORILY COMPLETED IAW REF A.
2. IAW REFS A AND B, COMSUB<RON/GRU NO.> CERTIFIES THE SUBSAFE CERTIFICATION BOUNDARY OF <SHIP NAME/HULL NO.> INSTALLED, REPAIRED AND/OR TESTED BY FORCES AFLOAT IS SATISFACTORY FOR SEA TRIALS TO TEST DEPTH. ALL SUBSAFE CONTROLLED WORK PACKAGES ARE CLOSED. CERTIFICATION REQUIREMENTS OF REF B HAVE BEEN SUSTAINED FOR THE REMAINDER OF THE SUBSAFE CERTIFICATION BOUNDARY. ALL OTHER CONTROLLED WORK PERFORMED BY SHIP'S FORCE HAS BEEN COMPLETED AND SATISFACTORILY RETESTED AND THE APPROPRIATE WORK PACKAGES CLOSED.
3. MATERIAL/SALVAGE CONDITION CERTIFIED READY FOR SEA UPON COMPLETION OF THE FOLLOWING CORRECTIVE ACTIONS:
A.
B.
4. THERE ARE NO OUTSTANDING RECS. THE FOLLOWING DEPARTURES FROM SPECIFICATION ARE CURRENTLY OUTSTANDING:

DEPARTURE NO.	TYPE	SYSTEM/COMPONENT	RESTRICTION (IF ANY)
A.			
B.			

5. ALL URO MRC AND MANDATORY TESTS/INSPECTIONS SPECIFIED IN REF C HAVE BEEN ACCOMPLISHED OR VERIFIED TO BE WITHIN THE REQUIRED PERIODICITY.
6. COMSUB<RON/GRU NO.> REPORTS READINESS OF USS <SHIP NAME/HULL NO.> FOR COMMENCEMENT OF FAST CRUISE. CO USS <SHIP NAME/HULL NO.> CONCURS.//
7. SUBJECT TO SATISFACTORY COMPLETION OF FAST CRUISE AND RESOLUTION OF MANDATORY DEFICIENCIES COMSUB<RON/GRU NO.> CONSIDERS USS <SHIP NAME/HULL NO.> MATERIAL CONDITION READINESS SATISFACTORY FOR COMMENCEMENT OF SEA TRIALS.//
BT

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

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APPENDIX BE

SAMPLE SHIP MESSAGE TO TYCOM CONCERNING READINESS FOR FOLLOW-ON SEA TRIALS FOR INDUSTRIAL ACTIVITY AVAILABILITIES LESS THAN SIX MONTHS IN DURATION

(SUBMARINES ONLY)

FM USS <SHIP NAME>//
TO COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N4//
INFO COMSUBDEVRON FIVE SILVERDALE WA//N3//
COMSUBGRU <NO.>//N5//
COMSUB<RON/GRU NO.>//
<SUPERVISING AUTHORITY>//<CODES>//
BT
UNCLAS //N09094//
MSGID/GENADMIN//USS <SHIP'S NAME>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.>READINESS FOR <FOLLOW-ON (NOTE 1)>SEA TRIALS//
REF/A/DOC/<SUPERVISING AUTHORITY>/<DATE>//
REF/B/DOC/COMUSFLTFORCOM/<DATE>//
REF/ REF A IS <SUPERVISING AUTHORITY> SUBSAFE CERTIFICATION CONTINUITY REPORT FOR <SHIP NAME/HULL NO.>. REF B IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II.//
RMKS/1. REF A CERTIFIED THE SUBSAFE MATERIAL CONDITION OF THOSE PARTS OF USS <SHIP NAME/HULL NO.> INSTALLED, REPAIRED AND/OR TESTED BY THE SHIPYARD IS SATISFACTORY FOR SEA TRIALS TO TEST DEPTH.
2. USS <SHIP NAME/HULL NO.> AND CREW REPORTED READY TO PROCEED IAW REF B, ON <FOLLOW-ON (NOTE 1)> SEA TRIALS WITH THE FOLLOWING EXCEPTIONS:
    A. REMOVAL OF SHORE SERVICE CONNECTIONS.
    B.
3. MATERIAL CONDITION SUPPORTS ADEQUATE CREW REST FOR UNDERWAY AT <TIME AND DATE>.
4. REQUEST PERMISSION TO COMMENCE <FOLLOW-ON (NOTE 1)> SEA TRIALS.//
BT

NOTE: UPCOMING TRIAL WHICH IS SUBJECT OF THIS CERTIFICATION (E.G., SECOND SEA TRIAL, ETC.).

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

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APPENDIX BF

SAMPLE ISIC MESSAGE TO TYCOM CONCERNING MATERIAL CERTIFICATION FOR FOLLOW-ON SEA TRIALS IN CASES WHERE A PREVIOUS SEA TRIAL WAS ABORTED OR CORRECTIVE ACTIONS FOR SEA TRIAL DEFICIENCIES REQUIRE AN ADDITIONAL DEEP DIVE FOR INDUSTRIAL ACTIVITY AVAILABILITIES LESS THAN SIX MONTHS IN DURATION

(SUBMARINES ONLY)

FM COMSUB<RON/GRU NO.>//
TO COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N4//
INFO COMSUBDEVRON FIVE SILVERDALE WA//N4//
COMSUBGRU <NO.>//N4//
USS <SHIP NAME>//
<SUPERVISING AUTHORITY>//<CODES>//
BT
UNCLAS //N09094//
MSGID//GENADMIN/COMSUB<RON/GRU NO.>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.>MATERIAL CERTIFICATION/ READINESS FOR <FOLLOW-ON (NOTE 1)> SEA TRIALS//
REF/A/DOC/ COMUSFLTFORCOM/<DATE>//
REF/B/RMG/COMSUB<RON/GRU NO.>/<DTG>//{APPENDIX BK}
REF/C/DOC/NAVSEA /<DATE>//
REF/D/RMG/USS <SHIP NAME>/<DTG>//{APPENDIX BE}
NARR/REF A IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II. REF B IS COMSUB<RON/GRU NO.> MSG TO TYCOM ON MATERIAL STATUS PRIOR TO INITIAL SEA TRIALS. REF C IS NAVSEA 0924-LP-062-0010, SUBMARINE SAFETY (SUBSAFE) REQUIREMENTS MANUAL. REF D IS USS <SHIP NAME/HULL NO.> REPORT OF READINESS FOR FOLLOW-ON SEA TRIALS.//
RMKS/1. IAW REF A AND C, THIS MSG CERTIFIES THAT NO MANDATORY DEFICIENCIES FOR <FOLLOW-ON (NOTE 1)> SEA TRIALS HAVE BEEN IDENTIFIED. THERE HAVE BEEN NO RECS OPENED AND NO FORCES AFLOAT SUBSAFE DEPARTURES FROM SPECIFICATION PROCESSED SINCE THE START OF THE INITIAL SEA TRIALS <OR, SUBSEQUENT TO REF B, REPORT ANY MANDATORY DEFICIENCIES DISCOVERED WITH CORRECTIVE ACTION, AND IF RECS AND/OR DEPARTURES FROM SPECIFICATIONS WERE PROCESSED SINCE THE START OF THE INITIAL SEA TRIALS, REPORT ALL RECS OPENED SINCE THE START OF INITIAL SEA TRIALS ARE CLOSED AND/OR ALL SUBSAFE DEPARTURES FROM SPECIFICATIONS PROCESSED SINCE THE START OF SEA TRIALS ARE RESOLVED NOTE 2.>
2. THERE ARE NO SUBSAFE DEPARTURES FROM SPECIFICATIONS WITH CONDITIONS WHICH HAVE NOT BEEN SATISFIED. THE FOLLOWING DEPARTURES FROM SPECIFICATIONS ARE CURRENTLY OUTSTANDING:

DEPARTURE NO.	TYPE	SYSTEM/COMPONENT	RESTRICTION (IF ANY)
A.			
B.			

3. SHIP REPORTED READINESS FOR FOLLOW-ON SEA TRIALS IN REF D.//
BT

NOTE 1: UPCOMING TRIAL WHICH IS SUBJECT OF THIS CERTIFICATION (E.G., SECOND SEA TRIAL, ETC.).

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 FOR FAST CRUISE MESSAGE.

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

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APPENDIX BH

SAMPLE SHIP MESSAGE TO ISIC CONCERNING READINESS FOR FAST CRUISE FOR INDUSTRIAL ACTIVITY AVAILABILITIES LESS THAN SIX MONTHS IN DURATION

(SUBMARINES ONLY)

FM USS <SHIP NAME>//
TO COMSUB<RON/GRU NO.>//
INFO COMSUBDEVRON FIVE SILVERDALE WA//N3//
COMSUBGRU <NO.>//N5//
<SUPERVISING AUTHORITY>/<CODES>//
BT
UNCLAS //N09094//
MSGID/GENADMIN/USS <SHIP NAME>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.> READINESS FOR FAST CRUISE//
REF/A/DOC/<SUPERVISING AUTHORITY>/<DATE>//
REF/B/RMG/COMSUB<RON/GRU NO.>/<DTG>//{APPENDIX BB}
REF/C/DOC/COMUSFLTFORCOM/<DATE>//
NARR/ REF A IS <SUPERVISING AUTHORITY> SUBSAFE CERTIFICATION CONTINUITY REPORT. REF B IS COMSUB<RON/GRU NO.> REPORT OF READINESS FOR FAST CRUISE AND SEA TRIALS. REF C IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II.//
1. REFS A AND B REPORTED READINESS OF SHIP FOR FAST CRUISE AND SEA TRIALS. USS <SHIP NAME/HULL NO.> AND CREW ARE READY FOR SEA TRIALS IAW REF C WITH THE FOLLOWING EXCEPTIONS:
    A. COMPLETION OF FAST CRUISE.
    B. REMOVAL OF SHORE SERVICE CONNECTIONS.
2. REQUEST PERMISSION TO START FAST CRUISE.//
BT

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

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APPENDIX BI

SAMPLE ISIC MESSAGE TO SHIP AUTHORIZING COMMENCEMENT OF FAST CRUISE FOR INDUSTRIAL ACTIVITY AVAILABILITIES LESS THAN SIX MONTHS IN DURATION

(SUBMARINES ONLY)

FM COMSUB<RON/GRU NO.>//
TO USS <SHIP NAME>//
INFO CNO WASHINGTON DC//N77//
COM<LANT/PAC>FLT <NORFOLK VA/PEARL HARBOR HI>//N43//
COMNAVSEASYSCOM WASHINGTON DC//PMS 392/08O/07Q//
COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N4//
DIRSSP WASHINGTON DC //205//{For SSBN/SSGN only}
<SUBOPAUTH>// {If other than parent TYCOM}
COMSUBDEVRON FIVE SILVERDALE WA//N3//
COMSUBGRU <NO.>//N5//
<SUPERVISING AUTHORITY>/<CODES>//
BT
UNCLAS //N09094//
MSGID/GENADMIN/USS <SHIP NAME>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.> READINESS FOR FAST CRUISE//
REF/A/DOC/<SUPERVISING AUTHORITY>/<DATE>//
REF/B/RMG/COMSUB<RON/GRU NO.>/<DTG>//{APPENDIX BB}
REF/C/RMG/ USS <SHIP NAME>/<DTG>//{APPENDIX BH}
REF/D/DOC/ COMUSFLTFORCOM/<DATE>//
NARR/ REF A IS <SUPERVISING AUTHORITY> SUBSAFE CERTIFICATION CONTINUITY REPORT. REF B IS COMSUB<RON/GRU NO.> REPORT OF READINESS FOR FAST CRUISE AND SEA TRIALS. REF C USS <SHIP NAME> IS REPORT OF READINESS FOR FAST CRUISE AND SEA TRIALS. REF D IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II.//
1. REF A REPORTED <SUPERVISING AUTHORITY> ASSIGNED WORK COMPLETE AND READINESS FOR FAST CRUISE AND SEA TRIALS.
2. REF B REPORTED REMAINING PORTIONS OF SUBSAFE BOUNDARY NOT WORKED BY <SUPERVISING AUTHORITY> MAINTAINED CERTIFIED AND READINESS FOR FAST CRUISE AND SEA TRIALS.
3. REF C REPORTED SHIP'S FORCE READINESS FOR FAST CRUISE AND SEA TRIALS AND REQUESTED PERMISSION TO COMMENCE FAST CRUISE.
4. IAW WITH REF D USS <SHIP NAME> IS AUTHORIZED TO COMMENCE FAST CRUISE. <SHIP NAME> IS DIRECTED TO REPORT COMPLETION OF FAST CRUISE AND ALL SUBSAFE DEFICIENCIES IDENTIFIED DURING FAST CRUISE TO COMSUB<RON/GRU NO.>, COMSUB<LANT/PAC> AND <SUPERVISING AUTHORITY>.//
BT

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

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APPENDIX BJ

SAMPLE SHIP MESSAGE TO ISIC AND TYCOM CONCERNING READINESS FOR SEA TRIALS FOR INDUSTRIAL ACTIVITY AVAILABILITIES LESS THAN SIX MONTHS IN DURATION

(SUBMARINES ONLY)

FM USS <SHIP NAME>//
TO COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N4//
COMSUB<RON/GRU NO.>//
INFO COMSUBDEVRON FIVE SILVERDALE WA//N3//
COMSUBGRU <NO.>//N5//
<SUPERVISING AUTHORITY>//<CODES>//
BT
UNCLAS //N09094//
MSGID/GENADMIN//USS <SHIP'S NAME>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.>READINESS FOR SEA TRIALS//
REF/A/DOC/ COMUSFLTFORCOM/<DATE>//
NARR/REF A IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II//
RMKS/1. FAST CRUISE COMPLETED <TIME AND DATE>.
2. IAW REF A, USS <SHIP NAME/HULL NO.> AND CREW REPORTED READY TO PROCEED ON SEA TRIALS WITH THE FOLLOWING EXCEPTIONS:
    A. REMOVAL OF SHORE SERVICE CONNECTIONS.
    B.
3. MATERIAL CONDITION SUPPORTS ADEQUATE CREW REST FOR UNDERWAY AT <TIME AND DATE>.
4. REQUEST PERMISSION TO COMMENCE SEA TRIALS.//
BT

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

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APPENDIX BK

SAMPLE ISIC MESSAGE TO TYCOM CONCERNING FINAL MATERIAL CERTIFICATION PRIOR TO SEA TRIALS FOR INDUSTRIAL ACTIVITY AVAILABILITIES LESS THAN SIX MONTHS IN DURATION

(SUBMARINES ONLY)

FM COMSUB<RON/GRU NO.>//
TO COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N4//
INFO COMSUBDEVRON FIVE SILVERDALE WA//N4//
COMSUBGRU <NO.>//N4//
USS <SHIP NAME>//
<SUPERVISING AUTHORITY>//<CODES>//
BT
UNCLAS //N09094//
GENADMIN/COMSUB<RON/GRU NO.>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.> MATERIAL CERTIFICATION/ READINESS FOR SEA TRIALS//
REF/A/DOC/ COMUSFLTFORCOM/<DATE>//
REF/B/RMG/COMSUB<RON/GRU NO.>/<DTG>//{APPENDIX BB}
REF/C/RMG/USS<SHIP NAME>/<DTG>//{APPENDIX BJ}
REF/D/DOC/NAVSEA /<DATE>//
NARR/REF A IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II. REF B IS COMSUB<RON/GRU NO.> MSG TO TYCOM ON CREW CERT. REF C IS SHIP REPORT OF COMPLETION OF FAST CRUISE AND READINESS FOR SEA TRIALS. REF D IS NAVSEA 0924-LP-062-0010, SUBMARINE SAFETY (SUBSAFE) REQUIREMENTS MANUAL.
RMKS/1. IAW REFS A AND D, THIS MSG CERTIFIES THAT NO MANDATORY DEFICIENCIES FOR SEA TRIALS HAVE BEEN IDENTIFIED AS REPORTED IN REF B AND C. THERE HAVE BEEN NO RECS OPENED AND NO SUBSAFE DEPARTURES FROM SPECIFICATION PROCESSED SINCE THE START OF FAST CRUISE. <OR, REPORT ANY MANDATORY DEFICIENCIES DISCOVERED WITH CORRECTIVE ACTION, AND IF RECS AND/OR DEPARTURES FROM SPECIFICATIONS WERE PROCESSED SINCE THE START OF FAST CRUISE, REPORT ALL RECS OPENED SINCE THE START OF FAST CRUISE ARE CLOSED AND/OR ALL SUBSAFE DEPARTURES FROM SPECIFICATIONS PROCESSED SINCE THE START OF FAST CRUISE ARE RESOLVED.> (NOTE 1.)
2. THERE ARE NO SUBSAFE DEPARTURES FROM SPECIFICATIONS WITH CONDITIONS WHICH HAVE NOT BEEN SATISFIED. THE FOLLOWING ADDITIONAL DEPARTURES FROM SPECIFICATIONS WERE GENERATED SUBSEQUENT TO REF B. <If None, indicate NONE>

DEPARTURE NO.	TYPE	SYSTEM/COMPONENT	RESTRICTION (IF ANY)
A.			
B.			

3. REQUEST PERMISSION TO COMMENCE SEA TRIALS. CO <SHIP NAME/HULL NO.> CONCURS.//
BT

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 FOR FAST CRUISE MESSAGE.

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

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APPENDIX BL

SAMPLE SHIP MESSAGE TO ISIC AND TYCOM CONCERNING MATERIAL CERTIFICATION UPON COMPLETION OF SEA TRIALS FOR INDUSTRIAL ACTIVITY AVAILABILITIES LESS THAN SIX MONTHS IN DURATION

(SUBMARINES ONLY)

FM USS <SHIP NAME>//
TO COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N4//
COMSUB<RON/GRU NO.>//
<SUPERVISING AUTHORITY>//<CODES>//
INFO CNO WASHINGTON DC//N77//
COMNAVSEASYSCOM WASHINGTON DC//PMS 392/08O/07Q//
COM<LANT/PAC>FLT <NORFOLK VA/PEARL HARBOR HI>//N43//
DIRSSP WASHINGTON DC//{FOR SSBN/SSGN}
COMSUBDEVRON FIVE SILVERDALE WA//N4//
COMSUBGRU<NO.>//N4//
BT
UNCLAS //N09094//
GENADMIN/COMSUB<RON/GRU NO.>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.> SATISFACTORY COMPLETION OF SEA TRIALS//
REF/A/DOC/ COMUSFLTFORCOM/<DATE>//
NARR/REF A IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II.
RMKS/1. USS <SHIP NAME> REPORTS SATISFACTORY COMPLETION OF SEA TRIALS. ALL TESTING REQUIRED BY THE SEA TRIALS TEST AGENDA AND REF (A) HAVE BEEN COMPLETED. <OR REPORT ALL TESTING NOT COMPLETED PER NOTE 1>.
2. THERE WERE NO SUBSAFE DEFICIENCIES IDENTIFIED. <OR REPORT ALL SUBSAFE DEFICIENCIES>.
3. THE <SUPERVISING AUTHORITY> TEST DIRECTOR CONCURS WITH THIS REPORT.
BT

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 FOR FAST CRUISE MESSAGE.

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

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APPENDIX BM

SUBMARINE SEA TRIAL SITUATION REPORT
(SITREP LESS THAN SIX MONTHS)

FM USS <SHIP NAME>//
TO COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N4//
INFO CNO WASHINGTON DC//N77//
COM<LANT/PAC>FLT <NORFOLK VA/PEARL HARBOR HI>N43//
COMNAVSEASYSCOM WASHINGTON DC//PMS 392/08O//
DIRSSP WASHINGTON DC//205// {For SSBN/SSGN Only}
<SUBOPAUTH>// {IF OTHER THAN PARENT TYCOM}
COMSUBDEVRON FIVE SILVERDALE WA//N3//
COMSUBGRU <NO.>//N5//
COMSUB<RON/GRU NO.>//
<SUPERVISING AUTHORITY>//<CODES>//
(OTHER UNITS IN AREA IF APPLICABLE)//
BT
UNCLAS //N09094//
MSGID/GENADMIN/USS <SHIP NAME>//
SUBJ/(TYPE AVAILABILITY) SITREP (SEQUENTIAL NUMBER)//
REF/A/DOC/COMUSFLTFORCOM/<DATE>//
REF/B/DOC/AS APPLICABLE/<DATE>//
NARR/ REF A IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II.
RMKS/1. CO'S SUMMARY, EVENTS 1-9 COMPLETED WITH THE FOLLOWING DEFICIENCIES NOTED:
A. SUBSAFE/URO DEFICIENCIES.
1) NON-ISOLABLE SEAWATER LEAKS
(A) #1 SCOPE HULL GLAND LEAK 1 DPM AT 20% TD
(B) SSW-30 (BODY-BONNET LEAK)
(C) DE-7 (STEM SEAL LEAK)
(D) RUDDER RAM
(E) EHP P46-3P
(F) TD-89 (FWD ESCAPE TRUNK DRAIN)
(G) #2 SCOPE INBOARD HOIST CYLINDER FITTING
(H) #1 SCOPE INBOARD HOIST CYLINDER FITTING
(I) STERN PLANES RAM PACKING
(J) STBD RETRACTABLE BOW PLANE EXTEND RETRACT CYLINDER
(K) AHP-525 (PARKER CHECK VALVE SEAT LEAK)
(L) SSW-20 UPSTREAM FLANGE
(M) EHP P025-01S (WHIP ANTENNA)
(N) INNER STERN PLANES RAM PACKING
2) ISOLABLE SEAWATER LEAK
(A) TDU VENT, TD-104 LEAKS 3 DPM AT 65% TD
(B) ASW-5 BODY-BONNET LEAK
OTHER DEFICIENCIES
(A) STERN PLANES AUX ANGLE INDICATOR ON BCP DOES NOT ILLUMINATE, URO-16
(B) MSW-2 CYCLE TIME SHUT IS 10.1 SEC
(C) MBT 3A WILL NOT OPEN
B. NON-SUBSAFE/URO DEFICIENCIES.
1) SCULLERY DRAIN LEAKING AT FITTING F-18, 27 DPM
2) 3 FLOOR TILES IN CREWS MESS LIFTED AFFECTING SANITATION
3) CO HOT WATER SHOWER RECIRC PUMP FAILED

2. PREVIOUS DEFICIENCIES REPORTED AND STATUS.

(LIST ALL PREVIOUS DEFICIENCIES AND CURRENT STATUS-THE GOAL IS TO CAPTURE THE COMPLETE MATERIAL CONDITION IN EACH MESSAGE) STATUS = REPAIRED (R), CORRECTIVE ACTION REQUIRED (CAR), NOT APPLICABLE (NA)

EXAMPLE –

1) SCULLERY DRAIN LEAKING AT FITTING F-18, 27 DPM -R
2) 3 FLOOR TILES IN CREWS MESS LIFTED AFFECTING SANITATION - CAR
3) CO HOT WATER SHOWER RECIRC PUMP FAILED - CAR
4) #1 SCOPE HULL GLAND LEAK 1 DPM AT 20% TD - CAR
5) TDU VENT, TD-104 LEAKS 3 DPM AT 65% TD - CAR
6) STERN PLANES AUX ANGLE INDICATOR ON BCP DOES NOT ILLUMINATE, URO-16 - R
3. ADDITIONAL INFO.
1) DESCRIBE ANY ADDITIONAL INFO DESIRED OR LIST "NONE".
4. **TYCOM, NAVSHIPYD, AND NAVSEA REPS CONCUR-DO NOT CONCUR (AS APPROPRIATE).//**
BT

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

APPENDIX BN

SAMPLE MESSAGE CONCERNING
MOD ALERT NOTIFICATION

(SUBMARINES ONLY)

FM <INDUSTRIAL ACTIVITY>
TO COMSUB<RON/GRU NO.>//{ISIC of Escort Ship}
COMSUBLANT
COMSUBPAC
COMSUBDEVRON FIVE SILVERDALE WA//N3/N4//
DSU SAN DIEGO CA//00//
USS <ESCORT SHIP NAME>//
INFO CNO WASHINGTON DC//N77//
COM<LANT/PAC>FLT <NORFOLK VA/PEARL HARBOR HI>//N43//
COMNAVSEASYSCOM WASHINGTON DC//PMS 392/395/08O/92Q//
DIRSSP WASHINGTON DC //205//{For SSBN/SSGN only}
<SUPERVISING AUTHORITY>//<CODES>//
<SUBOPAUTH>// {If other than parent TYCOM}
COMSUB<RON/GRU NO.>//{ISIC of Sea Trial Ship}
COMSUBDEVRON FIVE DET SAN DIEGO CA//
CTF TWO SIX//
CTG TWO SIX PT ONE//
NSCSES NORFOLK VA//112//
COMSUBGRU <NINE/TEN> //N3//{For SSBN/SSGN only}
USS <SHIP NAME/HULL NO.>{SEA TRIAL UNIT}//
BT
UNCLAS //N03120//
MSGID/GENADMIN/<INDUSTRIAL ACTIVITY>//
SUBJ/(SUBS) SUBMARINE SEA TRIAL SUPPORT SERVICES/ MOD ALERT NOTIFICATION//
REF/A/DOC/COMUSFLTFORCOM/<DATE>//
NARR/REF A IS JOINT FLEET MAINTENANCE MANUAL//
RMKS/1. IAW REF A REQUIREMENTS, USS <SHIP NAME/HULL NO.> IS SCHEDULED FOR
SEA TRIALS OCCURRING <DDMMMYY>. REQUEST SRDRS MOD ALERT BE SCHEDULED
TO COVER SEA TRIAL PERIOD.
2. ANY CHANGES IN ALERT POSTURE REQUIREMENTS WILL BE FORWARDED.//
BT

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

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APPENDIX BO

SAMPLE TYCOM MESSAGE TO SHIP CONCERNING URO FOR INDUSTRIAL ACTIVITY AVAILABILITIES LESS THAN SIX MONTHS IN DURATION

(SUBMARINES ONLY)

FM COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//
TO USS <SHIP NAME>//
INFO CNO WASHINGTON DC//
COMNAVSEASYSCOM WASHINGTON DC//392/08O/07Q//
COM<LANT/PAC>FLT <NORFOLK VA/PEARL HARBOR HI>//
DIRSSP WASHINGTON DC//{FOR SSBN/SSGN}
COMSUBGRU <NO.>//
COMSUB<RON/GRU NO.>//
<SUPERVISING AUTHORITY>//
SUBMEPP PORTSMOUTH NH//1814.1//
BT
UNCLAS //N09094//
MSGID/GENADMIN/COMSUB<LANT/PAC>//
SUBJ/(SUBS) UNRESTRICTED OPERATION OF USS <SHIP NAME/HULL NO.>//
REF/A/RMG/ USS <SHIP NAME>/<DTG>//
REF/B/RMG/<SUPERVISING AUTHORITY>/<DTG>//
REF/C/DOC/COMUSFLTFORCOMINST 4790.3//
REF/D/DOC/ NAVSEA 0924-LP-062-0010//
REF/E/DOC/ COMSUB<PAC/FOR>/<DATE>//
NARR/REF A IS USS <SHIP NAME> MSG CONCERNING COMPLETION OF SEA TRIALS. REF B IS THE <SUPERVISING AUTHORITY> REPORT OF SATISFACTORY REVIEW OF SEA TRIALS TEST DATA AND SATISFACTORY MATERIAL CONDITION FOLLOWING DEPOT AVAILABILITY. REF C IS THE JOINT FLEET MAINTENANCE MANUAL. REF D IS THE SUBMARINE SAFETY (SUBSAFE) REQUIREMENTS MANUAL. REF E IS THE COM<LANT/PAC>NOTE C3120 CONCERNING SUBMARINE DEPTH AUTHORIZATIONS AND RESTRICTIONS//
RMKS/1. REF A REPORTED THE SATISFACTORY COMPLETION OF SEA TRIALS WITH NO SUBSAFE DEFICIENCIES IDENTIFIED. (IF SPECIFIC SUBSAFE DEFICIENCIES WERE IDENTIFIED BUT WERE NOT DEEP DIVE RETEST FAILURES LIST SPECIFICS – DEEP DIVE TEST FAILURES WILL REQUIRE A FOLLOW-ON SEA TRIAL).
2. REF B REPORTED SATISFACTORY REVIEW OF SEA TRIAL AGENDA BY <SUPERVISING AUTHORITY> AND SATISFACTORY MATERIAL CONDITION OF THE SHIP FOLLOWING SEA TRIALS.
3. TYCOM AUTHORIZES, USS <SHIP NAME/HULL NO.> TO CONDUCT OPERATIONS TO <SPECIFIED> DEPTH, SUBJECT TO THE FOLLOWING RESTRICTIONS: <LIST RESTRICTIONS IF THEY EXIST OR STATE "NONE">.
4. CONTINUED CERTIFICATION FOR OPERATIONS TO TEST DEPTH IS SUBJECT TO COMPLIANCE WITH REF C AND REF D.
5. URO/MRC PERIODICITIES FOLLOWING THE MINOR DEPOT AVAILABILITY COMMENCE ON <DATE> IN ACCORDANCE WITH VOLUME VI, SECTION 25.2.3.1.B OF REF C.
6. THIS MSG REMAINS IN EFFECT UNTIL INCLUDED IN A FUTURE REVISION OF REF E.//
BT

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

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APPENDIX BT

SAMPLE TYCOM MESSAGE TO SHIP CONCERNING URO FOR FLY-BY-WIRE SHIP CONTROL SYSTEMS

(SUBMARINES ONLY)

FM COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//
TO USS <SHIP NAME>//
INFO CNO WASHINGTON DC//N77//
COMNAVSEASYSCOM WASHINGTON DC//394/07/07Q/07T2/05Z5/05U//
PEO SUB WASHINGTON DC//450//
COMSUBGRU <NO.>//N4//
COM<LANT/PAC>FLT <NORFOLK VA/PEARL HARBOR HI>N43//
NAVSURFWARCEN CARDEROCKDIV BETHESDA MD//5600//
COMREGSUPPGRU <CITY ST>//
<SUPERVISING AUTHORITY>//<CODES>// (IF APPLICABLE)
COMSUB<RON/GRU NO.>//
BT
UNCLAS //N04790//
MSGID/GENADMIN/COMSUB<LANT/PAC>//
SUBJ/ USS < SHIP NAME/HULL NO> FLY-BY-WIRE SHIP CONTROL SYSTEMS
/(FBW SCS) MATERIAL CERTIFICATION//
REF/A/DOC/NAVSEA MANUAL T9044-AD-MAN-010/-//
REF/B/MSG/< COMSUB<RON/GRU NO.>/<DTG>//
REF/C/ DOC/COMUSFLTFORCOM/<DATE>//
NARR/REF A IS THE REQUIREMENTS MANUAL FOR SUBMARINE FLY-BY-WIRE SHIP
CONTROL SYSTEMS. REF B IS COMSUB<RON/GRU NO.> MSG RECOMMENDING UNRESTRICTED
USE OF < SHIP NAME/HULL NO> FLY-BY-WIRE SHIP CONTROL SYSTEMS
IN SUPPORT OF SUBMARINE OPERATION. REF C IS COMUSFLTFORCOMINST 4790.3, JOINT
FLEET MAINTENANCE MANUAL //
RMKS/1. IAW REF A AND B ORIG CERTIFIES THE MATERIAL CONDITION
OF FBW SCS CERTIFICATION BOUNDARY FOR USS < SHIP NAME/HULL NO>
IS SATISFACTORY FOR OPERATION WITH THE RESTRICTIONS OF
PARA 2 AND 3 BELOW.
2. SHIPS SPEED IS RESTRICTED TO LESS THAN 20 KNOTS WHEN A FBW SCS
FAULT CONDITION OCCURS AND WOULD RESULT IN A MAJOR NON-CONFORMANCE
AFFECTING CONTROL OF SHIPS PITCH, HEADING, DEPTH AND CONTROL
SURFACES OR UNTIL SATISFACTORY RESOLUTION OF THE MAJOR
NON-CONFORMANCE AND TYCOM APPROVAL TO OPERATE FBW SCS TO PREVIOUSLY
APPROVED CONDITIONS IS GRANTED.*<LIST ANY ADDITIONAL RESTRICTION AS APPLICABLE>*
3. CONTINUED CERTIFICATION FOR UNRESTRICTED USE OF FLY-BY-WIRE SHIP
CONTROL SYSTEMS IN SUPPORT OF SUBMARINE UNRESTRICTED OPERATION IS
SUBJECT TO COMPLIANCE WITH REF A AND C.//.//
BT

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

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APPENDIX CA

SAMPLE SRDRS SUPPORT SERVICES MESSAGE FOR INDUSTRIAL ACTIVITY AVAILABILITIES GREATER THAN SIX MONTHS DURATION

(SUBMARINES ONLY)

FM COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N43/N3//
TO COMSUBDEVRON FIVE SILVERDALE WA//N31//
(COMSUB SQD/GRP (ISIC)//
USS (Sea Trial Unit)//
USNS <SRDRS SUPPORT SHIP>
USS (SHIP NAME)//(ESCORT)
USS <BACKUP ESCORT SHIP>
USS <MOORING SUPPORT SHIP>
INFO CNO WASHINGTON DC//21//23//
COMNAVSEASYSCOM WASHINGTON DC//(PMS 392/PMS 394 AND PMS 399 (as applicable))/08O/SEA07Q//
COM<LANT/PAC>FLT <NORFOLK VA/PEARL HARBOR HI>//N43/N33//
COMSUBPAC PEARL HARBOR HI//N31/N4/N43//
COMSUBLANT NORFOLK VA//N31/N4/N43//
COMSECOND/THIRD>FLT//
COMNAVSURF<LANT/PAC> NORFOLK VA/SAN DIEGO CA>//N31/N4//
COMSEALOG<LANT/PAC> <NORFOLK VA/SAN DIEGO CA>
(SUPERVISING AUTHORITY)>//100/200/300/1200/1210//)
COMSUBDEVRON FIVE DET SAN DIEGO CA//
CTF TWO SIX/THREE FOUR//
CTF <26.1/34.1/34.2/34.3 (as applicable)>//
DSU SAN DIEGO CA//00//
COMSUBGRU<NINE/TEN> {For SSBN/SSGN only}
DIRSSP WASHINGTON DC//SP00/SP201// {For SSBN/SSGN only}
<MOORING SUPPORT SHIP ISIC>
<ESCORT SHIP ISIC>
BT
UNCLAS //N03120//
MSGID/GENADMIN/COMSUB<LANT/PAC>//
SUBJ/(SUBS) SUBMARINE SEA TRIAL SUPPORT SERVICES//
REF/A/DOC/COMUSFLTFORCOM/<DATE>//
AMPN/REF A IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL.//
RMKS/1. IAW REF A THE FOLLOWING ASSIGNMENTS APPLY FOR (STRL UNIT NAME AND HULL NO.) SEA TRIALS OCCURRING DD-DDMMMSHIP ASSIGNMENTS BELOW ARE FOR PLANNING AND COORDINATION PURPOSES AND WILL BE IN EFFECT PENDING ISIC APPROVAL.

A. SRDRS SUPPORT SHIP - USNS <NAME>
B. RESCUE PORT - <PORT FROM WHICH CONDUCTING SEA TRIALS>
C. RESCUE PORT REPRESENTATIVE - COMSUBRON <ISIC of Sea Trial Unit>
D. RESCUE AIRFIELD - <NAME OF AIRFIELD NEAR SEA TRIAL PORT>
E. MOORING SUPPORT SHIP - USS <NAME> (ASSIGNED BY NUMBERED FLEET SEPCOR)
F. GOLD DOLPHIN OBSERVER - (ASSIGNED BY ISIC)
G. ESCORT VESSEL - USS <NAME> (ASSIGNED BY NUMBERED FLEET SEPCOR)
H BACKUP ESCORT VESSEL - USS <NAME> (ASSIGNED BY NUMBERED FLEET SEPCOR FOR NEW CONSTRUCTION TRIALS)
I. TYCOM EMBARKED REP -

2. FOR COMSUBDEVRON FIVE:
REQUEST SRDRS BE PLACED IN MOD-ALERT STATUS TO SUPPORT SEA TRIALS FOR USS <NAME> ON DD-DDMMM. IT IS ANTICIPATED ESCORT SERVICES AND SRDRS MOD-ALERT STATUS WILL BE REQUIRED THROUGH DD-MON.
3. FOR (STRL UNIT),
A. INCLUDE THE FOLLOWING INFO ADDEES ON FINAL TEST DEPTH DEEP DIVE CHECK REPORT/SITREP; COMSUBLANT NORFOLK VA, COMSUBPAC PEARL HARBOR HI, COMSUBDEVRON FIVE SILVERDALE WA, USNS <SRDRS SUPPORT SHIP>, USS <ESCORT SHIP>, USS <BACKUP ESCORT SHIP>, USS <MOORING SUPPORT SHIP>, DSU SAN DIEGO CA AND NSSC PEARL HARBOR HI (as applicable).
B. ONCE ESCORT, SRDRS SERVICES ARE NO LONGER REQUIRED, RELEASE IAW ISIC OPS DIRECTIVE.
4. DIRLAUTH ALCON FOR EVENT SCHEDULES AND SCHEDULE CHANGES//
BT

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

APPENDIX CB

SAMPLE ISIC MESSAGE TO TYCOM CONCERNING CREW CERTIFICATION FOR INDUSTRIAL ACTIVITY AVAILABILITIES GREATER THAN SIX MONTHS IN DURATION

(SUBMARINES ONLY)

FM COMSUB<RON/GRU NO.>
TO COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N4/40//
INFO <SUPERVISING AUTHORITY>//<CODES>//
USS <SHIP NAME>
COMSUBGRU <NO.>//N4//
COMNAVSEASYSCOM WASHINGTON DC//PMS 392/08//
BT
UNCLAS//N09094//
MSGID/GENADMIN/COMSUB<RON/GRU NO.>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.> CREW AND MATERIAL CERTIFICATION//
REF/A/DOC/COMUSFLTFORCOM/<DATE>//
REF/B/DOC/NAVSEA 0924-LP-062-0010/<DATE>//
REF/C/DOC/NAVSEA/<DATE>//
NARR/REF A IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL. REF B IS SUBMARINE SAFETY (SUBSAFE) REQUIREMENTS MANUAL. REF C IS NAVSEA URO MRC TECHNICAL MANUAL.//
RMKS/1. CREW CERTIFICATION CONDUCTED AND SATISFACTORILY COMPLETED IAW REF A.
2. IAW REFS A AND B, COMSUB<RON/GRU NO.> CERTIFIES THE MATERIAL CONDITION SUBSAFE CERTIFICATION BOUNDARY OF <SHIP NAME/HULL NO.> INSTALLED, REPAIRED AND/OR TESTED BY FORCES AFLOAT IS SATISFACTORY FOR SEA TRIALS TO TEST DEPTH. ALL SUBSAFE CONTROLLED WORK PACKAGES ARE CLOSED. CERTIFICATION REQUIREMENTS OF REF B HAVE BEEN SUSTAINED FOR THE REMAINDER OF THE SUBSAFE CERTIFICATION BOUNDARY. ALL OTHER CONTROLLED WORK PERFORMED BY SHIP'S FORCE HAS BEEN COMPLETED AND SATISFACTORILY RETESTED AND THE APPROPRIATE WORK PACKAGES CLOSED.
3. MATERIAL/SALVAGE CONDITION CERTIFIED READY FOR SEA UPON COMPLETION OF THE FOLLOWING CORRECTIVE ACTIONS:
A.
B.
4. THERE ARE NO OUTSTANDING REC'S. THE FOLLOWING DEPARTURES FROM SPECIFICATION ARE CURRENTLY OUTSTANDING:

DEPARTURE NO.	TYPE	SYSTEM/COMPONENT	RESTRICTION (IF ANY)
A.			
B.			

5. ALL URO MRC AND MANDATORY TESTS/INSPECTIONS SPECIFIED IN REF B AND C HAVE BEEN ACCOMPLISHED OR VERIFIED TO BE WITHIN THE REQUIRED PERIODICITY.
6. COMSUB<RON/GRU NO.> REPORTS READINESS OF USS <SHIP NAME/HULL NO.> FOR COMMENCEMENT OF FAST CRUISE. CO USS <SHIP NAME/HULL NO.> CONCURS.//
7. SUBJECT TO SATISFACTORY COMPLETION OF FAST CRUISE AND RESOLUTION OF MANDATORY DEFICIENCIES COMSUB<RON/GRU NO.> CONSIDERS USS <SHIP NAME/HULL NO.> MATERIAL CONDITION READINESS SATISFACTORY FOR COMMENCEMENT OF SEA TRIALS.//
BT

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

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APPENDIX CD

SAMPLE TYCOM MESSAGE TO SHIP CONCERNING COMPLETION PREREQUISITES FOR AVAILABILITIES OF GREATER THAN SIX MONTHS DURATION

(SUBMARINES ONLY)

FM COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N4//
TO USS <SHIP NAME>//
COMSUB<RON/GRU NO.>//
<SUPERVISING AUTHORITY>//<CODES>//
INFO CNO WASHINGTON DC//N77//
COM<LANT/PAC>FLT <NORFOLK VA/PEARL HARBOR HI>// N43//
COMNAVSEASYSCOM WASHINGTON DC//PMS 392/08//
DIRSSP WASHINGTON DC //205//{FOR SSBN/SSGN}
<SUBOPAUTH>//{IF OTHER THAN PARENT TYCOM}
COMSUBGRU <NO.>//N3//
COMSUBDEVRON FIVE SILVERDALE WA//N3//
BT
UNCLAS//N09094//
MSGID/GENADMIN/TYCOM//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.> <TYPE AVAILABILITY> FAST CRUISE, SEA TRIAL AND COMPLETION PREREQUISITES//
REF/A/DOC/COMUSFLTFORCOM/<DATE>//
REF/B/DOC/NAVSEA/<DATE>//
NARR/REF A IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II. REF B IS NAVSEA 0924-LP-062-0010, SUBMARINE SAFETY (SUBSAFE) REQUIREMENTS MANUAL//
RMKS/1. REFS A AND B PRESCRIBE TYCOM AND NAVSEA REQUIREMENTS FOR INDUSTRIAL AVAILABILITY FAST CRUISE, SEA TRIAL AND COMPLETION.
2. FOLLOWING REPORTS AND AUTHORIZATIONS ARE PREREQUISITES TO START OF FAST CRUISE:
A. COMSUB<RON/GRU NO.> MSG TO TYCOM IAW REF A THAT CREW CERTIFICATION AND MATERIAL CONDITION IS SATISFACTORY FOR FAST CRUISE AND SEA TRIALS. {APPENDIX CB}.
B. <SUPERVISING AUTHORITY> MSG TO NAVSEA AND TYCOM IAW REF B THAT MATERIAL CONDITION OF THOSE PARTS OF <SHIP NAME/HULL NO.> INSTALLED, REPAIRED AND/OR TESTED BY THE SHIPYARD ARE SATISFACTORY FOR POST <TYPE AVAILABILITY> TRIALS, INCLUDING CORRECTION OF ALL CAT I AUDIT RECOMMENDATIONS HAVE BEEN SATISFACTORILY RESOLVED. {REFERENCE B, APPENDIX B.3.1}
C. CO, USS <SHIP NAME/HULL NO.> MSG TO TYCOM IAW REF A STATING THAT CREW AND SHIP ARE READY FOR SEA TRIALS, LISTING EXCEPTIONS SUCH AS COMPLETION OF FAST CRUISE. {APPENDIX CJ}
D. NAVSEA (PMS 392) MSG TO TYCOM IAW REF B CERTIFYING MATERIAL CONDITION OF USS <SHIP NAME/HULL NO.> FOR SPECIFIC TRIAL OPERATING DEPTH. {REFERENCE B, APPENDIX B.3.2}
E. TYCOM MSG TO NAVSEA 08 AND CO, USS <SHIP NAME/HULL NO.> IAW REF A REQUESTING NAVSEA AUTHORIZATION FOR CRITICAL REACTOR OPERATIONS AND GRANTING SHIP PERMISSION TO START FAST CRUISE UPON RECEIPT OF THIS AUTHORIZATION. {APPENDIX CE}
F. NAVSEA 08 MSG AUTHORIZING CRITICAL REACTOR OPERATIONS FOR FAST CRUISE AND SEA TRIALS
3. FOLLOWING REPORTS AND AUTHORIZATIONS ARE PREREQUISITES TO START OF SEA TRIALS:
A. <SUPERVISING AUTHORITY> MSG TO TYCOM IAW REF B REPORTING COMPLETION OF FAST CRUISE AND READINESS FOR SEA TRIALS. {REFERENCE B, APPENDIX B.3.3}
B. CO, USS <SHIP NAME/HULL NO.> MSG TO TYCOM IAW REF A AFTER COMPLETION OF FAST CRUISE REPORTING READINESS FOR SEA TRIALS. {APPENDIX CK}
C. COMSUB<RON/GRU NO.> MSG TO TYCOM IAW REF A PROVIDING STATUS OF MATERIAL CONDITION CERTIFICATION SUBSEQUENT TO FAST CRUISE. {APPENDIX CH}

D. COMSUB<LANT/PAC> MSG TO CO, USS <SHIP NAME/HULL NO.> IAW REF A GRANTING PERMISSION TO PROCEED ON SEA TRIALS LISTING ANY OPERATIONAL RESTRICTIONS. {APPENDIX CF}
4. USS <SHIP NAME/HULL NO.> SEA TRIALS WILL BE UNDER OPCON OF <SUBOPAUTH>.
5. CO, USS <SHIP NAME/HULL NO.> IS REQUESTED TO PROVIDE SEA TRIAL SITREPS AT INTERVALS OF 24 HRS OR LESS AND IDENTIFY ITEMS MANDATORY FOR CORRECTION PRIOR TO COMPLETION OF <TYPE AVAILABILITY>. {APPENDIX F}
6. IN THE EVENT SEA TRIALS ARE ABORTED OR CORRECTIVE ACTIONS FOR SEA TRIAL DEFICIENCIES REQUIRE AN ADDITIONAL DEEP DIVE, TYCOM WILL RELEASE ANOTHER PREREQUISITES COMPLETION MESSAGE PRIOR TO THE FOLLOW-ON SEA TRIALS. {APPENDIX CL}
7. FOLLOWING REPORTS AND AUTHORIZATIONS ARE PREREQUISITES TO CONDUCT OF SUBMERGED OPERATIONS AFTER <TYPE AVAILABILITY> COMPLETION:
A. <SUPERVISING AUTHORITY> MSG TO NAVSEA IAW REF B REPORTING SUBSAFE MATERIAL CONDITION TO SUPPORT URO. {REFERENCE B, APPENDIX B.3.8}
B. NAVSEA TO TYCOM MSG IAW REF B CERTIFYING MATERIAL CONDITION OF USS <SHIP NAME/HULL NO.> SATISFACTORY FOR UNRESTRICTED OPERATIONS TO DESIGN TEST DEPTH. {REFERENCE B, APPENDIX B.3.9}
C. COMSUB<RON/GRU NO.> MSG TO TYCOM IAW REF A REPORTING MATERIAL CONDITION OF SHIP AND URO MRC STATUS SUBSEQUENT TO SEA TRIALS. {APPENDIX CI}
D. TYCOM MSG TO CO, USS <SHIP NAME/HULL NO.> IAW REF B AUTHORIZING CONDUCT OF UNRESTRICTED OPERATIONS TO DESIGN TEST DEPTH. {APPENDIX CG}//
BT

NOTE: MESSAGES LISTED IN PARAGRAPHS 2 THROUGH 6 OF THIS APPENDIX SHOULD BE ASSIGNED APPROPRIATE PRECEDENCE AND PARALLELED BY TELEPHONE TO ACTION ADDEES CITING DATE-LINE GROUP OF FORTHCOMING MESSAGES. ALL ADDEES OF THIS MESSAGE ARE TO BE INCLUDED AS ADDEES ON THE MESSAGES LISTED IN PARAGRAPHS 2 THROUGH 6 OF THIS APPENDIX.

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

APPENDIX CF

SAMPLE TYCOM MESSAGE TO SHIP CONCERNING SEA TRIALS DEPTH AUTHORIZATION FOR INDUSTRIAL ACTIVITY AVAILABILITIES GREATER THAN SIX MONTHS IN DURATION

(SUBMARINES ONLY)

FM COMSUB*<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>*//
TO USS *<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) USS *<SHIP NAME/HULL NO.>* SEA TRIALS DEPTH AUTHORIZATION//
REF/A/MSG/COMNAVSEASYSCOM/*<DTG>*//{B.3.2}
REF/B/MSG/SUPERVISING AUTHORITY/*<DTG>*//{B.3.3}
REF/C/LTR/NAVSEA *<SER NO./DATE>*//
REF/D/LTR/COMSUB*<LANT/PAC>*/*<SER NO./DATE>*//
NARR/REF A IS NAVSEA SUBSAFE MATERIAL CONDITION READINESS REPORT AND SEA TRIALS DEPTH RECOMMENDATION FOR USS *<SHIP NAME/HULL NO.>*. REF B IS <SUPERVISING AUTHORITY> REPORT OF USS *<SHIP NAME/HULL NO.>* FAST CRUISE COMPLETION AND READINESS FOR SEA TRIALS. REF C CONCURRED IN THE SEA TRIAL AGENDA FOR USS *<SHIP NAME/HULL NO.>*. REF D APPROVED THE SEA TRIAL AGENDA FOR USS *<SHIP NAME/HULL NO.>*.//
RMKS/1. REF A CERTIFIED THE SUBSAFE MATERIAL CONDITION OF THOSE PARTS OF USS *<SHIP NAME/HULL NO.>* INSTALLED, REPAIRED AND/OR TESTED BY THE SHIPYARD IS SATISFACTORY FOR SEA TRIALS TO TEST DEPTH.
2. THIS MESSAGE CONFIRMS THAT THE CERTIFICATION OF THE REMAINDER OF ITEMS WITHIN THE SUBSAFE CERTIFICATION BOUNDARY OF USS *<SHIP NAME/HULL NO.>* HAS BEEN SUSTAINED. ACCORDINGLY, THE STATUS OF THE SUBSAFE CERTIFICATION BOUNDARY OF USS *<SHIP NAME/HULL NO.>* IS SATISFACTORY FOR SEA TRIALS TO TEST DEPTH *<SUBJECT TO ANY RESTRICTIONS IN PARA 2 OF REF A if any are identified>*.
3. REF B REPORTED COMPLETION OF FAST CRUISE AND READINESS TO PROCEED ON SEA TRIALS.
4. USS *<SHIP NAME/HULL NO.>* IS AUTHORIZED TO DIVE UNDER DELIBERATE AND CONTROLLED CONDITIONS TO <SPECIFIED> DEPTH IAW THE SEA TRIAL AGENDA CONCURRED IN BY REF C AND APPROVED BY REF D.//
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.
7. AT THE CONCLUSION OF SEA TRIALS, THE SHIP SHALL NOT OPERATE AT DEPTHS GREATER THAN ONE-HALF TEST DEPTH PLUS FIFTY FEET UNTIL RECEIPT OF THE URO AUTHORIZATION MESSAGE FROM THE TYCOM.

8. ALL SEA TRIALS SITREPS ARE TO BE SENT USING IMMEDIATE PRECEDENCE.//
BT

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

APPENDIX CG

SAMPLE TYCOM MESSAGE TO SHIP CONCERNING URO FOR INDUSTRIAL ACTIVITY AVAILABILITIES GREATER THAN SIX MONTHS IN DURATION

(SUBMARINES ONLY)

FM COMSUB*<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>*//
TO USS *<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) UNRESTRICTED OPERATION OF USS *<SHIP NAME/HULL NO.>* //
REF/A/MSG/COMNAVSEASYSCOM/<DTG>// {B.3.9}
REF/B/DOC/NAVSEA 0924-LP-062-0010//
REF/C/DOC/COMSUB*<LANT/PAC>*NOTE C3120//
NARR/REF A IS NAVSEA URO MSG FOR USS *<SHIP NAME/HULL NO.>*. REF B IS THE SUBSAFE REQUIREMENTS MANUAL. REF C CONTAINS TYCOM AUTHORIZED SUBMARINE OPERATING AND TEST DEPTHS.//
RMKS/1. REF A CERTIFIED THE SUBSAFE MATERIAL CONDITION OF THOSE PARTS OF USS *<SHIP NAME/HULL NO.>* INSTALLED, REPAIRED, AND/OR TESTED BY THE SHIPYARD IS SATISFACTORY AND RECOMMENDED THAT USS *<SHIP NAME/HULL NO.>* BE AUTHORIZED TO CONDUCT UNRESTRICTED OPERATIONS TO TEST DEPTH.
2. *<TYCOM>* CONFIRMS THAT CERTIFICATION OF THE REMAINDER OF ITEMS NOT COVERED BY REF A WITHIN THE SUBSAFE CERTIFICATION BOUNDARY HAS BEEN SUSTAINED. ACCORDINGLY, USS *<SHIP NAME/HULL NO.>* IS AUTHORIZED TO CONDUCT OPERATIONS TO <SPECIFIED> 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 MESSAGE REMAINS IN EFFECT UNTIL INCLUDED IN A FUTURE REVISION OF REF C.//
BT

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

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APPENDIX CH

SAMPLE ISIC MESSAGE TO TYCOM CONCERNING MATERIAL CERTIFICATION PRIOR TO SEA TRIALS FOR INDUSTRIAL ACTIVITY AVAILABILITIES GREATER THAN SIX MONTHS IN DURATION

(SUBMARINES ONLY)

FM COMSUB<RON/GRU NO.>//
TO COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N43/N402//
INFO COMSUBDEVRON FIVE SILVERDALE WA//N4//
COMSUBGRU <NO.>//N4//
USS <SHIP NAME>//
BT
UNCLAS //N09094//
GENADMIN/COMSUB<RON/GRU NO.>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.> MATERIAL CERTIFICATION/ READINESS FOR SEA TRIALS//
REF/A/RMG/COMSUB<LANT/PAC>/<DTG>// {APPENDIX CD}
REF/B/DOC/COMUSFLTFORCOM/<DATE>//
REF/C/RMG/COMSUB<RON/GRU NO.>/<DTG>/NOTAL// {APPENDIX CB}
REF/D/DOC/NAVSEA /<DATE>//
NARR/REF A IS TYCOM MSG TO USS <SHIP'S NAME/HULL NO.> ON COMPLETION PREREQUISITES FOR AVAILABILITIES GREATER THAN SIX MONTHS. REF B IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II. REF C IS COMSUB<RON/GRU NO.> MSG TO TYCOM ON CREW CERT. REF D IS NAVSEA 0924-LP-062-0010, SUBMARINE SAFETY (SUBSAFE) REQUIREMENTS MANUAL.
RMKS/1. IAW REFS A AND B, THIS MSG CERTIFIES THAT NO MANDATORY DEFICIENCIES FOR SEA TRIALS HAVE BEEN IDENTIFIED. THERE HAVE BEEN NO RECS OPENED AND NO SUBSAFE DEPARTURES FROM SPECIFICATION PROCESSED SINCE THE START OF FAST CRUISE. <OR, REPORT ANY MANDATORY DEFICIENCIES DISCOVERED WITH CORRECTIVE ACTION, AND IF RECS AND/OR DEPARTURES FROM SPECIFICATIONS WERE PROCESSED SINCE THE START OF FAST CRUISE, REPORT ALL RECS OPENED SINCE THE START OF FAST CRUISE ARE CLOSED AND/OR ALL SUBSAFE DEPARTURES FROM SPECIFICATIONS PROCESSED SINCE THE START OF FAST CRUISE ARE RESOLVED (NOTE 1.)>
2. THERE ARE NO SUBSAFE DEPARTURES FROM SPECIFICATIONS WITH CONDITIONS WHICH HAVE NOT BEEN SATISFIED. THE FOLLOWING ADDITIONAL DEPARTURES FROM SPECIFICATIONS WERE GENERATED SUBSEQUENT TO REF C.

DEPARTURE NO.	TYPE	SYSTEM/COMPONENT	RESTRICTION (IF ANY)
A.			
B.			

3. REQUEST PERMISSION TO COMMENCE SEA TRIALS. CO <SHIP NAME> CONCURS.//
BT

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 FOR FAST CRUISE MESSAGE.

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

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APPENDIX CI

SAMPLE ISIC MESSAGE TO TYCOM CONCERNING MATERIAL CERTIFICATION UPON COMPLETION OF SEA TRIALS FOR INDUSTRIAL ACTIVITY AVAILABILITIES GREATER THAN SIX MONTHS IN DURATION

(SUBMARINES ONLY)

FM COMSUB<RON/GRU NO.>//
TO COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N43/402//
INFO COMSUBDEVRON FIVE SILVERDALE WA//N4//
COMSUBGRU<NO.>//N4//
USS <SHIP NAME>//
BT
UNCLAS //N09094//
GENADMIN/COMSUB<RON/GRU NO.>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.>MATERIAL CERTIFICATION//
REF/A/MSG/<SUPERVISING AUTHORITY>//
REF/B/MSG/<TYCOM>/<DTG>//{APPENDIX CD}
REF/C/DOC/COMUSFLTFORCOM/<DATE>//
REF/D/DOC/NAVSEA/<DATE>//
REF/E/DOC/NAVSEA/<DATE OF CURRENT REVISION>//
NARR/REF A IS <SUPERVISING AUTHORITY> REPORT CONCERNING SUBSAFE MATERIAL CONDITION TO SUPPORT URO. REF B IS THE TYCOM MSG TO USS <SHIP'S NAME/HULL NO.> ON COMPLETION PREREQUISITES FOR AVAILABILITIES GREATER THAN SIX MONTHS. REF C IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II. REF D IS NAVSEA 0924-LP-062-0010, SUBMARINE SAFETY (SUBSAFE) REQUIREMENTS MANUAL. REF E IS NAVSEA, URO REQUIREMENTS MANUAL.
RMKS/1. IAW REF A THE <SUPERVISING AUTHORITY> REPORTED THE SATISFACTORY COMPLETION OF ALL SEA TRIALS, COMPLETION OF CONTROLLED DIVES, AND THE RESOLUTION OF MANDATORY SEA TRIAL DEFICIENCIES. IAW WITH REFS B AND C THERE IS NO DEFERRED SUBSAFE WORK AND THERE ARE NO SUBSAFE DEPARTURES FROM SPECIFICATIONS WITH CONDITIONS WHICH HAVE NOT BEEN SATISFIED. <OR, REPORT ANY FORCES AFLOAT ASSIGNED DEFERRED SUBSAFE WORK AND/OR OUTSTANDING CONDITIONAL DEPARTURES FORM SPECIFICATIONS INCLUDING DEPARTURE NUMBER, SHORT TITLE AND CALCULATED COMPLETION DATE.>
2. THIS MESSAGE CERTIFIES THAT ALL WORK ACCOMPLISHED BY FORCES AFLOAT WITHIN THE SUBSAFE CERTIFICATION BOUNDARY SINCE CERTIFICATION FOR SEA TRIALS HAS BEEN SATISFACTORILY COMPLETED AND RETESTED IAW REF C. CERTIFICATION REQUIREMENTS OF REF D HAVE BEEN SUSTAINED FOR THE REMAINDER OF THE SUBSAFE CERTIFICATION BOUNDARY. <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 FOR FAST CRUISE MESSAGE.>
3. ALL URO MRC MANDATORY TESTS/INSPECTIONS SPECIFIED IN REF E HAVE BEEN ACCOMPLISHED OR VERIFIED TO BE WITHIN THE REQUIRED PERIODICITY.//
BT

NOTE: 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 FOR FAST CRUISE MESSAGE.

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

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APPENDIX CJ

SAMPLE SHIP MESSAGE TO TYCOM CONCERNING READINESS FOR FAST CRUISE FOR INDUSTRIAL ACTIVITY AVAILABILITIES GREATER THAN SIX MONTHS IN DURATION

(SUBMARINES ONLY)

FM USS <SHIP NAME>//
TO COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N4//
INFO CNO WASHINGTON DC//N77//
COM<LANT/PAC>FLT <NORFOLK VA/PEARL HARBOR HI>N43//
COMNAVSEASYSCOM WASHINGTON DC//PMS 392/08O//
DIRSSP WASHINGTON DC//205// {For SSBN/SSGN Only}
<SUBOPAUTH>// {IF OTHER THAN PARENT TYCOM}
COMSUBDEVRON FIVE SILVERDALE WA//N3//
COMSUBGRU <NO.>//N5//
COMSUB<RON/GRU NO.>//
<SUPERVISING AUTHORITY>//<CODES>//
BT
UNCLAS //N09094//
MSGID/GENADMIN/USS <SHIP NAME>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.> READINESS FOR FAST CRUISE//
REF/A/RMG/<SUPERVISING AUTHORITY>/<DTG>//
REF/B/RMG/COMSUB<RON/GRU NO.>/<DTG>//{APPENDIX CB}
REF/C/DOC/COMUSFLTFORCOM/<DATE>//
REF/D/RMG/<TYCOM>/<DTG>//{APPENDIX CD}
NARR/ REF A IS <SUPERVISING AUTHORITY> REPORT OF READINESS FOR FAST CRUISE AND SEA TRIALS. REF B IS COMSUB<RON/GRU NO.> REPORT OF READINESS FOR FAST CRUISE AND SEA TRIALS. REF C IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II. REF D IS TYCOM MSG TO USS <SHIP'S NAME/HULL NO.> ON COMPLETION PREREQUISITES FOR AVAILABILITIES GREATER THAN SIX MONTHS.
1. REFS A AND B REPORTED READINESS OF SHIP FOR FAST CRUISE AND SEA TRIALS. IAW REFS C AND D, USS <SHIP NAME/HULL NO.> AND CREW ARE READY FOR SEA TRIALS WITH THE FOLLOWING EXCEPTIONS:
    A. COMPLETION OF FAST CRUISE.
    B. REMOVAL OF SHORE SERVICE CONNECTIONS.
2. REQUEST PERMISSION TO START FAST CRUISE.//
BT

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

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APPENDIX CK

SAMPLE SHIP MESSAGE TO TYCOM CONCERNING READINESS FOR SEA TRIALS FOR INDUSTRIAL ACTIVITY AVAILABILITIES GREATER THAN SIX MONTHS IN DURATION

(SUBMARINES ONLY)

FM USS <SHIP NAME>
TO COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N4/40/405//
INFO COMSUBDEVRON FIVE SILVERDALE WA//N3//
COMSUBGRU <NO.>//N5//
COMSUB<RON/GRU NO.>//
BT
UNCLAS //N09094//
MSGID/GENADMIN//USS <SHIP'S NAME>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.>READINESS FOR SEA TRIALS//
REF/A/DOC/COMUSFLTFORCOM/<DATE>//
NARR/REF A IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II//
RMKS/1. FAST CRUISE COMPLETED <TIME AND DATE>.
2. IAW REF A, USS <SHIP NAME/HULL NO.> AND CREW READY TO PROCEED ON SEA TRIALS WITH THE FOLLOWING EXCEPTIONS:
    A. REMOVAL OF SHORE SERVICE CONNECTIONS.
    B.
3. MATERIAL CONDITION SUPPORTS ADEQUATE CREW REST FOR UNDERWAY AT <TIME AND DATE>.
4. REQUEST PERMISSION TO COMMENCE SEA TRIALS.//
BT

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

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APPENDIX CL

SAMPLE TYCOM MESSAGE CONCERNING RESUMPTION OF SEA TRIALS COMPLETION PREREQUISITES FOR INDUSTRIAL ACTIVITY AVAILABILITIES GREATER THAN SIX MONTHS DURATION

(SUBMARINES ONLY)

FM COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//
TO COMNAVSEASYSCOM WASHINGTON DC//PMS392/PMS350 {for SSN21 only}/08O//
COMSUB<RON/GRU NO.>//
<SUPERVISING AUTHORITY>//<CODES>//
USS <SHIP NAME>//
INFO CNO WASHINGTON DC//N77//
COM<LANT/PAC>FLT <NORFOLK VA/PEARL HARBOR HI>//N43//
DIRSSP WASHINGTON DC//205// {SSBN/SSGN Only}
<SUBOPAUTH>//<CODES>//
COMSUBDEVRON FIVE SILVERDALE WA//N4//
COMSUBGRU <NO.>//N4//
BT
UNCLAS //N09094
MSGID/GENADMIN/<TYCOM>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.> SEA TRIAL RESUMPTION AND INDUSTRIAL ACTIVITY AVAILABILITY COMPLETION PREREQUISITES//
REF/A/RMG/COMSUB<LANT/PAC> /<DTG>//{APPENDIX CD}
REF/B/DOC/COMUSFLTFORCOM/<DATE>//
REF/C/DOC/NAVSEA /<DATE>//
NARR/REF A IS TYCOM MSG TO USS <SHIP'S NAME/HULL NO.> ON COMPLETION PREREQUISITES FOR AVAILABILITIES GREATER THAN SIX MONTHS. REF B IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II. REF C IS NAVSEA 0924-LP-062-0010, SUBMARINE SAFETY (SUBSAFE) REQUIREMENTS MANUAL.
RMKS/1. REF A SPECIFIED PREREQUISITES IN SUPPORT OF USS <SHIP NAME/HULL NO.>FAST CRUISE, INITIAL INDUSTRIAL ACTIVITY AVAILABILITY SEA TRIALS AND COMPLETION. THESE TRIALS WERE ACCOMPLISHED AND <INDUSTRIAL ACTIVITY NAME> HAS CONDUCTED REPAIRS TO USS <SHIP NAME> REQUIRING ADDITIONAL SEA TRIALS. THIS MSG PROVIDES TO ALCON REPORTS AND AUTHORIZATIONS PREREQUISITE TO COMMENCING ADDITIONAL SEA TRIALS:

A. SUPERVISING AUTHORITY SHALL DRAFT REVISED SEA TRIAL AGENDA TO SUPPORT THE FOLLOW-ON TRIALS. THIS AGENDA SHALL BE FORMALLY APPROVED BY COMSUB<RON/GRU NO.> (ACTING FOR TYCOM) AND CONCURRED IN BY NAVSEA PRIOR TO CONDUCT OF SEA TRIALS.

B. SUPERVISING AUTHORITY MSG TO NAVSEA, INFO TYCOM, THAT MATERIAL CONDITION OF SYSTEMS AND EQUIPMENTS INSTALLED, REPAIRED AND/OR TESTED BY <INDUSTRIAL ACTIVITY> IS SATISFACTORY FOR CONDUCT OF FOLLOW-ON SEA TRIALS. AS A MINIMUM, REPORT SHOULD STATE STATUS OF ALL INCOMPLETE CAT 1A AUDIT ITEMS AND THAT ALL WORK HAS BEEN PERFORMED IAW REF C. {REFERENCE C, APPENDIX B.3.5}

C. USS <SHIP NAME/HULL NO.> MSG TO TYCOM STATING THAT CREW AND SHIP ARE READY FOR FOLLOW-ON SEA TRIALS LISTING EXCEPTIONS. {APPENDIX CN}

D. ISIC MSG TO TYCOM THAT THE MATERIAL CONDITION OF THOSE SUBSAFE CERTIFICATION BOUNDARY PARTS OF USS <SHIP NAME> INSTALLED, REPAIRED AND/OR TESTED BY FORCES AFLOAT {Ship's Force and/or FMA} ARE SATISFACTORY IAW REF B FOR FOLLOW-ON SEA TRIALS. {APPENDIX CM}

E. NAVSEA MSG TO TYCOM RECERTIFYING MATERIAL CONDITION OF USS <SHIP NAME/HULL NO.> FOR SPECIFIC TRIAL OPERATING DEPTH. {REFERENCE B, APPENDIX B.3.6}

F. TYCOM MSG TO USS <SHIP NAME/HULL NO.> GRANTING PERMISSION TO CONDUCT FOLLOW-ON SEA TRIALS. {APPENDIX CO}

2. USS <SHIP NAME/HULL NO.>SEA TRIALS WILL BE UNDER OPCON OF (_____).

3. CO, USS <SHIP NAME/HULL NO.>IS REQUESTED TO PROVIDE SEA TRIAL SITREPS AT INTERVALS OF 24 HRS OR LESS AND IDENTIFY ITEMS MANDATORY FOR CORRECTION PRIOR TO COMPLETION OF INDUSTRIAL AVAILABILITY.
4. FOLLOWING REPORTS AND AUTHORIZATIONS ARE PREREQUISITES TO INDUSTRIAL AVAILABILITY COMPLETION:

A. SUPERVISING AUTHORITY MSG TO NAVSEA AND TYCOM IAW REF C REPORTING COMPLETION OF AUTHORIZED WORK AND CAT 1A AUDIT ITEMS LISTING EXCEPTIONS. MSG SHOULD RECOMMEND <TYPE OF AVAILABILITY> COMPLETION AND LIST PROPOSED GUARANTEE WORK ITEMS.

B. NAVSEA MSG TO TYCOM IAW REF C CERTIFYING MATERIAL CONDITION OF USS <SHIP NAME/HULL NO.> IS SATISFACTORY FOR UNRESTRICTED OPERATIONS TO DESIGN TEST DEPTH.

C. ISIC MSG TO TYCOM AND USS <SHIP NAME/HULL NO.> REPORTING MATERIAL CONDITION OF SHIP AND URO MRC STATUS SUBSEQUENT TO SEA TRIALS. {APPENDIX CI}

D. TYCOM MSG TO CO, USS <SHIP NAME/HULL NO.> IAW REF C AUTHORIZING CONDUCT OF UNRESTRICTED OPERATIONS TO DESIGN TEST DEPTH. {APPENDIX CG}

5. MSGS LISTED IN PARA 1 THROUGH 4 ABOVE SHOULD BE ASSIGNED APPROPRIATE PRECEDENCE AND PARALLELED BY PHONCON TO ACTION ADDEES CITING DTG OF FORTHCOMING MSG. ALL ADDEES OF THIS MSG TO BE INCLUDED AS ADDEES ON MSG LISTED IN PARA 1 THROUGH 4 ABOVE.//
BT

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

APPENDIX CM

SAMPLE ISIC MESSAGE TO TYCOM CONCERNING MATERIAL CERTIFICATION FOR FOLLOW-ON SEA TRIALS IN CASES WHERE A PREVIOUS SEA TRIAL WAS ABORTED OR CORRECTIVE ACTIONS FOR SEA TRIAL DEFICIENCIES REQUIRE AN ADDITIONAL DEEP DIVE FOR INDUSTRIAL ACTIVITY AVAILABILITIES GREATER THAN SIX MONTHS IN DURATION

(SUBMARINES ONLY)

FM COMSUB<RON/GRU NO.>//
TO COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N43/N402//
INFO COMSUBDEVRON FIVE SILVERDALE WA//N4//
COMSUBGRU <NO.>//N4//
USS <SHIP NAME>//
BT
UNCLAS //N09094//
MSGID//GENADMIN/COMSUB<RON/GRU NO.>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.>MATERIAL CERTIFICATION/ READINESS FOR <FOLLOW-ON (NOTE 1)> SEA TRIALS//
REF/A/RMG/TYCOM/<DTG>//{APPENDIX CL}
REF/B/DOC/COMUSFLTFORCOM/<DATE>//
REF/C/RMG/COMSUB<RON/GRU NO.>/<DTG>/NOTAL//{APPENDIX CH}
REF/D/DOC/NAVSEA /<DATE>//
REF/E/DOC/NAVSEA/<DATE OF CURRENT REVISION>//
NARR/REF A IS TYCOM MSG TO USS <SHIP'S NAME/HULL NO.> ON RESUMPTION OF SEA TRIAL PREREQUISITES FOR AVAILABILITIES GREATER THAN SIX MONTHS. REF B IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II. REF C IS COMSUB<RON/GRU NO.> MSG TO TYCOM ON MATERIAL STATUS PRIOR TO INITIAL SEA TRIALS. REF D IS NAVSEA 0924-LP-062-0010, SUBMARINE SAFETY (SUBSAFE) REQUIREMENTS MANUAL. REF E IS NAVSEA URO REQUIREMENTS MANUAL.//
RMKS/1. IAW REFS A AND B, THIS MSG CERTIFIES THAT NO MANDATORY DEFICIENCIES FOR <FOLLOW-ON (NOTE 1)> SEA TRIALS HAVE BEEN IDENTIFIED. THERE HAVE BEEN NO RECS OPENED AND NO SUBSAFE DEPARTURES FROM SPECIFICATIONS PROCESSED SINCE THE START OF THE INITIAL SEA TRIALS <OR, REPORT ANY MANDATORY DEFICIENCIES DISCOVERED WITH CORRECTIVE ACTION, AND IF RECS AND/OR DEPARTURES FROM SPECIFICATIONS WERE PROCESSED SINCE THE START OF THE INITIAL SEA TRIALS, REPORT ALL RECS OPENED SINCE THE START OF INITIAL SEA TRIALS ARE CLOSED AND/OR ALL SUBSAFE DEPARTURES FROM SPECIFICATIONS PROCESSED SINCE THE START OF SEA TRIALS ARE RESOLVED NOTE 2.>
2. THERE ARE NO SUBSAFE DEPARTURES FROM SPECIFICATIONS WITH CONDITIONS WHICH HAVE NOT BEEN SATISFIED. THE FOLLOWING DEPARTURES FROM SPECIFICATIONS ARE CURRENTLY OUTSTANDING:

DEPARTURE NO.	TYPE	SYSTEM/COMPONENT	RESTRICTION (IF ANY)
A.			
B.			

3. ALL URO MRC MANDATORY TESTS/INSPECTIONS SPECIFIED IN REF E HAVE BEEN ACCOMPLISHED OR VERIFIED TO BE WITHIN THE REQUIRED PERIODICITY.//
BT

NOTE 1: UPCOMING TRIAL WHICH IS SUBJECT OF THIS CERTIFICATION (E.G., SECOND SEA TRIAL, ETC.).

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 FOR FAST CRUISE MESSAGE.

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

APPENDIX CN

SAMPLE SHIP MESSAGE TO TYCOM CONCERNING READINESS FOR FOLLOW-ON SEA TRIALS FOR INDUSTRIAL ACTIVITY AVAILABILITIES GREATER THAN SIX MONTHS IN DURATION

(SUBMARINES ONLY)

FM USS <SHIP NAME>//
TO COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N4/40/405//
INFO COMSUBDEVRON FIVE SILVERDALE WA//N3//
COMSUBGRU <NO.>//N5//
COMSUB<RON/GRU NO.>//
BT
UNCLAS //N09094//
MSGID/GENADMIN//USS <SHIP'S NAME>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.>READINESS FOR SEA TRIALS//
REF/A/DOC/COMUSFLTFORCOM/<DATE>//
NARR/REF A IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II//
RMKS/1. IAW REF A, USS <SHIP NAME/HULL NO.>AND CREW REPORTED READY TO PROCEED ON FOLLOW-ON (NOTE 1)SEA TRIALS WITH THE FOLLOWING EXCEPTIONS:
A. REMOVAL OF SHORE SERVICE CONNECTIONS.
B.
2. MATERIAL CONDITION SUPPORTS ADEQUATE CREW REST FOR UNDERWAY AT <TIME AND DATE>.
3. REQUEST PERMISSION TO COMMENCE FOLLOW-ON SEA TRIALS.//
BT

NOTE 1: UPCOMING TRIAL WHICH IS SUBJECT OF THIS CERTIFICATION (E.G., SECOND SEA TRIAL, ETC.).

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

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APPENDIX CP

SUBMARINE SEA TRIAL SITUATION REPORT
(SITREP GREATER THAN SIX MONTHS)

FM USS <SHIP NAME>//
TO COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N4//
INFO CNO WASHINGTON DC//N77//
COM<LANT/PAC>FLT <NORFOLK VA/PEARL HARBOR HI>N43//
COMNAVSEASYSCOM WASHINGTON DC//PMS 392/08O//
DIRSSP WASHINGTON DC//205// {For SSBN/SSGN Only}
<SUBOPAUTH>// {IF OTHER THAN PARENT TYCOM}
COMSUBDEVRON FIVE SILVERDALE WA//N3//
COMSUBGRU <NO.>//N5//
COMSUB<RON/GRU NO.>//
<SUPERVISING AUTHORITY>//<CODES>//
(OTHER UNITS IN AREA IF APPLICABLE)//
BT
UNCLAS //N09094//
MSGID/GENADMIN/USS <SHIP NAME>//
SUBJ/(TYPE AVAILABILITY) SITREP (SEQUENTIAL NUMBER)//
REF/A/DOC/COMUSFLTFORCOM/<DATE>//
REF/B/DOC/AS APPLICABLE/<DATE>//
NARR/ REF A IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II.
RMKS/1. CO'S SUMMARY, EVENTS 1-9 COMPLETED WITH THE FOLLOWING DEFICIENCIES NOTED:
A. SUBSAFE/URO DEFICIENCIES.
1) NON-ISOLABLE SEAWATER LEAKS
(A) #1 SCOPE HULL GLAND LEAK 1 DPM AT 20% TD
(B) SSW-30 (BODY-BONNET LEAK)
(C) DE-7 (STEM SEAL LEAK)
(D) RUDDER RAM
(E) EHP P46-3P
(F) TD-89 (FWD ESCAPE TRUNK DRAIN)
(G) #2 SCOPE INBOARD HOIST CYLIDER FITTING
(H) #1 SCOPE INBOARD HOIST CYLINDER FITTING
(I) STERN PLANES RAM PACKING
(J) STBD RETRACTABLE BOW PLANE EXTEND RETRACT CYLINDER
(K) AHP-525 (PARKER CHECK VALVE SEAT LEAK)
(L) SSW-20 UPSTREAM FLANGE
(M) EHP P025-01S (WHIP ANTENNA)
(N) INNER STERN PLANES RAM PACKING
2) ISOLABLE SEAWATER LEAK
(A) TDU VENT, TD-104 LEAKS 3 DPM AT 65% TD.
(B) ASW-5 BODY-BONNET LEAK
OTHER DEFICIENCIES
(A) STERN PLANES AUX ANGLE INDICATOR ON BCP DOES NOT ILLUMINATE, URO-16
(B) MSW-2 CYCLE TIME SHUT IS 10.1 SEC
(C) MBT 3A WILL NOT OPEN
B. NON-SUBSAFE/URO DEFICIENCIES.
1) SCULLERY DRAIN LEAKING AT FITTING F-18, 27 DPM
2) 3 FLOOR TILES IN CREWS MESS LIFTED AFFECTING SANITATION
3) CO HOT WATER SHOWER RECIRC PUMP FAILED

2. PREVIOUS DEFICIENCIES REPORTED AND STATUS.

(LIST ALL PREVIOUS DEFICIENCIES AND CURRENT STATUS-THE GOAL IS TO CAPTURE THE COMPLETE MATERIAL CONDITION IN EACH MESSAGE) STATUS = REPAIRED (R), CORRECTIVE ACTION REQUIRED (CAR), NOT APPLICABLE (NA)

EXAMPLE –

1) SCULLERY DRAIN LEAKING AT FITTING F-18, 27 DPM -R
2) 3 FLOOR TILES IN CREWS MESS LIFTED AFFECTING SANITATION - CAR
3) CO HOT WATER SHOWER RECIRC PUMP FAILED - CAR
4) #1 SCOPE HULL GLAND LEAK 1 DPM AT 20% TD - CAR
5) TDU VENT, TD-104 LEAKS 3 DPM AT 65% TD - CAR
6) STERN PLANES AUX ANGLE INDICATOR ON BCP DOES NOT ILLUMINATE, URO-16 - R
3. ADDITIONAL INFO.
1) DESCRIBE ANY ADDITIONAL INFO DESIRED OR LIST "NONE".
4. **TYCOM, NAVSHIPYD, AND NAVSEA REPS CONCUR-DO NOT CONCUR (AS APPROPRIATE).//**
BT

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

APPENDIX CQ

SAMPLE MESSAGE CONCERNING
MOD ALERT NOTIFICATION

(SUBMARINES ONLY)

FM <INDUSTRIAL ACTIVITY>
TO COMSUB<RON/GRU NO.>//{ISIC of Escort Ship}
COMSUBLANT
COMSUBPAC
COMSUBDEVRON FIVE SILVERDALE WA//N3/N4//
DSU SAN DIEGO CA//00//
USS <ESCORT SHIP NAME>//
INFO CNO WASHINGTON DC//N77//
COM<LANT/PAC>FLT <NORFOLK VA/PEARL HARBOR HI>//N43//
COMNAVSEASYSCOM WASHINGTON DC//PMS 392/PMS 394 and PMS 399 (AS APPLICABLE)/08O/92Q//
COMSUBDEVRON FIVE DET SAN DIEGO CA//
DIRSSP WASHINGTON DC //205//{For SSBN/SSGN only}
<SUPERVISING AUTHORITY>//<CODES>//
<SUBOPAUTH>// {If other than parent TYCOM}
COMSUB<RON/GRU NO.>//{ISIC of Sea Trial Ship}
CTF TWO SIX//
CTG TWO SIX PT ONE//
NSCSES NORFOLK VA//112//
COMSUBGRU <NINE/TEN> //N3//{For SSBN/SSGN only}
USS <SHIP NAME/HULL NO.>{SEA TRIAL UNIT}//
BT
UNCLAS //N03120//
MSGID/GENADMIN/<INDUSTRIAL ACTIVITY>//
SUBJ/(SUBS) SUBMARINE SEA TRIAL SUPPORT SERVICES/ MOD ALERT NOTIFICATION//
REF/A/DOC/COMUSFLTFORCOM/<DATE>//
NARR/REF A IS JOINT FLEET MAINTENANCE MANUAL//
RMKS/1. IAW REF A REQUIREMENTS, USS <SHIP NAME/HULL NO.> IS SCHEDULED FOR
SEA TRIALS OCCURRING <DDMMMYY>. REQUEST SRDRS MOD ALERT BE SCHEDULED
TO COVER SEA TRIAL PERIOD.
2. ANY CHANGES IN ALERT POSTURE REQUIREMENTS WILL BE FORWARDED.//
BT

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

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APPENDIX CV

SAMPLE TYCOM MESSAGE TO SHIP CONCERNING URO FOR FLY-BY-WIRE SHIP CONTROL SYSTEMS

(SUBMARINES ONLY)

FM COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//
TO USS <SHIP NAME>//
INFO CNO WASHINGTON DC//N77//
COMNAVSEASYSCOM WASHINGTON DC//394/07/07Q/07T2/05Z5/05U//
PEO SUB WASHINGTON DC//450//
COMSUBGRU <NO.>//N4//
COM<LANT/PAC>FLT <NORFOLK VA/PEARL HARBOR HI>N43//
NAVSURFWARCEN CARDEROCKDIV BETHESDA MD//5600//
COMREGSUPPGRU <CITY ST>//
<SUPERVISING AUTHORITY>//<CODES>// (IF APPLICABLE)
COMSUB<RON/GRU NO.>//
BT
UNCLAS //N04790//
MSGID/GENADMIN/COMSUB<LANT/PAC>//
SUBJ/ USS < SHIP NAME/HULL NO> FLY-BY-WIRE SHIP CONTROL SYSTEMS
/(FBW SCS) MATERIAL CERTIFICATION//
REF/A/DOC/NAVSEA MANUAL T9044-AD-MAN-010/-//
REF/B/MSG/< COMSUB<RON/GRU NO.>/<DTG>//
REF/C/ DOC/COMUSFLTFORCOM/<DATE>//
NARR/REF A IS THE REQUIREMENTS MANUAL FOR SUBMARINE FLY-BY-WIRE SHIP
CONTROL SYSTEMS. REF B IS COMSUB<RON/GRU NO.> MSG RECOMMENDING UNRESTRICTED
USE OF < SHIP NAME/HULL NO> FLY-BY-WIRE SHIP CONTROL SYSTEMS
IN SUPPORT OF SUBMARINE OPERATION. REF C IS COMUSFLTFORCOMINST 4790.3, JOINT
FLEET MAINTENANCE MANUAL //
RMKS/1. IAW REF A AND B ORIG CERTIFIES THE MATERIAL CONDITION
OF FBW SCS CERTIFICATION BOUNDARY FOR USS < SHIP NAME/HULL NO>
IS SATISFACTORY FOR OPERATION WITH THE RESTRICTIONS OF
PARA 2 AND 3 BELOW.
2. SHIP'S SPEED IS RESTRICTED TO LESS THAN 20 KNOTS WHEN A FBW SCS
FAULT CONDITION OCCURS AND WOULD RESULT IN A MAJOR NON-CONFORMANCE
AFFECTING CONTROL OF SHIPS PITCH, HEADING, DEPTH AND CONTROL
SURFACES OR UNTIL SATISFACTORY RESOLUTION OF THE MAJOR
NON-CONFORMANCE AND TYCOM APPROVAL TO OPERATE FBW SCS TO PREVIOUSLY
APPROVED CONDITIONS IS GRANTED.*<LIST ANY ADDITIONAL RESTRICTION AS APPLICABLE>*
3. CONTINUED CERTIFICATION FOR UNRESTRICTED USE OF FLY-BY-WIRE SHIP
CONTROL SYSTEMS IN SUPPORT OF SUBMARINE UNRESTRICTED OPERATION IS
SUBJECT TO COMPLIANCE WITH REF A AND C.//.//
BT

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

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APPENDIX A

SAMPLE MESSAGE TO TYCOM FROM ISIC REQUESTING CONCURRENCE TO DEFER, DELETE OR SHORTEN A SCHEDULED CMAV

(MESSAGE IS NOT REQUIRED FOR CMAV'S 32 DAYS OR LONGER IN DURATION)

FM COMSUB<RON NO.>//
TO COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N4//
INFO COMSUBGRU <NO.>//N5//
NSSC <LOCATION>//N4//
<SUPERVISING AUTHORITY>//<CODES>//
BT
UNCLAS//N09094//
MSGID/GENADMIN//USS <SHIP'S NAME>//
SUBJ/(SUBS) REQUEST TO <MISS/SHORTEN> USS <SHIP NAME/HULL NO.> CMAV//
REF/A/DOC/COMUSFLTFORCOM/<DATE>//
NARR/REF A IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II//
RMKS/1. DUE TO <CAUSE OF MISSING/SHORTENING AVAIL> THE USS<SHIP NAME> WILL NOT BE ABLE TO MEET THE SCHEDULED CMAV REQUIREMENTS PER REF A.
2. THE FOLLOWING INFORMATION IS PROVIDED TO SUPPORT <SHORTENING/MISSING> THE SCHEDULED CMAV.
A. CMAV NUMBER:
B. CMAV DATES:
C. CMAV DURATION: (NUMBER OF DAYS)
D. ACTIVE CASREPS:
<CASREP #, DESCRIPTION, REPAIR PLAN>
E. ACTIVE SUBS:
<SUBS DESCRIPTION, REPAIR PLAN>
F. SCHEDULED CMAV DATES FOR THE NEXT TWELVE MONTHS:
G. IMPACT ON FUTURE WORKLOAD TO I-LEVEL MAINTENANCE ACTIVITY:
H. STATUS OF K-MRCS: (NUMBER SCHEDULED, NUMBER COMPLETE AND NUMBER OVERDUE)
I. NUCLEAR PMS ISSUES:
H. STATUS OF PATS/POTS IF CNO AVAILABILITY PENDING:
3. <ADDITIONAL REMARKS>
4. REQUEST CONCURRENCE TO <MISS/SHORTEN> SCHEDULED CMAV <FISCAL QUARTER, YEAR>.//
BT

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

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APPENDIX B

SAMPLE TYCOM MESSAGE CONCERNING ESCORT SERVICES FOR IDD OR PIRA AVAILABILITIES

FM COMSUB <LANT/PAC><NORFOLK VA/PEARL HARBOR HI>//N4//
TO COMSUB<RON/GRU NO.>//{ISIC of Escort Ship}
USS <ESCORT SHIP NAME>//
INFO CNO WASHINGTON DC//N77//
COM<LANT/PAC>FLT <NORFOLK VA/PEARL HARBOR HI>//N43//
COMNAVSEASYSCOM WASHINGTON DC//PMS 392/08O/07Q//
DIRSSP WASHINGTON DC //205//{For SSBN/SSGN only}
<SUPERVISING AUTHORITY>//<CODES>//
<SUBOPAUTH>// {If other than parent TYCOM}
COMSUBDEVRON FIVE SILVERDALE WA//N3//
COMSUB<RON/GRU NO.>//{ISIC of Sea Trial Ship}
CTF TWO SIX//
CTG TWO SIX PT ONE//
NSCSES NORFOLK VA//112//
DSU SAN DIEGO CA//00//
NAVUNSEAWARCENDIV NEWPORT RI//02245//
NAVUNSEAWARCENDET WEST PALM BEACH FL//3812//
NAVUNSEAWARCENDET AUTEC ANDROS ISLAND BAHAMAS//05//
NAVSURFWARCEN CARDEROCKDIV BETHESDA MD//1921//
PEOSUBCBTWPNSYS WASHINGTON DC//PMO417//
NAVORDTESTU CAPE CANAVERAL FL//SPP40//{For SSBN/SSGN only}
COMSUBGRU <NINE/TEN> //N3//{For SSBN/SSGN only}
USS <SEA TRIAL SHIP NAME> //
BT
UNCLAS //N03120//
MSGID/GENADMIN/COMSUB<LANT/PAC>//
SUBJ/(SUBS) SUBMARINE SEA TRIAL SUPPORT SERVICES//
REF/A/<RMG/DOC>/<SUPERVISING AUTHORITY>/<DATE/DTG>//
REF/B/DOC/COMUSFLTFORCOM/<DATE>//
NARR/REF A IS SEA TRIAL SUPPORT REQUEST. REF B IS JOINT FLEET MAINTENANCE MANUAL//
RMKS/1. REF A REQUESTED AND IAW REF B USS <NAME OF ESCORT SHIP> IS APPROVED AS ESCORT FOR USS <SEA TRIAL SHIP NAME> FOR SEA TRIALS OCCURRING <DDMMMYY>.
2. FOR COMSUB<RON/GRU NO.> PROVIDE GOLD DOLPHIN RIDER ONBOARD USS <NAME OF ESCORT SHIP>.
3. DIRLAUTH ALCON FOR EVENT SCHEDULES AND SCHEDULE CHANGES.//
BT

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

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APPENDIX C

SUGGESTED FORMAT FOR A MESSAGE WORK CANDIDATE

FM: USS (SHIP NAME)//
TO: TYCOM/RSG/RMC/ISIC//
INFO: FMA TO PERFORM WORK//
ISIC OF FMA (IF DIFFERENT FROM REQUESTING SHIPS ISIC)//
TYCOM//N40//
BT
(CLASSIFICATION)//NO4790//
MSGID/GENADMIN//SHIP//
SUBJ/MESSAGE WORK CANDIDATE//
REF/A/DOC/COMUSFLTFORCOM/(DATE)//
AMPN/REF A IS COMUSFLTFORCOMINST 4790.3,
JOINT FLEET MAINTENANCE MANUAL//
RMKS/1. UIC
2. WORK CENTER
3. JSN
4. APL/AEL
B. (SHIP'S HULL NO.)
5. EQUIP NAME
6. WHEN DISCOVERED
7. STATUS
8. CAUSE
9. DEFERRAL REASON
13. IDENTIFICATION/EQUIP SERIAL NUMBER
14. EIC
15. SAFETY HAZARD (LEAVE BLANK OR STATE SAFETY HAZARD AND EXPLAIN IN BLK 35)
16. LOCATION
17. WHEN DISCOVERED
25. SF MHRS EXPENDED (1 HR=0001)
26. DEFERRAL DATE
28. DEADLINE DATE
35. REMARKS/DESCRIPTION
37. CSMP SUMMARY
38. FIRST CONTACT
40. SECOND CONTACT/SUPERVISOR
41. PRIORITY
42. T/A
46. SPECIAL PURPOSE
47. BLUE PRINTS/TECH MANUAL/PLANS/ETC
BT

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

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APPENDIX D

BUSINESS CASE ANALYSIS TOOL

To use this tool, first analyze the safety and mission impact of the damage to be repaired using Table 1. Determine the Hazard-Mission Index. Then consider the impact on schedule and cost using Table 2 and obtain the Cost - Schedule Index. On the next sheet, select the appropriate CO Modifier and sum the indices to obtain the Risk Index. Determine indicated action from the Business Case Analysis Table.

Table 1 - Hazard Severity and Impact to Mission

	Hazard Severity			
Impact to Mission	Catastrophic	Critical	Major	Minor
Frequent				5
Probable		6	4	3
Occasional		5	3	2
Remote	7	4	2	1
Improbable	6	3	1	1

Table 2 - Cost Severity and Impact to Schedule

	Cost Severity			
Impact to Schedule	Extreme	Significant	Major	Minor
Frequent			7	4
Probable			6	3
Occasional		8	5	1
Remote	7	6	4	1
Improbable	5	3	2	1

Impact to Mission Likelihood		Impact to Schedule Likelihood	
Description	Explanation	Description	Explanation
Frequent	Likely to adversely impact mission/operation of ship/ship's future schedule/critical systems regularly. Work to rectify this deficiency must be undertaken at the first opportunity.	Frequent	The undertaking of the work or combination of availability of Long Lead Time Material and Work Completion WILL delay the schedule greater than 5 working days.
Probable	Could adversely impact mission/operation of ship/ship's future schedule/critical system several times. Work to rectify this deficiency should be programmed in the current availability.	Probable	The undertaking of the work or combination of availability of Long Lead Time Material and Work Completion COULD delay the schedule greater than 2 working days.
Occasional	Unlikely, but could be reasonably expected to adversely impact mission/operation ship/ship's future schedule/critical system occasionally. Work to rectify this deficiency should be considered during the current availability depending upon schedule and cost.	Occasional	The undertaking of the work or combination of availability of Long Lead Time Material and Work Completion COULD BE REASONABLY expected to delay the schedule not greater than 2 working days.
Remote	Unlikely, but could possibly impact mission/operation of ship/ship's future schedule/critical system at some time. Work to rectify this deficiency should be considered and programmed to meet the ship's operational schedule.	Remote	The undertaking of the work or combination of availability of Long Lead Time Material and Work Completion is UNLIKELY BUT POSSIBLE to delay the schedule.
Improbable	So unlikely that there should be no adverse impact to mission/operation of ship/ship's future schedule/critical system. Work to rectify this deficiency should be programmed in due course.	Improbable	The undertaking of the work or combination of availability of Long Lead Time Material and Work Completion is SO UNLIKELY to delay the schedule it can be assumed it will not affect schedule.

APPENDIX K

SAMPLE ISIC MESSAGE TO TYCOM CONCERNING CREW CERTIFICATION AND MATERIAL CONDITION FOR FAST CRUISE AND SEA TRIALS FOR IDD OR PIRA AVAILABILITIES

FM COMSUB<RON/GRU NO.>//
TO COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N4/40//
INFO <SUPERVISING AUTHORITY>//<CODES>//
USS <SHIP NAME>//
COMSUBGRU<NO.>//N4//
BT
UNCLAS//N09094//
MSGID/GENADMIN/COMSUB<RON/GRU NO.>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.> CREW AND MATERIAL CERTIFICATION//
REF/A/DOC/COMUSFLTFORCOM/<DATE>//
REF/B/DOC/NAVSEA/<DATE>//
REF/C/DOC/NAVSEA/<DATE>//
NARR/REF A IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL. REF B IS SUBMARINE SAFETY (SUBSAFE) REQUIREMENTS MANUAL, NAVSEA 0924-LP-062-0010. REF C IS NAVSEA URO MRC TECHNICAL MANUAL//
RMKS/1. CREW CERTIFICATION CONDUCTED AND SATISFACTORILY COMPLETED IAW REF A.
2. IAW REFS A AND B, COMSUB<RON/GRU NO.> CERTIFIES THE SUBSAFE CERTIFICATION BOUNDARY OF <SHIP NAME/HULL NO.> INSTALLED, REPAIRED AND/OR TESTED BY FORCES AFLOAT IS SATISFACTORY FOR SEA TRIALS TO TEST DEPTH. ALL SUBSAFE CONTROLLED WORK PACKAGES ARE CLOSED. CERTIFICATION REQUIREMENTS OF REF B HAVE BEEN SUSTAINED FOR THE REMAINDER OF THE SUBSAFE CERTIFICATION BOUNDARY. ALL OTHER CONTROLLED WORK PERFORMED BY SHIP'S FORCE HAS BEEN COMPLETED AND SATISFACTORILY RETESTED AND THE APPROPRIATE WORK PACKAGES CLOSED.
3. MATERIAL/SALVAGE CONDITION CERTIFIED READY FOR SEA UPON COMPLETION OF THE FOLLOWING CORRECTIVE ACTIONS:
A.
B.
4. THERE ARE NO OUTSTANDING RECS. THE FOLLOWING DEPARTURES FROM SPECIFICATION ARE CURRENTLY OUTSTANDING:

DEPARTURE NO.	TYPE	SYSTEM/COMPONENT	RESTRICTION (IF ANY)
A.			
B.			

5. ALL URO MRC AND MANDATORY TESTS/INSPECTIONS SPECIFIED IN REF C HAVE BEEN ACCOMPLISHED OR VERIFIED TO BE WITHIN THE REQUIRED PERIODICITY.
6. COMSUB<RON/GRU NO.> REPORTS READINESS OF USS <SHIP NAME/HULL NO.> FOR COMMENCEMENT OF FAST CRUISE. CO USS <SHIP NAME/HULL NO.> CONCURS.//
7. SUBJECT TO SATISFACTORY COMPLETION OF FAST CRUISE AND RESOLUTION OF MANDATORY DEFICIENCIES COMSUB<RON/GRU NO.> CONSIDERS USS <SHIP NAME/HULL NO.> MATERIAL CONDITION READINESS SATISFACTORY FOR COMMENCEMENT OF SEA TRIALS.//
BT

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

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APPENDIX L

SAMPLE SHIP MESSAGE TO ISIC AND TYCOM CONCERNING MATERIAL CERTIFICATION UPON COMPLETION OF SEA TRIALS FOR IDD OR PIRA AVAILABILITIES

FM USS <SHIP NAME>//
TO COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N4//
COMSUB<RON/GRU NO.>//
<SUPERVISING AUTHORITY>//<CODES>//
INFO CNO WASHINGTON DC//N77//
COMNAVSEASYSCOM WASHINGTON DC//PMS 392/08O/07Q//
COM<LANT/PAC>FLT <NORFOLK VA/PEARL HARBOR HI>//N43//
DIRSSP WASHINGTON DC//{FOR SSBN/SSGN}
COMSUBDEVRON FIVE SILVERDALE WA//N4//
COMSUBGRU<NO.>//N4//
BT
UNCLAS //N09094//
GENADMIN/COMSUB<RON/GRU NO.>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.> SATISFACTORY COMPLETION OF SEA TRIALS//
REF/A/DOC/ COMUSFLTFORCOM/<DATE>//
NARR/REF A IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II.
RMKS/1. USS <SHIP NAME> REPORTS SATISFACTORY COMPLETION OF SEA TRIALS. ALL TESTING REQUIRED BY THE SEA TRIALS TEST AGENDA AND REF (A) HAVE BEEN COMPLETED. <OR REPORT ALL TESTING NOT COMPLETED PER NOTE 1>.
2. THERE WERE NO SUBSAFE DEFICIENCIES IDENTIFIED. <OR REPORT ALL SUBSAFE DEFICIENCIES>.
3. THE <SUPERVISING AUTHORITY> TEST DIRECTOR CONCURS WITH THIS REPORT.
BT

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 FOR FAST CRUISE MESSAGE.

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

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APPENDIX O

SAMPLE ISIC MESSAGE TO TYCOM CONCERNING FINAL MATERIAL CERTIFICATION PRIOR TO SEA TRIALS FOR IDD OR PIRA AVAILABILITIES

FM COMSUB<RON/GRU NO.>//
TO COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N4//
INFO COMSUBDEVRON FIVE SILVERDALE WA//N4//
COMSUBGRU <NO.>//N4//
USS <SHIP NAME>//
<SUPERVISING AUTHORITY>//<CODES>//
BT
UNCLAS //N09094//
GENADMIN/COMSUB<RON/GRU NO.>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.> MATERIAL CERTIFICATION/ READINESS FOR SEA TRIALS//
REF/A/DOC/ COMUSFLTFORCOM/<DATE>//
REF/B/RMG/COMSUB<RON/GRU NO.>/<DTG>//{APPENDIX K}
REF/C/RMG/USS<SHIP NAME>/<DTG>//{APPENDIX Y}
REF/D/DOC/NAVSEA /<DATE>//
NARR/REF A IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II. REF B IS COMSUB<RON/GRU NO.> REPORT OF CREW CERTIFICATION AND MATERIAL CONDITION FOR FAST CRUISE AND SEA TRIALS. REF C IS SHIP REPORT OF COMPLETION OF FAST CRUISE AND READINESS FOR SEA TRIALS. REF D IS NAVSEA 0924-LP-062-0010, SUBMARINE SAFETY (SUBSAFE) REQUIREMENTS MANUAL.
RMKS/1. IAW REFS A AND D, THIS MSG CERTIFIES THAT NO MANDATORY DEFICIENCIES FOR SEA TRIALS HAVE BEEN IDENTIFIED AS REPORTED IN REF B AND C. THERE HAVE BEEN NO RECS OPENED AND NO SUBSAFE DEPARTURES FROM SPECIFICATION PROCESSED SINCE THE START OF FAST CRUISE. <OR, REPORT ANY MANDATORY DEFICIENCIES DISCOVERED WITH CORRECTIVE ACTION, AND IF RECS AND/OR DEPARTURES FROM SPECIFICATIONS WERE PROCESSED SINCE THE START OF FAST CRUISE, REPORT ALL RECS OPENED SINCE THE START OF FAST CRUISE ARE CLOSED AND/OR ALL SUBSAFE DEPARTURES FROM SPECIFICATIONS PROCESSED SINCE THE START OF FAST CRUISE ARE RESOLVED.> (NOTE 1.)
2. THERE ARE NO SUBSAFE DEPARTURES FROM SPECIFICATIONS WITH CONDITIONS WHICH HAVE NOT BEEN SATISFIED. THE FOLLOWING ADDITIONAL DEPARTURES FROM SPECIFICATIONS WERE GENERATED SUBSEQUENT TO REF B. <If None, indicate NONE>

DEPARTURE NO.	TYPE	SYSTEM/COMPONENT	RESTRICTION (IF ANY)
A.			
B.			

3. REQUEST PERMISSION TO COMMENCE SEA TRIALS. CO <SHIP NAME/HULL NO.> CONCURS.//
BT

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 FOR FAST CRUISE MESSAGE.

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

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APPENDIX Q

MINIMUM SEA TRIALS REQUIREMENTS FOR IDD OR PIRA AVAILABILITIES

1. Sea Trial Agenda. This Appendix delineates the minimum requirements incident to Sea Trials following an IDD or PIRA availability. Additional events listed in Appendix O of Part I, Chapter 3, of this volume. Minimum Sea Trials Requirements for Chief of Naval Operations Availabilities Greater Than Six Months Duration (Submarines only), may be included by the repair activity based on the scope of work accomplished and/or as desired by the CO.

2. Sea Trial Policy. The following policies apply to conduct of trials and tests associated with IDD or PIRA availabilities:

a. No test or trial event shall 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 SOE and at angles of less than 30 degrees.

b. Any run which will result in exceeding normal operating 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/trial sponsor will obtain this permission.

c. A violation of the SOE limit or exceeding a 30 degree angle, not previously approved, should be reported by unit Situation Report. The TYCOM will resolve the situation.

d. 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 in accordance with an agenda approved by the ISIC, NAVSEA or higher authority:

(1) Conducting full power runs or cavitation curves.

(2) NAVSEA sponsored acoustic trials in accordance with Naval Surface Warfare Center, Carderock Division acoustic trial agenda.

e. In cases where troubleshooting is required, it must meet the following criteria or a formally approved change to the agenda is mandatory.

(1) The troubleshooting does not violate any policy listed in paragraphs 2.a through 2.e of this Appendix or any other requirement of the trial agenda.

(2) The troubleshooting will not result in the ship being in a certain condition before that condition is reached during the normal testing sequence. For example, troubleshooting requiring the ship to be deeper than 200 feet cannot be done until after the deep dive. Likewise, troubleshooting requiring large angles or turn rates cannot be done until after the completion of the steering and diving operational tests and the large angle tests.

f. Each person involved in Sea Trials should be allowed to obtain a minimum of six hours of continuous, uninterrupted sleep during any 24-hour period.

3. Testing Phase. The Sea Trials should be scheduled and phased to support actions en route to the test dive area, in the test dive area, prior to the deep dive, etc., subject to the amplifying notes.

a. The following tests and evolutions shall be carried out on the surface en route to the test dive area and prior to the initial tightness dive:

(1) Underway. Rig for dive.

(2) Ship's Force instruct Sea Trials riders on the proper use of Emergency Air Breathing System.

(3) At slow speed, conduct operational test of rudder in all modes (local and remote) in accordance with applicable class operating procedures.

(4) Navigation system check. Takes fixes by all means available and compare.

(5) Test underwater log(s) using the base course/reciprocal course method (i.e., inertial reference method) or other approved functional procedures to determine accuracy.

(6) Test accuracy of all bearing transmitters and indicators. Compare sonar, visual and radar bearings.

(7) Check operation of all radars. Demonstrate accuracy by conducting simultaneous radar and visual plot.

(8) Inspect stern tube packing gland/seals and circulating water flow for excessive heating, leakage and audible noise.

(9) Test fathometer(s) and compare with charted soundings.

(10) Run ahead, at maximum allowable surface speed, long enough for temperatures to reach a stable value. After readings have stabilized, at maximum allowable surface speed, operate the rudder through full throw in each direction, in **all remote modes of operation.**

(11) Ahead, at maximum allowable surface speed, to back emergency.
For SSBN/SSGN 726 Class **only** -Answer ahead standard. Once ship speed has stabilized, perform back emergency for 5 minutes.

(12) Run astern up to a **back full bell.** Full power run astern to be consistent with the main engine limits of the applicable Steam and Electric Plant Manual. Operate rudder through full throw.
For SSBN/SSGN 726 Class **only** - Run astern up to a back full bell for 5 minutes, followed by 60 SRPM for 5 minutes. Operate the rudder through full throw (See Note 1).

(13) Check operation and accuracy of ship's gyro compass.

(14) Rendezvous with escort, if an escort is required. Conduct radio and sonar communications checks (See Note 2).

(15) **Rig out bow planes,** if applicable. Test bow/fairwater and stern planes in all modes.

(16) Flood variable tanks to computed compensation less a safety factor.

(17) Operate trim and drain pumps.

(18) Test variable ballast system for proper operation.

(19) Perform a low pressure, normal and EMBT blow for as long as necessary to verify system operability. A static blow shall not be used to test the EMBT blow system. For SSN 23 only: Perform an MBT 6 normal blow from the BCP for a minimum duration of 2 seconds to verify that air flows into MBT 6 as indicated by a reduction in air bank pressure.

(20) Check that initial EMBT Blow system actuating air pressure and air bank pressure is within +0 PSIG, -200 PSIG of nominal operating air pressure.

(21) Ensure all MBT blow systems are in a normal line up configuration.

(22) Additional requirements may be imposed at the discretion of the CO.

b. The following tests and evolutions shall be carried out immediately prior to or during the initial tightness dive:

(1) Obtain navigational fix and take sounding. Maximum depth of water is 400 feet as specified in reference (b).

(2) Rig ship for deep submergence. Line up propulsion plant for maximum reliability. All systems shall be in the maximum secure condition with unnecessary sea systems isolated (See Note 3).

(3) Station additional personnel throughout the ship to inspect for leaks.

(4) Transmit commencing initial tightness dive message. Submerge the ship per the Ship Systems Manual Operating Procedures. If desired to conduct periscope depth tests, the ship may be submerged to periscope depth.

(5) Check operation of ship control systems, including depth indication (See Note 4).

(6) When escort is required, communicate with escort on RAC/WQC at each depth increment or at 10-minute intervals, whichever is sooner. If communications are lost, return to depth at which communications can be established before continuing (See Note 2).

(7) All hands inspect for leaks and report them.

(8) Inspect the discharge of all automatic drains in each EMBT Blow quadrant for sea water leakage prior to the first dive when the ballast tanks are flooded (e.g., at periscope depth).

(9) At periscope depth, operate all masts checking optics and leakage. Observe speed and depth restrictions for masts without violation of the SOE (See Note 5). Event may be performed following initial dive, if sea state prevents operation at periscope depth.

(10) Test operation of trim and drain system **discharging** to sea.

(11) If not at 150 feet for SSN 688 Class submarines (155 feet for SSN 774 Class submarines), (160 feet for SSBN/SSGN 726 and SSN 21 Class submarines), proceed to 150 feet for SSN 688 Class submarines (155 feet for SSN 774 Class submarines), (160 feet for SSBN/SSGN 726 and SSN 21 Class submarines) and obtain SAT 1/3 trim in accordance with the Ship's Operating Manual. Take readings as required to make a check of ballasting.

(12) At 200 feet:

(a) Adjust trim (See Note 6).

(b) Inspect for leaks.

(c) Communicate with escort at each depth increment or at 10-minute intervals, whichever is sooner. If communications are lost, return to depth at which communications can be re-established before continuing (See Note 2).

(13) At 200 feet, in accordance with reference (x):

(a) Check accuracy of gauges and repeaters (See Note 4).

(b) Evaluate signal ejectors or launchers. Conduct operational test of each by hand and impulse methods, as applicable (See Note 7).

(c) Check shafting bearings and stern tubes for excessive heating, leakage and noise. Main shaft seals must be tested at each depth specified in reference (x) testing one seal for 20 minutes, and shifting to the other seal. Test the second seal for 20 minutes or until the boat is ready to go to the next depth, whichever comes first.

(d) Cycle rudder and planes through full throw at slow speed to check for binding.

NOTE: REQUIRED SYSTEMS ARE LISTED IN PARAGRAPH 4b OF REFERENCE (x). OBSERVE RESTRICTIONS ON OPERATION OF SYSTEMS LISTED IN PARAGRAPH 4d OF REFERENCE (x).

(e) Operate all Main and Auxiliary Sea Water hull and back-up valves and those other seawater system valves worked during the availability (using remote closures, as applicable, from flooding control stations) that are required to maintain propulsion and other functions vital to the ship's operation.

(14) Test the SPM (See Note 13 in Appendix O of Part I, Chapter 3 of this volume).

(15) Additional requirements may be imposed at the discretion of the CO.

c. The following tests and evolutions shall be carried out following the initial tightness dive and prior to the deep dive:

(1) Transmit initial tightness dive complete message.

(2) A minimum of six hours of **ISE submerged for crew training.**

(3) Charge air banks and battery as 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 procedure.

(4) If escort is required, detach escort after initial tightness dive. Escort will then proceed to station for deep dive. Ensure that deep dive rendezvous time and location are clearly established before escort is released. The escort may be retained for additional testing during the transit as described in Part I, Chapter 3, Appendix P of this volume. Transit depths shall not exceed depth as described in Part I, Chapter 3, Appendix P of this volume.

(5) Additional requirements may be imposed at the discretion of the CO.

d. The following tests and evolutions shall be carried out immediately prior to or during the deep dive:

(1) Check that initial EMBT Blow system actuating air pressure and air bank pressure is within +0 PSIG, -200 PSIG of nominal operating air pressure.

(2) Verify MBT systems lined up for normal operation.

(3) Take sounding. Accurately fix ship's position within the specified dive area in accordance with reference (b). Transmit commencing deep dive message.

APPENDIX R

SUBMARINE SEA TRIAL SITUATION REPORT
(SITREP)

FM USS <SHIP NAME>//
TO COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N4//
INFO CNO WASHINGTON DC//N77//
COM<LANT/PAC>FLT <NORFOLK VA/PEARL HARBOR HI>N43//
COMNAVSEASYSCOM WASHINGTON DC//PMS 392/08O//
DIRSSP WASHINGTON DC//205// {For SSBN/SSGN Only}
<SUBOPAUTH>// {IF OTHER THAN PARENT TYCOM}
COMSUBDEVRON FIVE SILVERDALE WA//N3//
COMSUBGRU <NO.>//N5//
COMSUB<RON/GRU NO.>//
<SUPERVISING AUTHORITY>//<CODES>//
(OTHER UNITS IN AREA IF APPLICABLE)//
BT
UNCLAS //N09094//
MSGID/GENADMIN/USS <SHIP NAME>//
SUBJ/(TYPE AVAILABILITY) SITREP (SEQUENTIAL NUMBER)//
REF/A/DOC/COMUSFLTFORCOM/<DATE>//
REF/B/DOC/AS APPLICABLE/<DATE>//
NARR/ REF A IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II.
RMKS/1. CO'S SUMMARY, EVENTS 1-9 COMPLETED WITH THE FOLLOWING DEFICIENCIES NOTED:
A. SUBSAFE/URO DEFICIENCIES.
1) #1 SCOPE HULL GLAND LEAK 1 DPM AT 20% TD
2) TDU VENT, TD-104 LEAKS 3 DPM AT 65% TD.
3) STERN PLANES AUX ANGLE INDICATOR ON BCP DOES NOT ILLUMINATE, URO-16
B. NON-SUBSAFE/URO DEFICIENCIES.
1) SCULLERY DRAIN LEAKING AT FITTING F-18, 27 DPM
2) 3 FLOOR TILES IN CREWS MESS LIFTED AFFECTING SANITATION
3) CO HOT WATER SHOWER RECIRC PUMP FAILED

2. PREVIOUS DEFICIENCIES REPORTED AND STATUS.
(LIST ALL PREVIOUS DEFICIENCIES AND CURRENT STATUS-THE GOAL IS TO CAPTURE THE COMPLETE MATERIAL CONDITION IN EACH MESSAGE) STATUS = REPAIRED (R), CORRECTIVE ACTION REQUIRED (CAR), NOT APPLICABLE (NA)

EXAMPLE –

1) SCULLERY DRAIN LEAKING AT FITTING F-18, 27 DPM -R
2) 3 FLOOR TILES IN CREWS MESS LIFTED AFFECTING SANITATION - CAR
3) CO HOT WATER SHOWER RECIRC PUMP FAILED - CAR
4) #1 SCOPE HULL GLAND LEAK 1 DPM AT 20% TD - CAR
5) TDU VENT, TD-104 LEAKS 3 DPM AT 65% TD - CAR
6) STERN PLANES AUX ANGLE INDICATOR ON BCP DOES NOT ILLUMINATE, URO-16 - R
3. ADDITIONAL INFO.
1) DESCRIBE ANY ADDITIONAL INFO DESIRED OR LIST "NONE".
4. **TYCOM, NAVSHIPYD, AND NAVSEA REPS CONCUR-DO NOT CONCUR (AS APPROPRIATE).//**
BT

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

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APPENDIX S

SAMPLE TYCOM MESSAGE TO SHIP CONCERNING URO FOR IDD OR PIRA AVAILABILITIES

FM COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//
TO USS <SHIP NAME>//
INFO CNO WASHINGTON DC//
COMNAVSEASYSCOM WASHINGTON DC//392/08O/07Q//
COM<LANT/PAC>FLT <NORFOLK VA/PEARL HARBOR HI>//
DIRSSP WASHINGTON DC//{FOR SSBN/SSGN}
COMSUBGRU <NO.>//
COMSUB<RON/GRU NO.>//
<SUPERVISING AUTHORITY>//
BT
UNCLAS //N09094//
MSGID/GENADMIN/COMSUB<LANT/PAC>//
SUBJ/(SUBS) UNRESTRICTED OPERATION OF USS <SHIP NAME/HULL NO.>//
REF/A/RMG/ USS <SHIP NAME>/<DTG>//
REF/B/DOC/COMUSFLTFORCOMINST 4790.3//
REF/C/DOC/ NAVSEA 0924-LP-062-0010//
NARR/REF A IS USS <SHIP NAME> MSG CONCERNING COMPLETION OF SEA TRIALS. REF B IS THE JOINT FLEET MAINTENANCE MANUAL. REF C IS THE SUBMARINE SAFETY (SUBSAFE) REQUIREMENTS MANUAL.//
RMKS/1. REF A REPORTED THE SATISFACTORY COMPLETION OF SEA TRIALS WITH NO SUBSAFE DEFICIENCIES IDENTIFIED. (IF SPECIFIC SUBSAFE DEFICIENCIES WERE IDENTIFIED BUT WERE NOT DEEP DIVE RETEST FAILURES LIST SPECIFICS – DEEP DIVE TEST FAILURES WILL REQUIRE A FOLLOW-ON SEA TRIALS)
2. TYCOM AUTHORIZES, USS <SHIP NAME/HULL NO.> TO CONDUCT OPERATIONS TO <SPECIFIED> 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 AND REF C.
BT

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

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APPENDIX T

SAMPLE SHIP MESSAGE TO TYCOM CONCERNING READINESS FOR FOLLOW-ON SEA TRIALS FOR IDD OR PIRA AVAILABILITIES

FM USS <SHIP NAME>//
TO COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N4//
INFO COMSUBDEVRON FIVE SILVERDALE WA//N3//
COMSUBGRU <NO.>//N5//
COMSUB<RON/GRU NO.>//
<SUPERVISING AUTHORITY>//<CODES>//
BT
UNCLAS //N09094//
MSGID/GENADMIN//USS <SHIP'S NAME>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.>READINESS FOR <FOLLOW-ON (NOTE 1)>SEA TRIALS//
REF/A/DOC/<SUPERVISING AUTHORITY>/<DATE>//
REF/B/DOC/COMUSFLTFORCOM/<DATE>//
REF/ REF A IS <SUPERVISING AUTHORITY> SUBSAFE CERTIFICATION CONTINUITY REPORT FOR <SHIP NAME/HULL NO.>. REF B IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II.//
RMKS/1. REF A CERTIFIED THE SUBSAFE MATERIAL CONDITION OF THOSE PARTS OF USS <SHIP NAME/HULL NO.> INSTALLED, REPAIRED AND/OR TESTED BY THE SHIPYARD IS SATISFACTORY FOR SEA TRIALS TO TEST DEPTH.
2. USS <SHIP NAME/HULL NO.> AND CREW REPORTED READY TO PROCEED IAW REF B, ON <FOLLOW-ON (NOTE 1)> SEA TRIALS WITH THE FOLLOWING EXCEPTIONS:
    A. REMOVAL OF SHORE SERVICE CONNECTIONS.
    B.
3. MATERIAL CONDITION SUPPORTS ADEQUATE CREW REST FOR UNDERWAY AT <TIME AND DATE>.
4. REQUEST PERMISSION TO COMMENCE <FOLLOW-ON (NOTE 1)> SEA TRIALS.//
BT

NOTE 1: UPCOMING TRIAL WHICH IS SUBJECT OF THIS CERTIFICATION (E.G., SECOND SEA TRIAL, ETC.).

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

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APPENDIX U

SAMPLE ISIC MESSAGE TO TYCOM CONCERNING MATERIAL CERTIFICATION FOR FOLLOW-ON SEA TRIALS IN CASES WHERE A PREVIOUS SEA TRIAL WAS ABORTED OR CORRECTIVE ACTIONS FOR SEA TRIAL DEFICIENCIES REQUIRE AN ADDITIONAL DEEP DIVE FOR IDD OR PIRA AVAILABILITIES

FM COMSUB<RON/GRU NO.>//
TO COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N4//
INFO COMSUBDEVRON FIVE SILVERDALE WA//N4//
COMSUBGRU <NO.>//N4//
USS <SHIP NAME>//
<SUPERVISING AUTHORITY>//<CODES>//
BT
UNCLAS //N09094//
MSGID//GENADMIN/COMSUB<RON/GRU NO.>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.>MATERIAL CERTIFICATION/ READINESS FOR <FOLLOW-ON (NOTE 1)> SEA TRIALS//
REF/A/DOC/ COMUSFLTFORCOM/<DATE>//
REF/B/RMG/COMSUB<RON/GRU NO.>/<DTG>//{APPENDIX Y}
REF/C/DOC/NAVSEA /<DATE>//
REF/D/RMG/USS <SHIP NAME>/<DTG>//{APPENDIX T}
NARR/REF A IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II. REF B IS COMSUB<RON/GRU NO.> MSG TO TYCOM ON MATERIAL STATUS PRIOR TO INITIAL SEA TRIALS. REF C IS NAVSEA 0924-LP-062-0010, SUBMARINE SAFETY (SUBSAFE) REQUIREMENTS MANUAL. REF D IS USS <SHIP NAME/HULL NO.> REPORT OF READINESS FOR FOLLOW-ON SEA TRIALS.//
RMKS/1. IAW REF A AND C, THIS MSG CERTIFIES THAT NO MANDATORY DEFICIENCIES FOR <FOLLOW-ON (NOTE 1)> SEA TRIALS HAVE BEEN IDENTIFIED. THERE HAVE BEEN NO RECS OPENED AND NO FORCES AFLOAT SUBSAFE DEPARTURES FROM SPECIFICATION PROCESSED SINCE THE START OF THE INITIAL SEA TRIALS <OR, SUBSEQUENT TO REF B, REPORT ANY MANDATORY DEFICIENCIES DISCOVERED WITH CORRECTIVE ACTION, AND IF RECS AND/OR DEPARTURES FROM SPECIFICATIONS WERE PROCESSED SINCE THE START OF THE INITIAL SEA TRIALS, REPORT ALL RECS OPENED SINCE THE START OF INITIAL SEA TRIALS ARE CLOSED AND/OR ALL SUBSAFE DEPARTURES FROM SPECIFICATIONS PROCESSED SINCE THE START OF SEA TRIALS ARE RESOLVED NOTE 2.>
2. THERE ARE NO SUBSAFE DEPARTURES FROM SPECIFICATIONS WITH CONDITIONS WHICH HAVE NOT BEEN SATISFIED. THE FOLLOWING DEPARTURES FROM SPECIFICATIONS ARE CURRENTLY OUTSTANDING:

DEPARTURE NO.	TYPE	SYSTEM/COMPONENT	RESTRICTION (IF ANY)
A.			
B.			

3. SHIP REPORTED READINESS FOR FOLLOW-ON SEA TRIALS IN REF D.//
BT

NOTE 1: UPCOMING TRIAL WHICH IS SUBJECT OF THIS CERTIFICATION (E.G., SECOND SEA TRIAL, ETC.).

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 FOR FAST CRUISE MESSAGE.

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

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APPENDIX W

SAMPLE SHIP MESSAGE TO ISIC CONCERNING READINESS FOR FAST CRUISE FOR IDD OR PIRA AVAILABILITIES

FM USS <SHIP NAME>//
TO COMSUB<RON/GRU NO.>//
INFO COMSUBDEVRON FIVE SILVERDALE WA//N3//
COMSUBGRU <NO.>//N5//
<SUPERVISING AUTHORITY>/<CODES>//
BT
UNCLAS //N09094//
MSGID/GENADMIN/USS <SHIP NAME>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.> READINESS FOR FAST CRUISE//
REF/A/DOC/<SUPERVISING AUTHORITY>/<DATE>//
REF/B/RMG/COMSUB<RON/GRU NO.>/<DTG>//{APPENDIX K}
REF/C/DOC/COMUSFLTFORCOM/<DATE>//
NARR/ REF A IS <SUPERVISING AUTHORITY> SUBSAFE CERTIFICATION CONTINUITY REPORT. REF B IS COMSUB<RON/GRU NO.> REPORT OF CREW CERTIFICATION AND MATERIAL CONDITION FOR FAST CRUISE AND SEA TRIALS. REF C IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II.//
1. REFS A AND B REPORTED READINESS OF SHIP FOR FAST CRUISE AND SEA TRIALS. USS <SHIP NAME/HULL NO.> AND CREW ARE READY FOR SEA TRIALS IAW REF C WITH THE FOLLOWING EXCEPTIONS:
    A. COMPLETION OF FAST CRUISE.
    B. REMOVAL OF SHORE SERVICE CONNECTIONS.
2. REQUEST PERMISSION TO START FAST CRUISE.//
BT

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

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APPENDIX X

SAMPLE ISIC MESSAGE TO SHIP AUTHORIZING COMMENCEMENT OF FAST CRUISE FOR IDD OR PIRA AVAILABILITIES

FM COMSUB<RON/GRU NO.>//
TO USS <SHIP NAME>//
INFO CNO WASHINGTON DC//N77//
COM<LANT/PAC>FLT <NORFOLK VA/PEARL HARBOR HI>//N43//
COMNAVSEASYSCOM WASHINGTON DC//PMS 392/08O/07Q//
COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N4//
DIRSSP WASHINGTON DC //205//{For SSBN/SSGN only}
<SUBOPAUTH>// {If other than parent TYCOM}
COMSUBDEVRON FIVE SILVERDALE WA//N3//
COMSUBGRU <NO.>//N5//
<SUPERVISING AUTHORITY>/<CODES>//
BT
UNCLAS //N09094//
MSGID/GENADMIN/USS <SHIP NAME>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.> READINESS FOR FAST CRUISE//
REF/A/DOC/<SUPERVISING AUTHORITY>/<DATE>//
REF/B/RMG/COMSUB<RON/GRU NO.>/<DTG>//{APPENDIX K}
REF/C/RMG/ USS <SHIP NAME>/<DTG>//{APPENDIX W}
REF/D/DOC/ COMUSFLTFORCOM/<DATE>//
NARR/ REF A IS <SUPERVISING AUTHORITY> SUBSAFE CERTIFICATION CONTINUITY REPORT. REF B IS COMSUB<RON/GRU NO.> REPORT OF CREW CERTIFICATION AND MATERIAL CONDITION FOR FAST CRUISE AND SEA TRIALS. REF C USS <SHIP NAME> IS REPORT OF READINESS FOR FAST CRUISE AND SEA TRIALS. REF D IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II.//
1. REF A REPORTED <SUPERVISING AUTHORITY> ASSIGNED WORK COMPLETE AND READINESS FOR FAST CRUISE AND SEA TRIALS.
2. REF B REPORTED REMAINING PORTIONS OF SUBSAFE BOUNDARY NOT WORKED BY <SUPERVISING AUTHORITY> MAINTAINED CERTIFIED AND READINESS FOR FAST CRUISE AND SEA TRIALS.
3. REF C REPORTED SHIP'S FORCE READINESS FOR FAST CRUISE AND SEA TRIALS AND REQUESTED PERMISSION TO COMMENCE FAST CRUISE.
4. IAW WITH REF D USS <SHIP NAME> IS AUTHORIZED TO COMMENCE FAST CRUISE. <SHIP NAME> IS DIRECTED TO REPORT COMPLETION OF FAST CRUISE AND ALL SUBSAFE DEFICIENCIES IDENTIFIED DURING FAST CRUISE TO COMSUB<RON/GRU NO.>, COMSUB<LANT/PAC> AND <SUPERVISING AUTHORITY>.//
BT

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

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APPENDIX Y

SAMPLE SHIP MESSAGE TO ISIC AND TYCOM CONCERNING READINESS FOR SEA TRIALS FOR IDD OR PIRA AVAILABILITIES

FM USS <SHIP NAME>//
TO COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N4//
COMSUB<RON/GRU NO.>//
INFO COMSUBDEVRON FIVE SILVERDALE WA//N3//
COMSUBGRU <NO.>//N5//
<SUPERVISING AUTHORITY>//<CODES>//
BT
UNCLAS //N09094//
MSGID/GENADMIN//USS <SHIP'S NAME>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.>READINESS FOR SEA TRIALS//
REF/A/DOC/ COMUSFLTFORCOM/<DATE>//
NARR/REF A IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL, VOLUME II//
RMKS/1. FAST CRUISE COMPLETED <TIME AND DATE>.
2. IAW REF A, USS <SHIP NAME/HULL NO.> AND CREW REPORTED READY TO PROCEED ON SEA TRIALS WITH THE FOLLOWING EXCEPTIONS:
    A. REMOVAL OF SHORE SERVICE CONNECTIONS.
    B.
3. MATERIAL CONDITION SUPPORTS ADEQUATE CREW REST FOR UNDERWAY AT <TIME AND DATE>.
4. REQUEST PERMISSION TO COMMENCE SEA TRIALS.//
BT

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

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1.2.3 Class Maintenance Plan. The Class Maintenance Plan (CMP) database is an engineered set of Intermediate and Depot-level maintenance tasks, including the following: material condition assessment tasks (I-tasks), qualified repair and life renewal tasks (Q-tasks), availability routine tasks (R-tasks) and authorized Fleet and Program ship change tasks. Tasks are either scheduled or unscheduled.

a. Scheduled tasks are those tasks the cognizant technical authority (usually the designated In-Service Engineer) requires to be accomplished on a periodic basis. These tasks have been identified, using Reliability Centered Maintenance, to be both applicable and effective. The CMP system automatically pushes scheduled tasks for Maintenance Team screening and brokering based on last accomplished date and task periodicity.

(1) For Submarines and Aircraft Carriers, scheduled tasks are pushed to the shore Current Ship's Maintenance Project (CSMP) six quarters before the deadline date, unless the periodicity is such that the task is due in less than 18 months. These tasks are mandatory and must be completed by the due date or approved for deferral or cancellation by the Ship Design Manager (SDM) (see paragraph 1.4.5.e of this chapter).

(2) For Surface Force ships, scheduled tasks are pushed to the shore CSMP and must be completed by the due date or approved for deferral or cancellation by the SDM (see paragraph 1.4.5.e of this chapter).

b. Unscheduled tasks are pulled by the Maintenance Team based on evidence of need. This includes unscheduled assessment tasks, qualified repair tasks, approved ship changes with their associated support and service tasks and availability routine tasks. Additionally, if the need arises for a scheduled task to be accomplished before it has been pushed into the CSMP, the Maintenance Team has the ability to pull that scheduled task, and the last accomplished date will be appropriately updated.

1.3 WORK CANDIDATES.

1.3.1 Current Ship's Maintenance Project Composition. An accurate, up-to-date CSMP is essential for a well-maintained ship. The importance of documenting all discrepancies cannot be overemphasized because the CSMP is the basis for all funding. Only work that is documented in the CSMP will be authorized for accomplishment. The CSMP is maintained in two files, the organizational unit file and the shore file.

a. Shipboard File. This file contains information regarding all known material discrepancies that require corrective maintenance. These discrepancies are normally discovered either by Ship's Force personnel during routine operations and planned maintenance or by non-Ship's Force personnel during material assessment, training and assist visits. Non-Ship's Force personnel that discover a discrepancy shall provide a "maintenance ready" 2-Kilo (Naval Operations (OPNAV) 4790/2K) to the ship's Maintenance and Material Management (3-M) Coordinator. The 3-M Coordinator shall notify the Work Center Supervisor responsible for the planned maintenance on the equipment of the discrepancy. The Work Center Supervisor shall cause the discrepancy to be entered into the ship file. The ship's 3-M Coordinator will ensure proper screening of work candidates before non-Ship's Force personnel complete their business and leave the ship. The criticality of the discrepancy determines the maximum length of time allowed to upload the information regarding the discrepancy to the RMC responsible for managing the shore file. Exceptions to this policy are made within the considerations of bandwidth availability and Operational Security conditions.

(1) 2-Kilos associated with correction of C2 Casualty Reports shall be uploaded within 24 hours.

(2) 2-Kilos associated with correction of C3/C4 Casualty Reports shall be uploaded within four hours.

b. Shore File. This file contains the material discrepancies uploaded from the shipboard file, other work identified by shore-based managers and tasks from the CMP. Tasks from the CMP include pushed scheduled tasks, pulled tasks, authorized program and Fleet modernization work and availability support routines. The Type Desk Officer and Port Engineer are responsible for pulling CMP tasks as required based on evidence of need, availability support routines and Fleet and Program alterations into availability work packages. Although only on the CSMP shore file, this work is visible to Ship's Force on the weekly Excel-version CSMP report sent electronically to the Executive Officer by the TYCOM.

1.3.2 Requirements. All work requiring an expenditure of man-hours, material or a combination of both requires a work candidate (OPNAV 4790/2K) to document the identified requirement. Pushed and pulled CMP tasks are already formatted as OPNAV 4790/2Ks when transferred to the CSMP shore file. The OPNAV 4790/2K requires certain information to be included by the identifying activity to support the maintenance request and may be authored by activities other than the affected ship. There are three levels of the validation process:

a. The ship (ship's maintenance officer or 3MC) shall do an initial validation of the work statement to determine if there is enough information for the RMC's designated representative (i.e., Port Engineer, Fleet Maintenance Activity Ship Superintendent, Project Manager, etc.) to understand the requirement.

b. The Port Engineer working with members of the Maintenance Team is responsible for requirement validation, and will determine whether there is real need (objective evidence) and, if so, will also verify the requirement's urgency.

c. Final validation is the responsibility of the Port Engineer. The Port Engineer ensures that the scope of the work is adequately defined and technically accurate before authorizing the work. This is the final product screened and brokered to a planning or execution activity. A properly validated work candidate will not be returned to the Port Engineer for further information.

1.3.3 Elements. A valid work candidate will provide the following key data elements at a minimum. The blocked numbers to the right of each item reference a OPNAV 4790/2K data block.

a. Configuration information automatically entered from the master configuration database (Configuration Data Manager's Database/Ship's Configuration and Logistics Support Information System) by the shipboard system:

(1)	Ship Unit Identification Code	[1]
(2)	Work Center Job Control Number	[2]
(3)	Allowance Parts List/Allowance Equipage List	[4]
(4)	Ship Name	[A]
(5)	Ship Hull Number	[B]
(6)	Equipment Noun Name	[5]
(7)	Equipment Identification Code	[14]
(8)	Location	[16]
(9)	Ship Work List Item Number	[56]
(10)	References	

b. Job Sequence Number [3]

c.	Equipment Status Code	[7]
d.	When Discovered Date	[17]
e.	Deferred Date	[26]
f.	Symptoms and Supporting Information	[35]
g.	First Contact Name	[38]
h.	Priority	[41]
i.	Type Availability - (Recommended Accomplishment Level)	[42]
j.	Required Delivery Date	[28]
k.	Recommended resolution	[35]
	(1) Master Job Catalog, if applicable	
	(2) Port Engineer's Notes	
	(3) Additional references	
l.	Maintenance Action Requested	[35]
	(1) Assessment	
	(2) Repair	
	(3) Modernization	
m.	Maintenance Figure of Merit	In CSMP Shore File
n.	Initial Estimate (man days & material)	In CSMP Shore file
o.	TYCOM Screening Code	[45]
p.	TYCOM Screening Remarks	In CSMP Shore File

1.3.4 Guidelines. After a work candidate is created and uplined by an assessment activity or provided and entered into the CSMP shore file by the CMP or other means, it will be reviewed by the Port Engineer with the Maintenance Team. The Port Engineer will use the guidelines below to validate each work statement.

a. Initial validation will be conducted on each new work candidate to ensure there is sufficient information to understand the requested maintenance action. The originator must populate configuration data elements from the master database by selecting the correct configuration item in a configuration-based system and complete data elements 1 through 7 listed in paragraph 1.3.3 of this chapter. If the ship is the originator then data element 8 must also be present. All work candidates created in an ad-hoc mode or with an incorrect configuration item (and therefore incorrect configuration data) will be returned to the originating activity for cancellation and recreation. Correction and/or inclusion of the remaining requested information may be done on the shore file by the Port Engineer, or the work candidate may be returned to the originator for revision.

b. If configuration data in the master data base is incorrect (e.g., Allowance Parts List/Allowance Equipage List, Hierarchical Structure Code (Ship Work List Item Number) references, location, etc.), the Port Engineer shall act to correct the data at its source. The Port Engineer may request additional logistic assistance from the Configuration Data Manager to determine and document the correct data.

c. When an initially validated work candidate is accepted as complete, the Port Engineer will then determine if there is enough objective evidence of need to validate the requirement. If not valid, the work candidate will be returned to the originator and cancelled.

d. CMP material assessments may be accomplished outside of a depot maintenance period to allow for proper planning and preparation to perform the work during the depot maintenance period. However, CMP maintenance should be scheduled and executed during depot maintenance periods.

e. If during validation, the Maintenance Team finds inaccurate configuration data or has questions concerning the necessity of a "Pushed" CMP work candidate, they will contact the appropriate maintenance planning activity prior to returning or cancelling the work candidate.

1.3.5 Validation. Validation is the process of reviewing an off-ship work statement to ensure that the correct configuration item (lowest repairable unit, equipment, system, etc.) is properly identified and that there is enough information to determine if the work candidate is required (objective evidence) and, if valid, contains enough information to:

a. Properly determine the correct resolution inclusive of the root cause.

b. Screen to the right maintenance period to support ship operations.

c. Broker to the right activity to perform the work at the most practicable level.

d. Pass to history.

The goal of the validation process is to provide a work candidate that is sufficiently defined, contains correct and complete information, provides an accurate diagnosis, and provides an applicable, effective, and feasible recommended resolution. A properly validated work candidate should provide the planning and executing activities with the ability to understand the requirement without expending additional manpower or time obtaining needed information. The Port Engineer along with the Maintenance Team validates all off-ship (Type Availability 1, 2 and 3) work candidates before screening them to the planning activity by review of 2-Kilo documentation, personal shipboard observation of conditions, and knowledge of the quality of work candidates written by selected work centers or through additional technical assistance. All validated work candidates should be ship-checked by the Port Engineer or designated representative when practicable. The purpose of this check is to determine the best maintenance action and add to Block 35 (data elements k. and l. in paragraph 1.3.3 of this chapter).

1.3.6 Verification. The Port Engineer may request additional assistance to determine and document the best corrective action. The recommended action will include all pertinent interferences, integration issues, verification of urgency and an initial estimate (data element n. in paragraph 1.3.3 of this chapter). The initial estimate for each job includes mandays, manday rate and material costs. When validated, the Port Engineer will assign a TYCOM Screening Code (data element o. in paragraph 1.3.3 of this chapter) to the work candidate. This shows the job as valid and ready for screening and brokering.

1.4 SCREENING/BROKERING.

1.4.1 Screening and Brokering Work Candidates. The Port Engineer reviews and screens work candidates continuously as they are documented. Work integration may entail screening multiple work candidates together when possible. Work screening also entails selecting the appropriate level of repair and the best opportunity in

which to accomplish the work. The Port Engineer makes recommendations on the lowest level of executing activity with the capability and the capacity to accomplish the work during the required time frame, following the guidance of the RMC Business Rules in Volume VI, Chapter 31 of this manual.

a. Management of ship maintenance is best performed by individuals most familiar with the condition of the ship, budgetary considerations and available workforce. For Surface Force TYCOM ships, the Port Engineers coordinate the work of the waterfront Maintenance Teams. They directly support the RMC Commanding Officer, who prioritizes the day-to-day maintenance focus for ships keeping TYCOMs well informed. These team members accomplish the maintenance identification, planning and execution with supporting functions from other commands and activities.

b. Supporting the waterfront Maintenance Team are other activities which provide requested support to the Maintenance Team in assessing material condition, determining maintenance requirements, identifying and programming ship modernization and funding and contracting issues.

1.4.2 Screening/Brokering. Although accomplished simultaneously, screening and brokering are actually two distinct processes.

a. Screening. Determines and assigns the work candidate to the right time period and maintenance availability. Determination includes balancing operational schedule, material readiness requirements and cost concerns to maximize maintenance productivity (material readiness/related maintenance cost).

b. Brokering. Determines and assigns the right activity to perform the work based on business case analysis, material availability, experience, tool requirements, personnel requirements, special considerations (Environmental, Health and Safety) and capacity.

c. All OPNAV 4790/2Ks in the Master File should be screened and brokered to a maintenance availability within eight days after being uploaded from the Shipboard File.

1.4.3 Key Data.

a. The validated work candidate contains the following key data elements to aid in the screening and brokering process:

(1) Configuration Item (maintenance object) identification.

(2) Symptom (OPNAV 4790/2K - Block 35).

(3) Expected scope of preventive/corrective/alterative maintenance (OPNAV 4790/2K - Block 35).

(4) Required Completion Date (RCD).

(5) Level of Maintenance (TYCOM Code 1,2,3).

(6) Identification of a Master Spec Catalog item (pre-planning data).

(7) Priority (Figure of Merit).

b. Work candidates will be brokered to the lowest level of maintenance activity with the capability and capacity to accomplish the work during the required time frame. When practicable, Fleet Maintenance Activity capacity will be utilized first.

c. Available capacity will be judged after applying Figure of Merit and RCD.

d. The cause and effect relationship between screening and brokering must be exercised to maximize maintenance productivity. This may require negotiation with the ship and/or maintenance activity to adjust the RCD.

e. Other considerations for screening and brokering:

(1) Synergistic relationship between work candidates exist.

(2) Splitting responsibility.

(3) Third party access.

(4) Port loading.

(5) RMC Production Department training requirements.

1.4.4 Guidelines.

a. After validation, screening and brokering will be accomplished continuously. The Ship's Maintenance Manager will provide recommendations to the Port Engineer. The Port Engineer will use the guidelines below to screen and broker work candidates to the proper availability.

b. All work will be screened to an availability. Availabilities are created and numbered in accordance with the business rules in Appendix A of this chapter.

c. Work candidates shall be screened to the following type of availabilities: CNO, Continuous Maintenance (CM), emergent or unfunded. No other type of availability shall be used in the Surface Force.

(1) CNO Availability. The work candidate is best performed during the scheduled CNO availability. These work candidates include major Ship Alterations and repairs that require support services and coordination.

(2) Continuous Maintenance Availability. Based on ship availability, priority of the job, business case analysis, periodicity or other consideration, the maintenance should be performed during a scheduled CMAV or during a window of opportunity permitted by ship's schedule.

(3) Emergent Availability. Emergent work is performed at greater cost than work planned and completed in other availabilities. The criteria to be used to qualify work as emergent is provided in Volume VI, Chapter 31, Paragraph 31.3.3 of this manual.

(4) Unfunded Availability. This availability is reserved for work candidates, which should be shown as backlog or are of such low priority they are unlikely ever to be accomplished.

d. Brokering shall be as follows:

(1) Work candidates for technical assistance, assessment or inspection will be brokered to the RMC or another technical activity.

(2) Work candidates will be brokered to the lowest level of maintenance activity, filling Fleet Maintenance Activity capacity first, based on the following criteria:

(a) Material availability.

(b) Capability:

1 Experience.

2 Available Production Resource Tools.

3 Available qualified/certified personnel.

4 Ability to comply with Environmental, Health and Safety regulations.

(c) Work center capacity.

(d) Funding.

1.4.5 Additional Requirements for Scheduled Jobs Pushed by CMP. Since jobs pushed to the CSMP by the CMP are mandatory tasks directed by proper Technical Authority, further screening and brokering restrictions apply.

a. Certain fields on the work candidate cannot be changed, including job summary, problem description, recommended solution, deadline date and maintenance level.

b. The task must be accomplished by an off-ship maintenance activity, not by Ship's Force. Organizational-level requirements are scheduled by Planned Maintenance System (PMS), not by CMP.

c. The job cannot be cancelled or passed to history by the Maintenance Team, or customer completed without being screened to an availability.

d. Generally, the job should be screened to a defined maintenance period instead of to the year-long continuous maintenance availability. When operational, equipment condition requirement or other scheduling issues make this impractical, the year-long continuous maintenance availability may be used for non-depot jobs. However, jobs screened to this availability will be considered to be in Limbo after the jobs deadline date without consideration of the availability end date (see paragraph 1.4.5.h.(2) of this chapter).

e. The job may not be screened to an emergent maintenance period. Planned maintenance does not warrant the use of emergent maintenance money. This requirement does not preclude pulling a task from the CMP when needed and screening it to an emergent maintenance period.

f. If the job is screened to the unfunded availability or to an availability that begins more than 90 days after the job's deadline date, a "notification" is triggered by the CMP software to notify the appropriate Technical Authority and a Departure From Specification (DFS) shall be submitted. The Port Engineer's comments will be reviewed and the Technical Authority will either approve or disapprove the DFS. The Port Engineer shall then rescreen the job to an appropriate availability in accordance with the guidance provided in the DFS. This functionality is referred to as the "Notification Process".

(1) If the Port Engineer determines that the job should not be accomplished (as opposed to not accomplished until after the deadline date), the task should be screened to the unfunded availability and comments entered. Depending on whether the notification is administrative or technical, the job will be adjudicated in the following manner:

NOTE: THE SUBSTITUTED WORK CANDIDATE WILL BE SUBJECT TO THE SAME PUSHED TASK RESTRICTIONS DESCRIBED IN THIS SECTION.

(a) Administrative: If the intent of the task was completed since the Last Accomplished Date by a non-CMP work candidate, provide that Job Control Number in the comment field. If the Planning Activity Engineer agrees that the intent of the task was met by the non-CMP job, the Planning Activity Engineer will cancel the pushed job from the CSMP. If the intent of the task is covered by a non-CMP work

candidate that is currently open and in planning or execution, the Planning Activity Engineer will substitute the pushed job with the non-CMP work candidate and cancel the pushed job from the CSMP. If the job cannot be accomplished because the component/system no longer exists on the ship, the Planning Activity Engineer will cancel the pushed job from the CSMP and update the configuration records. For all administrative notifications, if the Planning Activity Engineer does not agree with the Port Engineer's comments, the notification will be forwarded to the SDM for resolution.

(b) Technical: The Port Engineer can technically challenge pushed jobs using the Notification Process. Reasons for technically challenging a job include: non-modernization configuration change, permanent or temporary DFS exists, authorized modernization upgrade to equipment, if the Planning Activity or SDM disapproves the notification, the CMP software will send an email to the Port Engineer stating (as applicable) of task accomplished during a visit/certification/inspection, ship about to decommission and task is low risk, unable to execute task as written, challenge to scope or periodicity of task, etc. All technical challenges will be reviewed by the Planning Activity or SDM for resolution.

(2) If the Port Engineer determines that the job should be accomplished, but not by the due date, the task should be screened to the recommended availability and comments entered. Reasons for deferring a job past its due date include: a temporary DFS exists making the task unnecessary before the due date, lack of an appropriate maintenance availability by the due date, unable to set required assessment conditions because of a related casualty or other issue, lack of capability/capacity to accomplish the job by due date, etc. Deadline challenges shall be documented using a DFS and must be reviewed and approved by the Planning Activity or for approval and a DFS may be required.

g. A job not progressing towards execution or approval in the Notification Process is considered to be in "Limbo". The purpose of Limbo is to draw management attention to violations of NAVSEA Technical Authority so that mandatory tasks will be executed or exceptions approved. Port Engineers, RMCs and TYCOMs should resolve Limbo tasks promptly. Jobs should not be in Limbo because all pushed jobs can be challenged using a DFS and the Notification Process. Limbo categories are:

(1) Unscreened after 30 days. Per the Maintenance Continuous Improvement Team process, all 2-Kilos must be screened within 8 days of entry into the shore CSMP; however, CMP tasks not screened after 30 days of being pushed require extra attention to ensure execution or documentation via the CMP Notification Process.

(2) Open and overdue. Often, tasks are screened to an appropriate availability but are never executed. Sometimes, task deferrals are approved through the Notification Process but then are moved to a later availability without Planning Activity or SDM approval. Open and overdue jobs are particularly troublesome because they are now past the deadline date and do not have deferral approval from Technical Authority via a DFS and the CMP Notification Process. Specific types of open and overdue Limbo jobs include:

(a) Job is open, screened to a year-long CM availability and past its deadline date.

(b) Job is open, screened to an acceptable numbered availability (one that starts no later than 90 days after the deadline date or one approved in the Notification Process by the Planning Activity or SDM), but past both the job's deadline date and the availability end date plus 60 days.

(c) Job is open, screened to an availability that was overturned by SEA 21 and past its deadline date.

(d) Job is open, unscreened and past its deadline date.

(3) Overturned and not rescreened. When a task is challenged by the Port Engineer via DFS and the CMP Notification Process but that challenge is overturned by Technical Authority, the Port Engineer receives an email stating that the job must be rescreened to an appropriate availability for accomplishment. Jobs not rescreened to an appropriate availability within 30 days after the Port Engineer is made aware of the ruling are considered in Limbo.

h. Deferral notifications approved by the Planning Activity or SDM are approved for the availability to which the job was screened when the job triggered a notification. If a job is subsequently rescreened to a later availability, the approval is removed and the screening action must be acted on by the Planning Activity or SDM again. Otherwise, the job will go into Limbo.

1.5 ASSESSMENTS.

1.5.1 Maintenance Team.

a. All material condition assessments, including tasks for Combat Systems Command, Control, Communications and Computer Readiness Assessments, shall be derived from the CMP. Scheduled condition assessments have been validated by an approved Reliability Centered Maintenance analysis to be applicable and effective, and are pushed by the CMP system to the CSMP shore file for the Port Engineer's action, based on the ship's last accomplished date and task periodicity. Unscheduled material condition assessments are not, without further evidence of need, considered effective and are thereby not pushed into the CSMP shore file, but can be pulled from the CMP by the Port Engineer or his representative if there is evidence of need (such as degraded performance, errors, or other indication of problems). Scheduled tasks can also be pulled if circumstances warrant, and the Last Accomplished Date will be properly updated. The Port Engineer with help from the Maintenance Team shall review all 2-Kilos pushed from the CMP system just as for any other offship 2-Kilo, and broker to the appropriate assessing activity.

b. Only assessment tasks in the CMP or assessment procedures in the PMS database may be used for assessments. Information addressing assessment requirements found not to be included within the CMP or PMS databases, such as local practices, In-Service Engineering Activity unique items, RMC practices, etc., shall be forwarded using the Technical Feedback Report for review and approval as an acceptable addition to the CMP and PMS databases. If not approved, these practices shall not be used by any activity.

c. The Port Engineer will make the preliminary determination of the most appropriate source for all off-ship activity work for its assigned ships. Decisions made by the Port Engineer, with concurrence from the Maintenance Team, shall be in compliance with policies in this instruction, reference (a), and guidance provided by the cognizant RMC.

1.5.2 Type Commander. The TYCOM shall develop and execute a Memorandum of Agreement in accordance with Volume II, Part I, Chapter 3 of this manual with each supporting RMC to define reporting and administrative relationships between the TYCOM and the RMCs.

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VOLUME II

PART II

CHAPTER 2

SHIP WORK PACKAGE PREPARATION

REFERENCES.

(a) NAVSEA S0300-B2-MAN-010 - Supervisor of Shipbuilding Conversion and Repair Operations Manual
(b) NAVSEAINST 4710.8 - Cost and Performance Reporting for CNO Scheduled Ship Maintenance Availabilities

LISTING OF APPENDICES.

A Prorate Items with Explanations
B Master Specification Catalog Maintenance Office Guidelines
C Surface Ship Prorate Process
D_1 Surface Ship Planning Process Milestones
D_2 Aircraft Carrier Maintenance and Modernization Planning Process Milestones
E Planning Priority Matrix
F Depot Planning Priority Schedule (MS/MO)
G_1 Process Flowchart Firm Fixed Price CNO Availability
G_2 Process Flowchart Firm Fixed Price CMAV or Emergency Availability
G_3 Process Flowchart Firm Fixed Price MS/MO CNO Availability
G_4 Process Flowchart Firm Fixed Price MS/MO CMAV Availability

2.1 PURPOSE. To establish ship maintenance work items and specification package preparation procedures, milestones and business rules. These rules apply to Regional Maintenance Centers (RMC), Surface Type Commanders (TYCOM) (Commander, Naval Surface Force Pacific; Commander, Naval Surface Force Atlantic), Systems Commanders (sponsoring Program Alterations) and other Alteration Installation Team (AIT) Sponsors.

2.1.1 Prorated Business Rules. This chapter also provides prorate business rules including:

a. Defining common prorates, those prorates to be assigned to specific alterations, and those TYCOM operational prorates (Appendix A).

b. Providing a simple consistent method to divide those prorates between Program Alterations, Fleet Alterations, maintenance and repair items.

c. Providing a coast specific “Prorate Factor” used in planning as part of the Cost Benefit Analysis of the Ship Change (SC) Document to estimate installation cost of the alteration. Paragraph 2.4.5.3 of this chapter lists the Prorate Factors.

2.1.2 Responsibilities.

a. The Life Cycle Manager/Ship Program Manager (SPM) is responsible for the planning, budgeting and execution of the approved Program Ship Modernization.

b. The TYCOM is responsible for the planning, budgeting and execution of the approved Fleet Ship Modernization, ship repair and ship maintenance.

c. The Ashore Ship's Maintenance Manager is responsible for the execution of each ship's Maintenance and Modernization Business Plan (MMBP) and the division of the prorate percentages between Fleet and Program based on the business rules herein.

2.2 SCOPE. The goal of the effort is to deliver effective maintenance and modernization while capturing efficiencies. The cost avoidance can then be put to use in accomplishing additional maintenance. This chapter introduces work package preparation improvements that leverage existing planning information and process capabilities to make final work package content decisions closer to the time work is actually scheduled to begin. This will significantly reduce the churn in the work package content and support timely delivery of all work desired for the Chief of Naval Operations (CNO) availability. This includes the depot level repair and modernization package, Ship's Force, Intermediate Maintenance Activity and AIT modernization work. Effective financial management of ship maintenance and modernization depends upon use of return cost data in planning for future installations. Upon completion of each availability, the participants must use the availability completion report return cost data to update Navy Data Environment modernization cost estimates and the next fiscal year business plan. Return costs for repair work will also be used to populate and validate costs estimates that are resident in the Master Specification catalog. A disciplined prorate distribution process, coupled with updates to the Navy Data Environment database and the business plan will help modernization financial planning and reduce cost surprises both before and during availability execution.

2.3 EXECUTING ACTIVITY PLANNING. Work Package Preparation process improvements include long-term contractual relationships and Multi-ship/Multi-option (MS/MO) contracts, with our executing activities and private ship repair yards. The Executing Activity (EA) is the public or private enterprise that is assigned or awarded the responsibility for accomplishing the actual production work to effect modernization and repairs to surface ships. For the most part, the EAs will perform the planning for accomplishment of the work that they will execute. All work, whether CNO availability, continuous maintenance or emergent work will have a Ship Specification Package (SSP) prepared in the Navy Maintenance Database (NMD) work planning and execution tool. The exception to EA planning is first of ship class ship alteration advance planning (drawing preparation and material ordering). This will be performed by the assigned planning yard. The EA will plan subsequent ship alteration installations provided they are not of such a complex nature that it is determined that these should be assigned to the planning yard. In most cases, as part of the planning effort, the EA will prepare the actual work specification (accomplished today in the NMD for depot level or in the Navy Enterprise Maintenance Automated Information System (NEMAIS) for I-level). The exceptions to the EA work item preparation is that the government may elect to accomplish work item development to provide an avenue to train government personnel in the critical skill sets used during the work item development process and/or to provide surge capabilities for the EA during peak work loading.

2.4 MASTER SPECIFICATION CATALOG.

2.4.1 Work Package Preparation. The Work Package Preparation process will leverage the large library of planning documents that exist today and are currently stored in Master Specification Catalogs (MSC). The MSCs provide a ready resource of technically correct and current work items that are universally accessible for use. The vast majority of these documents can be reused for planning future repair actions. The primary purpose of the MSC is to reduce maintenance costs by:

a. Reducing planning efforts.

b. Identifying and promoting best practices.

c. Effectively managing lessons learned.

d. Minimizing delays associated with maintenance planning.

e. Providing a cost estimate for the work item.

2.5.2 Committed Work at A-75. At A-75, 100% of the depot level package must be identified, with the activity accomplishing the planning to complete planning by A-60. The EA will then have 30 days to produce an integrated work schedule that will be reviewed at a Work Package Execution Review at A-30. By delaying the final commitment of the last 20% of the depot level work package until A-75 there should no longer be any reason to front load "insurance" work. The new entitled work package preparation process will better reflect the most current priority of maintenance that needs to be performed on the ship. The milestones described above are designed for use by those ships supported with MS/MO contracts. Appendix D_1 describes milestones to be used with Firm Fixed Price (FFP) contracts. Where MS/MO contracts are not in effect and no existing Indefinite Delivery, Indefinite Quantity (IDIQ) contracts cover the work contemplated, work packages for Continuous Maintenance Availabilities (CMAV) must be submitted to meet local contracting milestones.

2.5.3 Flow Metric. In order to track the progress of creation of the work package, a work package flow metric has been created. This metric will provide the maintenance team a tool to manage their work package preparation progress. It also provides the RMC Commander and the maintenance teams a leading indicator of the manner in which the ship's Maintenance and Modernization Business Plan is being executed.

2.6 CONTINUOUS MAINTENANCE AVAILABILITIES. CMAVs are intended to provide the maintenance team with the flexibility required to do the right maintenance at the right time for the right price. An additional intent of CMAVs is to provide the agility required to support the fleet response plan.

2.6.1 Continuous Maintenance Availability Types. CMAVs are established as the only type of availability that will be accomplished on surface ships outside of CNO availabilities for non-emergent maintenance. Fleet Maintenance Activity Availabilities, Restricted Availabilities, Technical Availabilities are no longer authorized to describe ship maintenance availabilities. There are two basic types of CMAVs, scheduled (XAZ) and unscheduled (XCM). CMAV schedules will be reviewed at each Planning Board for Maintenance and will be adjusted as ship's operational schedules dictate. Schedule adjustment should be requested by the ship via naval message to the Immediate Superior In Command (ISIC), information to the applicable RMC.

2.6.2 Continuous Maintenance Availability Business Rules. The following CMAV business rules have been established to provide guidance for developing work items associated with scheduled and unscheduled repair and modernization availabilities, managing assigned work brokered to both CNO and CMAV availabilities for FFP and MS/MO contracts, and establishing priorities for the executing activity to accomplish planning and execution of Work Candidates into work items. This enables the Vision of Entitlement to be realized. The Vision of Entitlement requires a somewhat continuous flow of the planned work items to allow for a continual estimating, work item review and cost definitization process.

2.6.2.1 Applicability. This process is applicable to all personnel involved with writing work items for repair and modernization contracts using work items developed/maintained in NMD in accordance with all COMNAVSURFOR 4700 NOTICES and this manual. The start and stop points of the process are when a Work Candidate is brokered from Regional Maintenance Automated Information System (RMAIS) into an availability in NMD and the production period of the maintenance availability is completed.

2.6.2.2 Ship Specification Package. The Project Manager on behalf of the Maintenance Team shall:

a. Establish a SSP within NMD Planning for scheduled and unscheduled CMAVs ((XAZ), (XCM) and (XEM)) and set up the availability in NMD to receive Automatic Work Requests (AWR) from (RMAIS) electronically in accordance with this manual.

b. For each Work Candidate that is brokered to the availability in NMD, ensure that the planning date, the "Deadline Date" and the "Availability Number" (in which an availability period can be entered) listed on the Work Candidate is correct, and also include a preliminary man-hour and material cost estimate. Work must be planned and estimated (man hours and material cost) with Long Lead Time Material (LLTM) identified prior to being routed into any NMD execution availability. This planning estimate is necessary to more accurately predict, for a CNO availability, what percent of the package (in dollars), has been authorized at the 50%, 80% and 100% milestones, and for a CMAV (XAZ) and (XCM)

availability, will allow us to know if we have adequate funding available in the budget. A minimum of **fourteen calendar days** should be allowed for planning unscheduled (XCM) availabilities before routing a job to an NMD execution availability.

2.6.2.3 Planning. With the creation of an SSP in NMD, the actual Planning start and stop dates for the execution of the work within that SSP will be established. The one exception to this will be the year long CMAV, Scheduled/Unscheduled CMAV (XAZ) and (XCM) (XEM) availabilities.

a. All valid maintenance items will have a specification prepared in the NMD Planning module in accordance with this manual. All new work will also be written in the planning module of NMD.

b. When a valid maintenance item is ready for brokering, review of the currently scheduled SSP availabilities in NMD Planning will then determine to which SSP the item should be added. All SSPs existing within NMD Planning will have a date established when that package should be "locked" per the advance planning milestones contained in Appendix D_1 of this chapter. No valid work items can be added to an existing SSP if the current date is past the "lock" milestone date without providing a written detailed description of the rationale used to add it in the "Work Item" comments field.

c. The priorities for the Planning Activity are then established by the next scheduled availability milestone that is coming due in accordance with Appendix E and F. This could be a CNO, the next scheduled CMAV (XAZ) or year long XCM availability. Process flowcharts appear in Appendices G_1 through G_4 of this chapter. The year long XCM SSP availability will be a work load leveling mechanism for the planning activity and the goal would be to have these items brokered, planned, material ordered, funded, scheduled and ready to start work within 14 calendar days prior to start. The valid maintenance items in the XCM SSP availability will become candidates for scheduled CMAVs and unscheduled XCM execution availabilities (windows of opportunity) that are identified on short notice. These planned work items for MS/MO contracts will be routed to NMD execution availabilities that branch off of this year long NMD XCM planning availability. Re-broker those remaining AWRs at the end of the fiscal year, into the next fiscal year long XCM and scheduled CMAV (XAZ) SSP availability. Refer to Appendices G_1 through G_4. Refer to Appendix E to assist in determining priority of planning work.

d. If the urgency to accomplish any emergency maintenance repairs does not allow for development of a work item prior to the start of work and a work item does not exist in the MSC, then a work item will be prepared after completion of work to document it within NMD. Route these emergent Work Candidates to the applicable SSP planning availability, which can then be forwarded to the NMD execution availabilities where the emergency maintenance work was executed.

e. The Project Manager will check NMD daily for AWRs received in NMD SSP planning availability, review and validate each AWR to determine scope of work. If the information contained in the AWR is insufficient to write a work item, the Project Manager shall coordinate and manage any required shipchecks.

f. The RMC will determine who should plan a given availability (other than CNO) based on manpower available either at the MS/MO contractor or the Government. (Check Contract Line Item Number verbiage for actual contract requirements.)

2.6.2.4 Planners and Estimators.

a. Determine if the information contained in the AWR is adequate enough to write a work item. If yes, continue development. If no, check the inadequate box and note reasons for inadequacy, then continue.

b. Review for MSC Templates as follows:

(1) Identify appropriate Ship Work List Item Number that applies for AWR to be planned under.

(2) Check/search for an appropriate Master Specification Template such as a Class Standard Work Template, Standard Work Template or Local Work Template that addresses the scope of work identified in AWR.

(a) If no applicable template is found, check/search for a previously written work item that is applicable and addresses the scope of work identified in AWR.

(b) If no previously written work item is found that is applicable, check/search for a "basic" work item template/format.

c. Select appropriate Master Specification Template, previously written work item or "basic" work item template/format and initiate planning the work item.

d. Identify and validate all references, including Liaison Action Requests/Reverse Liaison Action Requests required to complete the work item.

e. Identify test requirements needed to complete work item. If test procedures are required, obtain from execution site design group, planning yard contractor or In-Service Engineering Activity.

f. Identify security and certification requirements. Develop technical requirements and Planning Estimate.

g. Identify repair material required to include long lead-time items and submit to material specialist for procurement.

h. Determine if there is Hazardous Material involved with the work item.

i. Review the completed work item for candidacy as a new or revised template for inclusion into the MSC. If a candidate, submit the new or revised template to the local NSA Standards Person for review and subsequent routing to the MSCMO for processing and inclusion into the catalog.

j. Route completed work item in its preliminary state to the Program Manager queue in NMD to be included in a final review work package compiled in NMD.

2.6.2.5 Maintenance Team Program Manager.

a. Route review work package of work items to Pre-lim Spec review web site. Web Site Address: https://www.spear.navy.mil/onlineSpecReview.aspx.

b. Review and respond to comments on pre-lim work item review web site.

c. Route and approve work items to "APPROVED" work item review web site.

d. Process entire work package and issue.

2.6.2.6 Advanced Planning Manager. Publish CNO MS/MO Package in NMD at A-60 and the CMAV MS/MO at A-25. This is an important milestone/metric captured within NMD.

2.6.2.7 Scheduled Availabilities.

a. Scheduled XAZ availabilities are normally 2 to 6 weeks in duration and are nominally scheduled once per non-deployed quarter during a period when the ship will be in port at least three continuous weeks. Scheduled XAZ dates should not include the one-week minimum between the end of any availability and the ship's next underway date. No production work should be scheduled during this period. The ship, via the ISIC, will schedule XAZ availabilities. RMC requirements will be addressed to the ship via the maintenance team. Adjustments to XAZ availability start dates are inevitable; however, the start dates may not move "forward" if package preparation and work package "lock" milestone dates would be violated by the new start date. In this case, the applicable XAZ CMAV availability must be rescheduled to support the entitled process milestone dates. In general, CMAVs will be scheduled to start on the first weekday after arriving in port and will be scheduled to complete one week prior to the scheduled underway day. The minimum length of a ship's uninterrupted period will be 3 weeks if an XAZ availability is to be scheduled, with the XAZ availability preferably being a minimum length of two weeks. Any XAZ availability that is scheduled without adhering to these minimums should be avoided and work required during that timeframe will be conducted as XCM. Ships and ISICs shall ensure that other in port requirements (training, inspections, etc.) are not scheduled concurrent with an XAZ availability if these requirements will impede scheduled production.

b. CMAVs will not normally start on weekends or holidays when support for tag-outs and availability start up is limited, and will not be the same day the ship arrives in port. As a result of requiring the XAZ availability to complete one week prior to getting underway, a reduction in premiums is expected by eliminating the last minute rush to complete work to support the scheduled underway. Maintenance teams must ensure that work scheduled for an XAZ availability can realistically be accomplished in the production window. When operational schedule changes occur early enough to allow the scheduling of an additional XAZ availability without violating the milestones discussed in paragraph 2.4.5.2 of this chapter, a new XAZ availability should be scheduled when possible rather than executing maintenance in the unscheduled XCM availability. Additionally, the length of an existing XAZ availability may be increased to accommodate changes in operational schedules provided none of the scheduling rules are violated.

NOTE: XCM AVAILABILITIES ARE NOT TO BE USED AS HOLDING QUEUES FOR MAINTENANCE ITEMS.

2.6.2.8 Unscheduled Availabilities.

a. The unscheduled XCM availability is a single yearlong availability, for the period of 01 October through 30 September, scheduled for each ship every fiscal year. This yearlong availability is used to accomplish maintenance when a ship is not in a scheduled XCM availability or CNO availability. Since the XCM CMAV Windows Of Opportunity (WOO) are potentially short notice, a reduced set of D level milestones is established. Read in three columns as follows:

TASK	RESPONSIBLE ACTIVITY	MILESTONE
WORK SPECS DEVELOPED	RMC OR MSR	WOO-14
WORK PACKAGE DEFINITIZED	RMC OR MSR	WOO-7

b. No length requirement exists for an XCM availability. These are accomplished as WOOs become available. If a work item is determined to require more than one WOO to accomplish in its entirety, then it may be executed during multiple WOOs provided that it can be broken into several shorter period requirements.

2.6.3 Continuous Maintenance Availability Applicability. The CMAV business rules apply to all XAZ availabilities and XCM. Since the potential exists for CMAVs to become increasingly more complex, an NSA will be assigned for every CMAV. The NSA will typically be the applicable RMC, or naval shipyard (if applicable).

2.6.4 Work Included in Continuous Maintenance Availabilities. All levels of work (organizational, intermediate and depot) shall be included in a single CMAV for a specific availability period regardless of the executor (Ship's Force, RMC production personnel or contractor). The intent is to integrate all types of work into a single production schedule for a specific CMAV. Separate intermediate and depot availabilities will not be established for the same period of time, except internally to the RMC production department as required to facilitate the use of I-level management systems. Dependent upon complexity of the scheduled maintenance and/or modernization and the number of maintenance activities involved, the Ashore Ship's Maintenance Manager may include a work item for production scheduling and integration in the work package or bid specifications. If this work item is not used, then the Ashore Ship's Maintenance Manager will perform this function.

2.6.5 Concurrent Continuous Maintenance Availabilities. It is incumbent upon the Ashore Ship's Maintenance Manager to ensure that two non-emergent availabilities are not in progress at the same time. Additionally, CMAVs are not to be scheduled concurrently with CNO availabilities. As required, XCM work items meeting the requirements of paragraph 2.6.2.8 of this chapter that are being accomplished in WOOs may overlap with XAZ and CNO availabilities.

2.6.6 Ship Movement During a Continuous Maintenance Availability. In order to maintain focus on the maintenance work package and minimize premium costs, no ship shall get underway during a CMAV other than to support the maintenance availability or to complete sea trials. Maintenance that prevents a ship from being ready for sea within 96 hours will normally only be screened to XAZ availabilities. Ships will notify their ISIC of any production item that will prevent the ship from getting underway within 96 hours. If this work is being conducted within a scheduled XAZ availability, a waiver is not required. It is imperative that the ISIC take a proactive role in ensuring that the integrity of the scheduling process be maintained as it relates to CMAVs. CMAVs must be incorporated into the ship's operational schedule and must remain as a priority for completion.

2.6.7 Continuous Maintenance Availability Metrics. In order for accurate metrics to be obtained, it is imperative that all CMAVs be planned and executed utilizing the NMD (D level) and the NEMAIS (I-level). For those sites that do not presently have NEMAIS installed, use of local I-level management system is authorized and expected. The following placement and oversight metrics will be collected to measure the effectiveness of the CMAV process. This is not a complete listing of all CMAV metrics. For a complete listing, refer to Volume VI, Chapter 36 of this manual.

a. Award on time delivery (XAZ only). Scheduled CMAV "on time award" is defined as the percentage of time contract award is made on time or early.

b. Completion on time delivery (XAZ only). The CMAV completion on time delivery metric calculates the percentage of occasions when a CMAV availability is completed on or before the CMAV end date as recorded in NMD.

c. Availability churn (XAZ only). The CMAV availability churn percentage is a monthly capture of the dollar value of work items changed, deleted or added in a CMAV work package from contract award until availability completion versus the dollar value of the work package at award for all CMAV availabilities that ended in the current measurement month and the previous two months. This metric is collected by availability and reported in the month the availability completes.

d. Growth and New Work Premiums. The Growth and New Work Premiums metric is a measure of late work premiums paid as a percent of growth and new work monthly. It does not include authorized work included at the start of the availability as growth reserves for specific work items or execution of pre-priced option items if executed within the scope and schedule as pre-priced. This metric is collected weekly with each change to the original contract award (FFP) or definitization (MS/MO) work package transaction being reported one time in the data call for the week in which it was settled for scheduled CMAVs.

2.6.8 Continuous Maintenance Availability Late Work Premium (XAZ only). The CMAV late work premium metric is a measure of the total dollar value of late work premiums paid for CMAV availabilities completed in the current month divided by the sum of the execution contract award (FFP) or definitization (MS/MO) and the settled cost of all Request for Contract Changes for that availability.

2.6.9 Continuous Maintenance Planning. Continuous maintenance is the process of scheduling and accomplishing work outside of CNO availabilities. MS/MO contracts create a long-term relationship with the EA that accomplishes the continuous maintenance to maintain the ship at an acceptable readiness level. The Ashore Ship's Maintenance Manager will use every scheduled in-port period as an opportunity to accomplish continuous maintenance. Funding for continuous maintenance is included in the ship's Maintenance and Modernization Business Plan. In order to prevent premiums from being accrued, a minimum of 30 days will be allotted between the time depot level work is brokered to the EA and the time work is scheduled to start. A minimum of 40 days will be allotted for work brokered to I-level activities. This will provide for adequate time to plan the work and acquire the necessary material in an efficient manner. This will allow a Work Package Execution Review to take place at A-20 and for all work to be definitized at A-10. If these minimum thresholds cannot be complied with the work should be postponed until the next continuous maintenance opportunity. The Ashore Ship's Maintenance Manager may run a business case analysis if there are other factors that might justify the addition of work inside these preferred windows.

2.7 ADVANCE PLANNING STATUS MESSAGES. The Advance Planning Status Messages required by reference (b) should continue to be issued by the activity responsible for planning the ship's CNO availability. Messages should commence at A-360. These messages play a vital role in keeping all concerned parties informed of the status of the planning effort. The messages document the successful accomplishment or failure to achieve milestones and produce deliverables. The Work Package Execution Review meeting, held to review the integrated work production schedule that has been prepared by the EA, takes place at A-30 for CNO availabilities and at A-20 for Continuous Maintenance Availabilities (CMAV). This is the final opportunity to resolve any work interface or production support issues between the different activities before actual production work begins.

2.8 MAINTENANCE TEAMS EXECUTING MAINTENANCE WITH FIRM FIXED PRICE CONTRACTS. MS/MO contracts are not in place for all surface ships in the Navy's inventory. Some classes of ships will not receive MS/MO contracts as they will be decommissioning soon, others have such a small number in their class that it is not worthwhile to do this. Ships that fall in this category will continue to have their work planned via the existing Ship Availability Planning and Engineering Center (SHAPEC) process and have their work contracted using FFP contracts. A modified planning milestone table for FFP contracts is included in Appendix D_1.

APPENDIX D_1

SURFACE FORCE SHIP PLANNING PROCESS MILESTONES

EVENT #	Task/Milestone	Responsible Activity	Modernization Critical	CNO MSMO (entitled)	CNO MSMO <$20M (optional)	CNO MSMO >$20M (optional)	CNO FFP	CMAV MSMO (entitled)	CMAV (optional)	CMAV FFP/IDIQ	Comments/Remedial Action
1	Establish CNO/CM Availability Schedule	TYCOM		A-720	A-720	A-720	A-720				Fleet Readiness Plan (FRP) Baselines are developed on a 3 year cycle. ID CNO avails IAW with that cycle.
2	Fund Modernization Procurement & Installation - Decision Point 3	OPNAV/ FLEET		Varies	Varies	Varies	Varies				Depends on development and procurement timeline requirements.
3	Issue Execution Planning Hull Modernization Plan (EHMP)	SPM		Varies	Varies	Varies	Varies				EHMP issued in March each year to support MMBP development.
4	Issue 2-year Hull Modernization Plan (HMP)	SPM		Varies	Varies	Varies	Varies				AHMP issued in July each year to support long lead time planning by RMCs.
5	Identification of initial list HCPM for ALTS	PARM/ Planning Yard		A-660	A-660	A-660	A-660				HCPM - HQ Centrally Procured Material. This should be for the entire ship class. This should include all known requirements.
6	Issue Life Cycle Planning Conference (LCPC) Announcement Letter	Surface Maintenance Engineering Planning Program Activity (SURFMEPP)		C+75	C+75	C+75	C+75				SURFMEPP prepares BAWP and issues letter stating date, time and location of current FRP cycle's LCPC.
7	Review SURFMEPP BAWP Pre-Push	Maintenance Team		C+120	C+120	C+120	C+120				All Class Maintenance Plan (CMP) tasks due in current cycle through C+120 will be included in Pre-Push review.
8	Attend SURFMEPP LCPC	SURFMEPP/ RMC/ Maintenance Team		C+130	C+130	C+130	C+130				
9	Upload BAWP tasks to ship's Current Ship's Maintenance Project (CSMP)	SURFMEPP		C+140	C+140	C+140	C+140				All tasks discussed at LCPC will be added to RMAIS.
10	Review SURFMEPP Planning Schedule Letter for action items	SURFMEPP/ TYCOM/ Maintenance Team		C+140	C+140	C+140	C+140				Items not resolved at LCPC will be added to the Planning Letter for action.

APPENDIX D_1

SURFACE FORCE SHIP PLANNING PROCESS MILESTONES

EVENT #	Task/Milestone	Responsible Activity	Modernization Critical	CNO MSMO (entitled)	CNO MSMO <$20M (optional)	CNO MSMO >$20M (optional)	CNO FFP	CMAV MSMO (entitled)	CMAV (optional)	CMAV FFP/IDIQ	Comments/Remedial Action
11	Provide Incremental Funding for HCPM/LLTM to meet req'd delivery dates	PARM/SPM		A-600	A-600	A-600	A-600				
12	Initiate procurement of HCMP LLTM			A-600	A-600	A-600	A-600				
13	PY Submit Funding Request for work assigned	Planning Yard		A-480	A-480	A-480	A-480				
14	50% of BAWP is screened to maintenance availabilities	Maintenance Team/RMC		A-470	A-470	A-470	A-470				If A-470 milestone is within 30 calendar days of C+140, the 50% screening requirement is superseded. 100% of BAWP tasks must be screened by A-410.
15	Update BAWP with new requirements	SURFMEPP		A-470	A-470	A-470	A-470				Includes new requirements that were recently completed and due again within the current cycle and any new tasks added by Ship's Configuration and Logistics Support Information System (SCLSIS) configuration updates. This update will be repeated several times during the cycle.
16	Ship Change (SC) Design/Planning Funds provided	NAVSEA/ TYCOM		A-420	A-420	A-420	A-420				SPAWAR generally funds in FY prior to execution year.
17	Interface Control Drawing (ICD) delivered to alteration developer/PY	PARM		A-420	A-420	A-420	A-420				
18	Participate in SURFMEPP CSMP Departure From Specification BAWP Review	Maintenance Team/RMC/ TYCOM/ SURFMEPP		A-410	A-410	A-410	A-410				CSMP tasks reviewed for possible upgraded "A" branding.
19	Ensure 100% of BAWP is screened to maintenance availabilities	Maintenance Team		A-410	A-410	A-410	A-410				Tasks must be screened to a current or future maintenance period/availability with the FRP maintenance cycle (other than Unfunded).
20	Update BAWP with New Requirements	SURFMEPP		A-400	A-400	A-400	A-400				Includes new requirements that were recently completed and due again within the current cycle and any new tasks added by SCLSIS configuration updates. Branding changes made based on CSMP review results.

APPENDIX D_1

SURFACE FORCE SHIP PLANNING PROCESS MILESTONES (Con't)

EVENT #	Task/Milestone	Responsible Activity	Modernization Critical	CNO MSMO (entitled)	CNO MSMO <$20M (optional)	CNO MSMO >$20M (optional)	CNO FFP	CMAV MSMO (entitled)	CMAV (optional)	CMAV FFP/IDIQ	Comments/Remedial Action
21	Identify drawing development assignments, including Class Drawings	PARMS/ TYCOM/ NAVSEA		A-390	A-390	A-390	A-390	A-390	A-390	A-390	Send to RMC and Planning Yard.
22	Issue Letter Of Authorization (including AITs)	SPM/TYCOM	A-360	A-360	A-360	A-360	A-360				
23	Establish Availability in NMD	Maintenance Team		A-360	A-360	A-360	A-360	A-360	A-360	A-360	Select the appropriate set of milestones based on the dollar value for the particular avail as captured in the MMBP: CNO <$20M, CNO >$20 or CMAV MSMO (optional). If changing the entitled milestones due to the package size (dollars), enter the selected set of milestones as "Revised" Milestones in NMD.
24	Attend TYCOM Integrated Planning Conference	Maintenance Team/ SURFMEPP		A-360	A-360	A-360	A-360				
25	Request Availability Funding for planning repair work	NSA		A-345	A-345	A-345	A-345	A-345	A-345	A-345	This provides funds for early executor planning.
26	Task/Fund SID Development	SPM/NSA/ AIT/TYCOM/ RMC Manager	A-330	A-330	A-330	A-330	A-330	A-330	A-330	A-330	
27	Shipchecks completed	Planning Yard		A-270	A-270	A-270	A-270	A-270	A-270	A-270	No FRP considerations relate to this date.
28	Screen CMP/TYCOM routines	TYCOM PC		A-270	A-270	A-270	A-270	A-270	A-270	A-270	Push CMP work items to CSMP NLT A-270.
29	Provide incremental funds for ordering LLTM for both repair and alt/mod work to meet req'd dates	SYSCOM/ TYCOM		A-270	A-270	A-270	A-270	A-270	A-270	A-270	

APPENDIX D_1

SURFACE FORCE SHIP PLANNING PROCESS MILESTONES (Con't)

EVENT #	Task/Milestone	Responsible Activity	Modernization Critical	CNO MSMO (entitled)	CNO MSMO <$20M (optional)	CNO MSMO >$20M (optional)	CNO FFP	CMAV MSMO (entitled)	CMAV (optional)	CMAV FFP/IDIQ	Comments/Remedial Action
30	50% of D-level maintenance work package 2K's locked based on funding	Maintenance Team		A-240	A-240	A-240	A-240	NA	NA	NA	Intent is that the planning activity continually develops specs in the most cost effective manner and not batch this work in front of the next pkg development milestone.
31	Attend TYCOM A-240 Advanced Planning Conference	Maintenance Team		A-240	A-240	A-240	A-240				
32	Submit A-240 Deferral Letter with Maintenance Team Assist	TYCOM		A-240	A-240	A-240	A-240				Type Desk Assistant (TDA) drafts letter with MT input and submits letter to SURFMEPP for review and forwarding to NAVSEA 05. Once adjudicated, NAVSEA 05 will submit results to TYCOM via SURFMEPP.
33	MSMO contractor complete planning and estimating of work assigned as required by the above A-240 milestone	MSMO Contractor		A-190	A-190	A-190					Intent is to have a continuous flow of planning quality estimates to eliminate churn in the work package.
34	Issue/Deliver SIDs to NSA for KTRs and AITs	Planning Yard	A-180 (A-240)	A-180	A-180	A-180	A-240	A-180	A-180	A-180	This is a change from A-4. Including all SIDs for AITs. For FFP contracts, this milestone should occur at A-8 when possible and NLT A-180.
35	Late add impact assessment	PARM		A-180	A-180	A-180	A-180				Any change to the Fielding Plan in NDE-NM that requires SIDs or impacts ship distributed systems requires sponsoring activity to submit a late add impact assessment.
36	Interopera-bility impact assessment	PARM		A-180	A-180	A-180	A-180				Any SFI CAT 1 or CAT 2 change to scheduling in NDE-NM inside A-180 that has not been previously baselined at an NCMC requires the sponsoring activity to submit an eCCB risk form in NDE-AMPS.

APPENDIX D_1

SURFACE FORCE SHIP PLANNING PROCESS MILESTONES (Con't)

EVENT #	Task/Milestone	Responsible Activity	Modernization Critical	CNO MSMO (entitled)	CNO MSMO <$20M (optional)	CNO MSMO >$20M (optional)	CNO FFP	CMAV MSMO (entitled)	CMAV (optional)	CMAV FFP/IDIQ	Comments/Remedial Action
37	Request Availability Funding for both repair & modernization work	NSA/RMC		A-180	A-180	A-180	A-180	A-180	A-180	A-180	
38	All Modernization Risk Assessments (including waivers) submitted	PARM/SPM/ TYCOM		A-175	A-175	A-175	A-175	A-175	A-175	A-175	
39	All Modernization Risk Assessments (including waivers) approved	TYCOM		A-150	A-150	A-150	A-150	A-150	A-150	A-150	
40	Identification of AIT Support/Schedule/Impact requirements	AIT Manager	A-135	A-135	A-135	A-135	A-180	A-135	A-135	A-168	Need to develop a complete requirements list. Needs to be integrated with repair requirements by the KTR and presented at the WPER.
41	WPIC announcement message	Type Desk Officer (TDO)		A-130	A-130	A-130	A-170	N/A	N/A	A-60	Due NLT 10 days prior to WPIC.
42	80% of D-level maintenance work package 2K's locked based on funding	Maintenance Team		A-120	A-151	A-155	A-210	NA	NA	NA	Intent is that the planning activity continually develops specs in the most cost effective manner and not batch this work in front of the next package development milestone.
43	Cert Plan(s) (e.g., ILS, software etc.) approved. Final date for modernization Ship Change (SC) approval. Letter of Authorization locked.	SPM/PARM /PM	A-120	A-120	A-120	A-120	A-120	A-120	A-120	A-120	SPM approves Hull Certification. All unresolved PNA modernization SCs, except ST1 and ST2 SCs, are removed from the authorization letter at this date. ST1 and ST2 SCs can be added to the Letter of Authorization until A-75. Please note: There is an Interim Policy covering the Fleet Commander's C5I MP policy for approving the Weapon System Baseline Certification at A-30 (CFFC MSG 032037Z MAY 2004).

APPENDIX D_1

SURFACE FORCE SHIP PLANNING PROCESS MILESTONES (Con't)

EVENT #	Task/Milestone	Responsible Activity	Modernization Critical	CNO MSMO (entitled)	CNO MSMO <$20M (optional)	CNO MSMO >$20M (optional)	CNO FFP	CMAV MSMO (entitled)	CMAV (optional)	CMAV FFP/IDIQ	Comments/Remedial Action
44	100% of O level maintenance work package locked	Ship's Force		A-120	A-120	A-120	A-120	A-30	A-30	A-30	Intent is to provide work to be accomplished so that an integrated execution sked can be developed for the WPER.
45	Conduct Work Package Integration Conference WPIC	PM		A-120	A-120	A-120					Provides a forum for early identification of work requirements that require integration to avoid conflicts in execution with other work.
46	Submit A-120 Deferral Letter with Maintenance Team Assist	TYCOM		A-120	A-120	A-120	A-120				TDA drafts letter with MT input and submits letter to SURFMEPP for review and forwarding to NAVSEA 05. Once adjudicated, SURFMEPP will submit results to TYCOM.
47	*MSMO contractor complete planning and estimating of work assigned as required by the above 80% 2K Lock milestone	MSMO Contractor		A-95	A-126	A-130					Intent is to have a continuous flow of planning quality estimates to eliminate churn in the work package. *MSMO contractor planning and estimating must be complete by A-95 for all Modernization work items defined in the A-120 Letter of Authorization Lock.
48	Award AIT contracts for work not being done by prime KTR	AIT Sponsor		A-90	A-90	A-90	A-90	A-90	A-90	A-90	
49	I-level work package fully brokered	Maint Team/ Ship's Force		A-90	A-90	A-90	A-90	A-40	A-40	A-40	Intent is to fully broker all known work to I-level by this date.
50	I-level work package fully accepted	RMC		A-75	A-75	A-75	A-75	A-33	A-33	A-33	Intent is for I-level to accept or reject all work brokered to it up to this point in time, work entering later in the process will be subject to normal Business Case Analysis.
51	100% of D-level maintenance work package 2K's locked based on funding	Maintenance Team		A-75	A-92	A-99	A-170	A-30	A-44	A-60	
52	Final date for ST1 and ST2 SCs approval or deferral from the Letter of Authorization	SPM/PARM/ PM		A-75	A-75	A-75	A-75				All unresolved PNA S11 and S12 SCs are removed from the Letter of Authorization at this date. Any ST1 and ST2 SCs being added after the A-75 date can only be added to the availability using the late add process.

APPENDIX D_1

SURFACE FORCE SHIP PLANNING PROCESS MILESTONES (Con't)

EVENT #	Task/Milestone	Responsible Activity	Modernization Critical	CNO MSMO (entitled)	CNO MSMO <$20M (optional)	CNO MSMO >$20M (optional)	CNO FFP	CMAV MSMO (entitled)	CMAV (optional)	CMAV FFP/IDIQ	Comments/Remedial Action
53	Solicit Bids	RMC		N/A	N/A	N/A	A-120	N/A	N/A	A-50	If CMAV is to be performed under an IDIQ contract and is over $500k we may need to add 30 days for solicitation IAW Fair Value purchasing policy. This would reset the CMAV solicit bid milestone to A - 70.
54	100% of D-level maintenance work package 2K's planned, estimated	Planning Activity		A-60	A-85	A-92	A-155	A-25	A-37	A-60	Maintenance Team/PMR notify PARM of KTR estimated execution cost and validate Maintenance/Modernization pro-rate split.
55	Submit I-level work package and schedule to KTR for integration	RMC		A-60	A-85	A-92	A-60	A-30	A-30	A-15	
56	Perform risk assessments and verify deliverables to KTR (O,I,D work items and AIT sked reqmts)	Maintenance Team		A-60	A-85	A-92	NLT A-60	A-25	A-25	A-25	This is to confirm that the KTR has all input for his development of the integrated avail sked. Note that for FFP CMAV KTR will not be identified until A-15, verification with KTR will take place at WPER.
57	SHAPEC Package turnover	SHAPEC		N/A	N/A	N/A	A-135	N/A	N/A	N/A	
58	MSMO contractor "publish" pkg in NMD	MSMO Contractor		A-60	A-85	A-92	N/A	A-25	A-37	N/A	
59	Cutoff for bidders questions	PCO		N/A	N/A	N/A	A-100	N/A	N/A	A-30	
60	Submit Bids	Contractor		N/A	N/A	N/A	A-90	N/A	N/A	A-20	
61	Award Contract	RMC		N/A	N/A	N/A	A-60	N/A	N/A	A-15	
62	MSMO contractor submit final package cost proposal	MSMO contractor		A-55	A-71	A-78	N/A	A-25	A-31	N/A	

APPENDIX D_1

SURFACE FORCE SHIP PLANNING PROCESS MILESTONES (Con't)

EVENT #	Task/Milestone	Responsible Activity	Modernization Critical	CNO MSMO (entitled)	CNO MSMO <$20M (optional)	CNO MSMO >$20M (optional)	CNO FFP	CMAV MSMO (entitled)	CMAV (optional)	CMAV FFP/IDIQ	Comments/Remedial Action
63	Complete TAR/ Establish Pro-rate based on final cost proposal	RMC		A-50	A-58	A-65	N/A	A-20	A-31		Final funding requirements update with estimate of pro-rates.
64	Provide Availability Funding for Modernization to the RMC	SYSCOMS/ PEO/ TYCOM	A-45	A-45	A-57	A-64	A-75	A-45	A-31	A-45	Includes funding for AIT's support services.
65	WPER Announcement Message	TDO		A-40	A-40	A-40	N/A	N/A	N/A	N/A	NLT 10 days prior to the WPER.
66	Definitize Work Packages	RMC		A-35	A-35	A-35	N/A	A-18	A-18	N/A	
67	Deliver Material (LLTM and Kitted Materials) to Executing Activity	Planning Yards/PARM		A-30	A-30	A-30	A-30	A-20	A-20	A-15	
68	Conduct Work Package Execution Review (WPER) - finalize funding	Maintenance Team		A-30	A-30	A-30	A-30	A-21	A-21	A-10	KTR presents fully planned execution sked (could be a Gantt chart) to the full MT.
69	Start of Availability	Maintenance Team		A-0	A-0	A-0	A-0	A-0	A-0	A-0	
70	End of Availability	Maintenance Team		C-0	C-0	C-0		C-0	C-0		MT fills in specific date.
71	Avail Pre-Completion Message	PM		C+5	C+5	C+5	N/A	C+5	C+5		
72	Hotwash Announcement Message	TDO		C+10	C+10	C+10	N/A	C+10	C+10		
73	Conduct MMBR	Maintenance Team		C+20	C+20	C+20	N/A	C+20	C+20		
74	Avail Final Completion Message	PM		C+30	C+30	C+30	N/A	C+30	C+30		
75	Attend SURFMEPP BAWP Close-Out Meeting	Maintenance Team/RMC/ TYCOM/ SURFMEPP		C+45	C+45	C+45	C+45				

APPENDIX D_1

SURFACE FORCE SHIP PLANNING PROCESS MILESTONES (Con't)

EVENT #	Task/Milestone	Responsible Activity	Modernization Critical	CNO MSMO (entitled)	CNO MSMO <$20M (optional)	CNO MSMO >$20M (optional)	CNO FFP	CMAV MSMO (entitled)	CMAV (optional)	CMAV FFP/IDIQ	Comments/Remedial Action
76	Issue Next Cycle LCPC Announcement Letter	SURFMEPP		C+75	C+75	C+75	C+75				SURFMEPP prepares next cycle's BAWP and issues letter date, time, and location of next cycle's LCPC.
77	Submit Final BAWP Close-Out Report	SURFMEPP		C+90	C+90	C+90	C+90				Final status of BAWP task's including deferrals.
78	Provide Maintenance and Modernization Business Plan (MMBP) budget guidance to RMC	TYCOM		Feb - Jun of Prior FY	Feb - Jun of Prior FY	Feb - Jun of Prior FY	Feb - Jun of Prior FY	Feb - Jun of Prior FY	Feb - Jun of Prior FY	Feb of Prior FY	
79	Negotiate MMBPs with TYCOM	RMC/SPM		Mar of Prior FY	Mar of Prior FY	Mar of Prior FY	Mar of Prior FY	Mar of Prior FY	Mar of Prior FY	Mar of Prior FY	Start in March complete by June.
80	End of Previous CNO Availability										Maintenance Team fills in specific date.

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APPENDIX D_2

AIRCRAFT CARRIER MAINTENANCE AND MODERNIZATION PLANNING PROCESS MILESTONES

AIRCRAFT CARRIER MAINTENANCE AND MODERNIZATION PLANNING PROCESS MILESTONES								
Event #	**Task/Milestone**	**Responsible Activity**	**CFT 4 and CFT 2 Entitled Process (in days)**					**RCOH**
			CFT 4 Critical	**CNO MSMO**	**CNO FFP**	**CMAV MSMO**	**CMAV FFT/ IDIQ**	
CARRIER MODERNIZATION MILESTONES								
1	Issue Advance Planning Letter (APL)	SPM		A-720	A-720			N/A
2	Initial Drawing Shipcheck (approximate)	PY		A-600	A-600			A-1080
3	Initiate Procurement of LLTM	NSA/ PARM		A-600	A-600			A-1080
4	Issue Baseline AWP	CPA		A-510	A-510	C+90	C+90	A-1440
5	Populate Baseline Modernization Readiness Assessment (MRA)	CPA		A-510	A-510	C+90	C+90	A-1440
6	Baseline AWP Review	SPM		A-510	A-510			A-1290
7	ICD Delivered to SC developer/PY	PARM		A-420	A-420			A-780 to A-420
8	Issue SC Letter of Authorization	SPM		A-360	A-360			N/A
9	Begin Monthly Issuance of MRA (no later than)	CPA		A-360	A-360			A-540
10	Complete SIDs for NSA SCs	PY		A-300	A-300	I-180	I-180	TBD
11	Complete/Deliver SIDs for AIT SCs to NSA/PY	AIT		A-240	A-240			TBD
12	Issue Letter of Authorization Change 1	SPM		A-180	A-180			N/A
13	Complete/Approve SIDs for AIT SCs	PY		A-180	A-180	I-180	I-180	I-120
14	Conduct Modernization Readiness Assessment #1 (MRA1)	NSA/CPA		A-150	A-150			A-240
15	Initial Platform Certification Decision (IPCD) for C5I installations	SEA 06		A-150	A-150			
16	Submit ILS Certification to CALICo	PARM		A-150	A-150	I-150	I-150	TBD
17	Complete ILS Certification/Issue ILS Cert Message	SPM		A-120	A-120	I-120	I-120	TBD
18	Issue Letter of Authorization Change 2	SPM		A-120	A-120			N/A
19	All Modernization Risk Assessment submitted to TYCOM	PARM		A-120	A-120	I-120	I-120	N/A
20	Provide POA&M to NSA/TYCOM	AIT		A-135	A-135	A-135	A-135	A-135

APPENDIX D_2

AIRCRAFT CARRIER MAINTENANCE AND MODERNIZATION PLANNING PROCESS MILESTONES (Con't)

AIRCRAFT CARRIER MAINTENANCE AND MODERNIZATION PLANNING PROCESS MILESTONES								
Event #	**Task/Milestone**	**Responsible Activity**	**CFT 4 and CFT 2 Entitled Process (in days)**					**RCOH**
			CFT 4 Critical	**CNO MSMO**	**CNO FFP**	**CMAV MSMO**	**CMAV FFT/ IDIQ**	
21	Conduct Modernization Readiness Assessment #2 (MRA2)	TYCOM/ CPA		A-60	A-60			N/A
22	If SC is added to the MP after this date, submit LATE ADD REQUESTS to TYCOM	PARM		A-60	A-60			N/A
23	Issue Risk Assessment Message (results of MRA2)	TYCOM		A-45	A-45			N/A
24	Ensure COP data is compiled and prepared	PARM		I-60	I-60	I-60	I-60	I-60