

JOINT FLEET MAINTENANCE MANUAL

VOLUME VI

MAINTENANCE PROGRAMS

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VOLUME VI

MAINTENANCE PROGRAMS

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DCMA	Defense Contract Management Agency
DDS	Dry Deck Shelter
Det/DET	Detachment
DFS	Departure From Specification
DLR	Depot Level Repairable
DMP	Depot Modernization Period
DO	Duty Officer
DoD	Department of Defense
DPP	Deployment Preparation Period
DRRS	Defense Readiness Reporting System
DSN	Defense Switched Network
DSRA	Dry-Docking Selected Restricted Availability
DSS	Deep Submergence System
EDO	Engineering Duty Officer
EGL	Equipment Guide List
EIC	Equipment Identification Code
EM	Electronic Module
EMC	Electromagnetic Compatibility
EMI	Electromagnetic Interference
EMO	Electronics Material Officer
EOC	Equipment Operational Capability
EPCP	Electric Plant Control Panel
EPY	Expanded Planning Yard
EQOL	Enhanced Quality Of Life
ERR	Engineering Readiness Review
ESC	Executive Steering Committee
ESD	Electrostatic Discharge
ESL	Equipment Status Log
ETR	Estimated Time to Repair
FC	Field Change
FCA	Field Calibration Activity
FCFBR	Fleet COSAL Feedback Report
FFP	Firm Fixed Price
FLR	Field Level Repairable
FMA	Fleet Maintenance Activity
FMP	Fleet Modernization Program
FMPMIS	Fleet Modernization Program Management Information System
FPY	First Pass Yield
FS&L	Food Service and Laundry
FTA	Fleet Technical Assistance
FY	Fiscal Year
GDSC	Global Distance Support Center
GPETE	General Purpose Electronic Test Equipment
GSI	Government Source Inspection
HIP	Hull Integrity Procedure
HM&E	Hull, Mechanical and Electrical
HMERA	Hull, Mechanical, Electrical Readiness Assessment
HRMC	Hawaii Regional Maintenance Center
HW	Hot Wash

HWAT	Hot Wash Analysis Team
ICAS	Integrated Condition Assessment System
ICCP	Impressed Current Cathodic Protection
ICR	Independent Cost Review
ICV	Individual Cell Voltage
IGE	Independent Government Estimate
ILRRR	Inflatable Life Raft Recertification Record
ILS	Integrated Logistics Support
IMA	Intermediate Maintenance Activity
IMF	Intermediate Maintenance Facility
IMI	Intermodulation Interference
INSURV	Board of Inspection and Survey
IPE	Industrial Plant Equipment
ISEA	In-Service Engineering Activity
ISIC	Immediate Superior In Command
IT	Information Technology
IUID	Item Unique Identification
JCN	Job Control Number
JFMM	Joint Fleet Maintenance Manual
JRMC	Japan Regional Maintenance Center
JSN	Job Sequence Number
LCM	Life Cycle Manager
LDS	Logistics Data System
LLC	Lessons Learned Conference
LMA	Last Maintenance Action
LMA	Lead Maintenance Activity
LOD	Letter of Delegation
LOEP	List Of Effective Pages
LSD	Logistics Support Data
LTD	Logistics Technical Data
LWC	Lead Work Center
MACHALT	Machinery Alteration
MARMC	Mid-Atlantic Regional Maintenance Center
MCF	MDS Confidence Factor
MCV	Maximum Corrected Voltage
MDCO	Maintenance Document Control Office
MDS	Maintenance Data System
MDT	Mean Down Time
MEASURE	Metrology Automated System for Uniform Recall and Reporting
METCAL	Metrology and Calibration
MFOM	Maintenance Figure of Merit
MFOMa	Average Maintenance Figure of Merit
MFOMw	Weighted Maintenance Figure of Merit
MILCON	Military Construction
MILSPEC	Military Specification
MIP	Maintenance Index Page
MJC	Master Job Catalog
MMBP	Maintenance and Modernization Business Plan
MMP	Major Maintenance Period
MMPR	Maintenance and Modernization Performance Review
MOA	Memorandum of Agreement
MOGAS	Motor Gasoline

MP	Modernization Plan
MPR	MDS Performance Rate
MR	Maintenance Requirement
MRC	Maintenance Requirement Card
MRI	Machine-Readable Information
MRMS	Maintenance Resource Management System
MS	Maintenance Standard
MSDS	Material Safety Data Sheet
MSF	Magnetic Silencing Facility
MS/MO	Multi-Ship/Multi-Option
MSRA	Module Screening and Repair Activity
MSS	Major Shore Spares
MTBF	Mean Time Between Failures
MTR	Module Test and Repair
MTRF	Module Test and Repair Facility
NACE	National Association of Corrosion Engineers
NAVAIR	Naval Air Systems Command
NAVICP	Naval Inventory Control Point
NAVSEA	Naval Sea Systems Command
NAVSEA 08	Naval Sea Systems Command Nuclear Propulsion Directorate
NAVSEALOGCEN	Naval Sea Logistics Center
NAVSUP	Naval Supply Systems Command
NC	Critical Noise Deficiency
NCR	No Calibration Required
NDE	Navy Data Environment
NDE-NM	Navy Data Environment-Navy Modernization
NDT	Nondestructive Testing
NEC	Navy Enlisted Classification
NEMAIS	Navy Enterprise Maintenance Automated Information System
NFE	No Fault Evident
NGDSC	Navy Global Distance Support Center
NIIN	National Item Identification Number
NMD	Navy Maintenance Database
NP	Potential Noise Deficiency
NPBI	NAVSEA Paint Basic Inspector
NPV	Net Present Value
NRPO	Noise Reduction Petty Officer
NSA	Naval Supervisory Authority
NSN	National Stock Number
NSSA	Norfolk Ship Support Activity
NSSC	Naval Submarine Support Center
NSTM	Naval Ship's Technical Manual
NSWC	Naval Surface Warfare Center
NSWCCD	Naval Surface Warfare Center, Carderock Division
NSY	Naval Shipyard
NUCALT	Nuclear Alteration
NWRMC	Northwest Regional Maintenance Center
OARS	Open Architecture Retrieval System
OJT	On the Job Training
OMMS	Organizational Maintenance Management System
OMMS-NG	Organizational Maintenance Management System – Next Generation
OOC	Out Of Commission
OOD	Officer Of the Deck
OPALT	Operational Alteration

OPNAV	Office of the Chief of Naval Operations
OPNAVINST	Office of the Chief of Naval Operations Instruction
OPTAR	Operating Target
ORATA	Other Restricted Availability/Technical Availability
ORDALT	Ordnance Alteration
PARM	Participating Managers
PCMS	Passive Countermeasure System
PDS	Product Data Sheet
PEO	Program Executive Officer
PEP	Plant Equipment Project
PFR	Periodic Force Revision
PHD	Port Hueneme Detachment
PHNSY	Pearl Harbor Naval Shipyard
PHNSY-IMF	Pearl Harbor Naval Shipyard and Intermediate Maintenance Facility
PIRA	Pre-Inactivation Restricted Availability
PLAD	Plain Language Address Directory
PM	Program Manager
PMR	Periodic Maintenance Requirement
PMS	Planned Maintenance System
PMT	Performance Monitoring Team
POC	Point of Contact
POM	Pre-Overseas Movement
PPE	Personal Protective Equipment
PPR	PMS Performance Rate
PQS	Personnel Qualification Standard
PRWL	Planned Refit Work List
PSNS	Puget Sound Naval Shipyard
PSNS-IMF	Puget Sound Naval Shipyard and Intermediate Maintenance Facility
PVI	Product Verification Inspection
PY	Planning Yard
QA	Quality Assurance
QAR	Quality Assurance Representative
QBR	Quarterly Battery Report
QC	Quality Control
QOS/QOL	Quality of Service/Quality of Life
RAB	Registrar Accreditation Board
RAF	Reporting and Automated Shore Interface Processing Confidence Factor
RAR	Recorded Accomplishment Rate
RCC	Regional Calibration Center
RCM	Reliability Centered Maintenance
RCP	Recommended Change Package
REC	Re-Entry Control
RFI	Ready For Issue
RH	Relative Humidity
RIP	Readiness Improvement Program
RLP	Regional Loan Pool
RMAIS	Regional Maintenance Automated Information System
RMC	Regional Maintenance Center
ROI	Return On Investment
ROV	Repair Other Vessel
RPCCR	Reactor Plant Configuration Change Report
RPPO	Repair Parts Petty Officer

RPSM	Reactor Plant Ship Modification
RSG	Regional Support Group
SC	Ship Change
SCAT	Sub-Category
SCD	Ship Change Document
SCLISIS	Ship's Configuration and Logistics Support Information System
SCP	System Calibration Procedures
SDI	Ship's Drawing Index
SEF	Ship's Equipment File
SEMAT	Systems and Equipment Material Assessment Team
SEMCIP	Shipboard Electromagnetic Compatibility Improvement Program
SEOC	Submarine Engineered Operating Cycle
SERMC	Southeast Regional Maintenance Center
SF	Ship's Force
SFWL	Ship's Force Work List
SG	Specific Gravity
SGCP	Shipboard Gage Calibration Program
SHIPALT	Ship Alteration
SHIPMAIN	Ship Maintenance
SHW	Super Hot Wash
SISCAL	Shipboard Instrumentation System Calibration
SKED	Scheduling Software
SLICR	Ship's Logistics Indicator Computerized Report
SME	Subject Matter Expert
SNAP	Ship's Non-Tactical Automated Data Processing System
SOC	Scope of Certification
SOS	Source of Support
SOVT	System Operation Verification Testing
SPALT	Strategic Systems Programs Alteration
SPAWAR	Space and Naval Warfare Systems Command
SPETE	Special Purpose Electronic Test Equipment
SPETERL	Ship's Portable Electronic Test Equipment Requirements List
SPM	Ship's Program Manager
SPRUCE	Scheduled Preservation Upkeep Coordinated Effort
SRA	Selected Restricted Availability
SRF	Ship Repair Facility
SRF-JRMC	Ship Repair Facility and Japan Regional Maintenance Center
SSBN	Nuclear-Powered Ballistic Missile Submarine
SSES	Ship Systems Engineering Station
SSGN	Nuclear-Powered Guided Missile Submarine
SSM	Ship Systems Manual
SSP	Strategic Systems Programs
SSPC	Society for Protective Coatings
SSPINST	Strategic Systems Programs Instruction
SSR	Ship's Selected Records
ST1	Surface Team One
STAN	Shipboard Electromagnetic Compatibility Improvement Program Technical Assistance Network
STSC	Submarine Technical Support Center
SUBMEPP	Submarine Maintenance Engineering, Planning and Procurement Activity
SUBSAFE	Submarine Safety
SUPSHIP	Supervisor of Shipbuilding
SUPSHIP NN	Supervisor of Shipbuilding Newport News

SURFMEPP	Surface Maintenance Engineering Planning Program Activity
SURFOR	Surface Force
SWE	Surface Warfare Enterprise
SWLIN	Ship Work List Item Number
SWRMC	Southwest Regional Maintenance Center
SWS	Strategic Weapon System
SYSCOM	Systems Command
TA	Technical Analyst
T/A	Type of Availability
TAMS	TYCOM Alteration Management System
TAMS	Test and Monitoring System
TAR	Technical Analysis Report
TAT	Technical Assessment Team
TAVR	Technical Assistance Visit Report
TCV	Total Corrected Voltage
TDMIS	Technical Document Management Information System
TEMPALT	Temporary Alteration
TFBR	Technical Feedback Report
TFBR H/T	Technical Feedback Report History Tracking
TMA	Top Management Attention
TMDE	Test, Measurement and Diagnostic Equipment
TMDER	Technical Manual Deficiency/Evaluation Report
TMI	Top Management Issues
TOMA	Technical Onboard Monitoring Assist
T(pf)	Time (problem free)
TPOC	Technical Point of Contact
TPS	Test Program Set
TRF	TRIDENT Refit Facility
TRIPER	TRIDENT Planned Equipment Replacement
TRIREFFAC	TRIDENT Refit Facility
TRS	Technical Repair Standard
TVG	Temperature Voltage Gassing
TYCOM	Type Commander
TYKIT	TYCOM Alteration Kit
TZ	Type Zero
UIC	Unit Identification Code
URO	Unrestricted Operation
VIDS/MAF	Visual Information Display/Maintenance Action Form
WC	Work Center
WCS	Work Center Supervisor
WCWL	Work Center Work List
WFT	Wet Film Thickness
WP	Work Package
WPIC	Work Package Integration Conference
WPS	Work Package Supplement

VOLUME VI**CHAPTER 2****FLEET TECHNICAL ASSISTANCE**REFERENCES.

- (a) COMUSFLTFORCOM/COMPACFLTINST 3501.3 - Fleet Training Continuum
- (b) OPNAVINST 3000.15 - Fleet Response Plan (FRP)

LISTING OF APPENDICES.

- A Area Regional Maintenance Center Fleet Technical Assistance Contact Information
- B Sample Technical Assistance Visit Report (TAVR) Message
- C Sample E-MAIL Technical Assistance Visit Report (E-TAVR)

2.1 PURPOSE. This chapter provides policy, procedures and guidance regarding utilization of Fleet Technical Assistance (FTA) program resources in support of all surface ships, aircraft carriers, submarines and craft. Commander, U. S. Fleet Forces Command and Commander, U.S. Pacific Fleet (COMPACFLT) Fleet Maintenance Officers (N43) will ensure that appropriate Fleet resources are available to provide technical assistance to the Naval operating forces under their cognizance.

2.2 FLEET TECHNICAL ASSISTANCE DEFINITION. FTA is the help that surface ships, aircraft carriers, submarines and craft request when they are unable to resolve equipment or software deficiencies using their own ships resources or other means available within their Strike Group. Paragraph 2.4.2 of this chapter lists FTA program exclusion items. Use of Regional Maintenance Center (RMC) or RMC-obtained resources for other purposes, such as non-Ship's Force repairs, assessments, Board of Inspection and Survey inspections, etc., is not considered FTA but is addressed elsewhere in this manual or other policy guidance. All FTA requests will be responded to by the RMCs as defined in paragraph 2.4.1 of this chapter.

2.3 FLEET TECHNICAL ASSISTANCE EXCLUSION AREAS. RMCs are not responsible for technical assistance in the following areas:

- a. Naval Sea Systems Command (NAVSEA) 08 cognizant equipment.
- b. TRIDENT missile weapons systems.
- c. Aircraft.
- d. Catapults and arresting gear - Aircraft Launch and Recovery Equipment.
- e. Ordnance and munitions.
- f. Submarine Safety systems/components.
- g. Nuclear weapons.
- h. Special clearance equipment.
- i. Undersea and land-based surveillance equipment.
- j. Flight deck certification related systems and equipment.
- k. Diver life support systems.
- l. Non-Program of Record (pre-prototype) programs.

2.4 FLEET TECHNICAL ASSISTANCE POLICY.

NOTE: WHEN CONTACTING THE NAVY GLOBAL DISTANCE SUPPORT CENTER (NGDSC) OR AN AREA RMC, UTILIZE SECURE COMMUNICATIONS AS APPROPRIATE TO MAINTAIN SECURITY OF CLASSIFIED EQUIPMENT AND OPERATIONAL PARAMETERS.

2.4.1 Requesting Assistance. It is important that ships develop and exercise self-sufficiency for shipboard system maintenance to the fullest extent possible. If unable to resolve a technical problem internally, the ship shall contact the NGDSC, who will route their request to the cognizant Area RMC. If unable to contact the NGDSC, contact the Area RMC. Ships will use the following specific procedures when requesting FTA:

- a. When a technical assistance requirement is identified, contact the NGDSC as described in paragraph 2.4.1.b of this chapter. The NGDSC will then record the FTA request and forward to the appropriate RMC as outlined in paragraph 2.7.2 of this chapter using the contact information in Appendix A. Provide pertinent information listed in paragraph 2.4.2 of this chapter.
- b. The NGDSC can be contacted 24-hours a day via the worldwide web, by E-mail, via Naval message or via toll-free numbers as follows:
 - (1) SIPR Web site: WWW.ANCHORDESK.NAVY.SMIL.MIL
 - (2) NIPR Web site: WWW.ANCHORDESK.NAVY.MIL
 - (3) SIPR E-mail: HELP@ANCHORDESK.NAVY.SMIL.MIL
 - (4) NIPR E-mail: HELP@ANCHORDESK.NAVY.MIL
 - (5) Message Plad: ANCHOR DESK NORFOLK VA//JJJ//
 - (6) Telephone: Comm 1-877-418-6824, DSN 510-428-6824

2.4.2 Required Fleet Technical Assistance Request Information. A Casualty Report (CASREP) solely to establish an FTA, is not required. When requesting Technical Assistance, the following information is **necessary** to assist in a timely and accurate response:

- a. Job Control Number (JCN) (required) and Casualty Report (if applicable) numbers.
- b. Equipment identification: (Noun name, nomenclature, model, MK/MOD, etc.).
- c. Equipment failure mode: Detailed description of the nature of failure or casualty, including symptoms and operational condition at time of casualty, current symptoms and indications and any other relevant information available to assist in diagnosing the problem.
- d. Repair actions taken to date: [Include any extra-unit assistance (e.g., Ship Repair Facility, Tender, etc.)].
- e. Parts status: (Indicate spare parts required, document numbers, document status, etc., if known).
- f. Technical manual: (NAVSEA/NAVSHIPS/NAVORD Technical manual number or Commercial Off-The-Shelf manufacturer's publication identification, if available).
- g. Dates: (Include earliest through latest possible dates assist is required. Provide alternate dates if possible).
- h. Location: (Country, port, Naval Base, pier, berth, etc.).
- i. Contact information: (Ship/staff Point of Contact name(s) and rate/rank, DSN/INMARSAT/commercial phone numbers, FAX number, SIPRNET/NIPRNET E-mail addresses).
- j. Manufacturer of equipment for which assistance is required (if known).
- k. Equipment Allowance Parts List/Record Identification Number.
- l. Commanding Officer assessment as to effect on ship's mission in the event Distance Support is unsuccessful.

2.4.3 Chief of Naval Operations Availability Fleet Technical Assistance Procedures. Fleet units may request technical assistance while in a Chief of Naval Operations scheduled maintenance availability. The request must be submitted to the cognizant Area RMC, which will coordinate with the appropriate Naval Supervising Authority (NSA) (if not the same as the cognizant Area RMC) for technical assistance related to systems/equipment that are under the NSA's cognizance or are part of an availability work package. When the cognizant Area RMC is the NSA, the RMC will provide technical support. If not the NSA, the cognizant Area RMC may also do so, as necessary/coordinated with the NSA.

2.4.3.1 Initial Response. The initial response to all FTA requests will be via Distance Support. If the Operational Commander or Type Commander (TYCOM) determines on-site support is necessary, it is incumbent on them to inform the cognizant area RMC that on-site support is required.

2.4.3.2 On-Site Support. In a port without a RMC or underway, if Distance Support is determined unsuccessful by the RMC, the Operational Commander or TYCOM will determine whether the cognizant Area RMC will transition to on-site assistance. In a port with a RMC, the RMC may determine transition to on-site support, as prioritized by guidance in paragraph 2.7.4.1 of this chapter.

2.5 COMPLETION.

NOTE: THERE WILL BE OCCASIONS WHEN AN UNDERWAY SHIP MAY NOT REQUIRE ALL SYSTEMS TO BE FULLY OPERATIONAL. SUCH SYSTEM DEFICIENCIES MAY BE THE SUBJECT OF A CASREP OR THEY MAY ONLY BE DOCUMENTED IN THE SHIP'S CURRENT SHIP'S MAINTENANCE PROJECT.

2.5.1 Fleet Technical Assistance Completion. To complete the FTA the ship must concur that the cognizant RMC has completed one of the following:

- a. The fault is resolved.
- b. Parts identified to resolve the fault.
- c. Original fault troubleshooting is complete and the deficiency is identified (i.e., Ship understands what needs to be repaired).

2.5.2 Transition to Repair. A completed FTA may require a subsequent deferral (TA-1, TA-2) for repair activity action or Ship's Force corrective maintenance (TA-4).

2.6 RESPONSIBILITIES.

2.6.1 Ship's Commanding Officer. Ship's Commanding Officer will:

- a. Ensure all FTA requests are accurate, complete and timely.
- b. Ensure all FTA requests reference a JCN and contain a detailed problem description in accordance with paragraph 2.4.2 of this chapter to enable technical assistance personnel to adequately research the problem and provide timely and accurate technical assistance. Ensure the 2-kilo is up-lined.
- c. For FTA requests associated with systems that are not required to meet current/projected mission tasking, ensure associated CASREP and/or 2-Kilo address whether or not on-site assistance will be required if Distance Support is unable to resolve the issue.
- d. Ensure that TYCOM, Immediate Superior In Command (ISIC) and Operational Commander are kept informed of technical issues and technical assistance requests in accordance with existing guidance.
- e. While a ship is underway or in another port without a RMC, ensure Distance Support alternatives are exhausted before on-site technical assistance is requested. This policy is in place to ensure satisfactory crew and technical assistance personnel Distance Support procedure training and proficiency so they are able to efficiently use Distance Support when the ship is deployed.
- f. Ensure Ship's Force technicians who are qualified on the systems/equipment in question are available to support technical assistance personnel.

- g. Immediately upon completion of an on-site visit, the Fleet unit will release the FTA personnel. When redirection of the same personnel to other problems is desired, the Fleet unit will coordinate with the cognizant Area RMC.
- h. Ships will establish a central, secure E-mail account that will be available to all appropriately cleared technical assistance personnel who visit the ship. The account will be used by visiting technical representatives to communicate with their home office or detachment for technical support/information. The account will be RMCTECHASSIST@Ship.navy.smil.mil where "Ship" is the name of the vessel.
- i. Ship will issue arrival/departure message keeping all apprised of technical representative movement.

2.6.2 Regional Maintenance Center Commanders. RMC Commanders will ensure:

- a. Sufficient capability exists to provide timely response to all requests for technical assistance, either with RMC personnel or other sources of support. The RMC is responsible for coordinating the response from other sources of support as detailed in paragraph 2.6.3 of this chapter.
- b. RMC mission funds are used to fund all FTA efforts in accordance with paragraph 2.7.4 of this chapter.
- c. Technical support is provided to Fleet units in accordance with this directive. In the event there is a work priority conflict, the Area RMC will coordinate resolution with the appropriate TYCOM, Operational Commander or Fleet Maintenance Officer Staff, as necessary.
- d. The initial response to FTA requests is via Distance Support whether in port or at-sea. The use of Distance Support while the ship is in a port with a RMC is encouraged, although not required. It is a tool that can be utilized by the RMC in order to prioritize work assignments and service a wider customer base. On-site support while a ship is in a port with a RMC can allow for quicker identification of the problem and training of Ship's Force technicians. If Distance Support is unsuccessful, the cognizant Area RMC will determine if on-site assistance is appropriate, based on guidance in paragraph 2.7.4.1 of this chapter. If appropriate, the Area RMC will provide on-site FTA from RMC resources or coordinate provision of on-site support from other government/contractor organizations as discussed in paragraph 2.6.3 of this chapter.
- e. Personnel responding to a request for technical assistance are thorough in their review of the specific technical problem, including system trouble shooting, fault isolation, root cause analysis, failed parts identification, logistic support and system restoration assistance while imparting the maximum amount of onboard maintenance training to Ship's Force personnel. Troubleshooting shall be conducted in accordance with Volume V, Part I, Chapter 2, paragraph 2.4 of this manual.
- f. Acknowledgment and response to all FTA requests within 24 hours, via phone conversation, e-mail or Naval Message.
- g. Personnel providing on-site technical assistance keep the cognizant ship's department head or designated representative informed of the scope of the problem and the recommended corrective action.
- h. A message Technical Assistance Visit Report (TAVR) (Naval), in the format provided in Appendix B, is required at the completion of an on-site FTA anytime one or more of the following criteria are met:
 - (1) Personnel or Equipment safety issue.
 - (2) Submarine FTA.
- i. An E-mail TAVR (E-TAVR), in the format provided in Appendix C, is required at the completion of an on-site FTA on Surface Force Ships/Carriers anytime one or more of the following criteria are met:
 - (1) C3/C4 CASREP.
 - (2) Repetitive system/equipment failure and/or long term improvement recommendations.
 - (3) FTA responsibility passed to another RMC or other Source of Support.
 - (4) Loss of mission capabilities. (e.g., AAW, MOB, ASW).
 - (5) Significant follow-on repair recommendations.

- (6) High visibility.
- j. Task other Source of Support provider who responds to an on-site FTA, coordinated by his/her RMC, to submit a TAVR as required by paragraph 2.6.3.e of this chapter or task them to provide the technical information necessary for the cognizant RMC to generate a TAVR.
- k. Submission of a message report if an on-site assist visit is terminated. Technicians who are not adequately supported by Ship's Force personnel shall immediately notify the ISIC/TYCOM. If the lack of support by Ship's Force personnel cannot be resolved, then the technicians are authorized to depart the ship and terminate the visit. Termination of the ship visit under these circumstances will be detailed in a follow-up message to the appropriate TYCOM/ISIC with information to the appropriate Fleet Commander (N43).

2.6.3 Other Source of Support Providers. Other source of support providers include any non-Area RMC activity that responds to a technical assistance request. Examples of other source of support providers include: Naval Warfare Center, Original Equipment Manufacturer, commercial repair firms, Systems Command, non-RMC Naval Shipyard, Propulsion Plant Engineering Activity, etc. Other source of support providers will:

- a. Acknowledge receipt of FTA assignment to the tasking Area RMC and the requesting unit.
- b. First, use Distance Support to resolve the problem. Provide the tasking Area RMC with timely Distance Support status and results.
- c. Coordinate with the tasking Area RMC and execute an on-site technical assist if Distance Support is unable to resolve the problem. Ensure personnel providing on-site technical assistance are thorough in their review of the specific technical problem, including system trouble shooting, fault isolation, root cause analysis, failed parts identification, logistic support and system restoration assistance, while imparting the maximum amount of onboard maintenance training to Ship's Force personnel.
- d. Ensure that personnel providing on-site technical assistance keep the cognizant ship's department head or designated representative informed of the scope of the problem and the recommended corrective action.
- e. At the completion of on-site technical assistance, comply with administrative requirements addressed in paragraph 2.8 of this chapter within 5 working days of the visit completion.

2.6.4 Navy Global Distance Support Center Fleet Technical Assistance Request Processing Procedure. Initial FTA requests received by the NGDSC will be recorded by a Customer Service Representative. The Customer Service Representative must ensure the request is sent to the cognizant Area RMC (if different from the homeport RMC) and notify the cognizant area RMC. This will enable the cognizant Area RMC to commence immediate action on the FTA request.

2.7 REGIONAL MAINTENANCE CENTERS.

2.7.1 Regional Maintenance Centers. RMCs will serve as the primary source of Fleet Technical Assistance. For purposes of this specific FTA policy, use of the term "RMC" includes Regional Support Group New London and TRIDENT Refit Facility Kings Bay since these two activities will be serving as "Area RMCs" in providing FTA as noted in Table 2-1 of this chapter.

2.7.2 Area Regional Maintenance Center Area of Responsibility Assignments. Area RMC Area of Responsibility (AOR) assignments are listed in Table 2-1 below. Figure 2-1 graphically supplements Table 2-1 in depicting the AOR for each RMC. The AOR in which a ship is operating at the time an FTA request is initiated will dictate which Area RMC is responsible for coordinating/providing that FTA (becomes the "cognizant Area RMC"). If a ship is located in an AOR other than their homeport AOR, and the ship initiates a routine FTA request (one that does not require the cognizant Area RMC to expend travel or overtime funds for on-site support in the event Distance Support is unsuccessful), the homeport Area RMC will assume cognizance of that FTA request and accomplish it as a routine priority via Distance Support or, if necessary, via on-site FTA when the ship returns to homeport.

AREA RMC	AREA OF RESPONSIBILITY (AOR)
Southwest RMC (SWRMC), San Diego, CA	Ships, SSNs, aircraft carriers and craft in port or operating off the U.S. West Coast from the San Francisco Bay area south to the southern point of South America and selected mine warfare systems worldwide.
Puget Sound Naval Shipyard & Intermediate Maintenance Facility (IMF), Bremerton, WA	Ships, SSNs, aircraft carriers and craft in port or operating in the PACNORWEST area from North of San Francisco, CA, to northern Pacific/Alaska area and all SSBN/SSGN units in PACFLT.
Pearl Harbor Naval Shipyard & IMF, Pearl Harbor, HI	Ships, aircraft carriers, craft and SSN 688 and SSN 774 Class submarines in port or operating in the MIDPAC area and all non-SSBN/SSGN submarines (excluding SSN 21 Class) and submarine tenders operating in the Seventh Fleet AOR.
Ship Repair Facility (SRF) and Japan Regional Maintenance Center (JRMC), Yokosuka, Japan	Ships, aircraft carriers and craft in port or operating in the Seventh Fleet AOR.
Norfolk Ship Support Activity (NSSA), Norfolk, VA	Ships, aircraft carriers and craft in port or operating in the Atlantic Ocean from Charleston, SC, latitude northward. Submarines* in port and all SSN 688 and SSN 774 Class submarines operating in the Atlantic Ocean to the southern tip of South America excluding those in port or operating in New London/Groton, CT regional waters.
NSSA Det Naples, Italy	Ships, aircraft carriers, craft and SSN 688 and SSN 774 Class submarines* in port or operating in the Sixth Fleet AOR.
NSSA Det. Bahrain	Ships, aircraft carriers, craft and SSN 688 and SSN 774 Class submarines* in port or operating in the Fifth Fleet AOR.
Regional Support Group/Submarine Technical Support Center (STSC) Groton, CT	SSN 688 and SSN 774 Class submarines* in port or operating in the Groton/New London, CT regional waters.
TRIDENT Refit Facility, Kings Bay, GA	All Atlantic Fleet SSBN/SSGN units.
SERMC, Mayport, FL	Ships, aircraft carriers and craft in port or operating south of the Charleston, SC latitude in the Atlantic Ocean to the southern tip of South America.

* Puget Sound Naval Shipyard & Intermediate Maintenance Facility has responsibility for all SSN 21 Class submarines regardless of location.

Table 2-1 RMC Area of Responsibility Assignments

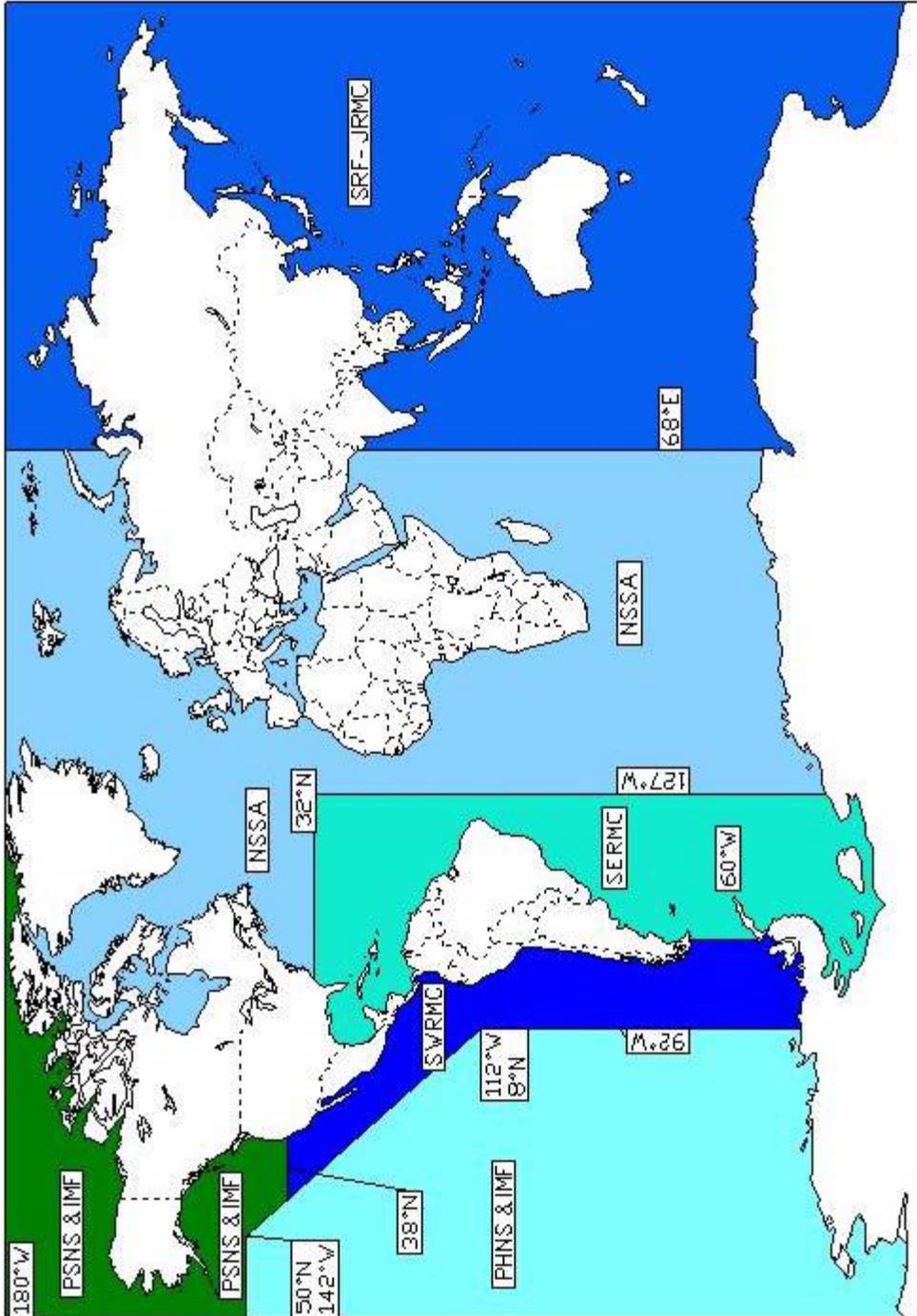


Figure 2-1 RMC Area of Responsibility

2.7.3 Considerations for Providing Assistance.

2.7.3.1 Distance Support. Costs to provide FTA can be dramatically reduced using Distance Support especially when a ship is underway or is not in a port with a RMC. Distance Support may include various forms of two-way communication such as telephone, email, web "chat", streaming video, etc. Additionally, its use has facilitated more effective use of limited technical resources to service a larger number of customers more efficiently. Normally, the cognizant Area RMC will have a subject matter expert available to respond to FTA requests via Distance Support, but in the event that such an expert is not readily available, the cognizant Area RMC is encouraged to contact another Area RMC to enlist their assistance in providing such Distance Support. In support of the Chief of Naval Operation's guidance to shift away from a risk averse culture in the Navy, not all FTA requests will be responded to with on-site support. However, the Operational Commander or TYCOM may direct immediate on-site support, if warranted.

2.7.3.2 On-Site Support. If the use of on-site support is warranted, the cognizant Area RMC will provide or obtain personnel to affect on-site assistance. The cognizant Area RMC will take into account the ship's operational schedule, as well as ship, ISIC, Operational Commander and TYCOM requirements, when determining if and at what point to shift from Distance Support to on-site support. Paragraph 2.7.4.1 of this chapter provides additional specific guidance regarding when on-site support will be provided and the prioritization of such responses should there be multiple requirements for the same FTA support personnel.

2.7.3.3 Fleet Technical Assistance Support Transfer and Acceptance. The cognizant Area RMC is responsible for providing or obtaining FTA support and is responsible for its completion. If the cognizant area RMC has neither the capability nor capacity to provide the FTA support required, the cognizant RMC will request FTA support from another source of support.

2.7.3.4 Transferring Regional Maintenance Center. The RMC transferring the FTA will transmit a TAVR via appropriately classified email or Naval message, using the samples provided as Appendix B or C of this chapter, synopsising actions taken to date on the FTA after reaching agreement with another source of support to accept responsibility for the FTA. The accepting source of support and new Point of Contact information will be identified in the TAVR. For Surface Ships and Carriers, the transferring RMC will document all time and actions taken and will pass the task to the accepting source of support in approved FTA software. For submarines, the ship's homeport will broker the 2-kilo to the accepting source of support.

2.7.3.5 Accepting Source of Support. The accepting source of support for the FTA assumes responsibility to provide the necessary support to resolve the FTA. If the source of support cannot resolve the FTA, they shall request the cognizant Area RMC obtain the necessary support to resolve the FTA. The accepting source of support will also document all time and actions taken related to the FTA, and inform the cognizant Area RMC on the status of the FTA.

2.7.3.6 Support Coordination. If another source of support is required, close coordination should be maintained between the supporting activity providing such assistance and the cognizant Area RMC to ensure the highest level of responsiveness is being provided. Assistance from another Area RMC does not abrogate the cognizant Area RMC's responsibility to ensure completion of the FTA request and the cognizant Area RMC retains full responsibilities as outlined in this manual.

2.7.4 Funding.

- a. Expenditure of funds for on-site FTAs has been significantly reduced by increased use of Distance Support. The source selection to provide on-site FTA must consider overall resource availability balanced against criticality of need, but in order to minimize cost, resources to meet on-site FTA needs should be considered in the following priority order:
 - (1) cognizant Area RMC personnel.
 - (2) other Area RMC personnel.
 - (3) other government resources.
 - (4) private sector.

- b. If personnel from another Area RMC are used to support the FTA requirement, the Area RMC providing the personnel will pay all costs for those personnel including base salary, overtime, travel and per diem. For all other sources of support, the cognizant Area RMC will pay all costs for providing the on-site support. Area RMCs will notify the Fleets if their total FTA related expenditures in support of ships home ported in other RMC locations become significant. The Fleets will review these submissions and determine if funds transfer(s) are required to ensure RMC mission completion.

NOTE 1: IN ACCORDANCE WITH REFERENCE (a), FORWARD DEPLOYED NAVAL FORCES UNDER C7F CONTINUOUSLY OPERATE WITHIN THE INTEGRATED/ SUSTAINMENT PHASE OF THE SEVENTH FLEET TRAINING PLAN IN SUPPORT OF REFERENCE (b) UNLESS IN A CNO AVAILABILITY.

NOTE 2: IF U.S. COAST GUARD OR FOREIGN NAVY VESSELS ARE PART OF A CARRIER STRIKE GROUP OR EXPEDITIONARY STRIKE GROUP, EITHER IN WORK-UP PHASE OR DEPLOYMENT, THEY WILL RECEIVE FTA SUPPORT PRIORITIZATION AS THOUGH THEY WERE UNITED STATES NAVY SHIPS (PRIORITIES 1-7 APPLY). REIMBURSEMENT FOR ALL COSTS TO PROVIDE SUCH FTA SERVICES WILL BE IN ACCORDANCE WITH THE MEMORANDUM OF AGREEMENT/MEMORANDUM OF UNDERSTANDING THAT IS NORMALLY SIGNED BETWEEN THE SERVICES/GOVERNMENTS WHEN SUCH JOINT OPERATIONAL ARRANGEMENTS EXIST.

2.7.4.1 On-Site Support. If Distance Support is unsuccessful or if the nature of the FTA request warrants immediate transition to on-site support, the cognizant Area RMC will coordinate and provide such on-site support as prioritized below:

- Priority 1 - Casualties requiring clear and immediate action to offset personnel safety hazards and/or catastrophic equipment damage.
- Priority 2 - Services to deployed ships. If resource constrained when there are multiple requirements to provide on-site support to deployed ships, prioritization of response will be:
 - (1) SSBN FTAs;
 - (2) FTAs associated with a CASREP as determined by the TYCOM;
 - (3) Other FTA requirements as determined by the Operational Commander and TYCOM.
- Priority 3 - Services to ships that are classified as within the pre-deployment or post-deployment part of the Sustainment Phase of reference (b). If resource constrained when there are multiple requirements to provide on-site support, prioritization of response will be:
 - (1) SSBN FTAs;
 - (2) FTAs associated with a CASREP as determined by the TYCOM;
 - (3) Other FTA requirements as determined by the Operational Commander and TYCOM.
- Priority 4 - Services to ships that are classified as within the Integrated phase of reference (b), or ship's that are classified as Independent Unit Ready for Tasking. If resource constrained when there are multiple requirements to provide on-site support, prioritization of response will be:
 - (1) SSBN FTAs;
 - (2) FTAs associated with a CASREP as determined by the TYCOM;
 - (3) Other FTA requirements as determined by the Operational Commander and TYCOM.
- Priority 5 - Services to ships that are classified as within the Basic phase of reference (b). If resource constrained when there are multiple requirements to provide on-site support, prioritization of response will be:
 - (1) SSBN FTAs;

(2) FTAs associated with a CASREP as determined by the TYCOM;

(3) Other FTA requirements as determined by the Operational Commander and TYCOM.

Priority 6 - Other U.S. Navy FTA requests not addressed in one of the above priorities (e.g., FTA support during Chief of Naval Operations availabilities addressed in paragraph 2.4.3 of this chapter).

Priority 7 - Technical assistance requests from non-Navy organizations (e.g., Coast Guard, U.S. Army, U.S. Air Force, Foreign Military Sales, etc.).

2.8. Post-Fleet Technical Assistance Administrative Requirements.

- a. At the conclusion of an on-site technical assistance visit, the cognizant Area RMC representative(s) will assist the ship in completing the 2-Kilo and provide a final debrief to the ship's cognizant Department Head, or his/her designated representative, prior to departing the ship. Information collected for the FTA shall be uploaded to 3M history.
- b. A TAVR is required at the completion of on-site FTA visits as addressed in paragraph 2.5.2.h and 2.5.2.k of this chapter. TAVRs should be submitted within 5 working days of visit completion.

APPENDIX A**AREA REGIONAL MAINTENANCE CENTER FLEET TECHNICAL ASSISTANCE
CONTACT INFORMATION**

AREA RMC	COVERAGE HOURS	PHONE	E-mail/Message PLADs
Norfolk Ship Support Activity (NSSA) Norfolk, VA	24/7/365	Comm: 757-443-3872 STU III: 757-443-3872, ext 2451 CDO: 757-443-3663	NIPRNET: marmc_tsdo@navy.mil SIPRNET: nssa_sipr_tsdo@navy.smil.mil MSG PLAD: SHIPSUPPACT NORFOLK VA
Norfolk Ship Support Activity Detachment Naples, Italy (NSSA DET NAPLES)	0600-1800 WEEKDAYS 0800-1200 WEEKENDS & HOLIDAYS CDO after hours	Comm: 011-39-081-568-7849 DSN: 314-626-7849 Fax: 011-39-081-568-7866 CDO: 39-335-725-1657	NIPRNET: NSSADET NAPLESCDO@EU.NAVY.MIL SIPRNET: NSSADET NAPLESCDO@EU.NAVY.SMIL.MIL MSG PLAD: SHIPSUPPACT NORFOLK DET NAPLES IT//00NA//
Regional Support Group Groton/Submarine Technical Support Center (STSC) Groton, CT	0730-1630 WEEKDAYS CDO after hours	Comm: 860-694-7873 Admin: 860-694-4714 DSN: 694-7873/4714 STSC groton CDO after hours: 860-625-3230	MSG PLAD: COMREGSUPPGRU STSC GROTON CT
NSSA Detachment Bahrain	Hours: 0730-1600 Sunday-Thursday (TD available after normal hours)	Comm: 011-973-17-853-777 DSN: 318-439-3777 TD: 011-973-3-945-9128 Fax: 011-973-17-854-447	NIPRNET: SIPRNET: SRUOIC@nsabahrain.navy.smil.mil MSG PLAD: SHIPSUPPACT NORFOLK DET BAHRAIN

AREA RMC	COVERAGE HOURS	PHONE	E-mail/Message PLADs
Puget Sound Naval Shipyard & IMF (North West Regional Maintenance Center) (NWRMC) Bremerton, WA	0630-1500 WEEKDAYS CDO - 24/7	425-304-5449 DSN: 727-5449 CDO: 425-870-0042 Everett 360-340-0106 Bremerton	NIPRNET: techassistnw@navy.mil MSG PLAD: NAVSHIPYD AND IMF PUGET SOUND WA//210/290//
Pearl Harbor Naval Shipyard and IMF Hawaii Regional Maintenance Center (HRMC) Pearl Harbor, HI	24/7/365	Comm: 808-630-7762 DSN: 315-473-0129 Code 210 DO: 808-630-7762	NIPRNET: hrmc.techassist@navy.mil SIPRNET: hrmc.techassist@navy.smil.mil MSG PLAD: NAVSHIPYD AND IMF PEARL HARBOR HI//101/200/210/240/400//
Ship Repair Facility (SRF) and Japan Regional Maintenance Center (JRMC) Yokosuka, Japan	0730-1630 Mon-Fri CDO after hours	DSN: 315-243-5362 CDO DSN: 315-243-5488 CDO Cell: 81-90-1851-8817	NIPRNET: TECHASSIST_JRMC@srf.navy.mil SIPRNET: TECHASSIST_JRMC@fe.navy.smil.mil MSG PLAD: NAVSHIPREPFAC AND JAPAN RMC YOKOSUKA JA
Southeast Regional Maintenance Center (SERMC) Mayport, FL	Call CDO. If no CDO contact, call Quarterdeck.	CDO: 904-591-8008 Quarterdeck: 904-270-5126 DSN: 960-XXX-XXXX	NIPRNET: sermc-cdo.fct@navy.mil MSG PLAD: SOUTHEAST RMC MAYPORT FL

AREA RMC	COVERAGE HOURS	PHONE	E-mail/Message PLADs
South West Regional Maintenance Center (SWRMC) San Diego, CA	24/7/365	DSOC: 619-556-3608 DSN: 526-3608 STU III: 619-556-3500 CDO: 619-556-1500 CDO CELL: 619-921-6249	NIPRNET: swrmctechassist@navy.mil SIPRNET: swrmctechassist.fct@navy.smil.mil MSG PLAD: SOUTHWEST RMC SAN DIEGO CA
Trident Refit Facility (TRF) Kings Bay, GA	24/7/365	CDO: 912-674-3125	NIPRNET: cdo.trfkb.fct@navy.mil MSG PLAD: TRIREFFAC KINGS BAY GA

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APPENDIX B**SAMPLE TECHNICAL ASSISTANCE VISIT REPORT (TAVR) MESSAGE**

FROM ON-SITE FTA PERFORMING ACTIVITY//JJJ// (Could be RMC, NSY, NWC, etc.)
 TO: SHIP REQUESTING ASSISTANCE
 ADDITIONAL ACTION ADDRESSEES (AS APPROPRIATE, TO INCLUDE ACCEPTING RMC FOR FTA TRANSFERS)
 INFO: COMUSFLTFORCOM NORFOLK VA//N43// (AS APPROPRIATE)
 COMPACFLT PEARL HARBOR HI//N43// (AS APPROPRIATE)
 NUMBERED FLEET COMMANDER
 TYCOM
 GROUP
 SQUADRON
 COMNAVSEASYSYSCOM WASHINGTON DC//(PROGRAM MANAGER)//
 ISEA/PROGRAM MANAGER//XXXX//
 COMSPAWARISYSCOM SAN DIEGO CA//4.0/5.0// (FOR ASSISTS ON C4I)
 OTHER REGIONAL MAINTENANCE CENTER (AS APPROPRIATE)
 RMC DET (AS APPROPRIATE)
 NSWC CORONA CA//QA33// (FOR ASSISTS ON C4I/COMBAT SYSTEM)
 COMNAVSAFECEN NORFOLK VA//XXX// (SAFETY RELATED ITEMS ONLY)
 NETC PENSACOLA FL//ETE5// (TRAINING ISSUES ONLY)
 SERVSCOLCOM GREAT LAKES IL//00// (TRAINING ISSUES ONLY)
 FLEASWTRACEN SAN DIEGO CA//00// (ASW TRAINING ISSUES ONLY)
 FCTCLANT DAM NECK VA//00// (FOR ASSISTS ON C4I/COMBAT SYSTEM)
 SWRMC//3B00/SSMD// (FOR PACFLT SSN ONLY)
 NAVSUBSCOL GROTON CT//00// (FOR SUBMARINES ONLY)
 TRITRAFAC KINGS BAY GA//00// (FOR SSBN/SSGN SUBMARINES)
 NWRMC//00// (FOR SSBN/SSGN SUBMARINES)
 OTHERS (AS APPROPRIATE)
 BT
 UNCLAS //N0XXXX//
 MSGID/GENADMIN/RMC XXXX//
 SUBJ/USS XXXX (HULL) EQUIPMENT NAME-NOMENCLATURE TECH ASSIST VISIT REPORT//
 REF/A/CASREP/MSG/TELCON REQUESTING TECH ASSIST//
 REF/B/DOC/APPLICABLE TECH MANUAL/(OPTIONAL)//
 REF/C/OTHER REFS AS NECESSARY//
 NARR/REF A IS SHIP MESSAGE OR TELCON BETWEEN XXXX/X AND XXXX/X//
 POC/NAME/CIV/CODE/-/TEL:DSN XXX-XXXX/TEL:XXX XXX-XXXX//
 RMKS/1. BACKGROUND: REF A REPORTED (PROBLEM). AS REQ REF A, RMCXXXX REP, (NAME) PROVIDED TECH ASSIST (DATE) AT (LOCATION) TO ASSIST WITH CORRECTION OF THE PROBLEM. REF B IS THE APPLICABLE TECHNICAL MANUAL.
 2. FINDINGS:
 A. BRIEF PROBLEM DESCRIPTION:
 B. SUMMARIZE FINDINGS & CORRECTIVE ACTION ON HARDWARE. (STATE WHY DISTANCE SUPPORT WAS UNABLE TO RESOLVE THIS ISSUE. IF THIS TAVR IS TO DOCUMENT AN FTA TRANSFER, SO STATE AND INCLUDE FTA ACCEPTING RMC COMMAND TITLE AND SPECIFIC POC INFO.).
 C. SUMMARIZE FINDINGS & CORRECTIVE ACTION ON LOGISTICS (IF ANY).
 3. CONCLUSION:
 A. STATEMENT ON CAUSE OF PROBLEM (IF NOT OBVIOUS).
 B. SOMETIMES CONVENIENT TO COMBINE WITH FINDINGS.
 4. LEVEL OF SHIP'S FORCE SUPPORT:
 A. ABOVE AVERAGE/AVERAGE/BELOW AVERAGE.
 B. NUMBER OF SHIP'S FORCE PERSONNEL TRAINED DURING VISIT.

5. RECOMMENDATIONS:

A. FOR USS XXXXX:

- (1) IDENTIFY FOLLOW-ON ACTION.
- (2) ABOVE DISCUSSED WITH (NAME) PRIOR TO DEPARTING SHIP.

B. FOR TYCOM/RMC:

- (1) IDENTIFY FOLLOW-ON ACTION.
- (2) ABOVE DISCUSSED WITH (NAME) ON (DATE).

C. FOR NAVSEA/ISEA:

- (1) IDENTIFY FOLLOW-ON ACTION.
- (2) ABOVE DISCUSSED WITH (NAME) ON (DATE).

6. INFORMATION FOR BLOCK 35 OF 2-KILO PROVIDED TO SHIP DURING DEBRIEF.

JCN _____ APPLIES.

- 7. A. MAN HOURS EXPENDED FOR TECHNICAL ASSISTANCE.
- B. MAN HOURS EXPENDED FOR TRAINING.
- C. MATERIAL COSTS.

8. EVALUATION OF NECESSITY FOR TECHNICAL ASSISTANCE:

- A. WAS ADEQUATE TECHNICAL DOCUMENTATION AVAILABLE TO SHIP'S FORCE TO CORRECT PROBLEM?
- B. WERE ADEQUATE TOOLS AVAILABLE TO SHIP'S FORCE TO CORRECT THE PROBLEM?
- C. WERE ADEQUATE MATERIALS/SPARE PARTS AVAILABLE TO SHIP'S FORCE TO CORRECT THE PROBLEM?
- D. WAS SHIP'S FORCE LEVEL OF KNOWLEDGE ADEQUATE TO CORRECT THE PROBLEM?

BT

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

APPENDIX C**SAMPLE E-MAIL TECHNICAL ASSISTANCE VISIT REPORT (E-TAVR)**

E-mail TAVR distribution will include the following:

TO: SHIP REQUESTING ASSISTANCE (C.O., X.O., DEPT HEADS)

ADDITIONAL ACTION ADDRESSEES (AS APPROPRIATE, TO INCLUDE ACCEPTING RMC FOR FTA TRANSFERS)

CC:

U.S. FLEET FORCES COMMAND N43

COMMANDER U.S. PACIFIC FLEET N43

FLEET COMMANDERS: (as appropriate)

TYPE COMMANDERS: (as appropriate)

NAVSEA/SPAWAR PROGRAM MANAGERS: (as appropriate)

NSWC/SSC IN-SERVICE ENGINEERING AGENTS: (as appropriate)

RMCS: (as appropriate)

TRAINING COMMANDS: (TRAINING ISSUES ONLY, as appropriate)

NAVAL SURFACE WARFARE CENTER CORONA (QA33)

Email TAVR format will be as follows:

SUBJ/USS XXX (HULL) EQUIPMENT NAME TECH ASSIST VISIT REPORT// (Insert brief equipment description; for ex. T 1348 Transmitter)

REF/A/CASREP/DTG// (Reference Designation, change as necessary/Change as necessary/Date Time Group of reference)

REF/B/DOC/2-KILO//

REF/C/TEL/TELCON INFO//

NARR/REF A IS XXXXXXXX. REF B IS XXXXXXXX. REF C IS XXXXXXXX.// (Summary of Tech Assist request. For ex., REF A is CASREP Initial 04003 request for tech assist)

POC/NAME/GRADE-RATE/TEL:DSN /TEL: // (Identify RMC Technician/RMC Technician Grade/Rank. For ex., GS-12 or E7 / RMC Technician DSN/extention / RMC Technician Comm/extention)

1. BACKGROUND: REF A REPORTED (Problem). AS REQUESTED REF A, RMCXXXC REP, (Name) PROVIDED TECH ASSIST (Date) AT (Location) TO ASSIST WITH CORRECTION OF THE PROBLEM. REF B IS THE APPLICABLE TECH MANUAL.

2. FINDINGS/CORRECTIVE ACTION:

A. BRIEF PROBLEM STATEMENT.

B. SUMMARIZE FINDINGS AND CORRECTIVE ACTIONS. (State why distance support was unable to resolve problem. If this tavr is to document an fta transfer, so state and include fta accepting rmc command title and specific poc info.).

3. CONCLUSION:

A. STATEMENT ON CAUSE OF PROBLEM / ROOT CAUSE.

B. SOMETIMES CONVENIENT TO COMBINE WITH FINDINGS.

4. LEVEL OF SF SUPPORT:

A. ABOVE AVERAGE / AVERAGE / BELOW AVERAGE

B. NUMBER OF SHIPS FORCE PERSONNEL TRAINED DURING VISIT

5. RECOMMENDATIONS:

A. FOR USS XXXX:

(1) IDENTIFY FOLLOW-ON ACTION

(2) ABOVE DISCUSSED WITH (Name) PRIOR TO DEPARTING SHIP

B. FOR TYCOM/RMC:

(1) IDENTIFY FOLLOW-ON ACTION

(2) ABOVE DISCUSSED WITH (Name) ON (Date)

C. FOR NAVSEA/ISEA:

(1) IDENTIFY FOLLOW-ON ACTION

(2) ABOVE DISCUSSED WITH (Name) ON (Date)

**6. INFORMATION FOR THE 2-KILO PROVIDED TO SHIP DURING DEBRIEF. JCN _____
APPLIES.**

- 7. A. MANHOURS EXPENDED FOR TECH ASSIST.**
- B. MANHOURS EXPENDED FOR TRAINING.**

8. EVALUATION OF NECESSITY FOR TECHNICAL ASSISTANCE:

- A. WAS ADEQUATE TECHNICAL DOCUMENTATION AVAILABLE TO SHIP'S FORCE TO
CORRECT THE PROBLEM?**
- B. WERE ADEQUATE TOOLS AVAILABLE TO SHIP'S FORCE TO CORRECT THE
PROBLEM?**
- C. WERE ADEQUATE MATERIAL/SPARE PARTS AVAILABLE TO SHIP'S FORCE TO
CORRECT THE PROBLEM?**
- D. WAS SHIP'S FORCE LEVEL OF KNOWLEDGE ADEQUATE TO CORRECT THE
PROBLEM?**

APPENDIX B**SUBMARINE ALTERATION REQUEST FORMAT**4720
Ser
Date

From: Commanding Officer, USS (Ship's Name and Hull No.)
 To: Commander, Naval Sea Systems Command
 Via: ISIC (as appropriate)
 TYCOM (as appropriate)

Subj: USS (Ship's Name and Hull No.) ARN (Hull No.-CY-Ser No.)REQUEST FOR ALTERATION TO
 (PROVIDE/REMOVE/REPLACE/RELOCATE/INSTALL/CORRECT/etc.) IN (Ship Type/Class)

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

Encl: (1) (Photographs, sketches, etc. to fully describe the proposed alteration)
 (2) Recommended Changes to Technical Documentation

1. Existing Deficiency/Condition. Statement of circumstances which warrant initiation of alteration request.
2. Alteration Request. In accordance with Volume VI, Chapter 3 of reference (a), request that the following alteration be approved for (Ship Type/Class) ships and be authorized for accomplishment on USS (Ships Name and Hull No.).

<u>Group Name</u>	<u>Group Number</u>
-------------------	---------------------

- a. Brief: Description of alteration desired.
- b. Justification: Statements that the alteration meets one or more of the following criteria:
 - (1) Significant improvement in ship/equipment safety.
 - (2) Significant improvement in equipment/system reliability and/or reduction in maintenance requirements.
 - (3) Significant benefits to health/safety of personnel.
 - (4) Significant improvement in mission capability.
- c. Applicable Plans/Publications: List applicable technical manuals, drawings, correspondence, maintenance documentation, etc.
- d. Priority: Defined by TYCOM instructions.
- e. Relationship to other issued alterations:
- f. Manual Changes: Recommended manual changes (attached as enclosure (2)).
- g. Affect on Habitability.
- h. Materials.
- i. Work to be accomplished by:

**ISIC ENDORSEMENT OF SUBMARINE
ALTERATION REQUEST FORMAT**

4720
Ser
Date

FIRST ENDORSEMENT on Commanding Officer, USS (Ship's Name and Hull No.) Itr 4720 (Ser No. and Date)

From: ISIC (as appropriate)

To: Commander, Naval Sea Systems Command

Via: TYCOM (as appropriate)

Subj: USS (Ship's Name and Hull No.) ARN (Hull No.-CY-Ser #) REQUEST FOR ALTERATION TO
(PROVIDE/REMOVE/REPLACE/RELOCATE/INSTALL/CORRECT/ETC.) IN (Ship Type/Class Ships).

1. Forwarded, concurring with the basic correspondence (with the following comments).
2. The alteration should be applicable to (Type/Class/Hulls).
3. This alteration should be issued as an (A&I/Title D/F/K/P SHIPALT).
4. This alteration should be accomplished by (Forces Afloat/industrial activity).

Copy to:

USS (Ship's Name and Hull No.)(requesting ship)

APPENDIX C

RPCCR FORWARDING LETTER FORMAT

**Installing Activity
Format for End of Availability**

RPCCR Status Letter

9210
Ser
Date

NOFORN (When filled in)

From: Commanding Officer, (Installing Activity)
 To: Commanding Officer, USS (Ship's Name and Hull No.)
 Subj: END OF AVAILABILITY REACTOR PLANT ALTERATION STATUS
 Ref: (a) COMUSFLTFORCOMINST 4790.3; Joint Fleet Maintenance Manual
 Encl: (1) RPCCR Job Control Number (JCN) _____

1. Per the requirements of Volume VI, Chapter 3 of reference (a), enclosures (1) through () forward an RPCCR for each change in reactor plant configuration accomplished by (Installing Activity) on (Ship's Name and Hull No.) during the period (Date) to (Date).

2. The following changes to the reactor plant alteration status are reported:

Alteration Identification/Rev	Previous Status	Current Status	Installing Activity	Remarks
-------------------------------	-----------------	----------------	---------------------	---------

- a. Reactor Plant SHIPALTs:
- b. Reactor Plant A&Is:

3. The following other reactor plant configuration changes, including component replacements in accordance with the applicable NAVSEA reactor plant component replacement and modification technical manual, were accomplished during the availability:

- a.
- b.

Copy to:
 ISIC
 TYCOM (N4)
 EBDIV/NNS (as applicable)

**Ship's Force
Format for Endorsing Installing Activity Letter**

RPCCRs

9210
Ser
Date

NOFORN (When filled in)

FIRST ENDORSEMENT on (Installing Activity) Itr 9210, Ser _____ of (Date)

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

To: TYCOM

Via: ISIC

Subj: END OF AVAILABILITY REACTOR PLANT ALTERATION STATUS

Ref: (a) NAVSEAINST 4720.16; Logistics Management Procedures for Configuration Changes
Installed Outside of Depot Level Availabilities

(b) NAVSEAINST 9210.37; Naval Reactor Plant Material History

1. Readdressed and forwarded/forwarded with the following changes:

2. The ship's master copy of the Ship's Drawing Index (SDI) has been marked up to reflect these actions in accordance with reference (a). Ship's Material History Records have been revised in accordance with reference (b) to reflect these modifications and changes to onboard repair part support have been initiated.

Copy to:
(Installing Activity)

**Ship's Force
Format for Forwarding RPCCRs
in the Absence of Installing Activity Letter**

9210
Ser
Date

NOFORN (When filled in)

From: Commanding Officer, USS (Ship's Name and Hull No.)
To: TYCOM
Via: ISIC
Subj: CHANGES TO REACTOR PLANT ALTERATION STATUS

Ref: (a) COMUSFLTFORCOMINST 4790.3; Joint Fleet Maintenance Manual
(b) NAVSEAINST 4720.16; Logistics Management Procedures for Configuration Changes Installed Outside of Depot Level Availabilities
(c) NAVSEAINST 9210.37; Naval Reactor Plant Material History

Encl: (1) RPCCR JCN _____

1. Per the requirements of Volume VI, Chapter 3 of reference (a), enclosures (1) through () forward an RPCCR for each change in reactor plant configuration accomplished by (Installing Activity) on USS (Ship's Name and Hull No.) during the period (Date) to (Date).

2. The following changes to the reactor plant alteration status are reported:

Alteration Identification/Rev	Previous Status	Current Status	Installing Activity	Remarks
----------------------------------	--------------------	-------------------	------------------------	---------

a. Reactor Plant SHIPALTs:

b. Reactor Plant A&Is:

3. The ship's master copy of the Ship's Drawing Index (SDI) has been marked up to reflect these actions in accordance with reference (b). Ship's Material History Records have been revised in accordance with reference (c) to reflect these modifications and changes to onboard repair part support have been initiated.

Copy to:
(Installing Activity)

ISIC
Format for Endorsement of
Letter Forwarding RPCCRs

9210
Ser
Date

FIRST/SECOND ENDORSEMENT on (Ship/Installing Activity) ltr 9210 Ser _____ of (Date)

From: ISIC

Subj: END OF AVAILABILITY REACTOR PLANT ALTERATION STATUS

1. Forwarded.
2. Data from Section I of each attached RPCCR has been entered into the CSMP.

Distribution:

TYCOM (N4)

NAVSEA (08H)

ANSTR Pittsburgh

EBDIV/NNS (as applicable)

NAVICP Mechanicsburg (Code 87)

Copy to:

(Ship)

(Installing Activity)

VOLUME VI**CHAPTER 5****DEFICIENCY DOCUMENTATION AND REPORTING**REFERENCES.

- (a) OPNAVNOTE 4700 - Representative Intervals, Durations, Maintenance Cycles, and Repair Mandays for Depot Level Maintenance Availabilities of U.S. Navy Ships
- (b) OPNAVINST 4780.6 - Policy for Administering Service Craft and Boats in the U.S. Navy
- (c) OPNAVINST 4700.7 - Maintenance Policy for U.S. Naval Ships
- (d) NAVSEA S0400-AD-URM-010/TUM – Tag-Out Users Manual
- (e) NAVSEAINST 4790.8 - Ship's Maintenance and Material Management (3M) Manual
- (f) NWP 1-03.1 - Naval Warfare Publication Operational Report
- (g) MIL-STD-130N - Identification Marking of U.S. Military Property

LISTING OF APPENDICES.

- A Equipment Operational Capability Range of Values and Definitions.

5.1 PURPOSE. The purpose of this chapter is to provide guidance on accurately documenting ship's material condition and on ensuring that this documentation is done in a timely and expeditious fashion. Deficiency documentation is used for determining and reporting a ship's material condition to ensure maximum operational readiness, maintain an adequate quality of life for embarked personnel, maximize safety for all personnel and ensure the ship reaches its designed service life. This documentation will be used for:

- a. Accurate and timely material readiness reporting.
- b. Reporting ship material deficiencies, requests for maintenance assistance or support equipment from off-ship maintenance activities and the documentation of completed maintenance actions.
- c. Maintaining an accurate Current Ship's Maintenance Project (CSMP).
- d. Maintaining an accurate and current ship's configuration database.

5.1.1 Background.

- a. The Navy has identified the need for a more near real time, accurate and comprehensive understanding of an activity's material condition in a more timely fashion to support fleet material readiness reporting. Additionally, this information is used in developing, planning and executing more thorough and comprehensive maintenance availability work packages and to better project future material condition readiness and actionable trends.
- b. Using existing maintenance documentation (Casualty Reports (CASREP), 3M Maintenance Action Forms (2 Kilo), Class Maintenance Plan (CMP), etc.), material readiness is calculated for equipment, systems, activities, ships or ship classes against various tasks, missions and warfare areas. This information is used by Navy leadership to determine an activity's ability to perform a desired mission or task, and to make recommendations for maintenance actions that can improve the ship's readiness to perform a mission or task. Further, it allows the maintenance community working with constrained budgets, to better prioritize maintenance that can most improve the activity's material readiness for a known mission or task.

- c. Ship operations involve performing various Naval Tasks when, where and how required. While there may be multiple alternate means to accomplish any particular Naval Task to adequately support operations, equipment and systems must function as designed. Constrained resources (time, funds, and manpower) require better synchronization and prioritization of the maintenance effort.
- d. Not all 4790/2Ks impact current material readiness reporting.
 - (1) Condition Based Maintenance (i.e., degraded equipment). Condition Based Maintenance deficiencies drive activity material readiness reporting. The reality of Naval operations is that equipment breaks and system performance is impacted. Condition Based Maintenance is the art of managing material failures. Condition Based Maintenance items run the scope from administrative requirements (placards, stenciling, etc.), run to fail items (e.g., light bulbs, fuses, etc.), gracefully degrading distributed systems (e.g., deck covering, lagging, corrosion, minor leaks, etc.) through catastrophic failures. The Equipment Operational Capability (EOC) Value, Descriptions and Example Table (Appendix A) describes graduations of material condition (fix it after it breaks, fix it before it breaks or fix it because it is about to break).
 - (2) Engineered Maintenance (i.e., CMP or Planned Maintenance System (PMS)). Until they exceed periodicity, engineered maintenance does not impact activity material readiness reporting. Typically time directed maintenance actions encompass the art of anticipating failure. Engineered maintenance includes both push and pull CMP items, items written to arrange services or order parts to support future PMS and Baseline Automated Work Packages written by life cycle managers as placeholders for historically anticipated depot work.
 - (3) Modernization (i.e., alterations). See Chapter 3 (Submarine Fleet Modernization Program) and Chapter 36 (Surface Force Ship/Aircraft Carrier Modernization Program (SHIPMAIN)) of this volume. Planned modernization does not impact activity material readiness reporting. Modernization encompasses replacing obsolete equipment or systems, increasing capacity beyond installed design or adding new capabilities. However, because material deficiencies on replaced/removed equipment or systems are no longer applicable to the activity, material readiness may be positively impacted once modernization is accomplished.
 - (4) Services (i.e., tasks that support maintenance). Services do not impact activity material readiness. Services are overhead items (force protection, berthing ashore, cranes, etc.) in support of maintenance availabilities.

5.1.2 Scope. Except where indicated, this chapter applies to all ships and activities of the Navy (active and reserve). It does not apply to civilian operated ships assigned to the Military Sealift Command. Throughout this chapter, the term “ship” refers to all surface ships, aircraft carriers, submarines, shore activities and service craft specified in reference (a) and the term “activity” refers to both ship and shore activities. Ship’s Force refers to personnel assigned to any “activity”. Reference (b) provides policy and guidance for maintenance of service craft and boats not addressed in reference (c).

5.1.3 Definitions.

5.1.3.1 Material Readiness. Material Readiness, a term interchangeably used with Material Condition, is a value relative to the observed performance of a single component up to and including a system. The value is obtained through a process of the operator’s observation of the parameters for a component and comparing this measurement to a standard (e.g., design criteria or normal operating parameters). The result of the comparison is the value of Material Readiness or Material Condition. The Fleet Measure of Effectiveness is called the EOC. Found in Appendix A, for the full range of this dimensionless value is the Color Representation when displayed, a specific Definition, a Description and Shipboard Examples.

VOLUME VI

CHAPTER 7

**SUBMARINE FORCES AFLOAT PAINTING AND PRESERVATION GUIDELINES
FOR NON-NUCLEAR SPACES AND COMPONENTS**

REFERENCES.

- (a) NAVSEA S9086-VD-STM-010 - NSTM Chapter 631 (Preservation of Ships In-Service - General)
- (b) URO-MRC 003 - Conduct Hull Structural Survey
- (c) SUBMEPP MS 6310-081-015 - SUBMEPP Maintenance Standard - Submarine Preservation
- (d) COMNAVSUBFORINST 5400.39 - Standard Submarine Organization and Regulations Manual
- (e) OPNAVINST 5100.19 - Navy Occupational Safety and Health (NAVOSH) Program Manual for Forces Afloat
- (f) SSPC Painting Manual - Society for Protective Coating Standards and Specifications
- (g) NAVSEA 6310-081-015 - **Technical Handbook for Special Hull Treatment Maintenance and Repair for Submarines**

LISTING OF APPENDICES.

- A Submarine Paint Guide
- B Coating Inspection Report Form
- C Shipboard Power Cleaning Tools

7.1 INTRODUCTION. The objective of this document is to provide Fleet Maintenance Activities (FMA) with the procedures necessary to perform preservation maintenance between major shipyard availabilities. It has consolidated all the necessary knowledge from reference (a) for submarine crews that may be inexperienced in the areas of surface preparation and touch-up painting to maintain protective coating systems. This document is to be used in maintaining and repairing preservation systems on non-nuclear components and spaces of U.S. Navy submarines. Appendix A is a guide to assist with preparing, handling and applying paint to interior submarine surfaces.

7.1.1 Applicability.

- a. This document is not to be used during regular shipyard work, where all prevailing technical requirements of reference (a) applies. This includes preservation of tanks, voids and underwater hull, otherwise referred to as critical coated areas. Critical coated areas are defined as areas that cannot be easily accessed and represerved without drydocking of the ship. Many of these areas are also monitored under the reference (b) inspection program. Ship's Force should not be conducting preservation of these areas unless addressed in this manual. FMAs who are supporting shipyard availabilities should utilize a trained workforce to accomplish work in critical coated areas and/or to complete preservation work associated with reference (b). The lead maintenance activity (shipyard, Regional Maintenance Center, Intermediate Maintenance Facility) executing the availability should promulgate to the FMA the qualifications required of personnel who can accomplish preservation in these areas. These qualifications shall meet the requirements of references (a) through (g) and be acceptable to the lead maintenance activity.
- b. Occasionally tanks are entered for other reasons by the FMA or Ship's Force. National Association of Corrosion Engineers (NACE) Level I and Naval Sea Systems Command (NAVSEA) Paint Basic Inspector (NPBI) training does not instruct on how to inspect an in-service coating system. The Navy is implementing new training and requirements for "coating evaluators". If a tank is entered for any reason, it shall be inspected. If significant defects or paint failure is found, the Type Commander or shipyard shall be contacted. A Departure from Specification may need to be submitted to evaluate deferring repair to a future availability. If immediate repairs are needed, NAVSEA will provide the proper guidance.

7.1.2 Technical Point of Contact. Point of Contact for technical questions regarding this chapter is Karen Furrer, NAVSEA PMS392T122, (202) 781-4341. E-mail: karen.furrer@navy.mil.

7.2 SCOPE. This manual provides information to the FMA with basic step-by-step instructions for:

- a. Inspecting and reporting areas of coating failure.
- b. Providing oversight during the paint process.
- c. Identifying the required surface preparation method.
- d. Preparing the surface for repainting using hand or power tools.
- e. Selecting proper paint(s) for a given application.
- f. Becoming familiar with the Product Data Sheet (PDS) or American Society for Testing and Material (ASTM) F-718 sheet and Material Safety Data Sheet (MSDS) for a given paint.
- g. Mixing and applying the paints.
- h. Using a Wet Film Thickness (WFT) gauge to determine if the proper coating thickness was applied.
- i. Knowing when to apply overcoats in a two (or more) coat system.

7.2.1 Ship's Force Responsibilities. This document assumes that Ship's Force personnel are being assisted by an FMA and:

- a. Will apply all coatings using a brush or roller.
- b. Will not be required to measure environmental conditions such as surface temperature, dew point and Relative Humidity (RH). Personnel should be instructed, during the training program established in Chapter 27, paragraph 27.3.2 of this Volume, that environmental conditions are important when painting and to consult a NACE or NPBI from the FMA if conditions are questionable.
- c. Will not be required to measure surface salt contamination, but should be instructed, as part of the Chapter 27, paragraph 27.3.2 of this Volume, training, that excessive surface salt contamination will shorten the service life of a coating system and to consult a NACE or NPBI paint inspector from the FMA to determine if surface salt concentrations are within the acceptable range for paint application. Also ensures that the surface is washed with clean water.
- d. Will not use spray equipment to apply paint.
- e. Will not use abrasive blast or hydroblasting equipment to prepare the surface.

7.2.2 Fleet Maintenance Activity Responsibilities. This document assumes that the FMA:

- a. Will maintain the tools needed by Ship's Force to accomplish the preservation process and instruct Ship's Force in their proper use.
- b. Will maintain and be familiar with NACE or Society For Protective Coatings surface preparation and cleanliness standards (NACE Level 1 or NPBI inspectors).
- c. Will assist Ship's Force in accomplishing inspections and prioritizing work.

- (1) Read and understand Section 7.8 of this chapter, "General Mixing and Paint application".
- (2) Read and understand the PDS (or ASTM F-718 sheet) and MSDS for the Formula 184 and Formula 187 paint systems.
- (3) Check environmental conditions. Ask for help from SPRUCE barge or FMA personnel.
 - (a) Surface temperature shall be at least 5° F higher than the dew point.
 - (b) Paint shall not be applied at temperatures of 50°F or lower.
 - (c) Relative humidity shall be below 75 percent.

CAUTION: MIXING SHOULD BE PERFORMED AT A TEMPERATURE OF 50° F OR ABOVE.

- (4) Thoroughly mix the A and B components of Formula 184 (black epoxy) in their individual containers by hand stirring. Mix the A and B components together in a 1:1 ratio by volume.

c. Summary.

- (1) Table 4 summarizes mixing, application and overcoat parameters.

Paint	Induction Period (minutes)	Mix Ratio (volume)	Pot Life (hours)	Time Before Overcoating (hours)	Time to Handle (hours)	Wet Film Thickness (mils)	Dry Film Thickness (mils)
F-184, black epoxy camouflage	30 @ 70-90° F 45 @ 55-70° F	1 : 1 (Mix at 50° or above)	2 (maximum)	6 hours (minimum) - 6 months	24 (maximum)	8 - 9	4 -5
F-187, black polyurethane camouflage	None	4 : 1 (Mix at 50° or above)	1 (minimum)	18 hours - 7 days	18 (maximum)	4-5	3

Table 4. Mixing, Application and Overcoat Parameters for Non-Skid Areas.

- (2) Apply the F-184 paint in a smooth uniform layer using a paint brush or roller. (Paragraphs 7.9.2, "Brush Application" and 7.9.3 "Roller Application" of this chapter.) Due to difficulty in removing old paint from depressed tile seam areas, "stripe" these areas with a wide brush prior to roller application.
- (3) Check WFT to assure proper thickness (Paragraph 7.9.4 of this chapter). WFT should be 8-9 mils.
- (4) While the epoxy paint is still wet, sprinkle the abrasive grit material onto the freshly painted film to achieve a uniform roughness over the entire area.
- (5) When the first coat is dry, apply a second coat of Formula 184 black epoxy paint.
- (6) When the second coat of Formula 184 black epoxy is dried, a sealer coat of Formula 187 polyurethane paint must be applied.

- (7) Mix the A and B components of the Formula 187 black polyurethane paint together in a 4:1 ratio by volume. Mix entire gallon of A with entire quart of B. The mixture should be thoroughly blended for two minutes after which it can be used immediately. (There is no induction time for the polyurethane paint.)
- (8) Due to difficulty in removing old paint from depressed tile seam areas, "stripe" these areas with a wide brush prior to roller application.
- (9) Apply the F-187 paint in a smooth uniform layer using a paint brush or roller. (Paragraphs 7.9.2, "Brush Application" and 7.9.3 "Roller Application" of this chapter.)
- (10) Allow 24 hours for paint to cure before permitting foot traffic. Freshly painted areas should be roped off to prevent contamination of the coating.
- (11) Paint should cure for a minimum of 5 days prior to submerging.

7.10.4.3 Special Hull Treatment Tiles - Topside, Sail and Rudder. Due to poor performance of epoxy camouflage paint (Formula 184, old DTRC 2844-1118 formula) when exposed to sunlight, Formula 187, a non-fading polyurethane camouflage paint is used in areas exposed to sunlight, i.e., topside, sail and rudder. This paint is expected to retain its black color for at least two years. It is therefore NOT recommended to recoat the urethane camouflage for at least two years after application. Within the first two years, only cleaning is recommended. **Reference (g) clearly identifies the potential lead hazard associated with Special Hull Treatment (SHT) work and outlines procedures necessary to mitigate this hazard when preparing exterior submarine surfaces for repainting.**

7.10.4.3.1 Cleaning of Formula 187 Urethane Camouflage Coating.

- a. Required Tools: "Greenie pads".
- b. Process:
 - (1) Apply fresh water from firehose or other source to dirty SHT surfaces.
 - (2) Lightly scour the surface with a damp "Greenie Pad" or other similar material to loosen dirt and debris.
 - (3) Hose down surface with fresh water to restore original black color.

NOTE: AFTER TWO YEARS OF SERVICE OR SIGNIFICANT MECHANICAL DAMAGE, FORMULA 187 MAY BE TOUCHED UP.

7.10.4.3.2 Surface Preparation.

- a. Required Tools:
 - (1) 80-100 grit aluminum oxide paper.
 - (2) Shop-Vac type vacuum cleaner.
 - (3) Manufacturer's MSDS for PF-145 HP solvent.
- b. Process:
 - (1) Read and understand Section 7.3 of this chapter, "General Safety Precautions".
 - (2) Read and understand Section 7.5 of this chapter, "General Surface Preparation".

- (3) Clean the surface of any grease, oil, salt or other residue with a detergent solution and rinse with fresh water.
- (4) In accordance with reference (c), Ship's Force should only remove paint when required to accomplish preservation of corroded surfaces or when bare metal is necessary for an inspection or welding. SHT tiles on 688 Class submarines contain 10 percent lead by weight. The generation of airborne SHT dust may have an adverse effect on worker health and contaminate the surrounding environment. In the case where removal of SHT coverply paint is authorized, special work controls must be followed to ensure appropriate worker protection and prevent environmental contamination.
- (5) Hand sand the surface using 80-100 grit aluminum oxide paper to roughen the surface for adhesion. Polyurethane will not adhere to itself unless the previous coat has been sanded.
- (6) Vacuum up dust.
- (7) Clean surface of remaining dust by wiping with PF-145 HP solvent poured directly onto a clean rag. Do not dip the rag into the solvent. Change rags frequently.
- (8) Apply paint as soon as possible (ideally, the same day) after surface preparation has been completed.

7.10.4.3.3 Paint Application.

a. Required Tools:

- (1) Short nap rollers.
- (2) Brushes.
- (3) Rags.
- (4) Manufacturer's PDS or ASTM F-718 sheet for Formula 187, (black polyurethane camouflage).
- (5) Manufacturer's MSDS for the following paints:
 - (a) Formula 187, Component A (black polyurethane camouflage).
 - (b) Formula 187, Component B (black polyurethane camouflage).

b. Process:

- (1) Read and understand Section 7.6 of this chapter, "General Mixing and Paint Application".
- (2) Read and understand the PDS (or ASTM F-718 sheet) and MSDS for the F-187 paint system.
- (3) Check environmental conditions. Ask for help from SPRUCE barge or FMA personnel.
 - (a) Surface temperature shall be at least 5° F higher than the dew point.
 - (b) Paint shall not be applied at temperatures of 50°F or lower.
 - (c) Relative humidity shall be below 75 percent.

c. Summary.

(1) Table 5 summarizes mixing, application and overcoat parameters.

Paint	Induction Period (hours)	Mix Ratio (volume)	Pot Life (hours)	Time Before Overcoating (hours)	Time to Handle (hours)	Wet Film Thickness (mils)	Dry Film Thickness (mils)
F-187, black polyurethane camouflage	None	4 : 1 (Mix at 50° or above)	At least 1	18 hours - 7 days	At least 2	4-5	3

Table 5. Mixing, Application and Overcoat Parameters for Special Hull Treatment Tiles.

CAUTION: MIXING SHOULD BE PERFORMED AT A TEMPERATURE OF 50° F OR ABOVE.

- (2) Thoroughly mix the A and B components in their individual containers by hand stirring. Mix the A and B components together in a 4:1 ratio by volume. Mix entire gallon of A with entire quart of B. The mixture should be thoroughly blended for two minutes after which it can be used immediately. (There is no induction time for the polyurethane paint.)
- (3) Due to difficulty in removing old paint from depressed tile seam areas, “stripe” these areas with a wide brush prior to roller application.
- (4) Apply the F-187 paint in a smooth uniform layer using a paint brush or roller. (Paragraphs 7.9.2, “Brush Application” and 7.9.3 “Roller Application” of this chapter.)
- (5) Check WFT to assure proper thickness (Paragraph 7.9.4 of this chapter). WFT should be 4-5 mils.
- (6) Allow 24 hours for paint to cure before permitting foot traffic. Freshly painted areas should be roped off to prevent contamination of the coating. Paint should cure for a minimum of 5 days prior to submerging.

7.10.5 High Temperature Piping (and Components Near the 12k Evaporator).

- a. To minimize corrosion of carbon steel piping and other components in the vicinity of the 12k evaporator it is important to reduce the accumulation of salt on the surfaces and ensure the heat-resistant paint is applied at the recommended film thickness.
- b. When paint repairs are conducted on high temperature piping or other components in the vicinity of the 12k evaporator, the evaporator **MUST NOT BE OPERATING** (cool).

7.10.5.1 Surface Preparation.

- a. Required Tools:
 - (1) 180 grit sand paper.
 - (2) Shop-Vac type vacuum cleaner.
 - (3) Manufacturer’s MSDS for mineral spirits, TT-T-291.
- b. Process:

- (1) Read and understand Section 7.5 of this chapter, "General Surface Preparation".
- (2) Wash the area to be painted with deionized water. This step removes excess salt.
- (3) Clean with an approved solvent (mineral spirits, TT-T-291, NSN 8010-00-558-7026) to remove oil and grease.
- (4) Remove any loosely adherent paint and rust with a wire brush.
- (5) Lightly abrade with 180-grit sandpaper. Take care to minimize the amount of steel removed. Ensure any residual dust from sanding is removed.
- (6) Wash the area again with deionized water.
- (7) Dry the area and check surface for surface salt concentration. SPRUCE personnel are trained in the measurement of surface salt contamination. If required, consult the SPRUCE barge or FMA personnel for help. If the salt concentration limit is exceeded, wash the area again with fresh water. Pay particular attention to crevices, pits and welds. Dry affected area and measure soluble salt level again to verify that salt concentration is below the maximum level. Repeat this step until soluble salt levels are acceptable.
- (8) Apply paint immediately after the surface has been prepared to prevent re-contamination.

7.10.5.2 Paint Application.

NOTE: PRIOR TO ANY INTERIOR PAINTING, POSITIVE PRESSURE UNIT MUST BE ACTIVATED. THIS WILL PREVENT SOLVENT FROM DAMAGING MOTOR GENERATORS.

a. Required Tools:

- (1) Rollers.
- (2) Brushes.
- (3) Rags.
- (4) WFT gauge.
- (5) Manufacturer's PDS or ASTM F-718 sheet for TT-P-28G (Low VOC heat resisting aluminum).
- (6) Manufacturer's MSDS for TT-P-28G (Low VOC heat resisting aluminum).

CAUTION: HEAT RESISTANT PAINT IS EXTREMELY FLAMMABLE AND SHOULD NOT BE APPLIED AT TEMPERATURES ABOVE 85 °F.

b. Process:

- (1) Read and understand Section 7.3 of this chapter, "General Safety Precautions".
- (2) Read and understand Section 7.6 of this chapter, "General Mixing and Paint application".

- (3) Read and understand the PDS (or ASTM F-718 sheet) and MSDS for the TT-P-28G paint systems.
- (4) Check environmental conditions. Ask for help from SPRUCE barge or FMA personnel.
 - (a) Surface temperature shall be at least 5° F higher than the dew point.
 - (b) Paint shall not be applied at temperatures of 50° F or lower.
 - (c) Relative humidity shall be below 85 percent.

c. Summary.

- (1) Table 6 summarizes mixing, application and overcoat parameters.

Paint	Induction Period (hours)	Mix Ratio (volume)	Pot Life (hours)	Time Before Overcoating (hours)	Time to Handle (hours)	Wet Film Thickness (mils)	Dry Film Thickness (mils)
TT-P-28G	N/A	N/A	N/A	1 @ 400° F	7 minutes @ 400° F	2	0.7-1.0

Table 6. Mixing, Application and Overcoat Parameters for High Temperature Piping.

- (2) Apply two thin coats of TT-P-28G at a WFT of 2.0 mils per coat. During application (brushing), use a WFT gauge to ensure the film thickness is not exceeded. If the paint is too thick, it will delaminate (pop off) when the system comes up to temperature.
- (3) Freshly painted areas should be roped off to prevent contamination during the curing process. This paint does not fully cure until it is heated. Plan painting when all other work in the area is complete to minimize damage to the coating.

7.10.6 Underway Painting - Rust Converters.

7.10.6.1 Maintenance During Operational Cycle. Preservation maintenance performed during the operational cycle should only be performed to arrest and prevent corrosion problems. The two rust converters listed below are approved for use on non-nuclear surfaces with NAVSEA-approved epoxy (MIL-DTL-24441 and MIL-DTL-23236) and enamel (Formula 111) paints.

Rust Converter Paint	Vender
VACTAN	RAYCO Services, Inc. 2512 Broad Bay Road Virginia Beach, VA 23451 (757) 481-0373
UNITED 303 TRIUMPH	United Laboratories 320 37 th Avenue St. Charles, IL 60174 (800) 323-2594

7.10.6.2 Restricted Use. These rust converters are approved under the Submarine Atmosphere Control Program in the LIMITED usage category and may be used with the following restrictions:

- a. Rust converters authorized for use on reactor compartment components which are governed by the Reactor Propulsion Plant Schedules are provided by separate correspondence.

- b. Rust converters are approved for use on all classes of submarines.
- c. Rust converters may be applied to fasteners that are permitted to be painted.
- d. Rust converters are water-based products and should not be used on wetted surfaces or on surfaces of continuous immersion.
- e. Rust converters are used for touch-up not to exceed 10 square feet of surface area per day.
- f. Rust converters are to be applied by brush.
- g. VACTAN should not be applied to surfaces that experience a service temperature greater than 149° F.
- h. TRIUMPH can be used for temperatures up to 200° F.
- i. The minimum temperature during application of TRIUMPH is 38° F; of VACTAN is 50° F.
- j. The maximum quantity to be stored on board while underway is 2 gallons.

7.10.6.3 Surface Preparation.

- a. Required Tools:
 - (1) Needle gun.
 - (2) Inspection mirror (for seeing hard-to-reach areas such as the backsides of beams).
- b. Process:
 - (1) Read and understand Section 7.3 of this chapter, "General Safety Precautions".
 - (2) Read and understand Section 7.5 of this chapter, "General Surface Preparation".
 - (3) Remove loose rust, scale and other contaminants using power and hand tool cleaning methods.
 - (4) Detergent wash the area to remove all oil and grease followed by a fresh water wash/rinse to remove any residual detergent and soluble salts.
 - (5) Allow surface to dry prior to applying rust converter.

7.10.6.4 Paint Application.

- a. Required Tools:
 - (1) Brushes.
 - (2) Rags.
 - (3) Manufacturer's PDS or ASTM F-718 sheet for VACTAN or TRIUMPH.
 - (4) Manufacturer's MSDS for VACTAN or TRIUMPH.
- b. Process:

- (1) Water-based rust converters must be applied on a dry surface by brush only while underway in a closed ship environment.
- (2) Two coats of the rust converter should be applied according to manufacturer's directions.
- (3) Freshly painted areas should be roped off to prevent contamination during the curing process.

7.10.6.5 Overcoating Upon Return To Port. Upon return to port, intact properly adhering rust converters must be overcoated with two coats of paint (either epoxy (MIL-DTL-24441, Type IV) or enamel (Formula 111), depending on the area. The following procedure shall be followed:

- a. Read and understand Section 7.5 of this chapter, "General Surface Preparation".
- b. Use detergents to remove as much oil and grease as possible followed by a fresh water wash/rinse to remove any residual detergent and soluble salts.
- c. Allow surface to dry.
- d. Sand surface to be overcoated using 80 grit paper to provide adequate surface profile for paint adhesion.
- e. Wipe surface and vacuum after sanding to remove any loose paint, dirt or dust.
- f. Read and understand Section 7.3 of this chapter, "General Safety Precautions".
- g. Read and understand Section 7.6 of this chapter, "General Mixing and Paint application".
- h. Read and understand the PDS (or ASTM F-718 sheet) and MSDS for either epoxy (MIL-DTL-24441, Type IV) or enamel (Formula 111) paint systems.
- i. Apply two coats of paint (either epoxy (MIL-DTL-24441, Type IV) or enamel (Formula 111), depending on the surface being painted. The final coat should be the same color as the surrounding area to maintain color uniformity. The combination of rust converter/specified overcoat paint system is considered permanent.

7.10.7 Touch-Up of Miscellaneous Areas of General Corrosion Including New High Solids Coatings.

7.10.7.1 Surface Preparation.

- a. Required Tools:
 - (1) Needle gun.
 - (2) Inspection mirror (for seeing hard-to-reach areas such as the backsides of beams).
 - (3) Brush and dust pan.
 - (4) Shop-Vac type vacuum cleaner.
- b. Process:
 - (1) Read and understand Section 7.5 of this chapter, "General Surface Preparation".
 - (2) Solvent clean to remove oil, grease, dirt, chemicals and water-soluble contaminants. If solvents are prohibited, use detergent and fresh water.

- (3) Use a needle gun to remove loose paint and rust. A needle gun is most effectively used by holding it 90° to the surface, making 2-3 passes about 6-8 inches in length over the same path, then moving over and repeating the process until the entire area is completed. The goal is removal of all rust, loose mill scale and paint to bare metal.
- (4) Feather the edges.
- (5) When needle gunning and sanding are complete, brush and vacuum loose pieces and dust.
- (6) Check the surface for oil that may have been deposited during surface preparation. If necessary, solvent clean to remove oil.
- (7) The presence of excess salts on the surface will cause premature coating failure. Therefore surface conductivity measurements should be made at this point. Contact SPRUCE barge, FMA or other knowledgeable personnel if help is needed. If excessive surface conductivity is measured, wash the area with fresh water and repeat Step (7).
- (8) Apply paint as soon as possible (ideally, the same day) after surface preparation has been completed. Bare metal surfaces will flash rust soon after exposure to the atmosphere. If flash rusting occurs prior to coating application, repeat Steps (3)-(8).

7.10.7.2 Paint Application.

a. Required Tools:

- (1) Rollers.
- (2) Brushes.
- (3) Rags.
- (4) Manufacturer's PDS or ASTM F-718 sheet for the following paints:
 - (a) Formula 150, Type IV (MIL-DTL-24441, Formula 150, Type IV, green primer).
 - (b) Formula 151, Type IV (MIL-DTL-24441, Formula 151, Type IV, haze gray).
- (5) Manufacturer's MSDS for the following paints:
 - (a) Formula 150, Type IV, Component A (MIL-DTL-24441, Formula 150, Type IV, green primer, component A).
 - (b) Formula 150, Type IV, Component B (MIL-DTL-24441, Formula 150, Type IV, green primer, component B).
 - (c) Formula 151, Type IV, Component A (MIL-DTL-24441, Formula 151, Type IV, haze gray, component A).
 - (d) Formula 151, Type IV, Component B (MIL-DTL-24441, Formula 151, Type IV, haze gray, component B).

b. Process:

- (1) Read and understand Section 7.6 of this chapter, "General Mixing and Paint Application".

- (2) Read and understand the PDS (or ASTM F-718 sheet) and MSDS for the two paint systems to be used.
 - (a) F-150, Type IV, green primer.
 - (b) F-151, Type IV, haze gray top coat.
- (3) Check environmental conditions. Ask for help from SPRUCE barge or FMA personnel.
 - (a) Surface temperature shall be at least 5° F higher than the dew point.
 - (b) Paint shall not be applied at temperatures of 35°F or lower.
 - (c) Relative humidity shall be below 85 percent.
- (4) Mix F-150, Type IV, green primer according to manufacturer’s instructions. Mix ratio is 1:1 by volume. (Paragraph 7.8.3 of this chapter, Mixing and Application Procedures for the Navy Epoxy Paint System (MIL-DTL-24441).

c. Summary.

- (1) Table 7 summarizes mixing, application and re-coat parameters.

Paint	Induction Period (hours)	Mix Ratio (volume)	Pot Life (hours)	Time Before Overcoating (hours)	Time to Handle (hours)	Wet Film Thickness (mils)	Dry Film Thickness (mils)
F-150, green primer	N/A	1 : 1	6 @ 70° F	Minimum of 3 @ 40° F 3 @ 70° F @ 50% RH	Minimum of 24 @ 40° F 5 @ 70° F @ 50% RH	6-7	4-5
F-151, gray topcoat	N/A	1 : 1	6 @ 70° F	Minimum of 3 @ 40° F 3 @ 70° F @ 50% RH	Minimum of 24 @ 40° F 5 @ 70° F @ 50% RH	6-7	4-5

Table 7. Mixing, Application and Re-Coat Parameters for Touch-Up of Miscellaneous Areas.

- (2) Apply by brush. Be certain to force coating into corners, behind beams and areas that are difficult to reach. Pay particular attention to newly installed components such as pipe hangers and clamps. (Paragraph 7.9.2 of this chapter, “Brush Application”.)
- (3) Check WFT to assure proper thickness (Paragraph 7.9.4 of this chapter).
- (4) Wait until the first coat is dry, a minimum of 3 hours, before overcoating. If, after 3 hours, coating is not dry, check hourly until coating is dry. REMEMBER - PDS (or ASTM F-718 sheet) and Table 7 guidance for overcoating interval is an estimate. You must be able to walk on the first coat without damaging it.
- (5) When first coat is dry, apply a “stripe” coat on welds, corners and edges. The “stripe” coat should be a different color than either the first coat (green) or the topcoat (gray) to facilitate coverage. F-153, Type IV, a black coating, is a good choice. If a different color is not available, use F-151, Type IV, gray as the “stripe” coat.

- (6) When the "stripe" coat is adequately dry, mix F-151, Type IV, gray topcoat according to manufacturer's instructions. Mix ratio is 1:1 by volume. (Paragraph 7.8.3 of this chapter, Mixing and Application Procedures for the Navy Epoxy Paint System (MIL-DTL-24441).)
- (7) Apply by brush or roller (if a roller can reach all areas that need paint). (Paragraphs 7.9.2, "Brush Application" and 7.9.3 "Roller Application" of this chapter.) If F-151 was used as the "stripe" coat, pay particular attention to completely cover the "stripe" coat since there is no color difference to provide visual contrast.
- (8) Check WFT to assure proper thickness (Paragraph 7.9.4 of this chapter).
- (9) Freshly painted areas should be roped off to prevent contamination during the curing process.
- (10) Allow coatings to cure per the curing schedule given in the PDS (or ASTM F-718 sheet).
- (11) Ventilation should be in place during the curing process as it will facilitate curing and prevent build-up of hazardous vapors.

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VOLUME VI**CHAPTER 8****MINIATURE/MICROMINIATURE ELECTRONIC REPAIR PROGRAM**REFERENCES.

- (a) NAVSUP Publication 485 - Afloat Supply Procedures
- (b) NAVSEAINST 4790.17 - Fleet Test and Repair of Shipboard Electronic Equipment
- (c) NAVSEA SE004-AK-TRS-010/2M Marine Corps TM 5895-45/1B - Standard Maintenance Practices 2M Electronic Assembly Repair
- (d) NAVSEAINST 4790.8/OPNAVINST 4790.4 - Ships' Maintenance and Material Management (3-M) Manual
- (e) COMNAVAIRLANTINST 4790.42/COMNAVAIRPACINST 4790.54 - CV/CVN Intermediate Maintenance Activity (IMA) Module Test and Repair Facility (MTRF)
- (f) NAVSEA TE000-AA-MAN-010/2M - Certification Manual for Miniature/Microminiature (2M)/Module Test and Repair (MTR) Program
- (g) MIL-HDBK-263 - Electrostatic Discharge Control Handbook for Protection of Electrical and Electronic Parts, Assemblies and Equipment
- (h) COMNAVAIRLANTINST 4790.34 - Electrostatic Discharge (ESD) Control Program
- (i) NAVSUP 484 - Supply Afloat Fleet and Field Packaging Procedures
- (j) OPNAVINST 5100.19 - Navy Occupational Safety and Health (NAVOSH) Program Manual for Forces Afloat
- (k) NAVPERS 18068 - Manual of Navy Enlisted Manpower and Personnel Classification and Occupational Standards
- (l) OPNAVINST 4700.7 - Maintenance Policy for U.S. Naval Ships
- (m) COMNAVSURFLANT/COMNAVSURFPACINST 4400.1 - Surface Force Supply Procedures
- (n) MIL-STD 1686 - Electrostatic Discharge Control Program for Protection of Electrical and Electronic Parts, Assemblies and Equipment
- (o) MIL-HDBK-773 - Electrostatic Discharge Protective Packaging
- (p) SPCCINST 4441.170 - COSAL Use and Maintenance Manual
- (q) NAVAIR 01-1A-23 - Electronic Assembly Repair Standard Maintenance Practice
- (r) NAVAIR 17-15-99 - **Operations and Maintenance O and I Level**
- (s) NAVAIR 17-600-193-6-1 - Pre-operational Check List
- (t) NAVAIR 17-600-193-6-2 - **Periodic Maintenance Requirements Manual**
- (u) COMNAVAIRLANTINST 13650.1 - Individual Material Readiness List (IMRL) Program
- (v) COMSUBPACINST 4419.1 - Submarine Tender Supply Management Procedures for AN/BSY-1 Repairables
- (w) COMSUBLANTINST 4419.1 - Module Screening and Repair Activity (MSRA) Repairables Management Procedure

LISTING OF APPENDICES.

- A Emergency 2M Repair Process
- B Normal 2M Repair Process
- C MTRF 3-M Reporting (Aircraft Carriers Only)
- D Sample MTRF Amplifying Procedures Message
- E Sample CVN MTRF Repair Request Message
- F Sample MTRF Quarterly Report Message (Aircraft Carriers Only)
- G MTRF Equipment Configuration

8.1 PURPOSE. To promulgate policy, guidelines and procedures for the management of the Miniature/Microminiature (2M) Electronic Repair Program.

8.1.1 Scope. This chapter applies to all activities engaged in the repair of electronic equipment, assemblies, subassemblies, and modules. This chapter does not apply to electronic equipment under the cognizance of Naval Sea Systems Command Nuclear Propulsion Directorate (NAVSEA 08) or the Strategic Systems Project Office.

8.1.2 Policy. All failed Circuit Card Assemblies (CCA)/Electronic Modules (EM) are candidates for 2M screening and repair using Automated Test Equipment (ATE), General Purpose Electronic Test Equipment (GPETE) (including AN/USM-674(V)(2) and the Huntron 2000), and test bed installations. CCAs/EMs may be certified Ready For Issue (RFI) per reference (a).

8.1.3 Background. The 2M Electronic Repair Program, established by reference (b), supports the test and repair of electronic equipment at the Fleet level. Reference (c) describes 2M capabilities which include the performance of high quality repairs on CCAs and EMs. This 2M repair capability includes training, tools, techniques, technical documentation and certification.

8.2 RESPONSIBILITIES.

8.2.1 Fleet Commander. Fleet Commanders shall:

- a. Operationally administer the 2M Electronic Repair and the Module Test and Repair Programs.
- b. Inspect and certify 2M repair facilities and technicians in accordance with reference (b) in conjunction with the Combat Systems Readiness Review (CSRR).
- c. Ensure all 2M maintenance actions are documented in accordance with reference (d).

8.2.2 Type Commander/Immediate Superior In Command. Type Commanders (TYCOM)/Immediate Superiors in Command shall:

- a. Coordinate and manage the 2M program.
- b. Monitor the effectiveness of the 2M program and provide recommendations concerning 2M equipment, tools, and training.
- c. Implement progressive repair procedures.
- d. Coordinate logistic support, outfitting requirements, and deployment priorities for 2M repair stations and associated test equipment.
- e. Monitor 2M certification status and direct corrective actions as required.
- f. Schedule 2M certifications in conjunction with the CSRR prior to deployment, or as required.
- g. (Aircraft Carriers only) Conduct Module Test and Repair Facility (MTRF) inspections in accordance with reference (e) during the CSRR, as required, or prior to deployment.

8.2.3 Commanding Officer/Officer In Charge. Commanding Officers/Officers In Charge shall:

- a. Establish a 2M program under the cognizance of the Electronics Material Officer (EMO) and the Combat Systems Officer. For Fleet Maintenance Activities (FMA), utilize the Electronics Repair Officer as the overall coordinator.
- b. Maintain certified 2M stations and technicians.
- c. Screen and repair all CCAs/EMs using the progressive repair process. Submit CCAs/EMs beyond Ship's Force repair capability to the FMA.

VOLUME VI

CHAPTER 12

DEGAUSSING

REFERENCES.

- (a) OPNAVINST C8950.2 - Magnetic Silencing
- (b) NAVSEA S9086-QN-STM-010 - NSTM Chapter 475 (Magnetic Silencing)
- (c) NAVSEA S9475-AC-PRO-010 - Degaussing Forms, Records and Reporting Procedures
- (d) NAVSEA S5475-AL-PRO-010 - Principles and Procedures for Magnetic Treatment of Ships
- (e) SSPINST 8950.2 - Procedure for Fleet Ballistic Missile (FBM)/Strategic Weapons System (SWS) Components During Flash-Deperm Treatment of an SSBN

12.1 PURPOSE. To provide magnetic silencing and deperming requirements, and the check ranging and reporting procedures defined by reference (a). Reference (b) provides the basic principles and background of degaussing.

12.2 DEGAUSSING DEFINITIONS.

12.2.1 Deperming. Deperming is the magnetic treatment of a ship's hull to minimize permanent magnetism. All newly constructed ships require deperming. The deperming needs of operational ships are established by check ranging.

12.2.2 Installed Degaussing System. A shipboard system which reduces the residual permanent and induced magnetic signature of the ship, and is the ship's primary passive mine countermeasure system. Different combinations of degaussing coils, type of controls and power supplies help to identify a degaussing system.

12.2.3 Magnetic Compass Compensation. Magnetic field from a ship's degaussing system can interfere with a ship's magnetic compass heading and make the system useless for navigation. Per reference (b), a compensating coil is set up around the magnetic compass to neutralize the effect of degaussing coil field in the vicinity of the compass.

12.2.4 Check Ranging. The action of a ship making reciprocal range runs over an instrumented range, at a Magnetic Silencing Facility (MSF), for purposes of measuring the ship's degaussed magnetic signature. Check ranging is the principle method of determining the effectiveness and reliability of installed degaussing systems. A satisfactory check range is two range runs on reciprocal headings within a six week period which are determined to be magnetically satisfactory while ship's degaussing equipment is operating properly. **Detailed information on contacting MSFs is located in the ship's degaussing folder of paragraph 12.2.5 of this chapter.** Degaussing range services are available at the following locations:

San Diego, CA	Norfolk, VA
Pearl Harbor, HI	Mayport, FL
Yokosuka, Japan	
Kings Bay, GA	

12.2.5 Degaussing Folder. The Degaussing Folder (NAVSEA 8950/1) is an official ship log. It contains instructions for operation of the degaussing system, degaussing charts, values for current and turn settings, installation forms, compass compensation forms, and a log section showing all pertinent details of magnetic treatment and of action taken on the ship's degaussing system for the information of degaussing authorities. The degaussing folder is issued to a ship by the MSF that renders the initial magnetic treatment and system calibration. Reference (c) provides the detailed requirements for maintaining the degaussing folder.

12.2.6 Degaussing Watch List.

- a. The Degaussing Watch List is a list of all degaussing actions required on U.S. Navy ships with installed degaussing systems. The watch list is compiled and distributed by Naval Sea Systems Command based on recommended degaussing actions submitted by the MSF, industrial activities, and other official sources.
- b. Each item on the Degaussing Watch List will show the name of the deficient ship and a brief explanation of the circumstances on which the required degaussing action is based (e.g., unsatisfactory magnetic condition, faulty degaussing system, lack of trained degaussing personnel, etc.), and the nature of the required actions to be taken. Degaussing Watch List items are indexed by number and urgency codes for future reference.
- c. Afloat units are provided copies of the Degaussing Watch List by Naval Sea Systems Command for those items that apply to their configuration. Type Commanders are provided copies of all Degaussing Watch List items and periodic summaries issued by the MSF.

12.3 SHIPS WITH INSTALLED DEGAUSSING SYSTEMS.

- a. Reference (a) mandates check ranging for ships. To meet minimum requirements, a satisfactory check range is required every six months. Requirements for the check ranging of ships are as follows:
 - (1) After new construction.
 - (2) Before and after a major dry-docking availability.
 - (3) After a major shock to the hull from a nearby explosion.
 - (4) After grounding or collision.
 - (5) As feasible, before entering mined waters.
 - (6) Before issuing a Casualty Corrected of any Casualty Report degaussing equipment.
 - (7) At every opportunity, when entering or leaving a port with ranging facilities. **Declining use of range facilities is not an option.**
 - (8) After a major alteration to the hull and superstructure.
- b. When ranging facilities are not available in the home port, ships will satisfactorily check range annually.
 - (1) Ships forward deployed to areas without ranging facilities are exempted from check range requirements by reference (a).
 - (2) Ships not equipped with an installed degaussing system are not required to check range.
- c. A ship which becomes the subject of a Degaussing Watch List item should send an OPNAV 4790/2K deferred action for Current Ship's Maintenance Project (CSMP) documentation. When the item has been corrected, and upon completion of satisfactory check ranging, the ship must submit a completed action document to update the CSMP.
- d. Installed degaussing systems will be operated at all times while underway.

12.3.1 Check Ranging.

- (1) Identification of shipboard topside corrosion problem areas.
 - (2) Recommendations for methods and means of corrosion problem correction.
 - (3) Informing Ship's Force of local industrial assets, including local Fleet Maintenance Activity/RMC, other industrial facilities (i.e., industrial activities) or Commercial Industrial Services assets.
 - (4) Self-help information for Ship's Force.
 - (5) Technical assistance on setting up and updating a ship's Corrosion Prevention and Control Program.
- c. Perform tank, void and general structural inspections as tasked by the Port Engineers and MPMs. Inspections on surface ships and aircraft carriers will use references (a) and (c). Inspector/surveyor will ensure all inspection data is entered into the CCIMS database within three working days upon completion of inspection.

13.4.3 Surface Ships.

- a. Set up an ongoing corrosion prevention and control program, including all topside structure, equipment, machinery, fixtures, combat and weapons systems, and components.
 - (1) For Commander, Naval Surface Force, use reference (d) as guidance.
 - (2) For Commander, Naval Air Force, use reference (e) Chapter 8 as guidance.
 - (3) Additional guidance can be found in references (a), (b), Maintenance Index Page (MIP) 1500, MIP 6300 and MIP 6641.
- b. Take planned and/or corrective action on all potential discrepancies, and enter all significant discrepancies into the Current Ship's Maintenance Project.
- c. Ensure scheduled AWRs requesting tank, void and general structural inspections are conducted by RMC or Type Commander assigned inspectors and surveyors as required by work center Planned Maintenance System. Ensure the AWR includes requirements for cleaning and gas free services as required.
- d. (Aircraft Carriers only) Aircraft carrier Type Commanders (TYCOM) shall employ National Association of Corrosion Engineers (NACE) Certified Coating Inspectors to train and assist Ship's Force with coating system inspections and the documentation of these assessments in support of the availability planning process. These inspectors will also provide training in areas of surface preparation, coating selection and application and Quality Control process for the preservation of spaces and equipment by Ship's Force personnel. The overall collection, input and management of the CCIMS database by NACE Certified Coating Inspectors at the TYCOM is required throughout the 32 month availability cycle to fully support Maintenance Program Managers in the life cycle management of shipboard preservation.
- e. (Aircraft Carriers only) The Repair Officer is designated as the Ship's Corrosion Control Officer and is responsible to ensure divisions outlined in reference (e) (or series) Chapter 8 are qualified to conduct inspections in accordance with reference (c). All inspection results will be entered into the CCIMS database. Departures From Specifications (DFS) shall be submitted in accordance with this manual and as defined in reference (c). **The Repair Office will accomplish a joint inspection with the Supervisor**

and the Commanding Officer's designated representative (i.e., either Ship's Force personnel or a TYCOM NACE Inspector) upon completion, inspection and acceptance, by the contractor, of work within each compartment.

- f. (Aircraft Carriers only) For any tanks and/or voids which are not normally filled with seawater and/or not designed to be exposed to seawater, Ship's Force will ensure the following:
- (1) Only fresh water may be used in any tanks and/or voids which are not normally exposed to seawater (e.g., water transferred to peak tanks and/or dry voids for use in controlling list and/or ballasting the ship must be fresh water).
 - (2) Report to the TYCOM those tanks and/or voids in which fresh water is being used for controlling list and/or ballasting the ship.

APPENDIX A

SAMPLE CANNIBALIZATION REQUEST MESSAGE

FM USS (SHIP'S NAME AND HULL NO.)/(CANNIBALIZING SHIP)
 TO CLASSRON/ISIC/(AS APPROPRIATE)
 INFO CLASSRON/ISIC/(AS APPROPRIATE)
 COMNAVSURFLANT NORFOLK VA//N41/N43/(LANT FLEET SHIPS, ALL MCM'S AND PC'S)
 COMNAVSURFPAC SAN DIEGO CA//N41/N43/(PAC FLEET SHIPS)
 NAVICP MECHANICSBURG PA//03113/
 (APPROPRIATE RMC AND/OR RMC DET)
 SUBMEPP PORTSMOUTH NH//DDS/ASDS/SS/. (para 14.4.1.f)
 USS (SHIP'S NAME AND HULL NO.)/(CANNIBALIZED SHIP)
 BT
 UNCLAS //N04400//
 SUBJ/ACTIVE SHIP CANNIBALIZATION REQUEST//
 MSGID/GENADMIN/USS (ORIGINATING SHIP'S NAME AND HULL NO.)//
 REF/A/MSG/USS (SHIP'S NAME AND HULL NO.)/(DTG)//
 REF/B/DOC/COMUSFLTFORCOMINST 4790.3//
 NARR/REF A IS PROCEDURE FOR INITIAL CASREP/REF B IS FLEET MAINT MAN VOL VI CHAP 14
 PROVIDING TYCOM POLICY ON ACTIVE CANNIBALIZATION.//
 RMKS/1. TO CORRECT CASREP IAW REF A ON BOARD USS (SHIP'S NAME AND HULL NO.)
 REQ ACTIVE SHIP CANNIBALIZATION PER REF B. FOLLOWING MATL REQMNT APPLIES:
 A. (EQUIPMENT)/(EIC)
 B. (CASREP SERIAL NO.)/(C-RATING)
 C. (SHIP'S STATUS - D-DEPLOYED; N-NON-DEPLOYED; P-PRE-DEPLOYED; RR-ROH;
 S-SPECIAL OPS)
 D. (COG SYM-NSN/FSCM-PART NUMBER/NOMENCLATURE)
 E. (APL NO.)
 F. (CIRCUIT SYMBOL, IF APPLICABLE)
 G. (QTY REQUIRED)/(QTY ALLOWED)/(QTY ON HAND).
 2. SUGGESTED SOURCE IS USS (SHIP'S NAME AND HULL NO.) (CANNIBALIZED SHIP) IF REQUIRED
 PAYBACK BY DIVERSION. RECONSIGNMENT OF REQN USS (SHIP'S NAME AND HULL NO.)
 (CANNIBALIZING SHIP) OUTSTANDING REQN (REQUIRED INFORMATION). STATUS AB1/EST AVAIL
 DATE (DAY, MONTH, YEAR).
 3. CANNIBALIZATION ACTION NECESSARY FOR USS (SHIP'S NAME AND HULL NO.)
 (CANNIBALIZING SHIP) TO MEET (DEPLOYMENT SCHEDULE), (OTHER JUSTIFICATION AS
 APPROPRIATE)//
 BT

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

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- d. Upon induction of the first ship of each class into the Program, submit preliminary habitability space arrangement concepts or drawings to COMNAVSEA's NSWCCD 974 ISEA/LCM for verification of conformance to applicable ship habitability specifications and criteria (e.g., reference (a)). Submittal of concepts or drawings for follow-on ships of the class is not required, unless different space arrangements are proposed. Submit final habitability space arrangement drawings for NSWCCD 974 ISEA review (prior to Planning Yard signature).
- e. Prepare, approve or task approval by the EPY NAVSEA drawings for the Program as required by Appendix A of this chapter. Provide copies of locally approved drawings to the EPY. (For nuclear-powered ships, drawings are submitted to the Hull Planning Yard/Reactor Planning Yard for review and approval.)
- f. Maintain a chronological record of all projects accomplished on each ship from the induction of the ship into the Program through decommissioning. This record includes initial ship check data, copies of all installation drawings, red-line drawings (if any) and other pertinent data.
- g. Identify and oversee the procurement of all required installation material. Maintain a material commodity database identifying all material approved for use under the Program.
- h. Prepare and update procurement specifications for habitability material.
- i. Identify requirements for Indefinite Delivery Indefinite Quantity Contracts to provide material for frequently used material items. (Contracts are normally awarded and administered by the Fleet and Industrial Supply Centers.)
- j. Operate material staging centers for the receipt, staging and shipping of project material.
- k. Perform quality assurance checks at material staging centers and onboard ships of new material and hardware. Prepare Quality Deficiency Reports and Reports of Discrepancy on requisitioned material as needed.
- l. Provide administrative assistance to the TYCOM in the preparation of long range habitability improvement plans and related correspondence.
- m. Maintain a habitability website to facilitate the dissemination of Program information.
- n. Respond to fleet requests for habitability assistance or support.
- o. Use NSWCCD 974's web site to access Navy approved furniture, food service and laundry equipment of references (b), (c) and (d) at: <https://90machinery.navsses.navy.mil/habitability/>.
- p. When required, request NSWCCD 974 ISEA/LCM support for approval of alternative food service/laundry equipment and furniture not found in references (b), (c) and (d). When required, request NSWCCD 974 ISEA/LCM to conduct equipment selection/evaluation and testing. Also, request NSWCCD 974 support for equipment Integrated Logistics Support packages (parts support via Allowance Parts Lists, Tech Manuals and Maintenance Index Pages/Maintenance Requirement Cards) and Coordinated Shipboard Allowance List support.

16.2.2.1.5 Supply Activity.

- a. Prepare, contract, and procure materials.
- b. Administer other associated contracts.

16.2.2.1.6 Ship Commanding Officer. (When projects are accomplished by Ship's Force.)

- a. Assign project manager and petty officer supervision for projects.
- b. Assign an adequate labor force for removal, space preparation, installation and required fire watches working under technical advisor supervision.
- c. Conduct training programs.
- d. Account for, coordinate all movement of, and store all project material as it is received on board.
- e. Coordinate all required tag-out/in paperwork and Work Authorization Forms.
- f. Dispose of all retrograde material generated by the project.
- g. Report changes affecting repair parts support to Naval Inventory Control Point. Technical data will be provided to the ship by the Agent preparing installation drawings.
- h. Report completion to the TYCOM with summary of lessons learned.
- i. Ensure Ship's Selected Records are updated, as appropriate. Technical data will be provided to the ship by the Agent preparing installation drawings.

16.2.2.2 Project Milestones. Advanced Planning milestones for scheduled projects are listed in Appendix C of this chapter.

16.2.2.2.1 Advance Planning Notice (Surface Force Ships only). This TYCOM generated notice identifies Projects proposed for accomplishment, and provides work scope details including, if applicable, Ship's Force manpower requirements. This notice also requests Commanding Officer's comments, concurrence, and commitment of resources to the proposed projects.

16.2.2.2.2 Advance Planning Notice (Aircraft Carriers only). Habitability projects are entered into the Availability Work Package. Volume II, Chapter 3 of this manual provides guidance in the development and revision of the Availability Work Package.

16.2.2.2.3 Project Confirmation Notice. Following receipt of the Commanding Officer's concurrence with the proposed work scope and commitment of resources, the TYCOM confirms the projects. Thereafter, any modification or change to the scope of the projects will adversely affect scheduled milestones and could result in project deferral or cancellation.

16.2.2.2.4 Project Authorization. (Applicable to projects accomplished by Ship's Force.) Upon receipt of the Commanding Officer's project start request, normally about two weeks before the start of the maintenance availability, the TYCOM evaluates readiness to begin the project and authorizes the project to be started. Rip-out shall not proceed until receipt of this authorization.

16.2.2.3 Project Completion Report. (Applicable to projects accomplished by Ship's Force.) Following completion of the project, the Commanding Officer shall prepare a letter describing the project experience, which will be used by the TYCOM to update planning and installation practices. The letter should include the name and designation of the project, funds expended, certification that Integrated Logistics Support procedures have been followed, and any significant problems encountered, improvement recommendations, or lessons learned. Completion letters on all authorized projects should be forwarded via the chain of command to the TYCOM.

- a. Act as team "lead" for all 3-M Assessments of activities under their cognizance and provide the results of the assessment to the ship or activity via the Immediate Superior In Command (ISIC) using the format of Appendix B.
- b. Originate all correspondence relating to 3-M Assessments, Periodic Monitoring, and reports of non-compliance with CNO WASHINGTON DC/YMS: 941107/4790.4C and COMUSFLTFORCOMINST 4790.3.
- c. Carry out the duties and responsibilities of the TYCOM during PMS installations.
- d. Monitor MDS documents and report deficiencies to the ISIC for corrective action.
- e. Provide the following support to the ISIC:
 - (1) 3-M System monitoring.
 - (2) TYCOM 3-M Assist Visits as described by reference (a).
 - (3) PMS MDS technical assistance.
 - (4) On site training in PMS, MDS and PMS Scheduling (SKED software).
 - (5) Assistance with the preparation and submission of TFBRs.
 - (6) Assistance in obtaining prompt correction to faulty PMS documentation (liaison with In-Service Engineering Activity (ISEA)).
 - (7) On a case basis, provide the authorization to use modified (red lined) PMS documentation.

19.2.1.3 Immediate Superior In Command. The ISIC shall designate a 3-M Officer in writing. The 3-M Officer is responsible for the satisfactory administration of 3-M programs, in accordance with reference (a) and this chapter, for subordinate Commands or activities.

19.2.1.4 In-Service Engineering Activity. ISEAs are those activities designated by NAVSEA as the technical expert for specific systems and/or equipments. Naval Surface Warfare Center, Carderock Division (NSWCCD), for example, is the ISEA for the majority of Hull, Mechanical and Electrical equipment installed on most ships. ISEA responsibilities include but are not limited to the following:

- a. Development of PMS documentation.
- b. Maintenance of PMS documentation.
- c. Timely responses to TFBRs.
- d. Providing copies of critical TFBR resolutions to all holders of the affected Maintenance Index Page (MIP)/Maintenance Requirement Card (MRC). All other resolutions will be integrated into the next available Force Revision.

19.2.1.5 Naval Sea Logistics Center Detachments. Responsibilities include but are not limited to the following:

- a. Maintain the Navy PMS Database.
- b. Receive, screen and process TFBRs.

- c. Resolve TFBRs within their technical capability.
- d. Develop and distribute Force Revisions as required.

19.2.1.6 Submarine Maintenance Engineering, Planning and Procurement Activity (Submarines only). Submarine Maintenance Engineering, Planning and Procurement Activity (SUBMEPP) is a NAVSEA engineering activity chartered to support NAVSEA and the submarine TYCOMs in their effort to maintain a high degree of Submarine Force Material and Operational Readiness. In support of 3-M, SUBMEPP is tasked by NAVSEA and the TYCOMs with the following:

- a. Act as the TYCOM screening activity for TFBRs submitted by Submarine Force activities.
- b. Maintain the Submarine Force TFBR H/T Program.
- c. Establish, maintain, update and distribute all requirements as MJC Items in support of TYCOM Alteration Management System, Periodic Maintenance Requirements (PMR), Baseline Overhaul Work Packages/Selected Restricted Availability (SRA) Routines and Standard Availability Routines.
- d. Provide semi-annual analysis of Naval Sea Logistics Center (NAVSEALOGCEN) historical MJC originated data and distribute updated planning and estimating data to include changes in estimated MJC manhours.
- e. Provide semi-annual analysis of NAVSEALOGCEN historical PMR originated data and distribute updated manhour and material requirements to the PMR scheduling and Technical Repair Standards.
- f. Liaison with ISEAs and NAVSEALOGCEN detachments to ensure submarine TFBRs receive accurate and timely responses.
- g. Assist with PMS installation on all new construction submarines.

19.2.1.7 Afloat Training Group (COMNAVSURFOR for Ships only). Afloat Training Groups are under the technical administration of the Fleet Training Commands. They provide Surface Force platforms with the following:

- a. Conduct 3-M Assessments.
- b. Technical and personal support for 3-M training.
- c. 3-M training services as needed.

19.2.1.8 Ship's Maintenance and Material Management Coordinator/Officer. The duties and responsibilities of the Ship's Maintenance and Material Management Coordinator (3-MC)/3-M Officer are well defined in reference (a). Specifically the 3-M Coordinator/3-M Officer is the functional manager of the 3-M System and is responsible to the Executive Officer for the administrative requirements of the Ship's 3-M program. In addition to the requirements of reference (a) the following applies:

- a. Develop and administer the Ship's PMS Spot Check Program. Section II-A of Appendix A of this chapter may be used as a spot check evaluation sheet.
- b. Monitor the Ship's 3-M Personnel Qualification Standard (PQS) Program and maintain an auditable record of personnel qualified in 3-M PQS.
- c. Ensure that all Equipment Status Log/Ship's Force Work List items outstanding for more than 30 calendar days are converted to 3-M deferrals.

APPENDIX A

SECTION I-A

ADMINISTRATION EFFECTIVENESS REVIEW (AER)

Ship	Department	Division	Work Center	Date
General				
Assessment Attribute			Value	Grade
1.	Does the Work Center PMS file contain:			
	a.	A correction sheet that indicates all changes? (e.g., FR, ACN, TFBR response)		1
	b.	Supplementary information (e.g., current and applicable 3-M messages and notices)?		1
	c.	Current List of Effective Pages (LOEP)? (Verify Force Revision number.)		1
	d.	All Maintenance Index Pages (MIPs) current? (Verify MIP control numbers against the LOEP and against SKED.)		1
	e.	Current Service Brief? (Electronic or printed.)		1
2.		Are all pen and ink changes on the LOEP and MIPs (except where allowed by management aids) annotated with the reference for the change (TFBR serial, Document Input Transmittal serial, etc.) and properly noted by the correct authority?		5
3.		Are any applicable MRCs incorrectly lined out or not lined out on MIPs? Do all related maintenance and safety of ship references match the MIPs? (Was all maintenance scheduled correctly?)		10
4.		Does the Work Center retain an auditable record of personnel PMS qualifications and designation letters?		3
5.		Does the Work Center retain an auditable record of personnel qualified to perform maintenance within controlled work boundaries (QA PQS 301 Craftsman)?		3
Maintenance Requirement Card (MRC) Deck				
6.		Is the work center deck of MRCs, including classified MRC locator cards, complete and current (verify syscom MRC control number against MIPs) per the 3-M Manual/TYCOM Guidance?		2
7.		Are classified MRCs complete and current?		5
8.		Are blanks requiring Ship's Force data filled in prior to use?		3
Equipment Guide Lists (EGL)				
9.		Are EGLs entered in SKED for all applicable equipment?		5
10.		Are EGLs current and a paper copy attached to the parent MRC, if printed? (verify MRC control number against MRC).		3
11.		Are EGLs properly filled out (e.g., equipment name, equipment location, equipment unique identifier)?		2
12.		Are separate EGLs prepared for items that require more than one days worth of work?		1
Situational Requirements				
13.		Do the situational requirements listing reflect the most current force revision? (List is available on PMS CD under R-Check header.)		2
14.		Do the situational requirements listing reflect the current status of the Work Center MIPs? (Line outs on MIP transferred to the situational requirements listing.) Are lineouts initialed by the WCS?		3

15.		Does the R-Check event manager reflect situational maintenance properly entered?	3	
16.		Are situational events being triggered in SKED when applicable?	5	
PMS Execution & Accountability				
17.		Have completed log sheets been reviewed by the Work Center Supervisor and Division Officer?	3	
18.		Was maintenance assigned only to qualified maintenance personnel for MRCs requiring unique qualifications/NECs?	5	
19.		Is all applicable information entered (e.g., maintenance person assigned, maintenance person signature, date completed)?	2	
20.		Are 13 week accountability logs retained for the current week and 13 previous weeks?	3	
21.		Is the responsible maintenance person listed on the logs signing for completion of the maintenance action?	2	
22.		If multiple maintenance persons are assigned, is the petty officer in charge or the most senior person signing for completion of the maintenance action?	2	
23.		Was the maintenance (e.g., currently scheduled, previously completed, situational requirements and unscheduled maintenance added) on the accountability logs entered into SKED?	10	
24.		Is a flip page entry made for items not completed during the week?	2	
25.		Were deferred MRCs within periodicity placed into the Reschedule column and carried over into the next quarter?	5	
26.		Is a unique SOMS identifier/tagout serial number or N/A entered in the tagout block?	2	
27.		Is any means being used to identify mandatory related maintenance items with their parent PMs on the accountability logs to ensure that the maintenance person completes all related maintenance items at the same time?	5	
Feedback Report File (N/A for Commands utilizing SKED to manage)				
28.		Does the Work Center retain one year of feedback accountability logs?	2	
29.		Does the Work Center retain copies of outstanding (unresolved) Work Center FBRs?	3	
Inactive Equipment Maintenance (IEM)				
30.		Is the start of IEM correctly annotated (including IEM status II having a valid reason entered)?	2	
31.		Are all IEM requirements properly scheduled (e.g., LU, PM, SU, OT)?	5	
32.		Is the completion of the inactive period correctly annotated?	2	
End of quarter reports (if applicable)				
33.		Does the end of quarter reports (4 quarters) contain:		
	a.	The PMS Performance Report.	2	
	b.	The Flip Page Report.	2	
	c.	The Quarterly (Submarine Force only).	2	
34.		Are end of quarter reports reviewed, signed and dated by the COC (indicating awareness of incomplete or unaccomplished maintenance requirements)? Are previous periods archived in SKED following close-out by Dept Head and 3MC?	5	

Totals (Attributes evaluated as N/A are not calculated)	Total Points Available	Total Points Awarded
Administrative Effectiveness Review (AER) (Grade = Points Awarded/Points Available)		
<input type="checkbox"/> <u>Above Standards</u> <input type="checkbox"/> <u>At Standards</u> <input type="checkbox"/> <u>Below Standards</u>		

Above Standards (90% or greater)/At Standards (80-89.99%)/Below Standards (less than 80%)

APPENDIX A**SECTION II****ASSESSMENT OF ACCOMPLISHMENT CONFIDENCE FACTOR (ACF)**

1. Using the basic definitions and guidelines described, determine the PMS Accomplishment Confidence Factor (ACF) for each Work Center. Enter the values determined on the Spot Check Monitor Form, Section II-A of this Appendix.

- a. Using SKED, randomly select MRCs that have been recently recorded as accomplished (within the past 13 weeks) until at least 2% of the total number of MRCs scheduled have been selected.
- b. Complete an MRC Evaluation/Spot Check Sheet, Section II-A of this Appendix, for each MRC selected. Based on the results, evaluate the overall effectiveness of the accomplishment of each MR selected. Enter a numeric evaluation of each assessment attribute and provide amplifying information to describe the deficiencies driving point deductions. Significant deficiencies shall be reported via the final assessment report.

2. The Accomplishment Confidence Factor (Spot Check) Check Sheet is a series of inspection attributes to determine the accomplishment status of an MRC that had previously been reported as accomplished. Although the sheet may be used as a reference for conducting a real time monitored MRC as described by reference (a), paragraph 2-8.b., for the purposes of conducting a 3M Inspection or Self Assessment to determine ACF, all spot checks will be conducted on accomplished (historic) MRCs.

NOTE: DUE TO THE NATURE OF MRC COMPLETION, SUPPORTING PROGRAMS SUCH AS TAG OUTS AND HAZARDOUS MATERIAL (HAZMAT) ARE ENCOUNTERED. CARE SHOULD BE TAKEN TO AVOID EXPANDING THE SPOT CHECK TO A REVIEW OF THE PROCESSES OF THOSE PROGRAMS THEREBY PREVENTING THE ASSESSOR FROM DETERMINING THE ACCOMPLISHMENT STATUS OF THE MRC.

3. The following is expanded guidance for completion of the assessment attributes of the Spot Check sheet. Best practices or other policies not supported by source documentation shall not be included in evaluating compliance:

- a. (1.a) Determine if the maintenance person is qualified to perform the maintenance task. PQS 301 is required for all MRCs but attention should also be paid to other qualifications required such as Quality Maintenance (see Volume 5, Part I, Chapter 3, paragraph 3.4 of this manual) or graduation from a required school such as gage calibration technician.
- b. (1.b) Determine if the correct Tools, Material, Parts and Test Equipment (TMPTE) were used during the performance of the MRC when accomplished. If the maintenance person did not have the required TMPTE, it is unlikely that he/she would have been able to complete all the procedural steps of the MRC as required. If an item of TMPTE was required to perform a conditional step and that step was not required to be accomplished, it is not considered deficient. If the required test equipment required calibration, ensure that the calibration is within date and of sufficient scale to accomplish the MRC.
- c. (1.c) Determine if the maintenance person maintained the correct equipment.
- d. (1.d) Examine the MRC to determine that any locally applied changes are authorized by procedural notes, external correspondence, or allowed by reference (a).

- e. (1.e) Determine applicability of the MRC to the component that the maintenance person signed for completion.
- f. (2.a) From a variety of potential techniques, determine if the maintenance person performed all the required steps of the MRC. This may be accomplished via re-enactment, a discussion regarding the steps or re-performance. The inspector should come away with a clear impression that all the steps of the MRC were fully accomplished or not.

NOTE: IF A PROCEDURAL STEP WAS NOT COMPLETED, THE MRC SHOULD NOT HAVE BEEN REPORTED AS COMPLETE AND THEREFORE THE ATTRIBUTE GRADE SHOULD BE ZERO AND ALL SUBSEQUENT ATTRIBUTES SHOULD ALSO BE ZERO, THEREBY EFFECTIVELY "FAILING" THE SPOT CHECK.

- g. (2.b) If required by the MRC, verify that a tag out was hung on the day the maintenance was performed. Ensure the isolation boundaries were appropriately identified and correctly positioned to ensure complete isolation of the maintained equipment. If no Tag Out was required, write NA on the sheet.

NOTE: IF A REQUIRED TAG OUT WAS NOT CONDUCTED IN SUPPORT OF ACCOMPLISHING THE MRC, THE MRC SHOULD NOT HAVE BEEN CONDUCTED AND REPRESENTS A SERIOUS SAFETY VIOLATION AND THEREFORE THE ATTRIBUTE GRADE SHOULD BE ZERO AND ALL SUBSEQUENT ATTRIBUTES SHOULD ALSO BE ZERO, THEREBY EFFECTIVELY "FAILING" THE SPOT CHECK.

- h. (2.c) Determine compliance with all specific safety precautions listed on the MRC. If no safety requirements were invoked, write NA on the sheet.

NOTE: FAILURE TO ADHERE TO A SAFETY PRECAUTION PROVIDED ON THE MRC CONSTITUTES A SERIOUS SAFETY VIOLATION AND THE FAILURE TO PERFORM THE MRC AS WRITTEN. THE ATTRIBUTE GRADE SHOULD BE ZERO AND ALL SUBSEQUENT ATTRIBUTES SHOULD ALSO BE ZERO, THEREBY EFFECTIVELY "FAILING" THE SPOT CHECK.

- i. (2.d) From the Equipment Guide List (EGL) or TYCOM approved list of equipment represented by the accomplished MRC, determine if the MRC was accomplished on each piece of equipment reported. If the MRC did not have an associated EGL or TYCOM approved listing, write NA on the sheet.

NOTE: A REPORT OF COMPLETION FOR A GROUP OF EQUIPMENT LISTED ON AN EGL OR TYCOM APPROVED LISTING REPRESENTS THAT ALL LISTED EQUIPMENT WAS MAINTAINED. IF THE ENTIRE LIST OF EQUIPMENT WAS NOT MAINTAINED, THE MRC SHOULD NOT HAVE BEEN MARKED AS COMPLETE AND THEREFORE THE ATTRIBUTE GRADE SHOULD BE ZERO AND ALL SUBSEQUENT ATTRIBUTES SHOULD ALSO BE ZERO, THEREBY EFFECTIVELY "FAILING" THE SPOT CHECK.

- j. (3.a) By physical examination of the maintained equipment, determine if maintenance of the nature required by the MRC had been performed. Take note of fasteners that would have had to be disturbed, dirt in filters, fresh oil, etc. to make a judgment as to whether or not the maintenance has been performed. If unable to make this determination with absolute certainty, write NA on the sheet.
- k. (3.b) Determine through questioning and record verification that HAZMAT was properly used and disposed of as a means of determining whether or not the MRC was accomplished. Once the inspector has determined that the HAZMAT was used and disposed of correctly, this attribute is considered fulfilled. If no HAZMAT was required to be utilized, write NA on the sheet.

NOTE DUE TO THE POTENTIAL LIABILITY INCURRED BY IMPROPER USE AND DISPOSAL OF HAZMAT, SOME WORK CENTERS HAVE ASSIGNED SPECIALLY TRAINED PERSONNEL THAT PROVIDE HAZMAT AND DISPOSE OF SURPLUS MATERIAL INSTEAD OF THE MAINTENANCE PERSON. THIS IS ACCEPTABLE PROVIDED THE INSPECTOR CAN DETERMINE FULL COMPLIANCE.

- l. (3.c) Determine if the maintenance person could have performed the MRC from a standpoint of being trained and proficient in the tasks called out for by the procedure.
 - m. (4.a) Determine if the maintenance person filled out the 13 Week Accountability sheet correctly for the accomplished MRC. Ensure that if a tag out isolation was used, the tag serial number is recorded in the space allowed. Ensure that the printed name and legal signature of the maintenance person who actually performed the maintenance is recorded or, in case of group performed PMS, the Petty Officer in charge of the group.
 - n. (4.b) From reviewing the discussions and findings during the course of the spot check, determine if a TFBR had been submitted if required. If no TFBR was required, write NA on the sheet.
 - o. (4.c) Determine if a material deficiency was noted during the PMS; if so, examine the CSMP to ensure the deficiency was documented. If no material deficiency was noted, write NA on the sheet.
4. Due to the potential issues that are raised when a spot check is determined to be below standards, care should be taken to clearly identify contributing deficiencies that led to the conclusion that the MRC was not conducted as written or not conducted at all so that the command undergoing inspection can properly conduct root cause analysis for formulating effective correction action.

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APPENDIX A
SECTION II-A

ACCOMPLISHMENT CONFIDENCE FACTOR (SPOT CHECKS) CHECK SHEET - ACF

Ship	Department	Division/Equipment	Work Center	Date Performed	MRC Evaluated	MIP Evaluated
USS						
General						
*If attributes 1.a or 2 are evaluated as unsatisfactory, all subsequent attributes shall be graded as "0".						
Assessment Attribute				Value	Grade	Notes
1.	Contact the maintenance person assigned responsibility for the accomplishment of the MRC, have the individual deliver MRC (and EGL if applicable), and determine the following by questions and/or personal observation.					
*	a.	Is the maintenance person PQS qualified to perform the MR?	2			
	b.	Presented the correct tools, Personal Protective Equipment (PPE) parts (NSN), material (Military Specification (MILSPEC)) and test equipment (Calibrated).	3			
	c.	Properly identified the equipment (location, equipment validation).	4			
	d.	Are there any unauthorized changes or corrections to the MRC?	3			
	e.	Is this the correct MRC for the equipment maintained?	3			
2.* Demonstrated all steps of MR including all notes, warnings and cautions according to the MRC.						
*	a.	Followed all steps of the MRC.	5			
*	b.	Correctly performed equipment Tagout.	5			
*	c.	Followed all safety precautions.	5			
*	d.	If an EGL is used, was the MRC performed on all equipments?	5			
3. Does the equipment condition reflect accomplishment of the MRC?						
	a.	Is it apparent that maintenance was performed recently?	10			
	b.	Correctly demonstrated use and disposal of Hazardous Material.	3			
	c.	Was the MRC within the capability of the assigned individual to perform as written?	5			
4. PMS Reporting						
	a.	Maintenance person reports status of MR to the WCS if Completed or Not Fully Accomplished and makes appropriate updates.	2			
	b.	Work Center generates TFBR for any problem with MRC.	2			
	c.	Were material deficiencies detected by the PMS action and recorded in MDS?	2			

Totals (Attributes evaluated as N/A are not calculated.)	Total Points Available	Total Points Awarded
Spot Check (ACF) (Grade = Points Awarded/Points Available)		
<input type="checkbox"/> <u>Above Standards</u>	<input type="checkbox"/> <u>At Standards</u>	<input type="checkbox"/> <u>Below Standards</u>
Above Standards (90% or greater)/At Standards (80-89.99%)/Below Standards (less than 80%)		
Below Standard grade requires immediate accomplishment monitored by a Chief.		
Additional Remarks:		

Print and Sign Inspector Name/Command

Date

APPENDIX A

SECTION III

ASSESSMENT OF CURRENT SHIP'S MAINTENANCE PROJECT VALIDITY FACTOR (CVF)

1. Using the basic definitions and guidelines described, determine the CSMP Validity Factor (CVF) for each Work Center. Enter the values determined on the CSMP Monitor Form, Section III-A of this Appendix.
2. The CVF worksheet shall be utilized for evaluating each work candidate selected. The results of the CVF work sheet are transferred to the CVF Checklist for incorporation with other attributes evaluated.

NOTE: SEVERAL ATTRIBUTES CONTAINED ON THE CSMP VALIDITY CHECKLIST ARE NOT INCORPORATED INTO THE GRADE AND ARE DESIGNED TO CAPTURE CSMP DATA FOR FURTHER ANALYSIS.

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APPENDIX A

SECTION III-A

CURRENT SHIP'S MAINTENANCE PROJECT VALIDITY FACTOR (CVF) CHECKLIST

Ship	Department	Division	Work Center	Date
General				
Assessment Attribute				Value
CSMP VALIDITY (Raw Data)				
1.	Number of TA-1 Work Candidates			
2.	Number of TA-2 Work Candidates			
3.	Number of TA-3 Work Candidates			
4.	Number of TA-4 Work Candidates			
5.	Total Work Candidates (WC) Sum of 1-4			
6.	Number of TA-2WC over 180 days old			
7.	Number of TA-4WC over 180 days old			
8.	Aged Work Candidates (WCO) Sum of 6-7			
9.	Material Correction Rate: WCO/3 (Aged TA-4) (#7/3)/#4			
10.	CSMP Validity review results from CVF Sheet Enter score from CVF Worksheet			
11.	Ship's Force WC over 7 days old that require parts and the parts are not ordered.			
12.	Open Ship's Force WC over 30 days old, not uplined to the Master CSMP.			
13.	Total Work Candidate Deficiencies (WDC) Sum (#11-#12)/#4			
14.	Work Candidate Multiple Average #9, #10, and #13			
15.	Material deficiencies noted by MRC spot checks that were not documented in the CSMP			
16.	Deductions#15/#5			
17.	CSMP Validity Average #14 and #16			
CSMP Validity				
<input type="checkbox"/> <u>Above Standards</u> <input type="checkbox"/> <u>At Standards</u> <input type="checkbox"/> <u>Below Standards</u>				

Above Standards (90% or greater)/At Standards (80-89.99%)/Below Standards (less than 80%)

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APPENDIX A

SECTION III-A-1

CURRENT SHIP'S MAINTENANCE PROJECT VALIDITY FACTOR (CVF)

WORK CANDIDATE WORKSHEET

Ship		Department			Division			Work Center			Date	
General												
JCN	Equipment	1	2	3	4	5	6	7	8	9	10	CVF
CVF	Average all Cells	Ave	Ave	Ave	Ave	Ave	Ave	Ave	Ave	Ave	Ave	Ave
CSMP entry was reviewed with the following results:											Deduction	
1.	Problem Description inadequate.										10	
2.	Recommended Solution inadequate.										10	
3.	Write up does not reflect maintenance level assigned.										10	
4.	1 st and 2 nd Contact Man not assigned.										10	
5.	Incorrect CSMP Summary.										10	
6.	Correct Type of Availability (Maintenance Assignment) 1, 2, 3 Work Candidates.										10	
7.	Priority Code incorrect.										10	
8.	Write up does not match the Configuration Item or is not written on the correct configuration item.										10	
9.	Does the Work Candidate reflect the current and correct status of the material deficiency?										10	
10.	Was the correct special purpose and/or safety block selected with the correct values assigned? And if selected were the required Block 35 remarks present?										10	
For attributes not required due to Class/Type differences N/A and recalculate total value of each field.												

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APPENDIX A

SECTION IV

ASSESSMENT OF RECORDED ACCOMPLISHMENT RATE (RAR) OR PMS ACCOMPLISHMENT RATE (PAR)

1. The RAR (SKED 3.1) or PAR (SKED 3.2 and higher) is a report automatically generated by SKED.

NOTE: SKED WILL NOT CALCULATE RAR DATA FOR A QUARTER THAT IS ARCHIVED UNLESS THAT QUARTER IS OPENED AND A PMS PERFORMANCE REPORT IS RUN ON THAT WORK CENTER.

2. (SKED 3.1) The RAR (Equipment Based) shall be utilized for entry in the Ship totals portion of the Performance Evaluation Database by utilizing a date range consisting of the previous 13 weeks of maintenance.
3. (SKED 3.2 or higher) The Periodic PAR grade shall be averaged with the Situational PAR grade and utilized for entry in the Ship totals portion of the Performance Evaluation Database by utilizing a date range consisting of the previous 13 weeks of maintenance.

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APPENDIX A

SECTION V

EXECUTIVE EFFECTIVENESS REVIEW (EER)

1. Using the basic definitions and guidelines described, determine the Executive Effectiveness Review (EER) for the ship. Enter the values determined on the EER Check list Form, Section V-A of this Appendix. Provide amplifying information for deficiencies causing point reduction on the remarks page.
2. Select ten percent (Surface and Submarine Forces) or two percent (Air Forces) of the crew who have access to MDS functions using the Section V-A-1 worksheet of Appendix A.
3. Select ten percent (Surface and Submarine Forces) or two percent (Air Forces) of the crew who have access to SKED functions using the Section V-A-2 worksheet of Appendix A.

NOTE: FOR LARGE SHIPS THAT EMPLOY DEPARTMENTAL 3-M OFFICES, THE EER FORM IS REQUIRED TO BE COMPLETED AND AVERAGED TO DETERMINE THE SHIP'S EER.

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APPENDIX A

SECTION V-A

EXECUTIVE EFFECTIVENESS REVIEW (EER) CHECKLIST

USS		Ship	Date	
General				
Assessment Attributes			Value	Grade
1.	Does the 3-M Coordinator maintain?			
	a.	Record of MIP changes (ALID-1)?	1	
	b.	MIP to WC File (PMS-4)?	1	
	c.	Master LOEP (PMS-5)?	3	
	d.	Change Accountability Log (including TFBR Accountability Log)?	2	
	e.	Does the 3-MC maintain a log tracking the assignments of MRCs from a split MIP to ensure all applicable MRCs are assigned?	3	
	f.	Ship generated FBR response status in SKED and follow up action tracked?	3	
	g.	Master Confidential PMS card File?	2	
	h.	Current PMS CD-ROM?	1	
	i.	Current PMR Inventory and Schedules CD-ROM?	1	
2.	Does the 3-M Coordinator have an effective system for routing, explaining, and tracking of externally provided PMS documentation changes?		3	
3.	Is an effective system in use whereby supervisory personnel periodically and routinely monitor PMS performance in accordance with the requirements of reference (a) and this instruction?		5	
4.	Is the 3-M Functional Area Supervisor (FAS) ensuring all 3-M databases are being routinely maintained? (Use RAF computation sheet.)		10	
5.	Have all feedback reports entered in SKED been properly reviewed by the chain of command and submitted off hull within 7 days?		3	
6.	Have CSMP reconciliations been conducted per JFMM & TYCOM instructions?		3	
7.	Does the 3-MC conduct internal audits of all Work Center PMS Work Centers? (Retain latest copies of deficiencies noted and corrections for one year.)		5	
8.	Does the 3-MC provide weekly status reports to the 3-M Manager concerning the commands spot check/self evaluation program? (Retain for 1 year.)		3	
9.	Does the 3-MC have an approved master copy of PMS PQS specifically tailored for the command?		3	
10.	Does the 3MC maintain an auditable record of PMS and Quality Maintenance PQS? Are 3M qualifications commensurate to meet mission requirements?		5	
11.	Does the 3MC maintain an auditable record of PMS PQS for the command (e.g., copy of service record entries, signed copy of PQS cover letter, officer verified divisional training record)?		2	
12.	Does the 3MC track assessment MRCs (K for submarines/800 series for others) and verify completion with the local agency? Does the completion rate, when compared to the current monitoring period, reflect a successful shipboard program?		10	
13.	Does the 3MC ensure that a reliable system for backing up the ship's historical PMS data (SKED archives) is in place?		5	

Totals (Attributes evaluated as N/A are not calculated)	Total Points Available	Total Points Awarded
Executive Effectiveness Review (EER) (Points Available/Points Awarded)		
<input type="checkbox"/> <u>Above Standards</u> <input type="checkbox"/> <u>At Standards</u> <input type="checkbox"/> <u>Below Standards</u>		

Above Standards (90% or greater)/At Standards (80-89.99%)/Below Standards (less than 80%)

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APPENDIX A

SECTION V-A-1

EXECUTIVE EFFECTIVENESS REVIEW MAINTENANCE DATA SYSTEM PROFICIENCY FACTOR (MPF) WORKSHEET

Ship		Department			Division		Work Center		Date		
Individual Evaluated						3-M Billet Assigned					
Proficiency Required						Proficiency Attribute				Yes/No	
	MP	RPPO	WCS	DO	DH						
1	X	X	X	X	X	3-M PQS Qualification completed					
2	X	X	X	X	X	Able to Log-on. (OMMS-NG)					
CSMP ACTIONS:											
3	X	X	X	X		Add Maintenance Action (2-Kilo)					
4	X	X	X	X		Close Maintenance Action (2-Kilo)					
5	X	X	X	X		Change Maintenance Action (2-Kilo)					
6	X	X	X	X	X	Display Maintenance Action (2-Kilo)					
CONFIGURATION MAINTENANCE ACTION:											
7	X	X	X			Report installation of equipment: (CK)					
8	X	X	X			Report modification of equipment: (CK)					
9	X	X	X			Report removal of equipment: (CK)					
UPDATE SEF:											
10	X	X	X	X	X	Review on-line equipment records:					
11			X			Add equipment records:					
12			X			Modify equipment records:					
13			X			Delete equipment records:					
UPDATE LOGISTICS SUPPORT DATA (LSD) FILE:											
14	X	X	X	X	X	Review on-line LSD records:					
15			X			Add LSD data elements:					

Ship		Department			Division		Work Center		Date		
Individual Evaluated						3-M Billet Assigned					
Proficiency Required					Proficiency Attribute					Yes/No	
UPDATE LOGISTICS SUPPORT DATA (LSD) FILE: (Con't)											
16			X			Change LSD data elements:					
17			X			Delete LSD data elements:					
SUPPLY REQUISITIONING:											
18		X	X			Order maintenance parts:					
19		X	X			Order non-maintenance related items:					
PRINT REPORTS:											
20		X	X			SEF summary reports:					
21		X	X	X	X	CSMP reports:					
PRE-TRANSMITTAL REVIEW:											
22			X	X	X	Review CSMP transactions:					
23			X	X	X	Review SEF transactions:					
24			X	X	X	Review FCFBR transactions:					
Totals											
11	15	24	12	9	Divide Total Yes by Proficiency Required totals for the billet held by the individual					Total Yes	
					MPF: (%)						

APPENDIX A

SECTION V-A-2

EXECUTIVE EFFECTIVENESS REVIEW SKED PROFICIENCY FACTOR (SPF) WORKSHEET

(SKED 3.1 Users)

Ship		Department			Division		Work Center		Date		
Individual Evaluated							3-M Billet Assigned				
Proficiency Required					Proficiency Attribute					Yes/No	
WCS	DO	DH	3-MC								
Work Center Actions											
1	X	X	X	X	Able to log on						
2	X	X	X	X	Able to open a Work Center						
3	X	X	X	X	Able to view the Cycle, Quarter, Weekly and Schedule List View						
4	X			X	Able to annotate Disposition of Maintenance						
5	X			X	Able to save a Work Center						
6	X			X	Able to back-up and restore a Work Center						
7	X			X	Able to modify Work Center Options						
8	X	X	X	X	Able to view Archive Quarter						
9	X	X	X	X	Able to view Component Row Properties						
10	X	X	X	X	Able to view Check Properties						
11	X	X	X	X	Able to update Spot Check Results						
12	X	X	X	X	Able to enter/view Flip Page Remarks						
Schedule Actions											
13	X	X	X	X	Able to add, delete or modify MIPs/MRCs in Data Entry Mode						
14			X	X	Able to finalize the Cycle Schedule						
15	X	X		X	Able to adjust Quarter Start/End Dates						
16			X	X	Able to finalize the Quarter Schedule						

Schedule Actions					
17		X		X	Able to generate the next Quarter Schedule
18	X			X	Able to regenerate a Quarter
19	X			X	Able to assign Maintenance Responsibilities
20	X			X	Able to modify Equipment Associations (Server Installations only)
21	X			X	Able to restart the Cycle Schedule
22	X			X	Able to return the Quarter Schedule to Revise
23	X			X	Able to generate an Open Work Candidate for Parts (Server Installations only)
Event List Actions					
24	X			X	Able to create an Event List
25	X			X	Able to add checks to an Event List
26	X	X		X	Able to trigger a Local Event
27				X	Able to trigger a Global Event
Feed Back Report Actions					
28	X			X	Able to generate a Feed Back Report
29		X	X	X	Able to Review/Approve a Feed Back Report
Revision Actions					
30	X			X	Able to implement a Revision
31			X	X	Able to finalize a Revision
32	X			X	Able to perform Data Integrity and Periodicity Range checks
Reports					
33	X	X	X	X	Able to generate and/or View PMS Reports
Admin Actions					
34	X	X	X	X	Able to add Users
35	X	X	X	X	Able to edit Users

Admin Actions						
36	X			X	Able to inactivate Users	
37		X	X	X	Able to View/Modify the Chain of Command	
Totals						
30	17	17	37	Divide Total Yes by Proficiency Required totals for the billet held by the individual		Total Yes
				SPF: (%)		

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APPENDIX A

SECTION V-A-3

EXECUTIVE EFFECTIVENESS REVIEW REPORTING ASI PROCESSING CONFIDENCE FACTOR
(RAF) WORKSHEET

ASSESSMENT ATTRIBUTES	Value	Grade
Equipment Validation Program		
Does the 3MC/MSC OBR maintain a master file or list to track Configuration Item Record Validations?	5	
SUSPENSE FILE SUMMARY STATISTICAL REPORT:		
Average age of all configuration transactions was 7 days or less. Points are awarded based on the number of days as follows:	10	
Average age of all configuration transactions awaiting review:		
7 days or less 10 points		
8-14 days 8 points		
15-20 days 4 points		
21-30 days 2 points		
over 30 days 0 points		
OMMS-NG SYSTEM MAINTENANCE REVIEW		
Is the import correction queue empty?	4	
Has Archive and Inactive been run in the last 15 days?	4	
Have Work Candidates been removed from past availabilities?	4	
Is the OMMS Server Reports Directory "h/OMMSBT/data/reports" being maintained?	4	
Is the OMMS Server Reports Directory "h/OMMSBT/data" being maintained?	4	
Does the Review and Approval queue have Work Candidates older than 7 days?	10	
Does the FAS have a tracking system for upline reporting?	4	
Does the FAS maintain a log tracking significant down time?	4	
Is there an effective process in place that deletes users as they transfer from the command?	4	
Is the availability used to track jobs rejected/questioned by the TYCOM MM empty?	4	
Are copies of the .uru and .pts file maintained on file until reporting activity acknowledges processing?	4	
CONFIGURATION MANAGEMENT		
Monthly follow-up action had been initiated with the CDM for CK's awaiting response in excess of 180 days	10	
ASI PROCESSING		
Latest ASI file received has been processed. Points are awarded based on the backlog of ASI as follows:	10	
Up-to-date in ASI processing 10 points		
1 ASI file behind 8 points		
2 ASI file behind 6 points		
3 ASI file behind 4 points		

4 ASI file behind	2 points		
5 or more ASI file behind	0 points		
Are ASI Input and Summary Reports kept until all processing of the ASI has been completed?		10	
After processing, are ASI error reports sent to the CDM and to other activities as directed by the TYCOM?		10	
Totals (Attributes evaluated as N/A are not calculated)	Total Points Available	Total Points Awarded	
		RAF: (%)	

APPENDIX A

SECTION VI

3-M ASSESSMENT COMMAND TOTAL SCORE

1. The Ship's total score data shall be auto completed based on entries from Sections I through V of this Appendix.
2. Scoring shall be as indicated on the sample spread sheet provided in section VI-A of this Appendix.

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APPENDIX A

SECTION VI-A

SAMPLE 3-M ASSESSMENT TOTALS SPREAD SHEET

	Total Weight						Mean Score	Checks Scheduled	R-Checks Completed	Total Checks	Adjusted Value
		AER	ACF	CVF	PAR	Exec					
WORK CENTER	Divide the Total Checks for the Work Center by the Ship or Dept. by the Total Checks	Section I	Section II	Section III	Section IV	Section V	Ave Sect I-IV	All Scheduled Checks From SKED	All R MRCs Completed from previous 13 Weeks (count only one situational performance per week per MRC)	Add Scheduled Checks and R Checks	Multiply Total Weight and Mean Score
Engineering											
EA01						N/A					
EDC1						N/A					
EE01						N/A					
EM01						N/A					
RC01						N/A					
RL01						N/A					
		Ave AER	Ave ACF	Ave CVF	Ave PAR	If Applicable	Ave Dept	Total	Total	Total	
Executive	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	N/A
Ship Totals	N/A	Ave All W/C	Ave All W/C	Ave All W/C	Ave All W/C		N/A	Total All	Total All	Total All	N/A
Total Score	Average total AER, ACF, CVF, PAR, and Exec					>90% = Above Standards <90%->80% = At Standards <80% = Below Standards					

VI-19A-39

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APPENDIX B

FORMAT FOR REPORTING 3-M ASSESSMENTS

4790
Ser
Date

From: Accomplishing Activity
To: Commanding Officer (Commands Name and Hull Number (if applicable.)
Subj: REPORT OF 3-M ASSESSMENT OF

Ref: (a) NAVSEAINST 4790.8/OPNAVINST 4790.4; Ship's Maintenance and Material Management (3-M) Manual
(b) COMUSFLTFORCOMINST 4790.3; Joint Fleet Maintenance Manual, Volume VI, Chapter 19

Encl: (1) (as required)

1. In accordance with references (a) and (b), a 3-M Assessment of was conducted during the period (Date) to (Date).

2. During this assessment, the following significant deficiencies were discovered:

a. (List)

Specific department and WC deficiencies are provided in enclosure(s) (1) through ().

3. The following overall ship/department numerical assessments are assigned:

a. 3-M Total Score _____

b. 3-M Assessment _____
(Above/At/Below Standards)

Copy to:
Immediate Superior In Command (with enclosures)
Type Commander (with enclosures)

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	WC CODE
Damage Control Repair Stations	ED05
Electrical Division Administration	EE00
Lighting/Battery Shop	EE01
Rewind	EE02
Power (Non-nuclear)/General	EE03
Hotel Services	EE04
Electrical Safety	EE20
<u>Machinery Division.</u>	
#1 Plant Machinery Division (CVN-65)	EM11
#4 Plant Machinery Division (CVN-65)	EM14
#2 Plant Machinery Division (CVN-65)	EM22
#3 Plant Machinery Division (CVN-65)	EM23
#1 Auxiliary Machinery Room (CVN-65)	EM31
#2 Auxiliary Machinery Room (CVN-65)	EM32
Repair Division Administration	ER00
General Work Shop	ER01
Carpenter	ER02
Pipe Shop/Marine Sanitation Device (MSD)	ER03
Machine Shop/Locksmith	ER04
f. <u>Graphics Media Department Administration.</u>	GM00
PAO	GM11
Photo Shop	GM12
Print Shop	GM13
g. <u>AIMD Department Administration.</u>	IM00
PC/QA division (NALCOMIS reported equipment)	IM01
Mechanical Repairs	IM02
Avionics	IM03
Ground Support	IM04
Field Calibration Activity	FCA1
h. <u>Legal Department.</u>	LN01
i. <u>Health Services.</u>	
Dental Department	MD01
Medical Department	MH01
j. <u>Navigation Department.</u>	NN01
k. <u>Operations Dept Administration.</u>	OX00
Meteorological	OA01
Air Ops/CATCC	OC01
Security Department Administration (when assigned).	OF00

	WC CODE
Ship's Security Force	OF01
Force Protection	OF02
Brig	OF03
CDC	OI01
Undersea Warfare/Acoustics	OM01
Comm Intel/SESS	OS01
Electronic Warfare	OS02
Intelligence Department Administration (when assigned).	OZ00
Intelligence	OZ01
l. <u>Maintenance Department Administration</u> (when assigned).	PM00
3-M	PM01
MSC	PM02
Quality Assurance (QA)	PM03
m. <u>Reactor Department Administration.</u>	RX00
Reactors Auxiliaries Division Administration	RA00
Emergency Diesels	RA01
Reactor Controls Division Administration	RC00
#1 Reactor Plant	RC11
#1 Reactor Plant (Non-Nuclear CVN-68 Class)	RC12
#4 Plant Reactor Control Division (CVN-65)	RC14
#2 Reactor Plant (CVN-68 Class)	RC21
#2 Reactor Plant (CVN-65, (Non-Nuclear CVN-68 Class)	RC22
#3 Plant Reactor Controls Division (CVN-65)	RC23
Reactor Instrumentation and Maintenance	RC30
Reactor Electrical Division Administration	RE00
#1 Reactor Plant	RE11
#1 Reactor Plant (Non-Nuclear CVN-68 Class)	RE12
#4 Reactor Plant (CVN-65)	RE14
#2 Reactor Plant (CVN-68 Class)	RE21
#2 Reactor Plant (CVN-65, (Non-Nuclear CVN-68 Class)	RE22
#3 Reactor Plant (CVN-65)	RE23
Tool Issue and Technical Support	RE30
Reactor Laboratory Division Administration	RL00
#1 and #4 Reactor Plants (CVN-65)	RL00
#2 and #3 Reactor Plants (CVN-65)	RL01
#1 Reactor Plant (CVN-68 Class)	RL11
#1 Reactor (Non-Nuclear CVN-68 Class)	RL12
#2 Reactor Plant (CVN-68 Class)	RL21
#2 Reactor (Non-Nuclear CVN-68 Class)	RL22

APPENDIX C₃A

STANDARD WORK CENTER CODES FOR SUBMARINES

Description	Used by Submarine Type	Code
<u>Executive</u>		
Executive/Administration (ADM - Functional Area Supervisor - SNAP)	All	XX00
Chief of the Boat	All	XX03
3-M Coordinator (SNAP OMMS Functional Area Supervisor)	All	XM01
Safety Petty Officer	All	SP01
<u>Engineering</u>		
Auxiliary	All	EA01
Damage Control Petty Officer (Note 1)	All	EDC1
Electrical (Main Power - SS)	All	EE01
Machinery	All	EM01
Engineering Administration	All	EX00
Engineering Log Room	All	EX02
Field Calibration	All	FCA1
Reactor Controls	All Nuclear	RC01
Engineering Laboratory	All	RL01
<u>Medical</u>		
Medical	All	MH01
<u>Navigation/Operations</u>		
Navigation/Electronics	All	NE01
Radio/Communications	All	OC01
Afloat Information Systems/Automated Data Processing Coordinator (AIS/ADP)	All	OC02
Navigation/Operations Administration	All	OX00
<u>Research and Development</u>		
Mission Auxiliary	SSN-23 Only	MA01
Mission Electronics	SSN-23 Only	ME01
Mission Navigation	SSN-23 Only	MN01
Mission Vehicle Support	SSN-23 Only	MV01

Description	Used by Submarine Type	Code
<u>Supply</u>		
General Stores	All	SS01
Food Services	All	SS02
Supply Administration (SNAP Functional Area Supervisor)	All	SX00
<u>Weapons</u>		
Divers	All	DV01
Central Computer (Tactical/Strategic)	SSN-688/SSN-21/SSBN/SSGN	WC01
Fire Control	All	WF01
Missile Fire Control	SSBN/SSGN	WF02
First Lieutenant	All	WK01
Dry Deck Shelter/Advanced SEAL Delivery System	DDS/ASDS Host Hulls Only	WK02
Sonar	All	WQ01
Torpedo	All	WI01
2M Repair	SSBN/SSGN	CSE3
Missile Technicians	SSBN/SSGN	WM01
Missile Launcher	All	WS01
Weapons Administration	All	WX00

Note:

1. When Squadron must generate a CSMP deferral for the submarine, the Squadron will use the correct ship's work center and the Job Sequence Number (JSN) that is generated by Regional Maintenance Automated Information System (RMAIS). Example: EM01-Q123, Q denotes that the JSN was created by RMAIS.

APPENDIX C₃B

STANDARD WORK CENTER CODES FOR SUBMARINE FORCE SURFACE SHIPS

Description	Used by Ship Type	Code
<u>Deck</u>		
1 st Division	ARDM	DA01
Boat Division	AS/ARDM	DB01
<u>Engineering</u>		
Auxiliary Division	ARDM	EA01
Crane Maintenance	ARDM	EC01
Lighting and Power	ARDM	EE01
Pipe/Metal Shop	ARDM	ER01
Carpenter/Docking	ARDM	ER02
Damage Control Petty Officer	All	EDC1
Engineering Administration	All	EX00
Engineering Logroom	All	EX02
Calibration	ARDM	FCA1
<u>Medical</u>		
Medical	All	MH01
Dental	AS	MD01
<u>Navigation/Operations</u>		
Afloat Information Systems/Automated Data Processing Coordinator (AIS/ADP)	All	OC02
<u>Supply</u>		
Supply Administration	All	SX00
General Stores/Supply	All	SS01
Ship's Store	AS	SS03
Disbursing	AS	SS04
Inventory Control	AS	SS05
SUBSAT	AS	SS07
Post Office	AS	SS08
ROVSS	AS	SS09
<u>Weapons</u>		
Armory/Magazine	AS	WK02
Gunnery	AS/ARDM	WI05
Weapons Administration	All	WX00

STANDARD WORK CENTER CODES FOR SUBMARINE FORCE SURFACE SHIPS (Cont'd)

Description	Used by Ship Type	Code
Weapons Repair	AS	W10B
Fire Control Repair	AS	W67E
Weight Test	AS	W72D
Weapons Alarms systems	AS	W91D
Torpedo/Missiles repair	AS	W91E
Weapons QA	AS	W91Q
<u>Executive</u>		
Executive Administration	AS	XX00
3-M Coordinator	All	XM01
Safety Petty Officer	All	SP01
Personnel Office	All	XX02
<u>Repair</u>		
Tool Room	AS	R06B
Repair Administration	AS	R10A
Planning P&E	AS	R10C
Tech Library	AS	R10E
Shipfitter/welding	AS	R11A
Sheet metal/Wood working	AS	R17A
Shore Services	AS	R25D
Welding	AS	R26A
Inside Machine shop	AS	R31A
Engraving shop	AS	R31B
Diesel shop	AS	R31C
Valve shop	AS	R31D
Engine and Governor shop	AS	R31E
Hydraulics shop	AS	R31F
Optical shop	AS	R35A
Print shop	AS	R37A
Outside Machine shop	AS	R38A
Nuc Repair	AS	R38N
Photo/Repair Admin/Print	AS	R39A
Elect Repair/Motor Rewind	AS	R51A
Outside Electrical shop	AS	R51B
IC Shop	AS	R51G
Pipe shop/Powder Coat shop	AS	R56A

STANDARD WORK CENTER CODES FOR SUBMARINE FORCE SURFACE SHIPS (Cont'd)

Description	Used by Ship Type	Code
AC&R shop	AS	R56B
Flex Hose shop	AS	R56C
Insulation Lagging/Canvas shop	AS	R57A
Rubber and Plastics	AS	R57B
Woodworking shop	AS	R64A
Key and lock shop	AS	R64E
General Electronics/Computer Repair	AS	R67A
Calibration	AS	R67B
Mast & Antenna shop	AS	R67H
2M Repair	AS	R67M
Rigging services	AS	R72A
Dive Locker	AS	R72B
Dive Locker (fly away team)	AS	R72F
Sail and Canvas	AS	R74A
Sound & analysis	AS	R92A
NDT/QA	AS	R93A
QA	AS	R93B
Radiological Controls	AS	R94A
MIRCS Lab	AS	R96A

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APPENDIX C₄H

STANDARD WORK CENTER CODES FOR LCS CLASS SHIPS

<u>DEPARTMENT</u>	<u>DIVISION W/C</u>	<u>SHIP CODE</u>	<u>CLASS</u>
<u>COMBAT SYSTEMS</u>			
<u>DEPARTMENT</u>			
	CG		
	GUNNERY/ARMORY GRP	CG03	ALL
	FORCE PROTECTION	FP01	ALL
	CS		
	ELECT/COMMS/LAN GRP	CSE1	ALL
	ELECT/ELECT ISSUE	CE04	ALL
<u>ENGINEERING</u>			
<u>DEPARTMENT</u>			
	EA		
	MECHANICAL GROUP	EA01	ALL
	EE		
	ELECTRICAL GROUP	EE02	ALL
	ER		
	REPAIR/DC/DCPO GROUP	ER09	ALL
<u>EXECUTIVE</u>			
<u>DEPARTMENT</u>			
	EX		
	3MC	XX03	MDS Only
	OFF SHIP SERVICES	XS01	MDS Only
<u>OPERATIONS</u>			
<u>DEPARTMENT</u>			
	OI		
	CIC/NAVIGATION GROUP	OI01	ALL
	OD		
	DECK GROUP	OD01	ALL
<u>SUPPLY DEPARTMENT</u>			
	S1		
	SUPPLY GROUP	SS01	ALL
	HAZMAT/ENVIRONMENTAL	HZ01	ALL
	MEDICAL	MH01	ALL

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APPENDIX D

**LISTING OF STANDARD WORK CENTER CODES FOR
MASTER JOB CATALOG ITEMS CONTAINED IN SHIP'S CSMP
(Surface and Submarine Forces Only)**

Submarine Forces:

Description	Code
Overhaul, SRA, Baseline routines	EXSY
NAVSEA Issued Alterations	*XSA
NSWCCD Machinery Alteration	*XMA
TYCOM Issued Alterations	*XTY
DIRSSP Issued Strategic Systems Program Alterations (SSBN/SSGN)	**SP
Submarine Extended Operating Cycle PMRs	**JC
Test and Measurement System Repair Routines	**CR
MJC Service Routines	**MC

*=Department

**=Department/Division

Surface Forces:

Description	Code
Overhaul, SRA, Baseline routines	EXSY
NAVSEA/TYCOM Issued Alterations	EXSA
Engineering Cycle	**EC

First character identifies the requesting Department.

Second character identifies the Administrative Procedure ("X").

Third character indicates catalog routine ("C").

Last character denotes the maintenance source code as follows:

- A - Planned Maintenance Subsystem
- B - Unassigned
- C - Corrective
- D - Upkeep
- E - Miscellaneous

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APPENDIX A

SAMPLE SHIP MESSAGE TO ISIC CONCERNING REMOVAL OR REINSTALLATION OF DDS LEAD

FM USS <SHIP NAME>//
TO COMSUB<RON/GRU NO.>//
COMSUBRON <NO. HOME SQUADRON IF DEPLOYED>
INFO COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N4//
BT
UNCLAS //N9096//
MSGID/GENADMIN//USS <SHIP'S NAME>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.>REMOVAL <REINSTALLATION> OF DDS LEAD//
REF/A/DOC/COMUSFLTFORCOM/<DATE>//
REF/ REF A IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL,
VOLUME VI, CHAPTER 20.//
RMKS/1. DDS SHELTER <NUMBER> IS BEING ON-LOADED <OFF-LOADED>
2. PER REF A THE SPECIFIC DDS LEAD THAT HAS BEEN REMOVED <REINSTALLED> IS PROVIDED:

<NUMBER> DDS PIGS - <NUMBER> APPROXIMATE WEIGHT - LOCATION <TANK AND LEAD BIN LOCATION>
<NUMBER> DDS PIGS - <NUMBER> APPROXIMATE WEIGHT - LOCATION <TANK AND LEAD BIN LOCATION>
<NUMBER> DDS PIGS - <NUMBER> APPROXIMATE WEIGHT - LOCATION <TANK AND LEAD BIN LOCATION>
<NUMBER> DDS PIGS - <NUMBER> APPROXIMATE WEIGHT - LOCATION <TANK AND LEAD BIN LOCATION>
<NUMBER> DDS PIGS - <NUMBER> APPROXIMATE WEIGHT - LOCATION <TANK AND LEAD BIN LOCATION>

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 SHIP MESSAGE TO ISIC CONCERNING AUDIT OF DDS LEAD LOADING

FM USS <SHIP NAME>//
TO COMSUB<RON/GRU NO.>//
COMSUBRON <NO. HOME SQUADRON IF DEPLOYED>
INFO COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N4//
BT
UNCLAS //N9096//
MSGID/GENADMIN//USS <SHIP'S NAME>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.>AUDIT OF DDS LEAD LOADING//
REF/A/DOC/COMUSFLTFORCOM/<DATE>//
REF/B/DOC/<SHIPYARD>/<DATE>
REF/ REF A IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL,
VOLUME VI, CHAPTER 20. REF B IS THE WEIGHT AND STABILITY DATA REPORT FROM <SHIPYARD>
DATED <DATE>.
RMKS/1. PER REF A THE CURRENT DDS LEAD LOADING AS REQUIRED BY REF B IS AS FOLLOWS:

<NUMBER> DDS PIGS - <NUMBER> APPROXIMATE WEIGHT - LOCATION <TANK AND LEAD BIN LOCATION>
<NUMBER> DDS PIGS - <NUMBER> APPROXIMATE WEIGHT - LOCATION <TANK AND LEAD BIN LOCATION>
<NUMBER> DDS PIGS - <NUMBER> APPROXIMATE WEIGHT - LOCATION <TANK AND LEAD BIN LOCATION>
<NUMBER> DDS PIGS - <NUMBER> APPROXIMATE WEIGHT - LOCATION <TANK AND LEAD BIN LOCATION>
<NUMBER> DDS PIGS - <NUMBER> APPROXIMATE WEIGHT - LOCATION <TANK AND LEAD BIN LOCATION>

BT

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

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APPENDIX C

SAMPLE SHIP MESSAGE TO ISIC CONCERNING AUDIT OF CARGO LEAD DOCUMENTATION

FM USS <SHIP NAME>//
TO COMSUB<RON/GRU NO.>//
INFO COMSUB<LANT/PAC> <NORFOLK VA/PEARL HARBOR HI>//N4//
<SUPERVISING ACTIVITY/CODE NO>
COMNAVSEASYCOM WASHINGTON DC //PMS39T/05U//
BT
UNCLAS //N9096//
MSGID/GENADMIN//USS <SHIP'S NAME>//
SUBJ/(SUBS) USS <SHIP NAME/HULL NO.> AUDIT OF INSTALLED CARGO LEAD
REF/A/DOC/COMUSFLTFORCOM/<DATE>//
REF/B/DOC/<ACTIVITY>/<DATE>//
REF/ REF A IS COMUSFLTFORCOMINST 4790.3, JOINT FLEET MAINTENANCE MANUAL,
VOLUME VI, CHAPTER 20. REF B IS THE DATA PACKAGE BY THE <NAME> NAVAL SHIPYARD FOR
THE INSTALLATION OF CARGO LEAD.//
RMKS/1. THE SHIP IS UNDERGOING <AVAILABILITY TYPE>. PER REF A AN AUDIT OF CARGO LEAD
DOCUMENTATION HAS BEEN CONDUCTED. SHIP'S FORCE HAS REF B THAT DOCUMENTS THE
CURRENT AMOUNT AND LOCATION OF CARGO LEAD.

BT

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

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APPENDIX C**SHIPBOARD NOISE REDUCTION INSTRUCTION**

USS (Ship's Name and Hull No.)

Subj: SHIP'S NOISE REDUCTION PROGRAM

Ref: (a) COMUSFLTFORCOMINST 4790.3; Joint Fleet Maintenance Manual, Volume VI, Chapter 23

Encl: (1) Quarterly Noise Reduction Program Status Report
(2) Noise Reduction Surveys
(3) Control Surface Noise Questionnaire

1. Purpose. To establish a ship's Noise Reduction Program to include: a Noise Reduction Board to advise the Commanding Officer concerning appropriate noise reduction procedures; a set of noise surveys to characterize the ship's noise signature; and procedures to ensure proper coordination of efforts in the ship's noise reduction program.

2. Discussion. A great deal of emphasis has been placed on upgrading noise reduction awareness within the submarine force. As required by reference (a), (Ship's Name) must devote continued attention to the detection, correction and prevention of increases in its radiated noise signature. Significant mission degrading radiated noise problems could not be tolerated in wartime. (Ship's Name) must minimize noise to maximize our detection range of threats/targets and to reduce the possibility of hostile ships detecting (Ship's Name). Quietness is absolutely essential to our primary mission and a continuous, aggressive effort must be made in acoustic housekeeping and noise reduction to ensure a quiet ship. The acoustic surveys considered mandatory for effectively maintaining a quiet ship and improving the ship's acoustic signature during the operating cycle are discussed in this instruction. While these surveys serve as a formal means of noise reduction, each crew member's actions play an equally important role in the noise reduction consciousness of the entire ship. A quiet ship requires involvement of the whole crew. **THINK QUIET!**

3. Program Organization.

- a. A ship's Noise Reduction Board shall be established to assist the Commanding Officer in the development and execution of long and short range plans for maintaining and enhancing the acoustic posture of the ship. The board will recommend appropriate shipboard noise reduction procedures and monitor their execution. The board will consist of the following personnel:

- (1) Executive Officer.
- (2) Combat Systems Officer.
- (3) Engineer Officer.
- (4) Sonar Officer.
- (5) Electrical Officer.
- (6) First Lieutenant.
- (7) Sonar Division Leading Petty Officer.
- (8) Electrical Division Noise Reduction Petty Officer (NRPO).

- (9) Chief of the Boat.
- (10) Sail Coordinator.
- b. To assist the board in carrying out their responsibilities, experienced Petty Officers and non-rated personnel who have completed qualification in submarines shall be assigned in the ship's collateral duties notice as NRPO. Each division will have at least one formally designated NRPO.

4. Program Management.

- a. The Noise Reduction Officer will coordinate all noise reduction activities within the ship. The Noise Reduction Board will meet quarterly and discuss actions completed and further action required to correct outstanding noise deficiencies. Special quarterly noise reduction boards should be held prior to the initial work definition conference for depot availabilities (initial planning meetings are typically scheduled; Selected Restricted Availability/Interim Drydocking A-43 weeks, Depot Modernization Period/Engineered Refueling Overhaul A-12 months) and prior to POM1 upkeep periods. The Noise Reduction Officer will chair these meetings. The Noise Reduction Officer will ensure that the noise reduction portion of the ESL contains updated entries on all outstanding noise deficiencies. Each of the significant noise deficiencies will be discussed at every meeting. The Commanding Officer will be apprised of the results of the meeting and any unresolved problems shortly after the meeting. Formal written reports summarizing the status of the Noise Reduction Program will be submitted following each meeting to the Commanding Officer using the format of enclosure (1).
- b. Onboard surveys will be conducted in accordance with this instruction. Noise deficiencies discovered during these surveys or detected during routine ship's operations will be reported to the Noise Reduction Officer. At sea, these reports will be made to the Officer Of the Deck (OOD) who will, in turn, inform both the Noise Reduction Officer and the Commanding Officer. The OOD will initiate corrective action for all significant noise deficiencies and ensure that these items are included in the watch turnover. All deficiencies that are not immediately correctable will be entered in the noise deficiency section of the ESL.
- c. The Noise Reduction Officer shall ask the following questions during each Noise Reduction Board meeting.
 - (1) Have we effected all corrective action recommendations from our latest acoustic trials? Have on board measurement surveys conclusively proven that outstanding noise deficiencies were corrected? Report all unresolved items to the Commanding Officer using the format of enclosure (1).
 - (2) Have any noise sources, especially rattles or control surface transients, been aurally detected during the conduct of the platform noise survey of enclosure (2a)? If rattles or transients are present, have tape recordings or data packages been accomplished in accordance with platform noise or maintenance manual guidance for submission?
 - (3) Have we conducted a propeller tip cavitation survey in accordance with enclosure (2b)? Are the measured tip cavitation points acceptable? If cavitation is not acceptable, has a tape package been prepared in accordance with reference (a)?
 - (4) Have any signature degradations been identified from the latest set of towed array, platform noise hydrophone or machinery and hull vibration measurements? If so, have the noise sources been identified? Report unresolved items to the Commanding Officer using the format of enclosure (1).

5. Action.

X-Applicability

PUBLICATION Note 1	688	726	21	774	AS
TRIAL REPORTS					
NSWCCD or NSWCCD DET BREMERTON: Latest Detection & Detectability Report	X	X	X	X	
NSWCCD or NSWCCD DET BREMERTON: Latest Acoustical Trial Summary Report	X	X	X	X	
LETTERS AND INSTRUCTIONS					
NAVSEAINST C9073.2 (Series) Acoustical Surveys of Submarines (U)	X	X	X	X	X
COMUSFLTFORCOMINST 4790.3; Joint Fleet Maintenance Manual Volume VI, Chapter 23, Submarine Noise Reduction	X	X	X(4)	X(4)	X
NAVSEA SILENCING FILMS					
34547 DN Training Film - Submarine Sound Shorts					X
35350 DN Training Film - Noise Control Guidelines, Running Silent					X
35050 DN Training Film - Shipboard Noise Isolation Devices					X
SAVPIN 803414 DN Sound Silencing Show (Video Tape) - consists of the three films listed above.					X
SVT - ST - 9427 - Submarine Rattles	X	X	X	X	X
SVT - ST - 9429 - Submarine Sound Silencing (SSN 688)	X				X
SVT - ST - 9430 - Submarine Sound Silencing (SSBN 726)		X			X
SVT - ST - (TBD) - Submarine Sound Silencing (SSN 21)			X		X
SVT - ST - (TBD) - Submarine Sound Silencing (SSN 774)				X	X

Note 1: The stocking/ordering point for all publications can be found using Technical Data Information Management System (TDMIS)

Note 2: The ordering point for the item with this Note is Supervisor of Shipbuilding Groton

Note 3: Specific Maintenance Requirements for consideration in this listing are for:

- a. Inspect, clean & replace sound washers.
- b. Record machinery vibration levels.
- c. Record hull vibration levels.

Note 4: Applicable, but may not contain all applicable information until updated for specific class

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APPENDIX F

SAMPLE PROPELLER CHANGEOUT MESSAGE

FM COMSUBRON (AS APPROPRIATE)//
TO COMNAVSEASYS COM WASHINGTON DC//05F3/392//
INFO COMSUBPAC PEARL HARBOR HI//N42N/N402//
COMSUBLANT NORFOLK VA//N42N/N402//
USS (SHIP'S NAME AND HULL NO.)//
BT
UNCLAS //N09245//
MSGID/GENADMIN/COMSUBRON (AS APPROPRIATE)//
SUBJ/(SUBS) PROPELLER CHANGEOUT//
REF/A/DOC/COMUSFLTFORCOMINST 4790.3//
NARR/REF A IS JOINT FLEET MAINTENANCE MANUAL/VOL VI, CH 23 PROVIDES GUIDANCE FOR
MONITORING PROPELLER VIBRATION DATA AND PROPELLER CHANGE OUT//
RMKS/1. IAW REF A, FOL PROPELLER DATA REPORTED
A. SERIAL NO. OF PROPELLER REMOVED
B. SERIAL NO. OF PROPELLER INSTALLED
C. REASON PROPELLER REPLACED
(POOR PERFORMANCE, EXCESSIVE CAVITATION, GOUGED/NICKED, SINGING SCREW,
ETC.)
2. REQUEST DISPOSITION INSTRUCTIONS FOR REMOVED PROPELLER//
BT

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

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- e. At Naval Intermediate Maintenance Facility Pacific Northwest, PMR and non-controlled URO inspection scheduling, completion, LMA date establishment and next due date scheduling shall be maintained in the automated database of the Logistic Data System, Planned/Refit Maintenance Management System for SSBN/SSGN 726 Class submarines. This database will contain the complete history for all occurrences (past), dates of completion, frequency of occurrence, next due dates and future scheduling data for each PMR/non-controlled URO inspection. Data will be entered from Objective Quality Evidence from refit close out processes and the selected job management report.
- f. Notify the SUBMEPP representative at TYCOM of non-receipt of SUBMEPP Quarterly PMR Inventories and Schedules. **The PMR Inventories and Schedules are also available at <https://eagle.submepp.navy.mil/ap/invsched/>.**
- g. Contact SUBMEPP if a PMR has been completed prior to receipt of the inventories and schedules with the date the PMR was completed and JCN under which completed. This JCN must be a "JC" series. Instruct MDCO to do the calldown of PMRs for the applicable ship and commence production of AWRs.
- h. Keep the local scheduling system correct and accurate. This should be done by periodically doing a check of the data against the inventories and schedules, **the Overdue PMR Status web page (https://sentinel.submepp.navy.mil/fs/pmr_status/)** and the ship's CSMP.
- i. Ensure PMRs which are not accomplished by the SUBMEPP scheduled due date are rescheduled.
- j. Ensure that all "I"-level PMRs, which will become due during a scheduled CNO Availability (but not authorized for industrial activity accomplishment), are scheduled for accomplishment by the FMA prior to the end of the availability. The PMRs may be assigned to an FMA concurrent availability with an end date the same as the CNO availability. This will allow for a more appropriate Adjusted LMA Date.
 - (1) Any "I"-level PMR that is overdue by the availability start date minus 6 months and is identified in the AWP/WPS by SUBMEPP to be accomplished by the industrial activity does not have to be done prior to the availability start. This includes "I"-level PMRs for which the higher tier "D" level PMR is authorized in the AWP/WPs.
 - (2) Notify the TYCOM representative at the Pre-Arrival Conference of any "I"-level PMRs that will either not be accomplished prior to the availability start date or will become due during the availability.
 - (3) Any PMR accomplished within ten months prior to start of a scheduled CNO Availability that becomes due again during the availability, will have their scheduled due date adjusted by SUBMEPP by the number of months of the availability duration.
- k. Review completed AWRs prior to close-out of the AWRs by Analysis, Records and Reports Section (ARRS) and resolve any discrepancies.
- l. Transferring Periodic Maintenance Requirements to other Fleet Maintenance Activities for Accomplishment. When submarine availabilities are accomplished by other than the parent FMA (whether another FMA in the same geographic area or due to deployment), the parent ISIC will take the following action:
 - (1) Coordinate with the parent FMA to select only those PMRs for accomplishment for which all plans and materials will be available and ready for shipment prior to the availability or deployment of the submarine.

- (2) Dispatch a message to the submarine, the recipient squadron and FMA identifying by JCN the PMRs to be accomplished, confirming that plans and materials are being shipped or will be carried by the deploying submarine and that the submarine's total CSMP tape will be either retained by the parent ISIC or transferred to the recipient squadron/Regional Support Group/Regional Maintenance Center as mutually agreed prior to the availability or deployment.
 - (a) If the CSMP is retained by the parent ISIC, an AWP tape (MM6031) will be provided to the recipient FMA which will maintain it as "I"-level (only AWR completions for the tended submarine accomplished by the FMA will be passed upline). The submarine will forward all 3-M transactions to the parent ISIC.
 - (b) If the total CSMP is transferred, the recipient FMA will maintain it as level II (the submarine will pass all 3-M transactions to the availability FMA). In addition, the PMR configuration and scheduling file will be transferred to the recipient FMA for URO/PMR/Calibration scheduling purposes.
 - (c) When the submarine departs from the tending FMA, the CSMP and PMR data files will be updated and returned to the parent ISIC with the letter of transfer. FMAs receiving only the work package tape will create a CSMP transfer out tape and transmittal letter for return to the parent ISIC. The parent ISIC MDCO will reconcile the master CSMP with the returning submarine's 3-M coordinator.
- (3) Ensure that the FMA properly packages by JCN all materials, plans, drawings, etc., for dispatch to the receiving FMA or for custodial turnover to the submarine's Engineer Officer for delivery to the deployed FMA.
- (4) Ensure MDCO/ARRS takes coordinated action to provide a correct CSMP tape and letter of transmittal. The parent ISIC MDCO must retain copies of transfer-out and in letters for MJC Job Sequence Number control.

NOTE: ONCE A DEFERRAL HAS INITIALLY BEEN ENTERED IN THE COMPUTER AT THE ORIGINATING FMA, IT IS AUTOMATICALLY PASSED TO THE TYCOM MASTER CSMP. SUBSEQUENT TAPE TRANSFERS BETWEEN FMAs WILL NOT CAUSE THE DEFERRAL TO PASS AGAIN TO THE TYCOM PROVIDING THAT MDCO INPUTS THE TRANSFER TAPE (MM6031) TO MAINTENANCE RESOURCE MANAGEMENT SYSTEM (MRMS) PROGRAM 173 NOT 174.

- m. Non-Scheduled Repairs of PMR components. The ISIC must add to the ship's CSMP those PMRs to be accomplished in conjunction with a repair action, in lieu of a repair action, or to be credited subsequent to a repair or replacement action. One of the following actions must be taken by the ISIC and MDCO:
 - (1) When a ship's submitted deferral references a PMR for concurrent accomplishment with the repair action, or if ISIC or FMA planners recommend a PMR, the ISIC must make the decision whether or not to invoke the PMR in conjunction with or in lieu of the requested repair. This will result in two AWRs being created. The planner will have work accomplished under one JCN (EA01) and use the second JCN (EAJC) for administrative completion crediting of the PMR.
 - (2) If the repair job has resulted in replacement of the PMR component or if the maintenance standard requirements were completely accomplished prior to retrieving the PMR from the MJC, calldown the item from the local scheduling system. The ISIC should instruct FMA to report its completion including the added narrative to identify the originally assigned ship's

JCN. Though the materials used cannot be re-identified to the PMR JCN, it is recommended that the total man hours expended also be reported on the PMR AWR or subsequent analysis of required PMR support.

- n. Training. The parent ISIC is responsible to provide assigned ship's training in the TYCOM PMR Scheduling System. Such training should include an overview of the SEOC Program, PMR scheduling products, MS Library, and PMR program accomplishment and reporting systems. Emphasis should be placed on the ship's responsibilities to the PMR program as identified in paragraph 24.7.5 of this chapter.

24.7.4 Fleet Maintenance Activity.

- a. The FMA is responsible for accomplishing all PMR work as scheduled to the required repair standards.
- b. Commence the planning and material procurement function when the PMR is called down by the ISIC from the local scheduling system and brokered to the FMA.
- c. Progress the job, ensuring that the LWC coordinates with ship superintendent and all Assist WCs and that production time and current status is reflected in the local scheduling system.
- d. Complete the job, report its accomplishment and as found material condition feedback code on the AWR. Any significant findings should also be documented on the AWR. FMA LWCs completing AWRs are to ensure that all participating WCs document their man hours and provide action taken codes, that the Final Action Taken (the most appropriate overall action) and Date Completed have been recorded, and that the acceptance signatures from Ship's Force are obtained before returning the completed AWR to ARRS. The material condition feedback codes are described in Appendix B of reference (a) as part of the action taken code, and are as follows:

NOTE: THE BELOW MATERIAL CONDITION FEEDBACK CODES SHALL DESCRIBE THE "AS FOUND" CONDITION OF THE COMPONENTS AND NOT THE AFTER REFURBISHED CONDITION OF THE COMPONENTS.

- (1) Code "A" means the material condition of the component being refurbished could have allowed the PMR to be deferred (extend the periodicity).
- (2) Code "B" means the material condition of the component being refurbished justified the scheduled PMR.
- (3) Code "C" means the material condition of the component being refurbished should have mandated an earlier completion of the PMR (shorten the periodicity).

NOTE: VARIATIONS TO THESE CODES MAY BE DESCRIBED IN INDIVIDUAL PMR MJC NARRATIVES.

- e. ARRS will verify that all participating WCs have documented completion of assigned tasks, Ship's Force acceptance signature is on AWR and the final action taken code (2 characters) is entered. Prior to close-out of the AWR, ARRS will pass the AWR to the ISIC for review. For MRMS FMA sites, it is essential that ARRS verify that the MRMS Availability file has the proper scheduled completion date and code to identify that it is a scheduled availability. This is done by showing a "Y" in answer to "Is this a CNO Availability" on the appropriate screen.
- f. Adjustments of scheduled start and completion dates of the PMR and factual reporting of status codes.
- g. Review corrective action request submitted by Ship's Force via an OPNAV 4790/2K to determine if the corrective action is to include the criteria of MRC, MS or TRS requirements.

- h. If the PMR maintenance procedure has a material condition feedback form, fill out the form and submit in accordance with the reporting requirements defined in the procedure.
- i. Report to the ISIC when PMRs are met in accordance with paragraph 24.5 of this chapter, due to the expansion of work boundaries.

24.7.5 Submarine Commanding Officer.

- a. The ship's Commanding Officer is responsible for the execution of PMR work on the ship.
- b. All discovered maintenance deficiencies which affect the equipments and systems covered by the PMR program should be documented to reflect the possible PMR with which the deficiency is associated. This will provide the ISIC with the alternative of simultaneously imposing repairs to the criteria of the specified Maintenance Standard and credit PMR accomplishment.
- c. All maintenance deficiencies will reflect in Block 46 (TYCOM SPECIAL PURPOSE), of the OPNAV 4790/2K whether or not quality control and Quality Assurance standards are required.
- d. Review Depot Availability Work Packages and provide comments to the TYCOM and SUBMEPP representatives during the work package review.
- e. Review the status of PMR maintenance in the SUBMEPP Quarterly PMR inventories and schedules and CSMP reports with parent ISICs prior to upkeep periods in order to assist in planning for accomplishment of required PMR maintenance.
- f. All maintenance deficiencies which affect the equipments and systems covered by the PMR program should be documented to reflect the possible PMR with which the deficiency is associated. Review ship's submitted deferrals of corrective maintenance for FMA accomplishment against the PMR inventory and record any applicable Maintenance Standard numbers on the OPNAV 4790/2K. If a component or piece of equipment is listed in the inventory but a Maintenance Standard number is not identified, annotate the OPNAV 4790/2K with "PMR applies".
- g. Ensure that the current SUBMEPP Quarterly PMR Inventories and Schedules CD, MRCs, Maintenance Requirements and TRSs applicable to the ship class are carried on board.
- h. Ensure that MRCs, MSs and TRSs, which provide detailed information and repair guidance are referenced and used during equipment maintenance. Additionally, SUBMEPP PMR inventories provide useful guidance in preparing maintenance documents and planning work (i.e., component identification, Equipment Identification Codes, Allowance Parts Lists, Maintenance Standards, etc.).
- i. If Ship's Force accomplishes a repair of a PMR component to an MRC, MS or TRS, report same to the ISIC Material Officer so that the SUBMEPP Inventory and Schedules may be updated and follow-up reporting action may be initiated.
- j. Ensure all completed AWRs for PMRs are signed as accepted by Ship's Force.

25.2.3.2 Calculating Due Dates. Next due dates are calculated based on an adjusted LMA date. Due dates are calculated, for scheduling purposes, by taking the adjusted LMA date month (number) and adding the periodicity months (number) to show the month due (i.e., an item with an adjusted LMA date of February 2003 (2/03) with a six month periodicity would be due in August 2003 (8/03)). The PMR will be accomplished prior to midnight of the last calendar day of the month due.

25.2.4 Periodicity Extensions. When determining the due date for URO MRC inspections 001, 004, and 005 for an individual submarine, inactive time (defined as the number of days pierside plus the number of days in dry-dock) may be excluded from the time elapsed since the last inspection. When determining the due date for URO MRC 002, 003 (certain portions) and 035, only the time in dry-dock may be excluded from the elapsed time. The ship's deck log, engineering log or the ship's coolant discharge log will be used to determine the number of days pierside or the number of days in drydock. Ship's Force will perform this review and provide the applicable dry-dock and/or inactive time via official correspondence to the ISIC. Extensions of periodicity from the next due date identified in the SUBMEPP PMR inventory for these URO MRCs can be authorized by the TYCOM without further NAVSEA approval. However, they are not automatic and such requests shall be submitted by letter, in the format of Appendix E of this chapter, to SUBMEPP via the TYCOM. Upon receipt of TYCOM authorization, SUBMEPP will reflect the periodicity extension and the revised due date in the next issue of the ship's PMR inventories and schedules.

25.2.5 Scheduling, Planning and Reporting Unrestricted Operation Accomplishment at Ship/Fleet Maintenance Activity Level.

25.2.5.1 Scheduling. The TYCOM PMR Scheduling System Inventories and Schedules is distributed by SUBMEPP to the appropriate ISIC every quarter. Except at NAVIMFAC PACNORWEST, along with this PMR CD, electronic update files are provided to keep the local scheduling systems up to date with the Class Maintenance Plan (CMP). As a minimum, ISICs will schedule applicable URO MRCs 40 days (SSBN/SSGN 726 Class submarines) or 40 days (non-SSBN/SSGN 726 Class submarines), as applicable prior to refit fleet maintenance availability. Those URO MRC AWRs requiring work packages or other planning are forwarded to the FMA Planning Section.

25.2.5.2 Planning. FMA Planners will requisition materials, obtain plans and drawings, prepare Formal Work Procedures and/or Controlled Work Packages and coordinate the scheduling with the Ship Superintendent, Production Officer and ISIC Material Office. Then the job will be turned over to the production WC for accomplishment. For Ship's Force accomplishment of URO MRCs, the ISIC will provide an AWR to the ship. The Maintenance Document Control Office (MDCO) will adjust the scheduled start and completion date within the local scheduling system.

25.2.5.3 Reporting to the Maintenance and Material Management (3-M) System. Each URO MRC AWR contains specific instructions on reporting the completed action and on use of a special feedback code to identify the material condition or that a change in inspection frequency is required. In order to ensure URO MRCs are correctly accomplished and reported to SUBMEPP, the following actions are to be taken prior to closeout of the AWR by Analysis, Records and Reports Section (ARRS):

- a. Submarines completing URO MRC AWRs are to fill-in the AWR with action taken codes and suffix of A, B, or C for material condition assessment, if applicable. Ship will sign for completion, ISIC will sign for acceptance. Include a narrative statement, if required, and return the original AWR to the ISIC. The ISIC will review the AWR and forward to ARRS to close out the computer AWR and update SUBMEPP inventories and schedules. Note that because of the Auto-Close features, the completed AWR will automatically close the deferral in the CSMP.
- b. FMA Lead Work Centers (LWC) completing URO MRC AWRs must ensure that all assist WCs have completed their work. The LWC then completes the AWR by filling in action taken codes, signing for completion and obtains acceptance signature from Ship's Force. The AWR is then returned to ARRS. The ARRS will verify that all participating WCs have documented completion of their assigned tasks and then pass the AWR to the ISIC for review and updating of SUBMEPP inventories and schedules prior to close-out of the AWR by ARRS.

25.2.6 Unrestricted Operation Maintenance Requirement Card Accomplishment During Chief of Naval Operations Maintenance Availabilities.

- a. The Availability Work Package (AWP) prepared by SUBMEPP will reflect all URO MRCs authorized for accomplishment during the availability at the AWP Ship Work List Item Number (SWLIN) level. The Work Package Supplement (WPS), accompanying the AWP, will identify a specific URO MRC requirement to the applicable AWP SWLIN paragraph. Appendix F of this chapter provides an example of the WPS format.
- b. For URO MRCs assigned to the depot, the ISIC will enter "Assigned to <depot name> by AWP <AWP number>" in the Remarks/Completion block of the URO MRC Schedule/Inventory and in the local scheduling system.
- c. URO MRC completions by an industrial activity during CNO Availabilities will be, for non-SSBN/SSGN 726 Class submarines, retrieved from AIM (shipyard information system) by SUBMEPP. For SSBN/SSGN 726 Class submarines, completions will be reported by the industrial activity as a function of the Submarine Maintenance Program Coordinator as established by reference (b). The WPS, annotated by the Submarine Maintenance Program Coordinator to show URO PMR completions and material condition feedback categories, will be returned to SUBMEPP and forwarded to parent ISIC upon completion of the availability. The ISIC will verify that all URO MRCs assigned to the shipyard were reported and subsequently updated by SUBMEPP.

25.2.7 Unrestricted Operation Maintenance Requirement Card Completion Reporting.

- a. Within 30 days after the completion of an availability the activity accomplishing the URO MRC is required to provide a report of accomplishment to SUBMEPP and the ship's ISIC as well as other technical codes as designated in the URO MRC. Specific information to be included in the report is identified in the applicable URO MRC. The accomplishing activity shall retain a legible copy of the most current inspection report until the ship is disposed of or stricken from the Naval Register.
- b. Prior to Fast Cruise for CNO Availabilities, the industrial activity is required to provide the ship and ISIC with a letter of certification (including final inspection categories A, B, or C when applicable) that certifies all required inspections have been satisfactorily completed. For items which must be accomplished in dry-dock, the industrial activity is required to provide such certification prior to undocking.
- c. Upon identifying a material condition that would result in a reduced inspection periodicity if not restored to Category A condition during the availability in which the condition was found, a special report is required to be submitted by the accomplishing activity in accordance with the applicable URO MRC and, if applicable, the AWP. This special report shall be provided immediately to NAVSEA (SEA 07), TYCOM, ISIC, and SUBMEPP indicating:
 - (1) Applicable MRC.
 - (2) Equipment component identification.
 - (3) Inspection category.
 - (4) The reduced or deferred periodicity of each equipment component that should be inspected at less than its normal periodicity. This reduced periodicity report requirement is in addition to the completion reporting requirements of paragraphs 25.2.7.a and b above.

APPENDIX E

REQUEST FOR URO MRC PERIODICITY EXTENSION FORMAT

4790
Ser

From: Commander, Submarine Squadron
 To: Commanding Officer, Submarine Maintenance Engineering, Planning and Procurement (SUBMEPP)
 Activity
 Via: Commander Submarine Force, (Atlantic/Pacific Fleet)
 Subj: REQUEST FOR EXTENSION OF PERIODICITY FOR URO MRC(S) _____ ON
 USS (Ship's Name and Hull No.)
 Ref: (a) Applicable URO MRC
 (b) COMUSFLTFORCOMINST 4790.3; Joint Fleet Maintenance Manual, Volume VI, Chapter 25
 (c) COMSUB(LANT/PAC) Ltr 4790 Ser ___ of (previous letter granting extension of periodicity)

1. In accordance with references (a) and (b), request extension of URO MRC periodicity for USS (Ship's Name and Hull No.) to coincide with Selected Restricted Availability/Overhaul/Depot Modernization Period/Interim Dry-Docking as follows:

URO MRC	Equipment Guide List Item Number or Component Ident	LMA Date	Current Due Date	Inactive Time		Extension Required	Required Next Due Date
				Pierside Days *	Drydock Days		
001	All	June 82	Apr 91	200 days	100 days	7 months	Nov 91
002	All	June 82	Aug 91	N/A	100 days	3 months	Nov 91
003	4.b	June 82	Aug 91	N/A	100 days	3 months	Nov 91
004	INT Welds	June 84	Apr 91	200 days	100 days	7 months	Nov 91
005	INT Welds	June 84	Apr 91	200 days	100 days	7 months	Nov 91
035	All	June 84	Aug 91	N/A	100 days	3 months	Nov 91

* Credit for pierside days is awarded for days the ship is tied to the pier, no credit is given if the ship is underway anytime during the day.

2. Inactive time identified for the URO MRCs listed in paragraph 1 above is the actual allowable time accrued to date since URO MRC was last accomplished/previous extension of periodicity was granted by reference (c).

Copy to:
 COMNAVSEASYSYSCOM (SEA 07) (080)
 Commanding Officer, USS (Ship's Name and Hull No.)

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VOLUME VI

CHAPTER 28

CABLEWAY ASSESSMENT

REFERENCES.

- (a) NAVSEAINST 9304.1 - Shipboard Electrical Cable and Cableway Inspection and Reporting Procedures
- (b) DOD-STD-2003 - Military, Standard, Electric Plant Installation Standard Methods for Surface Ships and Submarines

LISTING OF APPENDICES.

A Sample Cableway Assessment Message

28.1 PURPOSE. The Cableway Assessment Program is a comprehensive inspection of shipboard electrical cables, conducted by Fleet Maintenance Activity (FMA) cableway assessment teams. The requirements for cableway assessments are contained in reference (a), which defines the training requirements, assessment criteria, and reporting procedures relevant to the assessments.

28.2 HAZARD CATEGORIES. The surface ship electrical cable and cableway assessment program is designed to identify and correct cable/cableway safety hazards in a prioritized, orderly manner, consistent with ship and personnel safety. The three categories of deficiencies are defined as follows:

- a. Category 1 - IMMEDIATE HAZARD: Deficiencies which are, or have the immediate potential to be, personnel safety hazards, electrical fire hazards, or which negate firebreak integrity.
- b. Category 2 - POTENTIAL HAZARD: Deficiencies which require corrective action to ensure continued reliable safe performance or to maintain watertight integrity, but are not an immediate danger to personnel or equipment.
- c. Category 3 - NON-HAZARDOUS: Deficiencies which are not hazardous to personnel or equipment but are not in compliance with approved standard installation practices.

28.3 DEFICIENCY CORRECTION. The intent of this program is to ensure that deficiencies classified as Category 1 are corrected immediately. Deficiencies classified as Category 2 should be scheduled for repair during the ship's next regularly scheduled industrial availability as work priority permits. Category 3 deficiencies should be corrected whenever such repairs can be accomplished in conjunction with other scheduled repairs or alterations involving the cables or cableway in which the deficiencies exist.

28.4 ASSESSMENT SCHEDULING.

28.4.1 Initial Assessment. Initial cable/cableway assessments are conducted on each ship to establish a baseline configuration to ensure compliance with reference (b).

28.4.2 Follow-up Assessments. Follow-up assessments shall be conducted within 12 months prior to a **major or minor Chief of Naval Operations** availability. The purpose of this assessment is to validate the integrity of ship's cableways, identify discrepancies that require depot or commercial level work effort, and to train responsible Ship's Force personnel to meet requirements of paragraph 28.6.5 of this chapter. Both the initial and follow-up assessments will be comprehensive, complete ship assessments.

28.4.3 Partial Assessments. Following availabilities which modify shipboard cableways, ships may request partial assessments to validate the quality of the modified or newly installed cableways.

28.5 CABLEWAY ASSESSMENT/ASSIST TEAM COMPOSITION AND PROCEDURES.

- a. FMA Electrical Cableway Assessment shops ideally consist of 12 FMA personnel. The recommended shop manning is six certified personnel and six personnel in training. Certified personnel must have satisfactorily completed a cableway assessment/repair training course and satisfactorily demonstrated their practical knowledge based on enclosure (1) of reference (a). Personnel in training may assist in cableway assessments after satisfactorily completing classroom training modules per reference (a) and satisfactorily demonstrating their practical knowledge to an FMA appointed certifying assessor. Assessors should be E5 or above, with shipboard experience, and from the following source ratings: AE, EM, ET, EW, FC, FT, GM, GSE, IC, IT, STG, and STS.
- b. For assessment/assist visit purposes, the FMAs should establish sub-teams of one certified assessor, one trainee, and one Ship's Force member. Assign as many sub-teams as necessary to assess the entire ship. The assessed ship will assign a minimum of one Ship's Force person per FMA sub-team from the above source ratings, for the purpose of training, and to assist in shipboard assessment and repairs. Each FMA will assign one HT (qualified welder) to assist during shipboard cableway repairs.
- c. In addition to technical training, all team members shall be trained to administer Cardio-Pulmonary Resuscitation.
- d. Upon completing the assessment of the entire ship, assessment teams will assist in the correction of cableway deficiencies as time and schedules permit. Repair efforts will concentrate on removal of dead-ended cables, correction of watertight integrity items, and Category 1 discrepancies.

28.6 RESPONSIBILITIES.

28.6.1 Immediate Superior In Command. Ensure assigned ships are scheduled to receive required cableway assessments and training.

28.6.2 Regional Support Group/Regional Maintenance Center. Schedule assigned ships for cableway assessments/assist visits and coordinate the training effort of Ship's Force personnel by the FMA.

28.6.3 Fleet Maintenance Activity.

- a. Establish the following to support the Electrical Cableway program:
 - (1) Electrical Cableway Assessment and Repair Teams for the accomplishment of scheduled cableway assessments.
 - (2) Training program to support FMA training needs as specified in Part II of enclosure (1) of reference (a).
 - (3) Training program for ship's personnel. Training of Ship's Force personnel will include classroom training before the assessment and shipboard practical training during the assessment.
- b. Give daily progress reports (briefing, if possible) to ship's Commanding Officer, identifying Category 1 findings and any other areas of concern.
- c. Upon completion of the assessment, submit a final report per Appendix A of this chapter to the applicable Type Commander (TYCOM) (N434), info the Immediate Superior In Command (ISIC) and the Regional Support Group/Regional Maintenance Center. The final report should contain a list of Ship's Force personnel trained as cableway assessors/repairmen, including names, the last four digits of the individual's social security numbers, and rate/rank.

APPENDIX A

SAMPLE CABLEWAY ASSESSMENT MESSAGE

FM (FMA)//
 TO USS (SHIP'S NAME AND HULL NO.)//
 INFO ISIC//(AS APPROPRIATE)
 RSG/RMC//(AS APPROPRIATE)
 BT
 UNCLAS //N04790//
 MSGID/GENADMIN/(ORIGINATING FMA)//
 SUBJ/ ELECTRICAL CABLEWAY ASSESSMENT REPORT FOR USS (SHIP'S NAME AND HULL NO.)//
 REF/A/DOC/COMUSFLTFORCOMINST 4790.3//
 AMPN/REF A IS JOINT FLEET MAINT MAN/VOL VI CH 28 PROVIDES GUIDANCE IN CABLEWAY
 INSPECTIONS//
 RMKS/1. CABLEWAY ASSESSMENT OF USS (SHIP'S NAME AND HULL NO.) WAS CONDUCTED IN
 ACCORDANCE WITH REF A FROM (START DATE) TO (COMPLETION DATE) BY (INSPECTING UNIT).
 RESULTS ARE AS FOLLOWS:

	CAT 1	CAT 2	CAT 3	TOTAL
ITEMS IDENTIFIED	_____	_____	_____	_____
ITEMS CORRECTED	_____	_____	_____	_____
ITEMS REMAINING	_____	_____	_____	_____
ITEMS DOWNGRADED	_____	_____	_____	_____

2. CABLE/CABLEWAY DISCREPANCIES.

	QUANTITY	PERCENTAGE
DEAD-ENDED CABLES	_____	_____
IMPROPER EQUIPMENT/BULKHEAD PENETRATIONS	_____	_____
COLLARS/CHAFING RINGS WITHOUT FIRE STOP	_____	_____
MISSING CABLE HANGERS	_____	_____
TUBES NOT PACKED	_____	_____
TUBES NOT BLANKED	_____	_____
CHAFED CABLES	_____	_____
EQUIPMENT IMPROPERLY MOUNTED	_____	_____
CONNECTERS MISSING TEMPSEAL	_____	_____
IMPROPER SPLICES	_____	_____
EXCESSIVE SLACK IN CABLES	_____	_____
INCORRECT BEND RADIUS	_____	_____
MISSING COVERS	_____	_____
IMPROPER BANDING	_____	_____

IMPROPER CABLE RUNS	_____	_____
FIRE BOUNDARIES MISSING FIRE PROTECTIVE COATING	_____	_____

3. THE FOLLOWING ITEMS WERE CORRECTED:

	QUANTITIES
DEAD ENDED CABLES	_____
DEAD ENDED CABLES PROPERLY END SEALED	_____
NEW CABLES INSTALLED	_____
IMPROPER EQUIPMENT PENETRATIONS DOWNGRADED WITH APPROVED METHODS	_____
FIRE BOUNDARIES TREATED WITH FIRE PROTECTIVE COATING	_____

(LIST ANY OTHER TYPES OF DISCREPANCIES AND QUANTITIES CORRECTED)

4. FIRE PROTECTIVE COATING (TYPE) HAS BEEN APPLIED TO ALL ELECTRICAL PENETRATIONS THROUGH DESIGNATED FIRE ZONE BOUNDARIES (IF ALL DESIGNATED BOUNDARIES WERE NOT COATED, IDENTIFY REMAINING BOUNDARIES TO BE COATED).

5. ELECTRICAL CABLE/CABLEWAY INSPECTION IS COMPLETED (OR) ELECTRICAL CABLE/CABLEWAY INSPECTION IS COMPLETE WITH THE FOLLOWING EXCEPTIONS (LIST COMPARTMENTS OR IDENTIFY BOUNDARIES).

6. THE FOLLOWING SHIP'S FORCE PERSONNEL WERE TRAINED AND HAVE SATISFACTORILY DEMONSTRATED THEIR PRACTICAL KNOWLEDGE IN CABLEWAY INSPECTION AND REPAIR TECHNIQUE. PERSONNEL HAVE BEEN INFORMED OF THEIR RESPONSIBILITY FOR QUALITY ASSURANCE OF CABLEWAYS INCLUDING INSPECTION AND MAINTENANCE OF CABLEWAYS:

NAME	RATE/RANK	SSN (last four digits only)
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

BT

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

VOLUME VI

CHAPTER 31

SURFACE **FORCE** SHIP MAINTENANCE PLACEMENT
AND OVERSIGHT BUSINESS RULESREFERENCE.

- (a) NWP 1-03.1 - Naval Warfare Publication Operational Report

LISTING OF APPENDICES.

- A RMC Spotlight Reports

31.1 PURPOSE. The purpose of this chapter is to provide procedures and guidance regarding ship maintenance placement and oversight business rules. These procedures and guidance affect Regional Maintenance Centers (RMC), Type Commanders (TYCOM) and Ship Maintenance Teams.

31.2 BACKGROUND. Current directives demand a culture of readiness. The process described here addresses the need for a flexible maintenance support system that increases efficiency without compromising effectiveness, and defines a common planning process for ship maintenance and alterations. These processes need to be disciplined with objective measurements and institutionalized with a continuous improvement methodology.

31.3 SHIP MAINTENANCE FUNDING MANAGEMENT BUSINESS RULES.

31.3.1 Scope. The goals of the entitled funding process are to reduce premiums paid for maintenance while simultaneously improving the ability to respond to maintenance and operational requirements. The funding business rules establish the central role of the Ashore Ship's Maintenance Manager working with the ship's Commanding Officer to manage the funds required to support all maintenance for a given ship. Starting with the submission of an overall Maintenance and Modernization Business Plan (MMBP), the Ashore Ship's Maintenance Manager will establish the quarterly distribution of controls from the established annual maintenance target needed to accomplish the ship's maintenance in the most efficient manner. The process provides the ship with a level of funding stability that will provide for the execution of an effective maintenance plan.

31.3.2 Ship and Maintenance Team Business Responsibilities.

- a. Each ship's Maintenance Team is led by the Ashore Ship's Maintenance Manager. The Ashore Ship's Maintenance Manager coordinates with the RMC Commander to execute maintenance in accordance with Fleet and TYCOM maintenance policies and directives. The TYCOM shall ensure that each ship's Business Plan is tailored to fit the unique geographic and business climate situations.
- b. The Maintenance Team (primarily the ship's Commanding Officer working with the Ashore Ship's Maintenance Manager) supports the Fleet Maintenance Officer and TYCOM in identifying budget needs based on well documented requirements in the Current Ship's Maintenance Project (CSMP), the Class Maintenance Plan, the Baseline Availability Work Package, the class Technical Foundation Paper and historical data. The Ship's MMBP identifies the total funding budgeted to support the ship during the execution year, along with advance planning funding for availabilities to be executed in future years. The TYCOM determines how much of the Ship's MMBP they can fund (controls) of the total requested, and how much money per quarter (phasing plan) they can provide for executing the Ship's MMBP. The following guidelines are not all inclusive but should be considered when structuring the phasing plan:

- (1) The Maintenance Team will receive their actual spending levels or controls from the TYCOM. The RMC, with the TYCOM's approval, may adjust controls between maintenance teams as required during the course of the execution year. The goal is to establish controls before the execution year starts and then maintain these controls fixed throughout the execution year.
 - (2) The Maintenance Team provides the RMC and TYCOM with a quarterly spending or phasing plan based on their Ship's controls. The plan should be consistent with the ship's operational cycle and predefined maintenance periods. For example, deployments and underway periods in a given quarter should cause the displacement of Continuous Maintenance (CM) controls to other quarters where the maintenance is likely to occur.
 - (3) Funds will be provided to Maintenance Teams early enough to avoid premiums associated with late contract award, definitization or assignment of work.
- c. The Maintenance Team's performance shall in part be evaluated on conformance with the individual ship MMBP or in the larger scope, the ability of the maintenance team to execute required maintenance without exceeding funding controls. Significant deviations from the final negotiated MMBP or controls will be documented in a Summary of Events. It is recognized that the drivers for MMBP changes are often outside the direct control of the Maintenance Team and will be documented as such. The fundamental guidelines for executing at MMBP financial control levels are:
- (1) Follow the guidance in Volume II, Part II, Chapter 1 of this manual regarding screening and brokering of work candidates.
 - (2) During the execution of an availability, growth and new work should be authorized only if the Business Case Analysis indicates that this is the best course of action, taking into consideration all applicable business and operational risks and factors.
- d. The Maintenance Team, with the TYCOM's approval, may shift controls between the Chief of Naval Operations (CNO) availability and CM budget lines in order to most efficiently accomplish required maintenance and modernization. No more than 25% of the CM controls for an individual ship shall be moved to the CNO availability without TYCOM approval.
- e. The Maintenance Team shall schedule continuous maintenance availabilities per Volume II, Part II, Chapter 2 of this manual. Adjustment of Continuous Maintenance Availability dates shall be coordinated with the RMC and requested from the Immediate Superior In Command via naval message. Date changes shall be minimized in order to realize the maximum benefit from advance planning work. The Maintenance Team may not change CNO availability dates. The Maintenance Team shall resolve CNO availability scheduling issues with the TYCOM via the RMC. The TYCOM shall include Program Executive Office (PEO) Ships in any discussions resulting in availability date changes when Program Alterations are scheduled for the availability.
- f. The Maintenance Team shall review proposals for fair and reasonable costs, work scope and applicable technical aspects prior to the Technical Analysis Report (TAR) process.
- g. The Maintenance Team has the authority to adjust the MMBP in response to changes in ship operations, planned maintenance periods, and other business case reasons provided the intended distributions do not exceed the total remaining annual budget requirement allocated for that ship. This redistribution will be documented via a revised quarterly phasing plan, a Summary of Events prompting the change, and a formal recovery plan, which will be submitted to the TYCOM via the RMC for approval and adjustment of the Maintenance Team controls. Over the course of the fiscal year, some minor adjustments to the phased funding requirement can be expected. The cognizant RMC, with approval from the TYCOM, will establish funding redistribution limits below which a formal recovery plan would not be required, however, the revised quarterly phasing plan and Summary of Events would still

be needed for approval. Ship's Commanding Officers shall ensure that their Immediate Superior In Command is advised of any proposed changes to their MMBP which may affect operational schedules or planned modernization.

- h. The Maintenance Team may not unilaterally adjust the MMBP when the adjustments would exceed the total remaining funding controls allocated for the ship. Any requirement in excess of the total MMBP currently approved will require the submission of a revised quarterly phasing plan, a Summary of Events related to the change, and a formal recovery plan. The RMC will evaluate the increased requirement and will make their recommendation for approval to the TYCOM based on total controls available. The RMC may not exceed an individual ship's total funding controls.
- i. Depot level maintenance will normally be screened to the Multi-Ship/Multi-Option (MS/MO) contractor. The Maintenance Team may go to other contracting vehicles when:
 - (1) The MS/MO contractor and government cannot agree on cost and scope.
 - (2) The MS/MO contractor does not have the capability or capacity.
 - (3) Indefinite Delivery, Indefinite Quantity/Commercial Industrial Services (or Simplified Acquisition Purchases and a qualified vendors list) is available.
 - (4) Other organic RMC assets are available and have the capability for the work.
 - (5) Work is to be accomplished outside of homeport area.
 - (6) Work is to be accomplished by an Alteration Installation Team.
- j. During the execution of a maintenance availability, it is anticipated that deficiencies will be identified that could be accomplished as either growth or new work on the existing contract. The Maintenance Team shall perform a Business Case Analysis to decide whether or not to add the work to the current availability or schedule it during another maintenance opportunity.
- k. When work deferral reduces the total cost of the job or maintenance completes with a cost under-run and funds can be recaptured, the funding controls will normally remain under the control of the respective Maintenance Team. If the funds are needed for critical work on another ship or to cover a funding shortfall at the TYCOM/Fleet level, the TYCOM will redistribute as necessary. The change will be documented in a revised quarterly phasing plan and the Maintenance Team(s) should provide to the RMC an impact statement and recommended plan to mitigate the effects of the plan change.
- l. The RMC coordinates with the Maintenance Teams to comply with their approved ship's MMBPs. The RMCs shall make a monthly MMBP execution report to the TYCOM.
- m. Maintenance Teams will issue funds to the appropriate executing activity by submitting a planning estimate to the TYCOM (via the RMC) and the TYCOM will issue the actual funding document.
- n. MS/MO contractors normally submit cost reports to Maintenance Teams on a bi-weekly basis. The Maintenance Team will utilize these reports to assess the cost performance of the MS/MO contractor and address items of concern to the RMC and/or TYCOM.

31.3.3 Regional Maintenance Center Business Responsibilities.

- a. The RMC Commander has the authority from the Fleet Maintenance Officer and TYCOM to execute Surface **Force** Ship maintenance and shall do so in accordance with Fleet and TYCOM policies and directives.

- b. The RMC Commander develops an execution year spending plan for the TYCOM's approval based on the TYCOM approved MMBPs.
- c. The Fleet Commander spending controls are issued to the TYCOM who then assigns spending controls to each Maintenance Team, informing the RMC. The RMC issues quarterly spending controls to all of the Maintenance Teams in accordance with the TYCOM's final TYCOM approved MMBP for each ship.
- d. The RMC Commander will evaluate MMBP adjustment requests based on the Summary of Events, recovery plan, and quarterly adjustment provided by the Maintenance Teams. If the RMC supports the request, the RMC will forward the issue to the TYCOM for approval.
- e. The RMC Commander shall request approval from the TYCOM whenever redistribution of annual ship funding is required. The RMC shall provide the TYCOM a record of all control changes for tracking purposes. Redistribution of funds between Active Fleet and Reserve Fleet funding lines or between different TYCOMs requires approval by the Fleet Commander.
- f. In the event of significant program wide control changes the RMCs shall:
 - (1) Provide an impact statement to the TYCOM regarding the effect on the execution of maintenance.
 - (2) Provide a recommendation to minimize the impact on Force readiness.
- g. The RMC shall evaluate the financial status of each of the Maintenance Teams on a monthly basis.
- h. The RMC shall submit monthly financial summary reports to the respective surface TYCOM. This report provides a comparison of actual versus planned funding execution. The last report for the execution year will include an annual summary showing how the funds were utilized, sorted by Naval Operations resource sponsor.
- i. C3/C4 Casualty Reports (CASREP), or a C2 CASREP with reasonable potential to become a C3/C4 CASREP, are identified as emergent maintenance and will be funded with emergent dollars. Emergent work will be scheduled to minimize premiums in as much as the operational schedule will permit. C2 CASREPs will normally be corrected using the CM Process. Consideration will be given to schedule all maintenance, including emergent, at an opportune time to reduce premiums. The RMC Commander may, with the respective TYCOM's prior approval, convert Emergency Maintenance funds to execute CNO availability or CM maintenance.
- j. Except as stated in paragraph 31.3.3i. of this chapter, C2 CASREPs will be corrected during CM periods (both scheduled Continuous Maintenance Availabilities and maintenance Windows of Opportunity) using CM funds. C2 CASREPs discovered during a CNO availability or Continuous Maintenance Availability will be addressed as new work. C2 CASREPs may be allowed to "age" until the appropriate repair opportunity. The RMC Commander has the responsibility to request TYCOM authorization when Emergency Maintenance funds should be used for the correction of C2 CASREPs or other non-CASREP related, but nonetheless urgent maintenance. The RMC is required to approve any planned delay of action on a CASREP. In the event that the delay effectively constitutes a CASREP deferral in accordance with reference (a), the RMC will forward the deferral recommendation to the TYCOM for approval. Measures of command efficiency used in the past, such as sailing "CASREP free" are no longer appropriate.
- k. The RMC Commander will generate monthly maintenance availability Spot Light reports for all assigned ships planning for a CNO availability, ships in a CNO availability and ships that have completed their **Lessons Learned Process in accordance with Chapter 39 of this volume** following the

completion of a CNO availability. These Spot Light reports will be briefed at least monthly to the TYCOM at Surface Team 1 Maintenance and Modernization Continuous Improvement Team meetings. The business rules for preparation of these forms are included in Appendix A.

31.3.4 Type Commander Responsibilities.

- a. The TYCOM establishes Force maintenance policies and directives, consistent with Fleet Commander guidance, and authorizes the Maintenance Team and RMC to act as the principal agent to execute those policies and directives.
- b. The TYCOM will provide a list of Fleet Alteration requirements for the execution year as input to the ship's business plan no later than 15 February in the year prior to execution. To assist with business plan development, the TYCOM will identify which alterations are scheduled for accomplishment and will provide the Maintenance Team and RMC with the cost estimates for accomplishment.
- c. When the Fleet issues the spending controls to the TYCOM, the TYCOM will in turn issue spending controls to the RMC and update those spending controls on a quarterly basis.
- d. The TYCOM has the authority to recapture spending controls previously issued to the Maintenance Teams and RMCs in response to unforeseen Force budget requirements. This will be used as a last resort, as the goal is to maintain stable funding plans in support of ships' MMBPs.
- e. If it is determined that the best course of action is not to fund a CNO availability, the TYCOM must (with concurrence from United States Fleet Forces or Commander, Pacific Fleet, whichever is appropriate) approve the removal of funds before the RMC initiates this action. The TYCOM shall ensure PEO Ships is included in the decision process to not fund any availability where Program Alterations are scheduled for accomplishment during that availability.
- f. The TYCOM will evaluate MMBP adjustment requests forwarded by the RMC based on the Summary of Events, recovery plan, and quarterly adjustment provided by the Maintenance Team. If the TYCOM supports the request but lacks spending "controls" required, the TYCOM will forward the issue to the Fleet for approval and additional controls.
- g. The TYCOM will evaluate the RMC's end of month financial status reports to assess the degree of conformance to the approved RMC consolidated spending plan.

31.4 MAINTENANCE PROPOSAL REVIEW. The maintenance process must be flexible enough to be able to respond to changing operational requirements. The key to this flexibility is to reduce the cycle time involved prior to the actual execution of the maintenance. The Continuous Estimating, Incremental Planning Review Process guidelines will be utilized by the Maintenance Team to approve all proposed maintenance actions within time and budget constraints. The guidelines apply equally to Advance Planning, Long-Lead-Time Material, CNO, CM and Emergent Maintenance work.

31.4.1 Concept. The entitled process concept enables the Maintenance Team to review planned work items and estimates on a continuous basis as they are received. The Ashore Ship's Maintenance Manager is empowered to shift work items from CNO to CM or vice versa to optimize work scheduling and reduce premium exposure and overall cost.

31.4.2 Business Rules.

- a. The Ashore Ship's Maintenance Manager with support from the Maintenance Team shall analyze the work package against the availability schedule. In general, Maintenance Teams should consider scheduled availability lengths fixed and attempt to adjust the work package to ensure it can be completed within the scheduled dates. When justification exists, the Maintenance Team should recommend availability length adjustments to the TYCOM to minimize premiums.

- b. The Ashore Ship's Maintenance Manager with support from the Maintenance Team shall analyze the work package against potential CM windows of opportunity to maintain the scheduled dates of the availability, to best level load the contractor, and to minimize premiums.
- c. The Maintenance Team may not change CNO availability dates and shall resolve scheduling issues with the TYCOM via the RMC. The TYCOM shall include PEO Ships in any discussions resulting in availability date changes when Program Alterations are scheduled for the availability.
- d. Work packages shall be developed on a continuous basis starting no later than A-240 days in order to realize cost savings and avoid premiums associated with late identification of work in accordance with the business rules contained in Volume II, Part II, Chapter 2 of this manual.
- e. Depot level maintenance will normally be screened to the MS/MO contractor. The Maintenance Team may go to other contracting vehicles when:
 - (1) The MS/MO contractor and government cannot agree on cost and scope.
 - (2) The MS/MO contractor does not have the capability or capacity.
 - (3) Indefinite Delivery, Indefinite Quantity/Commercial Industrial Services (or Simplified Acquisition Purchases and a qualified vendors list) is available.
 - (4) Other organic RMC assets are available and have the capability for the work.
 - (5) Work is to be accomplished outside of homeport area.
 - (6) Work is to be accomplished by an Alteration Installation Team.
- f. The Maintenance Team shall review proposals for fair and reasonable costs, work scope and applicable technical aspects prior to the TAR process.

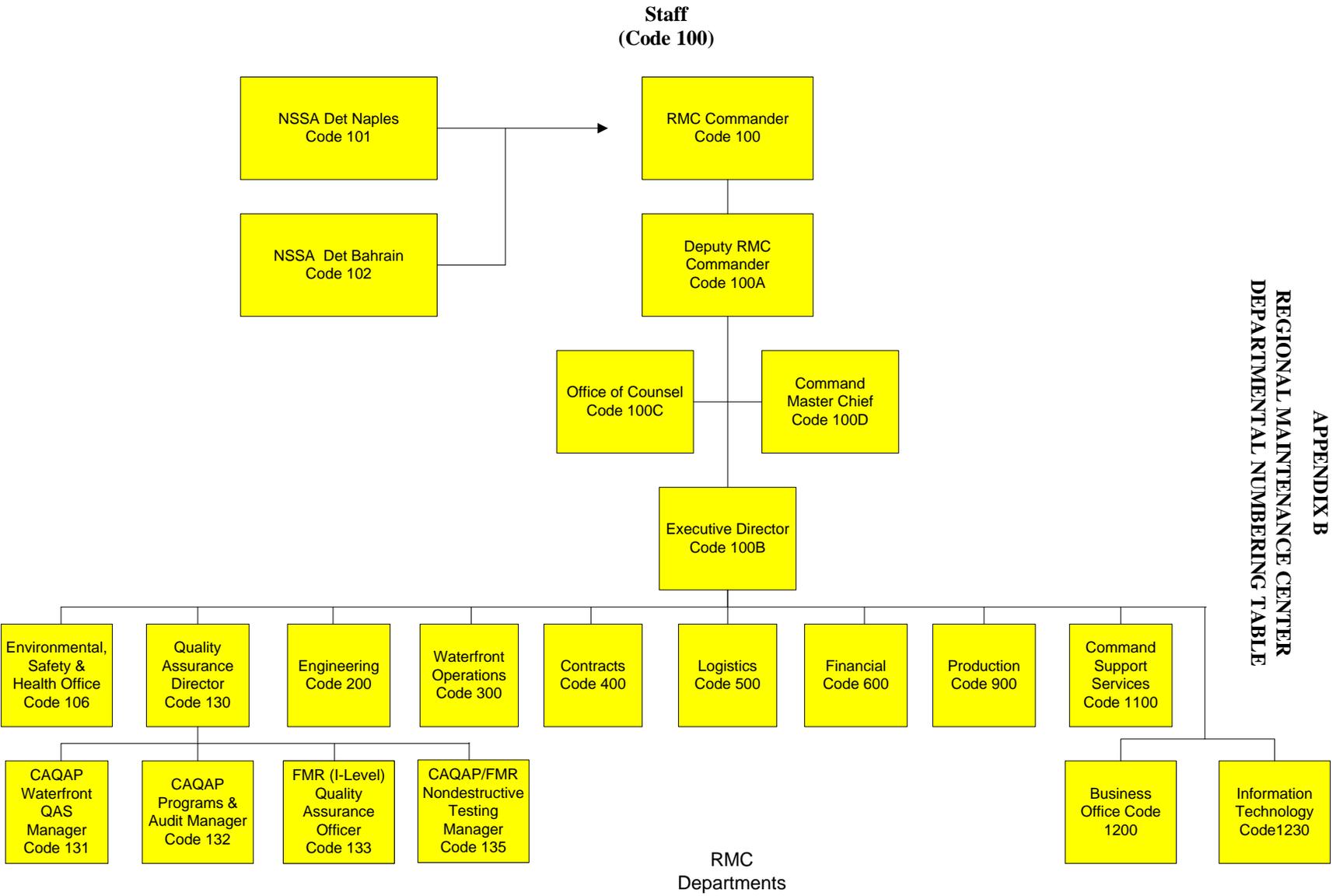
31.4.3 Continuous Estimating Incremental Planning Review Process. The Continuous Estimating Incremental Planning Review Process (CEIPRP) is the process by which the Maintenance Team continuously compares MS/MO contractor work item estimates to independently developed government work item estimates throughout the development of the work package. Completion of package development and submission of the 100% Work Package Proposal is followed by the Technical Cost and Scope analysis, proposal revisions, final TAR, establishment of the Prorate, Pre- and Post Business Clearance, and signing of the bi-lateral contract modification (definitization).

31.4.3.1 Concept. Use of the CEIPRP is intended to achieve flow of work items into the work package up to 100% lock while continuously comparing government to contractor estimates to avoid last minute surprises due to estimate differences. This process also allows for flexibility up to the 100% lock in order to develop a package that best addresses the material condition of the ship as it begins the availability. Following the planning activity specification development, the MS/MO contractor continuously submits Planning Estimates. Simultaneously, the government Maintenance Team continuously develops the Independent Government Estimate (IGE). These two estimates are then compared and any differences in scope and price (generally: those in excess of 10% difference) are resolved. Resolving these differences during work package development also reduces the amount of time required for the final TAR process. Following the 100% package lock, the planning activity completes planning, the MS/MO contractor assembles and submits the 100% package proposal. Based on the 100% package proposal, an estimate of prorates is communicated to resource sponsors along with a final funding notification in order to ensure on-time funding. This is followed by completion of the final TAR and business clearance processes.

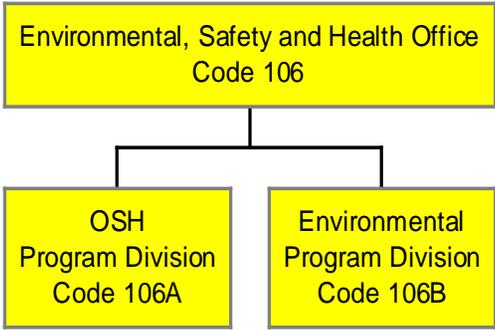
31.4.3.2 Business Rules.

APPENDIX B

REGIONAL MAINTENANCE CENTER
DEPARTMENTAL NUMBERING TABLE



**Environmental, Safety and Health Office
(Code 106)**



Note 1:

The Environmental, Safety and Health Office Manager (Code 106) functions as a Department Head and will coordinate actions with other departments in matters of mutual interest.

Note 2:

The Environmental, Safety and Health Office Manager (Code 106) has direct access to the RMC Commander for critical Environmental, Health & Safety Issues.

VOLUME VI

CHAPTER 36

SURFACE **FORCE** SHIP/AIRCRAFT CARRIER MODERNIZATION PROGRAM (SHIPMAIN)REFERENCES.

- (a) OPNAVINST 4720.2 - Fleet Modernization Program (FMP); Policy For
- (b) NAVSEA SL720-AA-MAN-010/020 - Fleet Modernization Program (FMP) Management and Operations Manual
- (c) CLF/CPFINST 4720.3 - Management of Afloat Combat Systems and C4I Installations and Improvements
- (d) DODINST 5000.2 - Operation of the Defense Acquisition System

LISTING OF APPENDICES.

- A Modernization Plan Flowchart
- B Ship Change Document Template
- C Technical Assessment Flowchart
- D Cost Benefit Analysis Flowchart
- E Alteration Figure of Merit Flowchart
- F Voting Database Flowchart
- G₁ Surface **Force** Ship Planning Process Milestones
- G₂ Aircraft Carrier Maintenance and Modernization Planning Process Milestones

36.1 SCOPE. This chapter is applicable to all Surface **Force**/Carrier Force ships and shore activities involved in ship modernization. The provisions of this chapter have been developed in collaboration with Naval Operations (OPNAV). Where there are conflicts with references (a) and (b), this chapter shall take precedence until such time as OPNAV implementing directives can be modified/issued. References (c) and (d) govern the management of afloat Combat Systems and Command, Control, Communications, Computers, Collaboration and Intelligence installations and improvements, and Initial Adversary Vulnerability Assessment policies and remain in effect as written. Type Commander (TYCOM) Maintenance Directorates shall be the lead for ensuring implementation. Ships will continue the current practice of forwarding change requests to the Immediate Superior In Command (ISIC), who will forward the change request to the respective TYCOM for entry into the Navy Data Environment (NDE). Only alterations entered in NDE will be considered for inclusion in Modernization Programs. This chapter is not applicable to submarines. Submarines will continue to utilize existing instructions.

36.2 PURPOSE. The purpose of this chapter is to document the Surface **Force** Ship/Aircraft Carrier Modernization Program, which emphasizes early decisions under the control of Commander Fleet Forces Command (CFFC), Commander Pacific Fleet, and Commander Naval Network Warfare Command, and expands on the decision process for deciding which alterations and modifications will be developed, procured, certified and installed on all surface **force** ships and aircraft carriers. The objective is to assure that fleet modernization investments address the fleet's greatest concerns and are integrated and prioritized across Strike Groups, ships, systems and warfare areas. The process directly involves Navy leadership at all levels (Fleet, OPNAV, Force TYCOMs, Systems Commands (SYSCOM) and Program Executive Offices (PEO)) in the programming, planning and installation of modernization in a consistent and disciplined manner.

36.3 BACKGROUND. The program is implemented as part of Ship Maintenance (SHIPMAIN) to modify the Fleet Modernization Program (FMP) due to Fleet concerns with the FMP which include alterations developed and hardware procured but never installed, significant changes to availability work packages after authorization letter issuance, and alteration installation problems caused by failure to satisfy planning milestones. While these issues are often times driven by overall funding instability in Navy budgets and changing priorities, the associated costs consume modernization funding which minimizes the ability to modernize ships to meet Fleet requirements. The current FMP, documented in reference (b), provides a structure for the orderly identification, approval, design, planning, programming, budgeting, installation, life cycle support and configuration control of military, technical,

and survivability improvements to all ships of the active and reserve fleets. SHIPMAIN was developed to concentrate on the early decision process regarding which alterations are to be accomplished. This process provides timely Fleet involvement and the assurance that changes are driven by current fleet requirements. This chapter also provides overall prioritization in the alterations to be accomplished and discipline and accountability in the adherence to FMP processes.

36.4 PROCESS. Appendix A provides a flowchart of the entitled modernization process decision and prioritization.

36.4.1 Key Elements. Key elements of the Ship/Carrier Modernization Program are:

- a. A single process to identify, evaluate and approve all hardware and computer software modifications to all ships and ship's systems. The process is based on approved business rules and is owned by the Force TYCOMs Commander Naval Surface Forces/Commander Naval Air Forces (COMNAVSURFOR/COMNAVAIRFOR). The process operates in concert with Acquisition Program processes of reference (c).
- b. Consolidation of all alterations into two types:
 - (1) Fleet alterations funded by the Fleet.
 - (2) Program alterations funded by the SYSCOMS/PEOs.
- c. A four-phase process (Preliminary Analysis, Concept Design, Design Development, Ship Integration) supported by Decision Points at the end of Phases I-III. Senior Fleet/OPNAV personnel comprise the Decision Boards identified in paragraph 36.6 of this chapter. Provisions exist to combine Phases II and III for less complex changes as delineated in paragraph 36.4.8 of this chapter. Any major changes encountered during Ship Integration will require reporting back to Decision Point 3 for approval to continue the Ship Change.
- d. A single NDE database, maintained by Naval Sea Systems Command (NAVSEA) 04. The Ship Change Document (SCD), which replaces the Justification Change Form, Ship Alteration Record, in service Engineering Change Proposal and all other alteration documents used in the FMP, will be entered and tracked in NDE from inception through installation in the last applicable ship. Appendix B illustrates the SCD template. This SCD is a living document and may not look the same in NDE. Only SCDs entered in NDE will be considered for inclusion in modernization plans for specific hulls.
- e. Involvement of Fleet, OPNAV, TYCOMs, SYSCOMS and PEOs in the decision making process, utilizing three boards of stakeholders at the O-6, one and two star Admiral, and three star Admiral level. Voting members of the boards represent appropriate Fleet and OPNAV organizations. SYSCOM and PEO representation is included to validate the readiness of the alteration to proceed to the next step. Paragraph 36.5.2 of this chapter addresses the business rules associated with the voting process. Depending on cost and impact thresholds, decisions are made by one of the three boards. An electronic voting capability (eVote), embedded in NDE, will be used on a continuing basis to facilitate timely action by the boards, and minimize the need for boards to formally convene. NAVSEA 04 will ensure data is available to voting members 10 to 14 days prior to required voting. As noted on the SHIPMAIN Modernization Flow Chart, Appendix A of this chapter, Technical Assessments are conducted at three points in the process, and in conjunction with the Alteration Figure of Merit (AFOM) and Cost Benefit Analysis (CBA) blocks, are assembled in a Recommended Change Package (RCP) which provide the basis for decisions made by the O-6, 1/2 Star and 3 Star Boards.
 - (1) The O-6 level board approves Fleet alterations except in cases where the scope and complexity dictate referral to a higher level board, makes the majority of decisions involving the lower cost and lesser impact Program alterations, and provides recommendations for the higher level boards.

- c. FPY 3 (Decision Point 3 - "Fund Procurement & Installation")

Total # of SCDs being reviewed for the first time and approved at Decision Point 3
Total # of SCDs being reviewed for the first time at Decision Point 3

- d. FPY 4 ("Ship Change (SC) Ready to Install")

Total # of SCDs being reviewed for the first time and Ready to Install (Block 270)
Total # of SCDs being reviewed for the first time at "SC ready to install"

36.9.1.4 Productivity. For all SCDs, keep a count of how many are approved at each major decision point. Metric data will be collected and analyzed monthly, and tallied by SYSCOM on an annual basis.

CALCULATION:

1. Total number of alterations approved at Decision Point 1 "Authorize Fund Preliminary Engineering"
 2. Total number of alterations approved at Decision Point 2 "Authorize Fund Design Development"
 3. Total number of alterations approved at Decision Point 3 "Fund Procurement & Installation"
 4. Total number of alterations approved at "SC ready to install" point
- a. Source Data and Reporting Frequency for Measurement. All data used for this metric shall come from NDE-NM. Each SCD is assigned a unique identification number in NDE on submission. A separate monthly tally of alterations approved at each point will be plotted to provide a trend on the "productivity" of the process.
 - b. Basis for Baseline. Since this metric is based solely on the entitled process, the baseline will be established after 12 months of data collection.
 - c. Required NDE Fields:
 - (1) SCD identification number.
 - (2) Approval status of SCD at each of the decision points Status will be blank for a specific decision point if SCD has not yet reached that block in the process.
 - (3) Date that decision at each point was reached. Date will be blank for a specific decision point if the SCDs approval status at that point is blank.

36.9.1.5 Sunk Cost. For all SCDs that are entered into NDE under the entitled process, identify and measure the total resources (dollars) invested in SCDs that are subsequently voted to be "Inactive and Killed" at various process decision points. Metric data will be collected and analyzed monthly, and tallied by type of appropriation on an annual basis.

CALCULATION: For all SCDs that are entered into NDE

- a. Total of actual dollars expended in all FY for an SCD "killed" at Decision Point 1 (Authorize Preliminary Engineering).
 - (1) Capture actual expenditures as recorded in NDE as part of the CBA prepared for Decision Point 1.
 - (2) Metric may be further refined for phase of development and type appropriation per the cost categories recorded in the CBA as follows:

- (a) Infrastructure investment – Appropriation/Preliminary Engineering (APPN/PE)
 - (b) Preliminary Engineering – APPN/PE
- b. Total of actual dollars expended in all FY for an SCD "killed" at Decision Point 2 (Authorize Design Development).
 - (1) Capture actual expenditures as recorded in NDE as part of the CBA prepared for Decision Point 2.
 - (2) Metric may be further refined for phase of development and type appropriation per the cost categories recorded in the CBA as follows:
 - (a) Infrastructure investment – APPN/PE
 - (b) Preliminary Engineering – APPN/PE
- c. Total of actual dollars expended in all FY for an SCD "killed" at Decision Point 3 (Authorize Procurement and Installation).
 - (1) Capture actual expenditures as recorded in NDE as part of the CBA prepared for Decision Point 3.
 - (2) Metric may be further refined for phase of development and type appropriation per the cost categories recorded in the CBA as follows:
 - (a) Infrastructure investment – APPN/PE
 - (b) Preliminary Engineering – APPN/PE
 - (c) Design Development – APPN/PE

36.10 MILESTONES. Surface Force Ship Planning Process Milestones are documented in Appendix G₁ of this chapter. Aircraft Carrier Maintenance and Modernization Planning Process Milestones are documented in Appendix G₂ of this chapter.

APPENDIX G₁

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 MSMO (optional)	CMAV FFP/IDIQ	Comments/Remedial Action
1	Establish CNO/CM Availability Schedule	TYCOM		A-720	A-720	A-720	A-720				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 rolling Advance Planning Hull Modernization Plan (AHMP)	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 Ship Changes	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	Provide Incremental Funding for HCPM/LLTM to meet req'd delivery dates	PARM/SPM		A-600	A-600	A-600	A-600				
7	Initiate procurement of HCMP LLTM	PARM/SPM		A-600	A-600	A-600	A-600				
8	PY Submit Funding Request for work assigned	Planning Yard		A-480	A-480	A-480	A-480				
9	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.
10	Interface Control Drawing (ICD) delivered to alteration developer/PY	PARM		A-420	A-420	A-420	A-420				
11	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.

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APPENDIX G₁

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 MSMO (optional)	CMAV FFP/IDIQ	Comments/Remedial Action
				A-360	A-360	A-360		A-360	A-360		
12	Issue Initial Letter Of Authorization (including AITs)	SPM/TYCOM	A-360	A-360	A-360	A-360	A-360				
13	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 size of the MMBP: CNO MSMO "Entitled", CNO <\$20M, CNO >\$20, or CMAV MSMO (optional). Enter the selected set of milestones as "Revised" Milestones in NMD.
14	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.
15	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	
16	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.
17	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.
18	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	
19	50% of D-level maintenance work package 2K's locked based on \$	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.
20	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.

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APPENDIX G₁

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 MSMO (optional)	CMAV FFP/IDIQ	Comments/Remedial Action
				A-180	A-180	A-180	A-240	A-180	A-180	A-180	
21	Issue/Deliver SIDs to NSA for KTRs and AITs	Planning Yard	A-180	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.
22	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.
23	Interoperability impact assessment	PARM		A-180	A-180	A-180	A-180				Any SFI CAT 1 or 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.
24	Request Availability Funding for both repair & modernization work	NSA/RMC		A-180	A-180	A-180	A-180	A-180	A-180	A-180	
25	All Modernization Risk Assessments (including waivers) submitted	PARM/SPM/TYCOM		A-175	A-175	A-175	A-175	A-175	A-175	A-175	
26	All Modernization Risk Assessments (including waivers) approved	TYCOM		A-150	A-150	A-150	A-150	A-150	A-150	A-150	
27	Identification of AIT support requirements and POA & M provided	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 reqmt's by the KTR and presented at the WPER.
28	80% of D-level maintenance work package 2K's locked based on \$	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 pkg development milestone.

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APPENDIX G₁
SURFACE **FORCE** SHIP PLANNING PROCESS MILESTONES (Con't)

EVENT #	Task/Milestone	Responsible Activity	Modernization Critical								Comments/Remedial Action
				CNO MSMO (entitled)	CNO MSMO <\$20M (optional)	CNO MSMO >\$20M (optional)	CNO FFP	CMAV MSMO (entitled)	CMAV MSMO (optional)	CMAV FFP/IDIQ	
29	Cert Plan(s) (e.g., ILS, software etc.) approved. Final date for modernization Ship Change (SC) approval except for Sustainment Type 1 (ST1) and Sustainment Type 2 (ST2) SCs. LOA locked with exception of ST1 and ST2 SCs	SPM/PAR M/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 LOA 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).
30	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.
31	Conduct Work Package Integration Conference WPIC			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.
32	*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 LOA Lock.
33	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	

APPENDIX G₁

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 MSMO (optional)	CMAV FFP/IDIQ	Comments/Remedial Action
34	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.
35	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.
36	100% of D-level maintenance work package 2K's locked based on \$	Maintenance Team		A-75	A-92	A-99	A-170	A-30	A-44	A-60	
37	Final date for ST1 and ST2 SCs approval or deferral from the LOA	SPM/PARM/PM		A-75	A-75	A-75	A-75				All unresolved PNA S11 and S12 SCs are removed from the LOA 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.
38	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.
39	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.
40	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	
41	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-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.

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COMUSFLTFORCOMINST 4790.3 REV B CH-5

APPENDIX G₁SURFACE **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 MSMO (optional)	CMAV FFP/DIQ	Comments/Remedial Action
42	SHAPEC Package turnover	SHAPEC		N/A	N/A	N/A	A-135	N/A	N/A	N/A	
43	MSMO contractor "publish" pkg in NMD	MSMO Contractor		A-60	A-85	A-92	N/A	A-25	A-37	N/A	
44	Cutoff for bidders questions	PCO		N/A	N/A	N/A	A-100	N/A	N/A	A-30	
45	Submit Bids	Contractor		N/A	N/A	N/A	A-90	N/A	N/A	A-20	
46	Award Contract	RMC		N/A	N/A	N/A	A-60	N/A	N/A	A-15	
47	MSMO contractor submit final package cost proposal	MSMO contractor		A-55	A-71	A-78	N/A	A-25	A-31	N/A	
48	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.
49	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 and prorate costs.
50	Definitize Work Packages	RMC		A-35	A-35	A-35	N/A	A-18	A-18	N/A	
51	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	
52	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.

APPENDIX G₁

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 MSMO (optional)	CMAV FFP/IDIQ	Comments/Remedial Action
				A-0	A-0	A-0	A-0	A-0	A-0	A-0	
53	Start of Availability	Maintenance Team		A-0	A-0	A-0	A-0	A-0	A-0	A-0	
54	Provide Maintenance and Modernization Business Plan (MMBP) budget guidance to RMC	TYCOM		Feb of Prior FY	Feb of Prior FY	Feb of Prior FY	Feb of Prior FY	Feb of Prior FY	Feb of Prior FY	Feb of Prior FY	
55	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.

APPENDIX G₂AIRCRAFT 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 C

REQUEST FOR DSS HIP PERIODICITY EXTENSION FORMAT

4790

Ser

From: Commander, DSS Squadron ____
 To: Commanding Officer, Submarine Maintenance Engineering, Planning and Procurement (SUBMEPP) Activity
 Via: COMNAVSPECWARCOM

Subj: REQUEST FOR EXTENSION OF PERIODICITY FOR DSS HIP (S) _____ ON
 DSS Vehicle/Shelter and Hull No.)

Ref: (a) Applicable DSS HIP
 (b) COMUSFLTFORCOMINST 4790.3; Joint Fleet Maintenance Manual, Volume VI, Chapter 38
 (c) COMNAVSPECWARCOM ltr 4790 Ser ___ of (previous letter granting extension of periodicity)

1. In accordance with references (a) and (b), request extension of DSS HIP periodicity for Deep Submergence System (Vehicle/Shelter and Hull No.) as follows:

DSS HIP	Equipment Guide List Item Number or Component Ident	LMA Date	Current Due Date	Inactive Time		Extension Required	Required Next Due Date
					Inactive Days		
001	All	June 82	Apr 91		100 days	7 months	Nov 91
002	All	June 82	Aug 91		100 days	3 months	Nov 91
003	All	June 82	Aug 91		100 days	3 months	Nov 91
004	All	June 84	Apr 91		100 days	7 months	Nov 91
005	VB-10	June 84	Apr 91		100 days	7 months	Nov 91

2. Inactive time identified for the DSS HIPs listed in paragraph 1 above is the actual allowable time accrued to date since DSS HIP was last accomplished/previous extension of periodicity was granted by reference (c).

Copy to:
 COMNAVSEASYS COM (PMS 399)
 Commanding Officer, _____

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VOLUME VI**CHAPTER 39****LESSONS LEARNED PROCESS BUSINESS RULES****FOR SURFACE FORCE SHIPS**LISTING OF APPENDICES.

A Access to Lessons Learned Conference Website on SURFOR Web

39.1 PURPOSE.

- a. The primary purpose of the Lessons Learned Conference (LLC) is to facilitate communication between Project Teams of all Surface Force ship classes across all Regional Maintenance Centers (RMC) and supporting activities at various stages in their availability to assist in improving cost, schedule and performance. The LLCs provide a singled-up approach to evaluate and capture critical lessons learned and barriers brought forward by Project Teams to facilitate process improvements in the Surface Navy.
- b. The LLC process encompasses the established milestones and/or meetings within the planning and execution of availabilities in accordance with Volume II, Part II, Chapter 2, paragraph 2.5 of this manual. Appendix D of Volume II, Part II, Chapter 2 of this manual includes a detailed table of milestones. Meetings that already exist to reinforce process improvements may include the Advance Planning Meeting, Work Package Integration Conference, Work Package Execution Review, Arrival Conference, 50% Conference and Completion Conference. While these events occur at various times, the feedback process exists to continually collect information to improve processes.

39.2 LESSONS LEARNED CONFERENCE OVERVIEW.

39.2.1 Lessons Learned Conference Concept. The LLC is not a program review, an evaluation of the Maintenance Team (government or contractor) or a forum to acknowledge heroism or place blame. It is a process review, an evaluation of the execution of the availability from the advance planning to the completion of the availability. It is also a place to identify process issues that can further improve overall maintenance and modernization execution.

39.2.2 Lessons Learned Conference Objective. The objective of the LLC is to identify process improvements as they pertain to scheduled availabilities. Feedback will be shared locally and globally in the surface ship community and will ultimately be embedded into the maintenance and modernization processes.

39.2.3 Lessons Learned Conference Key Membership.

- a. **Process Owner.** Commander, Naval Surface Forces Atlantic N43 and Commander, Naval Surface Forces Pacific N43 are the overall LLC process owners. As such, Commander, Naval Surface Forces Atlantic N43 and Commander, Naval Surface Forces Pacific N43 are responsible for the general management of implementing the LLC process to ensure process effectiveness. While the Type Commanders (TYCOM) are the LLC Process Owners, the LLCs are part of the Surface Team One (ST1) structure as a "Knowledge Sharing Network". Each Knowledge Sharing Network under ST1 is assigned a Process Master; the LLC Process Master will be identified by the Process Owners.
- b. **The RMC LLC Analysis Team Member.** Each RMC must have a designated LLC Analysis Team Coordinator and a designated LLC Analysis Team Waterfront Operations Representative on the Analysis Team. Some RMCs may choose to have the Coordinator and Waterfront Operations Representative to be one and the same due to the time requirements demanded of an Analysis Team Member.

- (1) The LLC Analysis Team Coordinator is responsible for the coordination and facilitation of their local RMC's scheduled LLCs. This person serves as the liaison between the Project Teams and the global LLC Community. Further guidance regarding the RMC LLC Coordinator's responsibilities are outlined in the LLC Analysis Team Business Rules.
- (2) The LLC Analysis Team RMC Waterfront Operations Representative is responsible for providing the Waterfront expertise and knowledge for their local RMC to the Analysis Team. This person serves as the liaison between his or her RMC's waterfront and the global LLC Community. Further guidance for the roles and responsibilities of the local RMC LLC Analysis Team Member in completing the LLC Availability Overview Presentation is contained in the LLC Analysis Team Business Rules.

NOTE: WHILE THE LLC ANALYSIS TEAM MEMBER POSSESSES MANY RESPONSIBILITIES AS THE LLC MEETING FACILITATOR, HE OR SHE SHOULD EXPECT TO RECEIVE ASSISTANCE FROM ALL STAKEHOLDERS.

- c. RMC Class Team Leader (CTL). The RMC CTLs are responsible for attending each of their respective class of ships LLC regardless if their RMC is scheduled to brief during the meeting. By attending all LLCs, they will be able to assist the Analysis Team in knowledge and lessons learned transfer between their Ship Class LLC and the Project Teams internal to his or her RMC.
- d. RMC Availability Project Manager (PM). The RMC PM is responsible for preparing and briefing their ship's Chief of Naval Operations (CNO) Availability LLC Overview Presentation. The RMC PM will capture all lessons learned, action items and barriers deemed necessary to be communicated to the Surface Maintenance and Modernization Community.
- e. Maintenance Community. Other maintenance activities involved with ship availabilities (in addition to those highlighted in preceding paragraphs) will participate in the LLC. These representatives are active members of the LLC Community and are responsible for maintaining awareness of ship class issues and participating in the individual ship LLCs. The following participants are mandatory:
 - (1) TYCOM N43 Type Desk Office.
 - (2) TYCOM Project Engineer.
 - (3) Immediate Superior In Command.
 - (4) Ship's Force Representative.
 - (5) Multi-Ship/Multi-Option/Firm Fixed Price Contractor.
 - (6) Surface Maintenance Engineering Planning Program Activity (SURFMEPP) Detachment Representative.
- f. Modernization Community. Representatives of any Alteration Installation Team or other non-repair activity involved with availabilities will participate in the availability LLC meetings as appropriate:
 - (1) Naval Sea Systems Command (NAVSEA) 21.
 - (2) Field Activities.
 - (3) Space and Naval Warfare Systems Command.
 - (4) Program Manager Representative.

- (5) Planning Yard Representative.

39.3 PREPARING FOR THE LESSONS LEARNED CONFERENCE.

39.3.1 Preparation. To adequately prepare for an LLC, Project Teams should track any lessons learned and barriers that they feel will be beneficial to other Project Teams throughout their Planning and Execution phases. All Project Teams will be first introduced to the LLC Process during their first scheduled Integrated Project Team Development Event at A-360 by their local RMC LLC Analysis Team Coordinator/Waterfront Operations Representative.

39.3.2 Lessons Learned Conference Presentation Overview. The LLC Availability Overview Presentation serves as the format for the Project Teams to articulate key lessons learned and barriers encountered during their Availability Cycle. The LLC Availability Overview Presentation template is available through the RMC Analysis Team Member. Throughout the planning stages and execution of the availability, Maintenance Team members, including the RMC, Ship's Force, contractor, Alteration Installation Teams and other key availability stakeholders shall assist the RMC PM in submission of the LLC presentation. Input should also be gathered from:

- a. Ship's Commanding Officer's Weekly Situation Reports.
- b. Standard metrics identifying top cost drivers.
- c. Late add alteration risk assessment messages (including comparison of expected versus actual impact to the availability).
- d. Late add alteration risk acceptance.
- e. Waivers for work added after A-180 day milestone (including impact to availability).
- f. Cost variance forms provided by contractor.
- g. A review of contract changes to the base work package.

39.4 CONDUCTING A LESSONS LEARNED CONFERENCE.

39.4.1 Lessons Learned Conference Schedule. LLCs are scheduled for each ship class to take place via Video Teleconference once every quarter. Required LLC Project Teams are determined based on their Start of Availability and End of Availability dates. A schedule of all LLCs is available on the LLC website.

39.4.2 Agenda. The primary focus of the meeting is to discuss lessons learned, best practices and barriers pertaining to the selected CNO Availability. An agenda for all scheduled LLCs will be forwarded to all participants by the ST1 LLC Process Master, RMC LLC Analysis Team Coordinator or CTL. The agenda will also be available on the LLC website (<https://www.surfor.navy.mil/sites/st1/llc>).

39.4.3 Lessons Learned Conference Focus Areas. The LLCs take place at various times during a ship's scheduled CNO Availability Cycle from A-390 to C+30. The LLCs serve as a venue for Project Teams to discuss the behaviors and practices that affected the Availability along with reporting of the results. The purpose and the three phases of LLC are as follows:

- a. Advanced Planning Session. A-390 to A-360.
 - (1) Discussion on any lessons learned or barriers associated with the time frame from A-720 to A-360.
 - (2) Initiate Project Team Member communications.
 - (3) Identify significant risks to Availability Planning.

- b. Planning Lessons Learned. A-120 to A-80.
 - (1) Discussion on any lessons learned or barriers associated with the time frame from A-360 to A-80.
 - (2) Discuss risks and established risk mitigation plans.
 - (3) Share lessons learned/barriers of the planning process.
- c. Execution Lessons Learned. C-15 to C+30. Discuss any lessons learned or barriers affecting the Availability associated with the time frame from A-720 to C+30.

39.4.4 Invitees. Key membership and project team personnel involved with the availability will be notified of the LLC meeting by the ST1 LLC Process Master, the RMC LLC Analysis Team Coordinator or the CTL. Key stakeholders involved with future availabilities will also be invited to attend the meeting.

39.4.5 Invites and Announcement. The RMC LLC Analysis Team Coordinator will review the scheduled LLCs on no less than a monthly basis. The schedule will include a list of hulls that are scheduled to present at an LLC, to include the phase of their availability they will be presenting. The process and timeline for LLC notification is outlined in the LLC Analysis Team Communications Plan.

39.4.6 Lessons Learned Conference Documents. All LLC documentation will be in accordance with the LLC Analysis Team Communications Plan.

39.4.7 Lessons Learned Conference Minutes. All participants, action items and barriers will be documented in minutes following each LLC. The minutes will be forwarded no later than three business days to all invitees, ST1 Executive Steering Committee (ESC) and RMC Commanders. The minutes will also be posted on the LLC site on the Surface Force (SURFOR) Web.

39.4.8 Lessons Learned Conference Website. LLC process meeting documents and information shall be posted on the SURFOR LLC website. This site tracks all scheduled LLCs throughout the calendar year, all meeting preparation materials to include necessary read-ahead material for participants, Project Team Point of Contact Lists and meeting minutes. The website should be used to aid in planning work packages and preparing for availabilities to ensure that any barriers and lessons learned identified by previous LLC Project Teams are applied to future availabilities. The website is located at <https://www.surfor.navy.mil/sites/st1/llc>. See Appendix A for instructions on obtaining access.

39.5 INTERACTION AMONG FEEDBACK PROCESSES.

39.5.1 Relationships. The LLC meeting is sensitive to the contractor-government relationship and the legal procedures that accompany it. The Department of the Navy Acquisition Reform strategy includes a goal to “build a continuous dialogue with industry to identify mutually beneficial opportunities and practices”. While the Department of the Navy encourages open communication between the contractor and the government, many legal issues arise from such information sharing. It is critical that the LLC meetings and general processes maintain awareness of the following legal procedures: Federal Advisory Committee Act, Procurement Integrity Act, Trade Secrets Act and Organizational Conflicts of Interest. Additionally, the LLC process is mindful of other feedback/review processes, such as the Award Fee Board and Contractor Performance Assessment Report.

39.5.2 Consistency. These business rules recognize the need for consistency between other feedback processes and the need for all to exist. As the LLCs will most likely occur prior to the Award Fee Board and the Contractor Performance Assessment Reports issuance, sensitive issues may arise. The LLCs intend to remain focused on process improvement, lessons learned and barrier identification. The LLC will allow for sensitive issues to remain in closed sessions or within the scope of their existing feedback and review processes.

39.6 LESSONS LEARNED CONFERENCE APPLICATION AND KNOWLEDGE SHARING.

39.6.1 Communication of Lessons Learned, Barriers and Action Items. Lessons Learned, Barriers and Action Items and their associated resolutions are only useful when they are communicated between maintenance and modernization professionals. The following are the required methods for sharing information in a timely manner, but are not the only means to share this information:

- a. Maintenance and Modernization Performance Review. Status of LLC Action Items and Barriers will be provided during each Maintenance and Modernization Performance Review.
- b. Surface Team One Executive Steering Committee Meetings. When requested, the LLC Process Master will brief the ST1 ESC. As a minimum, each ESC meeting will include a status brief of all open action items and barriers. When barriers are briefed to the ESC, the barrier will be assigned to the correct point of contact for action and closure.
- c. Surface Team One Monthly Process Master Meetings. Monthly meetings will be conducted with each Surface Ship Readiness Initiative Process Master or designated support personal. These meetings will serve as a venue to provide a critical review of assigned action items from each LLC.

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APPENDIX A

ACCESS TO LESSONS LEARNED CONFERENCE WEBSITE ON SURFOR WEB

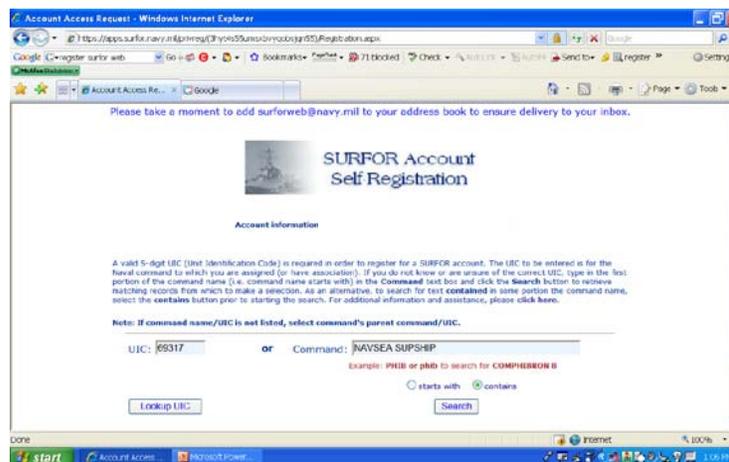
1. Go to: <http://www.register.surfor.navy.mil/default.aspx>.
2. Click on: “Register for ‘SURFOR Web’ Account”.
3. Fill in the information requested and submit.

NMCI Users: You are finished! You will soon receive an email with a username/password. The first time you log in to the site, you will need to use it. Thereafter, the website will refer to your CAC and you will not need to enter any information.

Once you have an account, go to: <https://www.surfor.navy.mil/sites/st1/llc>

FOR NON-NMCI USERS

4. Follow steps 1-3 above. You will then be directed to the below screen.
 - a. In the Command field, type in “NAVSEA”.
 - b. Select “contains” under the command field.
 - c. Click “Search”. This should bring up a drop down menu from which you can choose the most appropriate command.
 - d. Once you select a command, click on “Lookup UIC”.
 - e. Click “Submit” at the bottom of the screen.
5. You will be directed to another page requesting additional information. When prompted, enter “Katherine Buckley” or “Inga Parvani” as your Point of Contact.
6. If you require further assistance, email surforweb@navy.mil.



You are finished! You will soon receive an email with a username/password.

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APPENDIX E

JOB ORIGINATOR IDENTIFICATION TABLE

Code	Short Description
A	HM&E RA (SUB/AIR)
B	C5RA (AIR) - Local TYCOM
C	C5RA (National)
D	C5RA (AIR) - Local TYCOM
G	RMC Inputs (AIR) - Local TYCOM
H	RMC Inputs (AIR) - Local TYCOM
J	ICAS (National)
K	C5RA (SURF) - Local TYCOM
P	PMT OSAR (SUB) - Local TYCOM
Q	Created by RMAIS (National)
R	INSURV (National)
S	Sail Deficiencies (SUB) - Local TYCOM
V	Created by NEMAIS Broker (National)
W	Class Maintenance Plans (AIR, SUB, SURFACE)
X	Class Maintenance Plans (AIR, SUB)
Y	MST (SURF) Class Maintenance Plans (AIR) - Local TYCOM
Z	MST (SURF), CMP (National) - Z-alpha (National), Z-numeric (MST)

References to "National" values indicate that, in accordance with SHIPMAIN direction, an Information Technology product has been identified as the only authorized tool that will create 4790-2-Kilos containing the respective Job Originator code.

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VOLUME VI

CHAPTER 44

**MAINTENANCE AND MODERNIZATION PERFORMANCE REVIEW MEETINGS
FOR SURFACE FORCE SHIPS**

LISTING OF APPENDICES.

A Access to Lessons Learned Conference Website on SURFOR Web

44.1 MISSION. The Maintenance and Modernization Performance Review (MMPR) is a forum for maintenance and modernization professionals to share, identify issues and focus on continuous process improvement in the Surface Navy. The MMPR provides a path for communication between the individual Project/Ship Lessons Learned Conference meetings and top-level maintenance and modernization leadership.

44.2 SCOPE. Topics will be relevant to process improvements for future availabilities and may include ship class or port specific process issues, best practices, success stories, industry feedback, technical issues, Surface Team One initiatives and new developments and Fiscal Year Availabilities.

44.3 ACTION ITEMS. All action items resulting from a MMPR conference will be tracked by Surface Team One and documented and tracked on the Surface Force (SURFOR) Website with Lessons Learned Conference Action Items and/or barriers. Documents from the MMPR will be posted to the MMPR website on the SURFOR Web at <https://www.surfor.navy.mil/sites/st1>. Instructions on gaining access to the SURFOR website are located in Appendix A.

44.4 FURTHER GUIDANCE. Further guidance regarding the MMPR process is outlined in the MMPR Business Rules.

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APPENDIX A

ACCESS TO LESSONS LEARNED CONFERENCE WEBSITE ON SURFOR WEB

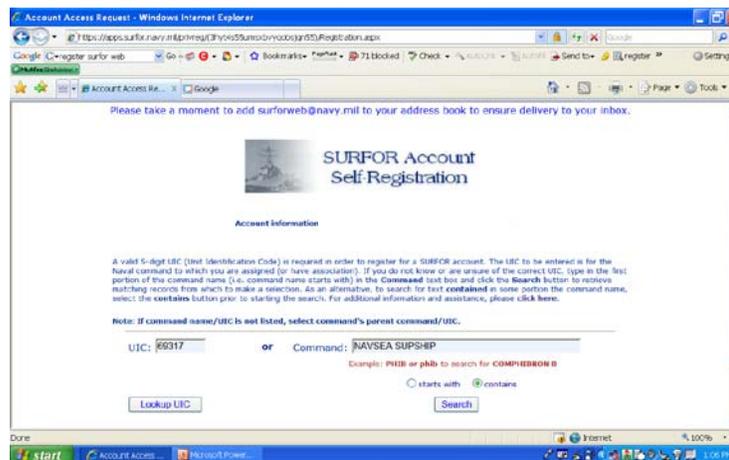
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