



DEPARTMENT OF THE NAVY

NAVAL SEA SYSTEMS COMMAND
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IN REPLY REFER TO

NAVSEAINST 9462.1A
Ser PMS390T144/124
22 Jan 1996

NAVSEA INSTRUCTION 9462.1A

From: Commander, Naval Sea Systems Command

Subj: SONAR TESTING, ASSESSMENT, & GROOMING INSPECTION (STAG-I)
PROGRAM

Ref: (a) COMSUBLANT/COMSUBPACINST 4790.4A of 16 Sept 94

1. Purpose. To establish policies, responsibilities, and procedures for conducting the Naval Sea Systems Command (NAVSEA) PMS390 Sonar Testing, Assessment, and Grooming Inspection (STAG-I) Program on submarines.

2. Cancellation. NAVSEAINST 9462.1 of 22 October 1991.

3. Background. On 1 October 1986, responsibility for the Phase I Sonar Training, Assessment, and Grooming (STAG) Inspection transferred from NAVSEA 63T to PMS390. This eliminated the previous contractor supported STAG Inspection Program and used NAVSEA PMS390 Performance Monitoring Teams (PMTs) to conduct the Phase I STAG Inspection. The Phase I STAG Inspection is now incorporated into STAG-I, hydrophone, transducer, and projector performance monitoring program. Conflicts or questions concerning the acoustic element and/or electronic system boundaries should be referred to NAVSEA PMS390 for resolution.

4. Scope. The STAG-I determines the mechanical, electrical, and material condition of submarine installed transducers, hydrophones, and projectors, including hull fitting connectors and cables. STAG-1 is performed to monitor submarine sonar acoustic elements and outboard cable.

5. Action. Per this instruction, PMT Sonar Technicians will perform STAG-I testing and monitoring, using ship's force assistance. The PMT will complete all required reporting of inspection results. The STAG-I results will be integrated with the NAVSEA PMS390 monitoring program, eliminating redundant testing. Additionally, NAVSEA PMS390 will perform periodic

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monitoring of array status and maintain a database for each ship to predict array performance during the operational cycle. The STAG-I data will be collected and analyzed by NAVSEA PMS390, and used for planning SSN 637 and SSN 688 Class Selected Restricted Availability (SRA), Depot Modernization Period (DMP), Interim Dry Docking (IDD) work packages, SSBN 726 Class Extended Refit Period (ERP) and Refueling Overhaul (ROH) work packages.



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SECTION 1
STAG-I PROGRAM DESCRIPTION

1.1 General

This instruction provides guidance for conduct of the NAVSEA PMS390, Sonar Testing, Assessment, and Grooming Inspection (STAG-I) Program. It includes an overview of the program, a list of participants and their responsibilities, a list of key events, a description of the tests, data recording and reporting requirements, and a list of applicable documentation. Detailed STAG-I technical requirements and test procedures are contained in the reference documents listed in this instruction.

1.2 Purpose

This document describes the NAVSEA PMS390, Sonar Testing, Assessment, and Grooming Inspection (STAG-I) Program.

1.3 Objective

In accordance with COMSUBLANT/COMSUBPACINST 4790.4A, Submarine Force Maintenance Manual, the STAG-I objective is to identify submarine sonar transducers, hydrophones, and projectors, for repair and/or replacement during SSN 637 and SSN 688 Class Selected Restricted Availability (SRA), Depot Modernization Period (DMP) or Interim Dry Docking (IDD) periods, and SSBN 726 Class Extended Refit Periods (ERP) and Refueling Overhauls (ROH).

1.4 STAG-I Program Overview

a. The STAG-I determines and documents the mechanical/electrical/material condition of submarine installed transducers, hydrophones, projectors, and associated cabling, providing an independent assessment to submarine availability work packages. In addition, the inspection results are integrated with the NAVSEA PMS390 Monitoring Program, thus eliminating redundant testing. The STAG-I data is collected, analyzed by NAVSEA engineers, and used for extending submarine operating cycles and reducing life cycle maintenance costs.

b. The inspections are conducted dockside by PMT Sonar Technicians with assistance from ship's force, during a five to six day period. The inspections are generally scheduled three to six months before the scheduled SRA, DMP, or IDD for SSNs. For SSBN 726 Class submarines, the STAG-I is scheduled one to two refits prior to ERP or ROH. The results of the inspection are sent via naval message by the PMT's parent squadron or group to the inspected submarine's respective Type Commander (TYCOM). The STAG-I message should be available for the work definition conference held prior to the submarine availability period.

SECTION 2
PARTICIPANTS AND RESPONSIBILITIES

2.1 Organization

The organization of the STAG-I Program and the participant's responsibilities are described below.

2.2 COMSUBLANT/COMSUBPAC (Code N4)

- a. Evaluate submarine acoustic element shipyard repair and/or replacement requirements based on STAG-I results.
- b. Evaluate submarine interim drydocking (IDD) requirements.

2.3 NAVSEASYS COM PMS390

- a. Provide STAG-I Program management, including policy, planning, performance, and financial management.
- b. Monitor STAG-I Program performance and effectiveness.
- c. Provide STAG-I technical guidance to PMTs.
- d. Monitor STAG-I scheduling.

2.4 Group and Squadron Commanders

- a. Provide operational support of the inspected ships, by ensuring availability of the inspected ship at specified times and locations.
- b. Release STAG-I message report.

2.5 Submarine Commanding Officers

- a. Provide shipboard support necessary to conduct STAG-I.
- b. Designate a ship Liaison Officer with the authority to commit ship personnel and required resources during the STAG-I.
- c. Provide a minimum of two experienced sonar technicians from ship's force to support PMTs.
- d. Conduct and coordinate STAG-I maintenance and repair actions.

2.6 PMT Sonar Technicians

- a. Conduct STAG-I.
- b. Liaison with the Group or Squadron, and Ship.
- c. Establish STAG-I schedule.
- d. Assemble required documentation.
- e. Assess operational and material readiness of submarine acoustic element(s).
- f. Document deficiencies via On-Site Analysis Reports (OSARs).
- g. Enter OSAR deficiencies in NAVSEA PMS390 Monitoring Program database.
- h. Provide technical guidance during conduct of corrective maintenance.
- i. Conduct STAG-I briefings, status reviews, and critiques.
- j. Prepare preliminary STAG-I message report.
- k. Draft STAG-I message for release by parent squadron and/or group.

2.7 Ship's Force Sonar Technicians

- a. Provide necessary support for conduct of STAG-I.
- b. Perform transducer/hydrophone/projector testing under PMT direction.
- c. Make available latest revisions to Maintenance Requirement Cards (MRCs) for subject sonar systems.
- d. At Commanding Officer's direction, effect troubleshooting/corrective maintenance actions, as applicable.

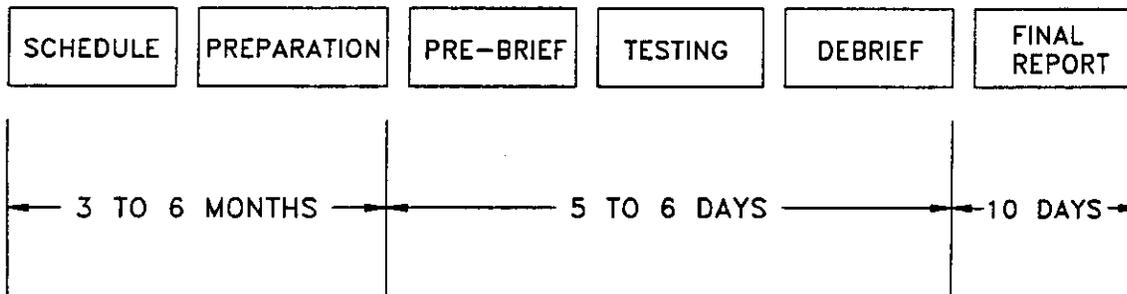
SECTION 3
STAG-I PROGRAM EVENTS

3.1 Introduction

a. STAG-I consists of a series of six events:

1. Scheduling
2. Preparation
3. Pre-brief
4. Testing
5. Debrief
6. Final Report

b. The sequence of events is shown below and described in the paragraphs that follow:



3.2 STAG-I Schedule

STAG-Is are scheduled by site PMTs 3 to 6 months prior to an SRA, DMP, or IDD for SSNs, or one to two refits prior to ERP or ROH for SSBN 726 Class submarines. The inspections are performed dockside and require 5 to 6 days to complete.

3.3 STAG-I Preparation

The PMT STAG-I Team Leader reviews all deficiencies noted during the previous STAG-I and NAVSEA PMS390 End of Monitoring Period (EMP) reports. Using the STAG-I documentation described in section 5, the PMT STAG-I Team review the following:

1. Applicable MRCs
2. Equipment Configuration
3. Required technical documentation

3.4 STAG-I Pre-Brief

a. At the submarine Pre-Arrival meeting, the PMT STAG-I PMT Team Leader will notify the squadron and ship of the scheduled STAG-I. Prior to the commencement of the STAG-I, and subject to ship availability, the following personnel typically attend the Pre-Arrival meeting:

- Ship's Commanding Officer
- Ship's Weapons Officer
- PMT STAG-I Team Leader

Representatives of TYCOM, Group, or Squadron may also be present.

b. Prior to commencement of the STAG-I, the PMT STAG-I Team Leader discusses the upcoming STAG-I in detail, including data recording and reporting, and identifies the STAG-I participants and their responsibilities. The PMT STAG-I Team Leader also provides:

- STAG-I schedule
- Equipment Configuration List (to be verified by Ship's Force prior to start of STAG-I)
- List of MRCs to be conducted during the STAG-I
- List of maintenance oriented MRCs that will not be conducted during the STAG-I, but which Ship's Force should verify completed as scheduled.

Scheduling problems are resolved, the Ship's Liaison Officer is designated, and Ship's Force personnel requirements are reviewed at the briefing.

3.5 STAG-I Testing

3.5.1 Submarine Requirements

a. Submarine requirements are minimal since the major emphasis is assessment of transducer, hydrophone, or projector conditions. However, participation by Ship's Force Sonar Technicians will ensure training in the latest methods of transducer/hydrophone/projector testing and ensure that shipboard personnel are aware of defective elements, and why the elements are defective.

b. Ship's Force is required to provide two experienced (typically E-5 or above, Submarine qualified) Sonar Technicians during the STAG-I inspection period.

3.5.2 STAG-I Report Documentation

a. STAG-I consists of sonar maintenance actions performed by Ship's Force under the technical direction of the PMT STAG-I

team. During the STAG-I, testing is conducted in accordance with MRCs applicable to the inspected sonar suite. As sonar system problems are identified, the discrepancies are documented and forwarded to Ship's Force via OSARs.

b. The OSARs serve to inform Ship's Force of the discrepancy while providing information to the NAVSEA PMS390 database for trend analysis and evaluation. PMTs will provide Ship's Force with recommendations for corrective action.

3.6 STAG-I Debrief

Immediately upon completion of STAG-I, the PMT STAG-I Team Leader or PMT Sonar Technician conducts a debrief. A copy of OSARs generated during the STAG-I, documenting all sonar discrepancies, is provided to the ship's Commanding Officer or designated representative. All outstanding items are addressed. The Commanding Officer will be informed that the OSARs will be summarized in a standard naval message and sent to the ship's parent TYCOM. In addition to the inspected ship's Commanding Officer and ship personnel, representatives of the TYCOM, Group, or Squadron may be present at the debrief.

3.7 STAG-I Final Report

a. During the STAG-I, procedural problems are reported via the Preventative Maintenance System (PMS) Technical Feedback Report (TFBR) per OPNAVINST 4790.4B.

b. At the completion of the STAG-I OSARs are compiled and summarized in standard navy message format for transmittal to the ship's TYCOM. A draft copy of the message is provided to the inspected ship with the final report sent by the PMT parent squadron or group to the ship's TYCOM. The message should be released within 10 days of STAG-I completion, or within 10 days of the completion of the last STAG-I in a series of back-to-back STAG-Is. STAG-I reports are further described in Section 4.

SECTION 4
REPORTING REQUIREMENTS

4.1 General

The PMT STAG-I Team Leader will document results of the inspection as they occur. The data is compiled, evaluated and used by the PMT STAG-I team to prepare OSARs. The OSARs will later be compiled and summarized in a STAG-I message report for release by the PMT's parent squadron or group to the inspected ship's TYCOM.

4.2 Preliminary Report

The Preliminary STAG-I Report:

- a. is comprised of OSARs generated during the STAG-I.
- b. is prepared by the PMT STAG-I Team Leader at the completion of the inspection for presentation to the inspected ship's Commanding Officer or designated representative at the STAG-I debrief.
- c. identifies all outstanding deficiencies and provides recommended corrective actions. Responsibility for deficiency correction is determined by the ship's Commanding Officer, assisted by the TYCOM and/or squadron or group representative.

4.3 Final Report

The Final STAG-I Report:

a. is transmitted in standard naval message format from the PMT's parent squadron or group to the inspected ship's TYCOM. Info addressees will include (as a minimum):

- Naval Sea Systems Command, PMS390, Washington, D.C.
- Naval Sea Systems Command, Submarine Combat Weapons Program Office (PMS425), Washington, D.C.
- Submarine Maintenance Engineering, Planning and Procurement Activity (Codes 1810, 1820, 1840, 1850), Portsmouth, NH
- Naval Weapons Support Center (Codes 705, 70523), Crane, IN
- Naval Undersea Warfare Center Detachment-Norfolk (Code 241), Norfolk, VA

- Fleet Technical Support Center-Pacific (Code 911), San Diego, CA
- Fleet Technical Support Center-Atlantic (Code 4230) Norfolk, VA
- Naval Undersea Warfare Center (Code 2131, 2133), New London, CT
- Naval Undersea Warfare Center Division-Keyport (Code 75V3), Keyport, WA
- Cognizant Naval Shipyard or Supervisor of Shipbuilding (if commercial shipyard is used).

b. is issued to the cognizant commands and activities within 10 days of STAG-I completion, or, in the case of back-to-back STAG-Is, within 10 days of the completion of the last STAG-I in the series.

c. documents STAG-I completion date.

d. identifies all uncorrected deficiencies.

e. identifies required corrective actions and respective responsibilities.

f. identifies PMT STAG-I Team Leader point of contact.

The PMT will provide, via the Daily Official Phone Call (DOPC) to PMS390, the Date-Time-Group (DTG) of STAG-I message transmittals. An example STAG-I Final Message Report is shown in figure 4.1.

ADMINISTRATIVE MESSAGE

ROUTINE

R 121730Z JAN 95 ZYB PSN 756165M30

FM COMSUBRON (or COMSUBGRU) _____ //N4/SMMS PMT//

TO COMSUBLANT NORFOLK VA//N4// or COMSUBPAC PEARL HARBOR HI//N4//

INFO COMNAVSEASYS COM WASHINGTON DC//PMS390/PMS425//
SUBMEPP PORTSMOUTH NH//1810/1820/1840/1850//
NAVWPNSUPPCEN CRANE IN//705/70523//
NUWCDET NORFOLK VA//241//
FTSCPAC SAN DIEGO CA//911//
FTSCLANT NORFOLK VA//4230//
NAVUNDSEAWARCEN NEW LONDON CT//2131/2133//
NAVUNDSEAWARCENDIV KEYPORT WA//75V3//
SUPSHIP _____ (if applicable)
USS _____ (ship under inspection)

*(include Shipyards as INFO address or SUPSHIP if commercial shipyard is used)
(Optional addressees may include the tender, SUPSHIP, related squadrons, etc.)

BT

CLASSIFICATION//N09460//

SUBJ: (SUBS) SSN/SSBN ### STAG-I REPORT
MSGID/GENADMIN/COMSUBRON___ SMMS PMT//
REF/A/DOC/COMSUBLANT/COMSUBPAC 4790.4A//
REF/B/DOC/NAVSEAINST 9462.1A//

NARR/REF A IS SUBMARINE MAINTENANCE MANUAL; REF B IS NAVSEAINST DETAILING SMMS STAG-I PROGRAM//
RMKS/

1. (U) IAW REFS (A) AND (B), SUBJ STAG-I COMPLETED ON 5 JAN 95 BY PMT NLON AND S/F.
2. (U) DISCREPANCIES NOTED DURING TESTING:
 - A. AN/BQQ-5B:
 - (1) SPHERICAL ARRAY.
 - (A) FOL XDUCERS FAILED INSULATION RESISTANCE (IR) TESTING:
T1-20, T3-58, B1-58, B2-72, B3-05, B3-36, B4-48
 - (2) HULL ARRAY.
 - (A) FOL H-PHONES FAILED IR TESTING: 5B, 6A, 7A, 7B, 9C,
 - (B) FOL H-PHONES HAD MARGINAL IR TEST READINGS AND SHOULD BE RETESTED PRIOR TO
SRA: 32A, 45B, 49A
 - B. AN/BQA-8B:
 - (1) FOL H-PHONES FAILED DC RESISTANCE AND/OR IR TESTING:
#2 (DC RESISTANCE ONLY; SUSPECT PIN "E" OPEN).
 3. (U) IMA/SHIPYARD TO RETEST ITEMS NOTED IN PARA 2 TO DETERMINE IF HULL FITTINGS, CABLES, AND/OR SENSORS ARE CAUSE OF OUT OF SPEC READINGS.
 4. (U) NL PMT POC IS STSCS/SS JONESY AT A/V 241-5045/2257.//

DECL OADR

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Figure 4.1 - Sample STAG-I Final Message Report

**SECTION 5
REFERENCE DOCUMENTS**

5.1 Program Implementation

COMSUBLANT/COMSUBPACINST 4790.4A of 16 September 1994,
Submarine Force Maintenance Manual.

5.2 Core MRCs for use during STAG-I

A list of MRCs to be used during the STAG-I will be issued
semiannually by NAVSEA PMS390.

5.3 Deficiency Reporting

OPNAVINST 4790.4B, Ship's Maintenance and Material
Management (3-M) Manual. This document describes the process for
reporting deficiencies via the Preventative Maintenance System
(PMS) Technical Feedback Report (TFBR).

5.4 Maintenance Actions

Document on the Current Ship's Maintenance Project (CSMP)
list.