DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND
1333 ISAAC HULL AVE SE
WASHINGTON NAVY YARD DC 20376-0001

IN REPLY TO

NAVSEAINST 4720.23
Ser 395/0654
16 Jun 03

NAVSEA INSTRUCTION 4720.23

From: Commander, Naval Sea Systems Command

Subj: DEEP SUBMERGENCE SYSTEMS TEMPORARY MODIFICATIONS

Ref: (a) NAVSEA SS800-AG-MAN-010/P-9290, System Certification Procedures and Criteria Manual for Deep Submergence Systems
(b) NAVSEAINST 5400.1E, NAVSEA Organizational Manual
(c) NAVSEAINST 4720.14C, Temporary Alterations to Active Fleet Submarines

Encl: (1) DSS TEMPMOD Log
(2) Guide for NAVSEA's Approval Letter

1. Purpose. To define the NAVSEA policy for Temporary Modifications (TEMPMODs) to Deep Submergence Systems (DSSs).

2. Background. Deep Submergence Systems, as defined in reference (a), are those systems and components which, when working together, provide the capability for manned underwater operations. TEMPMODs are components, systems, or subsystems temporarily installed for test and evaluation, research and development programs, or in support of mission or exercise requirements.

3. Scope. This instruction is applicable to all NAVSEA assets in the DSS Program. DSS assets are governed by the requirements of reference (a).

4. Exclusion

a. As outlined in reference (b), Executive Order 12344, statutorily prescribed by P.L. 98-525 (42 U.S.C. 715 Note), establishes the responsibilities and authorities of the Deputy Commander, Nuclear Propulsion Directorate (SEA 08) over all facilities and activities which comprise the Naval Nuclear Propulsion Program, a joint Department of Energy (DOE)/Navy organization. These responsibilities and authorities include all technical and logistical matters related to naval nuclear responsibilities and propulsion. Accordingly, nothing in this instruction supersedes or changes those authorities, and SEA 08 shall be consulted concerning all matters related to Naval Nuclear Propulsion.

b. All temporary modifications to USS Dolphin (AGSS 555) and Submarine NR-1 shall be accomplished as TEMPALTs in accordance with reference (c).

c. A TEMPALT must be submitted for approval in accordance with reference (c) for that equipment which modifies the host submarine when such equipment is temporarily used with or added to a DSS that interfaces with a host submarine.

d. TEMPMODs are authorized for use only on systems, equipment, components, platforms or portions of platforms meeting the definition of Deep Submergence System specified in reference (a).

5. Requirements

a. Administration. A file of DSS TEMPMODs which will contain the DSS TEMPMOD log as shown in enclosure (1) and all official correspondence regarding TEMPMODs will be maintained by the NAVSEA Program Office and the Sustaining Activity. The DSS TEMPMOD Log has columns for a unique tracking number (TEMPMOD #), description of the TEMPMOD, the DSS asset on which the TEMPMOD is installed, the date of installation, and the date of removal. The following time requirement guidelines should be followed for the length of time TEMPMODs are to remain on a DSS asset. The maximum limit is 14 months without NAVSEA validation of requirement and specific NAVSEA concurrence:

(1) At-sea test and evaluation - 6 months

(2) Research and Development - 6 months

(3) Special Mission - 14 months

(4) Scientific Mission - 6 months

(5) Exercise - 6 months

b. Procedures. Any organization within the DSS community may recommend the development of a TEMPMOD. In developing a TEMPMOD, the recommending organization should work closely with the NAVSEA Program Office, the NAVSEA 05 DSS Ship Design Manager, the specific DSS planning yard and the DSS Engineering

Agent, throughout the development process, to assure all technical requirements are adequately identified and addressed prior to submittal to the NAVSEA Program Office for approval. The proposed TEMPMOD or TEMPMOD recommendation should be submitted in writing to the NAVSEA Program Office. NAVSEA Program Office will receive the complete revised technical package not less than 20 working days prior to the requested approval date. As a minimum, the submitting activity should address the following areas in their recommendation:

(1) Purpose and description including desired installation date.

(2) A System Safety Program Plan tailored to address aspects necessary to protect DSS personnel safety per paragraph 2.2.2 of reference (a).

(3) Mounting details (i.e., equipment location, type fasteners, welding requirements, etc.).

(4) Shock (for special mission installation). Shock qualification shall meet the requirement for the DSS asset the TEMPMOD is being installed on.

(5) Electrical power requirements (i.e., voltage, amperage, connector types, type and length of cable, etc.).

(6) Impact on stability, including weight/moment (addition or removal), height above baseline, fore/aft location, port/starboard location, and weight in pounds.

(7) Weight/moment compensation, including height above baseline in air and in water, if applicable, fore/aft location, port/starboard location, and weight in pounds.

(8) Impact on other systems or design specifications (i.e., hydrodynamics, electromagnetic interference, hazard electromagnetic radiation to ordnance (HERO), access to vital equipment, life support, etc.).

(9) Impact on Scope of Certification.

(10) How the certification requirements of reference (a), including but not limited to the following, will be addressed:

(a) Implodable/Explodable volume - calculated minimum standoff distance (if known), and testing information.

(b) Explodable items due to decompression - calculated minimum standoff distance (if known), and testing information.

(c) Toxicity:

(1) 24-hour Closed Bomb Sample or a 24-hour Environmental Chamber Bomb Sample shall be obtained when TEMPMOD hardware is installed inside of a DSS asset.

(2) List of Flammable Materials - develop list and eliminate materials determined to be unacceptable.

(d) Bench Testing Requirements - 24-hour "burn in bench test" to determine maximum temperature for energized units.

(e) Equipment Heat Source - if new hardware is a potential heat source, address how the surrounding area is protected.

(f) De-energization - energized hardware must be able to be de-energized quickly, and there shall be a redundant de-energizing method.

(g) Access to and operation of vital equipment - ensure that new components do not interfere with the existing access to vital equipment or, if vital equipment, that they meet time requirements and are added to existing access to vital equipment procedures.

(11) Technical Documentation:

(a) Calculations - submit the design calculations for the TEMPMOD for review.

(b) Drawings/Sketches - detailed sufficiently to adequately assemble, install, test, and evaluate the TEMPMOD.

(c) Technical Manual/Procedures - any normal or emergency procedures affected by the TEMPMOD must be modified and provided for approval as part of the TEMPMOD.

(d) Installation Instructions - shall be developed and submitted as part of the TEMPMOD.

(e) Test Procedures - shall be developed and submitted as part of the TEMPMOD to ensure that system/components meet specification requirements and do not present a hazard to the end user.

(12) Material requirements shall be identified and material certification requirements must be addressed.

(13) Maintenance/spares requirements.

(14) PMS, if applicable.

(15) Date that TEMPMOD will be removed.

(16) If there are any related TEMPALTS that are either required or impact the TEMPMOD.

NOTE
It is recognized that all the above areas will not be required for every TEMPMOD. Tailor this list to suit the TEMPMOD being proposed.

c. Responsibilities

(1) Submitting Activities.

(a) When the requirement for a TEMPMOD is established, contact the NAVSEA Program Office to obtain technical guidance for the development process.

(b) Submit the TEMPMOD/TEMPMOD recommendation addressing or at least considering all of the requirements of paragraph 5.b above to NAVSEA Program Office for technical approval.

(c) Submit revisions to TEMPMODs as necessary. Any change to an approved TEMPMOD requires NAVSEA Program Office approval. TEMPMOD revision is required when there is a change to a certification attribute, equipment, configuration, scope, a boundary or a retest requirement. Revisions shall be given a letter designator (e.g. Rev A, Rev B).

(2) Type Commanders

(a) Authorize installation of only those TEMPMODs which have been approved for accomplishment per this instruction.

(b) Maintain administrative control and configuration status accounting relating to installation and removal of TEMPMODs.

(c) Notify the appropriate other Type Commanders when authorizing the installation of TEMPMODs which impact the mission or operational capabilities of a DSS asset.

(d) Accomplish the removal of TEMPMODs within the required installation duration. If it becomes necessary to extend the period that the TEMPMOD is to be installed beyond the 14 month period, obtain NAVSEA Program Office approval for the extension.

(e) If a TEMPMOD has been approved and installed on one DSS asset and it becomes necessary to install the TEMPMOD, in an unmodified condition, on another DSS asset, obtain NAVSEA Program Office's technical approval of the additional installation.

(f) If installation of a TEMPMOD on additional assets requires TEMPMOD revision, contact the initiating TEMPMOD activity and coordinate the submission of a TEMPMOD revision to NAVSEA Program Office.

(g) If a TEMPMOD has been removed from a DSS asset and it becomes necessary to reinstall the unmodified TEMPMOD on the original asset, NAVSEA Program Office technical approval must be obtained.

(h) If installation of a TEMPMOD requires TEMPMOD revision, contact the initiating TEMPMOD activity and coordinate the submission of a TEMPMOD revision to NAVSEA Program Office.

(i) Designate installing and removal activities as necessary.

(j) If a DSS assets enters an overhaul period with a TEMPMOD installed, determine if the TEMPMOD should remain installed and direct the overhauling activity not to remove the TEMPMOD. Unless so directed, an overhauling activity will remove all TEMPMODs.

(3) Installing Activity. The TEMPMOD installing activity shall be an approved activity in accordance with the TEMPMOD or revision approval letter, or a Type Commander designation letter. The installing activity shall report installation to the DSS Type Commander, the DSS custodian/ISIC, NAVSEA Program Office and the appropriate DSS planning yard.

(4) Removing Activity. Removal of a TEMPMOD will be done in accordance with the approval/revision letter or a Type Commander designation letter, as applicable. In addition, during DSS overhauls, all TEMPMODs are removed unless the overhauling activity is specifically directed by the applicable Type Commander not to remove them. Removal of a TEMPMOD during overhaul will preempt the TEMPMOD letter removal date. The removing activity shall report the removal to the DSS Type Commander, the DSS custodian/ISIC, NAVSEA Program Office and the appropriate DSS Planning Yard.

(5) DSS Planning Yard. The DSS Planning Yard shall provide a technical review and evaluation to the NAVSEA Program Manager and NAVSEA 05. This review shall cover consistency with the specific DSS design requirements, overall technical adequacy, and conformance with system safety and certification requirements.

(6) NAVSEA

(a) The NAVSEA Program Manager shall provide technical requirements to the developer as approved by NAVSEA 05.

(b) The NAVSEA Program Manager shall review TEMPMOD recommendations and fund development of the formal TEMPMOD if deemed appropriate.

(c) The NAVSEA Program Manager shall forward the proposed TEMPMOD to the applicable DSS planning yard for their technical review and evaluation prior to NAVSEA 05 review and approval.

(d) The NAVSEA Program Manager shall obtain review and concurrence from the NAVSEA 05 DSS Ship Design Manager and the DSS Engineering Agent. Review and concurrence shall be obtained from SEA07TC, SEA07Q, SEA00C and SEA08 as required.

(e) The NAVSEA Program Manager shall issue a technical approval letter stating that the requirements of paragraph 5.b above have been satisfied. The approval letter shall identify the following as applicable: installation funding, duration, source of materials, Re-Entry Control (REC) responsible activity. The NAVSEA Program Office approval letter can also suggest an installation and removal activity, but final designation of these activities will come from the Type Commander. The approval letter will require the end user or installing activity to report the installation/removal by letter The NAVSEA Program Manager shall obtain review or message. Enclosure (2) is a guide for the NAVSEA Program Office approval letter.

P. M. BALISLE

Distribution:

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DSS TEMPMOD LOG

TEMPMOD NUMBER	DESCRIPTION	INSTALLATION PLATFORM	COMMENTS	DATE OF INSTALL	DATE OF REMOVAL

Enclosure (1)

GUIDE FOR NAVSEA APPROVAL LETTER

4720
Ser 395AXX/XXX
<Date>

From: Commander, Naval Sea Systems Command
To: Applicable Type Commander
Initiating/Design Activity (if applicable)

Subj: APPROVAL OF DEEP SUBMERGENCE SYSTEM (DSS) <Title of TEMPMOD>; TEMPORARY MODIFICATION (TEMPMOD) - XX

Ref: (a) <applicable activity> ltr <Serial number of ltr> dtd XXXXXX (NOTAL)
(b) <forwarding activity (if applicable)> ltr <Serial number of ltr> dtd XXXXX (NOTAL)
(c) <list any applicable references>
(d) NAVSEA INST 4720.23

1. Reference (a) forwarded reference (b) to NAVSEA for review and approval.

2. NAVSEA has reviewed reference (a), TEMPMOD-XX, <Title>, and approves it for installation. (If minor corrective comments are required they should be provided here). All of the requirements of reference (d), paragraph 3.b, have been satisfied. This TEMPMOD shall be funded <identify the appropriate source of funding>, and the total amount expended for this TEMPMOD shall not exceed <authorized funding limit>. This TEMPMOD shall be removed by not later than <X months> after installation or during the next major DSS overhaul, whichever comes first. Written verification of TEMPMOD installation/removal shall be forwarded to NAVSEA PMS395 by the installing/removing activity.

3. The NAVSEA point of contact for this item is <Name of PMS395 cognizant person>, PMS395A<code #>, (202) 781-xxxx.

<Responsible Code>

Enclosure (2)

Subj: APPROVAL OF DEEP SUBMERGENCE SYSTEM (DSS) <Title of TEMPMOD>; TEMPORARY MODIFICATION (TEMPMOD) - XX

Copy to:
SUPSHIP XXXX (Code xxx) (if applicable)
DSS PY (Code xxx)
Initiating/Design Activity

Record Note: CONCUR with the technical approval of TEMPMOD - XX, <Title> for a period not to exceed <X> months after installation.

CODE	NAME	SIGNATURE	DATE
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Record Note: Concur with NAVSEA Instruction 4720.23 - Deep Submergence Systems Temporary Modifications (TEMPMODs)

CODE	NAME - PRINTED	NAME - SIGNATURE	DATE
PMS392D			
SEA07TC			
SEA05U1			
SEA07Q4			
SEA08E			