DEPARTMENT OF THE NAVY
NAVAL SEA SYSTEMS COMMAND
WASHINGTON, D.C. 20362-5101

IN REPLY REFER TO

NAVSEAINST 8225.1
OPR 06D2H3
29 December 1987

NAVSEA INSTRUCTION 8225.1

From: Commander, Naval Sea Systems Command

Subj: SHIPBOARD COMBAT SYSTEM ALIGNMENT POLICY AND RESPONSIBILITIES

1. Purpose. To establish NAVSEA policy and assign responsibilities for combat system alignment in surface ships.

2. Scope. This instruction is applicable to all NAVSEA commands and activities involved with surface ship combat systems.

3. Background. Proper alignment between the various weapons and sensors that comprise the combat system is vital to a ship's mission. This instruction defines the roles and responsibilities of the various activities associated with combat system alignment.

4. Policy. Combat system alignment shall be conducted and the results documented whenever an alignable combat system component or equipment is installed, modified or repaired in surface ships. Alignment shall only be performed by personnel qualified under paragraph 5.f.(2) and 5.f.(3) and in accordance with the documentation listed in this instruction.

5. Action. The Assistant Deputy Commander for Combat System Engineering (NAVSEA 06D) is responsible for shipboard combat system alignment. The Combat System Test and Evaluation Office (NAVSEA 06D2H) is the action office. Specific responsibilities are:

a. NAVSEA 06D2H. The Combat System Test and Evaluation Office (SEA 06D2H) is assigned as the combat system alignment Program Manager and shall:

(1) Provide command-wide direction and support for all matters relating to combat system alignment in surface ships.

(2) Coordinate with and provide support to the Combat Systems Engineers (CSE's) on alignment matters affecting their ship classes.

(3) Budget, coordinate, allocate funds and provide direction to NAVSHIPWPNSYSENGSTA, the alignment In-Service Engineering Agent.

(4) Define the requirements for, develop, approve, issue and maintain combat system alignment documentation. Additionally, provide appropriate review of, comments on and inputs to combat system alignment portions of the General Specifications for Ships, the General Specifications for Overhaul and the Specifications for Building individual ships.

(5) Establish and maintain liaison with and provide guidance and direction to other SYSCOMS, Field Activities, and Fleet Activities to insure proper shipboard combat system alignment.

(6) Ensure that combat system alignment requirements and procedures are included in the curriculum of all appropriate training courses.

(7) Review alignment requirements in PMS.

b. NAVSEA 06D2D

(1) Ensure that the Master Ordnance Repair (MOR) Program includes combat system alignment personnel requirements.

c. System Managers

(1) Exercise technical and management responsibilities to ensure alignment procedures and tolerances are developed and documented for their cognizant systems.

(2) Provide information to the combat system alignment Program Manager, as required, for their cognizant systems and equipments.

(3) Identify, plan and budget for unique documentation and alignment equipment to be included in all system procurements.

d. Program Managers for New Construction Ships

(1) Budget and fund for the development of combat system alignment documentation, including technical engineering support services.

(2) Ensure that combat system alignment is completed for all ships undergoing construction, conversion, reactivation or modernization before government acceptance.

e. Program Managers for In-Service Ships

(1) Ensure that combat system alignment is completed for all surface ships under their cognizance whenever a combat system component or equipment is installed, modified or repaired during active fleet industrial availabilities.

(2) Budget and fund for the updating of Ships Selected Record (SSR) alignment documentation (i.e. CSAMs)

f. NAVSHIPWPNSYSENGSTA. Naval Ship Weapon Systems Engineering Station (NSWSES) Code 4B00, is assigned as the Combat System Alignment In-Service Engineering Agent (CSAISEA) for the implementation and support of shipboard combat system alignment in surface ships. Specific responsibilities are:

(1) Develop, review, maintain and update documentation pertaining to the alignment of all elements comprising the surface ship combat system that require alignment.

(2) Develop and implement combat system alignment personnel qualification criteria and procedures.

(3) Identify, train and certify alignment activities, provide technical assists and develop state of the art alignment equipment and procedures.

(4) Maintain a cadre of alignment experts to provide technical assists, technical advice and training to support combat system alignment.

(5) Identify, solicit and integrate alignment requirements from the respective equipment/weapon system level In-Service Engineering Agents (ISEAs).

6. Alignment Documentation. Combat system alignment and verification shall be accomplished only in accordance with the following documents:

a. Theory of Combat System Alignment (OP 762). SW225-AO-MMA-010/OP762 ALIGN THEORY. Theory of Combat System Alignment explains the principles of alignment and provides a general description of procedures and instruments required for alignment. This document also contains certain alignment procedures for surface ships combat system antennas, directors, guns, launchers, gyros, stable elements, transducers and other miscellaneous equipments.

b. Combat System Alignment Manual (CSAM) (OP 2456). The CSAM is developed on a ship class basis and provided for use by (1) the ships force in aligning and verifying the alignment of their combat system, (2) shipyard personnel in planning, managing and performing combat system alignment on newly constructed and modernized ships and (3) by fleet support and shipyard personnel during overhauls and industrial availabilities, to detect and correct alignment problems and to perform alignment verification.

c. System Technical Manuals. Subsystem and equipment technical manuals provide system alignment and verification data for ships force and other activities.

d. Tracking Comparison Test (TCT). The TCT and its procedures are developed on ship class basis and are provided for use by shipyard, fleet and fleet support personnel to perform operational alignment checks. The TCT will replace the Combat System Alignment Test (CSAT).

e. Planned Maintenance System/Maintenance Requirement Cards PMS/MRCs. Certain Planned Maintenance Sub-System (PMS)/Maintenance Requirement Cards (MRCs) are provided for ships force use to verify the alignment of combat system sensors and weapons.

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