



DEPARTMENT OF THE NAVY

PROGRAM EXECUTIVE OFFICE

SHIPS

1333 ISAAC HULL AVENUE

WASHINGTON NAVY YARD DC 20376-2101

IN REPLY REFER TO

PEOSHIP INST 5400.8

30 Nov 07

PEO SHIPS INSTRUCTION 5400.8

From: Program Executive Officer, Ships

Subj: ELECTRIC SHIPS OFFICE (PMS 320)

Encl: (1) ASN(RD&A) memo of 13 Nov 07; Establishment of Electric Ships Office
(2) Charter for the Electric Ships Office (PMS 320)

1. Purpose: To establish and issue the charter for the Electric Ships Office (PMS 320).

2. Background:

a. As directed by enclosure (1), The Electric Ships Office (PMS 320) is established to develop and provide smaller, simpler, more affordable, and more capable ship's power systems for all Navy platforms by defining common open architectures, developing common components, and focusing Navy and industry investments.

b. The high degree of technical integration with ship platforms and weapons systems, the scope of technology development, and the requirement to support critical concept decisions and acquisition milestones require the effort to be organized and conducted at program office level.

3. Action: Mr. Michael Collins is assigned as the Director for the Electric Ships Office with the organizational code of PMS 320. The authority and responsibilities of the Director are contained in enclosure (2).

C. H. GODDARD

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NOV 13 2007

MEMORANDUM FOR PROGRAM EXECUTIVE OFFICER, SHIPS

SUBJECT: Establishment of Electric Ships Office

Reference: (a) COMNAVSEA ltr ser 05Z/004 dtd June 15, 2006

Reference (a) established a Flag Level Steering Board for the Next Generation Integrated Power Systems (NGIPS Board) to conduct a comprehensive review of the technical challenges and to recommend a path for fielding NGIPS subsequent to DDG 1000.

This memorandum implements the NGIPS Board recommendation to establish a dedicated office for NGIPS. The NGIPS Board examined the diverse electric plant architectures in current ships, reviewed near term technologies, and identified future power requirements from the propulsion as well as a sensor and weapons standpoint. The findings of this review support the need for a new Electric Ships Office. The accelerating pace of electric power development across industry, the increasing power demands of our ships, and the development of future higher power weapons and radars will continue into the foreseeable future. Other relevant factors include the proliferation of possible solutions to Navy requirements, and the continued need to maximize returns on Navy investments while transitioning technologies applicable to multiple future naval platforms.

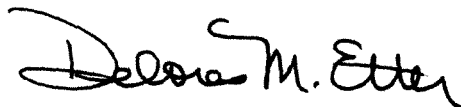
Accordingly, I direct the Program Executive Officer (PEO) Ships to establish an Electric Ships Office to assume responsibility for developing and executing an integrated power system (IPS) technology development and transition plan. In addition, I direct you to establish a flag level Electric Ships Executive Steering Group (ESG), chaired by Commander, Naval Sea Systems Command and with representatives from appropriate ship platform and warfare systems PEOs to provide overall coordination.

Initially (FY 08/09) the ESO should focus on coordinating the ongoing electric power efforts of the PEOs and Office of Naval Research, establishing the technical basis and strategic direction for Naval power system architectures, developing decision making tools, and establishing technical standards. During this period the ESO should be resourced from ongoing programs under the direction of the ESO ESG. As part of POM 10 the ESO ESG should submit issues for continuing these core efforts as well as high priority developments via the Surface Warfare Enterprise.

Enclosure (1)

SUBJECT: Establishment Of Electric Ships Office

I expect the Electric Ships Office to be fully functional not later than December 01, 2007.



Delores M. Etter

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Electric Ships Office Charter

PURPOSE

To establish the mission, objectives, organization and reporting relationships of the Electric Ships Office (ESO).

BACKGROUND

In 1998, the Integrated Power Systems (IPS) program was merged into PMS 500 to better transition IPS into the DDG 1000 program. Since that time, IPS has developed and introduced baseline integrated power systems and associated technologies into DDG 1000 as well as supported broader Navy initiatives.

The accelerating pace of technology, the proliferation of possible solutions to Navy requirements and the continued need to identify, develop, mature and transition a compatible set of technologies that will be applicable to multiple naval platforms dictate that a dedicated effort be formed to develop a clear path for continued IPS development and coordinated investments in IPS across the NAVSEA enterprise and in private industry.

To address these concerns, the Navy initiated the Next Generation Integrated Power Systems (NGIPS) effort with centralized leadership by the Electric Ships Office (ESO). The Assistant Secretary of the Navy (Research, Development & Acquisition) on 13 November 2007 directed that ESO be established within PEO (SHIPS) with oversight by an Executive Steering Group for coordination across multiple platforms.

MISSION

The mission of the Electric Ships Office is to develop and provide smaller, simpler, more affordable, and more capable ship's power systems for all Navy platforms by defining common open architectures, developing common components, and focusing Navy and industry investments.

The NGIPS enterprise approach will improve the power density and affordability of Navy power systems and deploy appropriate architectures, systems, and components as they are ready into ship acquisition programs. The NGIPS technical approach utilizes common elements such as zonal electrical distribution, power conversion modules, and electric power control modules as enablers along an evolutionary development path.

ESO will provide authoritative guidance and direction for Navy integrated electric power systems development. This will be achieved by collocating technical and programmatic capability within the Electric Ships Office and working collaboratively with Navy and Industry. ESO will also:

- Provide affordable tailored IPS products through application of system architecture, systems engineering, systems integration, modularity and commonality principles to reduce acquisition and life cycle costs
- Provide IPS vision and direction for future systems and platforms to focus Navy and Industry investments
- Support the development and platform integration of future weapons systems with high electric power demands
- Enhance the transition of IPS related Science and Technology initiatives to higher technology maturity levels through Research, Development, Test, Evaluation, Ship Integration, and Validation
- Improve Naval Platform Mission Capability through selection and enhancement of IPS components and architecture.

ORGANIZATION AND REPORTING RELATIONSHIPS

Overall Navy direction, leadership and cross-platform coordination are provided by the Flag-level ESO Executive Steering Group (ESG), chaired by COMNAVSEA. The ESG will have participation from each of the Program Executive Offices, Office of Naval Research, Chief of Naval Operations, Naval Sea Systems Command, Fleet Forces, and Naval Reactors.

Although the Electric Ships Office administratively reports through Program Executive Office Ships (PEO SHIPS), its operational approach is intended to satisfy the future fleet and notional platform requirements for all future platforms and weapons systems including PEO Submarines, PEO Carriers, and PEO IWS as depicted in Enclosure (1).

As shown in Enclosure (2), the ESO is led by a PEO SHIPS Director that leverages support from the NAVSEA community, PEOs, and ONR. PEO SHIPS will represent the ESO in various venues and provide overall coordination, including Congressional liaison, Public Affairs and administrative support. The NAVSEA Technical community (SEA 05) will provide Research and Systems Engineering support and support all duties performed as the Technical Warrant Holder.

The ESO works closely with the Office of Naval Research regarding IPS development requirements and timelines. The ESO may also provide recommendations to other organizations as required concerning IPS related issues and will establish operating agreements, customer service agreements, or other relationships as appropriate.

ROLES & RESPONSIBILITIES

To fulfill its mission, the ESO will perform the following functions and roles:

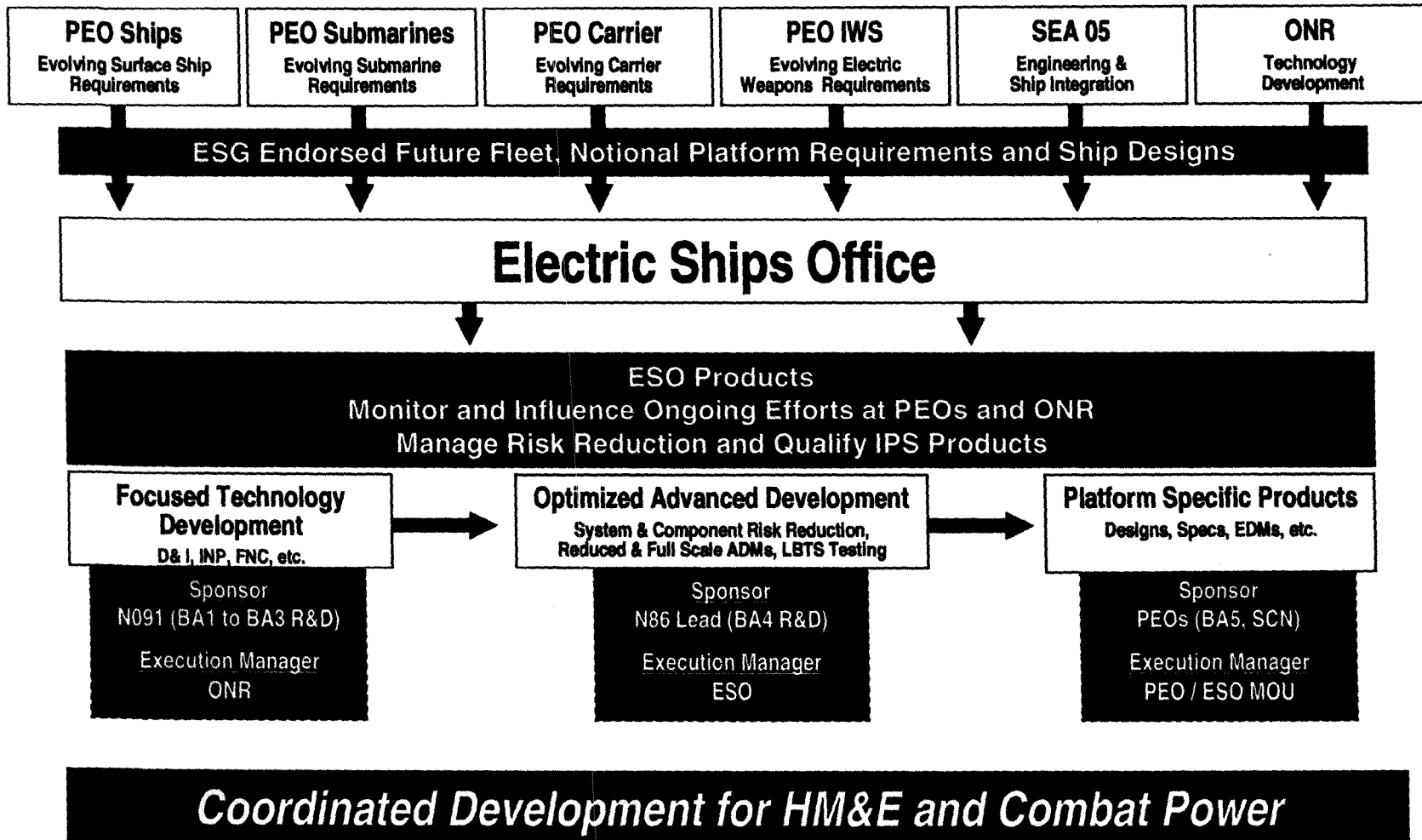
Develop a vision and technology development approach to guide Navy and industry investments. Formulate, prioritize and communicate related technology needs and capabilities as well as a balanced investment approach to meet these needs to the

- Chief of Naval Research, Navy Research Laboratory, Chief of Naval Operations, Systems Commands, Warfare Centers and the Fleet
- Establish working relationships with Ship Program Managers and other organizations and document agreements as appropriate.
- Execute assigned programs including Science and Technology, Research and Development, Test and Evaluation, Acquisition and Life Cycle Support for Electric Ship and Integrated Power Systems
- Support the assigned Technical Warrant Holder for Electric Ship Architecture and Components. Developing and maintaining standards and analytical design tools is critical to achieving the benefits of an open architecture and commonality across the fleet.
- Identify resource requirements for Electric Ship and Integrated Power Systems and submit consolidated and integrated POM documentation
- Establish and Oversee processes for technology transition for ships, submarines, vehicles and systems
- Maintain awareness of long range Navy Shipbuilding Programs and their requirements and translate this knowledge into requirements for design, systems engineering and Research and Development programs.

CHARTER REVIEW

This Charter will be reviewed bi-annually or as directed by higher authority.

ESO Operational Approach



ESO Organizational Relationships

