**PEO Ships Acquisition Programs**

- **Six PMSs**
  - 7 ACAT I
  - 2 ACAT II
  - 5 ACAT III
  - 29 NON-ACAT
  - FMS

- **$77B Total Active Program Value**
  - PMS 500
    - $13.1B
  - PMS 317
    - $7.5B
  - PMS 325
    - $6.1B
  - PMS 377
    - $15.2B
  - PMS 385
    - $5.1B
  - PMS 400D
    - $30.2B

- Supporting Ships / Boats & Craft
  - DDG 1000
  - LPD 17
  - LX(R)

- Future Programs: T-AO(X) and T-ATF
  - T-AGS 66
  - AGOR

- FMS
  - $2.6B

- ESD

- ESB

- EPF

- LHA(R) / AADS / SSC / LCU SC(X)R

- Future Programs: T-AO(X) and T-ATF

- LCAC
SEA 21 Portfolio

ACAT I Equivalent Programs: DDG Mod, CG/LSD Phased Mod
$16.6B through FYDP managed including backlog

- Surface Ship Modernization: Lead and integrate all surface ship modernization policy, planning, and execution.
- Surface Ship Readiness and Sustainment: Lead and manage comprehensive portfolio of programs providing surface ships with the highest level of operational readiness, and sustain ships at peak capability through their service life.
- Surface Training Systems: Single point of contact for strategic program planning, policy, acquisition, life cycle management and technical insertion for existing and future Navy Surface Training Systems.
- International Fleet Support: Executes Foreign Military Sales programs to support the operational readiness of our international partner’s ships, boats, systems and equipment.
- Inactive Ships Office: Support the Fleet with inactivation, inactive retention, and disposal of the Navy’s conventionally powered ships and service craft.

$16.6B Total Active Program Value

- PMS 407: $7.9B
- PMS 443: $1.2B
- PMS 339: $0.8B
- PMS 326: $6.3B
- SEA 21I: $0.19B
- SURFMEP P: $0.2B

Program Executive Office, Ships
PMS 470
$3.5B
PMS 400F
$6.0B

Total
$16.6B
**Hull, Mechanical & Electrical (HM&E) Systems**

- Cargo/Weapons Handling & Stowage Systems
- Gas Turbine Systems
- Diesel Engines & Power Transmission Systems
- Electric Power Systems
- Life Support Systems, Climate Control and Compressed Air Systems
- Machinery Controls
- Integrated Bridge & Steering Control System
- Damage Control & Firefighting
- Auxiliary Machinery & Fluid Systems
- Maneuvering, Hydraulics, Hull Outfitting & Habitability
- Ship Anchoring, Towing, Handling & Deck Machinery

PEO Ships and NAVSEA 21 Will Be Primarily Focused On Providing Increased Cybersecurity For H,M&E Shipboard Systems
Shore-Based Training Systems

PMS 339 Builds or Maintains 90+ Trainers in 16 Site locations

High Fidelity Tactical-based Systems

High Fidelity Emulation Labs

Electronic Classrooms with Gaming-based Trainers
H,M&E & Training System Cybersecurity Challenges

• H,M&E Systems
  • H,M&E shipboard control systems are different than traditional IT systems in the way that they are utilized and supported over their life cycles on our ships
  • Computer-based H,M&E systems are designed to be fielded, maintained and replaced through obsolescence - not in response to rapid cyber threats
  • H,M&E systems are designed for a lifespan much longer than the technology comprising them
  • H,M&E system are baselined to maintain configuration management and reduce non-recurring costs
  • Vulnerability remediation requires costly, system-wide regression testing

• Training Systems
  • Additional challenges with alternate training configurations and different usage environments
  • Cybersecurity tools have to work seamlessly with distributed training architectures to participate in distributed training events
**The Team Ships Overall Strategy for H,M&E Cybersecurity**

**Goal:** Protect, detect, respond and recover from a cyber attack to our H,M&E Systems

<table>
<thead>
<tr>
<th>Applicable To:</th>
<th>Legacy In-Service Ships</th>
<th>New (Future) Ships “Ideal State”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keep individual H,M&amp;E system operating systems current and proactively implement security updates in a controlled manner to ships w/regression testing</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Reduce Our Attack Surface - Remove direct H,M&amp;E connections to the Global Information Grid (GIG)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>H,M&amp;E Cyber hygiene process Improvement (password changes, disk virus scans, remove unneeded USB ports)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>H,M&amp;E Process changes - No mass data transfers via the GIG</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Add real time H,M&amp;E Cyber Monitoring Situational Awareness Tools</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>H,M&amp;E computer program re-architecture: Application Whitelisting, Write-Protection, Software-based USB Security, Malware Scanning, Authentication</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Separate H,M&amp;E LANs from Navigation LANs where practical</td>
<td>TBD Implement where practical</td>
<td>✓</td>
</tr>
<tr>
<td>Delete or minimize direct interfaces to the combat system or other enclaves</td>
<td>TBD Implement where practical</td>
<td>✓</td>
</tr>
<tr>
<td>Compartmentalize H,M&amp;E, Combat System, C4I enclaves</td>
<td>TBD Implement where practical</td>
<td>✓</td>
</tr>
<tr>
<td>Add a Boundary Defense Capability (BDC) between the H,M&amp;E enclave and the other shipboard enclaves</td>
<td>TBD Implement where practical</td>
<td>✓</td>
</tr>
</tbody>
</table>
Products

– Cybersecurity situational awareness and event monitoring products
– Network intrusion detection system products
– Network intrusion prevention system products
– Backplane monitoring devices
– Firewall products

Services

– Qualified cyber professionals to assist in the Information Assurance accreditation process

PEO Ships and NAVSEA 21 Both Plan To Implement These Types Of Products/Services And We Are Interested In What Industry Has To Offer
Deputy Director, Acquisition Management - (202) 781-2253

Technical Director of Surface Training Systems - (202) 781-4913

Team Ships Information Assurance Manager - (228) 769-4901

AN/USQ-82(V) GEDMS, HM&E and IC LAN Program Manager - (540) 653-6737