Department 50
Cybersecure Machinery Control Systems and Networks Department Overview

Presented to:

NSWCPD Industry Day

Presented by:

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Dept 50 Acquisition Manager

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Cybersecure Machinery Control Systems & Networks - Department 50

MISSION:

The Cybersecure Machinery Controls Systems & Networks Department is the principal provider of life cycle management (LCM) and full spectrum engineering support for cybersecure surface ship machinery information, sensors and control systems; mission-critical networks; steering and integrated bridge/navigation systems.

VISION:

We are the Navy's leader for integrated cybersecure surface ship machinery information, sensors and control systems; mission-critical networks; steering and integrated bridge/navigation systems.

Cybersecure HM&E Control Systems & Networks – Department 50
Expanding the Advantage

Machinery Control Systems

- Machinery Controls LCM
- New Acquisition Support
- ISEA and SSA Support
- Modernization Support
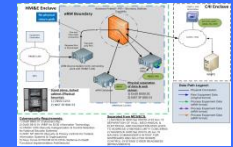- GOTS/Navy owned control systems development

HM&E Cybersecurity

- Installing Non-Permanent Changes (NPCs)& developing SCDs for SA and Boundary Defense
- Cybersafe Program Development/Execution
- CSWF

Electronic Damage Control Plotting

- Advanced Damage Control System (ADCS)
- Damage/Casualty Control Automation
- Advanced Hardware Integration

Machinery Enterprise Info Systems

- Monitoring & Condition Assessment Systems
- Enterprise Remote Monitoring (eRM)
- Integrated Condition Assessment System (ICAS)
- Consolidated Machinery Assessment System (CMAS)

Auxiliary Machinery Control Systems

- Fluid & Steam Systems Automation
- Thermal Management
- Smart Valve Actuators
- Tank Level Indicators (TLIs)
- Automated Heat Stress System (AHSS)

> **Dept 50 is the Navy's leader for integrated cybersecure surface ship machinery information, sensors and control systems; mission-critical networks; steering and integrated bridge/navigation systems.**

Machinery Info Systems Technology

- Data Acquisition System design and implementation
- Digital Video Surveillance Systems (DVSS)

CVN Networks, Navigation & Ship Controls

- CVN Ship/Steering Controls, Displays and Interfaces
- Navigation Distribution Systems
- Digital Ship Control System (SCS) RDT&E

Mission Critical Interior Communications (IC) Data Networks

- HM&E/IC Data Networks/Networks Infrastructure
- USQ-82 GEDMS/FODMS/DMS/SDMS
- Fiber Optic Cable Topology Standards & Qualification

Ships Navigation & Integration Bridge Systems

- Navigation Systems
- HM&E Certification
- Integrated Bridge Controls
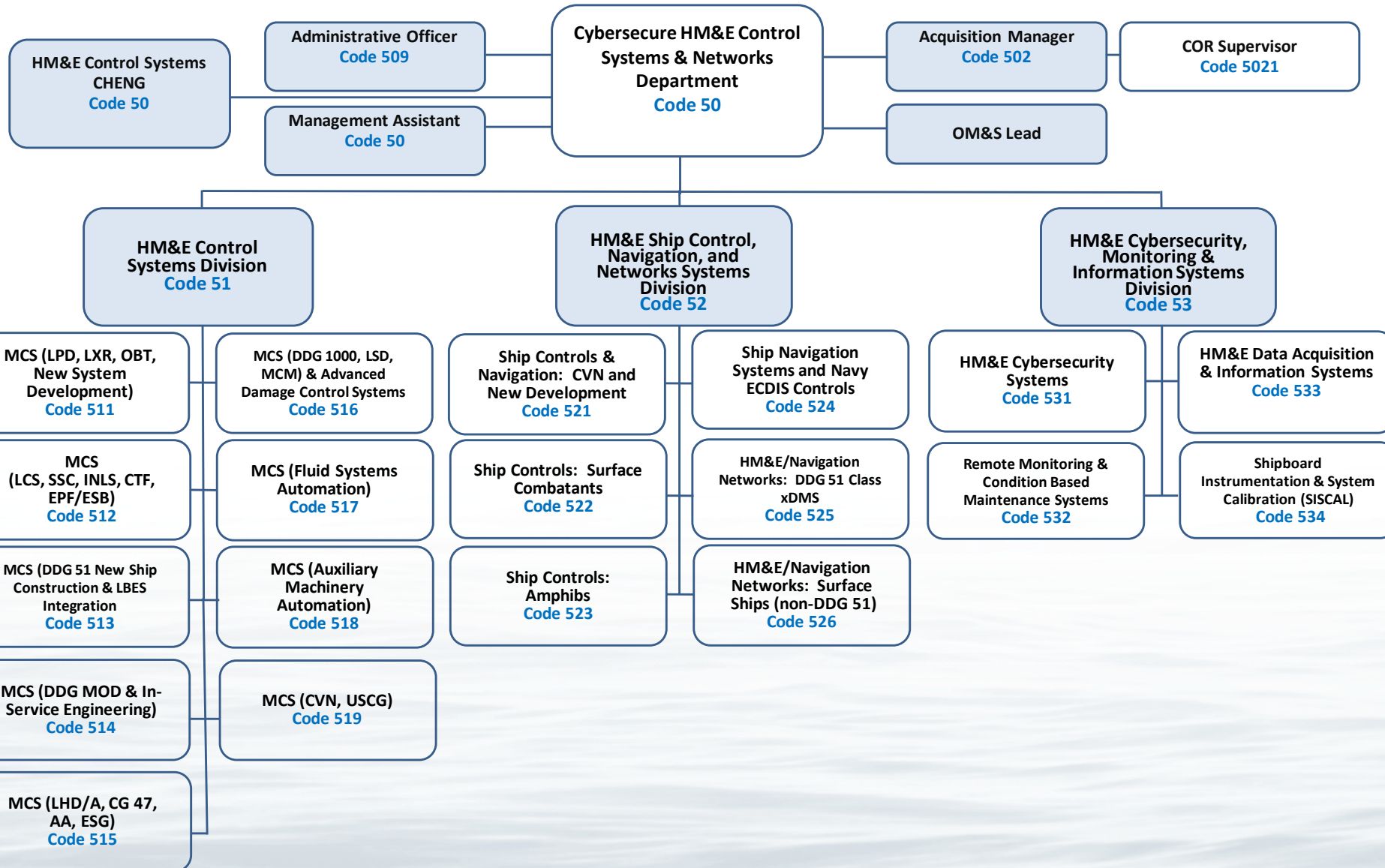- Electronic Charting Display Information System

OBT & Sim/Stim Capabilities

- Object-oriented, C++ machinery models
- Simulated control system (ship specific)
- Software-Based Machinery Plant Trainers
- Machinery Simulations

Cybersecure Machinery Control Systems & Networks - Department 50 Organizational Chart

NAVSEA WARFARE CENTERS PHILADELPHIA

HM&E Control Systems CHENG
Code 50

Administrative Officer
Code 509

Management Assistant
Code 50

Cybersecure HM&E Control Systems & Networks Department
Code 50

Acquisition Manager
Code 502

COR Supervisor
Code 5021

OM&S Lead

HM&E Control Systems Division
Code 51

HM&E Ship Control, Navigation, and Networks Systems Division
Code 52

HM&E Cybersecurity, Monitoring & Information Systems Division
Code 53

MCS (LPD, LXR, OBT, New System Development)
Code 511

MCS (DDG 1000, LSD, MCM) & Advanced Damage Control Systems
Code 516

Ship Controls & Navigation: CVN and New Development
Code 521

Ship Navigation Systems and Navy ECDIS Controls
Code 524

HM&E Cybersecurity Systems
Code 531

HM&E Data Acquisition & Information Systems
Code 533

MCS (LCS, SSC, INLS, CTF, EPF/ESB)
Code 512

MCS (Fluid Systems Automation)
Code 517

Ship Controls: Surface Combatants
Code 522

HM&E/Navigation Networks: DDG 51 Class xDMS
Code 525

Remote Monitoring & Condition Based Maintenance Systems
Code 532

Shipboard Instrumentation & System Calibration (SISCAL)
Code 534

MCS (DDG 51 New Ship Construction & LBES Integration
Code 513

MCS (Auxiliary Machinery Automation)
Code 518

Ship Controls: Amphibs
Code 523

HM&E/Navigation Networks: Surface Ships (non-DDG 51)
Code 526

MCS (DDG MOD & In-Service Engineering)
Code 514

MCS (CVN, USCG)
Code 519

MCS (LHD/A, CG 47, AA, ESG)
Code 515

Department 50 Anticipated Competitive Contract Requirements

Brief Description	ROM	Anticipated Announcement Date (FY/QTR)	Requiring Technical Code
• RMF and Cyber Security Support	$30M-$40M	FY21Q1	52
• MCS DDG 1000 and LSD 41 Class ships; Damage Control for all surface fleet ships	$15M-$20M	FY21/Q1	51
• MCS for LCS, SSC and INLS vessels	$15M-$20M	FY21/Q1	51
• Navigation and IBS Engineering Support	$25M - $30M	FY21/Q1	52
• Mission Critical Interior Communication HM&E Networks	$10M-$15M	FY21/Q2	52
• Navy ECDIS HW	$40M-$50M	FY21/Q2	52

NAVAL SURFACE WARFARE CENTER
PHILADELPHIA DIVISION

THANK YOU!