Surface Maintenance Engineering Planning Program (SURFMEPP)

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PRESENTED TO: Surface Navy Association

PRESENTED BY: John Murphy
SURFMEPP Deputy Director
SURFMEPP Mission & Vision

Our Mission
To enable the Surface Fleet to meet its Expected Service Life by providing centralized Lifecycle Engineering, Class Maintenance and Modernization Planning.

Guiding Vision
Provide planning excellence to support ship readiness and expected service life

Guiding Values
- Persistence – Supporting the War Fighter
- Innovation – Challenging the status quo
- Accountability – Owning what we do
- Respect – Treating others the way we want to be treated
- Excellence – Pursuing with rigor

Strategic Focus Area Pillars
- Optimize organizational structure, policies and processes
- Leverage best practices, employee feedback, and knowledge transfer to encourage and sustain a creative work environment
- Improve maintenance and modernization planning products
- Impact the judicious resourcing and execution of life cycle maintenance requirements
- Enhance surface maintenance enterprise coordination and alignment to efficiently execute the End to End Process
SURFMEPP Product Value Stream

Plan Long Range Requirements into Availabilities

1. Class Maintenance Plan (CMP)
2. Technical Foundation Paper (TFP)
3. Ship Sheets (ship specific LRMS)
4. Baseline Availability Work Package (BAWP)

Technical Reqs
Class Reqs (Man-days)
Specific Ship Reqs (Man-days, Schedule)
Plan FRP Cycle

Document & Feedback
Execute
Integrate Package
Plan Availability

Avail Close Out (Technical & Financial)
Execute Availability
Availability Work Package (AWP)
Assessment Results
Ship CSMP Modernization

Integrate, Execute, Document and Feedback

Deferred Life Cycle Maintenance
Surface Ship Class Maintenance Plans

- **Required by OPNAVINST 4700L**
- **Developed by Shipbuilders**
- **Approved by SEA05**
- **Depot/Intermediate Level Tasks**
  - Condition Based Assessments
  - Directive Repairs
  - Depot Availability Routines
  - Mandatory Safety Alterations
  - Alterations Equivalent to Repairs
  - Actionable Class Advisories
- **12 Class Maintenance Plans executed across 157 ships**
- **Supports CNO availability planning and TYCOM readiness assessments**

Recurring assessment and directive maintenance tasks for all surface ships
Maturing Directed Maintenance & Associated Assessments

Over 100 Directive Maintenance Strategies Developed Since 2015

- Fleet Wide Tank/Void Maintenance
- LPD 17 CL Bulwarks & Deck Repairs
- LPD 17 CL Stern Gate Hydraulic System Repair
- DDG 51 CL Slewing Arm Boat Davit Overhaul
- DDG 51 CL – Strut Barrel Bore Repair
- Fleet Wide SPS 73 Radar Antenna Replacement
- Fleet Wide Sonar Dome Pressurization System Overhaul
- DDG 51 CL VCHT Ejector Pump Replacement
- LPD 17 AC plant Condenser Repair
- LSD 41/49 CL Main Propulsion Diesel Overhaul
- LSD 41/49 CL Ship Service Diesel Engine Overhaul
- CG 47 CL Bilge Preservation
- LPD 17 / LSD 41/49 CL Well Deck Repair
- LSD 41 / LPD 17 CL Vent Plenum Preservation
- PC 1 CL Hull Structural Repairs

2015
- DDG 51 Strut Repairs
- DDG 51 Gas Turbine Intake/Uptake Space Preservation
- DDG 51 Gas Turbine Intake Louver Preservation

2016
- DDG 51 CL Fan Room Preservation
- Fleet Wide Flight Deck Tie Down Replacement
- CG 47 CL Gas Turbine Intake/Space Preservation
- LHD 1 CL Main Condenser Overhaul

2017
- LSD 41/49 20 Ton Cargo Crane Repair
- DDG Aux 1 Frame 174 Repair
- CG Tank Top Repair
- Sea Chest/UW Hull Inspect Repairs

2018
- In Progress
  - DDG 51 CL Bulkhead 370 UT Repair
  - LHD 1 CL Well Deck Repair
  - LCS Variant Roll Fin and Hydraulic Cylinder Overhaul

Scope defined in planning process versus open and inspect during execution
Hull Structure – Tank/Void Maintenance Strategy

• Issue:
  - Conducting tank/void surveys without planned repair work items during shipyard maintenance periods resulted in incremental discovery
  - Negatively impacted shipyard ability to remediate coating failures and structural repairs within production schedule
  - Increased level of deferred tank/void maintenance as ships are operated throughout expected service life

• Class Maintenance Plan:
  - Programs both CBM surveys and projected repairs into CNO availabilities using statistical analysis of tank/void inspection data

• Way Ahead:
  - Promotes effective budgeting and planning of maintenance prior to entering shipyard
  - Reduces risk of new work and subsequent negative cost/schedule impacts by using frontloaded work items for preservation and repair
  - Allows forecasting of tank/void preservation efforts across US Navy ship maintenance and industrial bases

Strategy implemented for shipyard maintenance periods starting in FY18
Corrosion Management

**FUEL OIL SERVICE TANKS**
- Originally not required to be coated, but multiple hulls that had pitting at margin plates in tanks
- Worked with SEA05D to change requirement to now coat with UHS
- Coating will mitigate pitting and holing risk

**COMPOSITE MATERIALS**
- Successful corrosion control can be realized through the use of fiber reinforced composite materials
- Examples include: deck drains, composite electrical enclosure and conduit terminals, vent screens, pipe hangers and deck grating

**ULTRA HIGH SOLID “SINGLE COAT”**
- Single coat paint improves on the traditional three-coat process by eliminating the time it takes each successive coat to dry
- Provides corrosion-resistance, durability, and an improved appearance to each space in which it is applied

**DDG COLLECTIVE PROTECTION SYSTEM FAN ROOMS**
- Full remediation every dry-docking availability
- Front loaded structural repairs and directs the use of UHS coatings
- Includes replacement of standard deck drains/sockets with composite material

**GAS TURBINE INTAKES/UPTAKES**
- Minor coating remediation and repair scheduled every CNO availability.
- Major space repair and preservation scheduled for dry-docking availabilities
- Front loaded structural repairs and directs the use of UHS coatings
Summary

➢ SURFMEPP is the US Navy surface ship central planning activity

➢ Our focus is surface Navy enterprise depot level planning excellence that supports both ship operational readiness and achievement of expected service life through the execution of class maintenance plans

➢ We are seeking industry feedback on class maintenance plan content and planning process improvement/best practices