



Navy Modernization Program (NMP)

SEAPOWER THROUGH ENGINEERING

4.1.2

TOPIC LEARNING OBJECTIVES	STUDENT PREPARATION
<p>Upon successful completion of this topic, the student will be able to:</p> <ol style="list-style-type: none">1. Identify the goals of the Navy Modernization Program.2. Recognize the difference between maintenance and modernization in the operations and sustainment phase of ships and weapon systems.3. Recognize attributes of the Fleet Modernization Program (FMP), or legacy submarine process.<ol style="list-style-type: none">a. Match the various types or “titles” of SHIPALTs with who funds the development, procurement and installation.b. Match the various modernization documents (Justification Cost Form, SHIPALT Record, Ship Installation Drawing) with who prepares them and who approves them.4. Recognize attributes of the Navy Modernization Program (NMP).<ol style="list-style-type: none">a. Match the various types of ship changes with who funds the development, procurement and installation.b. Recognize the purpose of the Ship Change Document (SCD) and who initiates and submits it.c. Identify the sponsor and approval authorities for modernization.5. Recognize policies regarding the scheduling and accomplishment of alterations.6. Recognize the activities that accomplish alterations.	<p>Student Support Material</p> <ol style="list-style-type: none">1. None <p>Primary References</p> <ol style="list-style-type: none">1. NAVSEA SL720-AA-MAN-030 - Navy Modernization Process Management and Operations Manual (NMP MOM)2. COMFLTFORCOMINST 4790.3 (series) – Joint Fleet Maintenance Manual (JFMM) <p>Additional References</p> <ol style="list-style-type: none">1. NMP MOM available at NDE-NM website: https://nde.navy.mil (requires account registration)2. JFMM available at SUBMEPP website: https://www.submepp.csd.disa.mil/jfmm/index.htm



Overview

- Navy Modernization Program (NMP) Background
- Types of alterations
- Planning and execution



History

- Started Nov 2002 by surface ship leadership
- Transform maintenance & modernization planning processes
- From “effective but not efficient” to “both”
- Accomplish right work, right time, right cost
- Collaborate across Enterprise stakeholders
- Commands, customers/suppliers, internal/external
- Link closely with regional maintenance integration
- Use proven commercial process improvement methods
- Deliver Optimized Fleet Response Plan (OFRP) ready Fleet at a lower cost



Need for Modernization

- Mechanism to address:
 - Emerging threats
 - New technology
- Management functions:
 - Proper engineering of alterations
 - Maintain configuration control
 - Ensure adequate logistics support
 - Permit training and personnel planning
 - Ensure equipment interoperability





Goals of Modernization

- Goals
 - Improve ship's **capabilities** and material condition by installation of approved alterations and modifications
 - Improve **safety, reliability, maintainability, habitability, and environmental compliance** of ships and equipment
 - Increase Fleet readiness by supporting warfighting requirements in a timely fashion
- Definitions
 - **Modernization improves** a ship's **capabilities** over and above the initial configuration
 - **Maintenance** allows a ship to continue operating to its **current design reliability and performance characteristics**
 - **Repair returns** a ship to its current design reliability and performance characteristics



Goals of NMP

- Manage the modernization and maintain the supporting instructions, manuals, policy guides, and process documents
- Provide Subject Matter Expert (SME) support and helpdesk support to Navy stakeholders
- Provide the infrastructure for creation, review, and approval of Ship Change Documents (SCDs)
- Provide the authoritative source for alteration and availability scheduling
- Provide policy and guidance (NAVSEA 9090-310 AIT Instructions) to Participating Acquisition Resource Managers (PARM) and Alteration Installation Teams (AIT)
- Provide AIT Quality Manager audit with tracking data

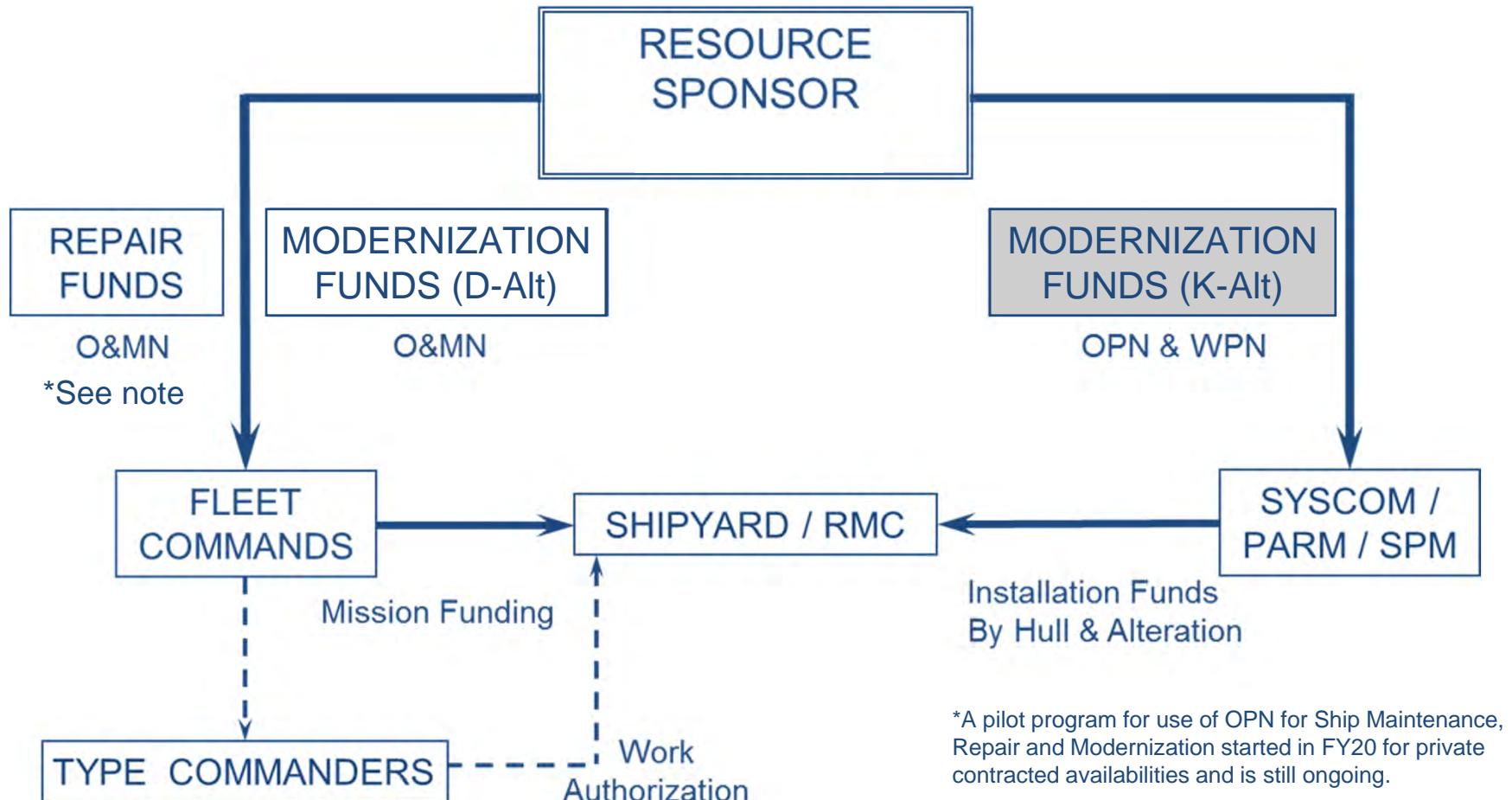


Attributes of NMP

- Provides a structure for identifying, planning, designing, approving, funding, and installing shipboard improvements while maintaining configuration management and supportability
- Designed to prevent unauthorized and non-supported Ship Changes/Alterations from being installed on ships
- Develop approved and fully funded changes which are selected based on technical, warfighting, readiness, and cost benefits



Modernization Funding





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Legacy Alterations

- Ship Alterations (SHIPALT) Title D, K, KP, F
- Alteration Equivalent to Repair (AER)
- Equipment Alterations
 - Ordnance Alterations (OA)
 - Machinery Alterations (MA)
 - Engineering Change (EC)
 - Software Delivery (SWD)
 - Field Change (FC) legacy
 - Nuclear Alteration (NUCALT)
 - Coast Guard SHIPALTS
 - Trident Alterations (TRID)
 - Stand-alone Removal Alteration (RME)
 - Crossdeck Alteration (XDK)
- Temporary Alterations
 - Temporary Ship Alterations (TMP)
 - Temporary Equipment Alterations (PRT)
 - All Temporary Alterations have an accompanying Removal Alteration (RMV)

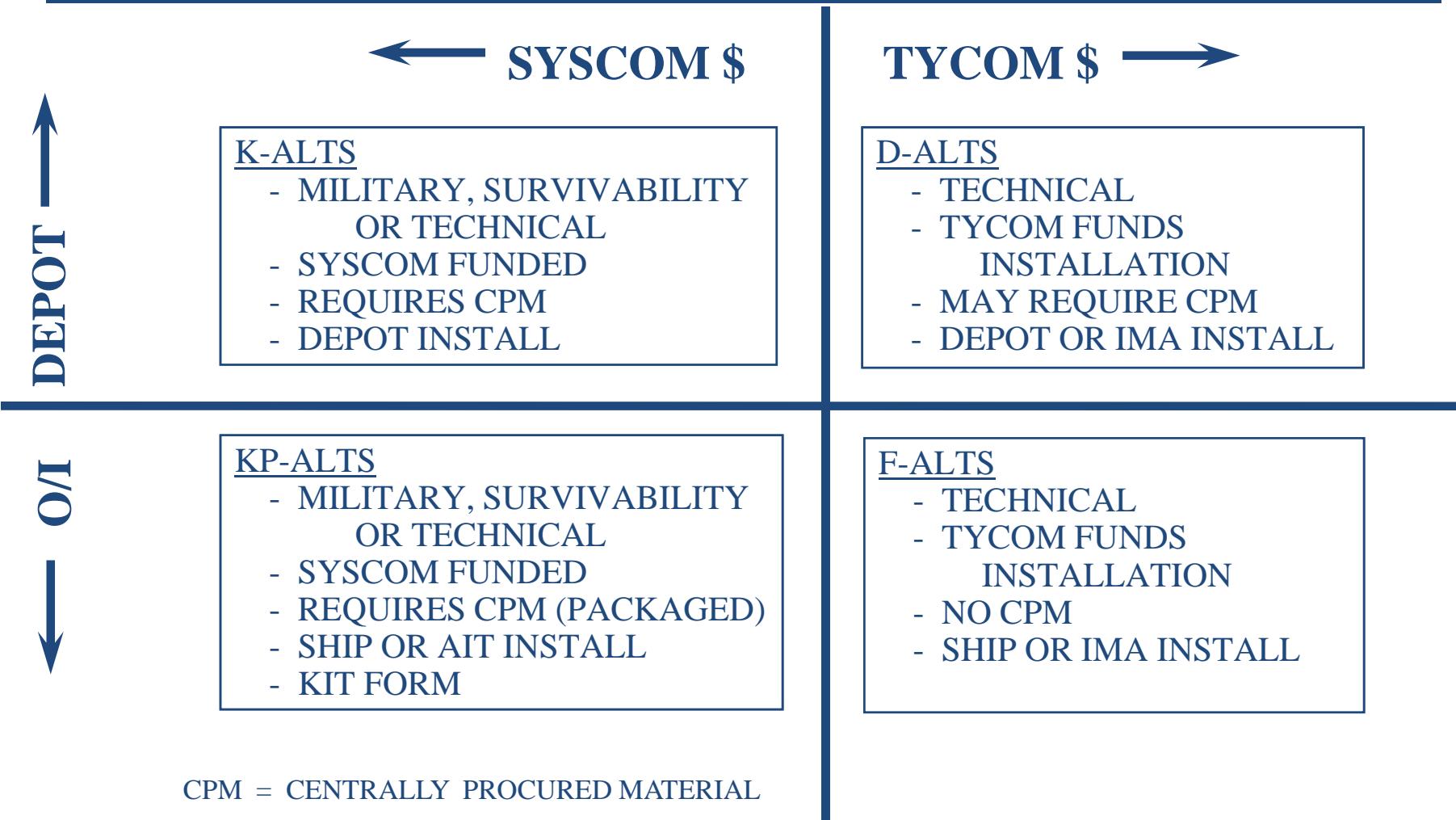


Ship Alteration (SHIPALT)

- Definition: Any change in hull, machinery, equipment, or fittings which involves change in design, materials, number, location or relationship of the component parts of an assembly
 - Any change to a system that transcends its own boundaries. It requires interface with other systems
- ***Modernization is all changes, alterations, and arrangement variation from approved class plans or previously approved configuration***



SHIPALT (Legacy)





AER (Legacy)

- Technical alteration approved by NAVSEA
- Has one or more of the following attributes:
 - Use of different materials for like or similar use and such materials are available from standard stock
 - Replacement of obsolete, worn-out or damaged parts with those of later or more efficient design
 - Strengthening of parts to improve reliability of parts/unit, provided no other changes in design are involved
 - Minor modifications involving no significant change in design but essential to prevent recurrence of unsatisfactory conditions or to reduce equipment maintenance costs



Example Alterations (Legacy)

- Typically, a CNO availability will feature a variety of alteration types:
 - K-ALTS
 - SSN3664(K) Switchboard Arc Fault Detector
 - SSN3817(K) Replace Pressurizer Heater Bundle Omega Seals
 - D-ALTS
 - SSN3227(D) Change Sanitary Tank TLI Systems
 - SSN3865(D) Install Vent Exhaust System for SNAP II Computer
 - SSN4018(D) Install Canned SPM
 - F-ALTS
 - SSN3583(F) Modify Strap Hangers on Hot Piping
 - AER
 - A&I N3005 Hull Array Grounding Strap Modification



Documentation (Legacy)

- Justification/Cost Form (JCF):
 - Prepared by NAVSEA 05 (or appropriate SYSCOM Engineering)
 - Approved by Ship Program Manager (SPM)
 - Addresses:
 - Purpose of alteration, applicable ships
 - Material requirements
 - Design, installation, and Integrated Logistics Support (ILS) requirements
 - Cost (Class F Estimate, or “Ball Park”)
- SHIPALT Record (SAR):
 - Usually prepared by the Planning Yard
 - Approved by Ship Program Manager
 - Provides greater detail:
 - Material and test equipment
 - Design, installation, and ILS requirements
 - Cost



Planning Yard

- Responsible to Program Manager for engineering in ship alteration development
- Responsible to Naval Shipyard (NSY) or Regional Maintenance Center (RMC) during alteration installation (or other Government representative)
 - Prepares SHIPALT Records (SARs) (Legacy)
 - Prepares Ship Installation Drawing (SIDs) (NMP)
 - Conducts alteration ship checks
 - Performs all engineering
 - Prepares all drawings
 - Validates entire alteration package
 - Provides on-site liaison support during availabilities
- May be a public or private yard



Planning Yards

Planning Yard	Ship Class
Bath Iron Works (GD)	DDG-51, DDG-1000
Electric Boat Division (GD)	SSBN-726/826, SSGN-726, SSN-774
Huntington Ingalls Inc. (HII)	LCS
Ingalls Shipbuilding (HII)	CG-47, EDD 964, LHA, LHD, LPD-17
Military Sealift Command	T-classes, EMS, EPF, ESD, HST
Newport News (HII)	SSN-21, SSN-688, CVN-78
Norfolk NSY	CVN-68
Portsmouth NSY	SRDRS, DDS
Puget Sound NSY & IMF	MCM, LSD-41/49, LCC, ESB, AS-39, CONSTITUTION
Maritime Administration (MARAD)	ACS-1, AK-882

*Subject to change Source: <https://www.nvr.navy.mil/nvr/>

Select Planning Yard (Hull) Assignment tab



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Navy Modernization Program Enhancements

- Navy Modernization Program - a single, disciplined, decision process involving the customer
 - Just 2 types of ship changes: Program (K-Alt) or Fleet (D-Alt) Alterations (vs. 40+ types)
 - Determined by funding source, i.e., Program (SPM/PARM, etc.) vs. Fleet Alt (TYCOM)
 - A single, authoritative database for ship changes (NDE)
 - Change list is ranked/prioritized
 - Gate approvals by hierarchy of O-6, 1&2 Star, 3 Star Boards
 - Installation activities are determined by the level of complexity (O/I/D)
- A balanced Modernization Plan (MP) for all ships



Navy Data Environment – Entitled Process (NDE-EP)

- Supports the Navy Modernization Program (NMP) SCD modernization process
- Collapses alteration types into two categories (Fleet and Program)
- Streamlines and consolidates a number of existing modernization practices, processes, meetings, and supporting documents
- Supplies a workflow process
- Provides a single, hierarchical decision-making process for modernizing ships

This is an Official US Navy Website

navy data environment N D E

NOTICE: NDE User Community, AMPS.Net is being taken offline as of Monday December 14, 2020, until such time the application can be modernized to conform with the future NDE ATO security requirements. Please continue to use AMPS.

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Ship Change Document (SCD)

- The SCD replaces or absorbs the following forms:
 - Justification Cost Form (JCF)
 - Ship Alteration Record (SAR)
 - Engineering Change Proposal (ECP)
- It is the ***single*** authorized document for all ship changes in the ***single*** authoritative database known as the Navy Data Environment (NDE)
 - An SCD becomes a ship change once it receives authorization for procurement and installation after Decision Point 3 in the Entitled Process



SCD Initiation and Submission

- An ***initiator*** is anyone with a NDE account who initiates an idea (ship change) into NDE-EP via the SCD and include:
 - Program Offices
 - Port Engineers
 - In-Service Engineering Agents (ISEAs)
 - Group Staffs
 - Type Commanders (TYCOMs)
 - Regional Maintenance Centers (RMCs)
 - Government Planning Yard
- An idea is only an idea until an authorized ***submitter*** submits the idea for review and board approval/disapproval in NDE-EP via SCD:
 - Currently approximately 130 authorized submitters
 - Currently all stakeholder organizations have designated submitters
 - New submitters must be requested from NAVSEA 04
 - New submitter should have basic NMP training and SCD submitter training



Approval

- Program alterations are approved at the appropriate level based upon Acquisition Category (ACAT) designation and monetary threshold
- Fleet alterations
 - 3-Star Board
 - Set over all priorities
 - Approve Surface Ship Modernization Plan Program Objective Memorandum (POM) submission
 - Approves SCDs with projected costs exceeding \$200M
 - 1- & 2-Star Board
 - Adjudicates O-6 board issues
 - Approves SCDs with projected costs >\$50M and <\$200M
 - O-6 Board
 - Majority of decisions made at O-6 board
 - Staff decisions for higher level
 - Approves SCDs with projected costs <\$50M

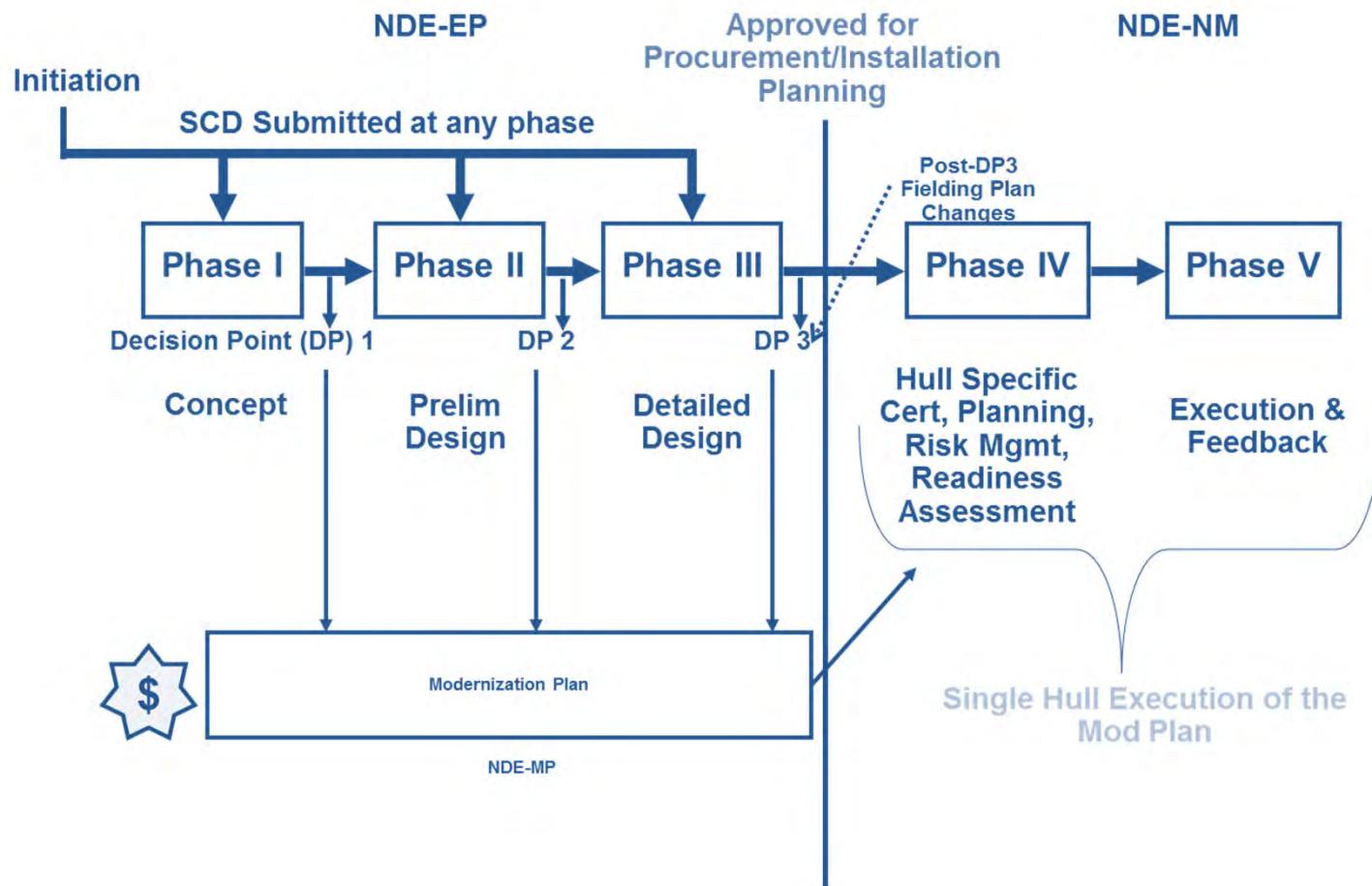


Navy Data Environment – Navy Modernization (NDE-NM)

- Provides an automated, integrated information support system to enhance the decision-making capabilities of NMP managers
- Tracks alteration development by category, ship class, and hull number
- Tracks planning and budgeting for programmed alterations. Tracks estimated and actual man-days, material costs, etc.
- Tracks logistics issues such as material status, alteration maturity including SAR (submarine only) status and SHIPALT Installation Drawing (SID) (all classes) status
- Tracks execution issues and schedules, which ships have which alts, and alteration installation schedules
- **Authoritative source for all CNO availability dates**



SCD Development





Public Law 102-396

- Signed October 6, 1992 as part of the 1993 Department of Defense Appropriations Act
- **Prohibits use of funds to modernize** ships and ship systems that the Navy **plans to retire** or otherwise dispose of **within five years** of the scheduled completion of the modification
- Does not apply to safety modifications
- May be waived in the interest of National Security
 - SECNAV approval required (sometimes just notification)
 - Congressional Defense Committees must be notified in writing



Summary

- What are the goals of Navy modernization?

- What types of alterations are funded by SYSCOMs and TYCOMs under the legacy FMP system?
- What types of alterations are funded by Program Offices and TYCOMs under the NMP system?
- Which legacy documents have been absorbed by the Ship Change Document (SCD)?