



CNO Availability Execution

4.2.2

TOPIC LEARNING OBJECTIVES

- Upon successful completion of this topic, the student will be able to:
1. Identify the members and responsibilities of a public shipyard project team and Regional Maintenance Center maintenance team.
 2. Identify typical execution phases of a repair availability and what goes on within each phase.
 3. Identify the terms associated with scheduling a maintenance availability.
 4. Recognize the roles and responsibilities of the Naval Supervising Activity (NSA) and Lead Maintenance Activity (LMA).
 5. Identify organizations that can fulfill the roles of NSA and LMA.

STUDENT PREPARATION

- Student Support Material
1. 4.2.1 and 4.2.2 TX Reading
- Primary References
1. COMFLTFORCOMINST 4790.3 (series)
(Joint Fleet Maintenance Manual)
 2. S0570-AC-CCM-010/8010 Industrial Ship Safety Manual for Fire Prevention
 3. S9002-AK-CCM-010/6010 Industrial Ship Safety Manual for Submarines
- Additional References
1. NAVSEAINST 4790.23 (series)
(Baseline Project Management Plan)

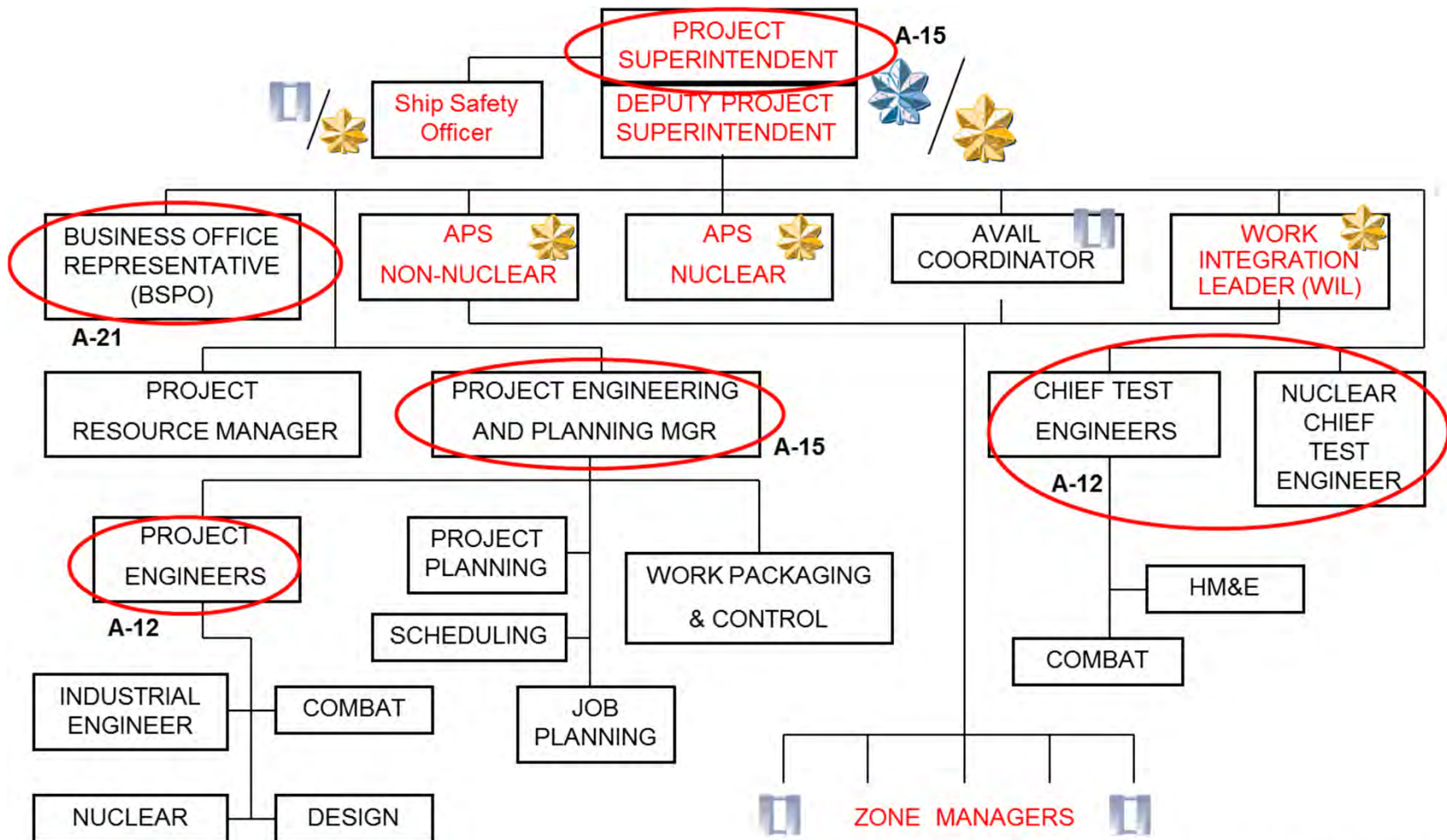


Overview

- Project & Maintenance team members
- Execution phases
- Naval Supervising Activity (NSA)/Lead Maintenance Activity (LMA)
- Lessons learned



Public Shipyard Project Management



RED TEXT: POSSIBLE POSITIONS FOR ED's

CORE PROJECT MANAGEMENT TEAM MEMBERS IN RED CIRCLES

APS: ASSISTANT PROJECT SUPERINTENDENT



Public Shipyard Project Management Duties

- Project Superintendent
 - Equivalent to CO in military chain of command
 - Total responsibility for all aspects of the project: cost, schedule, safety, and quality
 - Assembles the project team
 - Development of project management plan and project execution strategy
 - Single shipyard point of contact with ship CO
- Deputy Project Superintendent
 - Equivalent to XO in military chain of command
 - Assigned for large, complex projects or projects with significant nuclear work
 - Performs duties assigned by Project Superintendent
- Assistant Project Superintendents (APS)
 - Equivalent to Dept Head in military chain of command
 - Have knowledge and experience in all phases of the area assigned
 - Have the delegated authority to make non-technical decisions and recommendations within area of responsibility
 - Ship's Force (S/F) representative on the Project Team is either called an APS or Overhaul Coordinator. Depending on type of availability, a nuclear trained LDO may be assigned to the vessel to fulfill this role

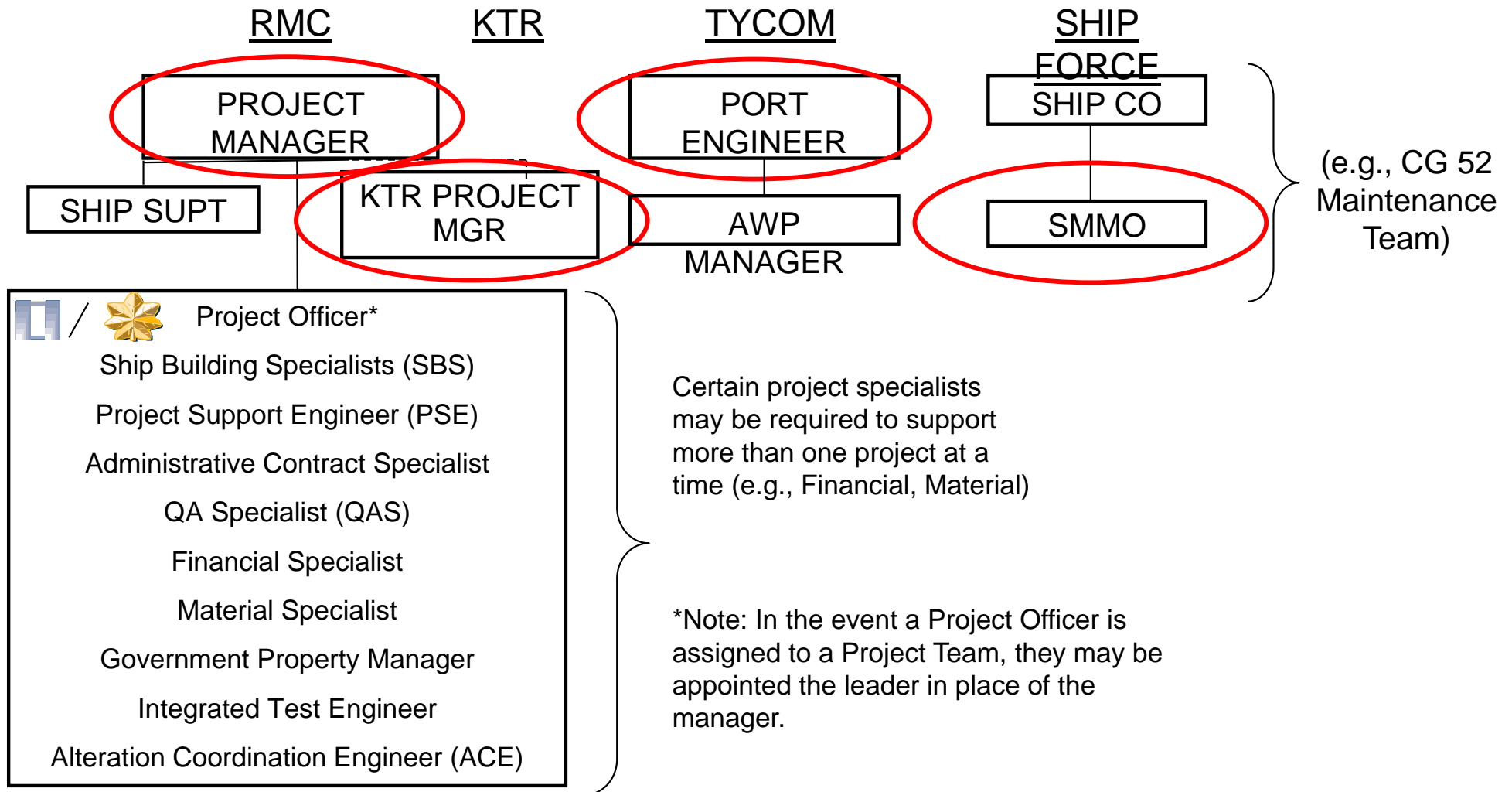


Public Shipyard Project Management Duties

- Project Engineering & Planning Manager (PEPM)
 - Reports to Project Superintendent
 - Directs the project planning and management, job planning, and job sequencing and scheduling processes
 - Develops project planning budget
 - Defines job summary boundaries
- Business & Strategic Planning Office (BSPO)
 - Reports to Project Superintendent
 - Obtains project funding
 - Identifies authorized work
 - Authorizes the expenditure of funds
 - Works directly with customer on issues of cost and schedule
- Zone Managers
 - Equivalent to Division Officer in military chain of command
 - Report to appropriate APS
 - Directly responsible for conduct of the execution control process within their zone
 - Direct supervision of first line supervisors within their zone
 - Develop daily production schedules within their zone



RMC Project Management



CORE PROJECT MANAGEMENT TEAM MEMBERS IN RED CIRCLES



RMC Project Management Duties

- Port Engineer
 - *Maintenance team leader*
 - TYCOM representative
 - Resident expert in ship maintenance
- Project Manager
 - RMC organization lead
 - Responsible for the entire availability
 - Ensures work is certified after completion
 - Along w/RMC Contracting Officer (KO), approves changes to the avail contract
 - Assists in screening work to LMA Contractor
 - Funds Manager
- Ship Superintendent
 - Manage RMC production work on the project (Intermediate level)
 - Assist in work sequencing and de-confliction



RMC Project Management Duties

- Ship's Commanding Officer (CO)
 - Responsible for overall ship material condition
 - Manages ship's yearly maintenance budget
 - Maintenance team coordinator
- Ship's Maintenance & Material Officer (SMMO)
 - S/F POC for all maintenance items
 - Liaison between ship, maintenance activity, and RMC
 - Assists in screening work and 2K development
 - Coordinates with the Project Manager
- Contractor Program Manager
 - POC between maintenance team and Contractor work force
 - Assists in work sequencing and de-confliction
 - Coordinates with the Project Manager



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Execution Phases

Nesting/Ship
Arrival

Rip-out &
Repair

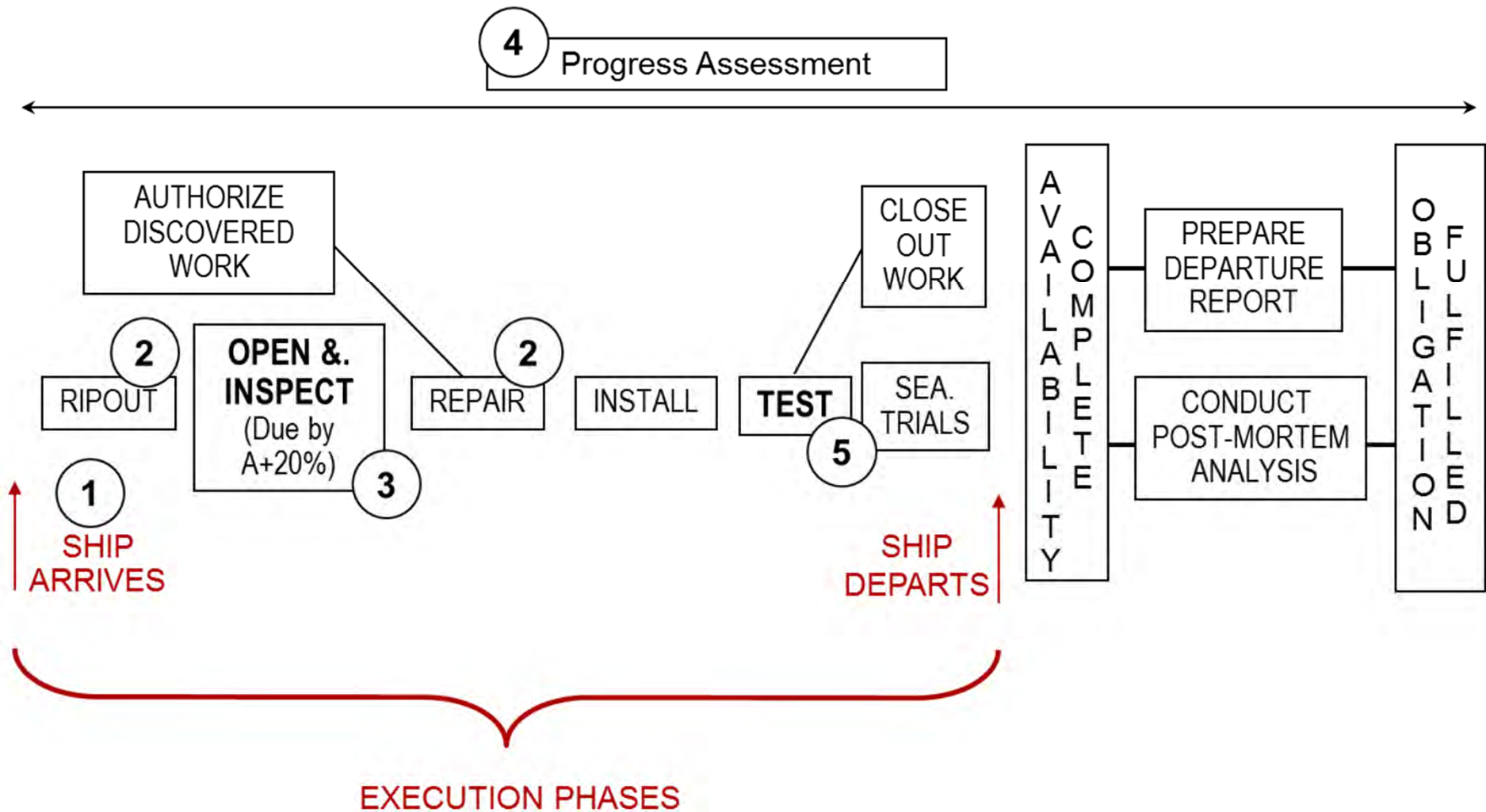
Open &
Inspect

Progress
Assessment

Testing,
Trials &
Certification



Execution Phases





Nesting/Ship Arrival

- Key activities
 - Welcome S/F as a true member of Project Team
 - Train the crew (fire watch, tag-outs, work control (JFMM)/shipyard procedures, etc.)
 - Explain your access plans
 - Explain your temporary services plans
 - Assist with berthing barge arrangements
 - Availability agreements, Memorandum of Agreement (MOA)
 - With S/F, plan for and execute the 8010 fire drill
 - Begin system turnover from SF to Shipyard
- Ship becomes industrial site
 - Public shipyard codes 246 (Non-nuclear) and 2340 (Nuclear)
 - Code 106 (Safety Office)
 - Safety and cleanliness

Training, temporary services, and safety are paramount to a successful availability



Rip-out & Repair

- Start as soon as possible
- Typical roadblocks:
 - Lack of access
 - Unexpected hazardous material
 - Tag-outs
- Get equipment to shops - find surprises
- Last off ship... first back on ship
- Labor intensive
 - Use your resources efficiently
 - Don't be fooled, lots of activity doesn't always mean lots of progress





Open & Inspect

- Inspections occur on all fronts
 - Onboard
 - Inside shops
 - S/F work items
 - Complete by A+20% per NAVSEA Standard Item (NSI) 009-01
- Determine impact
 - Inspection reports
 - Estimating and getting work authorized:
 - **New work** – work items discovered in process that will require resourcing, planning, and execution and were not part of the AWP
 - **Growth work** – work items that require more work than initially scoped and may require more time and money
 - For contracted availabilities, place growth and new work on contract NLT A+60% point (earlier is better!)
 - Anticipated repairs – collapse or move anticipated repair quantities within the schedule
 - Determine impacts to schedule and cost
 - Monthly reports to financial customers (TYCOM/FLEET)



New Work & Growth

- **New work** is any additional work that is identified or authorized after contract award that is not related to a work item included in the original contract
 - New work can originate when an item that needs repair breaks or the maintenance team first discovers it after the Navy awards the contract
- **Growth work** is additional work that is identified or authorized after contract award that is related to a work item included in the original contract
 - Some growth work is expected as certain tasks are difficult to fully scope within the original contract, e.g., inspection and repair of tanks
- **Anticipated repair work** is work that is not fully quantifiable prior to the start of avail (e.g., requires work after inspection), however it is work that is expected and based on historical lessons learned, can be budgeted, resourced, and scheduled prior to the start of avail or inspection
- New work and growth work are potential sources of schedule delay in CNO availabilities and must be reviewed and agreed to by Maintenance/Project Team members, and in some cases authorized before start of work by the TYCOM (or other Government rep) based on requirements, risk assessment, and schedule impact

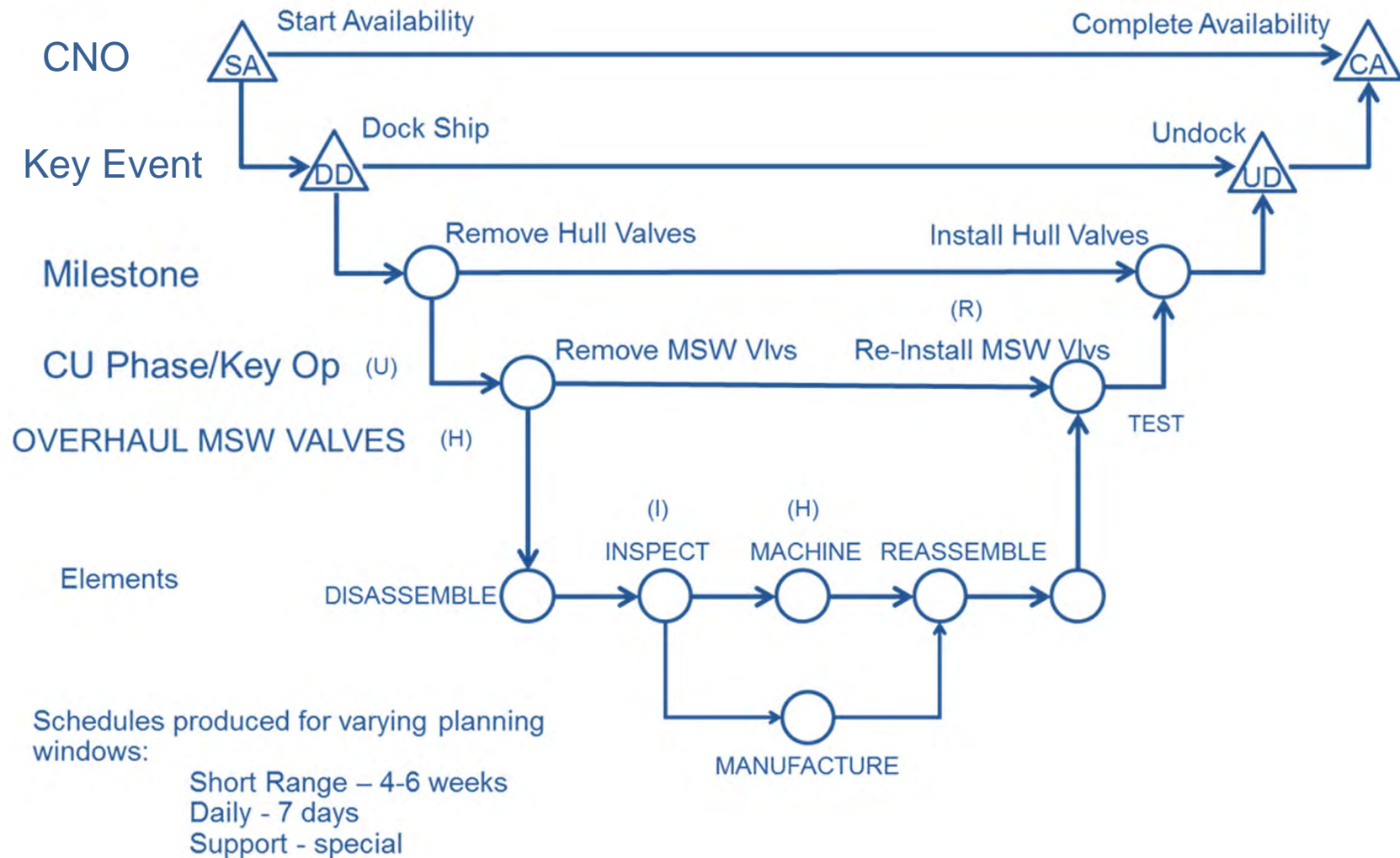


Progress Assessment

- Fleet depot maintenance scheduling
 - Constantly monitoring critical path
 - At any point the critical path may change based on schedule slippage or new work
- Assessment occurs at many levels
 - Notional
 - **Key Event**: High level breakdown of principle activities with hard dates set for completion
 - **Milestone**: Lower level **that supports higher level events** i.e., Key Events
 - Task Group Instruction (TGI) (public shipyards)
 - Work item or task



Schedule Terminology





Testing, Trials & Certification

- Post Repair Testing
 - Production Completion Date (PCD) must be met prior to start of testing phase
 - Every group has a different definition of PCD
 - Clarify during availability your projects PCD definition
 - Testing is supervised by Chief Test Engineer (CTE) in public shipyards
 - Tests are grouped for efficiency in the same way jobs are
 - Scope of testing dependent on scope of work
 - Early, efficient testing is key to mitigating potential schedule impacts due to deficiencies
 - S/F operates equipment during shipyard-administered testing. Close coordination with S/F is critical
- Trials & Certification
 - Need for sea trials dependent on scope of work performed during the availability
 - Sea trials tailored to scope of work performed
 - Need for crew certification, Light Off Assessment (LOA), Combat Systems Ship Qualification Test (CSSQT), and (Preliminary) Operational Reactor Safeguards Exam ((P)ORSE) is dependent on scope of work performed, length of availability, type of platform
 - Exact nature of testing, trials, and certification determined ahead of time and coordinated with S/F, shipyard, and customer



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- Project & Maintenance team members
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NSA/LMA

- Naval Supervising Activity
 - Responsible for **certification** of work accomplished during any type of availability. May be a Naval Shipyard, Supervisor of Shipbuilding (SUPSHIP), or Regional Maintenance Center (RMC)
 - Ensure work is authorized and completed IAW applicable tech requirements and maintenance policy
 - Must possess a NAVSEA technical warrant
- Lead Maintenance Activity
 - Responsible for **work being accomplished** during any type of availability
 - Coordinate work and testing controls to include Work Authorization Forms (WAFs), tag outs and test sequencing (CNO availabilities only)
 - Integrate work of all activities
 - Track progress of all maintenance activities
 - Provide Sea Trials agenda (CNO availabilities only)



Availability Work Certification

- The NSA certification plan verifies that work is completed and technically correct, and includes:
 - Executing Activity (EA) qualifications
 - NSA approval of mandatory technical requirements
 - An integrated test plan
 - Adequate NSA oversight of all availability work
- Each EA must provide Objective Quality Evidence (OQE) to show technically correct completion of their work
- NSA certification ensures that technical review or approval has been conducted on all OQE
 - It review and approval of all waivers and deviations to ensure that any exceptions to completion do not adversely impact Key Event completion
- These elements provide the NSA with **maximum reasonable assurance that availability work is complete and technically correct**



NSA and LMA Organizations

Maintenance Availability	Naval Supervisory Authority (NSA)	Lead Maintenance Activity (LMA)
CNO Public (1)	Naval Shipyard (NSY)	NSY
CNO Private (1)	Regional Maintenance Center (RMC) / Supervisor of Shipbuilding (SUPSHIP) (2)	Contractor (KTR)
Non-CNO Public (3)(4)	RMC / NSY	RMC / NSY / Fleet Maintenance Activity (FMA)
Non-CNO Private (3)	RMC / SUPSHIP (2)	KTR
Emergent / Voyage Repair (4)	RMC / SUPSHIP / NSY	FMA / RMC / NSY / KTR
New Construction	SUPSHIP	KTR
Alteration Installation Team (AIT) Availabilities	RMC / SUPSHIP / NSY	FMA / RMC / NSY / AIT KTR
Other (4)	N/A	FMA / Ship's Force

1. Per OPNAVINST 4700.7
2. PHNSY&IMF and PSNSY&IMF are also considered RMCs
3. Examples of Non-CNO avails are Continuous Maintenance Avail, Fleet Maintenance Activity Availability (refer to JFMM, Vol II, Part 1, Chap 4)
4. Tenders, NSSF, TRF and Ship's Force are not NSA's. If the FMA is executing work the FMA will be the LMA. The Fleet Maintenance Officer may designate an NSA if necessary.



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Lessons Learned

- Keep the momentum going
 - 1st half enthusiasm may be gone
 - Getting ready to undock
 - Equipment installation in full swing
 - Most new work discovered
 - Test program picking up
- 2nd half momentum obstacles
 - Technical deficiencies in documentation
 - Critical path changes daily
 - Test deficiencies discovered during SOVTs
 - S/F manning insufficient for all required evolutions including training
 - S/F personnel changeout resulting in inexperienced personnel
 - Scheduling of required inspection teams
 - Material failures during waterborne testing with no parts available
- 2nd half momentum helpers
 - **GOOD COMMUNICATION!**
 - Build on relationships grown over the availability
 - Project team links with representatives from key organizations
 - Engineering and Planning Shops, Planning Yard, Test Engineering, Supply, CHENG, CSO
 - S/F trained & ready for equipment test
 - Berthing compartments and galley ready for move aboard (habitability)
 - Keep Supply Department informed of material needs
 - Track completion items, identify risks to completion
 - Fast Cruise discrepancies – find out ASAP
 - Sea Trials – stay at sea!



Summary

- Who directs the project planning and management, job planning, and job sequencing and scheduling processes for public shipyard availabilities?
- Which public shipyard management team member is responsible for obtaining funding, identifying authorized work, and working directly with customer on issues of cost and schedule?
- Who is the RMC management team member that serves as the maintenance team leader?
- What are the typical execution phases of an availability?
- Who is responsible for certifying work accomplished during an availability?