

# **N7 Engineering Academy Syllabus for Maintenance Availability Planning and Management, Drydocking, and Logistics**

## **Course Content**

This course provides an in-depth introduction to MSC maintenance availability planning and management policies and practices, MSC configuration management policies and practices, MSC logistics programs, MSC drydocking policies and practices, nondestructive testing for ship repair, and DOD scrap and salvage policies and procedures. This course consists of the following modules:

- MSC Availability Planning
- MSC Availability Management
- MSC Configuration Management
- MSC Corrective Maintenance Logistics System (CMLS)
- ShipCLIP
- LogiQuest
- Nondestructive Testing
- Scrap and Salvage
- Drydocking
- Weight Control and Ship's Stability

## **Target Audience**

The target audience for this course is new-hire Principal Port Engineers and Assistant Port Engineers. This course is also appropriate for other new-hire N7 personnel, as well as experienced N7 personnel who want to attain proficiency, or refresh their proficiency in certain subject matter areas.

## **Pre-Requisites**

Completion of:

- Introduction to Military Sealift Command course
- MSC Regulatory Standards, Inspections, Maintenance Availability Overview, and Engineering Budgets course

- Government Contracting, RCA, RCM, and ENCON course
- MSC Work Item Writing Fundamentals course
- MSC Work Item Estimating Fundamentals course

### Administration

The class size is limited to 25 students, and enrollment is on a first come, first served basis. You can self-register for this course online at <http://mscn7training.com>.

### Schedule

This course is conducted over a period of three consecutive days. Classes begin at 8:00 AM and end at 5:00 PM each day. The schedule for the course modules is as follows:

Day One	0800-1200	MSC Availability Planning
	1300-1700	MSC Availability Management
Day Two	0800-0900	Nondestructive Testing
	0900-1000	Scrap and Salvage
	1000-1200	MSC Configuration Management
	1300-1600	Drydocking
	1600-1700	Weight Control and Ship's Stability
Day Three	0800-0900	MSC Corrective Maintenance Logistics System (CMLS)
	0900-1000	ShipCLIP
	1000-1100	LogiQuest

### Module Descriptions:

**MSC Availability Planning** - The topics covered in this module include: types of MSC maintenance availabilities (ROH, MTA, VRR period, and conversion), notional MSC 5-year maintenance availability cycle, MSC's maintenance

availability planning activities (availability planning management, work package development, ship's crew planning, and PENG preparations).

**MSC Availability Management** - The topics covered in this module include: roles and responsibilities of key personnel (PPE, APE, ACO, N4 ILS representative, Master, Chief Engineer, and Technical Points of Contact); pre-availability activities (post-award conference, facility familiarization, reviewing contractor's production schedule, GFM inventory, preliminary meetings with contractor, contacting local American Bureau of Shipping (ABS) and U.S. Coast Guard (USCG) Marine Inspection offices, and pre-availability major equipment/systems inspections); maintenance availability activities (monitoring contractor activities, overseeing OMT activities, and maintaining contract execution documentation); and post-availability activities (Availability Completion Report, Post-Overhaul Analysis Report, Contractor Performance Assessment Report, Government Property Report, and warranty).

**Nondestructive Testing:** The topics covered in this module include: visual testing, hydrostatic testing, bubble leak testing, pressure drop testing, magnetic particle testing, liquid penetrant testing, ultrasonic testing, vibration testing, thermal / infrared testing, eddy current testing, and radiographic testing.

**Scrap and Salvage:** The topics covered in this module include: DOD Integrated Recycling and Solid Waste Management, DOD hierarchy of waste management approaches, Defense Materiel Disposition Program, Defense Logistics Agency Disposal Services, and materiel disposition terminology.

**MSC Configuration Management:** The topics covered in this module include: definition of configuration, MSC configuration management policy, MSC Configuration Data Management Program (CDMP), configuration management elements, roles and responsibilities of key configuration management players ashore and afloat, and MSC configuration management programs (Configuration Data Manager's Database - Open Architecture (CDMD-OA), Configuration and Logistics Information Program (CLIP), ShipCLIP, Corrective Maintenance and Logistics System (CMLS), and configuration status accounting)

**Drydocking:** The topics covered in this module include: types of drydocks, drydock evaluation, docking plans, docking calculations, blocking arrangements, docking conference, dock inspection, docking evolution (including positioning the ship, and inspecting block positions and hull condition after the dry dock is dry), monitoring block condition while ship is dry docked, monitoring weight changes (i.e., additions, removals, and changes in position) while ship is dry docked, monitoring temporary openings and closures while ship is dry docked, undocking conference, reviewing contractor's

stability calculations prior to undocking, inspecting seachests and sea valves prior to undocking, monitoring compartments and tanks below the waterline while flooding the dry dock, and Docking Report (NAVSEA 9997/1-4).

**Weight Control and Ship's Stability:** The topics covered in this module include: weight control considerations associated with ship maintenance, repair, and alterations; impact of improper weight control on ship's stability; and the Cargomax stability and trim program used onboard MSC government-owned vessels.

**MSC Corrective Maintenance Logistics System (CMLS):** The topics covered in this module include: interface with SAMM and PENG, processing requisitions for material and services required to operate, maintain, repair, and overhaul shipboard systems, equipment, and components; tracking status of requisitions; processing and tracking configuration changes; procuring materials and services via MSC commodities contracts to support operation, maintenance, repair, and overhaul of shipboard systems, equipment, and components; and managing MSC material inventory.

**ShipCLIP:** The topics covered in this module include: create and manage user accounts; perform searches of configuration, logistics and inventory information; create parts requests; create and review feedback; create and review commodities request; and locate ShipCLIP Help files to support usage of the software.

**LogiQuest:** The topics covered in this module include: government and commercial logistics databases, available logistics information (e.g., NIIN, NICN, NSN, part numbers, characteristics, suppliers, procurement history, and replacement and alternate parts), search capabilities, and report capabilities.

Date	Version	Description	Author
5/5/19	0.0	Initial draft	Gary Fields
6/23/19	1.0	Revised curriculum based upon meeting with MSC (Al Ronald) on 13 June 2019	Gary Fields

8/15/19	1.1	Revised course name, curriculum, target audience, and prerequisites per discussion with Al Ronald (MSC N7X Competency	Gary Fields
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