DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
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OPNAV NOTICE 4700

From: Chief of Naval Operations

Subj: REPRESENTATIVE INTERVALS, DURATIONS, MAINTENANCE CYCLES, AND REPAIR MANDAYS FOR DEPOT LEVEL MAINTENANCE AVAILABILITIES OF U.S. NAVY SHIPS

Ref: (a) OPNAVINST 4700.7K
(b) OPNAVINST 3120.33B
(c) NAVSEA ltr ser 05D/032 of 7 May 03 (Surface Ship Docking Cycles)
(d) OPNAVINST 4780.6E
(e) CNSF ltr 4700 Ser N43/0453 of 23 Jun 08
(f) CNSF ltr 4700 Ser N43/0994 of 15 Dec 08
(g) CNSF ltr 4700 Ser N43/0009 of 07 Jan 09
(h) NAVSEA ltr Ser SEA 21/306 of 13 Mar 09 (Proposed TYCOM representative availabilities adjustment for DDG-51 CLASS; LHD-1 CLASS; CG-47 CLASS; LSD-41/49 CLASS; AND FFG-7 CLASS)
(i) LHA/LHD/LPD-4 Class Squadron ltr Ser N00/055 of 08 Oct 08 (Change to Notional Duration of Planned Maintenance Availability (PMA) Periods for LHA/LHD/LPD-4 Class Ships)

Encl: (1) Representative Intervals, Durations, Maintenance Cycles and Repair Mandays for Depot Level Maintenance Availabilities
(2) Availability types, Class notes, List of RMC Ship Class I-Level Requirement & Material Unit Costs
(3) List of Maintenance Terms and Definitions

1. Purpose.

a. To promulgate PR-11 maintenance cycles, availability intervals, durations, material unit costs, and repair mandays for U.S. Navy ships except for those operated and maintained by the Military Sealift Command.

b. To provide a detailed description of availability types and current maintenance terms.

2. Cancellation. OPNAVNOTE 4700 Ser N431G/80157630 of 25 September 2008.

3. Background. Reference (a), Maintenance Policy for Naval Ships, establishes the policies and responsibilities for planning, programming, budgeting, scheduling, performing, and evaluating maintenance of ships. References (b), Submarine Engineered Operating Cycle (SEOC) Program, (c), Surface Ship Docking Cycles, and (d), Procedures for Administering Service Craft and Boats in the U.S. Navy. References (e) through (h) established tailored CNO availability maintenance manday notionals for CG-47, DDG-51, FFG-7, LHD-1 & LSD-41/49 Classes. Reference (i) requested increased PMA availability notional duration on LHA-1, LHD-1 and LPD-4 class PMA’s.

a. Maintenance cycles are derived annually from the combination of representative intervals and durations.

b. Changes in this notice include:

(1) Major changes in durations, intervals, maintenance cycles, and notional mandays were made in the following classes:

CG-47	FFG-7	DDG-51	LSD-41/49
LHA-1	LHD-1	LCS-1	LPD-4
SSGN-726	SSN-774		

4. Policy. Chief of Naval Operations (CNO) requirements for the accomplishment of ship and submarine maintenance are contained in references (a) through (d).

5. Definitions and Procedures.

a. Maintenance cycle is defined as the period of time that starts after the completion of a ship's overhaul (or docking availability, when no overhaul availabilities are included in the maintenance plan) and ends after completion of the next overhaul or docking availability. For new construction or conversion ships, the maintenance cycle starts after completion of the post shakedown availability or as defined in the ship's class maintenance plan.

b. Interval is defined as the period from the completion of the prior scheduled depot availability to the start of the next scheduled depot availability.

c. Duration is defined as the period from the start of the availability to its completion.

d. Repair Mandays are those Type Commander depot maintenance mandays typically accomplished by the executing activity to satisfactorily complete the type of availability indicated. Repair mandays include Fleet alteration mandays normally accomplished during the availability.

(1) Submarine repair notional mandays are derived from approved technical foundation papers and repair estimates that are based on the Class Maintenance Plan (CMP). Technical foundation papers are reviewed and analyzed by Submarine Team One.

(2) Surface ship repair notional mandays are derived from the CMP and the Maintenance Resource System (MRS).

(3) Aircraft carrier repair notional mandays are derived from Aircraft Carrier Class Maintenance Plan (ACCMP) for ships under the Engineered Operating Cycle (EOC) or Progressive Maintenance (PROG), or Incremental Maintenance Plan (IMP), as applicable, and repair estimates that are reviewed and analyzed by Carrier Team One.

(4) The notional durations and mandays specified in enclosure (1) provide the best estimates for long range planning and programming. These estimates should be adjusted for near year availabilities based on each ship’s specific material condition, approved program alterations, and depot loading.

(5) Availabilities will not be scheduled in the year prior to decommissioning unless required to support planned operations. Availability scope will be based on a technical evaluation of the ship’s condition and will be limited to the mandatory maintenance needed to support operations.

(6) Deviation from the notional surface ship and aircraft carrier depot availability interval to accommodate changes in a ship’s employment schedule or to facilitate depot work loading is authorized as follows:

Period from start of maintenance cycle to start of availability	Allowable Deviation
0-32 months	± 3 months
33-44 months	± 4 months
45-56 months	± 5 months
57-68 months	± 6 months
Greater than 68 months	± 7 months

e. Allowable deviations for submarine depot availabilities to the chart above are specified in reference (b).

f. In accordance with reference (a), all depot availability schedule changes shall be coordinated among cognizant Type Commanders (TYCOMs), U.S. Fleet Forces (USFF), COMNAVSEASYSCOM (SEA-04 and applicable Program Executive Office (PEO), and SEA-08 for nuclear-powered ships or ships with nuclear support facilities) and OPNAV N43.

g. Recommended revisions to notional durations, maintenance cycles, intervals, material unit cost factors, and mandays shall be submitted to COMNAVSEASYSCOM (SEA-04, SEA-05, SEA-07, applicable PEO, and SEA-08 for nuclear-powered ships or ships with nuclear support facilities). COMNAVSEASYSCOM shall coordinate reviews of the recommended revisions and provide recommendations to OPNAV 43 with rationale for approval or disapproval via the applicable Force Commander and USFF.

h. Fleet alterations are programmed and budgeted as part of the TYCOM depot maintenance requirement. Fleet alterations should address safety of personnel and/or equipment, or should provide increased efficiency, reliability, or maintainability of existing components or systems that provide a positive return on investment (ROI). Fleet funded modernization does not normally increase or add new capabilities.

(1) OPNAV N43 will publish annual fleet alteration budget guidance. In order to ensure Ship Depot maintenance funding is primarily used to support maintenance requirements that sustain platform service life detailed justification that considers both the projected ROI and the impact of Fleet maintenance that will not be accomplished, will be required prior to OPNAV N43 approval of Fleet alterations that exceed the published guidance.

6. Action. TYCOMs, USFF, COMNAVSEASYSCOM, warfare enterprises, and CNO sponsors are to implement this guidance in conjunction with the detailed policy provided in references (a) through (d).

7. Cancellation Contingency. Upon issuance of next notice.

P.H. CULLOM
Director
Fleet Readiness Division

REPRESENTATIVE INTERVALS, DURATIONS, MAINTENANCE CYCLES, AND REPAIR MANDAYS FOR DEPOT LEVEL MAINTENANCE AVAILABILITIES

CLASS	MAINT STRATEGY	TYPE AVAIL	REP. DURATION (MOS)	REP. INTERVAL (MOS)	MAINT CYCLE (MOS)	REP. MANDAYS (000)	SHIP TIME LINE NUMBERS INDICATE MONTHS
AFDL 1	ROH	SCO	3	72	75	13.6	SCO| -----| SCO| 0 72 75
ARDM CL	ROH	SCO	6	72	78	40.0	SCO| -----| SCO| 0 72 78
AS 39	PM	DPMA PMA	4 3	96 30	100	UNIQUE UNIQUE	DPMA| ----| PMA| ----| PMA| ----| DPMA| 0 30 33 63 66 96 100
CG 47 CL NOTES 1 & 9	PROG	DMP EDSRA DSRA ESRA SRA CM	12 8 2 4.5 2	N/A N/A 106 N/A 25	N/A	55.3 46.2 30.2 20.2 12.2 3.7	PSA| -----| SRA| -----| SRA| -----| SRA| 0 25 27 52 54 79 81 -----| DSRA| -----| SRA| -----| SRA| -----| 106 108 133 135 160 162 187 SRA| -----| DMP| -----| SRA| -----| SRA| 189 216 228 253 255 280 282 -----| SRA| -----| DSRA| -----| SRA| -----| 307 309 334 336 361 363 388 SRA| -----| INACT| 390 420
CG-47 CL (FDNF)	PROG	DSRA SRA CM	2 2	83 15	85	14.0 9.0 5.1	DSRA| ----| SRA| ----| SRA| ----| SRA| 0 15 17 32 34 49 51 ----| SRA| ----| DSRA| 66 68 83 85

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CLASS	MAINT STRATEGY	TYPE AVAIL	REP. DURATION (MOS)	REP. INTERVAL (MOS)	MAINT CYCLE (MOS)	REP. MANDAYS (000)	TIME LINE NUMBERS INDICATE MONTHS
CVN 65 NOTE 2	EOC	ESRA1 ESRA2 ESRA3 EDSRA1 EDSRA2 EDSRA3	6 6 6 10.5 10.5 10.5	18 21 21 66 67.5 67	81	190.2 226.3 261.3 401.2 401.2 462.8	PSA| ----| ESRA1| ----| EDSRA1| 0 18 24 42 52.5 ----| ESRA2| ----| ESRA2| ----| EDSRA2| 70.5 76.5 97.5 103.5 120 130.5 -----| ESRA3| ----| INACT 153 159.5 178.5
CVN 68 (FDNF)	PROG	SRA	4	8		109	SRA| ----| SRA| ----| SRA| ----| SRA| 0 8 12 20 24 32 36 ----| SRA| ----| SRA| 44 48 56 60
CVN 68 CL NOTES 3, 10 & 12	IMP	RCOH DPIA1 DPIA2 DPIA3 PIA1 PIA2 PIA3 PSA-SRA CIA 1 CIA 2 CIA 3	39 10.5 10.5 10.5 6 6 6 1 1 1	 85.5 85.5 85.5 26 26 26 	 96 	3,267.3 255.8 308.9 356.6 146.2 173.8 201.4 INCLUSIVE 9.0 10.6 12.2	PSA-SRA| -----| PIA1| -----| PIA1| -----| DPIA2| 0 26 32 58 64 85.5 96 ---| PIA2| ----| PIA2| ----| DPIA3| ----| 122 128 154 160 181.5 192 218 PIA3| ----| PIA3| ----| RCOH| -----| PIA2| 250 256 288 0 26 32 ------| PIA2| -----| DPIA3| ----| PIA3 ----| 58 64 85.5 96 122 128 154 PIA3| ----| DPIA3| ----| PIA3| ----| PIA3| 160 181.5 192 218 224 250 256 ----| INACT 288

REPRESENTATIVE INTERVALS, DURATIONS, MAINTENANCE CYCLES, AND REPAIR MANDAYS FOR DEPOT LEVEL MAINTENANCE AVAILABILITIES

CLASS	MAINT STRATEGY	TYPE AVAIL	REP. DURATION (MOS)	REP. INTERVAL (MOS)	MAINT CYCLE (MOS)	REP. MANDAYS (000)	TIME LINE NUMBERS INDICATE MONTHS
DDG 51 NOTE 1	PROG	EDSRA DSRA SRA CM	6 2 2	216 106 25	222 108	47.6 30.9 6.5 2.2	PSA| -----| SRA| -----| SRA| -----| SRA| 0 25 27 52 54 79 81 -----| DSRA| -----| SRA| -----| SRA| -----| 106 108 133 135 160 162 187 SRA| -----| EDSRA| -----| SRA| -----| SRA| 189 216 222 247 249 274 276 -----| SRA| -----| DSRA| -----| SRA| -----| 301 303 328 330 355 357 382 SRA| -----| INACT| 384 420
DDG 51 (FDNF)	PROG	DSRA SRA CM	2 2	83 15	85	17.0 7.4 3.8	DSRA| ----| SRA| ----| SRA| ----| SRA| 0 15 17 32 34 49 51 ----| SRA| ----| DSRA| 66 68 83 85
DDG 1000 NOTE 1	PROG	DSRA SRA CM	2 2	133 25	135	22.4 5.1 8.6	PSA| ----| SRA| ----| SRA| ----| SRA| 0 25 27 52 54 79 81 ----| SRA| ----| DSRA| 106 108 133 135

REPRESENTATIVE INTERVALS, DURATIONS, MAINTENANCE CYCLES, AND REPAIR MANDAYS FOR DEPOT LEVEL MAINTENANCE AVAILABILITIES

CLASS	MAINT STRATEGY	TYPE AVAIL	REP. DURATION (MOS)	REP. INTERVAL (MOS)	MAINT CYCLE (MOS)	REP. MANDAYS (000)	TIME LINE NUMBERS INDICATE MONTHS
FFG 7 CL NOTES 1 & 13	PROG	DSRA SRA CM	2 2	94 22	96	17.7 9.7 2.5	DSRA| 0 -----| 94 ----| 22 DSRA| 96 SRA| 24 -----| 46 SRA| 48 -----| 70 SRA| 72
LCC 19 (FDNF)	PROG	DSRA SRA CM	3 2	81 9.5	84	28.5 12.0 3.0	DSRA| 0 ----| 46 DSRA| 84 ----| 10 SRA| 48 SRA| 12 -----| 58 SRA| 22 -----| 60 SRA| 24 -----| 70 SRA| 34 -----| 72 SRA| 36 -----| 81
LCS 1 LM VER NOTE 1	PROG	DSRA SRA CM	2 2	106 25	108	12.1 2.9 1.1	PSA| 0 -----| 106 -----| 25 DSRA| 108 SRA| 27 -----| 52 SRA| 54 -----| 79 SRA| 81
LCS 1 GD VER NOTE 1	PROG	DSRA SRA CM	2 2	52 25	54	12.1 2.9 1.1	PSA| 0 -----| 25 SRA| 27 -----| 52 DSRA| 54
LHA 1 CL NOTE 1	PM	DPMA PMA CM	6 3.5	129 23.5	135	127.8 47.4 14.2	DPMA| 0 ----| 106 ----| 23.5 PMA| 106.5 PMA| 27 ----| 129 -----| 50.5 DPMA| 135 PMA| 54 -----| 77.5 PMA| 81

REPRESENTATIVE INTERVALS, DURATIONS, MAINTENANCE CYCLES, AND REPAIR MANDAYS FOR DEPOT LEVEL MAINTENANCE AVAILABILITIES

SHIP CLASS	MAINT STRATEGY	TYPE AVAIL	REP. DURATION (MOS)	REP. INTERVAL (MOS)	MAINT CYCLE (MOS)	REP. MANDAYS (000)	TIME LINE NUMBERS INDICATE MONTHS
LHA 6 CL NOTE 1	PM	DPMA PMA CM	6 3.5	129 23.5	135	127.8 47.4 14.2	PSA| 0 ----| 106 ----| 25 PMA| 108 PMA| 27 ----| 129 -----| 52 DPMA| 135 PMA| 54 -----| 79 PMA| 81
LHD 1 CL NOTES 1 & 4	CM	DPMA PMA CM	6 3.5	129 23.5	135	98.5 34.1 14.2	DPMA| 0 ----| 106 ----| 23.5 PMA| 106.5 PMA| 27 ----| 129 -----| 50.5 DPMA| 135 PMA| 54 -----| 77.5 PMA| 81
LHD 1 CL (FDNF)	PROG	DSRA SRA CM	5 3	137 21	142	102.0 39.0 21.7	DSRA| 0 ----| 93 ----| 21 SRA| 96 SRA| 24 -----| 117 -----| 45 SRA| 120 SRA| 48 -----| 139 -----| 69 DSRA| 144 SRA| 72
LHD 8 CL NOTE 1	CM	DPMA PMA CM	6 2	129 25	135	102.0 39.0 21.7	PSA| 0 ----| 106 ----| 25 PMA| 108 PMA| 27 ----| 129 -----| 52 DPMA| 135 PMA| 54 -----| 79 PMA| 81
LPD 17 CL NOTE 1	PM	DPMA PMA CM	4 2	104 25	108	38.3 28.2 6.9	PSA| 0 ----| 104 ----| 25 DPMA 108 PMA 27 -----| 52 PMA| 54 -----| 79 PMA 81
LPD 17 CL (FDNF)	PROG	DSRA SRA CM	4 2	116 22	120	39.0 27.8 10.1	DSRA| 0 ----| 94 ----| 22 SRA| 96 SRA| 24 -----| 116 -----| 46 DSRA| 120 SRA| 48 -----| 70 SRA| 72

REPRESENTATIVE INTERVALS, DURATIONS, MAINTENANCE CYCLES, AND REPAIR MANDAYS FOR DEPOT LEVEL MAINTENANCE AVAILABILITIES

SHIP CLASS	MAINT STRATEGY	TYPE AVAIL	REP. DURATION (MOS)	REP. INTERVAL (MOS)	MAINT CYCLE (MOS)	REP. MANDAYS (000)	TIME LINE NUMBERS INDICATE MONTHS
LPD 4 CL NOTE 1	PM	DPMA PMA CM	4 3.5	106 25	110	53.0 24.6 6.3	DPMA| 0 -----| 106 -----| 23.5 DPMA| 110 PMA| 27 -----| 50.5 PMA| 54 -----| 77.5 PMA| 81
LPD 4 CL (FDNF)	PROG	DSRA SRA CM	4 3.5	92 22	96	52.0 29.0 9.5	DSRA| 0 ----| 92 ----| 20.5 DSRA 96 SRA| 24 -----| 44.5 SRA| 48 -----| 68.5 SRA 72
LSD 41 CL NOTE 1	PM	EDPMA DPMA PMA CM	8 4 2	216 104 25	224 108 27	86.1 39.6 28.2 6.9	PSA| 0 -----| 104 PMA| 189 -----| 303 PMA| 386 -----| 25 DPMA| 108 -----| 216 PMA| 305 -----| PMA| 27 -----| 133 EDMPA| 224 -----| 328 INACT| 420 -----| 52 PMA| 135 -----| 249 DPMA| 332 PMA| 54 -----| 160 PMA| 251 -----| 357 PMA| 81 -----| 187 PMA| 278 -----| 384
LSD 41 CL (FDNF)	PROG	DSRA SRA CM	4 2	92 22	96	41.5 31.0 10.3	DSRA| 0 -----| 92 -----| 22 DSRA| 96 SRA| 24 -----| 46 SRA| 48 -----| 70 SRA| 72

REPRESENTATIVE INTERVALS, DURATIONS, MAINTENANCE CYCLES, AND REPAIR MANDAYS FOR DEPOT LEVEL MAINTENANCE AVAILABILITIES

SHIP CLASS	MAINT STRATEGY	TYPE AVAIL	REP. DURATION (MOS)	REP. INTERVAL (MOS)	MAINT CYCLE (MOS)	REP. MANDAYS (000)	TIME LINE NUMBERS INDICATE MONTHS
LSD 49 CL NOTE 1	PM	EDPMA DPMA PMA CM	8 4 2	102 106 25	110	86.1 39.6 28.2 6.9	PSA| 0 -----| 104 PMA| 189 -----| 303 PMA| 386 -----| 25 DPMA| 108 -----| 216 PMA| 305 -----| PMA| 27 -----| 133 EDMPA| 224 -----| 328 INACT| 420 -----| 52 PMA| 135 -----| 249 DPMA| 332 54 PMA| 160 PMA| 251 -----| 357 79 -----| PMA| 162 -----| 276 PMA| 359 81 -----| 187 PMA| 278 -----| 384
LSD 49 CL (FNDF)	PROG	DSRA SRA CM	4 2	92 22	96	41.5 31.0 10.3	DSRA| 0 ----| 92 ----| 22 DSRA 96 SRA| 24 -----| 46 SRA| 48 -----| 70 SRA 72
MCM 1 CL NOTE 1	PM	DPMA PMA CM	2 2	70 22	72	6.4 4.3 1.1	DPMA| 0 ----| 22 PMA| 24 -----| 46 PMA| 48 ----| 70 DPMA| 72
MCM 1 CL (FDNF)	PROG	DSRA SRA CM	2 2	70 22	72	7.0 4.3 2.2	DSRA| 0 ----| 22 SRA| 24 -----| 46 SRA| 48 ----| 70 DSRA| 72
MTS 626 & 635	EOC	DEMA PEMA	7 2	113 41/47	120	82.0 22.0	DEMA| 0 ----| 41 PEMA| 43 ----| 90 PEMA| 92 ----| 113 DEMA| 120
PC 1 CL NOTE 1	PM	DPMA CM	2	34	36	4.1 .4	DPMA| 0 ----| 34 DPMA| 36 -----| 70 DPMA| 72
PC 1 CL (FDNF)	PM	DPMA CM	2	34	36	4.1 1.0	DPMA| 0 ----| 34 DPMA| 36 -----| 70 DPMA| 72

REPRESENTATIVE INTERVALS, DURATIONS, MAINTENANCE CYCLES, AND REPAIR MANDAYS FOR DEPOT LEVEL MAINTENANCE AVAILABILITIES

SHIP CLASS	MAINT STRATEGY	TYPE AVAIL	REP. DURATION (MOS)	REP. INTERVAL (MOS)	MAINT CYCLE (MOS)	REP. MANDAYS (000)	TIME LINE NUMBERS INDICATE MONTHS
SSBN 726	EOC	ERP	4	168		33.0	DEL| -----| ERP| -----| ERO| -----| ERP|
CL		ERO	27	252	279	390.0	0 168 172 252 0 120 124
NOTE 5		ERP	4	120		33.6	-----| INACT|
							240
SSGN 726	EOC	ERP	4	120		33.6	CONV| -----| ERP| -----| INACT|
CL NOTES 5 & 11							120 124 240
SSN 21	EOC	EDSRA-1	12	48	60	80.0	EDSRA1| -----| DMP| -----| EDSRA2| -----| EOH|
CL		DMP	18	48	66	219.0	0 48 0 48 60 108 0
NOTES		EDSRA-2	12	48		126.0	-----| EDSRA3| -----| INACT|
5, 6, 8		EOH	14	108	122	173.0	48 60 108
		EDSRA-3	12	48		119.0	
SSN 23	EOC	DPMA	3	24	27	41.0	DEL| -----| DPMA| -----| DSRA| -----| DPMA|
CL	UNIQUE	DSRA	6	48	54	60.0	0 24 27 48 54 78 81
NOTES							-----| DPMA| -----| DSRA| -----| DPMA| -----|
5, 6, 8							102 105 126 132 156 159 180
							DPMA| -----| DSRA| -----| DPMA| -----| DPMA|
							183 204 210 234 237 258 261
							-----| DSRA| -----| DPMA | -----| DPMA| -----|
							282 288 312 315 336 339 360
							INACT|

REPRESENTATIVE INTERVALS, DURATIONS, MAINTENANCE CYCLES, AND REPAIR MANDAYS FOR DEPOT LEVEL MAINTENANCE AVAILABILITIES

SHIP CLASS	MAINT STRATEGY	TYPE AVAIL	REP. DURATION (MOS)	REP. INTERVAL (MOS)	MAINT CYCLE (MOS)	REP. MANDAYS (000)	TIME LINE NUMBERS INDICATE MONTHS
SSN 688	EOC	DSRA1-3	2.6	48		28.5	ERO| -----| DSRA1-3 -----| DSRA2-3 -----| INACT|
CL		DSRA2-3	3.3	48		35.0	0 48 50.6 98.6 101.9 120
-688-718		INACT					
NOTES							
5 - 8							
SSN 688	EOC	DMP	13	120	133	145.0	DMP| -----| DSRA1-2 -----| DSRA2-2 -----| EOH|
CL		DSRA1-2	3	48		31.5	0 48 51 99 102 120 0
719-773		DSRA2-2	3	48		31.5	-----| DSRA1-3| -----| DSRA2-3| -----| INACT|
NOTES		EOH	16.6	120	136.6	215.6	48 50.6 98.6 101.9 120
5 - 8		DSRA1-3	2.6	48		28.5	
		DSRA2-3	3.3	48		35.0	
		INACT					
SSN 774	EOC	EDSRA1	15	48	63	203.0	PSA| -----| EDSRA1| -----| EDSRA2| -----| EDSRA3|
CL		EDSRA2	15	72	87	220.0	0 48 0 72 0 72 0
774-781		EDSRA3	15	72	87	215.0	-----| EDSRA4| -----| INACT|
NOTES		EDSRA4	15	72	87	189.0	72 0 52
5,6,8		INACT					
SSN 774	EOC	EDSRA1	12	48	60	140.0	PSA| -----| EDSRA1| -----| EDSRA2| -----| EDSRA3|
CL		EDSRA2	16	72	88	228.0	0 48 0 72 0 72 0
782 AND		EDSRA3	13	72	85	182.0	-----| EDSRA4| -----| INACT|
ABOVE		EDSRA4	15	72	87	184.0	72 0 64
NOTES		INACT					
5,6,8 and 14							

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REPRESENTATIVE INTERVALS, DURATIONS, MAINTENANCE CYCLES, AND REPAIR MANDAYS FOR DEPOT LEVEL MAINTENANCE AVAILABILITIES

FLEET CODES

FDNF	FORWARD DEPLOYED NAVAL FORCES

AVAILABILITY TYPES

CM	CONTINUOUS MAINTENANCE	IDD	INTERIM DRY-DOCKING
COH	COMPLEX OVERHAUL	IDSRA	INCREMENTAL DOCKING SELECTED RESTRICTED AVAILABILITY
CIA	CARRIER INCREMENTAL AVAILABILITY	INAC	INACTIVATION AVAILABILITY
DCM	DRYDOCK CONTINUOUS MAINTENANCE	IRR	COMBINED INACTIVATION, REACTOR COMPARTMENT DISPOSAL AND HULL RECYCLING AVAILABILITY
DEMA	DOCKING EXTENDED MAINTENANCE AVAILABILITY	ISRA	INCREMENTAL SELECTED RESTRICTED AVAILABILITY
DMP	DEPOT MODERNIZATION PERIOD	MMP	MAJOR MAINTENANCE PERIOD (SSGN ONLY)
DPIA	DOCKING PLANNED INCREMENTAL AVAILABILITY	PEMA	PIERSIDE EXTENDED MAINTENANCE AVAILABILITY
DPMA	DOCKING PHASED MAINTENANCE AVAILABILITY	PIRA	PRE-INACTIVATION RESTRICTED AVAILABILITY
DSRA	DOCKING SELECTED RESTRICTED AVAILABILITY	PIA	PLANNED INCREMENTAL AVAILABILITY
EDPMA	EXTENDED DRYDOCKING PHASED MAINTENANCE AVAILABILITY	PMA	PHASED MAINTENANCE AVAILABILITY
EDSRA	EXTENDED DRYDOCKING SELECTED RESTRICTED AVAILABILITY	PSA	POST SHAKEDOWN AVAILABILITY
EOH	ENGINEERED OVERHAUL	RCOH	REFUELING COMPLEX OVERHAUL
ERO	ENGINEERED REFUELING OVERHAUL	ROH	REGULAR OVERHAUL
ERP	EXTENDED REFIT PERIOD	SCO	SERVICE CRAFT OVERHAUL
ESRA	EXTENDED SELECTED RESTRICTED AVAILABILITY	SRA	SELECTED RESTRICTED AVAILABILITY

MAINTENANCE STRATEGIES

EOC	ENGINEERED OPERATING CYCLE
PM	PLANNED MAINTENANCE
PROG	PROGRESSIVE MAINTENANCE
IMP	INCREMENTAL MAINTENANCE PLAN

NOTES:

1. Surface ship notional dry docking intervals may be extended to 144 months provided the repairs and modifications outlined in reference (c) have been performed. Specific areas addressed include underwater hull and freeboard; sea chests; tanks and voids; propulsion shaft outboard bearings; propulsion shaft covering; rudders, bearings, and seals; controllable pitch propeller (CPP); and cathodic protection system. Notional dry docking interval will remain at 96 months for FFG-7 Class and 108 Months for other classes unless otherwise noted in Enclosure (1) until this work is completed. Subsequent dry docking intervals will be extended to 144 months based on the assumption that any remaining work required to extend the dry docking cycle will be completed during the next scheduled docking availability.

a) Docking availabilities conducted in Mayport, Florida are split into a docking phase and topside/non-docking phase. The average extension for these split availabilities for each ship class follows:

- CG - 2 months
- DDG - 1.5 months
- FFG - 1 month

2. USS ENTERPRISE (CVN 65) has its own specifically designed Incremental Maintenance Plan (IMP). It closely follows the IMP for the CVN 68 Class, but uses different names for the availabilities; e.g., ESRA and EDSRA. Following its FY08 EDSRA, CVN 65 will follow its Remaining Service Life Plan of scheduled continuous maintenance periods in FY10, 11, and 12.

3. The USS NIMITZ Class RCOH notionally occurs at the third required docking period but will be scheduled based on an evaluation of actual ship condition including fuel depletion. The post-RCOH Management Plan has been changed to increase Ao by eliminating the four-month SRA/PSA. Work executed in the SRA/PSA will be incorporated into the RCOH Availability Work Package (AWP) or into a post RCOH CIA.

4. USS IWO JIMA (LHD 7) will be on a 10-year docking cycle due to new construction installation of 10-year shaft preservation system.

5. Refer to OPNAVINST 3120.33B for SSN and SSBN operating cycles, maintenance strategies and extension requirements.

6. Notional mandays and duration of submarine INAC/IRR availabilities vary by hull and are determined by SUBMEPP for NAVSEA PMS392, and are then entered into the Fleet Modernization Program Management Information System (FMPMIS). A submarine PIRA is a hull-specific availability used to establish a final, abbreviated OPCYCLE prior to inactivation if required. An IDD is a hull specific availability used to establish an abbreviated OPCYCLE prior to overhaul. Based on the length of the abbreviated operation cycle use the following for notional mandays.

a. 6-17 months - 20,000 mandays (2 Months duration)
b. 18-23 months – 30,000 mandays (3 Months duration)
c. 24-48 months – 65,000 mandays (6 Months duration)

7. For SSN-688 class submarine availabilities the notional manday values will be modified in accordance with the process detailed in Commander, Submarine Force ltr 4700 Ser N00/0308 of 28 August 2007; Subj: OPNAV NOTICE 4700 CHANGE RECOMMENDATION – SSN 688 CLASS DEPOT AVAILABILITIES.

8. Required repair mandays for FY10 & FY11 SSN availabilities were determined based on the notional requirement modified by the projected cost of known work to be completed.

9. The CG-47 Class DMP’s, ESRA’s & EDSRA’s are scheduled to support CG modernization availabilities.

10. Each Carrier Operational Cycle contains two Carrier Incremental Availabilities (CIA) of nominal 30-day length. Each CIA has notional mandays as follows: CIA1 9K MDs, CIA2 10.6K MDs, and CIA3 12.2K MDs. CIA1s occur prior to PIA1s and DPIA2s. CIA2s occur prior to PIA2s and first DPIA3. CIA3s occur prior to PIA3s and second and third DPIA3s.

11. SSGN MMPs are considered as CNO availabilities for scheduling purposes only. MMPs are specifically listed in the FAST workload and Naval Shipyard CP’s. This integration will ensure they are properly entered into shipyard workload so that scheduling and execution support are entered into their employment cycles.

12. USS NIMITZ (CVN 68) will have an FY11 DPIA with an 11 month duration as opposed to previously programmed "Super-DPIA" with a 15 month duration. Work reprogrammed from the FY11 DPIA, which requires the ship to be dry docked, will be accomplished in the following availability. This follow-on availability will be an FY14 PIAd and is scheduled for a duration of nine months.

13. FFG's 42, 45, 47, 56 and 59 next DSRA notional will be adjusted to 19,300 mandays to accomplish additional shafting work.
14. SSN-774 Class hull number 782 and above will have a separate maintenance cycle effective POM-12.

Regional Maintenance Center Shipclass notional workload (Mandays)

Platform Type	Class	Active / NRF	RMC Notional
SUR	AFDL 0006	A	4,666
SUB	ARDM 0000	A	1,801
SUR	CG 0047	A	6,099
AIR	CVN 0065	A	6,808
AIR	CVN 0068	A	4,849
SUR	DDG 0051	A	3,602
SUR	DDG 1000	A	6,500
SUR	FFG 0007	A	5,315
SUR	FFG 0007	N	5,315
SUR	LCC 0019	A	3,970
SUR	LCS 0001	A	1,894
SUR	LHA 0001	A	6,829
SUR	LHA 0006	A	3,714
SUR	LHD 0001/0008	A	5,326
SUR	LPD 0004	A	4,379
SUR	LPD 0017	A	4,657
SUR	LSD 0041	A	6,229
SUR	LSD 0049	A	5,148
SUR	MCM 0001	A	1,828
SUR	PC 0001	A	1,063
SUB	SSBN 0726	A	26,646
SUB	SSGN 0726	A	21,082
SUB	SSN 0021	A	15,827
SUB	SSN 0688	A	6,555
SUB	SSN 0774	A	5,924

Note: RMC nominal workload is composed of I-Level notionals based on Ship Class Maintenance Requirement (SCMR) converted to mandays and increased by 21 percent to reflect shipyard direct charging practices for first level production supervision plus as appropriate Ship Class Technical Support Center (FTSC), Repair Supervisor of Shipbuilding (SUPSHIP), and Port Engineer requirements. Not included is the level of effort for direct support services (i.e., planning engineering, QA, project management, etc.

MATERIAL UNIT COSTS (MUC)

BY ENTERPRISE AND LOCATION					
FY	**ENT**	**MATL**	**MATL SASEBO**	**MATL YOKO**	**MATL GUAM**
2010	AIR	$153.90	N/A	$154.25	N/A
2010	SUB	$114.80	N/A	N/A	$207.04
2010	SUR	$113.14	$202.20	$203.64	N/A

REPRESENTATIVE INTERVALS, DURATIONS, MAINTENANCE CYCLES, AND REPAIR MANDAYS FOR DEPOT LEVEL MAINTENANCE AVAILABILITIES

LIST OF MAINTENANCE TERMS AND DEFINITIONS

Carrier Incremental Availability (CIA). An availability for continuous accomplishment of depot maintenance and selected modernization on CVN 68 class aircraft carriers.

Continuous Maintenance (CM). Scheduled depot level maintenance conducted outside of CNO availabilities. Continuous Maintenance for surface ships includes average unfunded technical requirements by ship class spread over a 4-year period.

Depot Modernization Period (DMP). An availability scheduled primarily for the installation of major high priority warfare improvement alterations.

Docking Extended Maintenance Availability (DEMA). Depot availability for Moored Training Ships (MTSs) for the accomplishment of maintenance and modernization that requires docking.

Docking Phased Maintenance Availability (DPMA). A PMA expanded to include maintenance and modernization that require dry-docking.

Docking Planned Incremental Availability (DPIA). A labor-intensive availability, of less than one year duration, for aircraft carriers in an Incremental Maintenance Plan. Maintenance and modernization are accomplished. Aircraft carriers assigned to Incremental Maintenance Plans are maintained through CIA’s, PIAs and DPIAs in lieu of overhauls.

Docking Selected Restricted Availabilities (DSRA). An SRA expanded to include maintenance and modernization that require dry-docking.

Drydock Continuous Maintenance (DCM). A nearly continuous availability performed on drydocks during which industrial maintenance and selected modernization maintenance is conducted when the drydock is not in use.

Engineered Operating Cycle (EOC). This maintenance philosophy keeps ships in an acceptable material condition while sustaining or increasing the operational availability of the ship, and is

earmarked by a structured engineered approach for ship maintenance while minimizing the time spent in depot-level availabilities. Major elements of the maintenance strategy include:

a. Periodic inspections of selected systems and equipment to identify and document necessary repair requirements and material condition trends.

b. Periodic maintenance tasks to be accomplished at specified times during the ship's life cycle.

c. Scheduled intra-cycle Intermediate Maintenance Availabilities (IMAVs), Drydocking SRAs (DSRAs), SRAs, and ROHs to accomplish the maintenance and modernizations required to sustain or improve the material condition of the ship.

d. Extensive modernization to maintain and upgrade the ship class war fighting capability.

Engineered Periodicities. The recommended periodicity for accomplishment of a maintenance action based upon an engineering analysis of all relevant technical maintenance history information including material condition and performance feedback data.

Extended Docking Phased Maintenance Availability (EDPMA). A DPMA expanded to include maintenance and modernization that cannot be accomplished in a DPMA.

Extended Docking Selected Restricted Availability (EDSRA). A DSRA expanded to include maintenance and modernization that cannot be accomplished in a DSRA.

Extended Refit Period (ERP). A labor-intensive period, typically lasting 4 months during which SSBNs & SSGNs accomplish maintenance and modernization which cannot be completed during a normal refit period.

Extended Selected Restricted Availability (ESRA). An SRA expanded to include maintenance and modernization that cannot be accomplished in a SRA.

Inactivation Availability (INAC). An availability assigned to prepare a ship for inactivation or disposal. The scope of work depends on the planned disposition of the ship.

Incremental Maintenance Plan (IMP). A maintenance philosophy which ensures aircraft carriers are kept in an acceptable

material condition through a series of incremental depot maintenance actions. Types of availabilities under this maintenance philosophy include CIA's, PIAs and DPIAs.

Incremental Selected Restricted Availability (ISRA). An availability for continuous accomplishment of depot maintenance and selected modernization. An availability period assigned to forward deployed mine warfare ships.

Interim Dry-Docking (IDD). A hull specific availability used to extend the operating cycle prior to the next major maintenance availability.

Major Maintenance Period (MMP). An on site non-CNO availability for SSGNs for the accomplishment of maintenance and modernization.

Maintenance Resource System (MRS). Surface ship historic average of mandays for completed CNO availabilities, deferred maintenance & continuous maintenance. Provides basis to accurately project depot maintenance budgets for POM cycle and to assess risks of deferring maintenance.

Overhaul. A major availability normally exceeding 6-months duration for the accomplishment of maintenance and modernization. Program Managers frequently use terms such as:

a. Regular, Complex, or Engineered Overhaul availability (ROH, COH, EOH) and Depot Modernization Periods (DMP) to describe or identify planning and execution differences among overhaul availabilities of different ship classes.

b. Refueling complex or engineered refueling overhaul availability (RFOH, RCOH or ERO) to describe or identify fundamental planning and execution differences among overhaul availabilities of different nuclear powered ship classes during which the reactor is also refueled.

Pierside Extended Maintenance Availability (PEMA). An on site depot availability for Moored Training Ships (MTSs) for the accomplishment of maintenance and modernization.

Pre-Inactivation Restricted Availability (PIRA). A hull specific availability assigned to establish a final, abbreviated OPCYCLE prior to inactivation.

Phased Maintenance (PM). This maintenance philosophy uses depot level maintenance through a series of short, frequent Phased Maintenance Availabilities (PMAs) in lieu of Regular Overhauls

(ROHs). The goals of Phased Maintenance are to maximize ship availability, improve operational readiness, and upgrade material condition. Major elements of this maintenance strategy include:

a. Execution of availabilities in the ship's homeport. Ships are scheduled for PMAs of 2 to 4 months at intervals of 15 to 18 months which include both repairs and modernization.

b. Adherence to Condition-Based Repair in which repair and replacement is determined by the actual material condition of systems and equipment. Only those repairs necessary to sustain proper functioning of equipment are identified and authorized for accomplishment.

c. Involvement of Port Engineers in the planning, budgeting, authorizing, and execution of all maintenance actions and remain with the same ships through their cycle.

d. Preservation of repair decision approval authority in the ship's COs, Port Engineers, and Supervisors of Shipbuilding, Conversion and Repair (SUPSHIP).

e. Use of multi-ship/multi-year contracts to ensure production contractor participation in the advance planning process as it is difficult to fully define all work in the condition based maintenance environment.

Phased Maintenance Availability (PMA). A short labor- intensive availability for ships in a Phased Maintenance Program for the accomplishment of maintenance and modernization. Ships assigned to Phased Maintenance Programs are maintained through PMAs in lieu of overhauls.

Planned Incremental Availability (PIA). A labor-intensive availability, of less than 6 months duration, for aircraft carriers in a Incremental Maintenance Plan. Maintenance and modernization are accomplished. Aircraft carriers assigned to Incremental Maintenance Plans are maintained through CIA’s, PIAs and DPIAs in lieu of overhauls.

Post Shakedown Availability (PSA). An availability assigned to newly built, activated or converted ships upon completion of post-delivery shakedown. PSAs will be scheduled so they are completed no later than the end of the Shipbuilding and Conversion Navy (SCN) obligation work limiting date which is the date on which SCN funding and work authority terminates. Work performed shall normally include correction of defects noted during shakedown, correction of deficiencies remaining from the

acceptance trials, and performance of class modifications remaining from the new construction activation or conversion period.

Progressive Maintenance (PROG). This maintenance philosophy is designed to support ships with reduced manning, limited organizational level maintenance, and operational tempos that limit availability periods. It is also designed to sustain a high level of readiness and increase the ship's availability for required operations. Ships with reduced manning are designed for major component removal and replacement. To compensate for the reduced manning and other shipboard maintenance off-ship component refurbishment is done by intermediate and depot level activities. This concept requires maintenance and logistic support systems significantly different from those required for conventionally manned surface ships. Major elements of the maintenance strategy include:

a. Engineered maintenance planning.

b. Progressive overhaul.

c. Upgrading of maintenance tasks from ship's force to the Intermediate Maintenance Activity (IMA).

d. Modular replacement.

e. Dedicated material support and increased stock-level procurement.

Ship Class Maintenance Requirement (SCMR). Is a class maintenance requirement with calculations based on ship age and individual ship maintenance actions input into each ship’s 3M system. Inputs are trended based on multiple year data to derive future estimated requirements in maintenance manhours of labor per ship class. Output aids in determining required manning at Regional Maintenance (I-Level) Facilities.

Selected Restricted Availability (SRA). A short labor-intensive industrial period assigned to ships in Progressive or Engineered Operating Cycle Maintenance Programs for the accomplishment of maintenance and selected modernization. Ships assigned to Progressive Maintenance Programs are maintained through SRAs in lieu of overhauls.

Service Craft Overhaul (SCO). A major industrial availability for the accomplishment of maintenance and modernization on service craft.