

**ASN-RDA/CHENG & NDIA**  
**Naval Interoperability Workshop**  
**May 30 & 31, 2001**

# **SUGGESTIONS FOR THE INTEROPERABILITY TEST CYCLE**

Presented by Robin Mickle  
VP, Fleet Systems Engineering

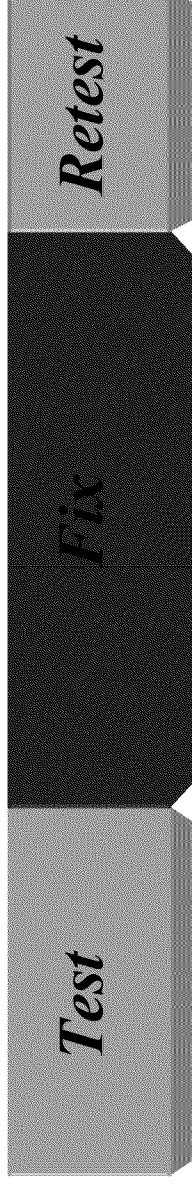
## Report Documentation Page

<b>Report Date</b> 30052001	<b>Report Type</b> N/A	<b>Dates Covered (from... to)</b> -
<b>Title and Subtitle</b> Suggestions for the Interoperability Test Cycle	<b>Contract Number</b>	
	<b>Grant Number</b>	
	<b>Program Element Number</b>	
<b>Author(s)</b> Mickle, Robin	<b>Project Number</b>	
	<b>Task Number</b>	
	<b>Work Unit Number</b>	
<b>Performing Organization Name(s) and Address(es)</b> Northrop Grumman	<b>Performing Organization Report Number</b>	
<b>Sponsoring/Monitoring Agency Name(s) and Address(es)</b> NDIA (National Defense Industrial Association 2111 Wilson Blvd., Ste. 400 Arlington, VA 22201-3061	<b>Sponsor/Monitor's Acronym(s)</b>	
	<b>Sponsor/Monitor's Report Number(s)</b>	
<b>Distribution/Availability Statement</b> Approved for public release, distribution unlimited		
<b>Supplementary Notes</b> Proceedings from Armaments for the Navy Interoperability Workshop, 30-31 May 2001 sponsored by NDIA.		
<b>Abstract</b>		
<b>Subject Terms</b>		
<b>Report Classification</b> unclassified	<b>Classification of this page</b> unclassified	
<b>Classification of Abstract</b> unclassified	<b>Limitation of Abstract</b> UU	
<b>Number of Pages</b> 21		

## Background

“The technology is here today to system engineer at the Battle Force level. To do so requires that we change the way that we acquire, test, and certify Battle Force units. For example, today our shipyards deliver very capable ships. But, they are not (necessarily) BG interoperable -- they are not required (measurably) to be. If we required ships to be delivered Battle Group interoperable, then we should require them to be tested in a Battle Force environment as a ‘family of systems’ **before delivery.**”

## Basic Test Cycle



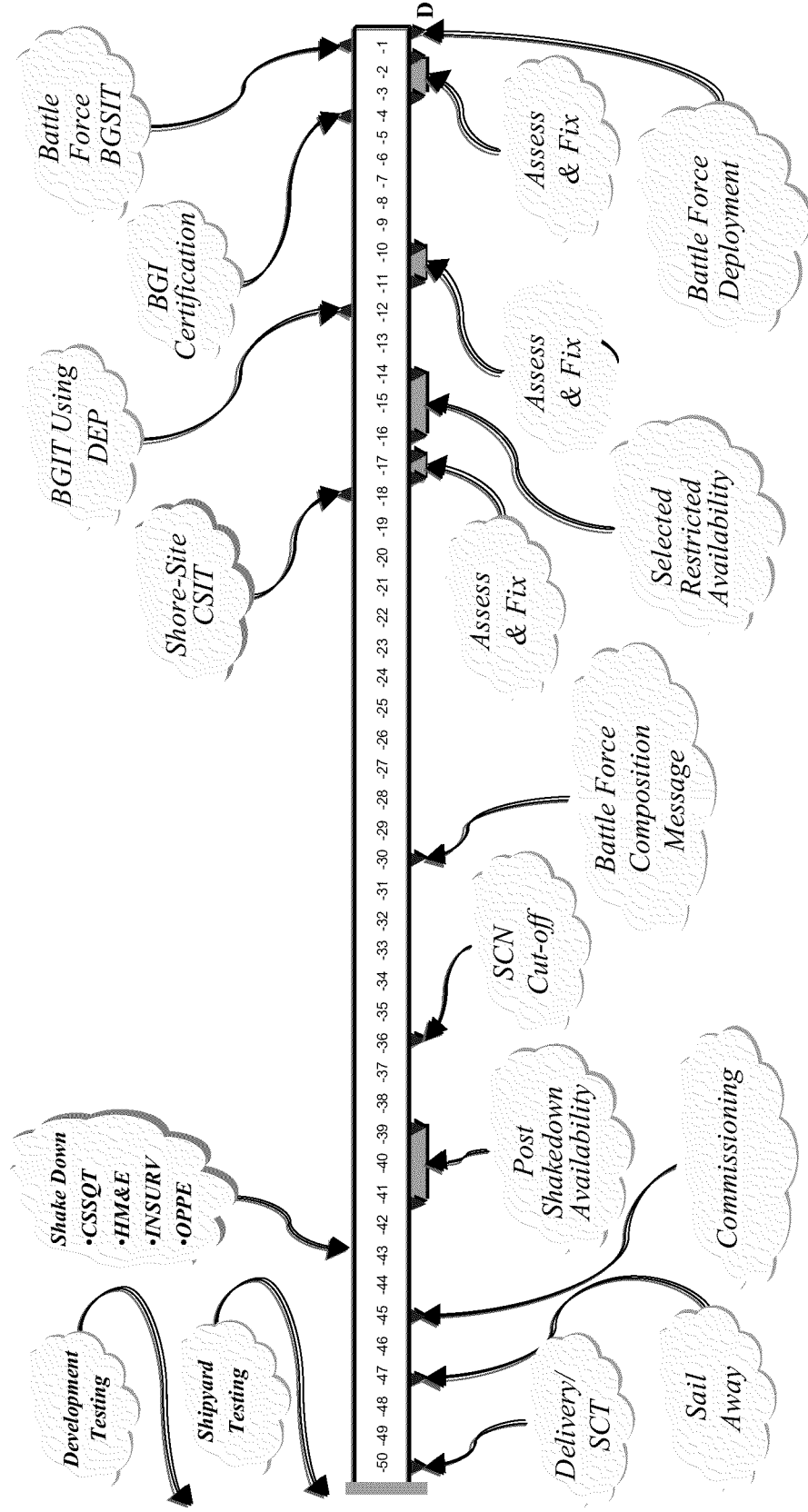
- ★ The purpose of testing is to **identify and fix** problems
- ★ Must allow time to fix the problems, many of which are complex
- ★ Must retest to ensure fixes work, without causing collateral problems
  - Must ensure the right assets are available to fix and retest

# Navy CS Interoperability Test Cycle

<b>Test Stage</b>	<b>Purpose</b>
Developmental Testing	Functionality of individual system; at development site or land-based test site
Shipyard Testing	Operation of ship components onboard ship
Combat System Integration Test (CSIT)	Interoperability of computer programs and interfaces; primarily single platform; at land-based test site
Battle Group Interoperability Test (BGIT)	Interoperability of CS and TADIL components of each BG ship class; utilizes the DEP as a tool
Battle Group System Integration Test (BGSIT)	BG interoperability; all live and underway

*This is a logical series of tests, that increase in interoperability complexity at each stage.*

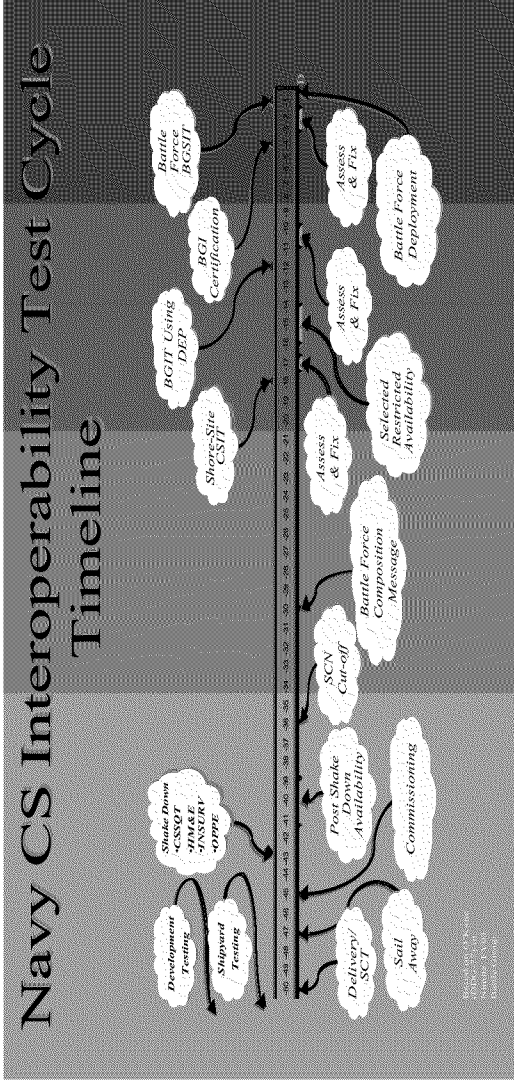
# Navy CS Interoperability Test Cycle Timeline



Based on O'Kane (DDG-77) in Nimitz FY03 Battle Group

*This is normally viewed as at least two schedules, so the time between ship introduction and BG interoperability testing is not readily apparent.*

# Timeline Comments



- ★ First BGI test occurs late in the cycle
- ★ BGSIT is the first fully live interoperability test. There is little time for assess, fix, and retest
  - BGSIT should only be a certification
- ★ Period between Sailaway and CSIT contributes little to BGI
- ★ How can Industry help do more effective BGI testing earlier?

## Suggestion #1

- ★ Put DEP nodes in the shipyards and make BGI testing a ship delivery requirement
  - Necessitates some BGI testing during shipyard testing, much earlier in cycle
  - Allows for correction of some interoperability problems during PSA with SCN funding
  - Delivers a more capable, immediately useful ship to the fleet



## Suggestion #2

- ★ Put DEP nodes in homeports
  - Allows inclusion of new platforms and other selected ships in BGIT; get fully live sooner
  - Facilitates other BGI testing (if desired) during the period between Sailaway and CSIT, perhaps during homeport availabilities

## Suggestion #3

- ★ Move BGI testing “left” at every opportunity
  - Include live sensor testing in BGIT by including ship(s) in the testing (for example, one AEGIS platform, one ACDS platform, plus DEP sites)
  - Place more emphasis on multi-platform testing in CSIT
  - Gradually move CSIT left in the schedule

## Summary

- ★ Must do BGI testing earlier in the schedule
- ★ Make more flexible use of our existing interoperability tests; include BGI testing in all phases starting with shipyard testing
- ★ Get live platforms involved in BGI testing sooner via homeport DEP
- ★ The inherent capability to move BGI testing “left” is provided by DEP

# Back-up Slides

## Total Ship Test Program

- ★ Total ship testing is the systematic planning, organizing, execution and reporting of testing from the total ship perspective. The Total Ship Test Program (TSTP) was instituted in 1974 to establish policies and standard practices for **ship testing during industrial periods** in order to help assure proper accomplishment of the industrial work and to verify the material readiness of the ship for fleet operations. These policies and procedures pertain to the industrial periods of a ship's life; e.g., Construction, Conversion, Modernization, Post-Shakedown, Availability, Regular Overhaul, Selected Restricted Availability, Phased Maintenance Availability, etc...

## Total Ship Test Program continued...

- ★ Scope (Extract)
  - ... The requirements of this manual are the minimum necessary for effectively executing ship test programs; *They do not modify or supersede other requirements that are separately imposed for selected components, systems, or classes of ships, such as those in the references of Appendix A...*
- ★ Appendix A - References
  - ... NAVSEAINST 3960.2 Series - Test and Evaluation... (Note: Superseded by DOD 5000 Series Mandatory Procedures for Major Defense Acquisition Programs...)
- ★ Appendix C - Responsibilities... (of other activities)
  - NAVSEA, NAVAIR, and SPAWAR Shipboard System Manager. Ensure timely completion of systems engineering, the conduct of **development and operations testing**, EM compatibility testing and the establishment of a stable product baseline, of systems being developed for ship board installation and use

# TSTP Test Stages

- ★ Stage 1 - Material Receipt and Inspection, and Shop Tests
  - Provides for inventory management and physical inspection of all equipment and associated documentation...
- ★ Stage 2 - Shipboard Installation Tests and Inspection
  - Demonstrate installation in accordance with the requirements of the ship specification
- ★ Stage 3 - Equipment Tests
  - Demonstrate that the individual equipment and groups of equipment meet their design parameter and perform within the limits and tolerances required by the ship specification
- ★ Stage 4 - Intra-System Tests
  - Demonstrate that intra-system (equipment and functions entirely within one independent system) operation and alignment are within the limits and tolerances required by the ship specification

## TSTP Test Stages continued...

- ★ Stage 5 - Inter-system Tests
  - Demonstrate that intersystem (two or more independent systems that interface) operation and alignment are within the limits and tolerances required by the ship specification
- ★ Stage 6 - Special Tests
  - Those tests which require special simulation facilities or significant facilities/resources external to the immediate testing location. Tests for special purposes, such as access to equipment for maintenance, repair or removal, reliability, maintainability and availability demonstrations, radiation hazards (RADHAZ) testing, EMI testing, electromagnetic interference and the ship inclining experiment are included. Special tests can apply to equipment, a system or a number of systems, and may require total ship operability
- ★ Stage 7 - Trials Tests
  - Tests that are unique to Builder's Trials (BT) and Acceptance Trails (AT), including the associate prerequisite dockside testing prior to getting underway



# DDG-51 Master Planning Schedule

## DDG 51 CLASS MASTER PLANNING SCHEDULE (CONTRACT AWARD TO DELIVERY)

CYR 4000P  
(703) 832-9426 x2585

CURRENT AS OF 31 January 2001

HULL/YARD	SHIP NAME	CONTRACT AWARD	START FAB	LAY KEEL	LAUNCH/FLOAT-OFF	CHRISTENING	MEGAS LIGHT OFF	TRIAL ALPHA	TRIAL BRAVO	TRIAL CHARLIE	DELIVERY/ SCT
05	USS ARLEIGH BURKE	04-02-88	08-06-87	12-08-88	08-16-89	08-16-89	03-27-90	11-19-90	01-16-91	04-01-91	04-29-91
07	USS BARRY	05-26-87	05-16-86	02-26-88	03-09-89	06-08-89	01-10-91	06-29-92	08-21-92	05-11-92	10-19-92
03B	USS JOHN PAUL JONES	04-16-89	04-16-89	08-08-90	11-18-90	10-28-91	07-27-92	04-27-93	06-18-93	07-13-93	08-20-93
09	USS CURTIS WILBUR	12-13-88	05-13-90	03-12-91	05-16-92	05-16-92	12-10-92	07-29-93	10-05-93	11-02-93	12-10-93
06H	USS STOUT	12-13-88	09-04-90	08-12-91	10-17-92	10-24-92	05-17-93	12-09-93	01-19-94	02-02-94	03-20-94
06B	USS JOHN S. McCain	12-13-88	11-04-90	09-03-91	09-26-92	09-26-92	04-09-93	12-01-93	03-29-94	04-28-94	05-27-94
07H	USS MATSCHER	12-13-88	04-15-91	02-12-92	05-07-93	05-15-93	01-12-94	06-27-94	07-25-94	08-09-94	10-03-94
08B	USS LABOON	12-13-88	02-28-91	02-12-92	05-29-93	02-20-93	08-31-93	05-19-94	06-18-94	07-01-94	08-08-94
09	USS RUSSELL	02-22-90	11-07-91	07-27-92	10-16-93	10-23-93	05-19-94	12-12-94	01-23-95	02-08-95	03-20-95
00B	USS PAUL HAMILTON	02-22-90	11-17-91	08-24-92	07-24-93	07-24-93	02-17-94	10-20-94	12-18-94	01-31-95	03-10-95
01H	USS RAMAGE	02-22-90	03-10-92	01-04-93	02-11-94	04-23-94	07-07-94	02-27-95	03-20-95	03-20-95	05-08-95
02B	USS FITZGERALD	02-22-90	08-03-92	02-09-93	01-29-94	01-29-94	08-20-94	03-28-95	05-16-95	06-13-95	07-28-95
03H	USS STEINHEM	02-22-90	07-13-92	05-10-93	06-18-94	07-16-94	03-29-95	09-04-95	05-02-95	06-05-95	07-24-95
04B	USS CARNEY	01-10-91	10-18-92	08-09-93	07-23-94	07-23-94	03-10-95	08-29-95	10-10-95	11-17-95	12-08-95
05H	USS BEMFOLD	01-10-91	12-01-92	09-22-93	09-01-94	11-12-94	04-10-95	09-19-95	09-18-95	10-16-95	12-04-95
06B	USS GONZALEZ	01-10-91	04-04-93	02-03-94	02-18-95	02-18-95	09-08-95	03-15-96	06-09-96	05-22-96	06-14-96
07H	USS COLE	01-10-91	08-03-93	02-28-94	03-02-95	04-08-95	06-30-95	07-13-95	07-12-95	08-14-95	09-11-95
02	USS THE SULLIVANS	04-08-92	09-05-93	07-27-94	08-12-95	08-12-95	03-07-96	09-01-96	09-01-96	10-29-96	12-02-96
03H	USS MILLIS	04-08-92	12-29-93	08-24-94	10-04-95	10-20-95	03-08-96	09-23-96	11-11-96	11-28-96	01-08-97

§ Ships built at Ingalls Shipbuilding  
 § BBN AEGIS Light Cdr Planning Dates are Start Dates  
 § All Shipyard Planning Trial Dates are Start Dates  
 § All Contract Trial Dates are Complete Dates  
 § Actual Dates  
 † Change from Last Issue (1 Sep 00)  
 ‡ Combined Trials Alpha and Bravo  
 § P Year Planning Date  
 † Contract Date

Encl (1)

# DDG-51 Master Planning Schedule

## DDG 51 CLASS MASTER PLANNING SCHEDULE (DELIVERY TO SCN CUTOFF)

CYR 4000P  
(703) 602-9426 x255

CURRENT AS OF 31 January 2001

HULL/YARD	UIC	SHIP NAME	COMPO	FLEET	HOME PORT	DELIVERY/ SGT	SAILAWAY	COMMISSIONING	FCT START	PSA START	PSA END	SCN CUTOFF
51B	21487	USS ARLEIGH BURKE	CDR Alan Eschbeck	LANT	NORVA	*04-29-91	*08-22-91	*07-04-91	*12-09-91	*03-23-92	*07-13-92	*02-28-93
52B	21060	USS BARRY	CDR Bill Bingham	LANT	NORVA	*10-19-92	*12-14-92	*12-12-92	*04-26-93	*08-09-93	*09-02-93	*11-30-93
53B	21313	USS JOHN PAUL JONES	CDR Tom Carney	PAC	SDGO	*08-20-93	*10-29-93	*12-18-93	*09-26-94	*07-10-94	*09-23-94	*03-31-95
54B	21644	USS CURTIS WILBUR	CDR Don Roane, Jr.#	PAC	YOKO	*12-10-93	*02-14-94	*03-19-94	*08-15-94	*09-13-94	*12-19-94	*01-31-95
55B	21686	USS STOUT	CDR Clifford Sharpe	LANT	NORVA	*08-18-94	*08-09-94	*08-13-94	*03-05-95	*03-20-95	*07-03-95	*07-31-95
56B	21688	USS JOHN S. MCCAIN	CDR Jeff Hatteson	PAC	YOKO	*05-27-94	*07-27-94	*07-02-94	*01-23-95	*02-27-95	*05-05-95	*08-30-95
57B	21687	USS MITTSCHER	CDR Frank Pondsfe	LANT	NORVA	*10-09-94	*12-03-94	*12-10-94	04-24-95	*08-26-95	*10-02-95	*11-30-95
58B	21820	USS LABOON	CDR Eugene Moran	LANT	NORVA	*12-02-94	*02-27-95	*03-18-95	*07-31-95	*09-12-95	*12-11-95	*01-31-96
59B	21821	USS RUSSELL	CDR Robert Winzor	PAC	PEARL	*03-20-95	*06-23-95	*08-20-95	*10-23-95	*10-30-95	*12-07-95	*04-30-96
60B	21822	USS PAUL HAMILTON	CDR Dennis O'Masta	PAC	PEARL	*03-10-95	*06-12-95	*06-27-95	(*)12-14-95	*01-08-96	*03-01-96	*04-30-96
61B	21823	USS RAMAGE	CDR Chris Kley	LANT	NORVA	*05-06-95	*07-12-95	*07-22-95	(*)01-15-96	*02-12-96	*04-15-96	*08-30-96
62B	21824	USS FITZGERALD	CDR Alfred Collins	PAC	SDGO	*07-28-95	*10-02-95	*10-14-95	(*)03-25-96	*05-20-96	*08-12-96	*09-30-96
63B	21825	USS STETHEM	CDR Craig Fuller	PAC	SDGO	*07-24-95	*09-18-95	*10-21-95	(*)05-10-96	*04-01-96	*06-10-96	*08-31-96
64B	21823	USS CARNEY	CDR Men Jacobson	LANT	MYPT	*12-06-95	*03-22-96	*04-13-96	(*)12-02-96	*09-16-96	*12-06-96	*02-28-97
65B	21840	USS BENFOLD	CDR Adam Lesith	PAC	SDGO	*12-04-95	*02-28-96	*03-30-96	(*)08-19-96	*09-30-96	*12-16-96	*01-31-97
66B	21833	USS GONZALEZ	CDR Patrick O'Rourke	LANT	NORVA	*06-14-96	*08-19-96	*10-12-96	*04-06-96	*01-13-97	*09-27-97	*08-30-98
67B	21841	USS COLE	CDR Kirk Lepold	LANT	NORVA	*03-11-96	*06-28-96	*08-08-96	(*)12-09-96	*01-17-97	*03-31-97	*04-30-97
68B	21842	USS TWE SULLIVANS	CDR Daniel Kaker	LANT	MYPT	*11-22-96	*03-25-97	*04-19-97	(*)07-28-97	*09-08-97	*11-23-97	*07-31-98
69B	21843	USS MILLUS	CDR Thomas Rowlett	PAC	SDGO	*08-19-96	*11-28-96	*11-23-96	(*)06-19-97	*08-23-97	*09-15-97	*05-31-98

\* Homeports and fleet assignments are based on OPNAVNOTE S311.  
 All new construction ship homeport and fleet assignments are subject to change until official homeport message is released by CMO.  
 All dates are either Planning or Actual. For additional information concerning ship schedules, contact the Production Officer, PM&S 40003, at the AEGIS Destroyer Division (703) 602-3476 x250.  
 # Change from Last Issue (1 Sep 00)  
 (1) Readhead Scope FCT  
 \* Actual Dates

# DDG-51 Master Planning Schedule

## DDG 51 CLASS MASTER PLANNING SCHEDULE (CONTRACT AWARD TO DELIVERY)

CYR 4000P  
(703) 832-9426, 4285

CURRENT AS OF 31 January 2001

FY	SHIP YARD	SHIP NAME	CONTRACT AWARD	START FAB	LAY KEEL	LAUNCH FLOOT-OFF	CHRISTENING	MEISIS LIGHT OFF	TRIAL ALPHA	TRIAL BRAVO	TRIAL CHARLIE	DELIVERY SCT
82	70B	USS HOPPER	*04-08-92	*02-06-94	*02-23-95	*01-08-96	*01-08-96	*07-12-96	*02-26-97	*02-26-97	*03-18-97	*04-11-97
			P	C	C	C	C	C	C	C	C	C
	71A	USS ROSS	*04-08-92	*02-06-94	*02-23-95	*01-08-96	*01-08-96	*07-12-96	*02-26-97	*02-26-97	*03-18-97	*04-11-97
			P	C	C	C	C	C	C	C	C	C
	72B	USS MAHAN	*04-08-92	*02-06-94	*02-23-95	*01-08-96	*01-08-96	*07-12-96	*02-26-97	*02-26-97	*03-18-97	*04-11-97
			P	C	C	C	C	C	C	C	C	C
93	73B	USS DECATUR	*01-19-93	*01-15-95	*01-15-95	*11-10-96	*11-09-96	*05-30-97	*01-26-98	*01-26-98	*02-26-98	*03-13-98
			P	C	C	C	C	C	C	C	C	C
	74A	USS McFARLAND	*01-21-93	*01-15-95	*01-15-95	*11-09-96	*11-09-96	*05-18-97	*01-19-97	*01-19-97	*02-26-98	*03-28-98
			P	C	C	C	C	C	C	C	C	C
	76B	USS DONALD COOK	*01-19-93	*01-15-95	*01-15-95	*11-09-96	*11-09-96	*05-18-97	*01-19-97	*01-19-97	*02-26-98	*03-28-98
			P	C	C	C	C	C	C	C	C	C
	78B	USS HIGGINS	*01-19-93	*01-15-95	*01-15-95	*11-09-96	*11-09-96	*05-18-97	*01-19-97	*01-19-97	*02-26-98	*03-28-98
			P	C	C	C	C	C	C	C	C	C
94	77B	USS OKANE	*07-20-94	*03-17-97	*03-17-97	*12-02-98	*11-15-97	*05-22-98	*03-30-99	*03-30-99	*04-26-99	*05-19-99
			P	C	C	C	C	C	C	C	C	C
	78A	USS PORTER	*07-20-94	*03-17-97	*03-17-97	*12-02-98	*11-15-97	*05-22-98	*03-30-99	*03-30-99	*04-26-99	*05-19-99
			P	C	C	C	C	C	C	C	C	C
	79B	USS OSCAR ALJSTIN	*07-20-94	*03-17-97	*03-17-97	*12-02-98	*11-15-97	*05-22-98	*03-30-99	*03-30-99	*04-26-99	*05-19-99
			P	C	C	C	C	C	C	C	C	C
95	80B	USS ROOSEVELT	*01-08-95	*03-19-97	*03-19-97	*12-16-99	*07-23-99	*07-12-99	*02-28-00	*02-27-00	*05-07-00	*06-12-00
			P	C	C	C	C	C	C	C	C	C
	81B	WINSTON S. CHURCHILL	*01-08-95	*03-19-97	*03-19-97	*12-16-99	*07-23-99	*07-12-99	*02-28-00	*02-27-00	*05-07-00	*06-12-00
			P	C	C	C	C	C	C	C	C	C
	82B	LASSEN	*01-08-95	*03-19-97	*03-19-97	*12-16-99	*07-23-99	*07-12-99	*02-28-00	*02-27-00	*05-07-00	*06-12-00
			P	C	C	C	C	C	C	C	C	C
96	83B	HOWARD	*06-20-96	*11-14-97	*12-09-98	*11-20-99	*11-20-99	*06-09-00	*05-27-01#	*05-27-01#	*06-05-01#	*06-22-01#
			P	C	C	C	C	C	C	C	C	C
	84A	BULL KEELY	*06-20-96	*08-13-98	*05-10-99	*06-21-00	*06-21-00	*11-05-00	*06-18-01#	*06-18-01#	*07-09-01	*08-20-01#
			P	C	C	C	C	C	C	C	C	C
97	85B	McCAFFREY-BELL	*12-13-96	*07-10-98	*07-10-98	*11-22-00	*07-02-00	*05-13-01#	*11-02-01#	*11-02-01#	*07-12-02#	*03-06-02#
			P	C	C	C	C	C	C	C	C	C
	86A	SHOLUP	*12-13-96	*07-10-98	*07-10-98	*11-22-00	*07-02-00	*05-13-01#	*11-02-01#	*11-02-01#	*07-12-02#	*03-06-02#
			P	C	C	C	C	C	C	C	C	C
	87B	MASON	*12-13-96	*07-10-98	*07-10-98	*11-22-00	*07-02-00	*05-13-01#	*11-02-01#	*11-02-01#	*07-12-02#	*03-06-02#
			P	C	C	C	C	C	C	C	C	C
	88A	PREBLE	*12-13-96	*07-10-98	*07-10-98	*11-22-00	*07-02-00	*05-13-01#	*11-02-01#	*11-02-01#	*07-12-02#	*03-06-02#
			P	C	C	C	C	C	C	C	C	C

1 Ships built at Ingalls Shipbuilding  
 B Ships built at Bath Iron Works  
 § Ingalls/AEGIS Light Off Planning Dates are Start Dates  
 § Bath/AEGIS Light Off Planning Dates are Week-Ending  
 All Shipyard Planning Trial Dates are Start Dates  
 All Contract Trial Dates are Complete Dates  
 \* Actual Dates  
 # Change from Last Issue (1 Sep 00)  
 † Combined Trials Alpha and Bravo  
 (2) Under Navy Review  
 P Yard Planning Date  
 C Contract Date

# DDG-51 Master Planning Schedule

## DDG 51 CLASS MASTER PLANNING SCHEDULE (DELIVERY TO SCN CUTOFF)

OPR 4000P  
(703) 62-3476 x335

CURRENT AS OF 31 January 2001

HULL/ YARD	UIC	SHIP NAME	CO/PO	FLEET	HOME PORT	DELIVERY/ SCT	SAILAWAY	COMMISSIONING	FCT START	PSA START	PSA END	SCN CUTOFF
70B	21944	USS HOPPER	CDR John Sorce	PAC	PEARL	*04-11-97	*06-01-97	*09-09-97	*02-09-98	*03-30-98	*05-25-98	*07-31-98
71A	21945	USS ROSS	CDR Mike Hawley	LANT	NORVA	*04-21-97	*06-16-97	*06-28-97	(1)*01-26-98	*02-11-98	*05-04-98	*05-31-98
72B	21946	USS BAHAN	CDR David Robertson, Jr#	LANT	NORVA	*08-22-97	*01-16-98	*02-14-98	(1)*07-27-98	*08-27-98	*11-16-98	*05-31-99
73B	21947	USS DECATUR	CDR Pats Gunalacase	PAC	SDGO	*03-13-98	*07-06-98	*06-29-98	(1)*01-19-99	*01-25-99	*04-09-99	*06-30-99
74A	21948	USS McFALL	CDR Bruce Curry	LANT	NORVA	*02-23-98	*04-17-98	*04-25-98	(1)*06-01-98	*10-05-98	*12-11-98	*03-31-99
75B	21949	USS DONALD COOK	CDR Matthew Sharpe	LANT	NORVA	*08-21-98	*11-16-98	*12-04-98	(1)*05-03-99	*06-01-99	*08-27-99	*06-30-00
76B	21950	USS HIGGINS	CDR Bill Ault	PAC	SDGO	*01-14-99	*03-26-99	*04-24-99	(1)*08-30-99	*09-20-99 SWM	*12-13-99	*02-29-00
77B	21951	USS O'NEANE	CDR Taylor Skardon#	PAC	PEARL	*05-19-99	*08-27-99	*10-23-99	(1)*01-24-00 ISI/PEARL	*02-21-00	*04-26-00	*07-31-00
78A	21952	USS PORTER	CDR Mike Smith	LANT	NORVA	*01-11-99	*03-12-99	*03-20-99	(1)*08-09-99 ISI	*06-20-99	*11-12-99	*02-29-00
79B	21953	USS OSCAR AUSTIN	CDR Paul Smith	LANT	NORVA	*05-11-00	*07-21-00	*06-19-00	*11-27-00	*02-22-01 BIW	*06-29-01	*06-30-01
80A	21954	USS ROOSEVELT	CDR Matt Bohala	LANT	MYPT	*08-12-00	*08-21-00	*10-14-00	*01-22-01	*02-19-01 ISI	*06-11-01	*07-31-01
81B	21955	WINSTON S. CHURCHILL	CDR Mike Franken	LANT	NORVA	*10-13-00	*02-06-01#	*03-19-01 NORVA	*04-15-02#	*05-06-02# BIW	*06-30-02#	(2) TBD#
82A	21956	LASSEN	CDR Sean O'Connor	PAC	SDGO	*02-05-01	*04-05-01	*04-21-01# TAMPA	*08-13-01#	*08-27-01# SWM	*11-16-01#	*03-31-02
83B	22969	HOWARD	CDR Joe Nolan	PAC	SDGO	*06-22-01#	*06-14-01#	*10-06-01# GALVESTON	*04-06-02#	*04-22-02# SWM	*07-26-02#	*08-31-02#
84A	22992	BULKELEY	CDR Carlos Del Toro	LANT	NORVA	*06-29-01	*10-15-01	*12-08-01# NEW YORK	*FEB-02#	*03-07-02# ISI	*06-07-02#	*06-30-02
85B	22993	McCAMPBELL	CDR Mark Montgomery	PAC	SDGO	*03-08-02#	*06-28-02#	TBD	*DEC-02#	*07-08-03# SWM	*11-04-03#	(2) TBD#
86A	22994	SHOUP	CDR Bernard Carter	PAC	Everett, WA	*02-25-02#	*04-22-02#	TBD	*06-05-02	*09-16-02 TBD	*12-09-02	*03-31-03
87B	22995	MASON	CDR Dave Gale	LANT	NORVA	*10-04-02#	*01-31-03#	TBD	*AUG-03#	*SEP-03 BIW	*DEC-03#	*12-31-03#
88A	22996	PREBLE	CDR Tim Bartzler	PAC	SDGO	*06-19-02	(2) 11-08-02	TBD	*03-31-03	*04-28-03 SWM#	*07-21-03	*10-31-03

\* Actual Dates  
# Change from Last Issue (1 Sep 00)  
(1) Reduced Scope FCT  
(2) Under Navy Review

All dates are either Planning or Actual. For additional information concerning ship schedules, contact the Production Officer, PMS-40003, at the AEGIS Destroyer Division (703) 62-3476 x330.

# DDG-51 Master Planning Schedule

## DDG 51 CLASS MASTER PLANNING SCHEDULE (CONTRACT AWARD TO DELIVERY)

DDG 51 CLASS  
MASTER PLANNING SCHEDULE

FY	HULL YARD	SHIP NAME	CONTRACT AWARD	START FAB	LAY KEEL	LAUNCH FLOAT-OFF	CHRISTENING	MEGIS LIGHT OFF	TRIAL ALPHA	TRIAL BRAVO	TRIAL CHARLIE	DELIVERY/ SCT
98	88B	MUSTIN	"93-06-98	01-31-00	01-15-01	12-14-01	TBD	05-29-02	12-09-02	12-09-02	01-20-03	03-10-03
			C	03-27-00	01-15-01	12-14-01		05-29-02	02-07-03	02-07-03	03-14-03	04-28-03
			P	06-16-99	03-25-01	08-17-02	08-17-02	06-30-02	03-03-03	03-03-03	03-25-03	04-18-03
			C	04-25-00	03-04-02	12-09-10-02		12-09-02	12-04-03	12-04-03	12-04-03	12-06-13-03
			P	05-15-00	07-16-01	08-28-02	TBD	11-19-02	07-14-03	08-04-03	08-25-03	10-06-03
			C	08-25-00	07-16-01	08-28-02		11-19-02	08-08-03	08-08-03	08-19-03	10-27-03
			P	03-06-00	09-09-01	01-12-03	02-01-03	01-05-03	12-09-03	09-30-03	09-30-03	10-24-03
			C	12-03-12-01	12-10-15-01	12-03-02-03		12-04-21-03	12-12-03	12-12-03	12-03-12-04	12-01-30-04
99	93B	CHUNGHOON	"03-06-98	03-26-01	01-14-02	12-13-02	TBD	05-19-03	01-19-04	01-19-04	02-16-04	04-05-04
			C	03-26-01	01-14-02	12-13-02		05-19-03	02-08-04	02-08-04	03-12-04	04-26-04
			P	03-24-01	03-17-02	08-03-03	08-03-03	07-13-03	03-06-04	03-06-04	03-30-04	04-23-04
			C	12-11-11-01	12-06-11-02	12-12-11-03		12-12-21-03	12-06-04	12-06-04	12-09-12-04	12-10-01-04
			P	08-24-01	07-15-02	08-27-03	TBD	11-17-03	06-21-04	06-21-04	07-19-04	09-06-04
			C	08-24-01	07-15-02	08-27-03		11-17-03	08-06-04	08-06-04	09-03-04	10-25-04
			P	11-19-01	12-15-02	04-17-04	04-17-04	04-04-04	11-16-04	11-16-04	12-14-04	01-14-05
			C	12-07-12-02	12-03-16-03	12-09-10-04		12-08-20-04	12-04-05	12-04-05	12-05-13-05	12-06-24-05
			P	03-24-02	01-13-03	12-12-03	TBD	05-17-04	02-04-05	02-04-05	03-13-05	04-25-05
			C	03-25-02	01-13-03	12-12-03		05-17-04	02-04-05	02-04-05	03-11-05	04-25-05
			P	09-30-02	07-21-03	07-02-04	TBD	11-22-04	06-06-05	06-06-05	07-11-05	08-29-05
			C	08-30-02	07-21-03	07-02-04		11-22-04	06-12-05	06-12-05	08-18-05	10-31-05
			P	05-09-03	07-06-03	11-27-04	11-27-04	10-24-04	06-14-05	06-14-05	07-12-05	08-05-05
			C	12-03-13-03	12-14-26-03	12-04-10-05		12-04-21-05	12-12-05	12-12-05	12-03-12-06	12-03-17-06
01	90B	TBD	"03-06-98	03-24-03	01-12-04	12-10-04	TBD	05-16-05	11-14-05	11-14-05	TBD	02-20-06
			C	03-24-03	01-12-04	12-10-04		05-16-05	02-03-06	02-03-06	03-10-06	04-24-06
			P	02-16-03	03-14-04	07-17-05	07-17-05	06-26-05	02-14-06	02-14-06	03-14-06	04-07-06
			C	12-11-11-03	12-07-25-04	12-11-11-05		12-12-20-05	12-06-06	12-06-06	12-09-12-06	12-10-20-06

§ Ingate/MEGIS Light Off Planning Dates are Start Dates  
 § BWI/MEGIS Light Off Framing Dates are Week Ending  
 All Shipyard Planning Final Dates are Start Dates  
 All Contract Final Dates are Complete Dates.

\* Actual Dates  
 # Change from Last Issue (1 Sep 00)  
 † Combined Trials Alpha and Bravo  
 (2) Under Navy Review

P Year Planning Date  
 C Contract Date

# DDG-51 Master Planning Schedule

## DDG 51 CLASS MASTER PLANNING SCHEDULE (DELIVERY TO SCN CUTOFF)

OPR 4000P  
0701 02/24/03 x385

CURRENT AS OF 31 January 2001

HULL/YARD	UIC	SHIP NAME	COMPO	FLEET	HOME PORT	DELIVERY: SCT	SAILAWAY	COMMISSIONING	FCT START	PSA START	PSA END	SCN CUTOFF
491	Z2967	MUSTIN	CDR Ann Phillips#	PAC	SDGO	03-10-03#	05-12-03#	TBD	DEC 03#	JAN 04#	APR 04#	04-30-04#
90B	Z3155	CHAFEE	TBD	PAC	TBD	04-18-03#	08-15-03#	TBD	JAN 04#	FEB 04#	MAY 04#	07-31-04#
91H	Z3144	PINCKNEY	TBD	TBD	TBD	10-08-03#	12-08-03#	TBD	DEC 04#	JAN 05#	MAR 05#	TBD#
92B	Z3160	MCAMSEN#	TBD	TBD	TBD	10-24-03#	02-20-04#	TBD	AUG 04#	SEP 04#	NOV 04#	01-31-05#
93H	Z3146	CHUNG-HOON#	TBD	TBD	TBD	04-05-04#	06-07-04#	TBD	JAN 05#	FEB 05#	APR 05#	05-31-05#
94B	Z3147	MITZER#	TBD	TBD	TBD	04-23-04#	08-20-04#	TBD	MAR 05#	APR 05#	JUN 05#	07-31-05#
95H	Z3148	TBD	TBD	TBD	TBD	09-06-04#	11-09-04#	TBD	JUN 05#	JUL 05#	SEP 05#	10-31-05#
96B	Z3153	TBD	TBD	TBD	TBD	01-14-05#	05-13-05#	TBD	DEC 05#	JAN 06#	MAR 06#	04-30-06#
97H	Z3154	TBD	TBD	TBD	TBD	02-14-05#	04-11-05#	TBD	SEP 05#	OCT 05#	DEC 05#	05-31-06#
98H	Z3149	TBD	TBD	TBD	TBD	08-29-05#	10-31-05#	TBD	MAY 06#	JUN 06#	AUG 06#	09-30-06
99B	Z3150	TBD	TBD	TBD	TBD	06-05-05#	12-02-05#	TBD	JUL 06#	AUG 06#	OCT 06#	11-30-06#
100H	Z3152	TBD	TBD	TBD	TBD	02-20-06#	04-20-06#	TBD	SEP 06#	OCT 06#	DEC 06#	03-31-07#
101B	Z3151	TBD	TBD	TBD	TBD	04-07-06#	08-04-06#	TBD	MAR 07#	APR 07#	JUN 07#	07-31-07#

Homeports and fleet assignments are based on OPNAVNOTE S3111. All new construction ship homeport and fleet assignments are subject to change until official homeport message is released by CNO.

All dates are either Planning or Actual. For additional information concerning ship schedules, contact the Production Office, PMS 4000, at the AEGIS Destroyer Division (DDO) 602-3476 x330.

\* Actual Dates  
# Change from Last Issue (1 Sep 00)