Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-180

DDG 51 Arleigh Burke Class Guided Missile Destroyer (DDG 51)

As of December 31, 2012

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Program Information

Program Name

DDG 51 Arleigh Burke Class Guided Missile Destroyer (DDG 51)

DoD Component

Navy

Responsible Office

Responsible Office

CAPT Mark R. Vandroff, USN
Program Executive Office Ships (PEO Ships)
1333 Isaac Hull Avenue SE
Washington, DC 20376-2301
mark.vandroff@navy.mil

Phone 202-781-2177
Fax 202-781-4525
DSN Phone 336-2177
DSN Fax --
Date Assigned May 23, 2011

References

SAR Baseline (Production Estimate)

Decision Coordinating Paper #1337 Revision 1, Change 1 of August 22, 1986

Approved APB

Navy Acquisition Executive (NAE) Approved Acquisition Program Baseline (APB) dated May 10, 2011

Mission and Description

The DDG 51 is a multi-mission guided missile destroyer designed to operate offensively and defensively, independently, or as units of Carrier Strike Groups (CSG), Expeditionary Strike Groups (ESG), and Missile Defense Action Groups in multi-threat environments that include air, surface, and subsurface threats. These ships will respond to Low Intensity Conflict/Coastal and Littoral Offshore Warfare (LIC/CALOW) scenarios as well as open ocean conflict providing or augmenting power projection, forward presence requirements, and escort operations at sea. Flight IIA ships have introduced new capabilities, Cooperative Engagement Capability (CEC) and a MK-45 Gun that will provide improved air and anti-missile defense and improved land attack.

The DDG 51 Class ships provide outstanding combat capability and survivability characteristics while considering procurement and lifetime support costs. They feature extraordinary seakeeping and low observability characteristics.

The DDG 51 features the AEGIS Weapon System (AWS), which has quick reaction time, high firepower, and improved Electronic Countermeasures (ECM) capability in Anti-Air Warfare (AAW). The ships' Anti-Submarine Warfare (ASW) System provides superior long range multi-target detection and engagement capability with two embarked Light Airborne Multi-Purpose System (LAMPS) MK-III helicopters (Flight IIA, DDG 79 and follow-on ships). DDG 91 and follow-on ships employ the littoral variant SPY-1D(V). The Advanced Tomahawk Weapon Control System (DDGs 79-95) and the Tactical Tomahawk Weapons Control System (DDG 96 and follow-on ships) allow employment of multiple variants of Tomahawk missiles for strike warfare. The MK-45 gun weapon system provides significant capability for surface warfare, land attack, and air defense. The CEC is being installed on DDG 51 Class Ships to promote Network Centric Warfare capability. The AWS is the heart of an integrated combat system that provides area coverage and command/control focus in all dimensions of Naval Warfighting and Joint Military Operations: AAW; ASW; Anti-Surface Warfare (ASUW); Command, Control, Communications, Computers & Intelligence (C4I); and Strike Warfare (STW). DDG 113 and follow ships will provide Ballistic Missile Defense capability.

Structural features are an all steel hull and deckhouse with vital spaces protected and located within the hull. The ship employs a gas turbine propulsion system with Controllable Pitch Propellers similar to the CG 47 class.

The DDG 51 Destroyer is being produced to fulfill a surface combatant requirement to provide air dominance, integrated air and missile defense, maritime dominance and land attack capability.

Executive Summary

The Arleigh Burke Class has delivered 62 (DDG 51-112) ships to date, including one since the last SAR: USS MICHAEL MURPHY (DDG 112), built by General Dynamics (GD) Bath Iron Works (BIW) in Bath, ME, which was delivered on May 4, 2012. The original 62 ship program has completed construction. The FY 2010 DoD Appropriations and Authorizations Acts provided funding for the continuation of the program, with the first new ship (DDG 113) appropriated since FY 2005. The Navy awarded the DDG 116 ship construction contract option on February 28, 2012 to BIW. In total four ships have been awarded since the program continuation, two each to BIW and Huntington Ingalls Industries (HII) in Pascagoula, MS.

The Navy has instituted several initiatives to reduce cost associated with FY 2010 and follow DDG 51 Class ships. These ships will maintain a stable configuration baseline without adverse impact to mission readiness, vulnerability, survivability, or safety. The Navy has significantly increased the use of competitive contracts in lieu of sole source contracts. DDG 51 Class hulls will use refurbished assets from retiring Navy ships instead of buying new equipment. The use of Government Furnished Equipment (GFE) contracts across multiple ship classes will be used to produce better prices for the Navy where possible.

The Navy has received Congressional authorization and appropriation for a FY 2013 - FY 2017 Multi Year Procurement (MYP). The MYP will allow the program to achieve procurement of up to ten ships at significant savings, while providing for a stable industrial base for shipbuilders in Maine and Mississippi, for the AEGIS Weapon Systems procurement in New Jersey, and for GFE vendors across the rest of the country.

The FY 2014 President’s Budget (PB) submission requests $1,615.6M for one ship in FY 2014, and $388.6M Advanced Procurement to support the FY 2015 - FY 2017 MYP ships. This budget includes the introduction of Flight III, via an Engineering Change Proposal (ECP), beginning in FY 2016. On March 26, 2013, the President signed the FY 2013 Appropriations Act that includes funding for a tenth MYP ship. This tenth ship, not part of the FY 2014 PB submission, will be reflected in the 2013 SAR.

The DDG 51 Class Program has achieved numerous significant production milestones since the last report:

- DDG 112 (MICHAEL MURPHY) Super Trial March 5, 2012 in Bath, ME.

- DDG 112 (MICHAEL MURPHY) delivered May 4, 2012 in Bath, ME.

- USS MICHAEL MURPHY (DDG 112) Commissioned October 6, 2012 in New York City.

- DDG 113 (JOHN FINN) start fabrication August 23, 2012 in Pascagoula, MS.

- DDG 116 (THOMAS HUDNER) start fabrication February 15, 2013 in Bath, ME.

There are no significant software-related issues with this program at this time.

Threshold Breaches

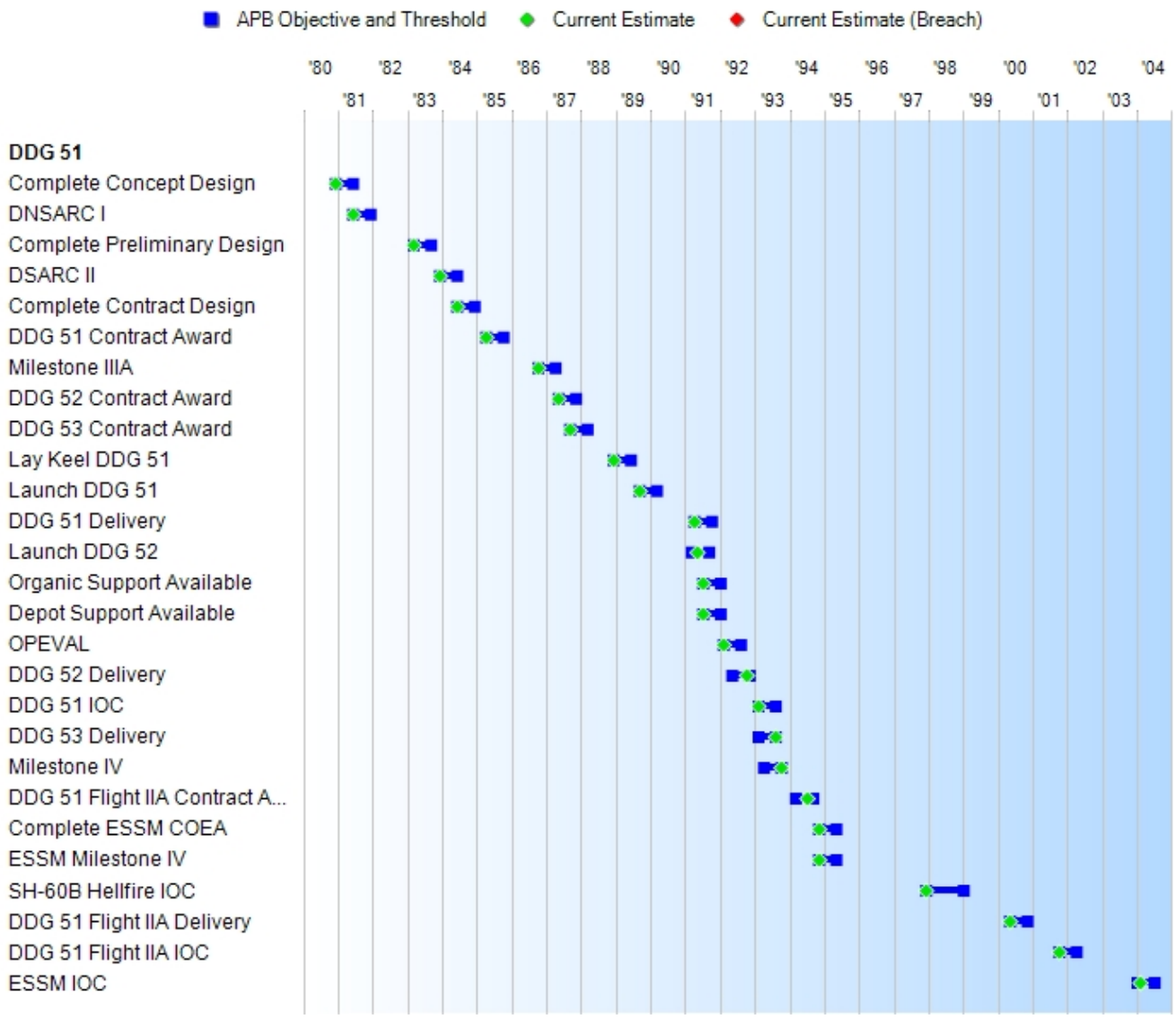
APB Breaches		
Schedule		☐
Performance		☐
Cost	RDT&E	☐
	Procurement	☐
	MILCON	☐
	Acq O&M	☐
O&S Cost		☑
Unit Cost	PAUC	☐
	APUC	☐

Nunn-McCurdy Breaches		
Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

Explanation of Breach

The Operating & Support (O&S) Cost breach is the result of an increase in ship profile from 75 to 77 ships, higher fuel prices, and an increase in ship maintenance availabilities. The O&S costs exceed the Acquisition Program Baseline (APB) threshold established on May 10, 2011. A revised APB is in process.

Schedule


APB Objective and Threshold
Current Estimate
Current Estimate (Breach)
'80
'81
'82
'83
'84
'85
'86
'87
'88
'89
'90
'91
'92
'93
'94
'95
'96
'97
'98
'99
'00
'01
'02
'03
'04
DDG 51
Complete Concept Design
DNSARC I
Complete Preliminary Design
DSARC II
Complete Contract Design
DDG 51 Contract Award
Milestone IIIA
DDG 52 Contract Award
DDG 53 Contract Award
Lay Keel DDG 51
Launch DDG 51
DDG 51 Delivery
Launch DDG 52
Organic Support Available
Depot Support Available
OPEVAL
DDG 52 Delivery
DDG 51 IOC
DDG 53 Delivery
Milestone IV
DDG 51 Flight IIA Contract A...
Complete ESSM COEA
ESSM Milestone IV
SH-60B Hellfire IOC
DDG 51 Flight IIA Delivery
DDG 51 Flight IIA IOC
ESSM IOC

Milestones	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Current Estimate
Complete Concept Design	N/A	DEC 1980	JUN 1981	DEC 1980
DNSARC I	JUN 1981	JUN 1981	DEC 1981	JUN 1981
Complete Preliminary Design	N/A	MAR 1983	SEP 1983	MAR 1983
DSARC II	DEC 1983	DEC 1983	JUN 1984	DEC 1983
Complete Contract Design	N/A	JUN 1984	DEC 1984	JUN 1984
DDG 51 Contract Award	APR 1985	APR 1985	OCT 1985	APR 1985
Milestone IIIA	OCT 1986	OCT 1986	APR 1987	OCT 1986
DDG 52 Contract Award	JAN 1987	MAY 1987	NOV 1987	MAY 1987
DDG 53 Contract Award	N/A	SEP 1987	MAR 1988	SEP 1987
Lay Keel DDG 51	N/A	DEC 1988	JUN 1989	DEC 1988
Launch DDG 51	N/A	SEP 1989	MAR 1990	SEP 1989
DDG 51 Delivery	N/A	APR 1991	OCT 1991	APR 1991
Launch DDG 52	N/A	MAR 1991	SEP 1991	MAY 1991
Organic Support Available	N/A	JUL 1991	JAN 1992	JUL 1991
Depot Support Available	N/A	JUL 1991	JAN 1992	JUL 1991
OPEVAL	N/A	FEB 1992	AUG 1992	FEB 1992
DDG 52 Delivery	N/A	MAY 1992	NOV 1992	OCT 1992
DDG 51 IOC	OCT 1990	FEB 1993	AUG 1993	FEB 1993
DDG 53 Delivery	N/A	FEB 1993	AUG 1993	AUG 1993
Milestone IV	N/A	APR 1993	OCT 1993	OCT 1993
DDG 51 Flight IIA Contract Award	N/A	MAR 1994	SEP 1994	JUL 1994
Complete ESSM COEA	N/A	NOV 1994	MAY 1995	NOV 1994
ESSM Milestone IV	N/A	NOV 1994	MAY 1995	NOV 1994
SH-60B Hellfire IOC	N/A	DEC 1997	JAN 1999	DEC 1997
DDG 51 Flight IIA Delivery	N/A	MAY 2000	NOV 2000	MAY 2000
DDG 51 Flight IIA IOC	N/A	OCT 2001	APR 2002	OCT 2001
ESSM IOC	N/A	JAN 2004	JUL 2004	FEB 2004

Acronyms And Abbreviations

COEA - Cost and Operational Effectiveness Analysis
DNSARC - Department of the Navy System Acquisition Review Council
DSARC - Defense System Acquisition Review Council
ESSM - Evolved Sea Sparrow Missile
IOC - Initial Operational Capability
OPEVAL - Operational Evaluation

Change Explanations

None

Performance

Characteristics	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Demonstrated Performance	Current Estimate	
SHIP:						
Length (ft)	466	N/A	N/A	471	471	
Beam (ft)	59	N/A	N/A	59	59	
Navigational Draft (ft)	30.6	N/A	N/A	31.0	31.0	
Displacement (long tons)	8300	N/A	N/A	9300	9300	
Propulsion LM (Gas Turbine)	2500	N/A	N/A	2500	2500	
Accommodations	341	N/A	N/A	314	314	
MOBILITY:						
Speed (knots)	30	30	30	30	30	
Armament						
Anti-Submarine Warfare						
ASW System	AN/SQQ-89	N/A	N/A	AN/SQQ-89	AN/SQQ-89	
ASROC	VLA	N/A	N/A	VLA	VLA	
Helo	SEAHAWK; LAMPS	2 EMBARKED HELOS	2 EMBARKED HELOS	2 Embarked Helos	2 Embarked Helos	
Anti-Air Warfare						
Launchers	MK 41 VLS	N/A	N/A	MK 41 VLS	MK 41 VLS	
Missiles	SM-2 MR	N/A	N/A	SM-2 MR/SM-3/ESSM	SM-2 MR/SM-3/ESSM	(Ch-1)
Missile Fire Control System	3 MK 99	N/A	N/A	3 MK 99	3 MK 99	
Guns	2 PHALANX	N/A	N/A	2 PHALANX	2 PHALANX	(Ch-2)
Anti-Surface/Strike Warfare						
Guns	1 5"/54	N/A	N/A	1 5"/62	1 5"/62	
Gunfire Control System	MK 160	N/A	N/A	MK 160	MK 160	
Anti-Ship Cruise Missile	HARPOON	N/A	N/A	N/A	N/A	
Cruise Missile	TOMAHAWK	N/A	N/A	TOMAHAWK	TOMAHAWK	
Electronic Warfare	SLQ-32 SRBOC	N/A	N/A	SLQ-32, SRBOC, Combat DF	SLQ-32, SRBOC, Combat DF	
Radars						
Surface	SPS-67	N/A	N/A	SPS-67	SPS-67	

3D	SPY-1D	N/A	N/A	SPY-1D	SPY-1D
MINE WARFARE:					
Detection Range of Moored/Floating Mine (YDS)	N/A	1000	800	1400	1400

Requirements Source: Operational Requirements Document (ORD) dated April 15, 1994

Acronyms And Abbreviations

ASROC - Anti-Submarine Rocket
ASW - Anti-Submarine Warfare
DF - Direction Finding
ESSM - Evolved Sea Sparrow Missile
ft - Feet
HELO - Helicopter
MK - Mark
MR - Medium Range
N/A - Not Applicable
SM-2 - Standard Missile 2
SM-3 - Standard Missile 3
SRBOC - Super Rapid Blooming Off-Board Chaff
VLA - Vertical Launching ASROC (Anti-Submarine Rocket)
VLS - Vertical Launching System
YDS - Yards

Change Explanations

(Ch-1) Anti-Air Warfare/Missiles current estimate changed from SM-2 MR to SM-2 MR/SM-3/ESSM to reflect additional capability and correct placement of ESSM.

(Ch-2) Anti-Air Warfare/Guns current estimate changed from 2 PHALANX/ESSM to 2 PHALANX to reflect the correct placement of ESSM under Anti-Air Warfare/Missiles.

Classified Performance information is provided in the classified annex to this submission.

Memo

Demonstrated Performance and Current Estimate are for the Flight IIA configuration. Production Estimates are from the Flight II configuration. Demonstrated Performance characteristics reflect testing through the Test & Evaluation Master Plan (TEMP) 801-OT-IIIH report dated July 20, 2006. SM-3 Block IA Demonstrated Performance is reflected in Flight Test Mission (FTM)-15, approved April 14, 2011.

Track To Budget

RDT&E				
APPN 1319	BA 04	PE 0603564N	(Navy)	
	Project 0408	Preliminary Design		(Sunk)
	Project 0409	Feasibility Studies		
APPN 1319	BA 05	PE 0604303N	(Navy)	
	Project 1776	AEGIS Weapon System Mods		(Sunk)
APPN 1319	BA 05	PE 0604307N	(Navy)	
	Project 1447	AEGIS Combat System Engineering	(Shared)	
Procurement				
APPN 1611	BA 02	PE 0204222N	(Navy)	
	ICN 2122	DDG 51 CLASS DESTROYERS		
APPN 1611	BA 05	PE 0204222N	(Navy)	
	ICN 5110	DDG 51 CLASS DESTROYERS Outfitting and Post Delivery	(Shared)	
MILCON				
APPN 1205		PE 0204228N	(Navy)	
	Project 263	AEGIS Computer Center Building Addition		(Sunk)
APPN 1205		PE 0605896N	(Navy)	
	Project 261	Battle Force Combatant Education Facility		(Sunk)

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

Appropriation	BY1987 $M			BY1987 $M	TY $M		
	SAR Baseline Prod Est	Current APB Production Objective/Threshold		Current Estimate	SAR Baseline Prod Est	Current APB Production Objective	Current Estimate
RDT&E	979.8	3031.8	3335.0	3189.0	916.6	3954.6	4305.3
Procurement	15948.3	57095.5	62805.1	57352.7	19173.1	84417.5	86884.6
Flyaway	15948.3	--	--	57352.7	19173.1	--	86884.6
Recurring	15948.3	--	--	56181.8	19173.1	--	85194.5
Non Recurring	0.0	--	--	1170.9	0.0	--	1690.1
Support	0.0	--	--	0.0	0.0	--	0.0
Other Support	0.0	--	--	0.0	0.0	--	0.0
Initial Spares	0.0	--	--	0.0	0.0	--	0.0
MILCON	25.6	34.8	38.3	37.6	27.8	41.0	44.5
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	16953.7	60162.1	N/A	60579.3	20117.5	88413.1	91234.4

Confidence Level for Current APB Cost 84% - Eighty One percent (81%) of the ships are complete with a confidence level of 100%. Remaining future ships are budgeted at a 50% confidence level as reflected in Navy cost estimating curves.

Quantity	SAR Baseline Prod Est	Current APB Production	Current Estimate
RDT&E	0	0	0
Procurement	23	75	77
Total	23	75	77

Cost and Funding

Funding Summary

Appropriation and Quantity Summary
FY2014 President's Budget / December 2012 SAR (TY$ M)

Appropriation	Prior	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	To Complete	Total
RDT&E	3224.2	77.5	120.7	125.0	172.0	150.8	188.2	246.9	4305.3
Procurement	66615.2	3522.5	2013.1	2903.1	3507.2	3803.7	3773.3	746.5	86884.6
MILCON	44.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.5
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2014 Total	69883.9	3600.0	2133.8	3028.1	3679.2	3954.5	3961.5	993.4	91234.4
PB 2013 Total	69939.4	3600.0	2170.8	3152.9	3655.5	4210.3	130.2	478.5	87337.6
Delta	-55.5	0.0	-37.0	-124.8	23.7	-255.8	3831.3	514.9	3896.8

Program funding and production quantities listed in this SAR are consistent with the FY 2014 President's Budget (PB). The FY 2014 PB did not reflect the enacted DoD appropriation for FY 2013, nor sequestration; it reflected the President's requested amounts for FY 2013.

Quantity	Undistributed	Prior	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	0
Production	0	66	2	1	2	2	2	2	0	77
PB 2014 Total	0	66	2	1	2	2	2	2	0	77
PB 2013 Total	0	66	2	1	2	2	2	0	0	75
Delta	0	0	0	0	0	0	0	2	0	2

Cost and Funding

Annual Funding By Appropriation

Annual Funding TY$
1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
1980	--	--	--	--	--	--	10.5
1981	--	--	--	--	--	--	35.3
1982	--	--	--	--	--	--	102.0
1983	--	--	--	--	--	--	150.7
1984	--	--	--	--	--	--	121.1
1985	--	--	--	--	--	--	138.8
1986	--	--	--	--	--	--	93.5
1987	--	--	--	--	--	--	100.4
1988	--	--	--	--	--	--	93.4
1989	--	--	--	--	--	--	52.3
1990	--	--	--	--	--	--	41.2
1991	--	--	--	--	--	--	87.5
1992	--	--	--	--	--	--	87.2
1993	--	--	--	--	--	--	110.6
1994	--	--	--	--	--	--	102.7
1995	--	--	--	--	--	--	89.6
1996	--	--	--	--	--	--	87.3
1997	--	--	--	--	--	--	82.5
1998	--	--	--	--	--	--	78.3
1999	--	--	--	--	--	--	155.4
2000	--	--	--	--	--	--	232.6
2001	--	--	--	--	--	--	143.5
2002	--	--	--	--	--	--	230.7
2003	--	--	--	--	--	--	199.0
2004	--	--	--	--	--	--	135.3
2005	--	--	--	--	--	--	126.0

2006	--	--	--	--	--	--	113.4
2007	--	--	--	--	--	--	69.2
2008	--	--	--	--	--	--	37.4
2009	--	--	--	--	--	--	8.7
2010	--	--	--	--	--	--	16.8
2011	--	--	--	--	--	--	42.5
2012	--	--	--	--	--	--	48.8
2013	--	--	--	--	--	--	77.5
2014	--	--	--	--	--	--	120.7
2015	--	--	--	--	--	--	125.0
2016	--	--	--	--	--	--	172.0
2017	--	--	--	--	--	--	150.8
2018	--	--	--	--	--	--	188.2
2019	--	--	--	--	--	--	172.8
2020	--	--	--	--	--	--	74.1
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**4305.3**

Annual Funding BY$
1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway BY 1987 $M	Non End Item Recurring Flyaway BY 1987 $M	Non Recurring Flyaway BY 1987 $M	Total Flyaway BY 1987 $M	Total Support BY 1987 $M	Total Program BY 1987 $M
1980	--	--	--	--	--	--	14.0
1981	--	--	--	--	--	--	43.1
1982	--	--	--	--	--	--	118.3
1983	--	--	--	--	--	--	167.3
1984	--	--	--	--	--	--	129.8
1985	--	--	--	--	--	--	144.2
1986	--	--	--	--	--	--	94.4
1987	--	--	--	--	--	--	98.5
1988	--	--	--	--	--	--	88.7
1989	--	--	--	--	--	--	47.6
1990	--	--	--	--	--	--	36.1
1991	--	--	--	--	--	--	73.9
1992	--	--	--	--	--	--	71.6
1993	--	--	--	--	--	--	88.7
1994	--	--	--	--	--	--	80.9
1995	--	--	--	--	--	--	69.2
1996	--	--	--	--	--	--	66.3
1997	--	--	--	--	--	--	61.9
1998	--	--	--	--	--	--	58.3
1999	--	--	--	--	--	--	114.3
2000	--	--	--	--	--	--	168.7
2001	--	--	--	--	--	--	102.7
2002	--	--	--	--	--	--	163.4
2003	--	--	--	--	--	--	138.9
2004	--	--	--	--	--	--	91.9
2005	--	--	--	--	--	--	83.4
2006	--	--	--	--	--	--	72.8
2007	--	--	--	--	--	--	43.3
2008	--	--	--	--	--	--	23.0

2009	--	--	--	--	--	--	5.3
2010	--	--	--	--	--	--	10.0
2011	--	--	--	--	--	--	24.8
2012	--	--	--	--	--	--	27.9
2013	--	--	--	--	--	--	43.5
2014	--	--	--	--	--	--	66.4
2015	--	--	--	--	--	--	67.5
2016	--	--	--	--	--	--	91.1
2017	--	--	--	--	--	--	78.4
2018	--	--	--	--	--	--	96.0
2019	--	--	--	--	--	--	86.5
2020	--	--	--	--	--	--	36.4
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**3189.0**

Research, Development, Test, and Evaluation (RDT&E) figures represent DDG 51 Program's portion of the shared appropriations.

Annual Funding TY$
1611 | Procurement | Shipbuilding and Conversion, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
1984	--	78.5	--	--	78.5	--	78.5
1985	1	846.6	--	299.2	1145.8	--	1145.8
1986	--	98.1	--	--	98.1	--	98.1
1987	3	2326.7	--	158.2	2484.9	--	2484.9
1988	--	9.6	--	--	9.6	--	9.6
1989	4	2876.5	--	--	2876.5	--	2876.5
1990	5	3569.5	--	13.5	3583.0	--	3583.0
1991	4	3145.1	--	3.6	3148.7	--	3148.7
1992	5	3982.8	--	38.3	4021.1	--	4021.1
1993	4	3379.3	--	7.9	3387.2	--	3387.2
1994	3	2703.3	--	86.9	2790.2	--	2790.2
1995	3	2779.7	--	37.8	2817.5	--	2817.5
1996	2	2289.5	--	61.7	2351.2	--	2351.2
1997	4	3541.9	--	38.8	3580.7	--	3580.7
1998	4	3424.3	--	110.5	3534.8	--	3534.8
1999	3	2674.1	--	44.2	2718.3	--	2718.3
2000	3	2651.1	--	30.1	2681.2	--	2681.2
2001	3	3231.3	--	--	3231.3	--	3231.3
2002	3	3287.7	--	14.4	3302.1	--	3302.1
2003	2	2656.9	--	63.1	2720.0	--	2720.0
2004	3	3371.9	--	4.7	3376.6	--	3376.6
2005	3	3671.5	--	8.9	3680.4	--	3680.4
2006	--	505.5	--	--	505.5	--	505.5
2007	--	391.8	--	--	391.8	--	391.8
2008	--	92.9	--	--	92.9	--	92.9
2009	--	323.1	--	--	323.1	--	323.1
2010	1	2447.7	--	121.8	2569.5	--	2569.5
2011	2	2972.5	--	11.6	2984.1	--	2984.1
2012	1	2010.4	--	120.2	2130.6	--	2130.6

2013	2	3492.7	--	29.8	3522.5	--	3522.5
2014	1	2013.1	--	--	2013.1	--	2013.1
2015	2	2903.1	--	--	2903.1	--	2903.1
2016	2	3188.5	--	318.7	3507.2	--	3507.2
2017	2	3737.5	--	66.2	3803.7	--	3803.7
2018	2	3773.3	--	--	3773.3	--	3773.3
2019	--	83.8	--	--	83.8	--	83.8
2020	--	90.0	--	--	90.0	--	90.0
2021	--	179.6	--	--	179.6	--	179.6
2022	--	171.3	--	--	171.3	--	171.3
2023	--	169.5	--	--	169.5	--	169.5
2024	--	52.3	--	--	52.3	--	52.3
Subtotal	**77**	**85194.5**	**--**	**1690.1**	**86884.6**	**--**	**86884.6**

Annual Funding BY$
1611 | Procurement | Shipbuilding and Conversion, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway BY 1987 $M	Non End Item Recurring Flyaway BY 1987 $M	Non Recurring Flyaway BY 1987 $M	Total Flyaway BY 1987 $M	Total Support BY 1987 $M	Total Program BY 1987 $M
1984	--	78.5	--	--	78.5	--	78.5
1985	1	829.8	--	293.3	1123.1	--	1123.1
1986	--	94.0	--	--	94.0	--	94.0
1987	3	2179.7	--	148.2	2327.9	--	2327.9
1988	--	8.7	--	--	8.7	--	8.7
1989	4	2540.5	--	--	2540.5	--	2540.5
1990	5	3064.1	--	11.6	3075.7	--	3075.7
1991	4	2626.4	--	3.1	2629.5	--	2629.5
1992	5	3242.3	--	31.1	3273.4	--	3273.4
1993	4	2723.5	--	6.3	2729.8	--	2729.8
1994	3	2127.5	--	68.3	2195.8	--	2195.8
1995	3	2163.3	--	29.4	2192.7	--	2192.7
1996	2	1762.8	--	47.5	1810.3	--	1810.3
1997	4	2686.1	--	29.4	2715.5	--	2715.5
1998	4	2539.8	--	81.9	2621.7	--	2621.7
1999	3	1952.3	--	32.3	1984.6	--	1984.6
2000	3	1887.5	--	21.5	1909.0	--	1909.0
2001	3	2224.1	--	--	2224.1	--	2224.1
2002	3	2250.1	--	9.9	2260.0	--	2260.0
2003	2	1719.0	--	40.8	1759.8	--	1759.8
2004	3	2105.2	--	2.9	2108.1	--	2108.1
2005	3	2194.9	--	5.4	2200.3	--	2200.3
2006	--	291.9	--	--	291.9	--	291.9
2007	--	216.4	--	--	216.4	--	216.4
2008	--	49.6	--	--	49.6	--	49.6
2009	--	167.7	--	--	167.7	--	167.7
2010	1	1229.3	--	61.2	1290.5	--	1290.5
2011	2	1448.5	--	5.7	1454.2	--	1454.2
2012	1	960.3	--	57.4	1017.7	--	1017.7

2013	2	1637.0	--	13.9	1650.9	--	1650.9
2014	1	925.9	--	--	925.9	--	925.9
2015	2	1310.4	--	--	1310.4	--	1310.4
2016	2	1412.4	--	141.1	1553.5	--	1553.5
2017	2	1624.7	--	28.7	1653.4	--	1653.4
2018	2	1609.6	--	--	1609.6	--	1609.6
2019	--	35.1	--	--	35.1	--	35.1
2020	--	37.0	--	--	37.0	--	37.0
2021	--	72.4	--	--	72.4	--	72.4
2022	--	67.8	--	--	67.8	--	67.8
2023	--	65.8	--	--	65.8	--	65.8
2024	--	19.9	--	--	19.9	--	19.9
Subtotal	**77**	**56181.8**	**--**	**1170.9**	**57352.7**	**--**	**57352.7**

Cost Quantity Information
1611 | Procurement | Shipbuilding and Conversion, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 1987 $M
1984	--	--
1985	1	934.7
1986	--	--
1987	3	2344.3
1988	--	--
1989	4	2630.9
1990	5	3159.7
1991	4	2666.7
1992	5	3305.5
1993	4	2672.1
1994	3	2117.9
1995	3	2157.2
1996	2	1560.8
1997	4	2633.0
1998	4	2811.4
1999	3	2146.3
2000	3	2052.3
2001	3	2129.1
2002	3	2346.8
2003	2	1587.0
2004	3	2192.9
2005	3	2224.7
2006	--	--
2007	--	--
2008	--	--
2009	--	--
2010	1	1081.6

2011	2	1718.7
2012	1	934.6
2013	2	1518.8
2014	1	825.7
2015	2	1443.5
2016	2	1613.7
2017	2	1684.9
2018	2	1687.0
2019	--	--
2020	--	--
2021	--	--
2022	--	--
2023	--	--
2024	--	--
Subtotal	**77**	**56181.8**

Annual Funding TY$
1205 | MILCON | Military Construction, Navy and Marine Corps

Fiscal Year	Total Program TY $M
1986	4.6
1987	--
1988	14.7
1989	8.5
1990	--
1991	--
1992	--
1993	--
1994	--
1995	--
1996	--
1997	--
1998	13.2
1999	--
2000	--
2001	3.5
Subtotal	**44.5**

Annual Funding BY$
1205 | MILCON | Military Construction, Navy and Marine Corps

Fiscal Year	Total Program BY 1987 $M
1986	4.5
1987	--
1988	13.4
1989	7.5
1990	--
1991	--
1992	--
1993	--
1994	--
1995	--
1996	--
1997	--
1998	9.7
1999	--
2000	--
2001	2.5
Subtotal	**37.6**

Low Rate Initial Production

	Initial LRIP Decision	Current Total LRIP
Approval Date	10/30/1986	10/30/1986
Approved Quantity	9	9
Reference	Milestone IIIA Review Decision Memorandum	Milestone IIIA Review Decision Memorandum
Start Year	1985	1985
End Year	1989	1989

The Current Total LRIP Quantity is more than 10% of the total production quantity due to the Milestone IIIA Review Decision Memorandum dated October 30, 1986 approving 9 LRIP ships which is standard for ship building programs.

Foreign Military Sales

Country	Date of Sale	Quantity	Total Cost $M	Memo
Japan	1/15/2013	119	4154.0	Date cited is date of last case sale.
Norway	7/18/2012	10	342.0	Date cited is date of last case sale.
South Korea	12/30/2011	5	1204.0	Date cited is date of last case sale.
Australia	7/15/2011	2	1222.0	Date cited is date of last case sale.
Spain	8/11/2006	9	1285.0	Date cited is date of last case sale.

Quantity numbers above reflect Foreign Military Sales cases, rather than ships. Cases are agreements between the United States and an eligible foreign country to provide defense articles, training, and/or services for purchase. Cases can be related to procurements (e.g., Ordalt or standard missile), training (e.g., AEGIS shipboard training or replacement crew training), and program management support (e.g., Combat System Ship Qualification Test). Case quantity numbers reflect all cases; open and closed.

Nuclear Cost

None

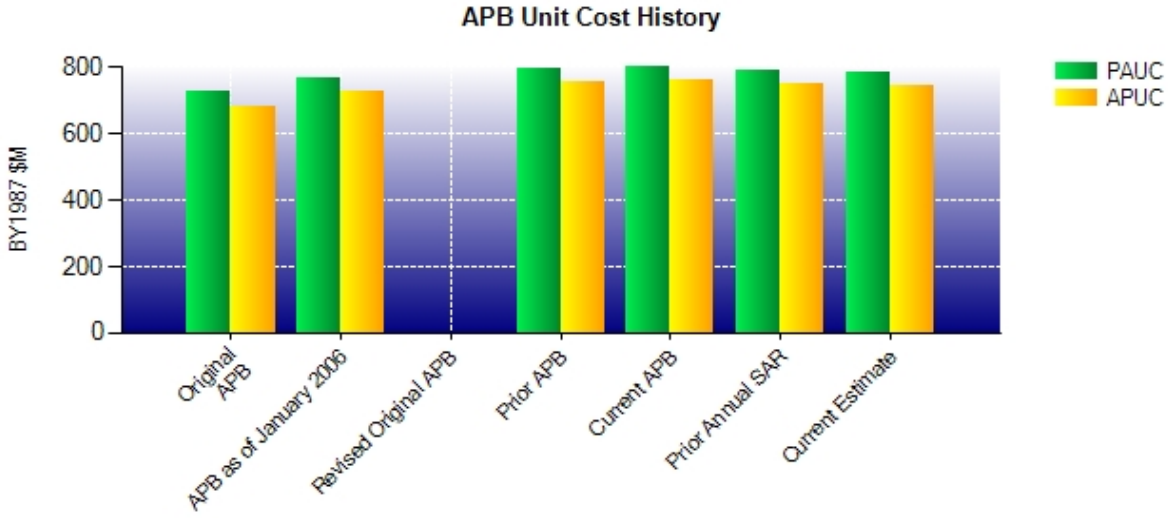
Unit Cost

Unit Cost Report

Unit Cost	BY1987 $M Current UCR Baseline (MAY 2011 APB)	BY1987 $M Current Estimate (DEC 2012 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	60162.1	60579.3	
Quantity	75	77	
Unit Cost	802.161	786.744	-1.92
Average Procurement Unit Cost (APUC)			
Cost	57095.5	57352.7	
Quantity	75	77	
Unit Cost	761.273	744.840	-2.16

Unit Cost	BY1987 $M Original UCR Baseline (FEB 1988 APB)	BY1987 $M Current Estimate (DEC 2012 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	16723.8	60579.3	
Quantity	23	77	
Unit Cost	727.122	786.744	+8.20
Average Procurement Unit Cost (APUC)			
Cost	15745.3	57352.7	
Quantity	23	77	
Unit Cost	684.578	744.840	+8.80

Unit Cost History



		BY1987 $M		TY $M	
	Date	PAUC	APUC	PAUC	APUC
Original APB	FEB 1988	727.122	684.578	883.152	843.209
APB as of January 2006	AUG 2002	766.675	725.342	1031.612	981.022
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	MAR 2010	796.555	759.297	1131.565	1085.962
Current APB	MAY 2011	802.161	761.273	1178.841	1125.567
Prior Annual SAR	DEC 2011	789.840	750.485	1164.501	1113.863
Current Estimate	DEC 2012	786.744	744.840	1184.862	1128.371

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY $M)

Initial PAUC Prod Est	Changes								PAUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
874.674	-44.956	77.529	21.735	81.036	174.844	0.000	0.000	310.188	1184.862

Current SAR Baseline to Current Estimate (TY $M)

Initial APUC Prod Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
833.613	-43.779	106.324	19.853	65.270	147.090	0.000	0.000	294.758	1128.371

SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	Current Estimate
Milestone I	JUN 1981	JUN 1981	JUN 1981	JUN 1981
Milestone II	MAY 1983	DEC 1983	DEC 1983	DEC 1983
Milestone III	AUG 1986	AUG 1986	OCT 1986	OCT 1986
IOC	N/A	N/A	OCT 1990	FEB 1993
Total Cost (TY $M)	10953.5	14910.6	20117.5	91234.4
Total Quantity	9	14	23	77
Prog. Acq. Unit Cost (PAUC)	1217.056	1065.043	874.674	1184.862

Cost Variance

Summary Then Year $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	916.6	19173.1	27.8	20117.5
Previous Changes				
Economic	-99.0	-4100.8	+0.1	-4199.7
Quantity	--	+50515.6	--	+50515.6
Schedule	+144.9	+1427.7	--	+1572.6
Engineering	+848.6	+4597.4	+16.7	+5462.7
Estimating	+1942.3	+11926.7	-0.1	+13868.9
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+2836.8	+64366.6	+16.7	+67220.1
Current Changes				
Economic	+8.3	+729.8	--	+738.1
Quantity	--	+2686.5	--	+2686.5
Schedule	--	+101.0	--	+101.0
Engineering	+348.7	+428.4	--	+777.1
Estimating	+194.9	-600.8	--	-405.9
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+551.9	+3344.9	--	+3896.8
Total Changes	+3388.7	+67711.5	+16.7	+71116.9
CE - Cost Variance	4305.3	86884.6	44.5	91234.4
CE - Cost & Funding	4305.3	86884.6	44.5	91234.4

Summary Base Year 1987 $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Prod Est)	979.8	15948.3	25.6	16953.7
Previous Changes				
Economic	--	--	--	--
Quantity	--	+31444.9	--	+31444.9
Schedule	+89.1	+274.7	--	+363.8
Engineering	+500.9	+2574.5	+11.9	+3087.3
Estimating	+1344.2	+6044.0	+0.1	+7388.3
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+1934.2	+40338.1	+12.0	+42284.3
Current Changes				
Economic	--	--	--	--
Quantity	--	+1141.0	--	+1141.0
Schedule	--	+43.1	--	+43.1
Engineering	+182.9	+185.0	--	+367.9
Estimating	+92.1	-302.8	--	-210.7
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+275.0	+1066.3	--	+1341.3
Total Changes	+2209.2	+41404.4	+12.0	+43625.6
CE - Cost Variance	3189.0	57352.7	37.6	60579.3
CE - Cost & Funding	3189.0	57352.7	37.6	60579.3

Previous Estimate: December 2011

RDT&E	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+8.3
Additional funding to incorporate Advanced Capability Build (ACB) 16 upgrades for improved radar and Ballistic Missile Defense (BMD) capability and advanced electronic warfare (Engineering)	+182.9	+348.7
Adjustment for current and prior escalation. (Estimating)	-0.9	-1.6
Revised Air and Missile Defense Radar (AMDR) estimate to reflect near-term efficiencies and continued outyear support of Flight III integration (Estimating)	+99.4	+208.1
Revised ACB12 estimate to reflect efficiencies (Estimating)	-2.6	-4.6
Revised estimates for Flight III preliminary analysis and contract design (Estimating)	-0.2	-0.3
Revised estimates to reflect application of new outyear escalation indices (Estimating)	-3.6	-6.7
RDT&E Subtotal	+275.0	+551.9

Procurement	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+729.8
Total Quantity variance resulting from an increase of 2 ships from 75 to 77. (Subtotal)	+1566.8	+3672.9
Quantity variance resulting from an increase of 2 ships from 75 to 77. (Quantity) (QR)	(+1024.5)	(+2401.6)
Allocation to Schedule resulting from Quantity change. (Schedule) (QR)	(+43.1)	(+101.0)
Allocation to Engineering resulting from Quantity change. (Engineering) (QR)	(+138.9)	(+325.6)
Allocation to Estimating resulting from Quantity change. (Estimating) (QR)	(+360.3)	(+844.7)
Additional quantity variance associated with the increase from 75 to 77 ships, including Outfitting and Post Delivery (Quantity) (QR)	+116.5	+284.9
Additional funding for procurement of ACB16 baseline upgrades for DDG 119 and follow ships, and improvement of mission performance through procurement of additional updated Government Furnished Equipment (GFE) systems to resolve obsolescence and reliability issues. (Engineering)	+46.1	+102.8
Adjustment for current and prior escalation. (Estimating)	-135.8	-282.8
Revised estimates to reflect application of new outyear escalation indices (Estimating)	-198.0	-447.0
Revised estimates for ship construction and GFE associated with Multi Year Procurement (FY 2013 - 2017) and program efficiencies (Estimating)	-329.3	-715.7
Procurement Subtotal	+1066.3	+3344.9

(QR) Quantity Related

Contracts

Appropriation: Procurement	
Contract Name	**DDG 113 DDG 51 Class Guided Missile Destroyer**
Contractor	Huntington-Ingalls, Inc
Contractor Location	Pascagoula, MS 39567
Contract Number, Type	N00024-11-C-2309/113, FPIF
Award Date	June 15, 2011
Definitization Date	June 15, 2011

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
773.6	852.5	1	780.4	848.6	1	756.0	782.7

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (2/17/2013)	-13.2	-14.9
Previous Cumulative Variances	-6.4	-9.4
Net Change	-6.8	-5.5

Cost And Schedule Variance Explanations

The unfavorable net change in the cost variance is due to greater than planned engineering hours to accomplish detail design for FY 2010 baseline changes, early underperformance in fabrication shops and overhead cost impacts resulting from business base assumptions that did not come to fruition on the original schedule planned.

The unfavorable net change in the schedule variance is due to behind schedule performance in fabrication shops due to limited manpower resource availability and competition with multiple product lines within the fabrication shops.

Contract Comments

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to negotiated changes to the contract.

DDG 113 was a sole source annual procurement contract awarded for the FY 2010 ship. It was awarded on June 15, 2011.

Appropriation: Procurement

Contract Name	**DDG 114 DDG 51 Class Guided Missile Destroyer**
Contractor	Huntington-Ingalls, Inc
Contractor Location	Pascagoula, MS 39567
Contract Number, Type	N00024-11-C-2307/114, FPIF
Award Date	September 26, 2011
Definitization Date	September 26, 2011

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
687.6	787.6	1	687.6	787.6	1	645.1	705.4

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (2/17/2013)	-2.1	-1.5
Previous Cumulative Variances	0.0	0.0
Net Change	-2.1	-1.5

Cost And Schedule Variance Explanations

The unfavorable net change in the cost variance is due to minor anomalies with only 1% of labor complete.

The unfavorable net change in the schedule variance is due to minor delays that do not impact the production schedule.

Contract Comments

The DDG 114 was a competitive bid annual procurement awarded to Ingalls for one of two FY 2011 ships.

Appropriation: Procurement

Contract Name	**DDG 115 DDG 51 Class Guided Missile Destroyer**
Contractor	General Dynamics (BIW)
Contractor Location	Bath, ME 04530
Contract Number, Type	N00024-11-C-2305/115, FPIF
Award Date	September 26, 2011
Definitization Date	September 26, 2011

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
669.6	749.3	1	670.0	750.1	1	668.5	672.3

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (2/24/2013)	-7.5	-10.9
Previous Cumulative Variances	-3.7	-4.1
Net Change	-3.8	-6.8

Cost And Schedule Variance Explanations

The unfavorable net change in the cost variance is due to underperformance in pipe and welding trades at Bath Iron Works (BIW) steel fabrication facility as a result of facility overmanning and application of more stringent DDG 1000 Class standards on DDG 51 Class ships. BIW has implemented corrective actions to mitigate this issue.

The unfavorable net change in the schedule variance is due to BIW's assembly building where outfitting of fabricated products occurs. Due to inefficiencies in the steel fabrication facility, products are late arriving to the assembly building for outfitting.

Contract Comments

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to negotiated changes to the contract.

The DDG 115 was a competitive bid annual procurement awarded to BIW for one of two FY 2011 ships.

Appropriation: Procurement

Contract Name	**DDG 116 DDG 51 Class Guided Missile Destroyer**
Contractor	General Dynamics (BIW)
Contractor Location	Bath, ME 04530
Contract Number, Type	N00024-11-C-2305/116, FPIF
Award Date	February 28, 2012
Definitization Date	September 26, 2011

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
655.0	718.6	1	655.5	733.5	1	657.1	663.6

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (2/24/2013)	+0.4	-23.9
Previous Cumulative Variances	--	--
Net Change	+0.4	-23.9

Cost And Schedule Variance Explanations

The favorable cumulative cost variance is due to minor anomalies with only 1% of labor complete.

The unfavorable cumulative schedule variance is due to Bath Iron Works (BIW) erroneously including projected subcontract definitization amounts for undefinitized major equipment. BIW has reported this will be corrected in the month end March 2013 Cost Performance Reporting (CPR). Material availability is expected to support ship construction.

Contract Comments

This is the first time this contract is being reported.

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to negotiated changes to the contract.

The DDG 116 was awarded as an option to BIW on February 28, 2012.

Appropriation: Procurement

Contract Name	**DDG 113/114/115 AWS Production**
Contractor	Lockheed Martin (LM)
Contractor Location	Moorestown, NJ 08057
Contract Number, Type	N00024-09-C-5110, FPIF/CPIF/CPAF/CPFF/FFP
Award Date	September 21, 2009
Definitization Date	October 14, 2010

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
200.7	N/A	3	266.7	N/A	3	257.7	260.6

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (2/24/2013)	+3.8	-3.0
Previous Cumulative Variances	+4.2	+1.2
Net Change	-0.4	-4.2

Cost And Schedule Variance Explanations

The unfavorable net change in the cost variance is due to minimal increases in material and labor costs while still maintaining a positive Cumulative Variance.

The unfavorable net change in the schedule variance is due to delays in equipment invoicing and has no impact on production schedule.

Contract Comments

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to the definitization of the DDG 115 system.

This contract currently includes funding for 3 systems (FY 2010 - FY 2011). AEGIS Weapon Systems are funded as follows: DDG 113 (FY 2010) and DDG 114/115 (FY 2011).

The contract is a hybrid of fixed price and cost reimbursement line items, including Fixed Price Incentive Firm-Target (FPIF), Cost Plus Incentive Fee (CPIF), Cost Plus Award Fee (CPAF), Cost Plus Fixed Fee (CPFF), and Firm Fixed Price (FFP). All of these line items are included in the Contract Target Price, however not all line items have a comparable ceiling price. The Initial Ceiling Price and Current Ceiling Price have been set to Not Applicable (N/A) to show that there is no set ceiling price for the entire contract.

Deliveries and Expenditures

Deliveries To Date	Plan To Date	Actual To Date	Total Quantity	Percent Delivered
Development	0	0	0	--
Production	62	62	77	80.52%
Total Program Quantities Delivered	62	62	77	80.52%

Expenditures and Appropriations (TY $M)			
Total Acquisition Cost	91234.4	Years Appropriated	34
Expenditures To Date	60870.6	Percent Years Appropriated	75.56%
Percent Expended	66.72%	Appropriated to Date	73483.9
Total Funding Years	45	Percent Appropriated	80.54%

The above data is current as of 3/7/2013.

Operating and Support Cost

DDG 51

Assumptions and Ground Rules

Cost Estimate Reference:

The Program baseline Operating & Support (O&S) estimate projects for a 77 ship buy, encompassing nine different baseline configurations and three different hull variants (Flights). Estimates are primarily derived from the Navy's Visibility And Management of Operating and Support Cost (VAMOSC) database. Revised estimates include more realistic fuel costs. Estimates are based on data collected through 2012 for operational hulls DDG 51 through DDG 111 for both shipyard and Government Furnished Equipment (GFE) systems.

Sustainment Strategy:

DDG 51 Hull, Mechanical & Electrical (HM&E) equipment sustainment approach is by use of Multi Ship/Multi Option (MSMO) contracting strategy for repairs and overhauls. The program provides Integrated Logistics Support (ILS) oversight and guidance to Participating Acquisition Resource Managers (PARMs) that develop various sustainment approaches for combat systems and Communications, Command, Control, Computers, and Intelligence (C4I).

Manpower optimization initiatives have been sought to leverage new technology and reduce costs. Reductions have been achieved across all DDG 51 Class Flights. For example, initial Flight IIA Billet Allotment (BA) was 333 officers and enlisted personnel. Policies have been implemented and new technologies deployed to reduce billets by 35 to 298, as reflected in the Ship Manpower Document (SMD), dated September 2011, for Flight IIA (DDG 103-110).

The total ship quantity is 77 ships. Estimates are based on a service life of 35 years. If this changes, we will address in a future SAR.

Antecedent Information:

The Antecedent System shown below is the CG 47 Program. The CG 47 Class was used since it is the only other ship class with the AEGIS Weapon System installed. CG 47 estimates are based on 27 ships with a service life of 35 years.

Unitized O&S Costs BY1987 $M		
Cost Element	**DDG 51 Average Annual Cost Per Ship**	**CG 47 Program (Antecedent) Average Annual Cost Per Ship**
Unit-Level Manpower	13.2	15.1
Unit Operations	7.7	8.4
Maintenance	8.3	11.4
Sustaining Support	0.8	0.8
Continuing System Improvements	1.0	1.7
Indirect Support	5.9	6.8
Other	0.0	0.0
Total	36.9	44.2

Unitized Cost Comments:

The increase in unit cost of $3.1M is primarily driven by increases in ship maintenance, availabilities and fuel costs. These impacts are noted in Unit Operations and Maintenance.

	Total O&S Cost $M			
	Current Production APB Objective/Threshold		Current Estimate	
	DDG 51		DDG 51	CG 47 Program (Antecedent)
Base Year	84945.0	93439.5	**99445.5** [1]	41759.6
Then Year	177651.0	N/A	219799.5	66876.3

[1] **APB O&S Cost Breach**

Total O&S Costs Comments:

Total O&S cost increased $10.7B (Base Year 1987) from the last SAR due to the unit cost increase of $3.1M and the addition of two ships (75 to 77 ships). Total cost is calculated as follows: Unit Cost x 77 ships x 35 years.

The O&S Cost breach is the result of an increase in ship profile from 75 to 77 ships, higher fuel prices, and an increase in ship maintenance availabilities. The O&S costs exceed the Acquisition Program Baseline (APB) threshold established on May 10, 2011. A revised APB is in process.

Disposal Costs

Disposal costs for the DDG 51 Class have been estimated as $9.1M (FY 2010) per ship and are not reflected in the O&S Cost. The DDG 51 Class remains in full rate production and continues to be updgraded in new construction. The oldest of the class are approaching mid service life now and many are being upgraded with newer technologies which will inevitably change the cost of inactivation and disposal for the class.