Selected Acquisition Report (SAR)

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

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

As of FY 2015 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

Report Documentation Page

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Selected Acquisition Report-SAR

14. ABSTRACT

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Common Acronyms and Abbreviations

Acq O&M - Acquisition-Related Operations and Maintenance
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
BA - Budget Authority/Budget Activity
BY - Base Year
DAMIR - Defense Acquisition Management Information Retrieval
Dev Est - Development Estimate
DoD - Department of Defense
DSN - Defense Switched Network
Econ - Economic
Eng - Engineering
Est - Estimating
FMS - Foreign Military Sales
FY - Fiscal Year
IOC - Initial Operational Capability
$K - Thousands of Dollars
LRIP - Low Rate Initial Production
$M - Millions of Dollars
MILCON - Military Construction
N/A - Not Applicable
O&S - Operating and Support
Oth - Other
PAUC - Program Acquisition Unit Cost
PB - President’s Budget
PE - Program Element
Proc - Procurement
Prod Est - Production Estimate
QR - Quantity Related
Qty - Quantity
RDT&E - Research, Development, Test, and Evaluation
SAR - Selected Acquisition Report
Sch - Schedule
Spt - Support
TBD - To Be Determined
TY - Then Year
UCR - Unit Cost Reporting

Program Information

Program Name

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

DoD Component

Navy

Responsible Office

Responsible Office

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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 Arleigh Burke Class Guided Missile Destroyer (DDG 51) is a multi-mission guided missile destroyer designed to operate offensively and defensively, independently, or as units of Carrier Strike Groups, Expeditionary Strike Groups, 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 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 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 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; Command, Control, Communications, Computers & Intelligence; and Strike Warfare. DDG 113 and follow ships will provide Integrated Air and Missile Defense and work with other Ballistic Missile Defense assets.

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 DDG 51 has delivered 62 (DDG 51-112) ships to date. Contracts for up to 14 ships between FY 2010 - FY 2017 have been awarded.

The Navy has instituted several initiatives to reduce cost associated with the current 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. Other cost initiatives include the use of refurbished assets from retiring Navy ships and leveraging Government Furnished Equipment (GFE) contracts across multiple ship classes to obtain better prices across the Navy.

On June 3, 2013, the Navy awarded two contracts for the FY 2013 - FY 2017 Multi Year Procurement (MYP), with four ships (and an option for a fifth) awarded to General Dynamics, Bath Iron Works and five ships awarded to Huntington Ingalls Industries. On December 27, 2013, the Navy awarded a MYP contract to Lockheed Martin for the procurement of AEGIS Weapon Systems (AWS) for Flight IIA ships from FY 2013 through the first ship of FY 2016. These MYPs enabled the program to procure up to ten ships at significant savings, while providing for a stable industrial base for shipbuilders in Maine and Mississippi, for the AWS procurement in New Jersey, and for GFE vendors across the rest of the country.

The FY 2015 PB submission requests $2,671.4M Full Funding for two ships in FY 2015, $134.0M Advanced Procurement to support the implementation of Flight III, and $129.1M Cost to Complete for the FY 2010 - FY 2011 ships caused by FY 2013 sequestration. Flight III will be introduced via an Engineering Change Proposal to already awarded MYP ships, beginning with the last ship in FY 2016. Due to estimating errors, the program office expects Future Years Defense Program submissions to increase funding for DDGs in FY 2017 - FY 2019 over the current budget submission.

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

- DDG 116 (THOMAS HUDNER) started Fabrication February 15, 2013 in Bath, ME.

- DDG 114 (RALPH JOHNSON) started Fabrication September 9, 2013 in Pascagoula, MS.

- DDG 113 (JOHN FINN) Lay Keel on November 4, 2013 in Pascagoula, MS.

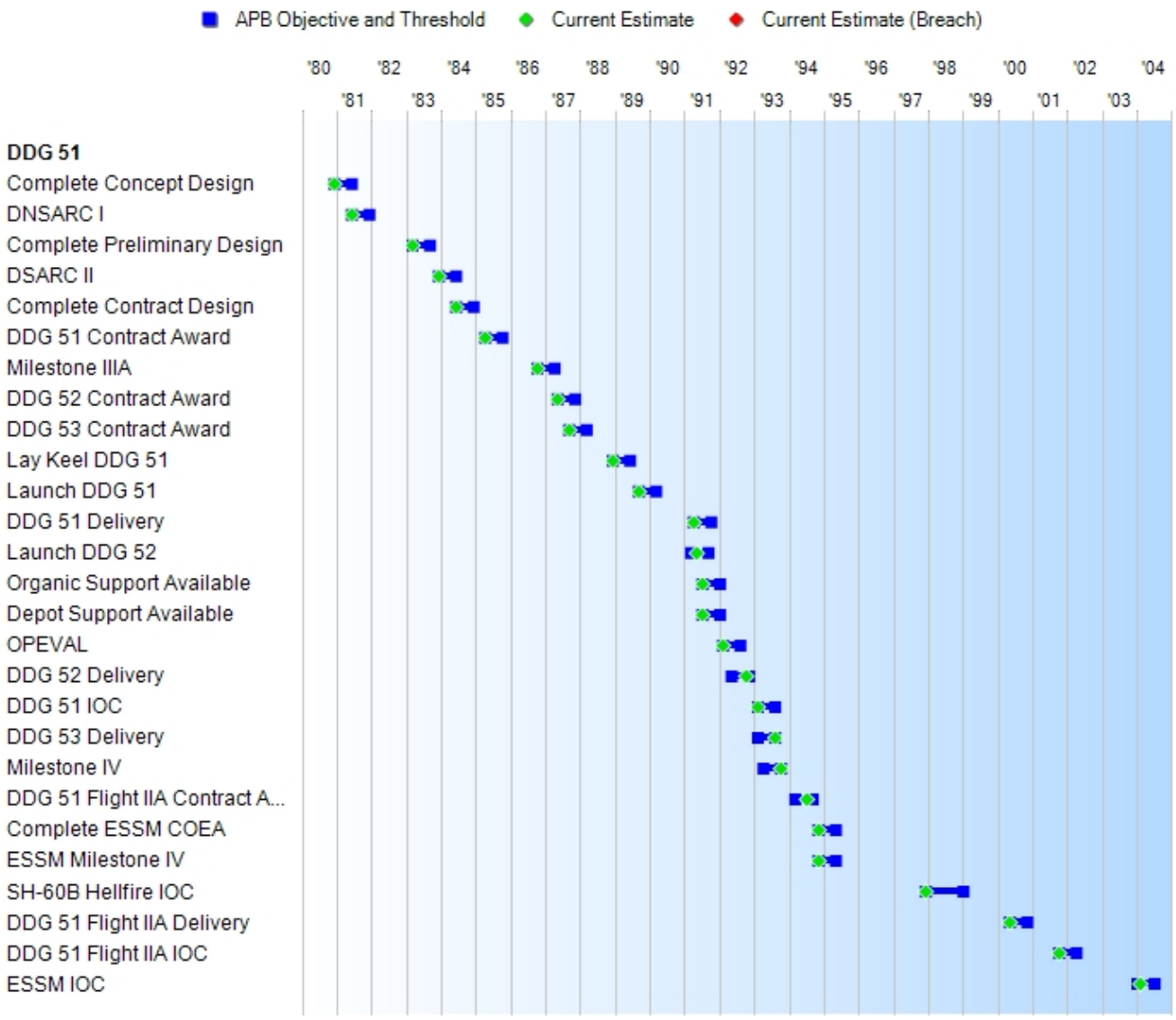
There are no significant software-related issues with this program at this time.

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

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

Change Explanations

None

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
OPEVAL - Operational Evaluation

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
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
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

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

Requirements Source

Operational Requirements Document (ORD) dated April 15, 1994

Change Explanations

None

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 TEMP 801-OT-IIIH report dated July 20, 2006. SM-3 Block IA Demonstrated Performance is reflected in FTM-15, approved April 14, 2011.

Acronyms and Abbreviations

ASROC - Anti-Submarine Rocket
ASW - Anti-Submarine Warfare
DF - Direction Finding
ESSM - Evolved Sea Sparrow Missile
ft - Feet
FTM - Flight Test Mission
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
TEMP - Test & Evaluation Master Plan
VLA - Vertical Launching ASROC (Anti-Submarine Rocket)
VLS - Vertical Launching System
YDS - Yards

Track to Budget

RDT&E

Appn		BA	PE		
Navy	1319	04	0603564N		
	Project		**Name**		
	0409		Feasibility Studies		
Navy	1319	05	0604303N		
	Project		**Name**		
	1776		AEGIS Weapon System Mods		(Sunk)
Navy	1319	05	0604307N		
	Project		**Name**		
	1447		AEGIS Combat System Engineering	(Shared)	

Procurement

Appn		BA	PE		
Navy	1611	02	0204222N		
	Line Item		**Name**		
	2122		DDG 51 CLASS DESTROYERS		
Navy	1611	05	0204222N		
	Line Item		**Name**		
	5110		DDG 51 CLASS DESTROYERS Outfitting and Post Delivery	(Shared)	
	5300		Cost to Complete (CTC)	(Shared)	

MILCON

Appn		BA	PE		
Navy	1205		0204228N		
	Project		**Name**		
	263		AEGIS Computer Center Building Addition		(Sunk)
Navy	1205		0605896N		
	Project		**Name**		
	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	3160.7	916.6	3954.6	4248.2
Procurement	15948.3	57095.5	62805.1	58477.7	19173.1	84417.5	89731.5
Flyaway	--	--	--	58477.7	--	--	89731.5
Recurring	--	--	--	57374.5	--	--	88194.3
Non Recurring	--	--	--	1103.2	--	--	1537.2
Support	--	--	--	0.0	--	--	0.0
Other Support	--	--	--	0.0	--	--	0.0
Initial Spares	--	--	--	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	61676.0	20117.5	88413.1	94024.2

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	80
Total	23	75	80

Cost and Funding

Funding Summary

Appropriation and Quantity Summary
FY2015 President's Budget / December 2013 SAR (TY$ M)

Appropriation	Prior	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	To Complete	Total
RDT&E	3286.3	86.8	138.5	178.4	146.7	142.2	129.8	139.5	4248.2
Procurement	70233.8	2086.2	2941.1	3355.1	3381.7	3448.6	3443.4	841.6	89731.5
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 2015 Total	73564.6	2173.0	3079.6	3533.5	3528.4	3590.8	3573.2	981.1	94024.2
PB 2014 Total	73483.9	2133.8	3028.1	3679.2	3954.5	3961.5	256.6	736.8	91234.4
Delta	80.7	39.2	51.5	-145.7	-426.1	-370.7	3316.6	244.3	2789.8

Quantity	Undistributed	Prior	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	0
Production	0	69	1	2	2	2	2	2	0	80
PB 2015 Total	0	69	1	2	2	2	2	2	0	80
PB 2014 Total	0	68	1	2	2	2	2	0	0	77
Delta	0	1	0	0	0	0	0	2	0	3

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	--	--	--	--	--	--	62.1
2014	--	--	--	--	--	--	86.8
2015	--	--	--	--	--	--	138.5
2016	--	--	--	--	--	--	178.4
2017	--	--	--	--	--	--	146.7
2018	--	--	--	--	--	--	142.2
2019	--	--	--	--	--	--	129.8
2020	--	--	--	--	--	--	61.0
2021	--	--	--	--	--	--	38.3
2022	--	--	--	--	--	--	23.1
2023	--	--	--	--	--	--	17.1
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**4248.2**

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	--	--	--	--	--	--	10.1
2011	--	--	--	--	--	--	24.8
2012	--	--	--	--	--	--	28.0
2013	--	--	--	--	--	--	35.1
2014	--	--	--	--	--	--	48.2
2015	--	--	--	--	--	--	75.5
2016	--	--	--	--	--	--	95.4
2017	--	--	--	--	--	--	76.9
2018	--	--	--	--	--	--	73.1
2019	--	--	--	--	--	--	65.4
2020	--	--	--	--	--	--	30.1
2021	--	--	--	--	--	--	18.6
2022	--	--	--	--	--	--	11.0
2023	--	--	--	--	--	--	8.0
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**3160.7**

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	3293.8	--	14.4	3308.2	--	3308.2
2003	2	2657.1	--	63.1	2720.2	--	2720.2
2004	3	3345.4	--	4.7	3350.1	--	3350.1
2005	3	3654.4	--	8.9	3663.3	--	3663.3
2006	--	508.6	--	--	508.6	--	508.6
2007	--	289.1	--	--	289.1	--	289.1
2008	--	94.9	--	--	94.9	--	94.9
2009	--	331.2	--	--	331.2	--	331.2
2010	1	2306.7	--	121.8	2428.5	--	2428.5
2011	2	2584.2	--	11.6	2595.8	--	2595.8
2012	1	1780.8	--	120.2	1901.0	--	1901.0

2013	3	4474.5	--	29.8	4504.3	--	4504.3
2014	1	2086.2	--	--	2086.2	--	2086.2
2015	2	2941.1	--	--	2941.1	--	2941.1
2016	2	3153.9	--	201.2	3355.1	--	3355.1
2017	2	3350.9	--	30.8	3381.7	--	3381.7
2018	2	3448.6	--	--	3448.6	--	3448.6
2019	2	3443.4	--	--	3443.4	--	3443.4
2020	--	136.7	--	--	136.7	--	136.7
2021	--	161.1	--	--	161.1	--	161.1
2022	--	105.7	--	--	105.7	--	105.7
2023	--	107.2	--	--	107.2	--	107.2
2024	--	108.7	--	--	108.7	--	108.7
2025	--	110.3	--	--	110.3	--	110.3
2026	--	111.9	--	--	111.9	--	111.9
Subtotal	**80**	**88194.3**	**--**	**1537.2**	**89731.5**	**--**	**89731.5**

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	2254.3	--	9.9	2264.2	--	2264.2
2003	2	1719.1	--	40.8	1759.9	--	1759.9
2004	3	2088.6	--	3.0	2091.6	--	2091.6
2005	3	2184.7	--	5.3	2190.0	--	2190.0
2006	--	293.7	--	--	293.7	--	293.7
2007	--	159.6	--	--	159.6	--	159.6
2008	--	50.7	--	--	50.7	--	50.7
2009	--	171.8	--	--	171.8	--	171.8
2010	1	1157.7	--	61.1	1218.8	--	1218.8
2011	2	1257.9	--	5.7	1263.6	--	1263.6
2012	1	849.4	--	57.3	906.7	--	906.7

2013	3	2096.1	--	13.9	2110.0	--	2110.0
2014	1	959.4	--	--	959.4	--	959.4
2015	2	1326.6	--	--	1326.6	--	1326.6
2016	2	1394.8	--	88.9	1483.7	--	1483.7
2017	2	1452.8	--	13.4	1466.2	--	1466.2
2018	2	1465.9	--	--	1465.9	--	1465.9
2019	2	1435.0	--	--	1435.0	--	1435.0
2020	--	55.8	--	--	55.8	--	55.8
2021	--	64.5	--	--	64.5	--	64.5
2022	--	41.5	--	--	41.5	--	41.5
2023	--	41.3	--	--	41.3	--	41.3
2024	--	41.0	--	--	41.0	--	41.0
2025	--	40.8	--	--	40.8	--	40.8
2026	--	40.6	--	--	40.6	--	40.6
Subtotal	**80**	**57374.5**	**--**	**1103.2**	**58477.7**	**--**	**58477.7**

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	2666.6
1992	5	3305.4
1993	4	2672.1
1994	3	2117.9
1995	3	2157.2
1996	2	1560.9
1997	4	2631.7
1998	4	2805.7
1999	3	2159.0
2000	3	2063.4
2001	3	2107.9
2002	3	2335.7
2003	2	1576.4
2004	3	2160.0
2005	3	2211.4
2006	--	--
2007	--	--
2008	--	--
2009	--	--
2010	1	1038.1

2011	2	1557.1
2012	1	861.3
2013	3	2031.2
2014	1	814.3
2015	2	1401.6
2016	2	1566.6
2017	2	1515.9
2018	2	1493.8
2019	2	1493.7
2020	--	--
2021	--	--
2022	--	--
2023	--	--
2024	--	--
2025	--	--
2026	--	--
Subtotal	**80**	**57374.5**

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	11/4/2013	109	4208.0	Date cited is date of last case sale.
Australia	7/19/2013	5	1223.0	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	9	1213.0	Date cited is date of last case sale.
Spain	8/11/2006	7	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 Costs

None

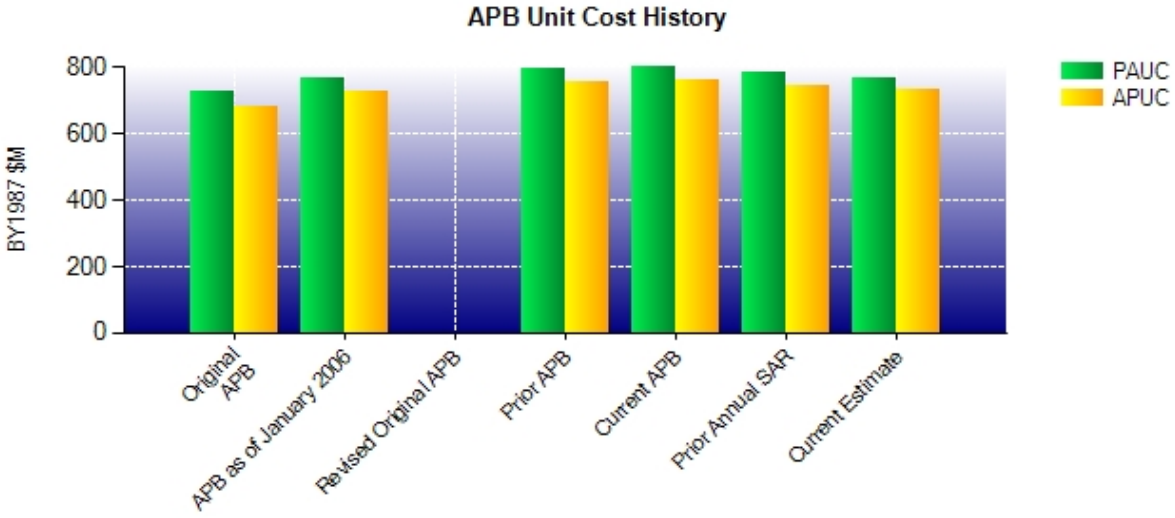
Unit Cost

Unit Cost Report

	BY1987 $M	BY1987 $M	
Unit Cost	**Current UCR Baseline (MAY 2011 APB)**	**Current Estimate (DEC 2013 SAR)**	**BY % Change**
Program Acquisition Unit Cost (PAUC)			
Cost	60162.1	61676.0	
Quantity	75	80	
Unit Cost	802.161	770.950	-3.89
Average Procurement Unit Cost (APUC)			
Cost	57095.5	58477.7	
Quantity	75	80	
Unit Cost	761.273	730.971	-3.98

	BY1987 $M	BY1987 $M	
Unit Cost	**Original UCR Baseline (FEB 1988 APB)**	**Current Estimate (DEC 2013 SAR)**	**BY % Change**
Program Acquisition Unit Cost (PAUC)			
Cost	16723.8	61676.0	
Quantity	23	80	
Unit Cost	727.122	770.950	+6.03
Average Procurement Unit Cost (APUC)			
Cost	15745.3	58477.7	
Quantity	23	80	
Unit Cost	684.578	730.971	+6.78

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 2012	786.744	744.840	1184.862	1128.371
Current Estimate	DEC 2013	770.950	730.971	1175.302	1121.644

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	-42.811	85.766	20.806	81.805	155.062	0.000	0.000	300.628	1175.302

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	-41.558	115.023	18.995	66.630	128.941	0.000	0.000	288.031	1121.644

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	94024.2
Total Quantity	9	14	23	80
Prog. Acq. Unit Cost (PAUC)	1217.056	1065.043	874.674	1175.302

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	-90.7	-3371.0	+0.1	-3461.6
Quantity	--	+53202.1	--	+53202.1
Schedule	+144.9	+1528.7	--	+1673.6
Engineering	+1197.3	+5025.8	+16.7	+6239.8
Estimating	+2137.2	+11325.9	-0.1	+13463.0
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+3388.7	+67711.5	+16.7	+71116.9
Current Changes				
Economic	-9.7	+46.4	--	+36.7
Quantity	--	+3515.6	--	+3515.6
Schedule	--	-9.1	--	-9.1
Engineering	--	+304.6	--	+304.6
Estimating	-47.4	-1010.6	--	-1058.0
Other	--	--	--	--
Support	--	--	--	--
Subtotal	-57.1	+2846.9	--	+2789.8
Total Changes	+3331.6	+70558.4	+16.7	+73906.7
CE - Cost Variance	4248.2	89731.5	44.5	94024.2
CE - Cost & Funding	4248.2	89731.5	44.5	94024.2

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	--	+32585.9	--	+32585.9
Schedule	+89.1	+317.8	--	+406.9
Engineering	+683.8	+2759.5	+11.9	+3455.2
Estimating	+1436.3	+5741.2	+0.1	+7177.6
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+2209.2	+41404.4	+12.0	+43625.6
Current Changes				
Economic	--	--	--	--
Quantity	--	+1438.3	--	+1438.3
Schedule	--	+66.3	--	+66.3
Engineering	--	+124.7	--	+124.7
Estimating	-28.3	-504.3	--	-532.6
Other	--	--	--	--
Support	--	--	--	--
Subtotal	-28.3	+1125.0	--	+1096.7
Total Changes	+2180.9	+42529.4	+12.0	+44722.3
CE - Cost Variance	3160.7	58477.7	37.6	61676.0
CE - Cost & Funding	3160.7	58477.7	37.6	61676.0

Previous Estimate: December 2012

RDT&E	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	-9.7
Congressional reductions to Flight III/Advanced Missile Defense Radar (AMDR), and sequestration. (Estimating)	-27.4	-48.9
Revised estimates to reflect efficiencies in Flight III contract design, Advance Capability Build 16 integration, and AMDR integration. (Estimating)	-6.0	-8.2
Adjustment for current and prior escalation. (Estimating)	+1.2	+2.2
Revised estimates to reflect application of new outyear escalation indices. (Estimating)	+3.9	+7.5
RDT&E Subtotal	-28.3	-57.1

Procurement	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+46.4
Acceleration of procurement buy profile associated with the FY 2013 option ship appropriated by Congress in the FY 2013 Defense Appropriation Act. (Schedule) (QR)	0.0	-167.2
Total Quantity variance resulting from an increase of 3 ships from 77 to 80. (Subtotal)	+2305.6	+5496.5
Quantity variance resulting from an increase of 3 ships from 77 to 80. (Quantity)	(+1530.8)	(+3649.3)
Allocation to Schedule resulting from Quantity change. (Schedule) (QR)	(+66.3)	(+158.1)
Allocation to Engineering resulting from Quantity change. (Engineering) (QR)	(+217.8)	(+519.3)
Allocation to Estimating resulting from Quantity change. (Estimating) (QR)	(+490.7)	(+1169.8)
Additional quantity variance reflects actual funding adjustments associated with the increase of one ship in FY 2013 and two ships in FY 2019, from 77 ships to 80 ships. (Quantity)	-92.5	-133.7
Descope of Multi-Function Towed Array (MFTA) and Ship's Signal Exploitation Equipment (SSEE) in FY 2015 and beyond. (Engineering)	-93.1	-214.7
Congressional reductions, rescissions, and sequestration. (Estimating)	-362.8	-706.1
Revised estimates for ship construction and Government Furnished Equipment (GFE) associated with MYP (FY 2013 - 2017) and program efficiencies. (Estimating)	-405.4	-942.3
Revised estimate reflects actual funding in PB 2015 for FY 2017 - 2019. (Estimating)	-206.4	-485.6
Adjustment for current and prior escalation. (Estimating)	-5.0	-10.3
Revised estimates to reflect application of new outyear escalation indices. (Estimating)	-15.4	-36.1
Procurement Subtotal	+1125.0	+2846.9

(QR) Quantity Related

Contracts

Appropriation: Procurement	
Contract Name	**DDG 113 DDG 51 Class Guided Missile Destroyer**
Contractor	Huntington Ingalls Industries (HII)
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	781.9	861.6	1	813.6	789.9

Target Price Change Explanation

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

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (1/19/2014)	-33.8	-22.1
Previous Cumulative Variances	-13.2	-14.9
Net Change	-20.6	-7.2

Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to greater than planned manufacturing hours, specifically within Ingalls fabrication shops. DDG 113 fabrication shop efforts have been completed. Performance in other manufacturing trades reflect improvement compared to fabrication shop performance.

The unfavorable net change in the schedule variance is due to behind schedule performance in fabrication shops. Ingalls has identified a plan to recover schedule which is currently in process. Ingalls planned DDG 113 Delivery is seven weeks prior to the contractual Delivery.

Contract Comments

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 Industries (HII)
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	687.8	787.7	1	695.9	725.4

Target Price Change Explanation

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

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (1/19/2014)	-6.2	-12.6
Previous Cumulative Variances	-2.1	-1.5
Net Change	-4.1	-11.1

Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to greater than planned manufacturing hours, specifically within Ingalls fabrication shops. DDG 114 fabrication shop performance reflects an improvement relative to DDG 113. Performance in other manufacturing trades reflect improvement compared to fabrication shop performance.

The unfavorable net change in the schedule variance is due to behind schedule performance in fabrication shops. Ingalls has identified a plan to recover schedule which is currently in process. Ingalls planned DDG 114 Delivery is six months prior to the contractual Delivery.

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 (GD), Bath Iron Works (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	671.8	751.8	1	702.2	681.3

Target Price Change Explanation

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

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (1/26/2014)	-29.2	-18.8
Previous Cumulative Variances	-7.5	-10.9
Net Change	-21.7	-7.9

Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to greater than planned manufacturing hours. Performance is being impacted by a changing BIW workforce demographic. The skill levels of supervisors and craftsmen has decreased resulting in lower efficiency and increased re-work.

The unfavorable net change in the schedule variance is due to manufacturing performance. Performance is being impacted by a changing BIW workforce demographic. The skill levels of supervisors and craftsmen has decreased resulting in lower efficiency and increased re-work which is impacting schedule. BIW's planned DDG 115 Delivery date is six months prior to the contractual Delivery.

Contract Comments

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 (GD), Bath Iron Works (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	656.4	720.1	1	673.9	679.2

Target Price Change Explanation

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

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (1/26/2014)	-6.8	-29.4
Previous Cumulative Variances	+0.4	-23.9
Net Change	-7.2	-5.5

Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to greater than planned manufacturing hours. Performance is being impacted by a changing BIW workforce demographic. The skill levels of supervisors and craftsmen has decreased resulting in lower efficiency and increased re-work.

The unfavorable net change in the schedule variance is due to manufacturing performance. Performance is being impacted by a changing BIW workforce demographic. The skill levels of supervisors and craftsmen has decreased resulting in lower efficiency and increased re-work which is impacting schedule. BIW's planned DDG 116 Delivery date is six months prior to the contractual Delivery.

Contract Comments

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	267.0	N/A	3	262.0	262.0

Target Price Change Explanation

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

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/22/2013)	+2.1	-0.4
Previous Cumulative Variances	+3.8	-3.0
Net Change	-1.7	+2.6

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

Contract Comments

This contract is more than 90% complete; therefore, this is the final report for this contract.

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.

Appropriation: Procurement

Contract Name	**DDG 117 DDG 51 Class Guided Missile Destroyer**
Contractor	Huntington Ingalls Industries (HII)
Contractor Location	Pascagoula, MS 39567
Contract Number, Type	N00024-13-C-2307, FPIF
Award Date	June 03, 2013
Definitization Date	June 03, 2013

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price at Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
626.9	715.3	1	629.3	718.0	1	669.4	655.0

Target Price Change Explanation

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

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (1/19/2014)	+2.8	+7.7
Previous Cumulative Variances	--	--
Net Change	+2.8	+7.7

Cost and Schedule Variance Explanations

The favorable cumulative cost variance is due to minor production issues that do not impact the program in this early stage of contract performance reporting.

The favorable cumulative schedule variance is due to minor production issues that do not impact the program in this early stage of contract performance reporting.

Contract Comments

This is the first time this contract is being reported.

DDG 117 is part of the FY 2013 - FY 2017 Multi Year Procurement that was awarded on June 3, 2013.

Appropriation: Procurement

Contract Name	**DDG 118 DDG 51 Class Guided Missile Destroyer**
Contractor	General Dynamics (GD), Bath Iron Works (BIW)
Contractor Location	Bath, ME 04530
Contract Number, Type	N00024-13-C-2305, FPIF
Award Date	June 03, 2013
Definitization Date	June 03, 2013

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price at Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
650.4	748.3	1	629.0	704.0	1	649.8	645.7

Target Price Change Explanation

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

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date (1/26/2014)	+0.5	+2.0
Previous Cumulative Variances	--	--
Net Change	+0.5	+2.0

Cost and Schedule Variance Explanations

The favorable cumulative cost variance is due to minor production issues that do not impact the program in this early stage of contract performance reporting.

The favorable cumulative schedule variance is due to minor production issues that do not impact the program in this early stage of contract performance reporting.

Contract Comments

This is the first time this contract is being reported.

DDG 118 is part of the FY 2013 - FY 2017 Multi Year Procurement that was awarded on June 3, 2013.

Deliveries and Expenditures

Delivered to Date	Plan to Date	Actual to Date	Total Quantity	Percent Delivered
Development	0	0	0	--
Production	62	62	80	77.50%
Total Program Quantity Delivered	62	62	80	77.50%

Expended and Appropriated (TY $M)			
Total Acquisition Cost	94024.2	Years Appropriated	35
Expended to Date	62257.9	Percent Years Appropriated	74.47%
Percent Expended	66.21%	Appropriated to Date	75737.6
Total Funding Years	47	Percent Appropriated	80.55%

The above data is current as of 2/10/2014.

Operating and Support Cost

DDG 51

Assumptions and Ground Rules

Cost Estimate Reference:
The Program baseline O&S estimate projects for a 80 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. Estimates are based on data collected between 2009 and 2013 for operational hulls DDG 51 through DDG 112.

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

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 80 ships. Estimates are based on a service life of 35 years for the 28 Flight I and Flight II ships and 40 years for the 52 Flight IIA ships. This is a change from the last SAR, when all estimates were based on a service life of 35 years.

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. The CG 47 estimates were derived using the VAMOSC database. CG 47 estimates are based on 27 ships, 22 with a service life of 35 years and 5 with service life between 18-21 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	9.687	11.212
Unit Operations	3.928	4.409
Maintenance	7.253	11.686
Sustaining Support	0.518	0.636
Continuing System Improvements	0.731	2.431
Indirect Support	8.360	9.749
Other	0.000	0.000
Total	30.477	40.123

Unitized Cost Comments:

The submitted 2012 SAR Unitized Cost per ship was $36.9M. The Program Office rebased the 2012 SAR to $26.9M using a revised methodology. Previously the program took the current year data provided by VAMOSC in TY 2012 and deflated using one Appropriation index (Operation & Maintenance, Navy Purchases). However, since VAMOSC used multiple appropriation indices to inflate to TY data the program believes deflating using the same indices would be more accurate. Additionally to better capture a steady state period the program is using a 5-year rolling average for each Cost Element.

The 2013 unit cost increased by $3.6M from the revised 2012 SAR estimate. This unit cost increase was driven by updated prior year data (FY 2009 - FY 2012) not captured in the 2012 SAR in Maintenance and the inclusion of new categories of Indirect Support costs (Health Benefit; retiree (<65 non-Medicare-Eligible Retiree Healthcare (MERHC)) and Health Care (Active Duty (AD) and Active Duty Family (AD FM)).

	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	93259.6	34825.9
Then Year	177651.0	N/A	258556.8	65807.6

Total O&S Costs Comments:

Total O&S costs decreased by $6.2B (Base Year 1987) from the last SAR due to the unit cost reduction. The increase in service years for Flight IIA ships as well as three additional ships offset the reduction. The new methodology was applied with respect to inflation of BY 87$ costs. Total cost is calculated as follows: (Unit Cost x 28 ships x 35 years) + (Unit Cost x 52 ships x 40 years).

O&S Cost Variance		
Category	Base Year 1987 $M	Change Explanation
Prior SAR Total O&S Estimate – December 2012	99,445.500	
Cost Estimating Methodology	-20,506.500	New methodology as

		noted above
Cost Data Update	+10,658.725	Additional Maintenance costs in 2012 data collection and inclusion of new cost categories for Indirect costs.
Labor Rate	0.000	
Energy Rate	0.000	
Technical Input	0.000	
Programmatic/Planning Factors	+3,657.240	Addition of three ships.
Other	0.000	
Total Changes	-6,185.880	
Current Estimate	+93,259.620	

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.