



Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-542



LPD 17 San Antonio Class Amphibious Transport Dock (LPD 17)

As of FY 2016 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Common Acronyms and Abbreviations for MDAP Programs

Acq O&M - Acquisition-Related Operations and Maintenance
ACAT - Acquisition Category
ADM - Acquisition Decision Memorandum
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
\$B - Billions of Dollars
BA - Budget Authority/Budget Activity
Blk - Block
BY - Base Year
CAPE - Cost Assessment and Program Evaluation
CARD - Cost Analysis Requirements Description
CDD - Capability Development Document
CLIN - Contract Line Item Number
CPD - Capability Production Document
CY - Calendar Year
DAB - Defense Acquisition Board
DAE - Defense Acquisition Executive
DAMIR - Defense Acquisition Management Information Retrieval
DoD - Department of Defense
DSN - Defense Switched Network
EMD - Engineering and Manufacturing Development
EVM - Earned Value Management
FOC - Full Operational Capability
FMS - Foreign Military Sales
FRP - Full Rate Production
FY - Fiscal Year
FYDP - Future Years Defense Program
ICE - Independent Cost Estimate
IOC - Initial Operational Capability
Inc - Increment
JROC - Joint Requirements Oversight Council
\$K - Thousands of Dollars
KPP - Key Performance Parameter
LRIP - Low Rate Initial Production
\$M - Millions of Dollars
MDA - Milestone Decision Authority
MDAP - Major Defense Acquisition Program
MILCON - Military Construction
N/A - Not Applicable
O&M - Operations and Maintenance
ORD - Operational Requirements Document
OSD - Office of the Secretary of Defense
O&S - Operating and Support
PAUC - Program Acquisition Unit Cost

PB - President's Budget
PE - Program Element
PEO - Program Executive Officer
PM - Program Manager
POE - Program Office Estimate
RDT&E - Research, Development, Test, and Evaluation
SAR - Selected Acquisition Report
SCP - Service Cost Position
TBD - To Be Determined
TY - Then Year
UCR - Unit Cost Reporting
U.S. - United States
USD(AT&L) - Under Secretary of Defense (Acquisition, Technology and Logistics)

Program Information

Program Name

LPD 17 San Antonio Class Amphibious Transport Dock (LPD 17)

DoD Component

Navy

Responsible Office

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Date

Assigned: August 27, 2012

References

SAR Baseline (Development Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated June 17, 1996

Approved APB

Navy Acquisition Executive (NAE) Approved Acquisition Program Baseline (APB) dated September 18, 2011

Mission and Description

The LPD 17 San Antonio Class Amphibious Transport Dock Ship (LPD 17) is the functional replacement for the LPD 4, LSD 36, LKA 113, and LST 1179 Classes of Amphibious Ships for embarking, transporting and landing elements of a Marine landing force in an assault by helicopters, landing craft, amphibious vehicles, and by a combination of these methods to conduct the primary amphibious warfare mission.

Executive Summary

Program stability and upward trends in ship performance have characterized the LPD 17 program over the past year. Eight LPD 17 class ships are operating as Fleet assets; and over half of those ships were deployed in 2014. The ships under construction are executing to a stable schedule and yielding production efficiencies such as lower rework and higher outfitting percentages from previous hulls. Fewer Builder/Acceptance trial cards and higher Board of Inspection and Survey scores have been realized with each successive LPD 17 class ship. The program office continues to implement affordability initiatives such as economic order quantity buys and aggressive control of contract change orders.

USS SOMERSET (LPD 25) was commissioned in Philadelphia, PA on March 1, 2014. The ship and her crew completed Final Contract Trials in December 2014; and responsibility for the ship will transfer from the acquisition program office to the in-service program office in Summer 2015.

As of December 2014, LPD 26 and LPD 27 were 76% and 42% complete, respectively. The FY 2015 PB request includes cost to complete funding to cover cost growth associated with overhead rate increases, material escalation, and engineering overruns driven by unforeseen craft inefficiencies on LPD 26 and replenish the FY 2013 sequestration reduction to LPD 27. All LPD-related production work at Huntington Ingalls Industries' Gulfport and Avondale facilities is complete; and the program office continues to monitor the shipbuilder's plan for those facilities to limit the Navy's liability.

The FY 2015 Consolidated Appropriations Act provided \$1B towards an additional ship.

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



Schedule Events				
Events	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate
Milestone I	Jan 1993	Jan 1993	Jul 1993	Jan 1993
DT&E (DT-I)				
Start	Mar 1993	Mar 1993	Sep 1993	Mar 1993
Complete	Feb 1996	Feb 1996	Aug 1996	Feb 1996
OT&E (OT-IA)				
Start	Jan 1995	Jan 1995	Jul 1995	Jan 1995
Complete	Mar 1995	Mar 1995	Sep 1995	Mar 1995
OT&E (OT-IB)				
Start	Feb 1996	Feb 1996	Aug 1996	Feb 1996
Complete	Apr 1996	Apr 1996	Oct 1996	Apr 1996
Milestone II	Jun 1996	Jun 1996	Dec 1996	Jun 1996
Lead Ship Award	Aug 1996	Aug 1996	Feb 1997	Dec 1996
DT&E (DT-IIA)				
Start	Sep 1996	Apr 1997	Oct 1997	Apr 1997
Complete	Aug 1998	Mar 2003	Sep 2003	Mar 2003
OT&E (OT-IC)				
Start	Sep 1998	N/A	N/A	N/A
Complete	Mar 1999	N/A	N/A	N/A
OT&E (OT-IIA)				
Start	Jun 2003	May 1999	Nov 1999	May 1999
Complete	Sep 2003	May 2000	Nov 2000	May 2000
DIT (OT-IIB)				
Start	N/A	Jan 2002	Jul 2002	Jan 2002
Complete	N/A	Mar 2003	Sep 2003	May 2003
DT&E (DT-IIB)				
Start	Sep 1998	Sep 2002	Mar 2003	Sep 2002
Complete	Jun 2002	Jul 2005	Jan 2006	Jul 2005
Lead Ship Delivery	Jun 2002	Jul 2005	Jan 2006	Jul 2005
DT&E (DT-IIC)				
Start	Jul 2002	Jul 2005	Jan 2006	Jul 2005
Complete	Jan 2004	Nov 2006	May 2007	May 2007
IOT&E (OT-IIC)				
Start	N/A	Jan 2006	Jul 2006	Jan 2006
Complete	N/A	Oct 2008	Apr 2009	Dec 2008
Milestone III	Aug 2007	N/A	N/A	N/A

LEAD SHIP IOC	Jan 2004	Apr 2008	Oct 2008	Apr 2008
FOT&E (OT-III)				
Start	Jan 2011	Jul 2010	Jan 2011	Jul 2010

Change Explanations

None

Acronyms and Abbreviations

- DIT - Design Integration Testing
- DT - Developmental Test
- DT&E - Developmental Test and Evaluation
- FOT&E - Follow-on Operational Test and Evaluation
- IOT&E - Initial Operational Test and Evaluation
- OT - Operational Test
- OT&E - Operational Test and Evaluation

Performance

Performance Characteristics				
SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Demonstrated Performance	Current Estimate
Mobility				
Sustained Speed (Kts)				
23	23	21.5	24	24
Endurance ((NM)(K) @ Kts)				
10/22	10/22	9.5/20	10.6/20	10.6/20
Amphibious Warfare Embarkation (Net)				
Troops				
750	750	650	720	720
Vehicles (Sq Ft)(k)				
25	25	22	22	22
Cargo (Cubic Feet)(k)				
25	25	22	34	34
Bulk Fuel (Gals)(k)				
325	325	250	307	307
LCAC				
2	2	1(+1)	2	2
VTOL Land/Launch Spots (CH-46 or CH-53E or MV-22)				
4/3/2	4/3/2	4/2/2	4/2/2	4/2/2
VTOL Maint/Storage (CH-46 or CH-53E or MV-22)				
3/1/1	3/1/1	2/1/1	2/1/1	2/1/1
Ship To Shore Capability (LCAC)				
Sustained Operations (reload 6 LCACs)(mins)				
220	220	285	274	274
Operational Availability (Ao)				
.90	.90	.80	.92	.90

(Ch-1)

Requirements Reference

Operational Requirements Document (ORD) Revision 3 dated April 8, 1996

Change Explanations

(Ch-1) Current estimate for Operational Availability updated to reflect calculation for LPD 17 class as of December 31, 2014.

Notes

Demonstrated Performance for Sustained Speed and Vehicles (Sq Ft) reflect performance during LPD 17 BT.

Demonstrated Performance for Troops, Cargo (Cubic Feet), LCAC, and VTOL Land/Launch Spots reflect measurements taken during LPD 17 Sail Away Trials.

Demonstrated Performance for Bulk Fuel, VTOL Maint/Storage, and Sustained Operations reflect performance during LPD 17 Class IOT&E events.

Demonstrated Performance for Ao reflects performance cited in the LPD 17 Class OPEVAL report dated January 2010.

Acronyms and Abbreviations

BT - Builder's Trials

Gals - gallons

IOT&E - Initial Operational Test and Evaluation

K/k - Thousands

Kts - Knots

LCAC - Landing Craft Air Cushion

mins - minutes

NM - Nautical Miles

OPEVAL - Operational Evaluation

Sq Ft - square feet

VTOL - Vertical Take-Off and Landing

Track to Budget

RDT&E

Appn	BA	PE		
Navy	1319	05	0604311N	
	Project		Name	
	2283		LPD 17 Class Systems Integration	(Shared) (Sunk)

Procurement

Appn	BA	PE		
Navy	1611	01	0204411N	
	Line Item		Name	
	0946		LPD Class Support Equipment	(Shared)
	0981		Items Less Than \$5M	(Shared) (Sunk)
Navy	1611	03	0204411N	
	Line Item		Name	
	3036		LPD-17	
Navy	1611	05	0204411N	
	Line Item		Name	
	5110		Outfitting	(Shared)
	5300		Completion of Prior Year Shipbuilding Programs	(Shared)

Notes

Funding in BA 01 / Line Item 0981 and BA 01 / Line Item 0946 is OPN funding for non-acquisition related efforts and is not included in the APB objective.

Cost and Funding

Cost Summary

Total Acquisition Cost							
Appropriation	BY 1996 \$M			BY 1996 \$M	TY \$M		
	SAR Baseline Development Estimate	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Development Estimate	Current APB Development Objective	Current Estimate
RDT&E	78.7	111.3	122.4	116.1	77.8	114.0	120.1
Procurement	8939.4	14347.1	15781.8	15156.2	10684.0	18714.0	20599.1
Flyaway	--	--	--	15156.2	--	--	20599.1
Recurring	--	--	--	15156.2	--	--	20599.1
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	0.0	--	--	0.0
Other Support	--	--	--	0.0	--	--	0.0
Initial Spares	--	--	--	0.0	--	--	0.0
MILCON	0.0	0.0	--	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	9018.1	14458.4	N/A	15272.3	10761.8	18828.0	20719.2

Confidence Level

Confidence Level of cost estimate for current APB: 95%

The confidence level is supported by the maturity level of the program which is over 80% delivered, and the remaining ships of the class are under fixed price contracts.

Total Quantity			
Quantity	SAR Baseline Development Estimate	Current APB Development	Current Estimate
RDT&E	0	0	0
Procurement	12	11	12
Total	12	11	12

Cost and Funding

Funding Summary

Appropriation Summary									
FY 2016 President's Budget / December 2014 SAR (TY\$ M)									
Appropriation	Prior	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
RDT&E	120.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	120.1
Procurement	18715.9	1074.2	668.0	110.6	30.4	0.0	0.0	0.0	20599.1
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2016 Total	18836.0	1074.2	668.0	110.6	30.4	0.0	0.0	0.0	20719.2
PB 2015 Total	18805.1	90.2	139.2	52.3	30.7	7.8	0.0	0.0	19125.3
Delta	30.9	984.0	528.8	58.3	-0.3	-7.8	0.0	0.0	1593.9

Quantity Summary										
FY 2016 President's Budget / December 2014 SAR (TY\$ M)										
Quantity	Undistributed	Prior	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	0
Production	0	11	0	1	0	0	0	0	0	12
PB 2016 Total	0	11	0	1	0	0	0	0	0	12
PB 2015 Total	0	11	0	0	0	0	0	0	0	11
Delta	0	0	0	1	0	0	0	0	0	1

Cost and Funding

Annual Funding By Appropriation

Annual Funding							
1319 RDT&E Research, Development, Test, and Evaluation, Navy							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1990	--	--	--	--	--	--	0.5
1991	--	--	--	--	--	--	4.9
1992	--	--	--	--	--	--	1.2
1993	--	--	--	--	--	--	10.3
1994	--	--	--	--	--	--	28.0
1995	--	--	--	--	--	--	10.8
1996	--	--	--	--	--	--	9.2
1997	--	--	--	--	--	--	4.3
1998	--	--	--	--	--	--	12.9
1999	--	--	--	--	--	--	1.3
2000	--	--	--	--	--	--	2.3
2001	--	--	--	--	--	--	0.2
2002	--	--	--	--	--	--	0.5
2003	--	--	--	--	--	--	5.6
2004	--	--	--	--	--	--	3.1
2005	--	--	--	--	--	--	7.4
2006	--	--	--	--	--	--	8.5
2007	--	--	--	--	--	--	4.8
2008	--	--	--	--	--	--	0.3
2009	--	--	--	--	--	--	--
2010	--	--	--	--	--	--	4.0
Subtotal	--	--	--	--	--	--	120.1

Annual Funding 1319 RDT&E Research, Development, Test, and Evaluation, Navy							
Fiscal Year	Quantity	BY 1996 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1990	--	--	--	--	--	--	0.6
1991	--	--	--	--	--	--	5.4
1992	--	--	--	--	--	--	1.3
1993	--	--	--	--	--	--	10.8
1994	--	--	--	--	--	--	28.7
1995	--	--	--	--	--	--	10.9
1996	--	--	--	--	--	--	9.1
1997	--	--	--	--	--	--	4.2
1998	--	--	--	--	--	--	12.5
1999	--	--	--	--	--	--	1.2
2000	--	--	--	--	--	--	2.2
2001	--	--	--	--	--	--	0.2
2002	--	--	--	--	--	--	0.5
2003	--	--	--	--	--	--	5.1
2004	--	--	--	--	--	--	2.7
2005	--	--	--	--	--	--	6.4
2006	--	--	--	--	--	--	7.1
2007	--	--	--	--	--	--	3.9
2008	--	--	--	--	--	--	0.2
2009	--	--	--	--	--	--	--
2010	--	--	--	--	--	--	3.1
Subtotal	--	--	--	--	--	--	116.1

Annual Funding 1611 Procurement Shipbuilding and Conversion, Navy							
Fiscal Year	Quantity	TY \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1996	1	1051.9	--	--	1051.9	--	1051.9
1997	--	--	--	--	--	--	--
1998	--	96.0	--	--	96.0	--	96.0
1999	1	653.2	--	--	653.2	--	653.2
2000	2	1557.6	--	--	1557.6	--	1557.6
2001	--	592.3	--	--	592.3	--	592.3
2002	--	418.5	--	--	418.5	--	418.5
2003	1	1240.8	--	--	1240.8	--	1240.8
2004	1	1654.2	--	--	1654.2	--	1654.2
2005	1	1314.2	--	--	1314.2	--	1314.2
2006	1	3305.4	--	--	3305.4	--	3305.4
2007	--	469.2	--	--	469.2	--	469.2
2008	1	1601.0	--	--	1601.0	--	1601.0
2009	1	1047.6	--	--	1047.6	--	1047.6
2010	--	1234.8	--	--	1234.8	--	1234.8
2011	--	60.6	--	--	60.6	--	60.6
2012	1	1970.2	--	--	1970.2	--	1970.2
2013	--	389.9	--	--	389.9	--	389.9
2014	--	58.5	--	--	58.5	--	58.5
2015	--	1074.2	--	--	1074.2	--	1074.2
2016	1	668.0	--	--	668.0	--	668.0
2017	--	110.6	--	--	110.6	--	110.6
2018	--	30.4	--	--	30.4	--	30.4
Subtotal	12	20599.1	--	--	20599.1	--	20599.1

Annual Funding 1611 Procurement Shipbuilding and Conversion, Navy							
Fiscal Year	Quantity	BY 1996 \$M					
		End Item Recurring Flyaway	Non End Item Recurring Flyaway	Non Recurring Flyaway	Total Flyaway	Total Support	Total Program
1996	1	1024.9	--	--	1024.9	--	1024.9
1997	--	--	--	--	--	--	--
1998	--	90.1	--	--	90.1	--	90.1
1999	1	603.5	--	--	603.5	--	603.5
2000	2	1403.4	--	--	1403.4	--	1403.4
2001	--	515.9	--	--	515.9	--	515.9
2002	--	362.5	--	--	362.5	--	362.5
2003	1	1015.9	--	--	1015.9	--	1015.9
2004	1	1306.9	--	--	1306.9	--	1306.9
2005	1	994.2	--	--	994.2	--	994.2
2006	1	2415.4	--	--	2415.4	--	2415.4
2007	--	327.8	--	--	327.8	--	327.8
2008	1	1081.7	--	--	1081.7	--	1081.7
2009	1	686.8	--	--	686.8	--	686.8
2010	--	782.4	--	--	782.4	--	782.4
2011	--	37.2	--	--	37.2	--	37.2
2012	1	1183.4	--	--	1183.4	--	1183.4
2013	--	229.7	--	--	229.7	--	229.7
2014	--	33.9	--	--	33.9	--	33.9
2015	--	610.9	--	--	610.9	--	610.9
2016	1	372.9	--	--	372.9	--	372.9
2017	--	60.5	--	--	60.5	--	60.5
2018	--	16.3	--	--	16.3	--	16.3
Subtotal	12	15156.2	--	--	15156.2	--	15156.2

Cost Quantity Information		
1611 Procurement Shipbuilding and Conversion, Navy		
Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned With Quantity) BY 1996 \$M
1996	1	1814.3
1997	--	--
1998	--	--
1999	1	1160.7
2000	2	2343.0
2001	--	--
2002	--	--
2003	1	1319.0
2004	1	1250.1
2005	1	1135.2
2006	1	1218.9
2007	--	--
2008	1	1308.9
2009	1	1293.5
2010	--	--
2011	--	--
2012	1	1293.8
2013	--	--
2014	--	--
2015	--	--
2016	1	1018.8
2017	--	--
2018	--	--
Subtotal	12	15156.2

Low Rate Initial Production

Item	Initial LRIP Decision	Current Total LRIP
Approval Date	6/17/1996	6/17/1996
Approved Quantity	12	12
Reference	Milestone II ADM	Milestone II ADM
Start Year	1996	1996
End Year	2015	2015

The Current Total LRIP Quantity is more than 10% of the total production quantity due to the ADM dated June 17, 1996 approving 12 LRIP ships which is standard for shipbuilding programs.

Foreign Military Sales

None

Nuclear Costs

None

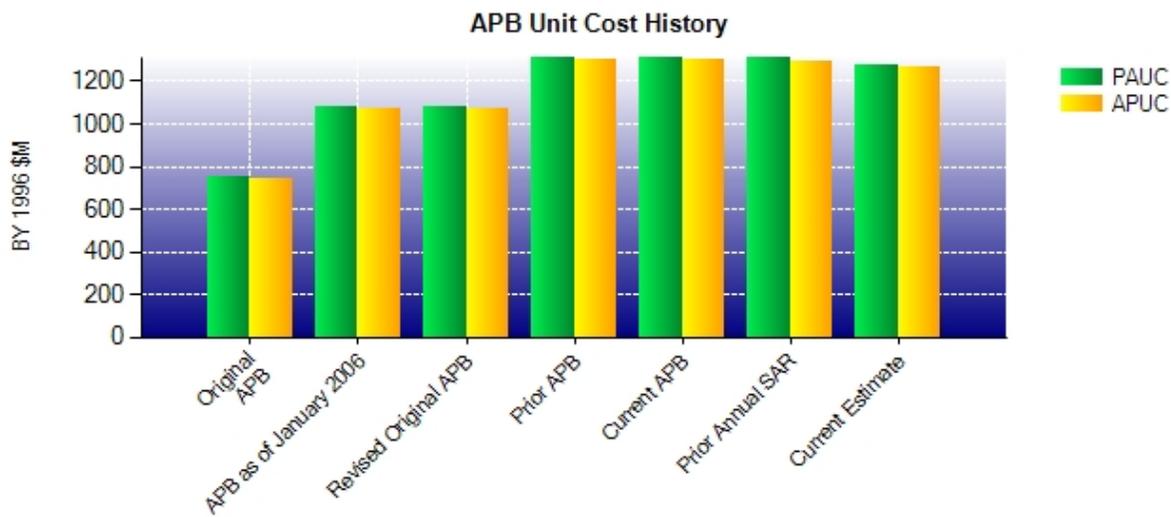
Unit Cost

Unit Cost Report

Item	BY 1996 \$M	BY 1996 \$M	% Change
	Current UCR Baseline (Sep 2011 APB)	Current Estimate (Dec 2014 SAR)	
Program Acquisition Unit Cost			
Cost	14458.4	15272.3	
Quantity	11	12	
Item	1314.400	1272.692	-3.17
Average Procurement Unit Cost			
Cost	14347.1	15156.2	
Quantity	11	12	
Unit Cost	1304.282	1263.017	-3.16

Item	BY 1996 \$M	BY 1996 \$M	% Change
	Revised Original UCR Baseline (Oct 2005 APB)	Current Estimate (Dec 2014 SAR)	
Program Acquisition Unit Cost			
Cost	12955.2	15272.3	
Quantity	12	12	
Unit Cost	1079.600	1272.692	+17.89
Average Procurement Unit Cost			
Cost	12842.4	15156.2	
Quantity	12	12	
Unit Cost	1070.200	1263.017	+18.02

Unit Cost History



Item	Date	BY 1996 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
Original APB	Jun 1996	751.508	744.950	896.817	890.333
APB as of January 2006	Oct 2005	1079.600	1070.200	1283.233	1273.642
Revised Original APB	Oct 2005	1079.600	1070.200	1283.233	1273.642
Prior APB	Dec 2010	1314.400	1304.282	1711.636	1701.273
Current APB	Sep 2011	1314.400	1304.282	1711.636	1701.273
Prior Annual SAR	Dec 2013	1307.445	1296.891	1738.664	1727.745
Current Estimate	Dec 2014	1272.692	1263.017	1726.600	1716.592

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY \$M)									
Initial PAUC Development Estimate	Changes								PAUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
896.817	84.500	-68.184	84.192	0.000	539.558	189.842	-0.125	829.783	1726.600

Current SAR Baseline to Current Estimate (TY \$M)									
Initial APUC Development Estimate	Changes								APUC Current Estimate
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
890.333	84.483	-68.182	83.683	0.000	536.558	189.842	-0.125	826.259	1716.592

SAR Baseline History				
Item	SAR Planning Estimate	SAR Development Estimate	SAR Production Estimate	Current Estimate
Milestone I	Jan 1993	Jan 1993	N/A	Jan 1993
Milestone II	Jul 1995	Jun 1996	N/A	Jun 1996
Milestone III	Oct 2003	Aug 2007	N/A	N/A
IOC	Oct 2003	Jan 2004	N/A	Apr 2008
Total Cost (TY \$M)	59.1	10761.8	N/A	20719.2
Total Quantity	N/A	12	N/A	12
PAUC	N/A	896.817	N/A	1726.600

Cost Variance

Summary TY \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	77.8	10684.0	--	10761.8
Previous Changes				
Economic	+0.2	+995.6	--	+995.8
Quantity	--	-1478.1	--	-1478.1
Schedule	+6.1	+909.6	--	+915.7
Engineering	--	--	--	--
Estimating	+36.0	+5587.5	--	+5623.5
Other	--	+2063.6	--	+2063.6
Support	--	+243.0	--	+243.0
Subtotal	+42.3	+8321.2	--	+8363.5
Current Changes				
Economic	--	+18.2	--	+18.2
Quantity	--	+659.9	--	+659.9
Schedule	--	+94.6	--	+94.6
Engineering	--	--	--	--
Estimating	--	+851.2	--	+851.2
Other	--	+214.5	--	+214.5
Support	--	-244.5	--	-244.5
Subtotal	--	+1593.9	--	+1593.9
Total Changes	+42.3	+9915.1	--	+9957.4
CE - Cost Variance	120.1	20599.1	--	20719.2
CE - Cost & Funding	120.1	20599.1	--	20719.2

Summary BY 1996 \$M				
Item	RDT&E	Procurement	MILCON	Total
SAR Baseline (Development Estimate)	78.7	8939.4	--	9018.1
Previous Changes				
Economic	--	--	--	--
Quantity	--	-1325.1	--	-1325.1
Schedule	+4.8	+408.8	--	+413.6
Engineering	--	--	--	--
Estimating	+32.6	+4566.7	--	+4599.3
Other	--	+1532.0	--	+1532.0
Support	--	+144.0	--	+144.0
Subtotal	+37.4	+5326.4	--	+5363.8
Current Changes				
Economic	--	--	--	--
Quantity	--	+378.9	--	+378.9
Schedule	--	+52.8	--	+52.8
Engineering	--	--	--	--
Estimating	--	+483.0	--	+483.0
Other	--	+119.7	--	+119.7
Support	--	-144.0	--	-144.0
Subtotal	--	+890.4	--	+890.4
Total Changes	+37.4	+6216.8	--	+6254.2
CE - Cost Variance	116.1	15156.2	--	15272.3
CE - Cost & Funding	116.1	15156.2	--	15272.3

Previous Estimate: December 2013

Procurement	\$M	
Current Change Explanations	Base Year	Then Year
Revised escalation indices. (Economic)	N/A	+18.2
Adjustment to reflect actual cost of the 12th ship - the cost curve overstated the cost of the 12th ship. (Quantity)	-304.3	-564.1
Quantity variance resulting from an increase of 1 ship from 11 to 12. (Subtotal)	+1179.8	+2113.7
Quantity variance resulting from an increase of 1 ship from 11 to 12. (Quantity)	(+683.2)	(+1224.0)
Allocation to Schedule resulting from Quantity change. (Schedule) (QR)	(+52.8)	(+94.6)
Allocation to Estimating resulting from Quantity change. (Estimating) (QR)	(+324.1)	(+580.6)
Allocation to Other resulting from Quantity change. (Other) (QR)	(+119.7)	(+214.5)
Miscellaneous adjustments to post delivery and outfitting. (Estimating)	+8.1	+15.2
Special Transfer Authority and reprogramming for ship construction on LPDs 26 and 27. (Estimating)	+17.6	+28.0
Removal of program closeout funding in FY 2015 - FY 2017. (Estimating)	-37.6	-67.5
Cost to complete funding for escalation and contract reopener clauses on LPDs 26 and 27. (Estimating)	+37.5	+68.0
FY 2013 advanced procurement funding was initially categorized as "Support Funding". (Estimating)	+143.2	+243.0
Adjustment for current and prior escalation. (Estimating)	-9.9	-16.1
Adjustment for current and prior escalation. (Support)	-0.8	-1.5
FY 2013 advanced procurement funding was allocated to the 12th ship. (Support)	-143.2	-243.0
Procurement Subtotal	+890.4	+1593.9

(QR) Quantity Related

Contracts

Contract Identification

Appropriation: Procurement
Contract Name: LPD 26
Contractor: Huntington Ingalls Industries
Contractor Location: 1000 Access Road
 Pascagoula, MS 39567-0149
Contract Number: N00024-06-C-2222/26
Contract Type: Fixed Price Incentive(Firm Target) (FPIF)
Award Date: April 01, 2011
Definitization Date: April 01, 2011

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
1487.2	1690.0	1	1515.5	1722.1	1	1587.3	1590.0

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to the incorporation of engineering change proposals and negotiation of a contract price adjustment to cover the Navy's share of corporate office and general insurance expenses following completion of the spin-off of Northrop Grumman's shipbuilding division.

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/21/2014)	-96.6	+12.7
Previous Cumulative Variances	-63.8	+20.8
Net Change	-32.8	-8.1

Cost and Schedule Variance Explanations

The unfavorable net change in the cost variance is due to the inclusion of additional scope for productivity improvements and lessons learned, coordination challenges driven by facility capacity, and inexperienced craft personnel requiring higher than normal supervision.

The unfavorable net change in the schedule variance is due to the lack of discrete progress in outfitting crafts and the requirement for compartment completion rework due to inexperienced craft personnel.

Notes

LPD 26 construction is being performed at Huntington Ingalls Industries, Pascagoula Operations.

The program manager's estimated price at completion includes estimates of the government liabilities for contract clauses associated with deferred depreciation from Hurricane Katrina and the Avondale restructuring/closure. Implementation of changes to safety regulations and federal law associated with the Occupational Safety and Health Administration and the Pension Protection Act are also included. Cost growth can be attributed to overhead rate increases, unforeseen craft inefficiencies, engineering overruns, and material escalation.

Contract Identification

Appropriation: Procurement
Contract Name: LPD 27
Contractor: Huntington Ingalls Industries
Contractor Location: 1000 Access Road
 Pascagoula, MS 39567-0149
Contract Number: N00024-06-C-2222/27
Contract Type: Fixed Price Incentive(Firm Target) (FPIF)
Award Date: July 27, 2012
Definitization Date: July 27, 2012

Contract Price							
Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
1507.1	1692.2	1	1506.3	1691.3	1	1579.7	1568.0

Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to the incorporation of engineering change proposals.

Contract Variance		
Item	Cost Variance	Schedule Variance
Cumulative Variances To Date (12/21/2014)	-84.9	+5.8
Previous Cumulative Variances	--	--
Net Change	-84.9	+5.8

Cost and Schedule Variance Explanations

The unfavorable cumulative cost variance is due to the hiring of inexperienced personnel to address manning requirements driven by increased workload capacity. The use of green labor resulted in the requirement for rework; and the execution of work in uncovered areas led to schedule delays following inclement weather.

The favorable cumulative schedule variance is due to increase in manning for pulling cable and lighting installation and the successful execution of an aggressive plan in select crafts.

Notes

This is the first time this contract is being reported.

LPD 27 construction is being performed at Huntington Ingalls Industries, Pascagoula Operations.

The program manager's estimated price at completion includes estimates of the government liabilities for contract clauses associated with deferred depreciation from Hurricane Katrina and the Avondale restructure/closure. Cost growth can be attributed to early challenges in facility capacity and the use of inexperienced labor.

Deliveries and Expenditures

Deliveries				
Delivered to Date	Planned to Date	Actual to Date	Total Quantity	Percent Delivered
Development	0	0	0	--
Production	9	9	12	75.00%
Total Program Quantity Delivered	9	9	12	75.00%

Expended and Appropriated (TY \$M)			
Total Acquisition Cost	20719.2	Years Appropriated	26
Expended to Date	16968.3	Percent Years Appropriated	89.66%
Percent Expended	81.90%	Appropriated to Date	19910.2
Total Funding Years	29	Percent Appropriated	96.10%

The above data is current as of January 30, 2015.

Operating and Support Cost

Cost Estimate Details

Date of Estimate:	March 04, 2014
Source of Estimate:	POE
Quantity to Sustain:	11
Unit of Measure:	Ship
Service Life per Unit:	40.00 Years
Fiscal Years in Service:	FY 2005 - FY 2057

The FY 2015 Consolidated Appropriations Act provided funding towards an additional ship; an updated O&S cost estimate that includes the additional ship will be provided in the December 2015 SAR.

The cost element data for the LPD 17 class was pulled from the Naval Visibility and Management of Operating & Support Costs (VAMOSC) database. The average annual costs per LPD 17 class ship are based on actual VAMOSC data from 2006 through 2013. The one exception to that basis was the absence of unit-level manpower data for 2013 in VAMOSC.

Average crew size for an LPD 17 class ship is 371.

Sustainment Strategy

Life cycle engineering and support contracts with the shipbuilder and the Integrated Shipboard Electronics contractor, along with In Service Engineering Agent support contracts, are in place to support sustainment efforts.

Responsibilities have been divided to leverage strengths; the shipbuilder maintains the planning yard while the program office manages life-cycle maintenance, modernization, and logistics. Phased maintenance and dry dock availabilities are planned on a standard cycle; and continuous maintenance availabilities are conducted in between.

Antecedent Information

The LPD 4 class is one of the four amphibious ship classes being functionally replaced by the LPD 17 class. The cost element data for the LPD 4 class was pulled from the Naval VAMOSC database for all available years of data; the average annual costs per LPD 4 class ship were based on all available years of data. The estimate included 11 ships and a 40-year life cycle to mirror the LPD 17 class profile and expected service life. The estimate also incorporated actual LPD 4 commissioning and decommissioning profiles. The average annual costs per LPD 4 class ship were calculated in BY 1996 dollars for each cost element.

The cost element estimates for the LPD 4 class were not revised from last year's SAR submission as all, but one, LPD 4 class ships were decommissioned prior to 2013.

Average crew size for an LPD 4 class ship was 364.

Annual O&S Costs BY1996 \$M		
Cost Element	LPD 17 Average Annual Cost Per Ship	LPD 4 (Antecedent) Average Annual Cost Per Ship
Unit-Level Manpower	16.300	12.300
Unit Operations	4.800	3.900
Maintenance	8.100	8.600
Sustaining Support	0.700	0.900
Continuing System Improvements	1.000	2.400
Indirect Support	9.600	8.300
Other	0.000	0.000
Total	40.500	36.400

Item	Total O&S Cost \$M			
	LPD 17		LPD 4 (Antecedent)	
	Current Development APB Objective/Threshold	Current Estimate		
Base Year	N/A	N/A	17820.0	16016.0
Then Year	N/A	N/A	40205.0	N/A

Equation to Translate Annual Cost to Total Cost

The total O&S cost estimates for both the LPD 17 class and LPD 4 class are based on 11 ships over the same 40-year life cycle timeframe. The estimates were calculated using the following formula.

(Total Average Annual Cost per Hull x 11 hulls x 40 years)

LPD 17: \$40.5M x 11 x 40 = \$17,820M

LPD 4: \$36.4M x 11 x 40 = \$16,016M

O&S Cost Variance		
Category	BY 1996 \$M	Change Explanations
Prior SAR Total O&S Estimates - Dec 2013 SAR	17820.0	
Programmatic/Planning Factors	0.0	
Cost Estimating Methodology	0.0	
Cost Data Update	0.0	
Labor Rate	0.0	
Energy Rate	0.0	
Technical Input	0.0	
Other	0.0	
Total Changes	0.0	
Current Estimate	17820.0	

Disposal Estimate Details

Date of Estimate:	March 04, 2014
Source of Estimate:	POE
Disposal/Demilitarization Total Cost (BY 1996 \$M):	Total costs for disposal of all Ship are 56.1