



## Selected Acquisition Report (SAR)

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



### **LPD 17**

As of December 31, 2011

Defense Acquisition Management  
Information Retrieval  
(DAMIR)

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**UNCLASSIFIED**

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## Program Information

### Designation And Nomenclature (Popular Name)

SAN ANTONIO CLASS Amphibious Transport Dock

### DoD Component

Navy

## Responsible Office

### Responsible Office

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**Date Assigned** August 25, 2009

## 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 Class Amphibious Transport Dock Ship 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

The LPD 17 Program has made significant progress throughout the year in overcoming the quality and reliability issues that arose on the earlier ships of the class. Lessons learned in ship acquisition processes, shipbuilder quality assurance, shipboard and waterfront manning levels, and training philosophies have been incorporated across the class. Improvement in system design and processes are showing positive results as demonstrated during the most recent Board of Inspection and Survey (INSURV) inspections.

The LPD 21 (USS NEW YORK) Final Contract Trials (FCT) in February 2011 was the first FCT where INSURV assessed an LPD 17 class ship as ready for sustained combat operations. LPD 21 was transferred to the amphibious ship in-service support program office at the end of March 2011 and is currently preparing for deployment in late Spring 2012. LPD 22 (SAN DIEGO), the sixth ship of the class, successfully completed Acceptance Trials (AT) in November 2011 receiving some of the highest grades in the class and satisfactorily completed all in-port and at-sea demonstrations. The ship was delivered to the Navy on December 19, 2011.

The first four ships of the class have completed their maiden deployments with LPDs 18 and 19 (USS NEW ORLEANS and USS MESA VERDE) having already deployed for a second time. All four ships are currently conducting operations either locally in their homeport or overseas.

As of December 31, 2011, Huntington Ingalls Industries (HII) production efforts on LPDs 23/24/25/26 were 93%, 93%, 69%, and 5% complete, respectively. ANCHORAGE (LPD 23) was launched in February 2011 and christened in Spring 2011, as was ARLINGTON (LPD 24). The new LPD 17 class build plan has been implemented on LPD 22 and follow ships of the class. Higher pre-outfitting and completion levels at launch, along with fewer INSURV starred cards at AT, have been realized with each successive ship. LPD 23 production progress has caught up to and surpassed LPD 24 resulting in a realignment of delivery schedules to support executable trials' schedules for both ships.

Northrop Grumman Corporation completed the spin-off of their shipbuilding division to the new company, HII, on March 31, 2011. The program office continues to monitor the impacts from the spin-off, as well as the planned closure of their Avondale facility, to all ships in production, especially LPDs 23 and 25, which are being constructed at Avondale.

The Navy awarded the LPD 26 Detail Design and Construction contract to HII on April 1, 2011; and fabrication commenced on May 16, 2011. That award has served as the basis of negotiations of a priced option for design and construction of the eleventh ship (LPD 27) of the class, which are currently in process between the Navy and HII. The program office is tracking LPD 27 Long Lead Time Material (LLTM) procurements to preserve notional production and delivery schedules.

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

### Threshold Breaches

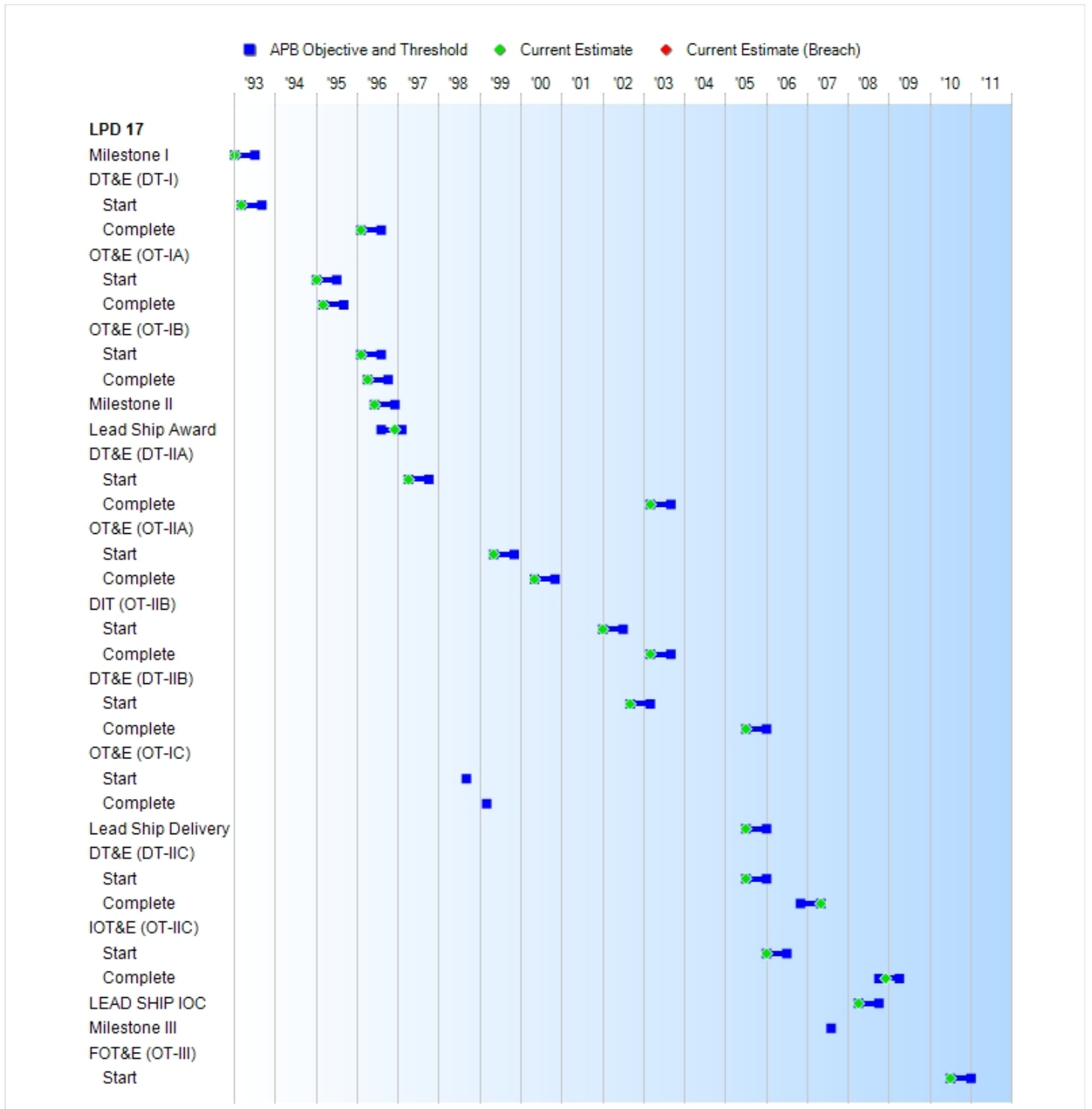
APB Breaches		
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- Schedule
- Performance
- Cost
  - RDT&E
  - Procurement
  - MILCON
  - Acq O&M
- Unit Cost
  - PAUC
  - APUC

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

### Schedule



Milestones	SAR Baseline Dev Est	Current APB Development		Current Estimate
		Objective/Threshold		
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-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	MAR 2003
DT&E (DT-IIB)				
Start	SEP 1998	SEP 2002	MAR 2003	SEP 2002
Complete	JUN 2002	JUL 2005	JAN 2006	JUL 2005
OT&E (OT-IC)				
Start	SEP 1998	N/A	N/A	N/A
Complete	MAR 1999	N/A	N/A	N/A
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
LEAD SHIP IOC	JAN 2004	APR 2008	OCT 2008	APR 2008
Milestone III	AUG 2007	N/A	N/A	N/A

(Ch-1)

<b>cont.</b>				
<b>Milestones</b>	<b>SAR Baseline Dev Est</b>	<b>Current APB Development Objective/Threshold</b>		<b>Current Estimate</b>
FOT&E (OT-III)				
Start	JAN 2011	JUL 2010	JAN 2011	JUL 2010

**Acronyms And Abbreviations**

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

**Change Explanations**

(Ch-1) Milestone III requirement was removed from the Acquisition Program Baseline on September 18, 2011.



**Performance**

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

(Ch-1)

(Ch-2)

**Requirements Source:**

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

**Acronyms And Abbreviations**

- Gals - gallons
- K/k - Thousands
- Kts - Knots
- LCAC - Landing Craft Air Cushion
- mins - minutes
- NM - Nautical Miles
- Sq Ft - square feet
- VTOL - Vertical Take-Off and Landing

**Change Explanations**

(Ch-1) Current estimate for vehicle storage changed from 24 to 22 to align with performance cited in the LPD 17 class Operational Evaluation report dated January 2010.

(Ch-2) Operational availability estimate changed from .80 to .82 to reflect data as of December 2011.

**Memo**

Demonstrated performance for Sustained Speed and Vehicles (Sq Ft) reflect performance during LPD 17 Builder's Trials (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 Initial Operational Test and Evaluation (IOT&E) events.

Demonstrated performance for Operational Availability reflects performance cited in the LPD 17 class Operational Evaluation (OPEVAL) report dated January 2010.

**Track To Budget****RDT&E**

APPN 1319	BA 05	PE 0604311N	(Navy)	
	Project 2283	LPD Development	(Shared)	(Sunk)

**Procurement**

APPN 1611	BA 01	PE 0204411N	(Navy)	
	ICN 0946	LPD Class Support Equipment	(Shared)	
	ICN 0981	Items Less Than \$5M	(Shared)	
APPN 1611	BA 03	PE 0204411N	(Navy)	
	ICN 3036	Shipbuilding and Conversion		
APPN 1611	BA 05	PE 0204411N	(Navy)	
	ICN 5110	Shipbuilding and Conversion	(Shared)	
	ICN 5300	Shipbuilding and Conversion	(Shared)	

Funding in BA 01 / ICN 0941 and BA 01 / ICN 0946 is for non-acquisition related efforts and is not included in the Acquisition Program Baseline (APB) objective.

## Cost and Funding

### Cost Summary

#### Total Acquisition Cost and Quantity

Appropriation	BY1996 \$M			BY1996 \$M	TY \$M		
	SAR Baseline Dev Est	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Dev Est	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	14153.2	10684.0	18714.0	18699.0
Flyaway	8939.4	--	--	14153.2	10684.0	--	18699.0
Recurring	8939.4	--	--	14084.5	10684.0	--	18583.2
Non Recurring	0.0	--	--	68.7	0.0	--	115.8
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	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	14269.3	10761.8	18828.0	18819.1

Confidence Level For Current APB Cost - 92%. Six ships have been delivered to the Fleet; four ships in construction are under fixed price contracts; and the last ship of the class will be awarded as a fixed price contract. The program's confidence level will increase as the last ship is placed under contract and goes through the construction process.

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

## Cost and Funding

### Funding Summary

#### Appropriation and Quantity Summary FY2013 President's Budget / December 2011 SAR (TY\$ M)

Appropriation	Prior	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	To Complete	Total
RDT&E	120.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	120.1
Procurement	16284.5	1982.7	140.3	76.2	54.7	54.5	32.1	74.0	18699.0
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 2013 Total	16404.6	1982.7	140.3	76.2	54.7	54.5	32.1	74.0	18819.1
PB 2012 Total	16436.6	1991.5	148.7	77.3	64.1	55.6	61.1	0.0	18834.9
Delta	-32.0	-8.8	-8.4	-1.1	-9.4	-1.1	-29.0	74.0	-15.8

Quantity	Undistributed	Prior	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	0
Production	0	10	1	0	0	0	0	0	0	11
PB 2013 Total	0	10	1	0	0	0	0	0	0	11
PB 2012 Total	0	10	1	0	0	0	0	0	0	11
Delta	0	0	0	0	0	0	0	0	0	0

## 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
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
<b>Subtotal</b>	--	--	--	--	--	--	<b>120.1</b>

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

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway BY 1996 \$M</b>	<b>Non End Item Recurring Flyaway BY 1996 \$M</b>	<b>Non Recurring Flyaway BY 1996 \$M</b>	<b>Total Flyaway BY 1996 \$M</b>	<b>Total Support BY 1996 \$M</b>	<b>Total Program BY 1996 \$M</b>
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
<b>Subtotal</b>	--	--	--	--	--	--	<b>116.1</b>

The LPD 17 class program closeout costs are reflected in the non-recurring flyaway cost spread over FY 21014-2016.

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

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway TY \$M</b>	<b>Non End Item Recurring Flyaway TY \$M</b>	<b>Non Recurring Flyaway TY \$M</b>	<b>Total Flyaway TY \$M</b>	<b>Total Support TY \$M</b>	<b>Total Program TY \$M</b>
1996	1	1051.8	--	--	1051.8	--	1051.8
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	--	593.6	--	--	593.6	--	593.6
2002	--	418.2	--	--	418.2	--	418.2
2003	1	1241.7	--	--	1241.7	--	1241.7
2004	1	1655.5	--	--	1655.5	--	1655.5
2005	1	1314.1	--	--	1314.1	--	1314.1
2006	1	3305.0	--	--	3305.0	--	3305.0
2007	--	471.3	--	--	471.3	--	471.3
2008	1	1602.6	--	--	1602.6	--	1602.6
2009	1	1033.4	--	--	1033.4	--	1033.4
2010	--	1232.2	--	--	1232.2	--	1232.2
2011	--	58.3	--	--	58.3	--	58.3
2012	1	1982.7	--	--	1982.7	--	1982.7
2013	--	140.3	--	--	140.3	--	140.3
2014	--	22.5	--	53.7	76.2	--	76.2
2015	--	17.0	--	37.7	54.7	--	54.7
2016	--	30.1	--	24.4	54.5	--	54.5
2017	--	32.1	--	--	32.1	--	32.1
2018	--	74.0	--	--	74.0	--	74.0
<b>Subtotal</b>	<b>11</b>	<b>18583.2</b>	<b>--</b>	<b>115.8</b>	<b>18699.0</b>	<b>--</b>	<b>18699.0</b>



## Annual Funding BY\$

## 1611 | Procurement | Shipbuilding and Conversion, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway BY 1996 \$M	Non End Item Recurring Flyaway BY 1996 \$M	Non Recurring Flyaway BY 1996 \$M	Total Flyaway BY 1996 \$M	Total Support BY 1996 \$M	Total Program BY 1996 \$M
1996	1	1024.8	--	--	1024.8	--	1024.8
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	--	517.0	--	--	517.0	--	517.0
2002	--	362.2	--	--	362.2	--	362.2
2003	1	1016.6	--	--	1016.6	--	1016.6
2004	1	1308.0	--	--	1308.0	--	1308.0
2005	1	994.2	--	--	994.2	--	994.2
2006	1	2415.4	--	--	2415.4	--	2415.4
2007	--	329.8	--	--	329.8	--	329.8
2008	1	1087.0	--	--	1087.0	--	1087.0
2009	1	682.4	--	--	682.4	--	682.4
2010	--	794.4	--	--	794.4	--	794.4
2011	--	36.9	--	--	36.9	--	36.9
2012	1	1232.5	--	--	1232.5	--	1232.5
2013	--	85.7	--	--	85.7	--	85.7
2014	--	13.5	--	32.2	45.7	--	45.7
2015	--	10.0	--	22.3	32.3	--	32.3
2016	--	17.4	--	14.2	31.6	--	31.6
2017	--	18.3	--	--	18.3	--	18.3
2018	--	41.4	--	--	41.4	--	41.4
<b>Subtotal</b>	<b>11</b>	<b>14084.5</b>	<b>--</b>	<b>68.7</b>	<b>14153.2</b>	<b>--</b>	<b>14153.2</b>

The LPD 17 class program closeout costs are reflected in the non-recurring flyaway cost spread over FY2014-2016.

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

<b>Fiscal Year</b>	<b>Quantity</b>	<b>End Item Recurring Flyaway (Aligned with Quantity) BY 1996 \$M</b>
1996	1	1813.5
1997	--	--
1998	--	--
1999	1	1162.9
2000	2	2349.6
2001	--	--
2002	--	--
2003	1	1321.1
2004	1	1243.3
2005	1	1133.7
2006	1	1217.1
2007	--	--
2008	1	1298.4
2009	1	1242.0
2010	--	--
2011	--	--
2012	1	1302.9
2013	--	--
2014	--	--
2015	--	--
2016	--	--
2017	--	--
2018	--	--
<b>Subtotal</b>	<b>11</b>	<b>14084.5</b>

## Low Rate Initial Production

	Initial LRIP Decision	Current Total LRIP
<b>Approval Date</b>	6/17/1996	6/17/1996
<b>Approved Quantity</b>	12	12
<b>Reference</b>	ADM	ADM
<b>Start Year</b>	1996	1996
<b>End Year</b>	2015	2015

The Acquisition Decision Memorandum (ADM) dated June 17, 1996 approved 12 ship Low Rate Initial Production. The Current Total Low Rate Initial Production (LRIP) Quantity is more than 10% of the total procurement quantity which is standard for shipbuilding programs.

## Foreign Military Sales

None

## Nuclear Cost

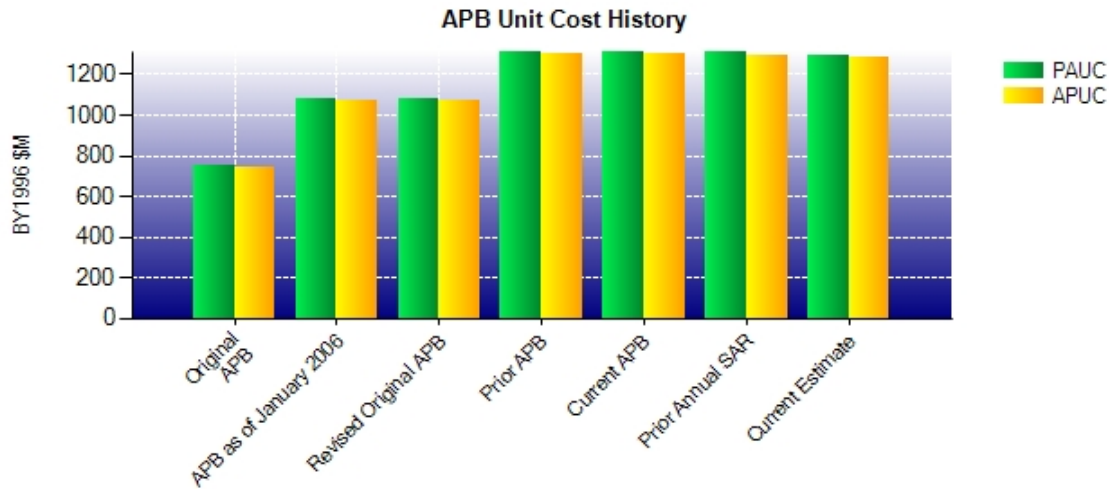
None

**Unit Cost****Unit Cost Report**

	<b>BY1996 \$M</b>	<b>BY1996 \$M</b>	
<b>Unit Cost</b>	<b>Current UCR Baseline (SEP 2011 APB)</b>	<b>Current Estimate (DEC 2011 SAR)</b>	<b>BY % Change</b>
<b>Program Acquisition Unit Cost (PAUC)</b>			
Cost	14458.4	14269.3	
Quantity	11	11	
Unit Cost	1314.400	1297.209	-1.31
<b>Average Procurement Unit Cost (APUC)</b>			
Cost	14347.1	14153.2	
Quantity	11	11	
Unit Cost	1304.282	1286.655	-1.35

	<b>BY1996 \$M</b>	<b>BY1996 \$M</b>	
<b>Unit Cost</b>	<b>Revised Original UCR Baseline (OCT 2005 APB)</b>	<b>Current Estimate (DEC 2011 SAR)</b>	<b>BY % Change</b>
<b>Program Acquisition Unit Cost (PAUC)</b>			
Cost	12955.2	14269.3	
Quantity	12	11	
Unit Cost	1079.600	1297.209	+20.16
<b>Average Procurement Unit Cost (APUC)</b>			
Cost	12842.4	14153.2	
Quantity	12	11	
Unit Cost	1070.200	1286.655	+20.23

### Unit Cost History



	Date	BY1996 \$M		TY \$M	
		PAUC	APUC	PAUC	APUC
<b>Original APB</b>	JUN 1996	751.508	744.950	896.817	890.333
<b>APB as of January 2006</b>	OCT 2005	1079.600	1070.200	1283.233	1273.642
<b>Revised Original APB</b>	OCT 2005	1079.600	1070.200	1283.233	1273.642
<b>Prior APB</b>	DEC 2010	1314.400	1304.282	1711.636	1701.273
<b>Current APB</b>	SEP 2011	1314.400	1304.282	1711.636	1701.273
<b>Prior Annual SAR</b>	DEC 2010	1307.200	1296.645	1712.264	1701.345
<b>Current Estimate</b>	DEC 2011	1297.209	1286.655	1710.827	1699.909

### SAR Unit Cost History

#### Current SAR Baseline to Current Estimate (TY \$M)

Initial PAUC Dev Est	Changes								PAUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
896.817	80.809	-52.844	83.245	0.000	515.200	187.600	0.000	814.010	1710.827

#### Current SAR Baseline to Current Estimate (TY \$M)

Initial APUC Dev Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
890.333	80.791	-53.433	82.691	0.000	511.927	187.600	0.000	809.576	1699.909

## SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	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	N/A	N/A	N/A
Total Cost (TY \$M)	59.1	10761.8	N/A	18819.1
Total Quantity	N/A	12	N/A	11
Prog. Acq. Unit Cost (PAUC)	N/A	896.817	N/A	1710.827

**Cost Variance****Cost Variance Summary**

<b>Summary Then Year \$M</b>				
	<b>RDT&amp;E</b>	<b>Proc</b>	<b>MILCON</b>	<b>Total</b>
SAR Baseline (Dev Est)	77.8	10684.0	--	10761.8
Previous Changes				
Economic	+0.2	+738.1	--	+738.3
Quantity	--	-1478.1	--	-1478.1
Schedule	+6.1	+909.6	--	+915.7
Engineering	--	--	--	--
Estimating	+36.0	+5789.9	--	+5825.9
Other	--	+2071.3	--	+2071.3
Support	--	--	--	--
Subtotal	+42.3	+8030.8	--	+8073.1
Current Changes				
Economic	--	+150.6	--	+150.6
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	-158.7	--	-158.7
Other	--	-7.7	--	-7.7
Support	--	--	--	--
Subtotal	--	-15.8	--	-15.8
Total Changes	+42.3	+8015.0	--	+8057.3
CE - Cost Variance	120.1	18699.0	--	18819.1
CE - Cost & Funding	120.1	18699.0	--	18819.1

<b>Summary Base Year 1996 \$M</b>				
	<b>RDT&amp;E</b>	<b>Proc</b>	<b>MILCON</b>	<b>Total</b>
SAR Baseline (Dev Est)	78.7	8939.4	--	9018.1
Previous Changes				
Economic	--	--	--	--
Quantity	--	-1325.1	--	-1325.1
Schedule	+4.8	+410.1	--	+414.9
Engineering	--	--	--	--
Estimating	+32.6	+4701.1	--	+4733.7
Other	--	+1537.6	--	+1537.6
Support	--	--	--	--
Subtotal	+37.4	+5323.7	--	+5361.1
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	--	-104.3	--	-104.3
Other	--	-5.6	--	-5.6
Support	--	--	--	--
Subtotal	--	-109.9	--	-109.9
Total Changes	+37.4	+5213.8	--	+5251.2
CE - Cost Variance	116.1	14153.2	--	14269.3
CE - Cost & Funding	116.1	14153.2	--	14269.3

Previous Estimate: December 2010



Procurement	\$M	
	Base Year	Then Year
<b>Current Change Explanations</b>		
Revised escalation indices. (Economic)	N/A	+150.6
Adjustment for current and prior escalation. (Estimating)	-89.4	-137.8
Realignment of Hurricane Katrina supplemental funding within the Navy. (Other)	-5.6	-7.7
Adjustments to post delivery and outfitting budgets. (Estimating)	+2.3	+7.2
Reduction of cost-to-complete funding for LPD 25 due to unearned schedule incentives. (Estimating)	-11.1	-18.1
Reduction of LPD 27 engineering change orders budget in the FY 2012 Appropriations Act. (Estimating)	-6.1	-10.0
Procurement Subtotal	-109.9	-15.8

**Contracts**

**Appropriation: Procurement**

Contract Name **LPD 22**  
 Contractor Huntington Ingalls Industries  
 Contractor Location 1000 Access Road  
 Pascagoula, MS 39567-0149  
 Contract Number, Type N00024-06-C-2222/22, FPIF  
 Award Date June 01, 2006  
 Definitization Date June 01, 2006

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
1097.0	1210.2	1	1104.8	1218.4	1	1218.4	1218.4

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	-189.9	-9.8
Previous Cumulative Variances	-91.6	-35.8
Net Change	-98.3	+26.0

**Cost And Schedule Variance Explanations**

The unfavorable net change in the cost variance is due to insufficient budget allocation to support higher than anticipated levels of hot work requirements and additional staffing/overtime to meet quality assurance requirements associated with revised pipe weld procedures. Extension of the production schedule, which facilitated the need for additional watchstanders, and material damage due to exposure to inclement weather have also increased costs.

The favorable net change in the schedule variance is due to the fact that the ship has been delivered to the Navy. By definition, schedule performance indices improve near the end of the production cycle as the ship approaches delivery.

**Contract Comments**

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

The difference between the initial contract price target and the current contract price target is due to the February 2007 execution of the Advance Agreement on Recovery of Hurricane Losses between the U.S. Government and Northrop Grumman Corporation.

LPD 22 ship construction is being performed at Huntington Ingalls Industries, Pascagoula Operations.

Material escalation costs have been a factor in the Program Manager's estimate reaching ceiling. Poor craft performance and alignment of plans/resources, along with inconsistent manning, impacted LPD 22's schedule.

The ship was delivered to the Navy on December 19, 2011.

**Appropriation: Procurement**

Contract Name **LPD 23**  
 Contractor Huntington Ingalls Industries  
 Contractor Location 1000 Access Road  
 Pascagoula, MS 39567-0149  
 Contract Number, Type N00024-06-C-2222/23, FPIF  
 Award Date June 01, 2006  
 Definitization Date June 01, 2006

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
1127.6	1243.5	1	1128.4	1244.2	1	1244.2	1244.2

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	-94.0	-28.1
Previous Cumulative Variances	-65.7	-45.5
Net Change	-28.3	+17.4

**Cost And Schedule Variance Explanations**

The unfavorable net change in the cost variance is due to late releases of compartments by installing crafts and additional quality assurance requirements. Under performance in the electrical craft, material costs above estimates, and higher commodities quotes from suppliers have further impacted the cost variance.

The favorable net change in the schedule variance is due to improvements in material and inventory systems. Material need dates are supporting the new production schedule.

**Contract Comments**

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

The difference between the initial contract price target and the current contract price target is due to the incorporation of engineering change proposals.

LPD 23 ship construction is being performed at Huntington Ingalls Industries, Avondale Operations.

Material escalation costs have been a factor in the Program Manager's estimate reaching ceiling. The program office continues to monitor the planned closure of Avondale, which has introduced some schedule risks to the ships under construction at that yard; however, LPD 23 continues to show positive production performance trends.

**Appropriation: Procurement**

Contract Name **LPD 24**  
 Contractor Huntington Ingalls Industries  
 Contractor Location 1000 Access Road  
 Pascagoula, MS 39567-0149  
 Contract Number, Type N00024-06-C-2222/24, FPIF  
 Award Date November 06, 2006  
 Definitization Date November 06, 2006

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
1184.0	1297.3	1	1180.0	1293.0	1	1293.0	1293.0

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	-133.6	-61.4
Previous Cumulative Variances	-84.3	-56.3
Net Change	-49.3	-5.1

**Cost And Schedule Variance Explanations**

The unfavorable net change in the cost variance is due to unit outsourcing delays and follow-on work sequencing which resulted in late compartment releases. Rework efforts, primarily caused by new/inexperienced labor, and additional fire watch, supervisory, and quality assurance requirements have delayed compartment completions and led to additional overtime, which was above the original budget.

The unfavorable net change in the schedule variance is due to late compartment turnovers/releases from predecessor crafts, which has caused delays in painting, compartment completion, and testing.

**Contract Comments**

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

The difference between the initial contract price target and the current contract price target is due to the incorporation of engineering change proposals.

LPD 24 ship construction is being performed at Huntington Ingalls Industries, Pascagoula Operations.

Material escalation costs have been a factor in the Program Manager's estimate reaching ceiling. Poor craft performance and alignment of plans/resources, along with inconsistent manning, have impacted the LPD 24 schedule.

**Appropriation: Procurement**

Contract Name **LPD 25**  
 Contractor Huntington Ingalls Industries  
 Contractor Location 1000 Access Road  
 Pascagoula, MS 39567-0149  
 Contract Number, Type N00024-06-C-2222/25, FPIF  
 Award Date December 21, 2007  
 Definitization Date December 21, 2007

Initial Contract Price (\$M)			Current Contract Price (\$M)			Estimated Price At Completion (\$M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
1212.8	1349.9	1	1212.0	1349.0	1	1349.0	1349.0

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	-78.1	-112.4
Previous Cumulative Variances	-52.4	-93.1
Net Change	-25.7	-19.3

**Cost And Schedule Variance Explanations**

The unfavorable net change in the cost variance is due to insufficient planning with regards to manning requirements and late arrival of materials to the individual crafts.

The unfavorable net change in the schedule variance is due to late unit releases and receipt of incomplete units from predecessor crafts. Late unit erection and late material receipts have also driven the unfavorable schedule variance.

**Contract Comments**

The difference between the initial contract price target and the current contract price target is due to the incorporation of engineering change proposals.

LPD 25 ship construction is being performed at Huntington Ingalls Industries, Avondale Operations.

Material escalation costs have been a factor in the Program Manager's estimate reaching ceiling. The program office continues to monitor the planned closure of Avondale, which has introduced some schedule risks to the ships under construction at that yard. The LPD 25 delivery date was moved to May 2013 as a result of the shipbuilder not manning fully to plan and not refilling normal attrition vacancies due to the Avondale closure plans.

**Appropriation: Procurement**

Contract Name **LPD 26**  
 Contractor Huntington Ingalls Industries  
 Contractor Location 1000 Access Road  
 Pascagoula, MS 39567-0149  
 Contract Number, Type N00024-06-C-2222/26, FPIF  
 Award Date April 01, 2011  
 Definitization Date April 01, 2011

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	1495.0	1699.0	1	1562.8	1544.5

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	-5.3	+25.4
Previous Cumulative Variances	--	--
Net Change	-5.3	+25.4

**Cost And Schedule Variance Explanations**

The unfavorable cumulative cost variance is due to the difference between the rates agreed upon in the LPD 26 construction contract and those in HII's current Forward Pricing Rate Proposal.

The favorable cumulative schedule variance is due to the fact that material on hand as excess from prior hulls has been used to satisfy requirements facilitating execution of production efforts without having to wait for material procurement and delivery.

**Contract Comments**

The difference between the initial contract price target and the current contract price target is due to the incorporation of engineering change proposals.

This is the first report for this contract.

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

The Integrated Baseline Review (IBR) for LPD 26 was conducted in December 2011 to assess the validity of and assumptions behind the shipbuilder's Performance Management Baseline (PMB).

## Deliveries and Expenditures

Deliveries To Date	Plan To Date	Actual To Date	Total Quantity	Percent Delivered
Development	0	0	0	--
Production	6	6	11	54.55%
Total Program Quantities Delivered	6	6	11	54.55%

Expenditures and Appropriations (TY \$M)			
Total Acquisition Cost	18819.1	Years Appropriated	23
Expenditures To Date	13886.6	Percent Years Appropriated	79.31%
Percent Expended	73.79%	Appropriated to Date	18387.3
Total Funding Years	29	Percent Appropriated	97.71%

Reflects data through December 31, 2011.

## Operating and Support Cost

### Assumptions And Ground Rules

The costs include all personnel, equipment, supplies, software and services including support associated with operating, modifying, maintaining, supplying, training and supporting the LPD 17 Program. The cost element data was pulled from the Operating and Support Cost Analysis Model (OSCAM) within the Navy's Visibility and Management of Operating and Support Costs (VAMOSC) system and reflects the actual costs incurred on all in-service LPD 17 class and LPD 4 class ships from fiscal year 2006 through fiscal year 2011.

The total operating and support costs calculations for both the LPD 17 class and the LPD 4 class are based on 11 ships over the same 40-year life cycle timeframes.

Date of most recent estimate is February 13, 2012.

Costs BY1996 \$M			
Cost Element	LPD 17 Average Annual Cost per LPD Class Hull	LPD 4 Average Annual Cost per LPD Class Hull	
Unit-Level Manpower	21.1	20.4	
Unit Operations	3.9	8.5	
Maintenance	7.9	9.9	
Sustaining Support	1.0	1.0	
Continuing System Improvements	1.4	2.9	
Indirect Support	--	--	
Other	--	--	
Total Unitized Cost (Base Year 1996 \$)	35.3	42.7	

Total O&S Costs \$M	LPD 17	LPD 4
Base Year	15532.0	18788.0
Then Year	29500.4	35684.7