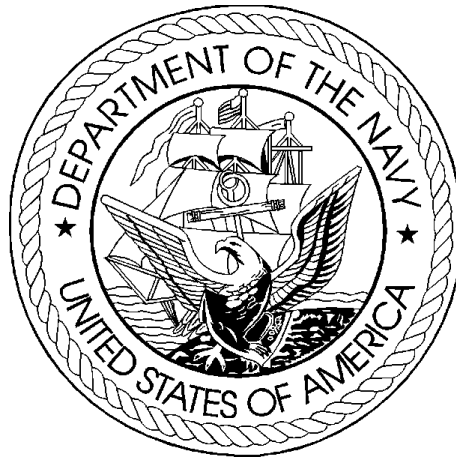


DEPARTMENT OF THE NAVY  
FISCAL YEAR (FY) 2016  
BUDGET ESTIMATES



JUSTIFICATION OF ESTIMATES  
FEBRUARY 2015

SHIPBUILDING AND CONVERSION, NAVY

The estimated total cost for producing the Department of Navy budget justification material is approximately \$1,436,000 for the 2015 fiscal year.  
This includes \$74,000 in supplies and \$1,362,000 in labor.

## Department of Defense Appropriations Act, 2016

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### Shipbuilding and Conversion, Navy

For expenses necessary for the construction, acquisition, or conversion of vessels as authorized by law, including armor and armament thereof, plant equipment, appliances, and machine tools and installation thereof in public and private plants; reserve plant and Government and contractor-owned equipment layaway; procurement of critical, long lead time components and designs for vessels to be constructed or converted in the future; and expansion of public and private plants, including land necessary therefore, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title.

In all: \$16,597,457,000, to remain available for obligation until September 30, 2020: *Provided*, That additional obligations may be incurred after September 30, 2020, for engineering services, tests, evaluations, and other such budgeted work that must be performed in the final stage of ship construction: *Provided further*, That none of the funds provided under this heading for the construction or conversion of any naval vessel to be constructed in shipyards in the United States shall be expended in foreign facilities for the construction of major components of such vessel: *Provided further*, That none of the funds provided under this heading shall be used for the construction of any naval vessel in foreign shipyards.

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## UNCLASSIFIED

Department of the Navy  
 FY 2016 President's Budget  
 Exhibit P-1 FY 2016 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

09 Jan 2015

Appropriation -----	FY 2014 (Base & OCO) -----	FY 2015 Base Enacted -----	FY 2015 OCO Enacted -----	FY 2015 Total Enacted -----
Shipbuilding and Conversion, Navy	15,231,364	15,954,379		15,954,379
Total Department of the Navy	15,231,364	15,954,379		15,954,379

## UNCLASSIFIED

Department of the Navy  
FY 2016 President's Budget  
Exhibit P-1 FY 2016 President's Budget  
Total Obligational Authority  
(Dollars in Thousands)

09 Jan 2015

Appropriation -----	FY 2016 Base -----	FY 2016 OCO -----	FY 2016 Total -----
Shipbuilding and Conversion, Navy	16,597,457		16,597,457
Total Department of the Navy	16,597,457		16,597,457

## UNCLASSIFIED

Department of the Navy  
FY 2016 President's Budget  
Exhibit P-1 FY 2016 President's Budget  
Total Obligational Authority  
(Dollars in Thousands)

09 Jan 2015

Appropriation: Shipbuilding and Conversion, Navy

Budget Activity -----	FY 2014 (Base & OCO) -----	FY 2015 Base Enacted -----	FY 2015 OCO Enacted -----	FY 2015 Total Enacted -----
02. Other Warships*	13,932,909	13,180,820		13,180,820
03. Amphibious Ships	627,332	1,297,189		1,297,189
05. Auxiliaries, Craft, and Prior-Year Program Costs*	671,123	1,476,370		1,476,370
Total Shipbuilding and Conversion, Navy	15,231,364	15,954,379		15,954,379

P-1C1: FY 2016 President's Budget (Published Version of PB Position), as of January 9, 2015 at 15:33:34

\* OSD's P-1 does not reflect a \$189,381K transfer of cost to complete funds from Budget Activity (BA) 05 to BA 02 for CVN 78 in FY 2015.

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UNCLASSIFIED

## UNCLASSIFIED

Department of the Navy  
 FY 2016 President's Budget  
 Exhibit P-1 FY 2016 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

09 Jan 2015

Appropriation: Shipbuilding and Conversion, Navy

Budget Activity -----	FY 2016 Base -----	FY 2016 OCO -----	FY 2016 Total -----
02. Other Warships	13,482,792		13,482,792
03. Amphibious Ships	827,543		827,543
05. Auxiliaries, Craft, and Prior-Year Program Costs	2,287,122		2,287,122
Total Shipbuilding and Conversion, Navy	16,597,457		16,597,457



## UNCLASSIFIED

Department of the Navy  
FY 2016 President's Budget  
Exhibit P-1 FY 2016 President's Budget  
Total Obligational Authority  
(Dollars in Thousands)

09 Jan 2015

Appropriation: 1611N Shipbuilding and Conversion, Navy

Line No	Item Nomenclature	Ident Code	FY 2014 (Base & OCO) Quantity Cost	FY 2015 Base Enacted Quantity Cost	FY 2015 OCO Enacted Quantity Cost	FY 2015 Total Enacted Quantity Cost	S e c
Budget Activity 02: Other Warships							
1	Carrier Replacement Program	A					
	Subsequent Full Funding (CY)		917,553	1,219,425		1,219,425	U
	Completion of Prior Year Shipbuilding (CY)*		588,100	663,000		663,000	U
2	Carrier Replacement Program Advance Procurement (CY)						U
Other Warships							
3	Virginia Class Submarine	B	2 (5,409,326)	2 (5,265,668)		2 (5,265,668)	U
	Less: Advance Procurement (PY)		(-1,528,622)	(-1,735,414)		(-1,735,414)	U
			3,880,704	3,530,254		3,530,254	
	Completion of Prior Year Shipbuilding (CY)		227,000				U
4	Virginia Class Submarine Advance Procurement (CY)		2,354,612	2,301,825		2,301,825	U
5	CVN Refueling Overhauls	A					U
	Less: Advance Procurement (PY)						U
	Less: Subsequent Full Funding (FY)						U
	Subsequent Full Funding (CY)		1,609,324				U
	Completion of Prior Year Shipbuilding (CY)			54,000		54,000	U
6	CVN Refueling Overhauls Advance Procurement (CY)		245,793	483,600		483,600	U
7	DDG 1000	A	231,694	419,532		419,532	U

P-1C1: FY 2016 President's Budget (Published Version of PB Position), as of January 9, 2015 at 15:33:34

\* OSD's P-1 does not reflect a \$189,381K transfer of cost to complete funds from Budget Activity (BA) 05 to BA 02 for CVN 78 in FY 2015.

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## UNCLASSIFIED

Department of the Navy  
FY 2016 President's Budget  
Exhibit P-1 FY 2016 President's Budget  
Total Obligational Authority  
(Dollars in Thousands)

09 Jan 2015

Appropriation: 1611N Shipbuilding and Conversion, Navy

Line No	Item Nomenclature	Ident Code	FY 2016 Base Quantity	Cost	FY 2016 OCO Quantity	Cost	FY 2016 Total Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-----	----	-
Budget Activity 02: Other Warships									
-----									
1	Carrier Replacement Program	A							
	Subsequent Full Funding (CY)			1,634,701			1,634,701		U
	Completion of Prior Year Shipbuilding (CY)								U
2	Carrier Replacement Program								
	Advance Procurement (CY)			874,658			874,658		U
Other Warships									
3	Virginia Class Submarine	B	2	(5,376,854)			2	(5,376,854)	U
	Less: Advance Procurement (PY)			(-2,030,484)				(-2,030,484)	U
				-----		-----		-----	
				3,346,370			3,346,370		
	Completion of Prior Year Shipbuilding (CY)								U
4	Virginia Class Submarine								
	Advance Procurement (CY)			1,993,740			1,993,740		U
5	CVN Refueling Overhauls	A	1	(4,755,855)			1	(4,755,855)	U
	Less: Advance Procurement (PY)			(-813,319)				(-813,319)	U
	Less: Subsequent Full Funding (FY)			(-3,264,262)				(-3,264,262)	U
				-----		-----		-----	
				678,274			678,274		
	Subsequent Full Funding (CY)								U
	Completion of Prior Year Shipbuilding (CY)								U
6	CVN Refueling Overhauls								
	Advance Procurement (CY)			14,951			14,951		U
7	DDG 1000	A		433,404			433,404		U

P-1C1: FY 2016 President's Budget (Published Version of PB Position), as of January 9, 2015 at 15:33:34

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## UNCLASSIFIED

Department of the Navy  
 FY 2016 President's Budget  
 Exhibit P-1 FY 2016 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

09 Jan 2015

Appropriation: 1611N Shipbuilding and Conversion, Navy

Line No	Item Nomenclature	Ident Code	FY 2014 (Base & OCO) Quantity Cost	FY 2015 Base Enacted Quantity Cost	FY 2015 OCO Enacted Quantity Cost	FY 2015 Total Enacted Quantity Cost	S e c
8	DDG-51	A	1 (1,731,402)	2 (2,956,747)		2 (2,959,747)	U
	Less: Advance Procurement (PY)**		(-115,838)	(-294,840)		(-297,840)	U
			1,615,564	2,661,907		2,661,907	
	Completion of Prior Year Shipbuilding (CY)		100,000	129,144		129,144	U
9	DDG-51		369,551	134,039		134,039	U
	Advance Procurement (CY)						
10	Littoral Combat Ship	A	4 (1,793,014)	3 (1,427,049)		3 (1,427,049)	U
	Less: Advance Procurement (PY)						U
			1,793,014	1,427,049		1,427,049	
	Completion of Prior Year Shipbuilding (CY)			77,045		77,045	U
11	Littoral Combat Ship			80,000		80,000	U
	Advance Procurement (CY)						
Total Other Warships*			13,932,909	13,180,820		13,180,820	
Budget Activity 03: Amphibious Ships							
-----							
Amphibious Ships							
12	LPD-17	A		(1,792,976)		(1,792,976)	U
	Less: Advance Procurement (PY)***			(-242,976)		(-242,976)	U
	Less: Subsequent Full Funding (FY)			(-550,000)		(-550,000)	U
				1,000,000		1,000,000	
	Subsequent Full Funding (CY)						U
	Completion of Prior Year Shipbuilding (CY)			54,096		54,096	U
13	Afloat Forward Staging Base	A	1 579,300				U

P-1C1: FY 2016 President's Budget (Published Version of PB Position), as of January 9, 2015 at 15:33:34

\* OSD's P-1 does not reflect a \$189,381K transfer of cost to complete funds from Budget Activity (BA) 05 to BA 02 for CVN 78 in FY 2015.

\*\* OSD's P-1 does not reflect FY 2013 Advance Procurement reduction of \$3,000K in the end cost of the FY 2015 DDG-51.

\*\*\* OSD's P-1 does not reflect FY 2013 Advance Procurement in the end cost of the FY 2015 LPD-17.

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## UNCLASSIFIED

Department of the Navy  
FY 2016 President's Budget  
Exhibit P-1 FY 2016 President's Budget  
Total Obligational Authority  
(Dollars in Thousands)

09 Jan 2015

Appropriation: 1611N Shipbuilding and Conversion, Navy

Line No	Item Nomenclature	Ident Code	FY 2016 Base Quantity	Cost	FY 2016 OCO Quantity	Cost	FY 2016 Total Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-----	----	-
8	DDG-51	A	2	(3,522,737)			2	(3,522,737)	U
	Less: Advance Procurement (PY)			(-373,034)				(-373,034)	U
				-----		-----		-----	
				3,149,703				3,149,703	
	Completion of Prior Year Shipbuilding (CY)								U
9	DDG-51								U
	Advance Procurement (CY)								
10	Littoral Combat Ship	A	3	(1,436,991)			3	(1,436,991)	U
	Less: Advance Procurement (PY)			(-80,000)				(-80,000)	U
				-----		-----		-----	
				1,356,991				1,356,991	
	Completion of Prior Year Shipbuilding (CY)								U
11	Littoral Combat Ship								U
	Advance Procurement (CY)								
				-----		-----		-----	
Total Other Warships				13,482,792				13,482,792	
Budget Activity 03:	Amphibious Ships								
-----									
	Amphibious Ships								
12	LPD-17	A							U
	Less: Subsequent Full Funding (FY)								U
				-----		-----		-----	
	Subsequent Full Funding (CY)		1	550,000			1	550,000	U
	Completion of Prior Year Shipbuilding (CY)								U
13	Afloat Forward Staging Base	A							U

P-1C1: FY 2016 President's Budget (Published Version of PB Position), as of January 9, 2015 at 15:33:34

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## UNCLASSIFIED

Department of the Navy  
FY 2016 President's Budget  
Exhibit P-1 FY 2016 President's Budget  
Total Obligational Authority  
(Dollars in Thousands)

09 Jan 2015

Appropriation: 1611N Shipbuilding and Conversion, Navy

Line No	Item Nomenclature	Ident Code	FY 2014 (Base & OCO) Quantity Cost	FY 2015 Base Enacted Quantity Cost	FY 2015 OCO Enacted Quantity Cost	FY 2015 Total Enacted Quantity Cost	S e c
----	-----	-----	-----	-----	-----	-----	-
14	LHA Replacement	A					
	Completion of Prior Year Shipbuilding (CY)		37,700				U
15	LHA Replacement						
	Advance Procurement (CY)			29,093		29,093	U
16	Joint High Speed Vessel	A	2,732	1 200,000		1 200,000	U
	Completion of Prior Year Shipbuilding (CY)		7,600	14,000		14,000	U
			-----	-----	-----	-----	
	Total Amphibious Ships		627,332	1,297,189		1,297,189	
Budget Activity 05: Auxiliaries, Craft, and Prior-Year Program Costs							
-----							
Auxiliaries, Craft and Prior Yr Program Cost							
17	TAO Fleet Oiler	A					U
18	Moored Training Ship			1 (1,322,021)		1 (1,322,021)	U
	Less: Advance Procurement (PY)			(-584,753)		(-584,753)	U
			-----	-----	-----	-----	
				737,268		737,268	
19	Moored Training Ship						
	Advance Procurement (CY)		207,300	64,388		64,388	U
20	Outfitting	A	382,836	474,629		474,629	U
21	Ship to Shore Connector	A		3 159,600		3 159,600	U
22	Service Craft	A					U
23	LCAC SLEP	A	4 80,987	2 40,485		2 40,485	U
24	YP Craft Maintenance/ROH/SLEP	A					U

P-1C1: FY 2016 President's Budget (Published Version of PB Position), as of January 9, 2015 at 15:33:34

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## UNCLASSIFIED

Department of the Navy  
FY 2016 President's Budget  
Exhibit P-1 FY 2016 President's Budget  
Total Obligational Authority  
(Dollars in Thousands)

09 Jan 2015

Appropriation: 1611N Shipbuilding and Conversion, Navy

Line No	Item Nomenclature	Ident Code	FY 2016 Base Quantity	Cost	FY 2016 OCO Quantity	Cost	FY 2016 Total Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-----	----	-
14	LHA Replacement	A							
	Completion of Prior Year Shipbuilding (CY)								U
15	LHA Replacement								
	Advance Procurement (CY)			277,543			277,543		U
16	Joint High Speed Vessel	A							U
	Completion of Prior Year Shipbuilding (CY)								U
				-----		-----		-----	
	Total Amphibious Ships			827,543			827,543		
Budget Activity 05: Auxiliaries, Craft, and Prior-Year Program Costs									
-----									
Auxiliaries, Craft and Prior Yr Program Cost									
17	TAO Fleet Oiler	A	1	674,190			1	674,190	U
18	Moored Training Ship								U
	Less: Advance Procurement (PY)								U
				-----		-----		-----	
19	Moored Training Ship								
	Advance Procurement (CY)			138,200			138,200		U
20	Outfitting	A		697,207			697,207		U
21	Ship to Shore Connector	A	5	255,630			5	255,630	U
22	Service Craft	A		30,014			30,014		U
23	LCAC SLEP	A	4	80,738			4	80,738	U
24	YP Craft Maintenance/ROH/SLEP	A		21,838			21,838		U

P-1C1: FY 2016 President's Budget (Published Version of PB Position), as of January 9, 2015 at 15:33:34

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## UNCLASSIFIED

Department of the Navy  
FY 2016 President's Budget  
Exhibit P-1 FY 2016 President's Budget  
Total Obligational Authority  
(Dollars in Thousands)

09 Jan 2015

Appropriation: 1611N Shipbuilding and Conversion, Navy

Line		Ident	FY 2014		FY 2015		FY 2015		FY 2015	S
No	Item Nomenclature	Code	(Base & OCO)		Base Enacted		OCO Enacted		Total Enacted	e
----	-----	-----	Quantity Cost		Quantity Cost		Quantity Cost		Quantity Cost	c
----	-----	-----	-----	----	-----	----	-----	----	-----	-
25	Completion of PY Shipbuilding Programs*	B								U
	CVN (MEMO NON ADD)*									U
	CVN RCOH (MEMO NON ADD)									U
	LCS (MEMO NON ADD)									U
	JHSV (MEMO NON ADD)									U
	DDG (MEMO NON ADD)									U
	LPD 17 (MEMO NON ADD)									U
			-----		-----		-----		-----	
	Total Auxiliaries, Craft, and Prior-Year Program Costs*		671,123		1,476,370				1,476,370	
			-----		-----		-----		-----	
	Total Shipbuilding and Conversion, Navy		15,231,364		15,954,379				15,954,379	

P-1C1: FY 2016 President's Budget (Published Version of PB Position), as of January 9, 2015 at 15:33:34

\* OSD's P-1 does not reflect a \$189,381K transfer of cost to complete funds from Budget Activity (BA) 05 to BA 02 for CVN 78 in FY 2015.

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## UNCLASSIFIED

Department of the Navy  
 FY 2016 President's Budget  
 Exhibit P-1 FY 2016 President's Budget  
 Total Obligational Authority  
 (Dollars in Thousands)

09 Jan 2015

Appropriation: 1611N Shipbuilding and Conversion, Navy

Line		Ident	FY 2016		FY 2016		FY 2016	S
No	Item Nomenclature	Code	Base	Cost	OCO	Cost	Total	e
----	-----	-----	Quantity	-----	Quantity	-----	Quantity	-----
25	Completion of PY Shipbuilding Programs	B		389,305			389,305	U
	CVN (MEMO NON ADD)			(123,760)			(123,760)	U
	CVN RCOH (MEMO NON ADD)			(20,029)			(20,029)	U
	LCS (MEMO NON ADD)			(82,674)			(82,674)	U
	JHSV (MEMO NON ADD)			(26,235)			(26,235)	U
	DDG (MEMO NON ADD)			(75,014)			(75,014)	U
	LPD 17 (MEMO NON ADD)			(61,593)			(61,593)	U
			-----		-----		-----	
	Total Auxiliaries, Craft, and Prior-Year Program Costs			2,287,122			2,287,122	
			-----		-----		-----	
	Total Shipbuilding and Conversion, Navy			16,597,457			16,597,457	



CLASSIFICATION: UNCLASSIFIED										
BUDGET ITEM JUSTIFICATION SHEET (P-40)							DATE:			
FY2016 PB Cycle							February 2015			
APPROPRIATION/BUDGET ACTIVITY					P-1 LINE ITEM NOMENCLATURE					
SHIPBUILDING AND CONVERSION, NAVY/BA 2 Other Warships					CARRIER REPLACEMENT PROGRAM					
					BLI: 2001					
(Dollars in Millions)	PRIOR YR	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TO COMP	TOTAL PROG
QUANTITY	2	0	0	0	0	1	0	0	0	3
End Cost	24,234.6	0.0	0.0	0.0	0.0	13,472.0	0.0	0.0	0.0	37,706.6
Less Advance Procurement	7,020.2	0.0	0.0	0.0	0.0	2,000.8	0.0	0.0	0.0	9,020.9
Less Cost to Complete	1,374.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,374.9
Less Subsequent Year FF	12,663.6	0.0	0.0	0.0	0.0	9,869.4	0.0	0.0	0.0	22,533.0
Plus Subsequent Year FF	5,134.0	917.6	1,219.4	1,634.7	1,829.0	1,929.0	2,076.0	873.3	6,920.2	22,533.0
Full Funding TOA	8,310.0	917.6	1,219.4	1,634.7	1,829.0	3,530.8	2,076.0	873.3	6,920.2	27,310.8
Plus Advance Procurement	7,020.2	0.0	0.0	874.7	1,126.1	0.0	0.0	0.0	0.0	9,020.9
Plus Cost to Complete	0.0	588.1	663.0	123.8	0.0	0.0	0.0	0.0	0.0	1,374.9
Total Obligational Authority	15,330.2	1,505.7	1,882.4	2,633.1	2,955.1	3,530.8	2,076.0	873.3	6,920.2	37,706.6
Plus Outfitting / Plus Post Delivery	1.0	41.1	45.9	99.5	2.3	0.0	0.0	2.0	510.6	702.4
Total	15,331.2	1,546.7	1,928.4	2,732.6	2,957.4	3,530.8	2,076.0	875.3	7,430.8	38,409.0
Unit Cost ( Ave. End Cost)	12,117.3	0.0	0.0	0.0	0.0	13,472.0	0.0	0.0	0.0	12,568.9
MISSION:										
To provide credible, sustainable, independent forward presence during peacetime without access to land bases; operate as the cornerstone of a joint and/or allied maritime expeditionary force in response to crisis; and carry the war to the enemy through joint multi-mission offensive operations.										
CVN 79 will deliver in two phases. Phase I delivery (June 2022) will deliver the ship with full propulsion capability, aircraft launch and recovery systems (visual flight rules only) and safe to sail navigation systems. Phase II delivery (September 2024) will add the remaining electronics/ordnance government furnished equipment (mostly installed by alteration installation teams). By delivering in 2 phases, the Department expects to reduce costs by competing installations and avoid obsolescence issues by procuring the latest systems closer to Phase II delivery.										
Characteristics:					CVN 78/79					
Hull:					Major Electronics/Ordnance:					
Length overall: 1092'					Ship Self Defense System (SSDS)					
Beam: 134'					Electromagnetic Aircraft Launch System (EMALS)					
Displacement: 97,337 Tons					Dual Band Radar (DBR)					
Draft: 38.7'					Enterprise Air Surveillance Radar (EASR)					
					Advanced Arresting Gear (AAG)					
CVN 78 Production Status:					CVN 79 Production Status:					
Contract Award		09/08			Contract Award		05/15			
Months to Complete:					Months to Complete:					
a) Contract Award to Delivery		90 Months			a) Contract Award to Delivery		85 Months			
b) Construction Start to Delivery		127 Months			b) Construction Start to Delivery		136 Months			
Delivery Date		03/16			Delivery Date		06/22			
Completion of Fitting Out		05/16			Completion of Fitting Out		09/24			
Obligation Work Limiting Date		04/17			Obligation Work Limiting Date		08/25			

CLASSIFICATION: UNCLASSIFIED  
 APPROPRIATION: SHIPBUILDING AND CONVERSION, NAVY

P-5 EXHIBIT  
 FY2016 PB Cycle  
 February 2015

WEAPON SYSTEM COST ANALYSIS (EXHIBIT P-5)  
 (Dollars in Thousands)

BUDGET ACTIVITY: 2 Other Warships		P-1 LINE ITEM NOMENCLATURE CARRIER REPLACEMENT PROGRAM		BLI: 2001	
ELEMENT OF COST	FY 2008		FY 2013		
	QTY	COST	QTY	COST	
PLAN COSTS	1	3,316,178	1	880,078	
BASIC CONST/CONVERSION		6,016,575		6,727,718	
CHANGE ORDERS		218,106		167,945	
ELECTRONICS		317,440		265,648	
PROPULSION EQUIPMENT		1,515,612		2,044,582	
HM&E		30,866		34,172	
OTHER COST		72,127		108,703	
ORDNANCE		1,400,096		1,118,759	
TOTAL SHIP ESTIMATE		12,887,000		11,347,604	
LESS ADVANCE PROCUREMENT FY01		21,668			
LESS ADVANCE PROCUREMENT FY02		135,341			
LESS ADVANCE PROCUREMENT FY03		395,493			
LESS ADVANCE PROCUREMENT FY04		1,162,876			
LESS ADVANCE PROCUREMENT FY05		623,071			
LESS ADVANCE PROCUREMENT FY06		618,866			
LESS ADVANCE PROCUREMENT FY07		735,800		52,750	
LESS ADVANCE PROCUREMENT FY08				123,530	
LESS ADVANCE PROCUREMENT FY09				1,210,561	
LESS ADVANCE PROCUREMENT FY10				482,938	
LESS ADVANCE PROCUREMENT FY11				902,473	
LESS ADVANCE PROCUREMENT FY12				554,798	
LESS SUBSEQUENT FULL FUNDING FY09		2,684,556			
LESS SUBSEQUENT FULL FUNDING FY10		736,989			
LESS SUBSEQUENT FULL FUNDING FY11		1,712,459			
LESS SUBSEQUENT FULL FUNDING FY14				917,553	
LESS SUBSEQUENT FULL FUNDING FY15				1,219,425	
LESS SUBSEQUENT FULL FUNDING FY16				1,634,701	
LESS SUBSEQUENT FULL FUNDING FY17				1,828,956	
LESS SUBSEQUENT FULL FUNDING FY18				1,928,959	
LESS COST TO COMPLETE FY14		588,100			
LESS COST TO COMPLETE FY15		663,000			
LESS COST TO COMPLETE FY16		123,760			
NET P-1 LINE ITEM:		2,685,021		490,960	

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
Analysis of Ship Cost Estimate - Basic/Escalation  
Ship Type: CARRIER REPLACEMENT PROGRAM

P-5B Exhibit  
FY2016 PB Cycle  
February 2015

<u>I. Design/Schedule</u>	<u>Start/Issue</u>	<u>Complete</u> <u>/Response</u>	<u>Reissue</u>	<u>Complete</u> <u>/Response</u>
Issue date for TLR	APRIL 04			
Issue date for TLS	SEPT 06			
Preliminary Design	JAN 03	JUL 08		
Contract Design	MAY 04	APR 08		
Detail Design	JAN 04	SEP 09		
Request for Proposals	JUL 07	OCT 07		
Design Agent	INGALLS			
<u>II. Classification of Cost Estimate</u>	C			
<u>III. Basic Construction/Conversion</u>		<u>FY 2008</u>		<u>FY 2013</u>
A. Actual Award Date		SEP 08		MAY 15
B. Contract Type ( and Share Line if applicable )		CPIF		FPI
C. Request for proposals				
Start/Issue:		JUL 07		APR 12
Complete/Response		OCT 07		OCT 12
<u>IV. Escalation</u>				
<u>V. Other Basic(Reserves/Miscellaneous)</u>		<u>Amount</u>		<u>Amount</u>

CLASSIFICATION: UNCLASSIFIED

**SHIPBUILDING AND CONVERSION, NAVY**  
SHIP PRODUCTION SCHEDULE

**EXHIBIT P-27**  
**FY2016 PB Cycle**  
February 2015

SHIP TYPE	HULL NUMBER	SHIPBUILDER	FISCAL YEAR AUTHORIZED	CONTRACT AWARD	START OF CONSTRUCTION	DELIVERY DATE
CVN	78	Huntington Ingalls Industries Newport News Shipbuilding	2008	SEP-08	AUG-05	MAR-16
CVN	79	Huntington Ingalls Industries Newport News Shipbuilding	2013	MAY-15	FEB-11	JUN-22
CVN	80	Huntington Ingalls Industries Newport News Shipbuilding	2018	DEC-17	DEC-17	SEP-27

CLASSIFICATION: UNCLASSIFIED

P-8A EXHIBIT  
FY2016 PB Cycle  
February 2015

SHIPBUILDING AND CONVERSION, NAVY  
Analysis of Ship Cost Estimates - Major Equipment  
(Dollars in Thousands)

Ship Type: CARRIER REPLACEMENT PROGRAM

ELECTRONICS

a. P-35 Items

	FY 2008		FY 2013	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
AN/USQ-146X(V)X, BATTLE FORCE TACTICAL TRAINING SYSTEM (BFTT)	1	5,434	1	4,784
CONSOLIDATED AFLOAT NETWORK AND ENTERPRISE SERVICES (CANES)	1	15,430	1	17,001
AN/USG-2, COOPERATIVE ENGAGEMENT CAPABILITY (CEC)	1	8,768	1	5,838
DIGITAL MODULAR RADIO (DMR) ULTRA HIGH FREQUENCY/VERY HIGH FREQUENCY LINE OF SIGHT (EHF/VHF LOS) SATCOM	1	11,563	1	12,464
AN/UPX-29(V), INTERROGATOR FRIEND OR FOE (IFF) W/MK XII	1	6,844	1	6,361
SPN-46, AUTOMATIC CARRIER LANDING SYSTEM	1	10,920	1	9,411
SHIP SELF DEFENSE SYSTEM (SSDS)	1	89,648	1	30,691
AN/TPX-42A(V)14, CARRIER AIR TRAFFIC CONTROL CENTER - DIRECT ALTITUDE AND IDENTIFY READOUT (CATCC-DAIR)	1	5,699	1	6,374
NAVY MULTI-BAND TERMINAL (NMT)	1	6,191	1	7,199
AN/SLQ-32(V)6, SURFACE ELECTRONIC WARFARE IMPROVEMENT PROGRAM (SEWIP) BLOCK 2	1	19,932	1	16,456
AN/SRQ-6/MCS-21, SHIPS SIGNAL EXPLOITATION EQUIPMENT (SSEE)	1	7,767	1	9,937
HIGH FREQUENCY RADIO GROUP (HFRG)	1	3,085	1	6,905
Subtotal		191,281		133,421

b. Major Items

AN/USQ-155(V)1 TACTICAL VARIANT SWITCH	1	2,673	1	2,530
INFORMATION ASSURANCE (IA)		1,958		2,012
MAST CLAMP CURRENT PROBE (MCCP) UPGRADE	1	1,720	1	1,538
AN/URC-141X(V), MULTI-FUNCTION INFORMATION DISTRIBUTION SYSTEM (MIDS)-ON SHIP (MOS)	1	2,008	1	2,239
AN/SLQ-25C DUAL, SURFACE SHIP TORPEDO DEFENSE SYSTEM, NIXIE	1	2,229	1	5,215
AN/SMQ-11, METEOROLOGICAL/OCEANOGRAPHIC (METOC) SATELLITE RECEIVER - RECORD SET	1	1,231		
SHIPBOARD AIR TRAFFIC CONTROL COMMUNICATIONS (SATCC)	1	1,897	1	2,246
AN/WSN-7(V)3, RING LASER GYRO NAVIGATOR (RLGN)	1	1,729	1	2,004
DISTRIBUTED SYSTEMS DESIGN INTEGRATION SERVICES	1	6,054	1	6,646
C4I INTEGRATION & COORDINATION		8,512		9,301
DISTRIBUTED COMMON GROUND STATION - NAVY (DCGS-N)	1	2,066	1	2,084

CLASSIFICATION: UNCLASSIFIED

P-8A EXHIBIT  
FY2016 PB Cycle  
February 2015

**SHIPBUILDING AND CONVERSION, NAVY**  
Analysis of Ship Cost Estimates - Major Equipment  
(Dollars in Thousands)

Ship Type: CARRIER REPLACEMENT PROGRAM

	FY 2008		FY 2013	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
AN/USQ-144K AUTOMATED DIGITAL NETWORK SYSTEM (ADNS)	1	1,455	1	1,290
AN/UYQ-86 COMMON DATA LINK MANAGEMENT SYSTEM (CDLMS) WITH NGC2P	1	1,678	1	2,100
OA-9277 ULTRA HIGH FREQUENCY (UHF) MULTICOUPLER	1	1,836	1	2,350
ARC-210 CARRIER AIR TRAFFIC CONTROL CENTER (CATCC) - PRIFLY - LANDING SIGNAL OFFICER (LSO) SYSTEM	1	1,354	1	1,582
WARFARE SYSTEM INTEGRATION		25,802		24,153
NET-ENABLED COMMAND CAPABILITY (NECC)	1	781	1	936
COMMERCIAL BROADBAND SATELLITE PROGRAM, FORCE LEVEL VARANT (CBSP-FLV)	1	1,172	1	1,436
AN/SSN-6(V)X BLOCK 4, NAVIGATION SENSOR SYSTEM INTERFACE (NAVSSI)	1	4,224	1	2,570
AN/SPS-73(V)12 TECH REFRESH - SURFACE SEARCH RADAR	2	3,014	2	1,252
INTEGRATED STRIKE PLANNING & EXECUTION SYSTEMS (ISP&E)	1	11,681	1	9,652
AN/USQ-123(V), COMMUNICATIONS DATA LINK-SYSTEM (CDL-S)	1	1,385	1	2,308
AN/SPN-41 (V), INSTRUMENT LANDING SYSTEM (ILS)	1	3,338	1	3,870
SHIP SIGNAL EXPLOITATION SPACE (SSES/SI) COMMUNICATIONS	1	5,479	1	4,251
TURNKEY RADIO COMMUNICATIONS SYSTEM (RCS)	1	15,003	1	17,233
Subtotal		110,279		110,798
c. Other ELECTRONICS				
		15,880		21,429
Subtotal		15,880		21,429
Total ELECTRONICS		317,440		265,648

SHIPBUILDING AND CONVERSION, NAVY  
Analysis of Ship Cost Estimates - Major Equipment  
(Dollars in Thousands)

Ship Type: CARRIER REPLACEMENT PROGRAM

ORDNANCE

a. P-35 Items

	FY 2008		FY 2013	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
ELECTROMAGNETIC AIRCRAFT LAUNCHING SYSTEM (EMALS)	1	670,038	1	777,838
DUAL BAND RADAR (DBR) (SPY-3 AND VOLUME SEARCH RADAR (VSR))	1	484,033		10,948
ENTERPRISE AIR SURVEILLANCE RADAR (EASR) AND X-BAND ILLUMINATOR			1	74,500
ADVANCED ARRESTING GEAR (AAG)	1	166,964	1	168,233
PHALANX BLOCK 1B MK 15 MOD 21 & 22, CLOSE - IN WEAPONS SYSTEM (CIWS)	3	17,755	1	20,583
AN/SQQ-34, CARRIER-TACTICAL SUPPORT CENTER (CV-TSC)	1	6,675	1	6,585
MK29 MOD 5, GUIDED MISSILE LAUNCHING SYSTEM (GMLS)	2	12,782	2	15,615
AVIATION DATA MANAGEMENT AND CONTROL SYSTEM (ADMACS)	1	7,597	1	8,517
INTEGRATED LAUNCH AND RECOVERY TELEVISION SYSTEM (ILARTS)	1	8,310	1	5,096
MK 49, MOD 3 ROLLING AIRFRAME MISSILE (RAM)	2	13,911	2	16,126
IMPROVED FRESNEL LENS OPTICAL LANDING SYSTEM (IFLOLS)	1	3,347	1	4,019
Subtotal		1,391,412		1,108,060

b. Major Items

LANDING SIGNAL OFFICER DISPLAY SYSTEM (LSODS)	1	1,666	1	1,941
MORIAH BLOCK 2	1	1,570	1	1,651
JET BLAST DEFLECTORS (JBD)	1	773	1	1,056
JOINT STRIKE FIGHTER AUTONOMIC LOGISTICS INFORMATION SYSTEM (JSF ALIS)	1	1,268		
LONG RANGE LINEUP SYSTEM (LRLS)			1	2,684
Subtotal		5,277		7,332

c. Other ORDNANCE

		3,407		3,367
Subtotal		3,407		3,367
Total ORDNANCE		1,400,096		1,118,759

CLASSIFICATION: UNCLASSIFIED

P-8A EXHIBIT

FY2016 PB Cycle

February 2015

**SHIPBUILDING AND CONVERSION, NAVY**

Analysis of Ship Cost Estimates - Major Equipment

(Dollars in Thousands)

Ship Type: CARRIER REPLACEMENT PROGRAM

	FY 2008		FY 2013	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
<b>HM&amp;E</b>				
a. P-35 Items				
Subtotal				
b. Major Items				
HM&E ENGINEERING SERVICES		19,208		24,227
INTEGRATED LOGISTICS SUPPORT		2,291		662
LIFE RAFTS		2,252		3,078
SUPSHIP MATERIAL AND GFE		490		561
TEST & INTEGRATION		3,934		
TRUCKS (FORKLIFTS)		687		2,602
Subtotal		28,862		31,130
c. Other HM&E				
		2,004		3,042
Subtotal		2,004		3,042
Total HM&E		30,866		34,172



CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PB Cycle  
February 2015

Ship Type: CARRIER REPLACEMENT PROGRAM  
Equipment Item: AN/USQ-T46X(V)X, BATTLE FORCE TACTICAL TRAINING SYSTEM (BFTT)  
PARM Code: PEO IWS 7.0

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

BFTT is a highly flexible, interactive system that provides capability for coordinated shipboard combat system team and Battle Group/Battle Force level tactical training. The mission of the system is to provide training capabilities for fleet personnel to achieve and maintain combat readiness.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2008		FY 2013	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	2,760	1	1,788
Technical Data and Documentation		25		268
Spares		131		115
System Engineering		512		922
Technical Engineering Services		469		374
Other Costs		1,537		1,317
Total		5,434		4,784

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY 08	CVN 78	KONTRON	FFP	APR-12		1	2,760
FY 13	CVN 79	TBD	TBD	FEB-22		1	1,788

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY 08	CVN 78	MAR-16	25	12	FEB-13
FY 13	CVN 79	SEP-24	19	12	FEB-22

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

None

**NOTE:**

This system is planned for installation during the CVN 79 Phase II availability. This availability enables use of competition / skilled installation teams, provides for installation of shipboard electronic systems closer to time of the ship's first deployment, and allows for concurrent installation of the combat system and DBR replacement radar suite.

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PB Cycle  
February 2015

Ship Type: CARRIER REPLACEMENT PROGRAM  
Equipment Item: CONSOLIDATED AFLOAT NETWORK AND ENTERPRISE SERVICES (CANES)  
PARM Code: PMW 750

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

CANES will provide the Navy tactical/non-tactical information environment and infrastructure necessary to enable hosting, extended services reach-back and reach-forward, and relay functions. These capabilities will support real time and non-real time tactical/non-tactical edge connected, connectionless, and ad-hoc voice, video and data information exchange requirements. CANES is the technology replacement for the following existing afloat networks: Combined Enterprise Regional Information Exchange System-Maritime (CENTRIXS-M), limited shipboard Internal Voice (IC), Integrated Shipboard Networking System (ISNS), Sensitive Compartmented Information (SCI) Networks, to include the Top Secret enclave, and Video Information eXchange System (VIXS). CANES will incrementally collapse Unclassified, Secret, Secret-Releasable, and SCI enclaves. CANES Increment 1 is the current POR for CVN 78. The CVN 79 estimate includes potential to collapse additional networks.

**II. CURRENT FUNDING:**

P-35 Category

	FY 2008		FY 2013	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	10,740	1	11,857
Spares		175		278
System Engineering		2,452		1,984
Technical Engineering Services		547		643
Other Costs		1,516		2,239
Total		15,430		17,001

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW	<u>QTY</u>	HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>		<u>UNIT COST</u>
FY 08	CVN 78	NORTHROP GRUMMAN	FFP	MAR-13		1	10,740
FY 13	CVN 79	TBD	TBD	JUN-17		1	11,857

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY 08	CVN 78	MAR-16	18	12	SEP-13
FY 13	CVN 79	JUN-22	48	12	JUN-17

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

None

NOTE:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PB Cycle  
February 2015

Ship Type: CARRIER REPLACEMENT PROGRAM  
Equipment Item: AN/USG-2, COOPERATIVE ENGAGEMENT CAPABILITY (CEC)  
PARM Code: PEO IWS 6.0

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

CEC significantly improves battle force air and missile defense capabilities by coordinating battle force air defense sensors into a single, near real-time, composite track picture capable of fire control quality. CEC is a sensor netting system which distributes sensor data from each CEC equipped ship, aircraft, and/or Cooperating Unit (CU), to all other CUs in the battle force through a real-time, line of sight, high data rate sensor and engagement data distribution network. CEC is highly resistant to jamming and provides accurate grid locking between CUs. Each CU independently employs high capacity parallel processing and advanced algorithms to combine all distributed sensor data into a high quality track picture that is the same for all CUs. CEC data is presented as a superset of the best sensor capabilities from each CU, all of which are integrated into a single input to each CU's combat weapons system.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2008		FY 2013	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	4,745	1	2,750
Spares		390		431
System Engineering		1,278		1,058
Technical Engineering Services		234		181
Other Costs		2,121		1,418
Total		8,768		5,838

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW	HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>UNIT COST</u>
FY 08	CVN 78	RAYTHEON	FFP	APR-11	OPTION	1 4,745
FY 13	CVN 79	RAYTHEON	TBD	AUG-21		1 2,750

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY 08	CVN 78	MAR-16	30	18	MAR-12
FY 13	CVN 79	SEP-24	19	18	AUG-21

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

None

**NOTE:**

This system is planned for installation during the CVN 79 Phase II availability. This availability enables use of competition / skilled installation teams, provides for installation of shipboard electronic systems closer to time of the ship's first deployment, and allows for concurrent installation of the combat system and DBR replacement radar suite.

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PB Cycle  
February 2015

Ship Type: CARRIER REPLACEMENT PROGRAM  
Equipment Item: DIGITAL MODULAR RADIO (DMR) ULTRA HIGH FREQUENCY/VERY HIGH FREQUENCY LINE OF SIGHT (EHF/VHF LOS) SATCOM  
PARM Code: PMW 750

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

DMR-VHF/UHF LOS/SATCOM is an open architecture system that allows transmission and reception of UHF and VHF RF signals. The DMR replaces many legacy systems, including some crypto, Line Of Sight (LOS) and Satellite Communications (SATCOM) components.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2008		FY 2013	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	10,004	1	11,044
Technical Data and Documentation		31		0
Spares		50		50
System Engineering		511		556
Technical Engineering Services		305		434
Other Costs		662		380
Total		11,563		12,464

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY 08	CVN 78	GENERAL DYNAMICS	VARIOUS	SEP-11		1	10,004
FY 13	CVN 79	TBD	TBD	APR-17		1	11,044

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY 08	CVN 78	MAR-16	30	18	MAR-12
FY 13	CVN 79	JUN-22	44	18	APR-17

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

None

NOTE:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PB Cycle  
February 2015

Ship Type: CARRIER REPLACEMENT PROGRAM  
Equipment Item: AN/UPX-29(V), INTERROGATOR FRIEND OR FOE (IFF) W/MK XII  
PARM Code: PMA 213

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

IFF is an approved and fully supported centralized Mark XII Interrogator system. It uses one receiver transmitter that synchronizes video with up to four radar sweeps. It supplies synthetic video (symbology) to, and accepts requests from, as many as 22 remote locations. It provides digital target reporting to the combat systems/weapon systems computer via full scan, sectorized, and/or pop-up interrogations. It provides instantaneous target reporting at requested range and azimuth through the use of an electronically-steered Antenna Group OE-120/UPX or OE-120A/UPX. It provides electronically evaluated Mode 4 target reporting directly to operators and over the combat systems/weapon system computer interface. It provides full redundancy so identification capabilities are retained in case of main processor, main antenna, or main receiver/transmitter failure.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2008		FY 2013	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	5,080	1	5,608
Spares		97		0
System Engineering		932		395
Technical Engineering Services		155		82
Other Costs		580		276
Total		6,844		6,361

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW	<u>QTY</u>	HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>		<u>UNIT COST</u>
FY 08	CVN 78	NORTHROP GRUMMAN-BAE SYSTEMS	SS/FFP	NOV-08		1	5,080
FY 13	CVN 79	NORTHROP GRUMMAN-BAE SYSTEMS	SS/FFP	FEB-21		1	5,608

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY 08	CVN 78	MAR-16	47	24	APR-10
FY 13	CVN 79	SEP-24	19	24	FEB-21

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

None

**NOTE:**

This system is planned for installation during the CVN 79 Phase II availability. This availability enables use of competition / skilled installation teams, provides for installation of shipboard electronic systems closer to time of the ship's first deployment, and allows for concurrent installation of the combat system and DBR replacement radar suite.

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PB Cycle  
February 2015

Ship Type: CARRIER REPLACEMENT PROGRAM  
Equipment Item: SPN-46, AUTOMATIC CARRIER LANDING SYSTEM  
PARM Code: PMA 213

I. DESCRIPTION/CHARACTERISTICS/PURPOSE:

AN/SPN-46 (V)3 provides Precision Approach Landing System (PALS) used for non-clear weather aircraft landings on board carriers.

II. CURRENT FUNDING:

P-35 Category

	FY 2008		FY 2013	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	6,558	1	7,240
System Engineering		1,111		1,184
Technical Engineering Services		0		0
Other Costs		3,251		987
Total		10,920		9,411

III. CONTRACT DATA:

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY 08	CVN 78	NAWCAD	N/A	APR-08		1	6,558
FY 13	CVN 79	NAWCAD	N/A	FEB-21		1	7,240

IV. DELIVERY DATE:

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY 08	CVN 78	MAR-16	25	24	FEB-12
FY 13	CVN 79	SEP-24	19	24	FEB-21

V. COMPETITION/SECOND SOURCE INITIATIVES:

None

**NOTE:**

This system is planned for installation during the CVN 79 Phase II availability. This availability enables use of competition / skilled installation teams, provides for installation of shipboard electronic systems closer to time of the ship's first deployment, and allows for concurrent installation of the combat system and DBR replacement radar suite.

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PB Cycle  
February 2015

Ship Type: CARRIER REPLACEMENT PROGRAM  
Equipment Item: SHIP SELF DEFENSE SYSTEM (SSDS)  
PARM Code: PEO IWS 10.0

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The SSDS MK 2, Mod (x) Common C2 system provides capabilities for multi-mission requirements including Ship Protection against air, surface, and subsurface threats using both own-ship and remote data (Joint Composite Track Number (JCTN) and Joint Data Network (JDN)) in support of the Anti-Air Warfare (AAW) Capstone requirements.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2008		FY 2013	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	16,796	1	10,389
Technical Data and Documentation		1,226		1,347
Spares		848		483
System Engineering		10,943		7,573
Technical Engineering Services		900		738
Other Costs		58,935		10,161
Total		89,648		30,691

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY 08	CVN 78	RAYTHEON/GEN DYNAMICS	FFP	SEP-08	NEW	1	16,796
FY 13	CVN 79	TBD	TBD	FEB-21		1	10,389

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY 08	CVN 78	MAR-16	22	24	MAY-11
FY 13	CVN 79	SEP-24	19	24	FEB-21

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

None

**NOTE:**

This system is planned for installation during the CVN 79 Phase II availability. This availability enables use of competition / skilled installation teams, provides for installation of shipboard electronic systems closer to time of the ship's first deployment, and allows for concurrent installation of the combat system and DBR replacement radar suite.

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PB Cycle  
February 2015

Ship Type: CARRIER REPLACEMENT PROGRAM  
Equipment Item: AN/TPX-42A(V)14, CARRIER AIR TRAFFIC CONTROL CENTER - DIRECT ALTITUDE AND IDENTIFY READOUT (CATCC-DAIR)  
PARM Code: PMA 213

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

CATCC-DAIR is an automatic beacon and radar that when integrated with an air traffic control radar, provides numeric and symbolic displays of position, identity, and altitude of aircraft in the terminal airspace on an operator's Plane Position Indicator (PPI) display.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2008		FY 2013	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	3,008	1	3,486
Spares		228		264
System Engineering		1,819		1,865
Technical Engineering Services		11		49
Other Costs		633		710
Total		5,699		6,374

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW	<u>QTY</u>	HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>		<u>UNIT COST</u>
FY 08	CVN 78	NAVAIR	VARIOUS	NOV-09		1	3,008
FY 13	CVN 79	TBD	TBD	FEB-21		1	3,486

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY 08	CVN 78	MAR-16	46	24	MAY-10
FY 13	CVN 79	SEP-24	19	24	FEB-21

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

None

**NOTE:**

This system is planned for installation during the CVN 79 Phase II availability. This availability enables use of competition / skilled installation teams, provides for installation of shipboard electronic systems closer to time of the ship's first deployment, and allows for concurrent installation of the combat system and DBR replacement radar suite.



CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PB Cycle  
February 2015

Ship Type: CARRIER REPLACEMENT PROGRAM  
Equipment Item: NAVY MULTI-BAND TERMINAL (NMT)  
PARM Code: PMW 750

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The Advanced Extremely High Frequency (AEHF) Navy Multi-band Terminal (NMT) will be used to receive signals from the Advanced EHF satellites which is a follow-on to the DoD's highly secure, highly protected MILSTAR communications satellite system.

**II. CURRENT FUNDING:**

P-35 Category

	FY 2008		FY 2013	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	5,277	1	6,224
Ancillary Equipment		40		46
Spares		329		325
System Engineering		110		143
Technical Engineering Services		175		183
Other Costs		260		278
Total		6,191		7,199

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY 08	CVN 78	RAYTHEON	FFP	OCT-11		1	5,277
FY 13	CVN 79	TBD	TBD	DEC-16		1	6,224

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY 08	CVN 78	MAR-16	28	18	MAY-12
FY 13	CVN 79	JUN-22	39	27	DEC-16

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

None

NOTE:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PB Cycle  
February 2015

Ship Type: CARRIER REPLACEMENT PROGRAM  
Equipment Item: AN/SLQ-32(V)6, SURFACE ELECTRONIC WARFARE IMPROVEMENT PROGRAM (SEWIP) BLOCK 2  
PARM Code: PEO IWS 2E

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

SEWIP Block 2 is a scalable Electronic Warfare enterprise suite to provide improved Electromagnetic Interference (EMI) mitigation and Combat System Interface capabilities to select new construction ships as well as upgrade current AN/SLQ-32(V)3 and (V)4 Electronic Warfare (EW) suites on existing ships. It provides enhanced shipboard Electronic Warfare (EW) for early detection, analysis, threat warning and protection from anti-ship missiles. SEWIP Block 2 focused on Electronic Support (ES) capability improvements.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2008		FY 2013	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	14,295	1	14,211
Ancillary Equipment		393		291
Spares		516		473
System Engineering		2,423		706
Technical Engineering Services		477		125
Other Costs		1,828		650
Total		19,932		16,456

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY 08	CVN 78	LOCKHEED MARTIN	FFP	SEP-12		1	14,295
FY 13	CVN 79	TBD	TBD	AUG-21		1	14,211

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY 08	CVN 78	MAR-16	18	18	MAR-13
FY 13	CVN 79	SEP-24	19	18	AUG-21

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

None

**NOTE:**

This system is planned for installation during the CVN 79 Phase II availability. This availability enables use of competition / skilled installation teams, provides for installation of shipboard electronic systems closer to time of the ship's first deployment, and allows for concurrent installation of the combat system and DBR replacement radar suite.

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PB Cycle  
February 2015

Ship Type: CARRIER REPLACEMENT PROGRAM  
Equipment Item: AN/SRQ-6/MCS-21, SHIPS SIGNAL EXPLOITATION EQUIPMENT (SSEE)  
PARM Code: PMW 750

I. DESCRIPTION/CHARACTERISTICS/PURPOSE:

SSEE provided for cryptological signal acquisition, recognition, analysis and geo-location. It replaces Maritime Cryptological System (MCS-21) which replaces the Battle Group Passive Horizon Extension System (BGPHEs).

II. CURRENT FUNDING:

P-35 Category

	FY 2008		FY 2013	
	QTY	COST	QTY	COST
Major Hardware	1	4,583	1	5,616
Ancillary Equipment		68		79
Technical Data and Documentation		96		227
Spares		318		315
System Engineering		964		995
Technical Engineering Services		262		1,176
Other Costs		1,476		1,529
Total		7,767		9,937

III. CONTRACT DATA:

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
YEAR	TYPE	CONTRACTOR	TYPE	DATE	/OPTION	QTY	UNIT COST
FY 08	CVN 78	ARGON	FFP/CPFF	JUN-12		1	4,583
FY 13	CVN 79	TBD	TBD	FEB-22		1	5,616

IV. DELIVERY DATE:

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
YEAR	TYPE	DELIVERY DATE	BEFORE DELIVERY	LEADTIME	AWARD DATE
FY 08	CVN 78	MAR-16	21	18	DEC-12
FY 13	CVN 79	SEP-24	19	12	FEB-22

V. COMPETITION/SECOND SOURCE INITIATIVES:

None

**NOTE:**

This system is planned for installation during the CVN 79 Phase II availability. This availability enables use of competition / skilled installation teams, provides for installation of shipboard electronic systems closer to time of the ship's first deployment, and allows for concurrent installation of the combat system and DBR replacement radar suite.

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PB Cycle  
February 2015

Ship Type: CARRIER REPLACEMENT PROGRAM  
Equipment Item: HIGH FREQUENCY RADIO GROUP (HFRG)  
PARM Code: PMW 170

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

HFRG supports the CVN 78 by providing broadband High Frequency Radio Frequency capability to transmit (2-30MHz) and receive (10KHz-30MHz).

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2008		FY 2013	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	1,373	1	5,550
Technical Data and Documentation		0		100
Spares		40		0
System Engineering		466		435
Technical Engineering Services		1,062		330
Other Costs		144		490
Total		3,085		6,905

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY 08	CVN 78	HARRIS CORP	VARIOUS	SEP-08		1	1,373
FY 13	CVN 79	GENERAL DYNAMICS	TBD	FEB-22		1	5,550

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY 08	CVN 78	MAR-16	29	12	OCT-12
FY 13	CVN 79	SEP-24	19	12	FEB-22

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

None

**NOTE:**

1. HFRG system is in sustainment and approaching end of life. The system is no longer in production and there are no fleet assets available to refurbish for use on CVN 79. The replacement system for HFRG is High Frequency Distribution Amplifier Group

2. This system is planned for installation during the CVN 79 Phase II availability. This availability enables use of competition / skilled installation teams, provides for installation of shipboard electronic systems closer to time of the ship's first deployment, and allows for concurrent installation of the combat system and DBR replacement radar suite.

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PB Cycle  
February 2015

Ship Type: CARRIER REPLACEMENT PROGRAM  
Equipment Item: ELECTROMAGNETIC AIRCRAFT LAUNCHING SYSTEM (EMALS)  
PARM Code: PMA 251

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

EMALS is an advanced technology electrically generated launching system that uses a moving electromagnetic field to propel aircraft to launch speed. EMALS is made up of six primary sub-systems: prime power interface, energy storage, energy distribution, power conversion, launch motor, and launch control subsystem. Benefits over the current C13 steam catapults include reduced weight and volume, greater launching flexibility for future aircraft, improved control, and reduced manning workload requirements.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2008		FY 2013	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	614,677	1	713,664
Technical Data and Documentation		514		596
Systems Engineering		10,759		13,357
Technical Engineering Services		13,819		15,479
Other Costs		30,269		34,742
Total		670,038		777,838

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY 08	CVN 78	GENERAL ATOMICS	FFP	JUN-09		1	614,677
FY 13	CVN 79	GENERAL ATOMICS	FFP	MAY-15		1	713,664

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY 08	CVN 78	MAR-16	52	22	JAN-10
FY 13	CVN 79	JUN-22	63	22	MAY-15

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

None

NOTE:

CLASSIFICATION: UNCLASSIFIED

**SHIPBUILDING AND CONVERSION, NAVY**  
**MAJOR SHIP COMPONENT FACT SHEET**  
(Dollars in Thousands)

**P-35 EXHIBIT**  
**FY2016 PB Cycle**  
February 2015

**Ship Type:** CARRIER REPLACEMENT PROGRAM  
**Equipment Item:** DUAL BAND RADAR (DBR) (SPY-3 AND VOLUME SEARCH RADAR (VSR))  
**PARM Code:** PEO IWS 2.0

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The DBR suite performs horizon and volume search functions during which the system can detect stealthy targets in sea-land clutter, provide periscope detection, and counter battery functions. The dual band approach (wave form integration) has the ability to provide improved performance in adverse environments, demonstrate avoidance of multi-radar track-to-track correlation and provides for reduced software development and maintenance. The SPY-3 function provides an affordable, high-performance radar for the ship's self defense. SPY-3 greatly enhances ship defense capability against all surface and air threats envisioned in the littoral environment. VSR provides a solid state active phased array with low signature and a three-dimensional air search capability. The VSR function also provides long range above the horizon surveillance, detection, and tracking of high diving targets, and provides the SPY-3 with timely cuing and aircraft marshaling assistance.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2008		FY 2013	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	300,983		10,948
Technical Data and Documentation		125		0
Spares		2,344		0
Systems Engineering		156,162		0
Technical Engineering Services		6,537		0
Other Costs		17,882		0
Total		484,033		10,948

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY 08	CVN 78	RAYTHEON	CPIF	MAR-08		1	300,983
FY 13	CVN 79	N/A	N/A	N/A			10,948

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY 08	CVN 78	MAR-16	53	34	DEC-08
FY 13	CVN 79	MAR-23	N/A	N/A	N/A

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

None

**NOTE:**

The Enterprise Air Surveillance Radar (EASR) is intended to replace Dual Band Radar (DBR) on CVN 79. The \$10,948K cost on the CVN 79 represents a sunk cost paid for overruns associated with receiving the VSR from the DDG 1000 program and was originally planned for installation on CVN 79.  
CVN 78 Hardware costs consists of the following:

DBR (includes SPY-3 arrays and below deck electronic cabinets)	110,575
VSR (Volume Search Radar)	108,840
Common Array Power/Cooling Systems (CAPS/CACS)	59,385
Misc hardware	14,014
High Power Interface	8,169

**Production Lead Time:**

Common Array Power/Cooling Systems (CAPS/CACS)	24 months
VSR	34 months
Multi-Function Radar (MFR)	30 months

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2017 PB Cycle  
February 2015

Ship Type: CARRIER REPLACEMENT PROGRAM  
Equipment Item: Enterprise Air Surveillance Radar (EASR) and X-Band Illuminator  
PARM Code: PEO IWS 2.0

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The Enterprise Air Surveillance Radar (EASR) suite will be a modern long-range, three-dimensional (3D) radar used to search, detect and provide space-stabilized, three-coordinate (range, bearing, height) data for air intercept control and designation to a weapon system and Air Traffic Control (ATC) system. The Enterprise Surveillance Suite (ESS), which includes EASR, is intended to replace the functions that Dual Band Radar (DBR) performed on CVN 78, but at a much lower cost.

**II. CURRENT FUNDING:**

P-35 Category

	FY 2013	
	<u>QTY</u>	<u>COST</u>
Major Hardware	1	56,000
Technical Data and Documentation		0
Spares		0
Systems Engineering		18,500
Technical Engineering Services		0
Other Costs		0
Total		74,500

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY 13	CVN 79	TBD	CPIF	APR-20	NEW	1	56,000

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY 13	CVN 79	SEP-24	19	34	APR-20

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

None

**NOTE:**

This system is planned for installation during the CVN 79 Phase II availability. This availability enables use of competition / skilled installation teams, provides for installation of shipboard electronic systems closer to time of the ship's first deployment, and allows for concurrent installation of the combat system and DBR replacement radar suite.

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PB Cycle  
February 2015

Ship Type: CARRIER REPLACEMENT PROGRAM  
Equipment Item: ADVANCED ARRESTING GEAR (AAG)  
PARM Code: PMA 251

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

AAG provides an upgraded ability to recover all existing and projected aircraft carrier based air vehicles. The AAG system will replace the Mark 7 arresting gear system found on the NIMITZ class carriers and will be the aircraft recovery system for both CVN 78 and CVN 79. AAG consists of six primary systems; energy absorption subsystem, energy storage subsystem, dynamic control subsystem, thermal management subsystem, cross deck pendant, and the control subsystem.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2008		FY 2013	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	138,799	1	143,575
Ancillary Equipment		2,366		0
Technical Data and Documentation		336		495
Spares		5,207		2,659
Systems Engineering		5,709		7,237
Technical Engineering Services		1,036		5,172
Other Costs		13,511		9,095
Total		166,964		168,233

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY 08	CVN 78	GENERAL ATOMICS	FFP	NOV-09		1	138,799
FY 13	CVN 79	GENERAL ATOMICS	FFP	MAY-15		1	143,575

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY 08	CVN 78	MAR-16	37	33	MAY-10
FY 13	CVN 79	JUN-22	52	33	MAY-15

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

None

NOTE:



CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PB Cycle  
February 2015

Ship Type: CARRIER REPLACEMENT PROGRAM  
Equipment Item: PHALANX BLOCK 1B MK 15 MOD 21 & 22, CLOSE - IN WEAPONS SYSTEM (CIWS)  
PARM Code: IWS 3B

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

Phalanx is a high fire rate Close-In Weapon System (CIWS) that automatically acquires, tracks and destroys Anti-Ship cruise missiles, Helos, Aircraft, and all types of Surface threats. The installed version will have one MK-15, Mod 21 and two MK-15 Mod 22 CIWS systems.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2008		FY 2013	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	3	14,058	3	16,297
Ancillary Equipment		199		231
Spares		240		278
Systems Engineering		1,744		1,857
Technical Engineering Services		638		628
Other Costs		876		1,292
Total		17,755		20,583

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY 08	CVN 78	RAYTHEON	FFP	MAY-09		3	4,686
FY 13	CVN 79	RAYTHEON	FFP	APR-21		3	5,432

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY 08	CVN 78	MAR-16	20	22	SEP-12
FY 13	CVN 79	SEP-24	19	22	APR-21

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

None

**NOTE:**

This system is planned for installation during the CVN 79 Phase II availability. This availability enables use of competition / skilled installation teams, provides for installation of shipboard electronic systems closer to time of the ship's first deployment, and allows for concurrent installation of the combat system and DBR replacement radar suite.

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PB Cycle  
February 2015

Ship Type: CARRIER REPLACEMENT PROGRAM  
Equipment Item: AN/SQQ-34, CARRIER-TACTICAL SUPPORT CENTER (CV-TSC)  
PARM Code: PEO IWS 5E

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

CV-TSC provides for carrier organic Anti-submarine Warfare (ASW), Mine Warfare (MIW), Surface Warfare (SUW), and other composite warfare area sensor data processing, tactical command and control, and organic/battle-group aircraft mission support. CV-TSC supports both ship self defense and embarked Destroyer Squadron (DESRON) missions. This system is Open Architecture Computing Environment (OACE), Joint Fires Network (JFN), and FORCEnet compliant, and includes redesign to maximize introduction of expected transformational technologies such as Common Processing System (CPS), Common Display System (CDS), sensor processing in support of the MH-60R helicopter, high speed bandwidth network, Excomm systems, net-centric warfare components, etc.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2008		FY 2013	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	3,295	1	2,980
Technical Data and Documentation		45		0
Spares		125		50
Systems Engineering		1,890		1,050
Technical Engineering Services		400		800
Other Costs		920		1,705
Total		6,675		6,585

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY 08	CVN 78	GTS/GENERAL DYNAMICS	CPFF	MAR-09		1	3,295
FY 13	CVN 79	TBD	TBD	AUG-21		1	2,980

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY 08	CVN 78	MAR-16	26	21	APR-11
FY 13	CVN 79	SEP-24	19	18	AUG-21

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

None

**NOTE:**

This system is planned for installation during the CVN 79 Phase II availability. This availability enables use of competition / skilled installation teams, provides for installation of shipboard electronic systems closer to time of the ship's first deployment, and allows for concurrent installation of the combat system and DBR replacement radar suite.

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PB Cycle  
February 2015

Ship Type: CARRIER REPLACEMENT PROGRAM  
Equipment Item: MK29 MOD 5, GUIDED MISSILE LAUNCHING SYSTEM (GMLS)  
PARM Code: PEO IWS 3

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The MK 29 Mod 5 GMLS is a launcher only configuration integrated with the C2 system and will provide CVN 78 and CVN 79 with a cost effective means of employing the initial Evolved Sea Sparrow Missile (ESSM) capability. This configuration consist of an open architecture launching system and does not include operator workstations; all workstations and operator interactions necessary for system operation including but not limited to power application to the GMLS and control and safety/status monitoring of loaded cells is assumed to exist at the combat system level.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2008		FY 2013	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	2	5,993	2	10,057
Ancillary Equipment		327		407
Technical Data and Documentation		56		0
Spares		530		894
Systems Engineering		1,502		1,287
Technical Engineering Services		515		665
Other Costs		3,859		2,305
Total		12,782		15,615

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY 08	CVN 78	RAYTHEON	FFP	JUN-11	NEW	2	2,997
FY 13	CVN 79	TBD	TBD	SEP-20		2	5,028

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY 08	CVN 78	MAR-16	22	29	DEC-11
FY 13	CVN 79	SEP-24	19	29	SEP-20

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

None

**NOTE:**

This system is planned for installation during the CVN 79 Phase II availability. This availability enables use of competition / skilled installation teams, provides for installation of shipboard electronic systems closer to time of the ship's first deployment, and allows for concurrent installation of the combat system and DBR replacement radar suite.

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PB Cycle  
February 2015

Ship Type: CARRIER REPLACEMENT PROGRAM  
Equipment Item: AVIATION DATA MANAGEMENT AND CONTROL SYSTEM (ADMACS)  
PARM Code: PMA 251

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

ADMACS is a virtual, seamless, data sharing, knowledge based data system that provides interface for all aviation data systems. It is a tactical real-time information management system maintaining data integrity throughout the ship spaces that manage aircraft launch and recovery operations on board the carrier. ADMACS includes data from launch and recovery equipment, air traffic control, aviation maintenance, landing signaling officer, etc.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2008		FY 2013	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	4,443	1	4,600
Technical Data and Documentation		97		0
Spares		241		90
Systems Engineering		907		1,249
Technical Engineering Services		753		966
Other Costs		1,156		1,612
Total		7,597		8,517

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY 08	CVN 78	CHUGACH	FFP	JUL-12	NEW	1	4,443
FY 13	CVN 79	TBD	TBD	SEP-16		1	4,600

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY 08	CVN 78	MAR-16	26	12	JAN-13
FY 13	CVN 79	JUN-22	43	27	SEP-16

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

None

NOTE:

CLASSIFICATION: UNCLASSIFIED

**SHIPBUILDING AND CONVERSION, NAVY**  
**MAJOR SHIP COMPONENT FACT SHEET**  
(Dollars in Thousands)

**P-35 EXHIBIT**  
**FY2016 PB Cycle**  
February 2015

**Ship Type:** CARRIER REPLACEMENT PROGRAM  
**Equipment Item:** INTEGRATED LAUNCH AND RECOVERY TELEVISION SYSTEM (ILARTS)  
**PARM Code:** PMA 251

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The primary purpose of the ILARTS system is to simultaneously monitor and record aircraft recoveries and launches aboard aircraft carriers during both day and night operations. This system also provides the LSO with information on aircraft lineup during recovery and is used both as a pilot debriefing medium and as a detailed accident analysis tool. ILARTS consists of eighteen cameras in different locations aboard ship that are connected to a closed circuit television system.

**II. CURRENT FUNDING:**

**P-35 Category**

	<b>FY 2008</b>		<b>FY 2013</b>	
	<b><u>QTY</u></b>	<b><u>COST</u></b>	<b><u>QTY</u></b>	<b><u>COST</u></b>
Major Hardware	1	4,663	1	2,777
Technical Data and Documentation		229		0
Spares		343		0
Systems Engineering		1,702		1,318
Technical Engineering Services		195		339
Other Costs		1,178		662
Total		8,310		5,096

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY 08	CVN 78	EPSILON/FULLVIEW	FFP	OCT-10	NEW	1	4,663
FY 13	CVN 79	TBD	TBD	DEC-15		1	2,777

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY 08	CVN 78	MAR-16	19	36	AUG-11
FY 13	CVN 79	JUN-22	43	36	DEC-15

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

None

**NOTE:**

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PB Cycle  
February 2015

Ship Type: CARRIER REPLACEMENT PROGRAM  
Equipment Item: MK 49, MOD 3 ROLLING AIRFRAME MISSILE (RAM)  
PARM Code: PEO IWS 3B

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The MK 49 Mod 3 Rolling Airframe Missile (RAM) Weapon System is a lightweight, low cost, high power system for anti-ship missile defense against current and evolving threats. The Block 1 upgrade adds the capability of infrared, all-the-way missile guidance while maintaining the original dual-mode (RF/IR) capability. The helos, aircraft, and surface (HAS) upgrade enables the engagement of asymmetric threats. The CVN 78 and CVN 79 system provides refurbished MK 49 Guided Missile Launching Systems upgraded to MK 49 Mod 3.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2008		FY 2013	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	2	6,816	2	7,902
Ancillary Equipment		1,191		1,381
Technical Data and Documentation		30		35
Spares		121		140
Systems Engineering		1,897		2,190
Technical Engineering Services		332		380
Other Costs		3,524		4,098
Total		13,911		16,126

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW	HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>UNIT COST</u>
FY 08	CVN 78	RAYTHEON	FFP	JAN-09		2 3,408
FY 13	CVN 79	TBD	TBD	FEB-21		2 3,951

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY 08	CVN 78	MAR-16	20	21	OCT-12
FY 13	CVN 79	SEP-24	19	24	FEB-21

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

None

**NOTE:**

This system is planned for installation during the CVN 79 Phase II availability. This availability enables use of competition / skilled installation teams, provides for installation of shipboard electronic systems closer to time of the ship's first deployment, and allows for concurrent installation of the combat system and DBR replacement radar suite.

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PB Cycle  
February 2015

Ship Type: CARRIER REPLACEMENT PROGRAM  
Equipment Item: IMPROVED FRESNEL LENS OPTICAL LANDING SYSTEM (IFLOLS)  
PARM Code: PMA 251

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The IFLOLS is the primary visual landing aide displaying glide path, and trend information to fixed wing pilots on final approach from 1.5 nautical miles to touchdown. It is centered between two fixed green datum reference bars. This stabilized "meatball" indicates to the pilot his position above, below, or on ideal glide slope by ball displacements above or below the datum reference.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2008		FY 2013	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	1,781	1	2,079
System Engineering		743		1,000
Technical Engineering Services		255		276
Other Costs		568		664
Total		3,347		4,019

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY 08	CVN 78	N/A	N/A	FEB-09		1	1,781
FY 13	CVN 79	TBD	TBD	JAN-16		1	2,079

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY 08	CVN 78	MAR-16	36	24	MAR-11
FY 13	CVN 79	JUN-22	53	24	JAN-16

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

None

**NOTE:**

CVN 78: Refurbishment of existing IFLOLS unit done at Naval Air Station North Island and Naval Air Warfare Center, Lakehurst, NJ.

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<b>CLASSIFICATION:</b>				<b>UNCLASSIFIED</b>									
Exhibit P-10, Advance Procurement Requirements Analysis (Funding)										Date: <b>February 2015</b>			
Appropriation (Treasury)Code/CC/BA/BSA/Item Control Number <b>SHIPBUILDING AND CONVERSION, NAVY / 2 / Other Warships / BLI 2001</b>								P-1 Line Item Nomenclature <b>CARRIER REPLACEMENT PROGRAM</b>					
Weapon System <b>CVN 80</b>				First System (BY1) Award Date and Completion Date <b>DECEMBER 2017 SEPTEMBER 2027</b>						Interval Between Systems			
BLI	PLT	When Req'd	Prior Years	FY14	FY15	FY16	FY17	FY18	FY19	FY20	To Complete	Total	
P-5 Categories			0.0	0.0	0.0	874.7	1,126.1	0.0	0.0	0.0	0.0	2,000.8	
Plans (Detailed)	Up to 45	45	0.0	0.0	0.0	12.3	14.0	0.0	0.0	0.0	0.0	26.4	
Basic	16-72	45	0.0	0.0	0.0	179.1	107.6	0.0	0.0	0.0	0.0	286.7	
Nuc Prop Equip	36-96	72	0.0	0.0	0.0	683.2	1,004.5	0.0	0.0	0.0	0.0	1,687.7	
<b>Total AP</b>			0.0	0.0	0.0	874.7	1,126.1	0.0	0.0	0.0	0.0	2,000.8	
<b>Description:</b> <b>P-5 Categories</b>  <b>Plans (Detailed)</b> funding is required to support the CVN 80 integrated design and construction schedule. Funding is required to efficiently and effectively complete design integration efforts and detailed design construction planning.  <b>Basic</b> funding is required for both procurement of the longest lead non-reactor propulsion plant, electric plant contractor furnished equipment and shipbuilder advance procurement efforts necessary to support an efficient CVN 80 construction schedule.  <b>Nuclear Propulsion Equipment (GFE)</b> funding is required to fund the longest lead reactor plant components. The complexity, size and early shipyard need dates for reactor plant equipment make them among the longest lead items for CVN 80.													

<b>CLASSIFICATION:</b>		<b>UNCLASSIFIED</b>				
Exhibit P-10, Advance Procurement Requirements Analysis (Budget Justification)						Date: <b>February 2015</b>
Appropriation (Treasury)Code/CC/BA/BSA/Item Control Number <b>SHIPBUILDING AND CONVERSION, NAVY / 2 / Other Warships / BLI 2001</b>				Weapon System <b>CVN 80</b>		P-1 Line Item Nomenclature <b>CARRIER REPLACEMENT PROGRAM</b>
(TOA \$ in Millions)				<b>FY16</b>		
	PLT	QPA	Unit Cost	Qty	Contract Forecast Date	Total Cost Request
Plans (Detailed)	Up to 45				OCT 15	12.3
Basic	16-72				OCT 15	179.1
Nuc Prop Equip	36-96				OCT 15	683.2
Total AP						874.7
<b>Description:</b>  <b>Plans (Detailed)</b> funding is required to support the CVN 80 integrated design and construction schedule. Funding is required to efficiently and effectively complete design integration efforts and detailed design and construction planning.  <b>Basic</b> funding is required for both procurement of the longest lead non-reactor propulsion plant, electric plant contractor furnished equipment and shipbuilder advance procurement efforts necessary to support an efficient CVN 80 construction schedule.  <b>Nuclear Propulsion Equipment (GFE)</b> funding is required to fund the longest lead reactor plant components. The complexity, size and early shipyard need dates for reactor plant equipment make them among the longest lead items for CVN 80.						

CLASSIFICATION: UNCLASSIFIED										
BUDGET ITEM JUSTIFICATION SHEET (P-40)							DATE: February 2015			
FY2016 President's Budget										
APPROPRIATION/BUDGET ACTIVITY Ship and Conversion, Navy/BA#2 OTHER WARSHIPS			P-1 ITEM NOMENCLATURE Virginia Class Submarine							
			BLI: 2013							
	PRIOR YEARS	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	TO COMPLETE	TOTAL PROGRAM
QUANTITY	18	2	2	2	2	2	2	2		32
End Cost	46325.5	5409.3	5265.7	5376.9	5439.2	5579.3	7085.0	6492.5	3066.2	90039.7
Less Advance Procurement	12798.2	1528.6	1577.0	1613.5	1623.3	1856.3	2024.0	1704.2	2257.2	26982.4
Less Transfer / Cost to Complete	1844.7									1844.7
Less EOQ	2036.7		158.4	416.9	597.6	580.4			809.0	4599.0
Full Funding	29645.9	3880.7	3530.3	3346.4	3218.3	3142.7	5061.0	4788.3	.0	56613.6
Plus Advance Procurement	15436.8	1612.0	1621.0	1663.8	1965.8	1881.2	1240.3	1561.5		26982.4
Plus Transfer / Cost to Complete	1617.7	227.0								1844.7
Plus EOQ	2036.7	742.6	680.8	330.0			390.5	418.5		4599.0
Total Obligational Authority	48737.1	6462.3	5832.1	5340.1	5184.1	5023.9	6691.8	6768.2	.0	90039.7
Plus Outfitting and Post Delivery	731.1	87.5	123.0	116.6	140.0	144.9	112.7	164.4	777.1	2397.2
Total	49468.2	6549.9	5955.0	5456.7	5324.1	5168.8	6804.5	6932.6	777.1	92436.8
Unit Cost (Ave. End Cost)	2573.6	2704.7	2632.8	2688.4	2719.6	2789.7	3542.5	3246.3		2717.9
<b>MISSION:</b> To seek out and destroy enemy ships across a wide spectrum of tactical scenarios, working both independently and in consort with a battle group/other ships, providing Joint Commanders with early, accurate knowledge of the battlefield on which power may be projected from sea; covert striking power against targets ashore; the capability to establish covertly an expeditionary force on land; and the maritime strength to destroy enemy naval forces and interdict seaborne commerce.										
<b>NOTE:</b> These VA Class Exhibits reflect an FY14 - FY18 Multi-Year Procurement (MYP) strategy for 10 SSNs (2 per year) with EOQ in FY14-FY16. Additionally, the To Complete values includes FY18 - FY20 AP/EOQ for CFE/GFE LLTM and Nuclear Components anticipated for a 9 SSN MYP contract for SSNs in FY19 - FY23 with VPM (which includes SSNs beyond the current Program of Record of 30 SSNs).										
<b>Characteristics:</b>			<b>Armament:</b>		<b>Major Electronics:</b>					
Hull			Torpedo Tubes		Command, Control, Communications and Intelligence System					
Length overall 377'			Vertical Launch Tubes		- Open System Architecture					
Beam 34'					- Twenty-three Subsystems					
Displacement 7830 Tons										
Draft 32'										
<b>Production Status:</b>			<b>FY14</b>	<b>FY14</b>	<b>FY15</b>	<b>FY15</b>	<b>FY16</b>	<b>FY16</b>		
Multi Year Procurement Contract			SSN 792	SSN 793	SSN 794	SSN 795	SSN 796	SSN 797		
Contract Award Date			Apr-14	Apr-14	Apr-14	Apr-14	Apr-14	Apr-14		
Months to Completion										
a)Option Award Date to Delivery			62 months	67 months	64 months	68 months	61 months	67 months		
b) Construction Start to Delivery			62 months	62 months	62 months	60 months	60 months	60 months		
Option Award Date			Apr-14	Apr-14	Jan-15	Jan-15	Jan-16	Jan-16		
Start of Construction Date			May-14	Sep-14	Apr-15	Sep-15	Mar-16	Sep-16		
Delivery Date			Jun-19	Nov-19	May-20	Sep-20	Feb-21	Aug-21		
Completion of Fitting Out			Jun-19	Nov-19	May-20	Sep-20	Feb-21	Aug-21		
Obligation Work Limiting Date			May-20	Oct-20	Apr-21	Aug-21	Jan-22	Jul-22		

CLASSIFICATION: UNCLASSIFIED

P-5 EXHIBIT  
FY2016 President's Budget  
February 2015  
BLI: 2013

APPROPRIATION: SHIPBUILDING AND CONVERSION, NAVY      WEAPON SYSTEM COST ANALYSIS (EXHIBIT P-5)

BUDGET ACTIVITY: 2      P-1 ITEM NOMENCLATURE: Virginia Class Submarine  
OTHER WARSHIPS

	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY2014	FY2015	FY2016
QUANTITY	1	1	2	2	2	2	2	2
ELEMENTS OF COST	TOTAL COST	TOTAL COST	TOTAL COST	TOTAL COST	TOTAL COST	TOTAL COST	TOTAL COST	TOTAL COST
PLAN COSTS	114,805	98,882	184,659	176,536	183,597	167,937	177,095	183,078
BASIC CONST/CONVERSION	1,775,064	1,699,521	3,384,964	3,306,362	3,232,704	3,492,087	3,335,501	3,384,290
CHANGE ORDERS	49,102	50,675	100,644	98,600	92,430	104,021	89,481	91,459
TECHNOLOGY INSERTION	111,267	81,323	80,000	25,600	45,500	73,500	28,835	13,535
ELECTRONICS	263,306	262,829	529,217	489,947	499,746	503,718	504,701	514,795
PROPULSION EQUIPMENT	462,931	474,000	887,000	878,000	896,000	910,157	970,000	1,025,000
HM&E	48,901	51,557	99,738	100,116	102,476	105,248	106,822	109,920
OTHER COST	31,300	31,713	48,170	49,158	51,124	52,658	53,233	54,777
TOTAL SHIP ESTIMATE	2,856,676	2,750,500	5,314,392	5,124,319	5,103,577	5,409,326	5,265,668	5,376,854
LESS ADVANCE PROCUREMENT FY07	462,931							
LESS ADVANCE PROCUREMENT FY08	292,998	474,749	513,884					
LESS ADVANCE PROCUREMENT FY09		235,776	563,000					
LESS ADVANCE PROCUREMENT FY10			432,400	914,000				
LESS ADVANCE PROCUREMENT FY11				498,961	932,000			
LESS ADVANCE PROCUREMENT FY12					473,115	988,246		
LESS ADVANCE PROCUREMENT FY13						540,376	1,110,000	
LESS ADVANCE PROCUREMENT FY14							467,014	1,145,000
LESS ADVANCE PROCUREMENT FY15								468,536
LESS EOQ FY09		81,857	186,488	162,131	162,128			
LESS EOQ FY10			207,222	199,898	200,160			
LESS EOQ FY11				128,015	122,920			
LESS EOQ FY14							158,400	219,380
LESS EOQ FY15								197,568
LESS Cost to Complete FY14					227,000			
NET P-1 LINE ITEM	2,100,747	1,958,118	3,411,398	3,221,314	2,986,254	3,880,704	3,530,254	3,346,370

CLASSIFICATION: UNCLASSIFIED

P-5B EXHIBIT  
FY2016 President's Budget  
February 2015  
BLI: 2013

SHIPBUILDING AND CONVERSION, NAVY  
Analysis of Ship Cost Estimate - Basic/Escalation

Fiscal Year: 2014/2015

Ship Type: VIRGINIA CLASS

I.	<u>Design Schedule:</u>	<u>Start/Issue</u>	<u>Complete/Response</u>	<u>Reissue Complete/Response</u>
	Issue Date for TLR	N/A	N/A	
	Issue Date for TLS	N/A	N/A	
	Preliminary Design	Oct-93	Sep-95	
	Contract Design	Oct-94	Sep-96	
	Detail Design	Jan-96	Jun-04	
	Request for Proposals	N/A	N/A	
	Design Agent	Electric Boat		
II.	<u>Classification of Cost Estimate</u>	C		
III.	<u>Basic Construction/Conversion</u>	<u>FY2015</u>	<u>FY2016</u>	
	A. Award Date	Apr-14	Apr-14	The FY14 MYP Construction Contract was awarded on 28 April 2014 with AP/EOQ for the 10 SSNs in FY14-18.
	B. Contract Type	FPI	FPI	
	C. Request for Proposals:			
	Start/Issue:	Sept-12	Sept-12	
	Complete/Response:	Dec-12	Dec-12	
IV.	<u>Escalation</u>			
	Base Date	N/A	N/A	
	Escalation Target Date	N/A	N/A	
	Escalation Termination Date	N/A	N/A	
	Escalation Requirement (\$K)	N/A	N/A	
	Labor/Material Split	N/A	N/A	
	Allowable Overhead Rate	N/A	N/A	
V.	<u>Other Basic (Reserves/Miscellaneous)</u>	<u>Amount</u>	<u>Amount</u>	
	Item	N/A	N/A	

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
SHIP PRODUCTION SCHEDULE

EXHIBIT P-27  
FY2016 President's Budget  
February 2015  
BLI: 2013

SHIP TYPE	SHIPBUILDER	FISCAL YEAR AUTHORIZED	CONTRACT AWARD	START OF CONSTRUCTION	DELIVERY DATE
SSN784	EB/NNS	09	Dec-08	Mar-09	Aug-14
SSN785	EB/NNS	10	Dec-08	Mar-10	Apr-15
SSN786	EB/NNS	11	Dec-08	Mar-11	Dec-15
SSN787	EB/NNS	11	Dec-08	Sep-11	Jun-16
SSN788	EB/NNS	12	Dec-08	Mar-12	Nov-16
SSN789	EB/NNS	12	Dec-08	Sep-12	Jun-17
SSN790	EB/NNS	13	Dec-08	Mar-13	Nov-17
SSN791	EB/NNS	13	Dec-08	Sep-13	Jun-18
SSN792	EB/NNS	14	Apr-14	May-14	Jun-19
SSN793	EB/NNS	14	Apr-14	Sep-14	Nov-19
SSN794	EB/NNS	15	Apr-14	Apr-15	May-20
SSN795	EB/NNS	15	Apr-14	Sep-15	Sep-20
SSN796	EB/NNS	16	Apr-14	Mar-16	Feb-21
SSN797	EB/NNS	16	Apr-14	Sep-16	Aug-21
SSN798	EB/NNS	17	Apr-14	Mar-17	Feb-22
SSN799	EB/NNS	17	Apr-14	Sep-17	Aug-22
SSN800	EB/NNS	18	Apr-14	Mar-18	Feb-23
SSN801	EB/NNS	18	Apr-14	Sep-18	Aug-23
SSN802	EB/NNS	19	Dec-18	Mar-19	Feb-24
SSN803	EB/NNS	19	Dec-18	Sep-19	Aug-24
SSN804	EB/NNS	20	Dec-18	Mar-20	Feb-25
SSN805	EB/NNS	20	Dec-18	Sep-20	Aug-25

Note: (1) The start of construction dates reflect when Electric Boat starts construction of Section 7 Hull Cylinder (KE70021).

(2) The FY10-13 SSNs Delivery Date reflects an estimated accelerated date (not the contract delivery dates). The FY14-18 SSNs reflect contract delivery dates in accordance with the Block IV 10 MYP contract. VA Class is working towards earlier delivery dates for all currently undelivered SSNs.

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
Analysis of Ship Cost Estimates - Major Equipment  
(Dollars in Thousands)

Ship Type:

VIRGINIA CLASS

	FY14		FY15		FY16	
	QTY	TOTAL COST	QTY	TOTAL COST	QTY	TOTAL COST
	2		2		2	
ELECTRONICS EQUIPMENT						
a. P-35 Items						
1. Sonar, Combat Control & Architecture		202,854		206,882		211,046
2. ESM		55,412		56,512		57,650
3. Photonics Masts		37,268		38,008		38,774
4. UMMs		21,254		21,676		22,112
5. ECS Recurring		50,276		51,274		52,306
Subtotal		367,064		374,352		381,888
b. Major Items						
1. System Level Activities		41,236		38,718		39,473
2. AN/BPS-16		11,424		5,968		6,048
3. Navigation		6,488		6,617		6,750
4. CWITT		42,194		43,032		43,898
5. NPES SE&I		33,020		33,676		34,354
Subtotal		134,362		128,011		130,523
c. Other Electronics						
1. Misc Electronics		2,292		2,338		2,384
TOTAL ELECTRONICS		503,718		504,701		514,795

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET

P-35  
ITEM: SONAR, COMBAT, CONTROL &  
ARCHITECTURE

EXHIBIT P-35  
FY2016 President's Budget  
February 2015  
BLI: 2013

I. DESCRIPTION/CHARACTERISTICS/PURPOSE

The VIRGINIA Class Command, Control, Communications and Intelligence (C3I) System is the electronics suite which will provide required operational and warfighting capability for the Navy's newest attack submarine. The C3I System includes 15 subsystems (23 if all electronically interfaced subsystems are included) integrated by an overarching Architecture Subsystem. This P-35 covers the procurement requirements for the following: C3I Prime Contractor Furnished Equipment (Sonar, Combat Control and Architecture subsystems) and associated Government Furnished Equipment; technical data documentation; spares; technical engineering services; design engineering services; field engineering services; management support services; and shipboard certification efforts.

Quantity of 1 per hull

II. CURRENT FUNDING:

SHIP:	FY14	FY15	FY16
MAJOR HARDWARE	165,401	168,685	172,084
TECH ENGINEERING SERVICES	2,963	3,022	3,082
OTHER COSTS	34,490	35,175	35,880
TOTAL	202,854	206,882	211,046

III. CONTRACT DATA:

PROGRAM	SHIP TYPE	CONTRACTOR	QTY	HARDWARE UNIT COST	CONTRACT AWARD DATE	CONTRACT TYPE	NEW / OPTION
YEAR							
14	SSN792 / 793	LMMSS	2 Shipsets	45,214	Jan-14	C/CPIF	Option
15	SSN794 / 795	LMMSS	2 Shipsets	46,111	Jan-15	C/CPIF	Option
16	SSN796 / 797	LMMSS	2 Shipsets	47,126	Jan-16	C/CPIF	Option

IV. DELIVERY DATA:

FY	SHIP TYPE	EARLIEST SHIP DELIVERY DATE	MONTHS REQUIRED BEFORE DELIVERY	PRODUCTION LEAD TIME	REQUIRED AWARD DATE
14	SSN792 / 793	June-19 / Nov-19	32 / 31	32	Mar-14 / Aug-14
15	SSN794 / 795	May-20 / Sep-20	32 / 29	32	Jan-15 / Aug-15
16	SSN796 / 797	Feb-21 / Aug-21	29 / 29	32	Jan-16 / Jul-16

V. COMPETITION/SECOND SOURCE INITIATIVES:  
N/A



SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET

P-35  
ITEM: ELECTRONIC SUPPORT MEASURES SUBSYSTEM

EXHIBIT P-35  
FY2016 President's Budget  
February 2015  
BLI: 2013

I. DESCRIPTION/CHARACTERISTICS/PURPOSE

The VIRGINIA Class Command, Control, Communications and Intelligence (C3I) System is the electronics suite which will provide required operational and warfighting capability for the Navy's newest attack submarine. The C3I System includes 15 subsystems (23 if all electronically interfaced subsystems are included) integrated by an overarching Architecture Subsystem. This P-35 covers the procurement requirements for the following: Electronic Support Measures subsystem Prime Contractor Furnished Equipment, and associated Government Furnished Equipment; technical data documentation; spares; systems engineering; technical engineering services; computer program support; system test & evaluation; field engineering services; management support services; shipboard certification efforts; quality assurance and reliability/maintainability assurance; maintenance of technical data; and contractor support services efforts. This system provides the capability to process a variety of electromagnetic signal types over a wide frequency range in support of all applicable submarine mission areas.

Quantity of 1 per hull

II. CURRENT FUNDING:

SHIP:	FY14	FY15	FY16
MAJOR HARDWARE	42,018	42,852	43,718
TECH ENGINEERING SERVICES	2,355	2,402	2,450
OTHER COSTS	11,039	11,258	11,482
TOTAL	55,412	56,512	57,650

III. CONTRACT DATA:

PROGRAM YEAR	SHIP TYPE	CONTRACTOR	QTY	HARDWARE UNIT COST	CONTRACT AWARD DATE	CONTRACT TYPE	NEW / OPTION
14	SSN792 / 793	LM, Syracuse	2 Shipsets	21,009	Mar-14	SS / FFP	Option
15	SSN794 / 795	Competitive	2 Shipsets	21,426	Dec-15	FFP	New
16	SSN796 / 797	Competitive	2 Shipsets	21,859	Dec-16	FFP	Option

IV. DELIVERY DATA:

FY	SHIP TYPE	EARLIEST SHIP DELIVERY DATE	MONTHS REQUIRED BEFORE DELIVERY	PRODUCTION LEAD TIME	REQUIRED AWARD DATE
14	SSN792 / 793	June-19 / Nov-19	32 / 31	24	Nov-14 / May-15
15	SSN794 / 795	May-20 / Sep-20	32 / 29	24	Oct-15 / Apr-16
16	SSN796 / 797	Feb-21 / Aug-21	29 / 29	24	Sep-16 / Mar-17

V. COMPETITION/SECOND SOURCE INITIATIVES:

Multi-Functional Modular Mast (MMM) for SSN794 - 797

- RFP is planned to be released February 2015 and planned contract award date is December 2015

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET

P-35  
ITEM: PHOTONICS MAST

EXHIBIT P-35  
FY2016 President's Budget  
February 2015  
BLI: 2013

I. DESCRIPTION/CHARACTERISTICS/PURPOSE

The VIRGINIA Class Command, Control, Communications and Intelligence (C3I) System is the electronics suite which will provide required operational and warfighting capability for the Navy's newest attack submarine. The C3I System includes 15 subsystems (23 if all electronically interfaced subsystems are included) integrated by an overarching Architecture Subsystem. This P-35 covers the procurement requirements for the following: Photonics subsystem Prime Contractor Furnished Equipment; spares; systems engineering; technical engineering services; computer program support; field engineering services; management support services; shipboard certification; maintenance of technical data; and contractor support services efforts. This system consists of two outboard mast/antenna/camera assemblies and the associated inboard processing and display equipment. This system supports visual and infrared (IR) imaging, RF signal communications, early warning and contact direction finding capability.

Quantity of 1 per hull

II. CURRENT FUNDING:

SHIP:	FY14	FY15	FY16
MAJOR HARDWARE	25,760	26,272	26,804
TECH ENGINEERING SERVICES	1,159	1,182	1,204
OTHER COSTS	10,349	10,554	10,766
TOTAL	37,268	38,008	38,774

III. CONTRACT DATA:

PROGRAM YEAR	SHIP TYPE	CONTRACTOR	QTY	HARDWARE UNIT COST	CONTRACT AWARD DATE	CONTRACT TYPE	NEW / OPTION
14	SSN792 / 793	L-3 KEO	2 Shipsets	12,880	Sep-14	SS / FFP	Option
15	SSN794 / 795	Competitive	2 Shipsets	13,136	Jun-15	FFP	New
16	SSN796 / 797	Competitive	2 Shipsets	13,402	Mar-16	FFP	Option

IV. DELIVERY DATA:

FY	SHIP TYPE	EARLIEST SHIP DELIVERY DATE	MONTHS REQUIRED BEFORE DELIVERY	PRODUCTION LEAD TIME	REQUIRED AWARD DATE
14	SSN792 / 793	June-19 / Nov-19	32 / 31	24	Nov-14 / May-15
15	SSN794 / 795	May-20 / Sep-20	32 / 29	24	Oct-15 / Apr-16
16	SSN796 / 797	Feb-21 / Aug-21	29 / 29	24	Sep-16 / Mar-17

V. COMPETITION/SECOND SOURCE INITIATIVES:

Low Profile Photonics Mast (LPPM) - Full and Open competition

- RFP released April 2014 and award planned third quarter FY15
- Includes common diploop/EHP plan as part of contract to maintain future mast flexibility
- Includes antenna assembly and ESM mast components

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET

P-35

ITEM: UNIVERSAL MODULAR MAST

EXHIBIT P-35  
FY2016 President's Budget  
February 2015  
BLI: 2013

I. DESCRIPTION/CHARACTERISTICS/PURPOSE

The VIRGINIA Class Command, Control, Communications and Intelligence (C3I) System is the electronics suite which will provide required operational and warfighting capability for the Navy's newest attack submarine. The C3I System includes 15 subsystems (23 if all electronically interfaced subsystems are included) integrated by an overarching Architecture Subsystem. This P-35 covers the procurement requirements for the following: Modular Mast Prime Contractor Furnished Equipment; technical data documentation; spares; systems engineering; technical engineering services; management support services; shipboard certification; and maintenance of technical data efforts. This system consists of eight common masts for purposes of housing, raising and lowering antenna and other sensor units.

Quantity of 1 per hull

II. CURRENT FUNDING:

SHIP:	FY14	FY15	FY16
MAJOR HARDWARE	15,838	16,153	16,478
TECH ENGINEERING SERVICES	2,629	2,681	2,734
OTHER COSTS	2,787	2,842	2,900
TOTAL TOTAL	21,254	21,676	22,112

III. CONTRACT DATA:

PROGRAM YEAR	SHIP TYPE	CONTRACTOR	QTY	HARDWARE UNIT COST	CONTRACT AWARD DATE	CONTRACT TYPE	NEW / OPTION
14	SSN792 / 793	L-3 KEO	2 Shipsets	7,919	Apr-14	SS / FP	Option
15	SSN794 / 795	L-3 KEO	2 Shipsets	8,077	Feb-15	SS / FP	New
16	SSN796 / 797	L-3 KEO	2 Shipsets	8,239	Feb-16	SS / FP	Option

IV. DELIVERY DATA:

FY	SHIP TYPE	EARLIEST SHIP DELIVERY DATE	MONTHS REQUIRED BEFORE DELIVERY	PRODUCTION LEAD TIME	REQUIRED AWARD DATE	
14	SSN792 / 793	June-19 / Nov-19	41 / 40	24 / 28	Jan-14 / Apr-14	Program Office has negotiated for the SSN 792 shipset to be delivered in 21 months
15	SSN794 / 795	May-20 / Sep-20	40 / 38	24 / 28	Feb-15 / Apr-15	
16	SSN796 / 797	Feb-21 / Aug-21	37 / 37	24 / 28	Feb-16 / Mar-16	

V. COMPETITION/SECOND SOURCE INITIATIVES:

N/A

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET

P-35

ITEM: EXTERIOR COMMUNICATION SYSTEM RECURRING

EXHIBIT P-35  
FY2016 President's Budget  
February 2015  
BLI: 2013

I. DESCRIPTION/CHARACTERISTICS/PURPOSE

The VIRGINIA Class Command, Control, Communications and Intelligence (C3I) System is the electronics suite which will provide required operational and warfighting capability for the Navy's newest attack submarine. The C3I System includes 15 subsystems (23 if all electronically interfaced subsystems are included) integrated by an overarching Architecture Subsystem. Exterior Communications Systems (ECS) is an integration effort with multiple Government-Off-The-Shelf (GOTS) components providing the core ECS capability. The GOTS components of ECS will be provided using existing contracts. For the ECS integration effort, Stanley Associates (North Charleston, SC) is prime for fabrication and production. This P-35 covers the procurement requirements for the following: ECS GOTS equipment; fabrication/production; systems engineering; system test & evaluation; training; data; technical engineering services; spares and repair parts; and program management. This system provides the capability for seamless, transparent, secure connectivity for information exchange between submarine users and the Global Command and Communications System (GCCS).

Quantity of 1 per hull

II. CURRENT FUNDING:

SHIP:	FY14	FY15	FY16
MAJOR HARDWARE	33,720	34,389	35,082
TECH ENGINEERING SERVICES	5,718	5,832	5,950
OTHER COSTS	10,838	11,053	11,274
TOTAL	50,276	51,274	52,306

III. CONTRACT DATA:

PROGRAM YEAR	SHIP TYPE	CONTRACTOR	QTY	HARDWARE UNIT COST	CONTRACT AWARD DATE	CONTRACT TYPE	NEW / OPTION
14	SSN792 / 793	SAIC	2 Shipsets	16,860	May-16	Competitive/IDIQ	Option
15	SSN794 / 795	SAIC	2 Shipsets	17,195	May-17	Competitive/IDIQ	Option
16	SSN796 / 797	SAIC	2 Shipsets	17,541	May-18	Competitive/IDIQ	Option

IV. DELIVERY DATA:

FY	SHIP TYPE	EARLIEST SHIP DELIVERY DATE	MONTHS REQUIRED BEFORE DELIVERY	PRODUCTION LEAD TIME	REQUIRED AWARD DATE
14	SSN792 / 793	June-19 / Nov-19	28 / 28	9	May-16 / Oct-16
15	SSN794 / 795	May-20 / Sep-20	27 / 26	9	May-17 / Oct-17
16	SSN796 / 797	Feb-21 / Aug-21	24 / 25	9	May-18 / Oct-18

V. COMPETITION/SECOND SOURCE INITIATIVES:

N/A

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
Analysis of Ship Cost Estimates - Major Equipment  
(Dollars in Thousands)

Ship Type:

VIRGINIA CLASS

	FY14		FY15		FY16	
	QTY	TOTAL COST	QTY	TOTAL COST	QTY	TOTAL COST
HM&E EQUIPMENT	2		2		2	
a. P-35 Items						
1. Propulsor		72,348		73,496		75,628
b. Major Items						
1. CSA MK2		3,144		3,186		3,278
c. Other						
1. HM&E Installation and testing		18,592		18,828		19,374
2. T&E		9,060		9,180		9,446
3. SUPSHIP responsible material		2,104		2,132		2,194
Subtotal		29,756		30,140		31,014
TOTAL HM&E		105,248		106,822		109,920

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET

P-35  
ITEM: PROPULSOR

EXHIBIT P-35  
FY2016 President's Budget  
February 2015  
BLI: 2013

I. DESCRIPTION/CHARACTERISTICS/PURPOSE

The propulsor consists of Ni-Al-bronze blades and a large steel and inconel fabrication piece. The purpose of the propulsor is to generate proper thrust to propel the ship at a rated speed within the approved limits of torque and shaft RPM, while at the same time meeting acoustic and structural requirements. This design is unique to the VIRGINIA Class. The propulsor consists of a large quantity of government supplied material and a contract for the fixed portion construction and assembly.

II. CURRENT FUNDING:

Quantity of 1 per hull

SHIP:	FY14	FY15	FY16
MAJOR HARDWARE	61,576	62,668	64,486
TECH ENGINEERING SERVICES	10,772	10,828	11,142
OTHER COSTS			
TOTAL	72,348	73,496	75,628

III. CONTRACT DATA:

PROGRAM YEAR	SHIP TYPE	CONTRACTOR	QTY	HARDWARE UNIT COST	CONTRACT AWARD DATE	CONTRACT TYPE	NEW / OPTION
14	SSN792 / 793	BAE Systems	2 Shipsets	18,380	Aug-14	FP	Option
15	SSN794 / 795	BAE Systems	2 Shipsets	18,968	Jun-15	FP	New
16	SSN796 / 797	BAE Systems	2 Shipsets	19,550	Jun-15	FP	New

IV. DELIVERY DATA:

FY	SHIP TYPE	EARLIEST SHIP DELIVERY DATE	MONTHS REQUIRED BEFORE DELIVERY	PRODUCTION LEAD TIME	REQUIRED AWARD DATE
14	SSN792 / 793	June-19 / Nov-19	36	27	Feb-14 / Jul-14
15	SSN794 / 795	May-20 / Sep-20	36	27	Dec-14 / May-15
16	SSN796 / 797	Feb-21 / Aug-21	36	27	Oct-15 / Mar-16

V. COMPETITION/SECOND SOURCE INITIATIVES:  
N/A

Exhibit P-10, Advance Procurement Requirements Analysis (Page 1 - Funding)								FY2016 President's Budget February 2015				
Appropriation (Treasury)Code/CC/BA/BSA/Item Control Number 1711 Shipbuilding and Conversion, Navy / BA 02 / BLI 2013 FY2016 President's Budget								P-1 Line Item Nomenclature VIRGINIA CLASS SUBMARINE				
Weapon System VIRGINIA Class Submarines				First System (BY1) Award Date Various				First System (BY1) Completion Date Various				
(\$ in Millions)												
BLI: 201300	PLT	When Req'd	Prior Years	FY14	FY15	FY16	FY17	FY18	FY19	FY20	To Complete	Total
NUCLEAR PROPULSION PLANT EQUIPMENT (1)	30-72	Various	9,837.4	1,025.0	1,032.5	1,073.0	1,046.0	1,047.0	618.0	1,122.0	.0	16,800.9
ELECTRONICS EQUIPMENT (2)	37-43	Various	237.6	26.6	27.2	27.8	28.2	28.8	29.5	15.0	.0	420.7
NON-NUCLEAR PROPULSION PLANT EQUIPMENT (3)			777.6	39.2	40.5	41.8	43.1	44.4	45.7	23.6	.0	1,055.9
Propulsor	36	Various	296.5	39.2	40.5	41.8	43.1	44.4	45.7	23.6		574.8
Various (Heat Exchanger; Main Condensers; Main Propulsion Complex...)	18-66	Various	481.1									481.1
LONG LEAD-TIME CFE (4)	24 - 42	Various	4,100.5	521.2	520.8	521.2	741.2	618.4	492.9	345.6	.0	7,861.8
DETAIL DESIGN/DESIGN TRANSFER/SHIPBUILDER INTEGRATION			480.6								.0	480.6
VPM (Detail Design & LLTM CFE) (5)							107.3	142.5	54.2	55.3	.0	359.3
OTHER (6)			3.2								.0	3.2
EOQ (7)			2,036.7	742.6	680.8	330.0	.0	.0	390.5	418.5	.0	4,599.0
Total AP			17,473.5	2,354.6	2,301.8	1,993.8	1,965.8	1,881.2	1,630.8	1,980.0	.0	31,581.4
Description: (1) Nuclear Propulsion Plant Equipment AP is required to fund long-lead time propulsion plant equipment, which is the longest lead-time equipment required for construction of nuclear attack submarines, and ensure production capability that supports projected production quantities. To support the VIRGINIA Class' innovative and more efficient modular construction method, reactor plant components must be delivered earlier in the construction process than previous submarine classes. Under the new method, the VIRGINIA Class reactor plant is assembled and tested before being mounted and installed in the hull.  (2) Electronics Equipment AP is required to fund the long-lead time material for the Command and Control System Module (CCSM). AP for the CCSM plays a critical role in early system installation and test in order to keep the CCSM out of the critical path to ship delivery and minimize risk to ship construction. AP is required to procure selected electronics and associated pre-cable kits, cabling, connector plates and mechanical structures to be installed in this module in accordance with Shipyard Required in Yard Dates (RIYD). Pre-cable kits allow the shipyard to establish cable runs and checkout platform interfaces prior to electronics installation. Mechanical structures establish footprint unique packaging to allow electronics to install efficiently.  (3) Non-Nuclear Propulsion Plant Equipment Propulsor AP is required to satisfy in-yard need dates for ship delivery. Other prior year non-nuclear propulsion plant equipment has been negotiated as CFE in the Construction Contract.  (4) Long Lead-Time CFE AP is required to fund long lead time contractor furnished material including the Weapons Handling and Reactor Plant Modules and the Main Propulsion Unit (MPU)/Ship Service Turbine Generator (SSTG). These and other components are required early in the construction phase to meet the delivery schedule.  (5) VPM (Detail Design & LLTM CFE): FY17 - FY20 AP includes funding for Block V (FY19 through FY23 SSNs).  (6) Other is for VIRGINIA Class curriculum development. (7) EOQ is for Economic Order Quantity for large lot procurements of shipbuilder material and major Government Furnished Equipment to achieve savings under the MYP contract.  <b>The use of advance procurement (AP), advance construction(AC), and economic order quantity (EOQ) procurements reduce the cost of subcontractor effort, material, and components. AP/EOQ/AC funds also allow the program to ensure that material and advance construction efforts are available to support a shortened construction span resulting in earlier ship delivery.</b>												
Exhibit P-10, Advance Procurement Funding												

Exhibit P-10, Advance Procurement Requirements Analysis (Page 2 - Budget Justification)						FY2016 President's Budget February 2015				
Appropriation (Treasury)Code/CC/BA/SBA/Item Control Number 1711 Shipbuilding and Conversion, Navy / BA 02 / BLI 2013					Weapon System VIRGINIA Class Submarines		P-1 Line Item Nomenclature VIRGINIA CLASS			
(TOA, \$ in Millions)		FY15				FY16				
	PLT	Qty	Contract Forecast Date	End Item Funded	Total Cost Request	Qty	Contract Forecast Date	End Item Funded	Total Cost Request	
BLI: 201300 End Item										
NUCLEAR PROPULSION PLANT EQUIPMENT (1)		30-72	2 Shipsets	1st Qtr	FY17	1,032.5	2 Shipsets	1st Qtr	FY18	1,073.0
ELECTRONICS EQUIPMENT (2)		37-43	2 Shipsets	various	FY16	27.2	2 Shipsets	various	FY17	27.8
PROPULSOR (3)		36	2 Shipsets	various	FY16	40.5	2 Shipsets	various	FY17	41.8
LONG LEAD-TIME CFE (4)		24 - 42	various	2nd Qtr	FY16/FY17	520.8	various	2nd Qtr	FY17/FY18	521.2
EOQ (5)					680.8				330.0	
		various	various	FY16	197.6					
		various	various	FY17	251.6	various	various	FY17	151.1	
		various	various	FY18	231.6	various	various	FY18	178.8	
Total AP					2,301.8				1,993.8	
Description: (1) Nuclear Propulsion Plant Equipment AP is required to fund long-lead time propulsion plant equipment, which is the longest lead-time equipment required for construction of nuclear attack submarines, and ensure production capability that supports projected production quantities. To support the VIRGINIA Class innovative and more efficient modular construction method, reactor plant components must be delivered earlier in the construction process than previous submarine classes. Under the new method, the VIRGINIA Class reactor plant is assembled and tested before being mounted and installed in the hull.  (2) Electronics Equipment AP is required to fund the long-lead time material for the Command and Control System Module (CCSM). AP for the CCSM plays a critical role in early system installation and test in order to keep the CCSM out of the critical path to ship delivery and minimize risk to ship construction. AP is required to procure selected electronics and associated pre-cable kits, cabling, connector plates and mechanical structures to be installed in this module in accordance with Shipyard Required in Yard Dates (RIYD). Pre-cable kits allow the shipyard to establish cable runs and checkout platform interfaces prior to electronics installation. Mechanical structures establish footprint unique packaging to allow electronics to install efficiently. Additionally, this 1 YR AP is for long lead items such as metal fabrication parts (mechanical structures, chassis, drawer slides, mounting hardware), power supplies and cable connectors, subcontract items (Aft Sonar Receive Unit), and acoustic hull sensors (iRoc Sensors, DT-574 LAB Hydrophone).  (3) Propulsor AP is required to satisfy in-yard need dates for ship delivery.  (4) Long Lead-Time CFE AP is required to fund long lead time contractor furnished material including the Weapons Handling and Reactor Plant Modules and the Main Propulsion Unit (MPU)/Ship Service Turbine Generator (SSTG). These and other components are required early in the construction phase to meet the delivery schedule.  (5) EOQ is for Economic Order Quantity for large lot procurements of shipbuilder material and major Government Furnished Equipment to achieve savings under the MYP contract. Examples of shipbuilder large lot procurements include items such as Electrical (cable, wire, fittings, switches, instrumentation, connectors, resistors, etc.); Valves, flanges and fittings, piping; Fabricated Parts (bearings, sound isolation mounts, pipe hanged assemblies, machined parts); Hardware and Tools (fasteners, marine fittings, locks, latches, small tools). Examples of GFE large lot procurements include items such as: Sonar - Large Aperture Bow (LAB) Arrays and associated bottles, Light Weight Wide Aperture Array (LWWAA) Receivers & electronic components (network servers, switches) ECS – High Data Rate (HDR) Antennas, Digital Modular Radios (DMRs) & associated power amplifiers, Navy Multiband Terminals (NMTs), and Multi-function Masts (MFMs) OE-538. ESM - Photonics ESM Performance Improvement (PEPI)-3 systems and Multifunctional Modular Masts (MMMs) Photonics Masts– outboard equipment only, such as Diploops along with complex electronic & mechanical components that are required to manufacture the Photonics masts Radar – whole systems										



CLASSIFICATION: UNCLASSIFIED										
BUDGET ITEM JUSTIFICATION SHEET (P-40)							DATE:			
FY 2016 President's Budget							February 2015			
APPROPRIATION/BUDGET ACTIVITY					P-1 LINE ITEM NOMENCLATURE					
SHIPBUILDING AND CONVERSION, NAVY/BA 2 Other Warships					CVN REFUELING OVERHAULS					
					BLI: 2086					
(Dollars in Millions)	PRIOR YR	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TO COMP	TOTAL PROG
QUANTITY	5	0	0	1	0	0	0	1	1	8
End Cost	18,021.2	0.0	0.0	4,755.9	0.0	0.0	0.0	5,343.2	5,756.7	33,877.0
Less Advance Procurement	4,462.2	0.0	0.0	813.3	0.0	0.0	0.0	1,348.9	1,079.9	7,704.3
Less Transfer	288.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	288.7
Less Cost to Complete	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0
Less Subsequent Year FF	6,891.2	0.0	0.0	3,264.3	0.0	0.0	0.0	2,133.5	2,593.4	14,882.3
Plus Subsequent Year FF	5,281.9	1,609.3	0.0	0.0	1,803.0	1,461.2	0.0	0.0	0.0	10,155.4
Full Funding TOA	11,641.0	1,609.3	0.0	678.3	1,803.0	1,461.2	0.0	1,860.8	2,083.4	21,137.0
Plus Advance Procurement	4,546.1	245.8	483.6	15.0	221.5	565.5	572.7	107.5	946.7	7,704.3
Plus Subsequent Year FF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4,726.9	4,726.9
Plus Transfer	234.7	0.0	54.0	0.0	0.0	0.0	0.0	0.0	0.0	288.7
Plus Cost to Complete	0.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	20.0
Total Obligational Authority	16,421.8	1,855.1	537.6	713.3	2,024.5	2,026.7	572.7	1,968.3	7,756.9	33,877.0
Plus Outfitting / Plus Post Delivery	115.1	16.9	26.2	24.7	34.8	13.5	17.5	51.9	235.3	535.9
Total	16,535.3	1,872.0	563.8	738.0	2,059.3	2,040.2	590.2	2,020.2	5,163.5	34,412.9
Unit Cost ( Ave. End Cost)	3,604.2	0.0	0.0	4,755.9	0.0	0.0	0.0	5,343.2	5,756.7	4,234.6
MISSION:										
To support and operate aircraft to engage in attacks on targets afloat and ashore which threaten our use of the sea and to engage in sustained operations in support of other forces. The refueling of the reactors and repair and upgrading the main propulsion equipment will provide for reliable operations during its remaining 23 plus years of ship life using only the normal maintenance cycle.										
Note:										
Characteristics:		Armament		Major Electronics:						
Hull	CVN 72	CVN 73								
Overall Length	1092'	1092'		FY16 CVN 73:				FY16 CVN 73:		
Max Beam	134'	252'		AVIATION EQUIPMENT & SUPPORT				C4ISR		
Displacement:	91,878 TONS	101,177 LT		AN/SPS-48G(V)1 ROAR				INTEGRATED COMMUNICATION NETWORK (ICAN / DDCN & IVCN)		
Draft	38.7'	39.96'		MK38 MOD 2 GUN SYSTEM				SSDS MK2		
				AN/SPS-49(V)5				ELECTRONIC CONSOLIDATED AUTOMATED SUPPORT SYSTEM (ECASS)		
Production Status	FY12	FY16		UPGRADE/REPAIR				COOPERATIVE ENGAGEMENT CAPABILITY (CEC)		
Contract Plans	2/10	7/17		NATO SEASPARROW MISSILE SYSTEM (NSSMS)						
Award Planned (Month)	3/13	7/17		AN/SQQ-34C(V) CARRIER				AN/SPN-46 OVERHAUL/UPGRADE		
Months to Complete				TACTICAL SUPPORT CENTER				BATTLE FORCE TACTICAL TRAINER (BFTT)		
a) Award to Delivery	44	44		ADVANCED SENSOR				NAVAL STRIKE WARFARE PLANNING CENTER (NSWPC)		
b) Construction Start to Delivery	44	44		DISTRIBUTION SYSTEM (ASDS)				AN/SPN-41 REFURBISHMENT		
Delivery Date	11/16	2/21						AN/SLQ-32A(V)4		
Completion of Fitting Out	1/17	4/21								

CLASSIFICATION: UNCLASSIFIED

APPROPRIATION: SHIPBUILDING AND CONVERSION, NAVY

P-5 EXHIBIT

FY 2016 President's Budget

February 2015

WEAPON SYSTEM COST ANALYSIS (EXHIBIT P-5)

(Dollars in Thousands)

BUDGET ACTIVITY: 2		P-1 LINE ITEM NOMENCLATURE		BLI: 2086	
Other Warships		CVN REFUELING OVERHAULS			
ELEMENT OF COST	FY 2012		FY 2016		
	QTY	COST			
PLAN COSTS	1	41,600	1	61,253	
BASIC CONST/CONVERSION		3,642,158		3,792,261	
ELECTRONICS		277,863		368,844	
PROPULSION EQUIPMENT		138,550		148,500	
HM&E		108,783		145,358	
OTHER COST		110,006		107,265	
ORDNANCE		151,646		132,373	
TOTAL SHIP ESTIMATE		4,470,606		4,755,855	
LESS: ADVANCE PROCUREMENT FY09		21,325			
LESS: ADVANCE PROCUREMENT FY10		211,167			
LESS: ADVANCE PROCUREMENT FY11		396,763			
LESS: ADVANCE PROCUREMENT FY12		515,644		14,008	
LESS: ADVANCE PROCUREMENT FY13				69,918	
LESS: ADVANCE PROCUREMENT FY14				245,793	
LESS: ADVANCE PROCUREMENT FY15				483,600	
LESS: SUBSEQUENT FULL FUNDING FY13		1,546,254			
LESS: SUBSEQUENT FULL FUNDING FY14		1,609,324			
LESS: SUBSEQUENT FULL FUNDING FY17				1,803,025	
LESS: SUBSEQUENT FULL FUNDING FY18				1,461,237	
LESS: TRANSFER FY15 (COST TO COMPLETE)		54,000			
LESS: COST TO COMPLETE FY16		20,029			
NET P-1 LINE ITEM:		96,100		678,274	

SHIPBUILDING AND CONVERSION, NAVY  
SHIP PRODUCTION SCHEDULE

EXHIBIT P-27  
FY 2016 President's Budget  
DATE:  
February 2015

SHIP TYPE	HULL NUMBER	SHIPBUILDER	FISCAL YEAR AUTHORIZED	CONTRACT AWARD	START OF CONSTRUCTION	DELIVERY DATE
CVN RCOH	72	HUNTINGTON INGALLS INDUSTRIES	12	MAR-13	MAR-13	NOV-16
CVN RCOH	73	HUNTINGTON INGALLS INDUSTRIES	16	JUL-17	JUL-17	FEB-21
CVN RCOH	74	HUNTINGTON INGALLS INDUSTRIES	20	MAR-20	MAR-20	NOV-23

SHIPBUILDING AND CONVERSION, NAVY  
Analysis of Ship Cost Estimates - Major Equipment  
(Dollars in Thousands)

## Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)

## ELECTRONICS

## a. P-35 Items

	FY 2012		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
C4ISR	1	97,140	1	133,564
INTEGRATED COMMUNICATION NETWORK (ICAN / DDCN & IVCN)	1	50,829	1	84,957
SSDS MK2	1	42,767	1	48,270
COOPERATIVE ENGAGEMENT CAPABILITY (CEC)	1	9,664	1	12,330
AN/SPN-46 OVERHAUL/UPGRADE	1	8,944	1	10,141
NAVAL STRIKE WARFARE PLANNING CENTER (NSWPC)	1	8,570	1	7,418
BATTLE FORCE TACTICAL TRAINER (BFTT)	1	7,130	1	9,444
READY ROOM TRANSFORMATIONAL TECHNOLOGIES UPGRADE	1	6,494	-	-
IFF INTERROGATOR SET (AN/UPX-29)	1	6,309	-	-
AN/SPN-41 REFURBISHMENT	1	3,535	1	4,340
AN/SLQ-32A(V)4	-	-	1	3,661
ELECTRONIC CONSOLIDATED AUTOMATED SUPPORT SYSTEM (ECASS)	-	-	1	36,625
Subtotal		241,382		350,750

## b. Major Items

AN/SLQ-32 REFURBISHMENT	1	2,436	-	-
AN/SPN-43C REFURBISHMENT	1	2,353	1	2,643
JOINT STRIKE FIGHTER AUTONOMIC LOGISTICS INFORMATION SYSTEM (JSF-ALIS)	1	1,763	1	1,667
JOINT PRECISION APPROACH AND LANDING SYSTEM (JPALS)	-	3,173	-	5,706
AN/TPX-42(V)15 UPGRADE	1	1,734	1	1,187
Subtotal		11,459		11,203

## c. Other ELECTRONICS

TEST & CERTIFICATIONS, MISC.	-	11,671	-	6,891
CARRIER AIR DEFENSE IMPROVEMENT PROGRAM (CADIP)	-	13,351	-	-
Subtotal		25,022		6,891
Total ELECTRONICS		277,863		368,844

**SHIPBUILDING AND CONVERSION, NAVY**  
 Analysis of Ship Cost Estimates - Major Equipment  
 (Dollars in Thousands)

**Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)****ORDNANCE**

FY 2012		FY 2016	
<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
1	43,690	1	44,945
1	43,464	1	8,200
1	12,846	1	16,359
1	12,554	1	8,785
1	10,878	-	-
1	7,275	1	11,139
1	5,605	1	6,660
1	4,553	-	-
1	4,403	1	3,856
	145,268		99,943
-	-	1	16,524
-	-	1	3,600
-	-	1	2,746
-	-	1	1,474
-	-	1	1,241
	0		25,585
-	6,378	-	6,845
	6,378		6,845
	151,646		132,373

## a. P-35 Items

AVIATION EQUIPMENT &amp; SUPPORT

NATO SEASPARROW MISSILE SYSTEM (NSSMS)

AN/SPS-48G (V1) RAPID OVERT AIR RECONNAISSANCE (ROAR)

AN/SPS-49(V)5 UPGRADE/REPAIR

AN/SPQ-9B RADAR

MK38 MOD 2 GUN SYSTEM

AN/SQQ-34C(V) CARRIER TACTICAL SUPPORT CENTER

EW DECOY LAUNCHING SYSTEM

ADVANCED SENSOR DISTRIBUTION SYSTEM (ASDS)

Subtotal

## b. Major Items

IWS CDC/FLAG PARTIAL RECONFIGURATION (RIPOUT/INSTALL)

SEAT SHOP MODIFICATIONS (JSF CVN)/PILOT EQUIPMENT AND HELM

AN/SPQ-9B RADAR - TUP CONFIGURATION

RAM GUIDED MISSILE LAUNCHING SYSTEM

PHALANX MK 15 MOD 22 (CIWS)

Subtotal

## c. Other ORDNANCE

TEST &amp; CERTIFICATIONS, MISC.

Subtotal

Total ORDNANCE

SHIPBUILDING AND CONVERSION, NAVY  
Analysis of Ship Cost Estimates - Major Equipment  
(Dollars in Thousands)

## Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)

	FY 2012		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
<b>HM&amp;E</b>				
a. P-35 Items				
FURNITURE (NON PROPULSION PLANT)	1	17,460	1	19,700
AIR CONDITIONING (AC) PLANT / RETUBE AC PLANT CONDENSER AND EVAPORATOR	1	5,461	1	5,188
LOW PRESSURE AIR PLANT (LPAP)	1	3,827	1	4,228
DECK EDGE AND HANGAR DIVISIONAL DOORS	1	3,602	-	-
EMERGENCY ESCAPE BREATHING DEVICE (EEBD)	1	3,054	-	-
AIRCRAFT ELECTRICAL SERVICE STATION (AESS) INSTALL	-	-	1	14,551
O2N2 (REPLACE O2N2 PLANT WITH VSA O2 GEN)	-	-	1	4,505
AUTOMATIC VOLTAGE REGULATOR	-	-	1	4,545
Subtotal		33,404		52,717
b. Major Items				
VENDING IN A BOX	1	3,926	1	4,072
AFT CREW MESS	1	3,530	1	3,525
TG AUTOMATIC VOLTAGE REGULATOR	1	2,948	-	-
DRYER LAUNDRY REPLACEMENT / LAUNDRY DRYERS (SCD 3186)	1	2,659	1	2,817
OXYGEN / NITROGEN (O2N2) SYSTEM	1	2,612	-	-
WEAPONS ELEVATORS / WEAPON ELEVATOR PLC S/W TECH REFRESH	1	2,455	1	1,290
AIRCRAFT ELEVATORS	1	2,376	-	-
BATTERIES AND SERVICE FACILITIES	1	2,223	-	-
DISTILLING UNIT (DU) BRINE OVERBOARD PUMPS	1	1,988	-	-
MEDICAL AND DENTAL SUITE	1	1,894	1	2,194
SECONDARY STEAM PLANT LESLIE PILOTS	1	1,090	-	-
ACE PLC CONTROL SYSTEM UPGRADE	-	-	1	2,314
DECK EDGE DOOR UPGRADE	-	-	1	2,810
HANGAR DIVISION DOOR UPGRADE	-	-	1	2,158
PASSIVE COUNTER MEASURE SYSTEM (PCMS)	-	-	1	11,000
LITHIUM-ION BATTERY SHOP TO SUPPORT JSF	-	-	1	1,627
Subtotal		27,701		33,807
c. Other HM&E				
ENGINEERING, TEST & CERTIFICATIONS, MISC.	-	47,679	-	58,834
Subtotal		47,679		58,834
Total HM&E		108,783		145,358

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: C4ISR  
PARM Code: SPAWAR PMW 750

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

Provides an integrated communications infrastructure to support both tactical and non-tactical applications in all warfare and support areas, an improved shipboard RF distribution system and multiband antennas, and capabilities for the control and monitoring of RF assets introducing network automation and provide interoperable communications for joint operations. It will interconnect forces of the Battle Group (BG)/Amphibious Readiness Group (ARG) and connects the BG/ARG with expeditionary forces and the Commander-in-Chief Command Complex (CCC) ashore crossing all available media including Ultra High Frequency (UHF), Super High Frequency (SHF), Extremely High Frequency (EHF), commercial satellite links, and new medium-to-high data rate HF and UHF line of sight (LOS) links. C4ISR includes RCS, weather, navigational, signal exploitation, and command and control equipment.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2012		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	33,376	1	49,158
Ancillary Equipment		2,136		4,732
Technical Data and Documentation		996		1,288
Spares		1,198		781
Systems Engineering		10,453		15,683
Technical Engineering Services		33,302		49,064
Other Costs		15,679		12,857
Total		97,140		133,564

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY-12	CVN 72 RCOH	VAR	VAR	VAR	VAR	1 SHIPSET	33,376
FY-16	CVN 73 RCOH	VAR	VAR	VAR	VAR	1 SHIPSET	49,158

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY-12	CVN 72 RCOH	NOV-16	VAR	VAR	VAR
FY-16	CVN 73 RCOH	FEB-21	VAR	VAR	VAR

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

**NOTE:**

Major Hardware increased on the CVN 73 by \$15.8M over CVN-72 is due to the addition of new systems (Digital Modular Radio and High Frequency Distribute Amplifier Group) which replaced the the legacy systems that were installed on the CVN 72 (UHF/VHF LOS SATCOM and High Frequency Radio Group).

Technical Engineering Services increase on the CVN73 is due to installation cost associated with the Radio Communication System (RCS), Distributed Systems, and Ships Signals Exploitation System/Special Intelligence Communications (SSES/SI Comms) systems performed by the Alteration Installation Team (AIT). Installation efforts on the CVN 72 were performed by Huntington Ingalls Industries (HII) and executed under the basic construction contract.

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: INTEGRATED COMMUNICATION NETWORK (ICAN / DDCN & IVCN)  
PARM Code: NAVSEA 05H3, NAVSEA 05Z33

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The Integrated Communications Network consists of the following systems:

An Integrated Communications System (ICS) that provides the ship's Internal Command and Control Communications. In addition, ICS provides connectivity to other onboard systems such as Announcing Systems, Sound Powered Circuits, Secure / NonSecure off-ship Communications, Shipboard Air Traffic Control Communications (SATCC) and Hierarchical Yet Dynamically Reprogrammable Architecture (HYDRA).

The Machinery Control Monitoring System (MCMS) controls and monitors approximately 3500 machinery signals for various HM&E auxiliary systems (e.g. JP5, firemen, IC/SM panels) for aircraft carriers. It utilizes the Machinery Control Network for signals.

The Machinery Control Network (MCN) is the core network that provides communication services and transport for the MCMS system and part of the backbone that rides over the Fiber Optic Cable Plant. It consists of five network switches, associated racks, and cabling.

The Navigation Critical Distribution System (NAVCRIT) is a switched network providing communication services and transport for the NAV Standard Message, which is originated in the NAVSSI (Naval Sensor System Interface) system. The NAVCRIT Distribution consists of three backbone switches and eight I/O controllers to convert digital NAV data for analog outputs. It will use the FOCN to the maximum extent for connectivity.

The Ship Control System (SCS) provides control and display of rudder position, Engine and Propeller Order Telegraph functions. SCS provides data for heading, speed, and rudder angles through NAVCRIT Network from NAVSSI. The SCS interfaces to an Electronic Chart Display Information System.

Shipboard Multipurpose Copiers includes the acquisition and installation of Class III Copier/Printer (B&W), Class III Color Copier/Printer, Class IV Copier/Printer (B&W) and Class IV Color Copier/Printer. The related equipment is for use on surface vessels in the US Navy as part of the Shipboard Multipurpose Copier Program.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2012		FY 2016	
	QTY	COST	QTY	COST
Major Hardware	1	18,047	1	26,678
Ancillary Equipment		1,519		20
Technical Data & Documentation		1,171		1,252
Spares		976		529
Systems Engineering		11,310		13,223
Technical Engineering Services		10,151		32,749
Other Costs		7,655		10,506
Total		50,829		84,957

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
YEAR	TYPE	CONTRACTOR	TYPE	DATE	/OPTION	QTY	UNIT COST
FY-12	CVN 72 RCOH	VAR	VAR	VAR	VAR	1 SHIPSET	18,047
FY-16	CVN 73 RCOH	VAR	VAR	VAR	VAR	1 SHIPSET	26,678

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
YEAR	TYPE	DELIVERY DATE	BEFORE DELIVERY	LEADTIME	AWARD DATE
FY-12	CVN 72 RCOH	NOV-16	VAR	VAR	VAR
FY-16	CVN 73 RCOH	FEB-21	VAR	VAR	VAR

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

**NOTE:**

Technical Engineering Services increase on the CVN73 is due to installation costs associated with Shipboard Multi-purpose Copiers (Class III and Class IV), 46MC Replacement (Integrate MIC), Integrated Voice Network (IVN) Upgrade Install, Machinery Control Systems (MCS) and Navigation Critical Distributed Systems (NCDS) performed by the Alteration Installation Team (AIT). Installation efforts on the CVN 72 were performed by Huntington Ingalls Industries (HII) and executed under the basic construction contract.



CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: SSDS MK2  
PARM Code: PEO IWS - 1A1C

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The Ship Self Defense System (SSDS) MK2 provides primary support for force/own ship combat systems control and enhanced self-defense capabilities. The SSDS MK2 integrates sensors, weapons systems, data links, and command and control elements into a unified combat system.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2012		FY 2016	
	QTY	COST	QTY	COST
Major Hardware	1	12,922	1	11,523
Ancillary Equipment		0		0
Technical Data and Documentation		3,842		3,120
Spares		1,030		1,093
Systems Engineering		6,489		10,517
Technical Engineering Services		2,366		3,915
Other Costs		16,118		18,102
Total		42,767		48,270

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
YEAR	TYPE	CONTRACTOR	TYPE	DATE	/OPTION	QTY	UNIT COST
FY-12	CVN 72 RCOH	RAYTHEON/LOCKHEED MARTIN	CPFF/FFP	JAN-12	OPTION	1 SHIPSET	12,922
FY-16	CVN 73 RCOH	TBD	TBD	TBD	TBD	1 SHIPSET	11,523

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
YEAR	TYPE	DELIVERY DATE	BEFORE DELIVERY	LEADTIME	AWARD DATE
FY-12	CVN 72 RCOH	NOV-16	19	34	JUN-12
FY-16	CVN 73 RCOH	FEB-21	27	24	NOV-16

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

**NOTE:**

Technical Engineering Services increase on the CVN73 is due to installation cost associated with the updated SSDS MK2 Mod 1E performed by the Alteration Installation Team (AIT). Installation efforts on the CVN 72 were performed by Huntington Ingalls Industries (HII) and executed under the basic construction contract.

Systems Engineering increase is attributable to costs associated with the updated SSDS MK2 Mod 1E vs the CVN-72 installation of SSDS MK2 Mod 1B Open Architecture.

Other cost increases are attributable to Software and System Test and Evaluation of the new system (SSDS MK2 Mod 1E).

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: COOPERATIVE ENGAGEMENT CAPABILITY (CEC)  
PARM Code: PEO IWS 6.0

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

Significantly improve Battle Force Anti-Air Warfare (AAW) capability by coordinating all force AAW sensors into a single real time, fire control quality composite track picture. CEC will distribute sensor measurement data from each Cooperating Unit (CU) to all other CUs. Each CU consists of a Data Distribution System (DDS) and a Cooperative Engagement Processor (CEP). The DDS encodes and distributes ownship sensor and engagement data to other CUs, and receives and decodes the remotes data. The CEP processes ownship data and DDS supplied remote sensor and weapon data needed to provide the common air picture.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2012		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	4,775	1	4,973
Ancillary Equipment		0		0
Technical Data & Documentation		2,303		2,000
Spares		283		476
Systems Engineering		637		680
Technical Engineering services		331		1,910
Other Costs		1,335		2,291
Total		9,664		12,330

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY-12	CVN 72 RCOH	RAYTHEON/SECHAN	FFP	APR-11	NEW	1 SHIPSET	4,775
FY-16	CVN 73 RCOH	RAYTHEON/SECHAN	TBD	TBD	TBD	1 SHIPSET	4,973

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY-12	CVN 72 RCOH	NOV-16	36	18	MAY-12
FY-16	CVN 73 RCOH	FEB-21	30	18	FEB-17

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

**NOTE:**

Technical Engineering Services increase on the CVN73 is due to full Alteration installation Team (AIT) effort associated with the USG 2B vice split AIT effort on the CVN 72.

Other Costs increase is due to the new system USG 2 Software, Data and ILS.

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: AN/SPN-46 OVERHAUL/UPGRADE  
PARM Code: PMA 2131

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

Precision approach landing system used for non-clear weather aircraft landings on carriers. Provides electronic guidance to aircraft and allows them to land in all weather conditions with no limitations due to low ceiling or visibility.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2012		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	5,768	1	6,661
Ancillary Equipment		0		0
Technical Data & Documentation		0		0
Spares		0		0
System Engineering		596		628
Technical Engineering Services		203		234
Other Costs		2,377		2,618
Total		8,944		10,141

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY-12	CVN 72 RCOH	NAWCAD	WR	DEC-10	N/A	1 SHIPSET	5,768
FY-16	CVN 73 RCOH	TBD	TBD	TBD	TBD	1 SHIPSET	6,661

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY-12	CVN 72 RCOH	NOV-16	24	39	AUG-11
FY-16	CVN 73 RCOH	FEB-21	29	36	SEP-15

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

**NOTE:**

Hardware costs have experienced growth because CVN 73's ship configuration is different from the CVN 72 and requires additional hardware components.

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: NAVAL STRIKE WARFARE PLANNING CENTER (NSWPC)  
PARM Code: NAVAIR PMA 281

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The Naval Strike Warfare Planning Center (NSWPC) effort provides System Engineering, Integration and Testing (SEI&T) support for the Carrier Intelligence Center (CVIC) to ensure the delivery of an Integrated Strike Planning and Execution capability enabled by NAVAIR and SPAWAR Component Systems.

These Component Systems include DCRS (Digital Camera Receiving System), JMPS (Joint Mission Planning Systems), GCCS-M (Global Command and Control System - Maritime), DCGS-N (Distributed Common Ground System - Navy), ADMACS (Aviation Data Management and Control System), TBMCS (Theater Battle Management Core System), SVDS/CVIS (Consolidated Visual Information System), TC2S-CSG (Tomahawk Command and Control-Carrier Strike Group), and ISNS (Integrated Shipboard Network System).

The PMA-281 NSWPC systems are: Tomahawk Command and Control (TC2S), Digital Camera Receiving System (DCRS) and Naval Mission Planning Systems (Air Wing Embarked Joint Mission Planning Systems(JMPS)).

The effort also includes the installation of the Strike Warfare Commander Watch station (STWC, a.k.a. Bravo Papa, BP) and the full implementation of the revised CVIC general arrangement.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2012		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	399	1	586
Ancillary Equipment		0		0
Technical Data & Documentation		165		55
Spares		0		0
Systems Engineering		5,981		5,087
Technical Engineering Services		1,886		827
Other Costs		139		863
Total		8,570		7,418

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY-12	CVN 72 RCOH	NAWCAD	WR	FEB-13	OPTION	1 SHIPSET	399
FY-16	CVN 73 RCOH	TBD	TBD	TBD	TBD	1 SHIPSET	586

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY-12	CVN 72 RCOH	NOV-16	22	6	MAR-15
FY-16	CVN 73 RCOH	FEB-21	23	6	SEPT-18

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

NOTE:

CLASSIFICATION:  
UNCLASSIFIED

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: BATTLE FORCE TACTICAL TRAINER (BFTT)  
PARM Code: IWS 7C

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

Battle Force Tactical Training (BFTT) system provides training scenarios sent to multiple ships, operating as a simulated coordinated battle group in port or underway. The participating ships will operate their respective shipboard equipment configured as close to normal tactical configuration as possible, inclusive of capabilities and limitations, thereby emulating actual operations.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2012		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	3,193	1	1,685
Ancillary Equipment		0		0
Technical Data and Documentation		0		436
Spares		129		133
System Engineering		712		778
Technical Engineering Services		1,850		4,932
Other Costs		1,246		1,480
Total		7,130		9,444

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY-12	CVN 72 RCOH	VARIOUS	FFP	AUG-11	NEW	1 SHIPSET	3,193
FY-16	CVN 73 RCOH	TBD	TBD	TBD	TBD	1 SHIPSET	1,685

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY-12	CVN 72 RCOH	NOV-16	19	24	MAY-12
FY-16	CVN 73 RCOH	FEB-21	28	24	OCT-16

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

**NOTE:**

Technical Engineering Services increase on the CVN 73 is due to full Alteration installation Team (AIT) effort vice split AIT effort on the CVN 72.

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: READY ROOM TRANSFORMATIONAL TECHNOLOGIES UPGRADE  
PARM Code: PMA 281

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The Ready Room transformational technologies upgrade provides the Carrier Air Wing with a standard CVN Ready Room general arrangement (space configuration), additional Secure Mission Planning Space, and Ready Room to Carrier Intelligence Center (CVIC) collaboration system to support Carrier Air Wing Operations. The major elements of the Ready Room transformational technologies upgrade include the installation of elevated Squadron Duty Officer Work station, revised Operations/Administration work areas, mini Secure Tactical Briefing Rooms, and a collaboration system that permits secure audio and video discussions within the Ready Rooms and CVIC.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2012	
	<u>QTY</u>	<u>COST</u>
Major Hardware	1	2,513
Ancillary Equipment		0
Technical Data and Documentation		0
Spares		0
System Engineering		0
Technical Engineering Services		3,661
Other Costs		320
Total		6,494

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY-12	CVN 72 RCOH	NAWCAD	WR	AUG-14	N/A	1 SHIPSET	2,513

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY-12	CVN 72 RCOH	NOV-16	16	6	JAN-15

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

NOTE:

CLASSIFICATION:  
UNCLASSIFIED

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: IFF INTERROGATOR SET (AN/UPX-29)  
PARM Code: PMA 2133

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The Interrogator System AN/UPX-29(V) is deployed on high capability, state of the art platforms that require Identification Friend or Foe (IFF) operational performance beyond that provided by a standard MK XII System for combat identification. The transponder set receives interrogation signals from air, surface and land IFF-equipped units and automatically replies with a coded response signal that provides ownership position and identification.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2012
	<u>QTY</u> <u>COST</u>
Major Hardware	1      4,801
Ancillary Equipment	43
Technical Data and Documentation	14
Spares	44
System Engineering	784
Technical Engineering Services	141
Other Costs	482
Total	6,309

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY-12	CVN 72 RCOH	LITTON & BAE	SS / FP	JUN-12	NEW	1 SHIPSET	4,801

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY-12	CVN 72 RCOH	NOV-16	29	24	JUN-12

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

NOTE:

CLASSIFICATION:  
UNCLASSIFIED

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: AN/SPN-41 REFURBISHMENT  
PARM Code: PMA 2131

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The AN/SPN-41B transmitting set provides azimuth and elevation alignment information to approaching aircraft.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2012		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	1,722	1	3,509
Ancillary Equipment		6		0
Technical Data and Documentation		0		0
Spares		0		91
System Engineering		374		408
Technical Engineering Services		107		28
Other Costs		1,326		304
Total		3,535		4,340

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY-12	CVN 72 RCOH	NAWCAD	WR	DEC-11	N/A	1 SHIPSET	1,722
FY-16	CVN 73 RCOH	TBD	TBD	TBD	TBD	1 SHIPSET	3,509

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY-12	CVN 72 RCOH	NOV-16	15	39	MAY-12
FY-16	CVN 73 RCOH	FEB-21	21	39	FEB-16

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

**NOTE:**

Marjory Hardware cost increase on the CVN 73 is attributable to a larger quantity of new and upgraded components required to upgrade CVN-73 systems from SPN-41 to SPN-41B.



CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: AN/SLQ-32A(V)4  
PARM Code: PEO IWS 2E

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

Overhaul of the AN/SLQ-32A(V)4 EW Suite

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2016
	<u>QTY</u> <u>COST</u>
Major Hardware	1      1,370
Ancillary Equipment	995
Technical Data and Documentation	0
Spares	117
System Engineering	0
Technical Engineering Services	850
Other Costs	329
Total	3,661

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY-16	CVN 73 RCOH	TBD	TBD	TBD	TBD	1 SHIPSET	1,370

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY-16	CVN 73 RCOH	FEB-21	36	18	AUG-16

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

NOTE:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: ELECTRONIC CONSOLIDATED AUTOMATED SUPPORT SYSTEM (ECASS)  
PARM Code: PMA260

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

Electronic Consolidated Automated Support System for Aircraft WRA/SRA Repair

The eCASS program is the CASS replacement program to address obsolescence and test capability issues. The system is used to test both WRAs (Weapons Replaceable Assemblies) and SRAs (Shop Replaceable Assemblies), which are circuit cards and modules. It provides the latest testing technologies to support Intermediate and Depot level testing of current and future USN/USMC. The system will replace all five configurations of Mainframe CASS, but not the USMC's RT CASS. Additionally, eCASS will rehost over 700 existing CASS test programs utilized to test and repair

**II. CURRENT FUNDING:**

**P-35 Category**

FY 2016	
<u>QTY</u>	<u>COST</u>
Major Hardware	1 35,000
Ancillary Equipment	0
Technical Data and Documentation	0
Spares	0
Systems Engineering	0
Technical Engineering Services	1,225
Other Costs	400
Total	36,625

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY-16	CVN 73 RCOH	TBD	TBD	TBD	TBD	1 SHIPSET	35,000

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY-16	CVN 73 RCOH	FEB-21	31	12	MAR-17

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

NOTE:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: AVIATION EQUIPMENT & SUPPORT  
PARM Code: NAVAIR PMA 251

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

Provides procurement and engineering support for launch and recovery equipment, ISIS (Integrated Shipboard Information System)/ADMACS (Aviation Data Management and Control System), Moriah, ILARTS (Integrated Launch and Recovery TV Surveillance System ), mission pods, jet blast deflectors, MAPA-C (Magazine Arrangements Planning Aid - Computerized), crosscheck, aviation maintenance facility, weapons compatibility, aircraft spotting, aviation servicing facilities, visual, and marking and lighting.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2012		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	26,716	1	24,570
Ancillary Equipment		45		54
Technical Data and Documentation		382		228
Spares		333		506
Systems Engineering		2,564		3,931
Technical Engineering Services		8,983		11,235
Other Costs		4,667		4,421
Total		43,690		44,945

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY-12	CVN 72 RCOH	VARIOUS	VARIOUS	DEC-10	VARIOUS	1 SHIPSET	26,716
FY-16	CVN 73 RCOH	VARIOUS	VARIOUS	TBD	VARIOUS	1 SHIPSET	24,570

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY-12	CVN 72 RCOH	NOV-16	VAR	VAR	VAR
FY-16	CVN 73 RCOH	FEB-21	VAR	VAR	VAR

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

**NOTE:**

Technical Engineering Services increase on the CVN 73 is due to full Alteration installation Team (AIT) for ADMACS and Recovery on the CVN 73 vice refurbished items on the CVN 72.

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: NATO SEASPARROW MISSILE SYSTEM (NSSMS)  
PARM Code: PEO IWS - 3D

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The NSSMS Mk 57 Mod 13 is a COTS upgrade of the legacy systems originally installed on CVN 71, consisting of new procurement computers/displays, refurbish / overhaul of legacy equipment (Radars/launchers), and an upgrade to the Guided Missile Launch System for ESSM compatibility. The NSSMS Is a medium range self defense missile system capable of defeating near/mid-term

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2012		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	31,179	1	100
Ancillary Equipment		339		0
Technical Data and Documentation		0		0
Spares		1,527		0
Systems Engineering		1,604		0
Technical Engineering Services		7,981		8,100
Other Costs		834		0
Total		43,464		8,200

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY-12	CVN 72 RCOH	RAYTHEON	FFP	DEC-11	NEW	1 SHIPSET	31,179
FY-16	CVN 73 RCOH	TBD	TBD	TBD	TBD	1 SHIPSET	100

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY-12	CVN 72 RCOH	NOV-16	30	29	DEC-11
FY-16	CVN 73 RCOH	FEB-21	N/A	N/A	N/A

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

**NOTE:**

The CVN 73 NSSMS install was completed in a prior availability. Funding on the CVN 73 supports removal, refurbishment and reinstallation only.

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
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Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: AN/SPS-48G (V1) RAPID OVERT AIR RECONNAISSANCE (ROAR)  
PARM Code: PEO IWS 2R1

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

Long range three dimensional (3D) radar used to search, detect and provide space-stabilized, three-coordinate (range, bearing, height) data. Funding provides for procurement of an Antenna and ROAR Kit (SCD 2498) for the AN/SPS-48G(V)1 upgrade.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2012		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	7,800	1	8,938
Ancillary Equipment		0		0
Technical Data & Documentation		30		33
Spares		335		0
Systems Engineering		687		851
Technical Engineering Services		3,244		4,328
Other Costs		750		2,209
Total		12,846		16,359

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY-12	CVN 72 RCOH	ITT GILFILLAN	FFP	APR-12	OPTION	1 SHIPSET	7,800
FY-16	CVN 73 RCOH	TBD	TBD	TBD	TBD	1 SHIPSET	8,938

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY-12	CVN 72 RCOH	NOV-16	30	25	APR-12
FY-16	CVN 73 RCOH	FEB-21	29	24	SEP-16

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

NOTE:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: AN/SPS-49(V)5 UPGRADE/REPAIR  
PARM Code: PEO IWS 2R1

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The AN/SPS-49 Radar is a narrow beam, very long range, two dimensional air search radar. This is the primary air search radar for the ship. The AN/SPS-49 offers greatly improved operational performance (range, bearing, and altitude), reliability, and maintainability.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2012		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	6,331	1	3,299
Ancillary Equipment		0		30
Technical Data and Documentation		134		0
Spares		275		275
System Engineering		665		705
Technical Engineering Services		3,755		3,658
Other Costs		1,394		818
Total		12,554		8,785

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY-12	CVN 72 RCOH	NSWC CRANE	WR	JUL-11	N/A	1 SHIPSET	6,331
FY-16	CVN 73 RCOH	TBD	TBD	TBD	TBD	1 SHIPSET	3,299

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY-12	CVN 72 RCOH	NOV-16	31	29	NOV-11
FY-16	CVN 73 RCOH	FEB-21	29	30	MAR-16

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

**NOTE:**

Hardware cost on the CVN 72 included an upgrade of the SPS-49 to the SPS-49A and refurbishment during RCOH. The CVN 73 will enter RCOH with SPS-49A, which will be refurbished during the availability.

CLASSIFICATION: UNCLASSIFIED

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MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

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FY 2016 President's Budget  
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Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: AN/SPQ-9B RADAR  
PARM Code: IWS 2RI

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The AN/SPQ-9B is a high resolution X-band narrow beam radar that provides both air and surface tracking information to standard plan position indicator (PPI) consoles.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2012
	QTY COST
Major Hardware	1 5,998
Ancillary Equipment	12
Technical Data and Documentation	75
Spares	373
System Engineering	349
Technical Engineering Services	1,627
Other Costs	2,444
Total	10,878

**III. CONTRACT DATA:**

PROGRAM YEAR	SHIP TYPE	PRIME CONTRACTOR	CONTRACT TYPE	AWARD DATE	NEW /OPTION	QTY	HARDWARE UNIT COST
FY-12	CVN 72 RCOH	NORTHROP GRUMMAN	FFP	MAY-11	OPTION	1 SHIPSET	5,998

**IV. DELIVERY DATE:**

PROGRAM YEAR	SHIP TYPE	EARLIEST SHIP DELIVERY DATE	MONTHS REQUIRED BEFORE DELIVERY	PRODUCTION LEADTIME	REQUIRED AWARD DATE
FY-12	CVN 72 RCOH	NOV-16	35	30	JUN-11

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

NOTE:

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**FY 2016 President's Budget**  
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**Ship Type:** CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
**Equipment Item:** MK38 MOD 2 GUN SYSTEM  
**PARM Code:** PMS 480

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The Mk38 Mod 2 is a 25mm remote control, automatic and stabilized machine gun system with day and night sensors and an eye-safe laser range finder. This machine gun system counters the small boat threat. Four Mk38 Mod 2s will be installed on CVNs.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2012		FY 2016	
	QTY	COST	QTY	COST
Major Hardware	1	5,100	1	7,217
Ancillary Equipment		0		0
Technical Data and Documentation		0		0
Spares		140		68
System Engineering		355		80
Technical Engineering Services		710		3,404
Other Costs		970		370
Total		7,275		11,139

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
YEAR	TYPE	CONTRACTOR	TYPE	DATE	/OPTION	QTY	UNIT COST
FY-12	CVN 72 RCOH	BAE SYSTEMS	FFP	NOV-12	NEW	1 SHIPSET	5,100
FY-16	CVN 73 RCOH	TBD	TBD	TBD	TBD	1 SHIPSET	7,217

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
YEAR	TYPE	DELIVERY DATE	BEFORE DELIVERY	LEADTIME	AWARD DATE
FY-12	CVN 72 RCOH	NOV-16	29	12	JUN-13
FY-16	CVN 73 RCOH	FEB-21	34	24	APR-16

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

**NOTE:**

Major Hardware costs increase on the CVN 73 is due to added capabilities to the system; i.e.. a co-axially mounted 7.62mm gun, a remotely operated loud hailer, and improved EOIR sensor.

Technical Engineering Services cost increase on the CVN73 is due to installation work being performed by Alteration Installation Teams (AIT).

Installation efforts on the CVN 72 were performed by Huntington Ingalls Industries (HII) and executed under the basic construction contract.



CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
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(Dollars in Thousands)

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Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: AN/SQQ-34C(V) CARRIER TACTICAL SUPPORT CENTER  
PARM Code: PEO IWS 5E

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

Support tactical employment of carrier ASW aircraft and provide real-time Command, Control, & Communications as ASW module of the Carrier CDS.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2012		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	2,713	1	2,200
Ancillary Equipment		20		0
Technical Data and Documentation		253		0
Spares		35		50
System Engineering		903		1,065
Technical Engineering Services		628		1,460
Other Costs		1,053		1,885
Total		5,605		6,660

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY-12	CVN 72 RCOH	LOCKHEED MARTIN	CPFF	JUN-12	NEW	1 SHIPSET	2,713
FY-16	CVN 73 RCOH	NUWC Keyport	Various	Various	N/A	1 SHIPSET	2,200

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY-12	CVN 72 RCOH	NOV-16	30	22	JUL-12
FY-16	CVN 73 RCOH	FEB-21	27	18	MAY-17

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

**NOTE:**

The increased cost in Technical Engineering Services on the CVN73 is due to installation work being performed by Alteration Installation Teams (AIT). Installation efforts on the CVN 72 were performed by Huntington Ingalls Industries (HII) and executed under the basic construction contract.

CLASSIFICATION: UNCLASSIFIED

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Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: EW DECOY LAUNCHING SYSTEM  
PARM Code: PEO IWS 2E

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The MK 53 Electronic Warfare (EW) Decoy Launching System (DLS), also known as NULKA, is an integral part of the surface Electronic Warfare (EW) suite in the ship self defense system. It provides protection against active RF anti-ship missile attacks

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2012	
	<u>QTY</u>	<u>COST</u>
Major Hardware	1	1,040
Ancillary Equipment		0
Technical Data and Documentation		55
Spares		60
System Engineering		920
Technical Engineering Services		1,810
Other Costs		668
Total		4,553

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY-12	CVN 72 RCOH	SECHAN ELECTRONICS	FFP	NOV-11	NEW	1 SHIPSET	1,040

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY-12	CVN 72 RCOH	NOV-16	40	18	JAN-12

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

NOTE:

CLASSIFICATION: UNCLASSIFIED

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Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: ADVANCED SENSOR DISTRIBUTION SYSTEM (ASDS)  
PARM Code: PEO IWS 2R1

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

ASDS provides the distribution of RADAR sensor data and video to RADAR displays on board the ship.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2012		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	2,317	1	1,247
Ancillary Equipment		0		10
Technical Data and Documentation		0		0
Spares		37		45
System Engineering		837		103
Technical Engineering Services		360		1,194
Other Costs		852		1,257
Total		4,403		3,856

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY-12	CVN 72 RCOH	FRONTIER ELECTRONIC SYS	IDIQ	JAN-14	NEW	1 SHIPSET	2,317
FY-16	CVN 73 RCOH	TBD	TBD	TBD	TBD	1 SHIPSET	1,247

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY-12	CVN 72 RCOH	NOV-16	17	12	JUN-14
FY-16	CVN 73 RCOH	FEB-21	29	18	MAR-17

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

**NOTE:**

The increased cost in Technical Engineering Services on the CVN73 is due to installation work being performed by Alteration Installation Teams (AIT). Installation efforts on the CVN 72 were performed by Huntington Ingalls Industries (HII) and executed under the basic construction contract.

CLASSIFICATION: UNCLASSIFIED

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Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: FURNITURE (NON PROPULSION PLANT)  
PARM Code: NAVSSES 912

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

Shipboard Furniture Procurement and Installation in Non-Propulsion Spaces.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2012		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	8,250	1	9,300
Ancillary Equipment		0		0
Technical Data and Documentation		0		0
Spares		0		0
System Engineering		575		680
Technical Engineering Services		8,100		9,115
Other Costs		535		605
Total		17,460		19,700

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY-12	CVN 72 RCOH	NOTE 1	IDIQ	JUL-12	NEW	1 SHIPSET	8,250
FY-16	CVN 73 RCOH	TBD	TBD	TBD	TBD	1 SHIPSET	9,300

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY-12	CVN 72 RCOH	NOV-16	32	12	MAR-13
FY-16	CVN 73 RCOH	FEB-21	35	6	MAR-17

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

**NOTE:**

Note 1: 3 vendors will provide furniture: Technico, Georgia Sharp, and QED.

Note 2: The increased cost in Technical Engineering Services on the CVN73 is due to installation work being performed by Alteration Installation Teams (AIT).

Installation efforts on the CVN 72 were performed by Huntington Ingalls Industries (HII) and executed under the basic construction contract.

CLASSIFICATION: UNCLASSIFIED

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Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: AIR CONDITIONING (AC) PLANT / RETUBE AC PLANT CONDENSER AND EVAPORATOR  
PARM Code: NAVSSES 912

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

Accomplishes modifications to the Ship's Air Conditioning Plant.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2012		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	1,128	1	1,037
Ancillary Equipment		0		0
Technical Data and Documentation		0		0
Spares		0		0
System Engineering		228		190
Technical Engineering Services		3,875		3,846
Other Costs		230		115
Total		5,461		5,188

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY-12	CVN 72 RCOH	QED	CPFF	SEP-11	NEW	1 SHIPSET	1,128
FY-16	CVN 73 RCOH	TBD	TBD	TBD	TBD	1 SHIPSET	1,037

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY-12	CVN 72 RCOH	NOV-16	42	12	MAY-12
FY-16	CVN 73 RCOH	FEB-21	47	12	MAR-16

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

NOTE:

CLASSIFICATION: UNCLASSIFIED

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Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: LOW PRESSURE AIR PLANT (LPAP)  
PARM Code: NAVSSES 912

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

Low Pressure Air Plants (LPAPs) serve both Ship Service and Control Air Systems.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2012		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	3,115	1	3,881
Ancillary Equipment		0		0
Technical Data and Documentation		0		0
Spares		375		0
System Engineering		52		113
Technical Engineering Services		155		85
Other Costs		130		149
Total		3,827		4,228

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY-12	CVN 72 RCOH	RIX INDUSTRIES	FFP	JUL-11	OPTION	1 SHIPSET	3,115
FY-16	CVN 73 RCOH	TBD	TBD	TBD	TBD	1 SHIPSET	3,881

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY-12	CVN 72 RCOH	NOV-16	39	12	AUG-12
FY-16	CVN 73 RCOH	FEB-21	47	12	MAR-16

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

**NOTE:**

Major Hardware estimate for the CVN-73 is based on previous original equipment manufacturer (OEM) prices.

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Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: DECK EDGE AND HANGAR DIVISIONAL DOORS  
PARM Code: NAVSSES 912

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

This effort completes required modifications to the ship's deck edge and hangar divisional doors.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2012	
	<u>QTY</u>	<u>COST</u>
Major Hardware	1	1,065
Ancillary Equipment		0
Technical Data and Documentation		246
Spares		0
System Engineering		1,473
Technical Engineering Services		182
Other Costs		636
Total		3,602

**III. CONTRACT DATA:**

PROGRAM <u>YEAR</u>	SHIP <u>TYPE</u>	PRIME <u>CONTRACTOR</u>	CONTRACT <u>TYPE</u>	AWARD <u>DATE</u>	NEW <u>/OPTION</u>	<u>QTY</u>	HARDWARE <u>UNIT COST</u>
FY-12	CVN 72 RCOH	ROCKWELL CORP	IDIQ	AUG-12	OPTION	1 SHIPSET	1,065

**IV. DELIVERY DATE:**

PROGRAM <u>YEAR</u>	SHIP <u>TYPE</u>	EARLIEST SHIP <u>DELIVERY DATE</u>	MONTHS REQUIRED <u>BEFORE DELIVERY</u>	PRODUCTION <u>LEADTIME</u>	REQUIRED <u>AWARD DATE</u>
FY-12	CVN 72 RCOH	NOV-16	42	8	SEP-12

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

NOTE:

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Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: EMERGENCY ESCAPE BREATHING DEVICE (EEBD)  
PARM Code: NAVSSES 912

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

This effort installs Emergency Escape Breathing Device (EEBD) containers inside/outside ship spaces.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2012	
	<u>QTY</u>	<u>COST</u>
Major Hardware	1	207
Ancillary Equipment		0
Technical Data and Documentation		120
Spares		0
System Engineering		346
Technical Engineering Services		2,256
Other Costs		125
Total		3,054

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY-12	CVN 72 RCOH	VARIOUS	CPFF	MAY-12	NEW	1 SHIPSET	207

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY-12	CVN 72 RCOH	NOV-16	38	11	OCT-12

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

NOTE:



CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: AIRCRAFT ELECTRICAL SERVICE STATION (AESS) INSTALL  
PARM Code: NAVSSES 912

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

Install Aircraft Electrical Servicing System (AESS), SCD 1108. This SCD installs upgraded 400Hz for legacy aircraft and 270VDC for JSF (F-35). AIT Install.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2016	
	<u>QTY</u>	<u>COST</u>
Major Hardware	1	6,891
Ancillary Equipment		0
Technical Data and Documentation		0
Spares		0
System Engineering		250
Technical Engineering Services		7,035
Other Costs		375
Total		14,551

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY-16	CVN 73 RCOH	TBD	TBD	TBD	TBD	1 SHIPSET	6,891

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY-16	CVN 73 RCOH	FEB-21	47	12	MAR-16

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

NOTE:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: O2N2 (REPLACE O2N2 PLANT WITH VSA 02 GEN)  
PARM Code: NAVSSES912

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

One Liquid Oxygen generating and storage plant with associated support equipment; one Gaseous Nitrogen Generator with associated storage flasks.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2016
	<u>QTY</u> <u>COST</u>
Major Hardware	1      2,960
Ancillary Equipment	0
Technical Data and Documentation	0
Spares	0
System Engineering	1,035
Technical Engineering Services	0
Other Costs	510
Total	4,505

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY-16	CVN 73 RCOH	TBD	TBD	TBD	TBD	1 SHIPSET	2,960

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY-16	CVN 73 RCOH	FEB-21	47	12	MAR-16

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

NOTE:

CLASSIFICATION:  
UNCLASSIFIED

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: CVN-68 CLASS NUCLEAR REFUELING COMPLEX OVERHAUL (RCOH)  
Equipment Item: AUTOMATIC VOLTAGE REGULATOR (AVR)  
PARM Code: NAVSSES 912

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

Digital Variable Frequency Voltage Regulator (replacement for Analog Static Voltage Regulator for power generators -SSTG, CTG)

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2016	
	<u>QTY</u>	<u>COST</u>
Major Hardware	1	4,200
Ancillary Equipment		0
Technical Data and Documentation		5
Spares		300
System Engineering		30
Technical Engineering Services		0
Other Costs		10
Total		4,545

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY-16	CVN 73 RCOH	TBD	TBD	TBD	TBD	1 SHIPSET	4,200

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY-16	CVN 73 RCOH	FEB-21	27	26	NOV-15

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

NOTE:

CLASSIFICATION:  
UNCLASSIFIED

**INTENTIONALLY  
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<b>CLASSIFICATION:</b>			<b>UNCLASSIFIED</b>									
Exhibit P-10, Advance Procurement Requirements Analysis (Funding)									Date: <b>February 2015</b>			
Appropriation (Treasury)Code/CC/BA/BSA/Item Control Number <b>SHIPBUILDING AND CONVERSION, NAVY / 2 / Other Warships / BLI 2086</b>						P-1 Line Item Nomenclature <b>CVN REFUELING OVERHAULS</b>						
Weapon System <b>CVN 74 RCOH</b>			First System (BY1) Award Date and Completion Date <b>March 2020 - November 2023</b>						Interval Between Systems			
BLI	PLT	When Req'd	Prior Years	FY14	FY15	FY16	FY17	FY18	FY19	FY20	To Complete	Total
CVN 74 RCOH			0.0	0.0	0.0	15.0	221.5	565.5	546.9	0.0	0.0	1,348.9
Plans			0.0	0.0	0.0	1.0	13.7	20.3	22.3	0.0	0.0	57.3
Basic	1 Shipset		0.0	0.0	0.0	2.4	166.6	350.1	413.6	0.0	0.0	932.7
Other			0.0	0.0	0.0	0.8	0.0	8.0	10.0	0.0	0.0	18.8
Propulsion Equipment			0.0	0.0	0.0	9.7	41.2	15.1	8.0	0.0	0.0	74.0
HM&E			0.0	0.0	0.0	0.2	0.0	20.0	14.0	0.0	0.0	34.2
Electronics			0.0	0.0	0.0	0.4	0.0	72.0	55.0	0.0	0.0	127.4
Ordnance			0.0	0.0	0.0	0.4	0.0	80.0	24.0	0.0	0.0	104.4
<b>Total AP</b>			0.0	0.0	0.0	15.0	221.5	565.5	546.9	0.0	0.0	1,348.9
<b>Description:</b> <b>CVN 74 RCOH:</b> Funding is required to procure long-lead items and fund long-lead efforts critical to supporting the contract award. Efforts will include work package planning, shipchecks, drawings, GFE engineering & hardware procurements. The advance planning contract with the prime contractor is funded under "BASIC" in each fiscal year.												

<b>CLASSIFICATION:</b>		<b>UNCLASSIFIED</b>				
Exhibit P-10, Advance Procurement Requirements Analysis						Date:
(Budget Justification)						<b>February 2015</b>
Appropriation (Treasury)Code/CC/BA/BSA/Item Control Number <b>SHIPBUILDING AND CONVERSION, NAVY / 2 / Other Warships / BLI 2086</b>				Weapon System <b>CVN 74 RCOH</b>		P-1 Line Item Nomenclature <b>CVN REFUELING OVERHAULS</b>
(TOA \$ in Millions)				<b>FY16</b>		
	PLT	QPA	Unit Cost	Qty	Contract Forecast Date	Total Cost Request
Plans					Dec-15	1.0
Basic				1 Shipset	Mar-16	2.4
Other					Dec-15	0.8
Propulsion Equipment					Nov-15	9.7
HM&E					Jan-16	0.2
Electronics					Jan-16	0.4
Ordnance					Jan-16	0.4
<b>Total AP</b>						15.0
<b>Description:</b>						
<b>Plans:</b> Advance Planning Engineering Support & Authorized Work Package (AWP) development, Shipcheck & Shipcheck Oversight, Government-Furnished Information (GFI) Development, Technical Oversight/Authority						
<b>Basic:</b> Prime Contractor Advance Planning, Integration of the AWP into the Execution Integrated Master Schedule, Miscellaneous Onload-Offload Costs, Ship's Force Work Package Material Procurement, Customer Contracted Teams (CCTs), CCT Government Furnished Equipment (GFE), and Technical Support						
<b>Other:</b> Program Management Plans, Budget Development, Work Package Review, IDE, Logistic Plans and Review, Cost Estimating and Studies						
<b>Propulsion Equipment:</b> Nuclear Component Procurement and Technical Support Services						
<b>HM&amp;E:</b> HM&E GFI/GFE & Technical Support Services						
<b>Electronics:</b> Electronics GFI/GFE and Technical Support Services						
<b>Ordnance:</b> Ordnance GFI/GFE and Technical Support Services						

CLASSIFICATION: UNCLASSIFIED																																																													
<b>BUDGET ITEM JUSTIFICATION SHEET (P-40)</b>								DATE: February 2015																																																					
<b>FY2016 PRESIDENTS BUDGET</b>																																																													
APPROPRIATION/BUDGET ACTIVITY <b>SHIPBUILDING AND CONVERSION, NAVY/BA 2 Other Warships</b>						P-1 LINE ITEM NOMENCLATURE <b>DDG 1000</b> <b>BLI: 2119</b>																																																							
(Dollars in Millions)	PRIOR YR	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	To Complete	TOTAL PROG																																																			
QUANTITY	3	0	0	0	0	0	0	0	0	0	3																																																		
End Cost	12,288.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12,288.7																																																		
Less Advance Procurement	1,160.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,160.1																																																		
Less Subsequent Year FF	7,036.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7,036.7																																																		
Plus Subsequent Year FF	5,812.6	231.7	419.5	433.4	139.5	0.0	0.0	0.0	0.0	0.0	7,036.7																																																		
Full Funding TOA	9,904.5	231.7	419.5	433.4	139.5	0.0	0.0	0.0	0.0	0.0	11,128.6																																																		
Plus Advance Procurement	1,160.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,160.1																																																		
Total Obligational Authority	11,064.6	231.7	419.5	433.4	139.5	0.0	0.0	0.0	0.0	0.0	12,288.7																																																		
Plus Outfitting / Plus Post Delivery	11.8	49.3	60.4	87.1	77.9	23.3	35.0	39.1	143.6	527.3	527.3																																																		
Total	11,076.4	281.0	479.9	520.5	217.3	23.3	35.0	39.1	143.6	12,816.0	12,816.0																																																		
Unit Cost (Ave End Cost)	4,096.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4,096.2																																																		
MISSION:																																																													
DDG 1000, a multi-mission surface combatant will serve as a versatile asset in the context of future Naval Strategy. Armed with an array of weapons, DDG 1000 will provide the Joint Force Commander with precision strike and volume fires. Designed with sustainable payload, multi-spectral stealth and optimal manning, DDG 1000 will take the fight to the enemy with unprecedented striking power, sustainability, survivability and information dominance. This Budget Submission is based on a DDG 1000 of 15,656 tons displacement with two Advanced Gun Systems (AGS) including a total magazine capacity of 600 rounds. FY16 funding will support continued construction (for all three hulls), Class Services, and GFE / Mission Systems Equipment procurement.																																																													
Characteristics:																																																													
<table style="width: 100%; border: none;"> <tr> <td style="width: 25%;"><u>Hull</u></td> <td style="width: 25%;"><u>Weapons:</u></td> <td style="width: 25%;"><u>Sensors:</u></td> <td style="width: 25%;"><u>Integrated Power System:</u></td> <td style="width: 25%;"><u>Aviation:</u></td> </tr> <tr> <td>Length Overall</td> <td>610'</td> <td>2 Advanced Gun Systems 155mm</td> <td>Multi-Function Radar</td> <td>MH60R (Capacity for 2)</td> </tr> <tr> <td>Beam</td> <td>80.7'</td> <td>80 MK 57 Vertical Launch cells</td> <td>Acoustic Sensor Suite</td> <td>3 VTUAVs</td> </tr> <tr> <td>Displacement (LT)</td> <td>15,612</td> <td>2 MK 46 MOD 2 GWS</td> <td>EO / IR System</td> <td></td> </tr> <tr> <td>Draft (Navigation)</td> <td>27.6'</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Speed</td> <td>30 kts</td> <td></td> <td></td> <td><u>Boats:</u></td> </tr> <tr> <td>Installed Power</td> <td>78.4 MW</td> <td></td> <td></td> <td>Sized for 2 11m RHIBs per ship</td> </tr> <tr> <td>Crew Size (including air detachment - 28)</td> <td>175</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Hull</td> <td>Wave-piercing tumblehome</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Superstructure</td> <td>Composite structure (1000/1001) Steel structure (1002)</td> <td></td> <td></td> <td></td> </tr> </table>												<u>Hull</u>	<u>Weapons:</u>	<u>Sensors:</u>	<u>Integrated Power System:</u>	<u>Aviation:</u>	Length Overall	610'	2 Advanced Gun Systems 155mm	Multi-Function Radar	MH60R (Capacity for 2)	Beam	80.7'	80 MK 57 Vertical Launch cells	Acoustic Sensor Suite	3 VTUAVs	Displacement (LT)	15,612	2 MK 46 MOD 2 GWS	EO / IR System		Draft (Navigation)	27.6'				Speed	30 kts			<u>Boats:</u>	Installed Power	78.4 MW			Sized for 2 11m RHIBs per ship	Crew Size (including air detachment - 28)	175				Hull	Wave-piercing tumblehome				Superstructure	Composite structure (1000/1001) Steel structure (1002)			
<u>Hull</u>	<u>Weapons:</u>	<u>Sensors:</u>	<u>Integrated Power System:</u>	<u>Aviation:</u>																																																									
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* DDG 1000 Delivery Date: Denotes HM&E Delivery Date.																																																													

**CLASSIFICATION: UNCLASSIFIED**

APPROPRIATION: SHIPBUILDING AND CONVERSION, NAVY

P-5 EXHIBIT

**FY2016 PRESIDENTS BUDGET**

February 2015

**WEAPON SYSTEM COST ANALYSIS (EXHIBIT P-5)**

(Dollars in Thousands)

<b>BUDGET ACTIVITY: 2</b>		<b>P-1 LINE ITEM NOMENCLATURE</b>		
<b>Other Warships</b>		<b>DDG 1000</b>		
<b>ELEMENT OF COST</b>	<b>QTY</b>	<b>FY 2007 COST</b>	<b>QTY</b>	<b>FY 2009 COST</b>
PLAN COSTS	2	1,407,194	1	553,283
BASIC		3,553,907		1,095,080
CHANGE ORDERS		252,503		46,158
ELECTRONICS		2,606,749		1,331,748
HM&E		203,888		75,062
OTHER COST		247,359		127,296
ORDNANCE		526,278		262,197
TOTAL SHIP ESTIMATE		<b>8,797,878</b>		<b>3,490,824</b>
LESS: ADVANCE PROCUREMENT FY05		304,046		
LESS: ADVANCE PROCUREMENT FY06		706,240		
LESS: ADVANCE PROCUREMENT FY08		-		149,830
LESS: SUBSEQUENT YEAR FUNDING FY08		3,009,929		-
LESS: SUBSEQUENT YEAR FUNDING FY10		315,025		1,063,507
LESS: SUBSEQUENT YEAR FUNDING FY11		107,188		139,896
LESS: SUBSEQUENT YEAR FUNDING FY12		437,020		71,707
LESS: SUBSEQUENT YEAR FUNDING FY13		523,736		144,603
LESS: SUBSEQUENT YEAR FUNDING FY14		212,372		19,322
LESS: SUBSEQUENT YEAR FUNDING FY15		346,000		73,532
LESS: SUBSEQUENT YEAR FUNDING FY16		238,374		195,030
LESS: SUBSEQUENT YEAR FUNDING FY17		10,380		129,099
NET P-1 LINE ITEM:		2,587,568		1,504,298



**SHIPBUILDING AND CONVERSION, NAVY**  
 Analysis of Ship Cost Estimate - Basic/Escalation  
 Ship Type: DDG 1000

**P-5B Exhibit**  
**FY2016 PRESIDENTS BUDGET**  
 February 2015

<b><u>I. Design/Schedule</u></b>	<b><u>Start/Issue</u></b>	<b><u>Complete /Response</u></b>	<b><u>Reissue</u></b>	<b><u>Complete /Response</u></b>
Issue date for TLR				
Issue date for TLS				
Preliminary Design				
Contract Design				
Detail Design				
Request for Proposals				
Design Agent				
ISSUE DATE FOR ORD	11/97 (DD-21)	5/04 (DD(X))		
PRELIMINARY DESIGN REVIEW (PDR)	1/04	3/04		
CRITICAL DESIGN REVIEW (CDR)	6/05	9/05		
MILESTONE B	11/05	11/05		
REQUEST FOR PROPOSALS (LEAD SHIPS)	1/06	4/06		
DAB REVIEW (LEAD SHIP CONSTRUCTION)	10/06	10/06		
MILESTONE B RECERTIFICATION	10/10	10/10		
<b><u>II. Classification of Cost Estimate</u></b>	CLASS C BUDGET ESTIMATE			
<b><u>III. Basic Construction/Conversion</u></b>	2008	2008	2009	
A. Actual Award Date	2/08	2/08 and 9/11	9/11*	
		CPAF/IF AND		
B. Contract Type ( and Share Line if applicable )	CPAF/IF	FPIC	FPIC	
* DDG1002 DECKHOUSE, HANGAR AND AFT PVLS CONTRACT Awarded to BIW on Jul 2013				
<b><u>IV. Escalation</u></b>	N/A - FORWARD PRICED			
Escalation Termination Date				
Escalation Requirement				
Labor/Material Split				
Allowable Overhead Rate				
<b><u>V. Other Basic(Reserves/Miscellaneous)</u></b>	<b><u>Amount</u></b>			
N/A				

SHIPBUILDING AND CONVERSION, NAVY  
SHIP PRODUCTION SCHEDULEEXHIBIT P-27  
FY2016 PRESIDENTS BUDGET  
February 2015

SHIP TYPE	HULL NUMBER	SHIPBUILDER	FISCAL YEAR AUTHORIZED	CONTRACT AWARD	START OF CONSTRUCTION	*DELIVERY DATE
DDG 1000	1000	BIW	07	FEB-08	Feb-09	Nov-15
DDG 1000	1001	BIW	07	SEP-11 (Re-award)	Mar-10	Nov-16
DDG 1000	1002	BIW	09	SEP-11	Apr-12	Dec-18

\* DDG 1000 Delivery Date: Denotes HM&amp;E Delivery Date.

## SHIPBUILDING AND CONVERSION, NAVY

Analysis of Ship Cost Estimates - Major Equipment

(Dollars in Thousands)

Ship Type: DDG 1000

## ELECTRONICS

## a. P-35 Items

	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
EXTERIOR COMMUNICATIONS (EXCOMMS) (SHIPSET)	2	464,648	1	79,962
INTEGRATED UNDERSEA WARFARE (IUSW) SYSTEM	2	215,763	1	105,136
MULTI FUNCTION RADAR (MFR)	2	519,609	1	262,999
COMMON ARRAY POWER SYSTEM (CAPS)	2	97,017	1	16,409
TOTAL SHIP COMPUTING ENVIRONMENT (TSCE)	2	372,377	1	262,584
ELECTRO-OPTICAL / INFRARED (EO/IR)	2	94,411	1	26,952
IDENTIFICATION FRIEND OR FOE (IFF)	2	35,532	1	28,138
COMMON ARRAY COOLING SYSTEM (CACS)	2	20,065	1	965
SHIP CONTROL SYSTEM (SCS)	2	111,527	1	117,229
COOPERATIVE ENGAGEMENT CAPABILITY (CEC)	2	16,025	1	7,800
SURFACE ELECTRONIC WARFARE IMPROVEMENT PROGRAM (SEWIP)	2	39,742	1	17,681
VERTICAL LAUNCHING SYSTEM (VLS) MK 57 4-CELL MODULES	40	276,276	20	241,023
Subtotal		2,262,993		1,166,878

## b. Major Items

Subtotal		0		0
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## c. Other Electronics

MISSION SYSTEM ENGR INTEGR & TEST (MSEIT)		343,756		164,870
Subtotal		343,756		164,870

Total ELECTRONICS		2,606,749		1,331,748
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## SHIPBUILDING AND CONVERSION, NAVY

Analysis of Ship Cost Estimates - Major Equipment

(Dollars in Thousands)

Ship Type: DDG 1000

	FY 2007		FY 2009	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
<b>HM&amp;E</b>				
a. P-35 Items				
MAIN TURBINE GENERATOR (MTG)	4	78,125	2	39,412
Battle Spares		32,168		0
Subtotal		110,293		39,412
b. Major Items				
RIGID HULL INFLATABLE BOAT (RHIB)	4	2,100	2	1,100
Subtotal		2,100		1,100
c. Other HM&E				
HM&E (Activation, NGVLA, Moriah Wind Measurement System (WMS), Aviation Integration)		91,495		34,550
Subtotal		91,495		34,550
Total HM&E		203,888		75,062

**SHIPBUILDING AND CONVERSION, NAVY**  
 Analysis of Ship Cost Estimates - Major Equipment  
 (Dollars in Thousands)

Ship Type: DDG 1000

**ORDNANCE**

a. P-35 Items

ADVANCED GUN SYSTEM (AGS)

CLOSE-IN GUN SYSTEM (CIGS)

Subtotal

b. Major Items

Subtotal

c. Other ORDNANCE

Subtotal

Total ORDNANCE

FY 2007		FY 2009	
<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
4	488,127	2	247,402
4	38,151	2	14,795
	526,278		262,197
	0		0
	0		0
	526,278		262,197

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PRESIDENTS BUDGET  
February 2015

Ship Type: DDG 1000  
Equipment Item: EXCOMMS (SHIPSET)  
PARM Code: PEOC4I

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

EXCOMMs are part of the DDG-1000 C3I Segment and consists of a set of seven (7) external communications elements. The EXCOMM Elements support the DDG-1000 system in achieving its mission by providing communications between DDG-1000 and other land, air, and sea based platforms as well as pier-side communications. These EXCOMM elements provide the voice, data, and video communications between DDG-1000 and the external world at sea as well as when in port. The 7 elements are: Satellite Communications (SATCOMs), Line of Sight (LOS), Common Data Link-Navy (CDL-N), Information Security (INFOSEC), Common Array Element (CAE), Cooperative Engagement Capability (CEC) and Integrated Communications Controller Software (ICCS). Government legacy systems include: Distributed Common Ground System, Navy (DCGS-N), Cooperative Engagement Capability (CEC), Communication Terminals, AN/WSC-6(V)9 Shipboard Terminal, Common Link Integrated Processor (CLIP), Automated Digital Network System (ADNS), Global Broadcast Service (GBS), Communications Data Link System (CDLS), & Naval Modular Automated Communications System (NAVMACS).

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2007		FY 2009	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	2	195,953	1	20,600
Technical Support Services		28,248		6,585
Other Costs (NRE)		240,448		52,777
Total		464,648		79,962

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY07	DDG-1000	Raytheon	CPAF/IF	MAY-08		2	97,976
FY09	DDG-1000	Raytheon	CPAF/IF	MAY-12		1	20,600

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY07	DDG-1000	Nov-15	43	26	Feb-10
FY09	DDG-1000	Dec-18	43	26	Mar-13

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

N/A

NOTE:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PRESIDENTS BUDGET  
February 2015

Ship Type: DDG 1000  
Equipment Item: INTEGRATED UNDERSEA WARFARE (IUSW) SYSTEM  
PARM Code: IWS 5.0 XR

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The IUSW suite supports DDG-1000 in achieving Undersea and Surface Dominance with the capability to detect and track hostile surface vessels, submarines, and moored volume mines. It supports the Sensor Systems Segment in accomplishing its Integrated Air and Surface Dominance (IASD) and Integrated Undersea Dominance (IUSD) objectives by providing the capability to conduct Anti-Submarine Warfare (ASW), Torpedo Defense (TD) and Mine Warfare (MIW) missions. Military Operations Other than War (MOOTW) objectives, such as Search and Rescue (SAR) (locating downed aircraft and vessels in the ocean) are also supported. There are four major subcomponents: Bow Array Component, Towed Array Component, Towed Torpedo Countermeasures Component, as well as Software.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2007		FY 2009	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	2	95,829	1	54,300
Technical Support Services		10,793		5,639
Other Costs (NRE)		109,141		45,198
Total		215,763		105,136

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY07	DDG-1000	Raytheon	CPAF/IF	MAY-08		2	47,914
FY09	DDG-1000	Raytheon	CPAF/IF	OCT-12		1	54,300

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY07	DDG-1000	Nov-15	47	18	Jun-10
FY09	DDG-1000	Dec-18	46	18	Aug-13

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

N/A

**NOTE:**

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PRESIDENTS BUDGET  
February 2015

Ship Type: DDG 1000  
Equipment Item: MULTI FUNCTION RADAR  
PARM Code: IWS 2.0 SQ

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The Multi Function Radar (MFR) element supports the DDG-1000 system in achieving Integrated Air and Surface Dominance with the capability to neutralize hostile surface vessels and aircraft at short ranges. The MFR is comprised of X-Band (AN/SPY-3) arrays integrated through a common signal data processor offering surface and horizon search capabilities and 3-D air search radar capabilities. The X-Band portion also has two navigation modes (high power and lower power) for use in piloting and marine navigation.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2007		FY 2009 <sup>(1)</sup>	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	2	314,313	1	189,573
Technical Support Services		21,993		8,145
Other Costs (NRE)		183,303		65,281
Total		519,609		262,999

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW	HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>UNIT COST</u>
FY07	DDG-1000	Raytheon	CPAF/IF	MAR-08		2 157,157
FY09	DDG-1000	Raytheon	CPAF/IF	OCT-12		1 189,573

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY07	DDG-1000	Nov-15	45	28	Oct-09
FY09	DDG-1000	Dec-18	36	28	Aug-13

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

N/A

**NOTE:**

Volume Search Radar (VSR) was removed from the DDG-1000 class per the Nunn McCurdy Certification VSR procured for DDG-1002 will be transferred to the CVN-79.



CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PRESIDENTS BUDGET  
February 2015

Ship Type: DDG 1000  
Equipment Item: COMMON ARRAY POWER SYSTEM (CAPS)  
PARM Code: IWS 2.0 SQ

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The Common Array Power System (CAPS) provides electrical power for the Multi Function Radar (MFR), Identification of Friend or Foe (IFF), EW/Cryptology and External Communications (EXCOMMs) Elements. The CAPS is a distributed power system designed to operate from the ship-supplied medium voltage distribution Integrated Power System's (IPS) 13.8 kV AC power source. The CAPS consists of two Power Distribution Units (PDUs) and four Power Conversion Units (PCUs).

**II. CURRENT FUNDING:**

	FY 2007		FY 2009	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	2	56,185	1	12,624
Battle Spares		1,000		0
Technical Support Services		4,490		420
Other Costs (NRE)		35,342		3,365
Total		97,017		16,409

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY07	DDG-1000	Raytheon	CPAF/IF	MAR-08		2	28,093
FY09	DDG-1000	Raytheon	CPAF/IF	NOV-12		1	12,624

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY07	DDG-1000	Nov-15	48	28	Jul-09
FY09	DDG-1000	Dec-18	35	28	Sep-13

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

N/A

NOTE:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PRESIDENTS BUDGET  
February 2015

Ship Type: DDG 1000  
Equipment Item: TOTAL SHIP COMPUTING ENVIRONMENT (TSCE)  
PARM Code: IWS 9.0 XV

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The Total Ship Computing Environment (TSCE) Segment provides all computing resources and associated software to the DDG-1000 System. It is a single computing environment for Ship, Combat and Support Systems. The TSCE provides a common middleware platform upon which all application/functional software can build and execute. The segment applications software, combined with TSCE hardware and software infrastructure represent the majority of the computing resources and associated software for the DDG-1000 System.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2007		FY 2009	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	2	196,450	1	134,345
Technical Support Services		18,834		14,224
Other Costs (NRE)		157,093		114,014
Total		372,377		262,584

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY07	DDG-1000	Raytheon	CPAF/IF	MAY-08		2	98,225
FY09	DDG-1000	Raytheon	CPAF/IF	OCT-12		1	134,345

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY07	DDG-1000	Nov-15	48	21	Feb-10
FY09	DDG-1000	Dec-18	43	21	Aug-13

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

N/A

Note:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PRESIDENTS BUDGET  
February 2015

Ship Type: DDG 1000  
Equipment Item: ELECTRO-OPTICAL / INFRARED (EO/IR)  
PARM Code: IWS 2.0 SJ

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The Electro-Optical / Infrared (EO/IR) Sensor Suite Element is composed of both the hardware and software components required to detect and range on specified targets and report track data to C2. The EO/IR sensor suite consists of five (5) gimbaled EO sensors located on the cardinal faces of the deckhouse and associated electronics in Electronic Modular Enclosures (EMEs). Also included are Detect and Tracking Software components that provide embedded control and generate tracks for the C2 system and Mine Like Object (MLO) detection algorithm.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2007		FY 2009	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	2	33,368	1	12,973
Technical Support Services		6,900		1,551
Other Costs (NRE)		54,144		12,429
Total		94,411		26,952

**III. CONTRACT DATA:**

PROGRAM <u>YEAR</u>	SHIP <u>TYPE</u>	PRIME <u>CONTRACTOR</u>	CONTRACT <u>TYPE</u>	AWARD <u>DATE</u>	NEW <u>/OPTION</u>	<u>QTY</u>	HARDWARE <u>UNIT COST</u>
FY07	DDG-1000	Raytheon	CPAF/IF	MAY-08		2	16,684
FY09	DDG-1000	Raytheon	CPAF/IF	NOV-12		1	12,973

**IV. DELIVERY DATE:**

PROGRAM <u>YEAR</u>	SHIP <u>TYPE</u>	EARLIEST SHIP <u>DELIVERY DATE</u>	MONTHS REQUIRED <u>BEFORE DELIVERY</u>	PRODUCTION <u>LEADTIME</u>	REQUIRED <u>AWARD DATE</u>
FY07	DDG-1000	Nov-15	47	22	Feb-10
FY09	DDG-1000	Dec-18	41	22	Sep-13

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

N/A

**NOTE:**

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PRESIDENTS BUDGET  
February 2015

Ship Type: DDG 1000  
Equipment Item: IDENTIFICATION FRIEND OR FOE (IFF)  
PARM Code: NAVAIR

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

Identification Friend or Foe (IFF) sensor element supports the DDG-1000 Ship System segment in accomplishing Anti-Air Warfare (AAW) and Anti-Surface Warfare (ASUW) missions. The IFF Sensor Element is a cooperative "challenge and reply" system that assists in the rapid identification, tracking and control of friendly platforms. IFF is comprised of three hardware components to include the Interrogator component, the Transponder component and the Electronically Scanned Antenna (ESA) component, as well as software.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2007		FY 2009	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	2	16,018	1	8,640
Technical Support Services		2,186		2,163
Other Costs (NRE)		17,328		17,335
Total		35,532		28,138

**III. CONTRACT DATA:**

PROGRAM <u>YEAR</u>	SHIP <u>TYPE</u>	PRIME <u>CONTRACTOR</u>	CONTRACT <u>TYPE</u>	AWARD <u>DATE</u>	NEW <u>/OPTION</u>	<u>QTY</u>	HARDWARE <u>UNIT COST</u>
FY07	DDG-1000	Raytheon	CPAF/IF	MAY-08		2	8,009
FY09	DDG-1000	Raytheon	CPAF/IF	DEC-12		1	8,640

**IV. DELIVERY DATE:**

PROGRAM <u>YEAR</u>	SHIP <u>TYPE</u>	EARLIEST SHIP <u>DELIVERY DATE</u>	MONTHS REQUIRED <u>BEFORE DELIVERY</u>	PRODUCTION <u>LEADTIME</u>	REQUIRED <u>AWARD DATE</u>
FY07	DDG-1000	Nov-15	40	29	Feb-10
FY09	DDG-1000	Dec-18	33	29	Oct-13

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

N/A

NOTE:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PRESIDENTS BUDGET  
February 2015

Ship Type: DDG 1000  
Equipment Item: COMMON ARRAY COOLING SYSTEM (CACS)  
PARM Code: IWS 2.0 SQ

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The Common Array Cooling System (CACS) provides liquid cooling for the Multi Function Radar (MFR) and External Communications (EXCOMMs) arrays. CACS is a distributed cooling system consisting of three Cooling Equipment Units (CEUs). Each CEU operates an independent coolant loop used to transport, monitor and control coolant flow to the DBR and EXCOMMs Equipment. CEUs consist of redundant pumps, a heat exchanger and filtration system. It is designed to provide liquid coolant to the MFR and EXCOMM equipment and dissipate heat to the ship-supplied chilled water.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2007		FY 2009	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	2	11,766		0
Battle Spares		1,000		0
Technical Support Services		824		107
Other Costs (NRE)		6,475		858
Total		20,065		965

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY07	DDG-1000	Raytheon	CPAF/IF	MAY-08		2	5,883
FY09	DDG-1000	Raytheon	CPAF/IF	NOV-12		1	0

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY07	DDG-1000	Nov-15	49	28	Jun-09
FY09	DDG-1000	Dec-18	35	28	Sep-13

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

N/A

**NOTE:**

CACS Technical Services are incorporated into DBR Technical Services. DDG 1002 CACS costs are included in the MFR 1002 value.

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PRESIDENTS BUDGET  
February 2015

Ship Type: DDG 1000  
Equipment Item: SHIP CONTROL SYSTEM (SCS)  
PARM Code: SPAWAR

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The Flight 1 Ship Control System (SCS) element is a system of hardware and software items that provide hierarchical and integrated ship control by the DDG-1000 crew. The SCS software architecture allows for various levels of automation for monitoring, control, reporting and configuration of SCS equipment and operations to support mission and low manning concepts. From workstation positions on the ship bridge or in the ship mission centers, the SCS coordinates, controls and monitors the navigation, hull, electric plant, machinery plant and damage control functions on the DDG-1000.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2007		FY 2009	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	2	58,000	1	42,801
Technical Support Services		6,031		8,256
Other Costs (NRE)		47,497		66,173
Total		111,527		117,229

**III. CONTRACT DATA:**

PROGRAM <u>YEAR</u>	SHIP <u>TYPE</u>	PRIME <u>CONTRACTOR</u>	CONTRACT <u>TYPE</u>	AWARD <u>DATE</u>	NEW <u>/OPTION</u>	<u>QTY</u>	HARDWARE <u>UNIT COST</u>
FY07	DDG-1000	Raytheon	CPAF/IF	MAY-08		2	29,000
FY09	DDG-1000	Raytheon	CPAF/IF	MAY-12		1	42,801

**IV. DELIVERY DATE:**

PROGRAM <u>YEAR</u>	SHIP <u>TYPE</u>	EARLIEST SHIP <u>DELIVERY DATE</u>	MONTHS REQUIRED <u>BEFORE DELIVERY</u>	PRODUCTION <u>LEADTIME</u>	REQUIRED <u>AWARD DATE</u>
FY07	DDG-1000	Nov-15	38	31	Feb-10
FY09	DDG-1000	Dec-18	38	31	Mar-13

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

N/A

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PRESIDENTS BUDGET  
February 2015

Ship Type: DDG 1000  
Equipment Item: COOPERATIVE ENGAGEMENT CAPABILITY (CEC)  
PARM Code: IWS 6.0 XN

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

Cooperative Engagement Capability (CEC) is a sensor network with Integrated Fire Control capability that significantly improves Battle Force air and missile defense capabilities by coordinating measurement data from Battle Force air search sensors on CEC-equipped units into a single, real-time, composite cooperating unit (CU), to all other CUs in the Battle Force through a real-time, line of sight, high data rate sensor and engagement data distribution network. CEC is highly resistant to jamming and provides accurate grid locking (relative spatial positioning) between CUs. Each CU independently employs high capacity, parallel processing and advanced algorithms to combine all distributed sensor data into a high quality track picture which is the same for all CUs. CEC data is presented as a superset of the best air and missile defense sensor capabilities from each CU, all of which are integrated into a single input to each CU's combat weapon system. CEC significantly improves Battle Force defense in depth, including both local and area defense capabilities against current and future air missile threats.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2007		FY 2009	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	2	12,000	1	6,800
Technical Support Services		4,025		1,000
Other Costs (NRE)		0		0
Total		16,025		7,800

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY07	DDG 1000	RAYTHEON	FPI	FEB-07		2	6,000
FY09	DDG 1000	RAYTHEON	FPI	OCT-13		1	6,800

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY07	DDG 1000	Nov-15	34	18	Jul-11
FY09	DDG 1000	Dec-18	34	18	Aug-14

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

N/A

**NOTE:**

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PRESIDENTS BUDGET  
February 2015

Ship Type: DDG 1000  
Equipment Item: SURFACE ELECTRONIC WARFARE IMPROVEMENT PROGRAM (SEWIP)  
PARM Code: IWS 2.0 SJ

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

SEWIP provides enhanced Electronic Warfare (EW) capabilities to improve anti-ship missile defense, counter-targeting and counter surveillance capabilities, as well as improved situational awareness to pace the threat, improving detection, accuracy, and mitigation of EMI. The SEWIP Block 2 is an upgraded antenna, receiver and combat system interface for AN/SLQ-32.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2007		FY 2009	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	2	36,214	1	15,906
Technical Support Services		1,906		935
Other Costs (NRE)		1,622		841
Total		39,742		17,681

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY07	DDG-1000	Lockheed Martin	FPI	Jul-12		2	18,107
FY09	DDG-1000	Lockheed Martin	FPI	Jan-15		1	15,906

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY07	DDG-1000	Nov-15	2	19	Feb-14
FY09	DDG-1000	Dec-18	2	16	Jun-17

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

N/A

NOTE:



CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PRESIDENTS BUDGET  
February 2015

Ship Type: DDG 1000  
Equipment Item: VERTICAL LAUNCHING SYSTEM (VLS) MK 57 4-CELL MODULES  
PARM Code: IWS 3L S8

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The MK 57 VLS is a general purpose, operationally unmanned launching system capable of stowing, preparing, and launching missiles in support of DDG-1000 mission areas including: land attack warfare, integrated air and surface dominance, and integrated undersea dominance. The MK57 VLS provides the capability for rapid launch of missiles into a 360-degree hemispherical volume above and about the ship. The canistered missiles are stowed within the launching systems below-deck cells. DDG-1000 will have 80 total cells grouped into 20 four cell modules. Flight 1 missiles to be carried include: Enhanced SeaSparrow Missile (ESSM), Standard Missile-2 (SM-2) Blk III, Tomahawk Land Attack Missile (TLAM) Blk III/IV, and Vertical Launch Anti-Submarine Rocket (VLA).

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2007		FY 2009	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	40	180,987	20	172,878
Technical Support Services		8,524		4,231
Other Costs (NRE)		86,766		63,914
Total		276,276		241,023

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY07	DDG-1000	Raytheon	CPAF/IF	MAY-08		40	4,525
FY09	DDG-1000	Raytheon	CPAF/IF	OCT-12		20	8,644

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY07	DDG-1000	Nov-15	40	24	Jul-10
FY09	DDG-1000	Dec-18	40	24	Aug-13

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

N/A

**NOTE:**

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PRESIDENTS BUDGET  
February 2015

Ship Type: DDG 1000  
Equipment Item: MAIN TURBINE GENERATOR (MTG)  
PARM Code: PMS 500 WA

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The Main Turbine Generator Set (MTG) shall be capable of being utilized as the prime power source on the DDG-1000 Destroyer for electrical power applications (propulsion, ship services, and combat systems loads). The DDG-1000 baseline includes two MTGs. The minimum output power from each MTG shall be 35.25 MWe. The engine utilizes a Full Authority Digital Control Local Operating Panel (FADC LOCOP) and electric start system. The generator contains redundant automatic voltage regulators (AVR) with automatic changeover.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2007		FY 2009	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	4	73,262	2	39,412
Battle Spares		32,168		0
Technical Support Services		1,485		0
Other Costs (NRE)		3,378		0
Total		110,293		39,412

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY07	DDG-1000	Rolls-Royce	FFP	MAR-07	New	4	18,316
FY09	DDG-1000	Rolls-Royce	FFP	JAN-08	Option	2	19,706

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY07	DDG-1000	Nov-15	33	24	Feb-11
FY09	DDG-1000	Dec-18	33	24	Mar-14

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

N/A

NOTE:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PRESIDENTS BUDGET  
February 2015

Ship Type: DDG 1000  
Equipment Item: ADVANCED GUN SYSTEM (AGS)  
PARM Code: IWS 3C YF

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The Advanced Gun System is a fully automated, single barrel, 155mm, vertically loaded, stabilized gun mount that is capable of storing, initializing/programming, loading and firing projectiles and propelling charges. Its primary mission is Land Attack Warfare in support of ground and expeditionary forces beyond the Line of Sight in the DDG-1000 system's littoral engagement area where precise, rapid-response, high-volume, long-range fire support is required. Each DDG-1000 will carry two complete AGS systems - Mount 61 and 62. The above deck configurations are identical but each has a slightly different below deck configuration. Presently, the only projectile used in AGS is the Long Range Land Attack Projectile (LRLAP). It is a long-range, GPS guided round that delivers a unitary High Explosive (HE) payload at a controlled burst height above a target or during contact with a range of 20 to 83nm.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2007		FY 2009	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	4	302,254	2	206,747
Battle Spares		19,000		0
Technical Support Services		8,934		0
Other Costs (NRE)		157,939		40,655
Total		488,127		247,402

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY07	DDG-1000	BAE	CPAF/IF	APR-08		4	75,564
FY09	DDG-1000	BAE	TBD	APR-12		2	103,374

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY07	DDG-1000	Nov-15	31	39	Jan-10
FY09	DDG-1000	Dec-18	31	39	Feb-13

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

N/A

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 PRESIDENTS BUDGET  
February 2015

Ship Type: DDG 1000  
Equipment Item: CLOSE-IN GUN SYSTEM (CIGS)  
PARM Code: IWS 3C YF

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The Close-In Gun System (CIGS) supports the DDG-1000 system in achieving Integrated Air and Surface Dominance with the capability to neutralize hostile surface vessels and aircraft at short ranges. CIGS also supports the Military Operations Other than War (MOOTW) missions, such as performing maritime interdiction, conducting maritime law enforcement, and supporting hostage rescue. Two (2) CIGS will be mounted on the aft end of the hanger. The CIGS MK 46 MOD 2 GWS is composed of a turret assembly that houses the MK 44 MOD 2 cannon and an advanced Fire Control System that includes a ballistic solution computer, an electro-optical sensor package, and an eye-safe laser range finder. The system uses a forward-looking infrared sensor, a low-light television camera, and eye safe laser range finder with a closed-loop tracking system to optimize accuracy against small, high-speed surface targets. The system can be operated locally from the gun control station inside the turret, remotely from the MK 46 MOD 2 GWS Remote Gun Station Operator (RGSO) panel in the Combat Information Center (CIC), or manually using hand cranks from inside the turret. The 30mm cannon, MK 44 MOD 2, is a single barrel, open bolt, dual feed, electrically powered, chain-driven automatic cannon. The system has a magazine capacity of 424 rounds, a dual-feed capability with a firing rate of 200 rounds per minute, and is capable of selectively switching between ammunition types and firing modes.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2007		FY 2009	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	4	18,034	2	8,535
Technical Support Services		7,177		3,381
Other Costs (NRE)		12,940		2,880
Total		38,151		14,795

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY07	DDG-1000	TBD	FFP	MAR-14		4	4,509
FY09	DDG-1000	TBD	FFP	MAR-16		2	4,267

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY07	DDG-1000	Nov-15	6	22	Jul-13
FY09	DDG-1000	Dec-18	6	18	Dec-16

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

N/A

NOTE:

**CLASSIFICATION: UNCLASSIFIED**

BUDGET ITEM JUSTIFICATION SHEET (P-40)						DATE:					
FY 2016 President's Budget						February 2015					
APPROPRIATION/BUDGET ACTIVITY			P-1 LINE ITEM NOMENCLATURE								
SHIPBUILDING AND CONVERSION, NAVY/BA 2 Other Warships			DDG-51 BLI: 2122								
(Dollars in Millions)	PRIOR YR	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TO COMP	TOTAL PROG	
QUANTITY	69	1	2	2	2	2	2	2		82	
End Cost (1)	67,930.4	1,731.4	2,956.7	3,522.7	3,418.3	3,455.0	3,540.4	3,630.5	0.0	90,185.5	
Less Advance Procurement	2,366.8	115.8	294.8	373.0	182.6	118.2	103.4	106.5	0.0	3,661.2	
Less Cost to Complete (2)	1,081.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,081.6	
Less Escalation	48.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.2	
Less Transfer	218.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	218.5	
Less FY06 Hurricane Supplemental	227.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	227.1	
Full Funding TOA	63,988.2	1,615.6	2,661.9	3,149.7	3,235.7	3,336.7	3,437.1	3,524.0	0.0	84,948.8	
Plus Advance Procurement	2,829.5	369.6	134.0	0.0	118.2	103.4	106.5	109.7	0.0	3,770.9	
Plus Cost to Complete (2)	731.4	100.0	129.1	75.0	0.0	46.1	0.0	0.0	0.0	1,081.6	
Plus Transfer	218.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	218.5	
Plus FY06 Hurricane Supplemental	227.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	227.1	
Plus Escalation	48.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.2	
Total Obligational Authority	68,042.9	2,085.1	2,925.1	3,224.7	3,353.9	3,486.2	3,543.6	3,633.7	0.0	90,295.2	
Plus Outfitting / Plus Post Delivery	2,187.0	1.3	6.5	62.1	134.5	91.2	87.8	117.2	678.7	3,366.5	
Total	70,229.9	2,086.5	2,931.6	3,286.9	3,488.4	3,577.4	3,631.3	3,750.9	678.7	93,661.6	
Unit Cost ( Avg. End Cost)	984.5	1,731.4	1,478.4	1,761.4	1,709.1	1,727.5	1,770.2	1,815.2		1,099.8	
MISSION:											
DDG 51 will be able to operate offensively and defensively, independently or as units of Carrier Strike Groups and Surface Action Groups, in support of Marine Amphibious Task Forces in multitreat environments that include air, surface and subsurface threats. These ships will respond to Low Intensity Conflict/Coastal and Littoral Offshore Warfare (LIC/CALOW) scenarios as well as open ocean conflict providing or augmenting power projection and forward presence requirements, and escort operations at Sea. FY10 and follow ships will provide Ballistic Missile Defense capability.											
(1) Flight III/SPY-6 configuration on one FY16 ship and both FY17 ships will be executed via Engineering Change Proposals (ECP). The shipbuilder ECP effort is reflected in the Change Orders cost element, beginning with one FY16 ship. FY15 AP supports introduction of FLT III.											
(2) FY14 Cost to Complete (CTC) fully funds the FY13 option ship contract award. FY15-FY16 CTC reflects buybacks of reductions on FY10-12 ships as a result of FY13 Sequestration. FY18 CTC funds current Estimate at Completion for FY13 ships.											
Characteristics:											
Hull	FLIGHT IIA	Ordnance:	AEGIS WEAPON SYSTEM (SPY-1D(V))			Electronics:	AN/SQQ-89 (V)				
Length overall	509'	VLS MK 41/SM-2	VLS MK 41/SM-2			AN/SQ-32 various	AN/SQ-32 (V) 6				
Beam	59'	5"/62 MK 45 Gun	5"/62 MK 45 Gun			AN/USQ-82 (GEDMS)	AN/USQ-82 (GEDMS)				
Displacement	9217 TONS	Tomahawk	Tomahawk			EXCOMM	EXCOMM				
		CIWS	CIWS			MK12 IFF	MK12 IFF				
		MK 32 MOD 7 Torpedo Tubes	MK 32 MOD 7 Torpedo Tubes			SSEE	SSEE				
						MIDS	MIDS				
Production Status											
Contract Plans	FY10	FY11	FY11	FY12	FY13	FY13	FY13	FY14	FY15	FY15	FY16
Award Planned (Month)	DDG 113	DDG 114	DDG 115	DDG 116	DDG 117	DDG 118	DDG 120	DDG 119	DDG 121	DDG 122	DDG 123
Months to Complete	6/11	9/11	9/11	2/12	6/13	6/13	3/14	6/13	6/13	6/13	6/13
a) Award to Delivery	63	64	58	63	55	65	70	73	85	85	97
b) Construction Start to Delivery	49	40	53	51	40	47	48	39	37	44	37
Delivery Date	9/16	1/17	7/16	5/17	1/18	11/18	1/20	7/19	7/20	7/20	7/21
Completion of Fitting Out	1/17	5/17	11/16	9/17	5/18	2/19	6/20	11/19	11/20	11/20	11/21
OWLD	12/17	4/18	10/17	8/18	4/19	1/20	5/21	10/20	10/21	10/21	10/22
Production Status											
Contract Plans	FY16										
Award Planned (Month)	DDG 124										
Months to Complete	6/13										
a) Award to Delivery	97										
b) Construction Start to Delivery	46										
Delivery Date	7/21										
Completion of Fitting Out	11/21										
OWLD	10/22										

CLASSIFICATION: UNCLASSIFIED

APPROPRIATION: SHIPBUILDING AND CONVERSION, NAVY

P-5 EXHIBIT

FY 2016 President's Budget

February 2015

WEAPON SYSTEM COST ANALYSIS (EXHIBIT P-5)

(Dollars in Thousands)

BUDGET ACTIVITY: 2 Other Warships		P-1 LINE ITEM NOMENCLATURE DDG-51				BLI: 2122			
ELEMENT OF COST	FY 2010		FY 2011		FY 2012		FY 2013		
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	
PLAN COSTS	1	92,079	2	77,174	1	122,109	3	67,450	
BASIC CONST/CONVERSION		869,487		1,469,453		742,350		2,112,690	
CHANGE ORDERS		41,528		68,923		20,823		60,700	
ELECTRONICS		223,352		357,084		219,431		544,024	
HM&E		103,280		145,691		80,265		201,246	
OTHER COST		70,558		71,949		70,327		81,240	
ORDNANCE		733,268		916,153		629,228		1,202,489	
TOTAL SHIP ESTIMATE		2,133,552		3,106,427		1,884,533		4,269,839	
Less Advance Procurement FY07		126,097							
Less Advance Procurement FY09		198,628							
Less Advance Procurement FY10				577,210					
Less Advance Procurement FY11						47,719			
Less Advance Procurement FY12								92,454	
Less Cost to Complete FY14								100,000	
Less Cost to Complete FY15		65,771		63,373					
Less Cost to Complete FY16						75,014			
Less Cost to Complete FY18								46,084	
NET P-1 LINE ITEM:		1,743,056		2,465,844		1,761,800		4,031,301	

Note: Cost to Complete budgeted to buyback FY10-12 reductions due to FY13 Sequestration

Cost to Complete budgeted to fully fund FY13 option ship contract award and fund current Estimate at Completion for FY13 ships

CLASSIFICATION: UNCLASSIFIED

APPROPRIATION: SHIPBUILDING AND CONVERSION, NAVY

P-5 EXHIBIT

FY 2016 President's Budget

February 2015

WEAPON SYSTEM COST ANALYSIS (EXHIBIT P-5)  
(Dollars in Thousands)

BUDGET ACTIVITY: 2		P-1 LINE ITEM NOMENCLATURE				BLI: 2122	
Other Warships		DDG-51					
ELEMENT OF COST	FY 2014		FY 2015		FY 2016		
	QTY	COST	QTY	COST	QTY	COST	
PLAN COSTS	1	74,980	2	68,814	2	204,160	
BASIC CONST/CONVERSION		713,431		1,404,705		1,460,788	
CHANGE ORDERS		21,087		42,141		229,981	
ELECTRONICS		226,095		351,701		350,005	
HM&E		91,207		159,533		158,749	
OTHER COST		76,736		77,775		80,033	
ORDNANCE		527,866		852,077		1,039,021	
TOTAL SHIP ESTIMATE		1,731,402		2,956,746		3,522,737	
Less Advance Procurement FY13		115,838		224,850		108,345	
Less Advance Procurement FY14				69,989		130,650	
Less Advance Procurement FY15						134,039	
NET P-1 LINE ITEM:		1,615,564		2,661,907		3,149,703	

Note:

Plans: Flight III non-recurring Detail Design included in FY16

Change Orders: Flight III Engineering Change Proposal (ECP) and Flight III non-radar, non-recurring costs included in FY16

Ordnance: SPY-6 (AMDR) capability introduced on one FY16 ship

**SHIPBUILDING AND CONVERSION, NAVY**  
 Analysis of Ship Cost Estimate - Basic/Escalation  
 Ship Type: DDG 51

**FY 2016 President's Budget**  
 February 2015

I.	<u>Design/Schedule</u>	<u>Start/Issue</u>	<u>Complete</u> <u>/Response</u>	<u>Reissue</u>	<u>Complete</u> <u>/Response</u>			
	Issue date for TLR	6/83						
	Issue date for TLS							
	Preliminary Design	3/82	12/82					
	Contract Design	5/83	6/84					
	Detail Design							
	Request for Proposals							
	Design Agent	BIW						
II.	<u>Classification of Cost Estimate</u>	CLASS C BUDGET ESTIMATE						
III.	<u>Basic Construction/Conversion</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY2012</u>	<u>FY2013</u>	<u>FY2014</u>	<u>FY2015</u>	<u>FY2016</u>
	A. Actual Award Date	06/11	09/11	02/12	06/13 MULTIYEAR	06/13 MULTIYEAR	06/13 MULTIYEAR	06/13 MULTIYEAR
	B. Contract Type ( and Share Line if applicable )	ANNUAL /FPI	ANNUAL WITH OPTION/FPI	OPTION	PROCUREMENT/ FIXED PRICE INCENTIVE	PROCUREMENT/ FIXED PRICE INCENTIVE	PROCUREMENT/ FIXED PRICE INCENTIVE	PROCUREMENT/ FIXED PRICE INCENTIVE
	C. RFP Response Date	4/10	8/11	8/11	7/12	7/12	7/12	7/12
IV.	<u>Escalation</u>							
	Escalation Termination Date							
	Escalation Requirement	SHIPBUILDING CONTRACTS ARE FORWARD PRICED.						
	Labor/Material Split							
	Allowable Overhead Rate							
	BASE DATE							
V.	<u>Other Basic(Reserves/Miscellaneous)</u>	<u>Amount</u>						



CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
SHIP PRODUCTION SCHEDULE

EXHIBIT P-27  
FY 2016 President's Budget  
February 2015

SHIP TYPE	HULL NUMBER	SHIPBUILDER	FISCAL YEAR AUTHORIZED	CONTRACT AWARD	START OF CONSTRUCTION	DELIVERY DATE
DDG	113	HII	10	JUN-11	AUG-12	SEP-16
DDG	114	HII	11	SEP-11	SEP-13	JAN-17
DDG	115	BIW	11	SEP-11	FEB-12	JUL-16
DDG	116	BIW	12	FEB-12	FEB-13	MAY-17
DDG	117	HII	13	JUN-13	SEP-14	JAN-18
DDG	118	BIW	13	JUN-13	DEC-14	NOV-18
DDG	120	BIW	13	MAR-14	JAN-16	JAN-20
DDG	119	HII	14	JUN-13	APR-16	JUL-19
DDG	121	HII	15	JUN-13	JUN-17	JUL-20
DDG	122	BIW	15	JUN-13	NOV-16	JUL-20
DDG	123	HII	16	JUN-13	JUN-18	JUL-21
DDG	124	BIW	16	JUN-13	SEP-17	JUL-21
DDG	125	HII	17	JUN-13	JUN-19	JUL-22
DDG	126	BIW	17	JUN-13	JUL-18	JUL-22
DDG	127	TBD	18	JUN-18	JUL-19	JUL-23
DDG	128	TBD	18	JUN-18	JUL-19	JUL-23
DDG	129	TBD	19	JUN-18	JUL-20	JUL-24
DDG	130	TBD	19	JUN-18	JUL-20	JUL-24
DDG	131	TBD	20	JUN-18	JUL-21	JUL-25
DDG	132	TBD	20	JUN-18	JUL-21	JUL-25

CLASSIFICATION: UNCLASSIFIED

P-8A EXHIBIT

FY 2016 President's Budget

February 2015

**SHIPBUILDING AND CONVERSION, NAVY**

Analysis of Ship Cost Estimates - Major Equipment

(Dollars in Thousands)

Ship Type: DDG-51 AEGIS DESTROYERS

	FY 2014		FY 2015		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
<b>ELECTRONICS</b>						
a. P-35 Items						
SQQ 89 ASW	1	52,873	2	77,509	2	78,797
SLQ-32 EW/MK 53 NULKA	1	19,566	2	39,197	2	39,865
USQ 82 GEDMS	1	18,686	2	26,763	2	27,221
EXCOMM	1	52,579	2	95,163	2	96,887
Subtotal		143,704		238,632		242,770
b. Major Items						
NAVIGATION SYSTEM	1	5,588	2	7,457	2	7,584
MK-12 IFF	1	6,285	2	12,800	2	14,030
SLQ 25 NIXIE	1	1,509	2	3,072	2	3,133
SRQ 4 LAMPS III	1	4,073	2	8,247	2	8,387
SSEE	1	14,370	0	0	0	0
MIDS	1	3,460	2	6,418	2	6,527
CEC BLK II	1	6,390	2	11,260	2	10,647
Subtotal		41,675		49,254		50,308
c. Other ELECTRONICS						
MISC. ELECTRONICS	1	40,716	2	63,815	2	56,927
Subtotal		40,716		63,815		56,927
Total ELECTRONICS		226,095		351,701		350,005

Notes:

**MK-12 IFF** replacement for obsolete antenna introduced in FY16

**SSEE** descoped from FY15 and follow ships

CLASSIFICATION: UNCLASSIFIED

P-8A EXHIBIT  
FY 2016 President's Budget  
February 2015

**SHIPBUILDING AND CONVERSION, NAVY**  
Analysis of Ship Cost Estimates - Major Equipment  
(Dollars in Thousands)

Ship Type: DDG-51 AEGIS DESTROYERS

	FY 2014		FY 2015		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
<b>HM&amp;E</b>						
a. P-35 Items						
STC 3 IVCS	1	7,522	2	15,419	2	14,684
Main Reduction Gear	1	42,027	2	81,175	2	82,555
Subtotal		49,549		96,594		97,239
b. Major Items						
Machinery Control System	1	6,334	2	10,071	2	10,242
Integrated Bridge Navigation System	1	7,005	2	11,153	2	8,843
Subtotal		13,339		21,224		19,085
c. Other HM&E						
MISC. HM&E	1	28,319	2	41,715	2	42,425
Subtotal		28,319		41,715		42,425
Total HM&E		91,207		159,533		158,749

CLASSIFICATION: UNCLASSIFIED

P-8A EXHIBIT

FY 2016 President's Budget

February 2015

**SHIPBUILDING AND CONVERSION, NAVY**

Analysis of Ship Cost Estimates - Major Equipment

(Dollars in Thousands)

**Ship Type: DDG-51 AEGIS DESTROYERS**

	FY 2014		FY 2015		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
<b>ORDNANCE</b>						
a. P-35 Items						
AEGIS WEAPON SYSTEM (MK-7)/SPY 6 (AMDR)	1	252,562	2	441,659	2	627,000
VLS MK 41	1	72,994	2	109,225	2	102,966
MK 45 LWG	1	18,550	2	50,129	2	50,986
MK 37 TOMAHAWK	1	16,029	2	24,662	2	25,077
PHALANX (CIWS)	1	7,805	2	15,946	2	16,248
Subtotal		367,940		641,621		822,277
b. Major Items						
MK 32 SVTT	1	2,812	2	5,785	2	5,883
ELECTRO-OPTICAL SYSTEM	1	3,671	2	6,121	2	6,225
MK 160 GFCS	1	3,622	2	6,366	2	6,474
SPS 67 RADAR/SPQ-9B	1	9,655	2	18,081	2	20,959
Subtotal		19,760		36,353		39,541
c. Other ORDNANCE						
MISC. ORDNANCE	1	140,166	2	174,103	2	177,203
Subtotal		140,166		174,103		177,203
Total ORDNANCE		527,866		852,077		1,039,021

Notes:

**AWS/SPY-6 (AMDR):** SPY-6 introduced on one ship in FY16

**MK 45 LWG:** FY14 includes savings for one surplus gun asset which was originally procured for the CG Mod Program but is no longer required because of planned

CG 47 Class decommissionings.

**SPS 67/SPQ-9B:** Non-recurring funding in FY16 associated with integration of periscope detection.

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: DDG-51 AEGIS DESTROYERS  
Equipment Item: AN/SQQ-89(V)15 COMBAT SYSTEM  
PARM Code:

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

Detect, classify, localize and track submerged submarines under all environmental conditions at long range from ASW ships, using bottom reflected and convergence zone acoustic paths.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2014		FY 2015		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	34,566	2	44,961	2	45,693
Spares		483		956		972
System Engineering		4,403		8,023		8,160
Technical Engineering Services		2,641		4,660		4,740
Other Costs		10,780		18,909		19,232
Total		52,873		77,509		78,797

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY14	DDG 51	LOCKHEED MARTIN	FFP	JUL-14	OPTION	1	34,566
FY15	DDG 51	LOCKHEED MARTIN	FFP	JUL-15	OPTION	2	22,481
FY16	DDG 51	LOCKHEED MARTIN	FFP	JUL-16	OPTION	2	22,847

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY14	DDG 51	JUL-19	14	24	MAY-16
FY15	DDG 51	JUL-20	14	24	MAY-17
FY16	DDG 51	JUL-21	14	24	MAY-18

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

Competitive

NOTE:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: DDG-51 AEGIS DESTROYERS  
Equipment Item: SLQ-32(V)6 & MK 53 NULKA  
PARM Code:

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

SLQ-32(V)6 provides the DDG 51 Class Destroyers with the electronic warfare capability of automatically detecting, sorting, classifying, tracking, engaging and continually displaying emitter and platform densities. Included in the ship's electronic warfare suite is the MK 53 Decoy Launching System, which is an automated rapid response Decoy Deploying System for use in countering Anti-Ship Missiles (ASMs).

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2014		FY 2015		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	16,789	2	34,110	2	34,692
Spares		735		1,490		1,515
System Engineering		443		776		789
Technical Engineering Services		352		632		643
Other Costs		1,247		2,189		2,226
Total		19,566		39,197		39,865

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY14	DDG 51	LM/GD	FFP	JAN-15/AUG-15	OPTION	1	16,789
FY15	DDG 51	Competitive	FFP	JAN-17	OPTION	2	17,055
FY16	DDG 51	Competitive	FFP	JAN-18	OPTION	2	17,346

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY14	DDG 51	JUL-19	19	16	AUG-16
FY15	DDG 51	JUL-20	19	16	AUG-17
FY16	DDG 51	JUL-21	19	16	AUG-18

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

Sole Source/Competitive

NOTE:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: DDG-51 AEGIS DESTROYERS  
Equipment Item: AN/USQ 82(V) GEDMS  
PARM Code:

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

Gigabit Ethernet Data Multiplex System (GEDMS) is the mission critical ship-wide network that transfers data associated with Machinery, Steering, Navigation, Combat, Alarms & Indicating, and Damage Control Systems.

It is a general purpose modular data transfer system that provides high speed, reliable and survivable data from source systems to user systems automatically or on demand.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2014		FY 2015		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	7,282	2	14,322	2	14,560
Technical Data and Documentation		1,232		1,273		1,295
System Engineering		2,998		3,086		3,139
Technical Engineering Services		274		520		529
Other Costs		6,900		7,562		7,698
Total		18,686		26,763		27,221

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY14	DDG 51	COMPETITIVE	FFP	JAN-15	NEW	1	7,282
FY15	DDG 51	COMPETITIVE	FFP	JUL-15	OPTION	2	7,161
FY16	DDG 51	COMPETITIVE	FFP	DEC-16	NEW	2	7,280

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY14	DDG 51	JUL-19	25	18	DEC-15
FY15	DDG 51	JUL-20	25	18	DEC-16
FY16	DDG 51	JUL-21	25	18	DEC-17

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

Competitive

NOTE:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: DDG-51 AEGIS DESTROYERS  
Equipment Item: EXCOMM  
PARM Code:

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The Exterior Communication System (EXCOMM) provides voice, data, teletypewriter (TTY), continuous wave (CW), and other communication services on designated frequencies from VLF to UHF for tactical and record requirements. It includes all external radio communication devices aboard the ship.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2014		FY 2015		FY 2016	
	QTY	COST	QTY	COST	QTY	COST
Major Hardware	1	27,973	2	56,905	2	57,922
Technical Data and Documentation		128		227		231
Spares		299		524		534
System Engineering		4,999		5,917		6,029
Technical Engineering Services		1,726		3,452		3,518
Assembly & Integration		9,758		16,940		17,262
Other Costs		7,696		11,198		11,391
Total		52,579		95,163		96,887

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY14	DDG 51	VARIOUS	VAR	VAR	VAR	1	27,973
FY15	DDG 51	VARIOUS	VAR	VAR	VAR	2	28,453
FY16	DDG 51	VARIOUS	VAR	VAR	VAR	2	28,961

NOTE: There are numerous components and contracts resulting in various award dates.

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY14	DDG 51	JUL-19	15	9	JUL-17
FY15	DDG 51	JUL-20	15	9	JUL-18
FY16	DDG 51	JUL-21	15	9	JUL-19

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

Numerous contract arrangements (sole source/competitive)

NOTE:



CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
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Ship Type: DDG-51 AEGIS DESTROYERS  
Equipment Item: MAIN REDUCTION GEAR  
PARM Code:

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The contractor will engineer, manufacture, test and deliver a fully operational DDG 51 Main Reduction Gear (MRG). A DDG 51 Class MRG shipset consists of two gear assemblies. Each reduction gear combines the input of two LM2500 engines to convert the high speed, low torque of the engine to low speed, high torque output suitable to drive the propulsion shafting, and the related support systems and equipment.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2014		FY 2015		FY 2016	
	QTY	COST	QTY	COST	QTY	COST
Major Hardware	1	27,700	2	62,500	2	63,588
Spares		0		0		0
System Engineering		6,687		9,454		9,601
Technical Engineering Services		5,375		7,302		7,411
Other Costs		2,265		1,919		1,955
Total		42,027		81,175		82,555

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
YEAR	TYPE	CONTRACTOR	TYPE	DATE	/OPTION	QTY	UNIT COST*
FY14	DDG 51	PHILADELPHIA GEAR	FFP	MAR-14	OPTION	1	27,700
FY15	DDG 51	PHILADELPHIA GEAR	FFP	MAR-15	OPTION	2	31,250
FY16	DDG 51	COMPETITIVE	FFP	MAR-16	NEW	2	31,794

\* FY14-15 unit costs reflect option prices in the firm fixed price contract to Philadelphia Gear

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
YEAR	TYPE	DELIVERY DATE	BEFORE DELIVERY	LEADTIME	AWARD DATE
FY14	DDG 51	JUL-19	39	23	MAY-14
FY15	DDG 51	JUL-20	39	23	MAY-15
FY16	DDG 51	JUL-21	39	23	MAY-16

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

COMPETITIVE

NOTE:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: DDG-51 AEGIS DESTROYERS  
Equipment Item: AN/STC 3 (IVCS)  
PARM Code:

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

A solid state integrated voice communication system (IVCS) for application with the AEGIS combat system.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2014		FY 2015		FY 2016	
	QTY	COST	QTY	COST	QTY	COST
Major Hardware	1	5,030	2	10,277	2	9,448
Spares		247		503		512
System Engineering		857		1,746		1,776
Technical Engineering Services		220		444		452
Other Costs		1,168		2,449		2,496
Total		7,522		15,419		14,684

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY14	DDG 51	DRS	FFP	AUG-14	OPTION	1	5,030
FY15	DDG 51	COMPETITIVE	FFP	JUL-15	NEW	2	5,139
FY16	DDG 51	COMPETITIVE	FFP	JUL-16	OPTION	2	4,724

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY14	DDG 51	JUL-19	30	16	SEP-15
FY15	DDG 51	JUL-20	30	16	SEP-16
FY16	DDG 51	JUL-21	30	16	SEP-17

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

Competitive

**NOTE:**

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: DDG-51 AEGIS DESTROYERS  
Equipment Item: AEGIS WEAPON SYSTEM (MK-7)/SPY 6 (AMDR)  
PARM Code:

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

AEGIS is a fast reaction, high firepower, all weather weapon system incorporating a high degree of system availability and effectiveness. It consists of a multi-function phase/plane array radar, high powered illuminators, advanced missile guidance and fully digitized and integrated combat ship control for radar, weapons and command and decision. An Operational Readiness Test System performs continuous on-line assessment and fault detection.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2014		FY 2015		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST*</u>
Major Hardware	1	131,752	2	275,988	2	458,182
System Integration		39,004		69,862		71,189
Logistics Support		21,814		34,708		35,367
Technical Engineering Services		12,462		12,674		12,915
System Engineering		5,417		5,509		5,614
Other		42,113		42,918		43,733
Total		252,562		441,659		627,000

\* SPY-6 (AMDR) is introduced on one FY16 ship.

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY14	DDG 51	LM/ RTN/ GD	FFP/FPI	DEC/SEP/JUL-13	MYP	1	131,752
FY15	DDG 51	LM/ RTN/ GD	FFP/FPI	DEC/SEP/JUL-13	MYP	2	137,994
FY16	DDG 51	LM/ RTN/ GD/ RTN	FFP/FPI	DEC/SEP/JUL-13 & JAN 16	MYP/NEW	2	229,091

NOTE: FY13 is the first year of an MYP.

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY14	DDG 51	JUL-19	15	36	APR-15
FY15	DDG 51	JUL-20	15	36	APR-16
FY16	DDG 51	JUL-21	15	36	APR-17

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

Multiple contract arrangements (sole source/competitive)

**NOTE:**

Contract Data Notes:

AWS Antenna and Signal Processors - Contractor: Lockheed Martin

AWS Spy Transmitter and Fire Control System Transmitter - Contractor: Raytheon

AWS Director/Director Controller - General Dynamics

SPY-6 (AMDR) - Raytheon

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: DDG-51 AEGIS DESTROYERS  
Equipment Item: VLS MK 41  
PARM Code:

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The VLS is a Missile Launching System which provides Surface Combatants with a launcher to carry, prepare for launch and fire, Anti-Air Warfare, Strike/Surface Warfare, and Anti-Submarine Warfare weapons. The Flight IIA MK-41 VLS Launchers consist of twelve modules comprised of eight cells each.

**II. CURRENT FUNDING:**

**P-35 Category**

	<b>FY 2014</b>		<b>FY 2015</b>		<b>FY 2016</b>
	<b><u>QTY</u></b>	<b><u>COST</u></b>	<b><u>QTY</u></b>	<b><u>COST</u></b>	<b><u>COST</u></b>
Major Hardware	1	39,148	2	73,040	66,162
Ancillary Equip.		1,488		3,028	3,080
Tech Data/Doc		262		535	544
Technical Engineering Services		12,229		12,407	12,619
System Engineering		13,237		13,455	13,685
Other Costs		6,630		6,760	6,876
Total		72,994		109,225	102,966

**III. CONTRACT DATA:**

<b>PROGRAM</b>	<b>SHIP</b>	<b>PRIME</b>	<b>CONTRACT</b>	<b>AWARD</b>	<b>NEW</b>		<b>HARDWARE</b>
<b><u>YEAR</u></b>	<b><u>TYPE</u></b>	<b><u>CONTRACTOR</u></b>	<b><u>TYPE</u></b>	<b><u>DATE</u></b>	<b><u>/OPTION</u></b>	<b><u>QTY</u></b>	<b><u>UNIT COST</u></b>
FY14	DDG 51	Competitive	FFP	DEC-14/JAN-15	NEW (MYP)	1	39,148
FY15	DDG 51	Competitive	FFP	DEC-14/JAN-15	NEW (MYP)	2	36,520
FY16	DDG 51	Competitive	FFP	DEC-14/JAN-15	NEW (MYP)	2	33,081

NOTE: FY13 is the first year of an MYP.

**IV. DELIVERY DATE:**

<b>PROGRAM</b>	<b>SHIP</b>	<b>EARLIEST SHIP</b>	<b>MONTHS REQUIRED</b>	<b>PRODUCTION</b>	<b>REQUIRED</b>
<b><u>YEAR</u></b>	<b><u>TYPE</u></b>	<b><u>DELIVERY DATE</u></b>	<b><u>BEFORE DELIVERY</u></b>	<b><u>LEADTIME</u></b>	<b><u>AWARD DATE</u></b>
FY14	DDG 51	JUL-19	18	24	JAN-16
FY15	DDG 51	JUL-20	18	24	JAN-17
FY16	DDG 51	JUL-21	18	24	JAN-18

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

Competitive

**NOTE:**

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: DDG-51 AEGIS DESTROYERS  
Equipment Item: 5" 62 CALIBER MK 45 GUN  
PARM Code:

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The 5" 62 caliber MK 45 Mod 4 Gun is a digitized high energy system with the capability to automatically select, load and fire different types of 5"/62 caliber projectiles.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2014		FY 2015		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	10,214	2	37,110	2	37,745
Spares		156		318		323
System Engineering		2,770		4,484		4,561
Technical Engineering Services		1,487		2,408		2,449
Other Costs		3,923		5,809		5,908
Total		18,550		50,129		50,986

NOTE: FY14 includes savings for one surplus gun which was originally procured for the CG Mod Program but is no longer required because of planned CG 47 Class decommissionings.

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY14	DDG 51	BAE AD/MCNALLY	CPFF/IDIQ	APR-14		1	10,214
FY15	DDG 51	BAE AD/MCNALLY	CPFF/IDIQ	JAN-15		2	18,555
FY16	DDG 51	BAE AD/MCNALLY	CPFF/IDIQ	JAN-16		2	18,873

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY14	DDG 51	JUL-19	18	24	JAN-16
FY15	DDG 51	JUL-20	18	24	JAN-17
FY16	DDG 51	JUL-21	18	24	JAN-18

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

Sole Source

**NOTE:**

Contract Data notes:

Gun Mount contract: BAE Armament Division - Sole Source

Lower Hoist contract: McNally - Sole Source

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: DDG-51 AEGIS DESTROYERS  
Equipment Item: TOMAHAWK (TTWCS)  
PARM Code:

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The Tactical Tomahawk Weapon Control System (TTWCS) is an open system architecture of work stations, processors, printers, fiber optic Local Area Network (LAN) and the Navy Standard Mass Measurement storage device which provides target data management, engagement planning, weapon selection and initiation and launch functions for the TOMAHAWK cruise missile.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2014		FY 2015		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	1	4,689	2	8,476	2	8,621
Spares		677		1,378		1,402
System Engineering		3,418		4,289		4,362
Technical Engineering Services		3,124		4,073		4,143
Other Costs		4,121		6,446		6,549
Total		16,029		24,662		25,077

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY14	DDG 51	NSWC PT HUENEME	Navy Construction	APR-15	NEW	1	4,689
FY15	DDG 51	NSWC PT HUENEME	Navy Construction	APR-16	NEW	2	4,238
FY16	DDG 51	NSWC PT HUENEME	Navy Construction	APR-17	NEW	2	4,311

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY14	DDG 51	JUL-19	19	8	APR-17
FY15	DDG 51	JUL-20	19	8	APR-18
FY16	DDG 51	JUL-21	19	8	APR-19

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

Navy construction

NOTE:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: DDG-51 AEGIS DESTROYERS  
Equipment Item: PHALANX CIWS BLK 1B  
PARM Code:

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

A fast reaction terminal defense against both low-flying, high speed, anti-ship missiles and high speed maneuvering surface targets. The system is an automatic, self-contained unit consisting of search and track radar, digitalized fire control and a 20 mm M61A1 gun all mounted in a single above deck structure requiring a minimum of interference with other ship systems.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2014		FY 2015		FY 2016	
	QTY	COST	QTY	COST	QTY	COST
Major Hardware	1	5,799	2	11,804	2	12,028
System Engineering		395		802		817
Technical Engineering Services		706		1,434		1,461
Other Costs		905		1,906		1,942
Total		7,805		15,946		16,248

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
YEAR	TYPE	CONTRACTOR	TYPE	DATE	/OPTION	QTY	UNIT COST
FY14	DDG 51	RAYTHEON	FFP	MAY-14	OPTION	1	5,799
FY15	DDG 51	RAYTHEON	FFP	APR-15	NEW	2	5,902
FY16	DDG 51	RAYTHEON	FFP	APR-16	OPTION	2	6,014

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
YEAR	TYPE	DELIVERY DATE	BEFORE DELIVERY	LEADTIME	AWARD DATE
FY14	DDG 51	JUL-19	25	22	AUG-15
FY15	DDG 51	JUL-20	25	22	AUG-16
FY16	DDG 51	JUL-21	25	22	AUG-17

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

Sole Source

NOTE:

**INTENTIONALLY  
BLANK**



CLASSIFICATION: UNCLASSIFIED										
BUDGET ITEM JUSTIFICATION SHEET (P-40) FY 2016 President's Budget							DATE: February 2015			
APPROPRIATION/BUDGET ACTIVITY SHIPBUILDING AND CONVERSION, NAVY/BA 2 Other Warships					P-1 LINE ITEM NOMENCLATURE LITTORAL COMBAT SHIP (LCS) BLI: 2127 / SUBHEAD NO.					
(Dollars in Millions)	PRIOR YR	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TO COMP	TOTAL PROG
QUANTITY	14	4	3	3	3	3	2	3	15	50
End Cost	7,245.8	1,829.2	1,427.0	1,437.0	1,510.3	1,544.1	1,273.3	1,733.9	10,565.0	28,565.6
Less Advance Procurement	78.9	0.0	0.0	80.0	0.0	0.0	0.0	0.0	0.0	158.9
Less Cost to Complete	245.3	36.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	281.5
Full Funding TOA	6,921.6	1,793.0	1,427.0	1,357.0	1,510.3	1,544.1	1,273.3	1,733.9	10,565.0	28,125.2
Plus Advance Procurement	78.9	0.0	80.0	0.0	0.0	0.0	0.0	0.0	0.0	158.9
Plus Cost to Complete	0.0	0.0	77.0	82.7	85.6	36.2	0.0	0.0	0.0	281.5
Total Obligational Authority	7,000.5	1,793.0	1,584.0	1,439.7	1,595.9	1,580.3	1,273.3	1,733.9	10,565.0	28,565.6
Plus Outfitting / Plus Post Delivery	83.5	68.1	112.0	200.4	191.8	179.5	219.6	122.6	1,506.2	2,683.7
Total	7,084.0	1,861.1	1,696.0	1,640.1	1,787.7	1,759.8	1,492.9	1,856.5	12,071.2	31,249.3
Unit Cost ( Ave. End Cost)	517.6	457.3	475.7	479.0	503.4	514.7	636.7	578.0	704.3	571.3
MISSION: Provides for the design, construction, integration and testing of the Littoral Combat Ship (LCS), including Ordnance, Government Furnished Equipment (GFE), and includes Plans and Change Order costs and efforts associated with modified LCS starting in FY16. LCS is a fast, agile, and networked surface combatant with capabilities optimized to defeat asymmetric threats, and assure naval and joint force access into contested littoral regions. It uses open-systems-architecture design, modular weapons, and sensor systems, and a variety of manned and unmanned vehicles to expand the battle space and project offensive power into the littoral. LCS operates with focused-mission packages that deploy manned and unmanned vehicles to execute a variety of missions, including littoral anti-submarine warfare (ASW), surface warfare (SUW), and mine countermeasures (MCM). LCS also possesses inherent capabilities, regardless of mission package installed, including Intelligence Surveillance Reconnaissance (ISR), homeland defense, Maritime Interdiction/Interception Operations (MIO), anti-terrorism/force protection (AT/FP), air self-defense, joint littoral mobility, and Special Operating Forces (SOF) and logistic support for movement of personnel and supplies. This relatively small, high-speed surface combatant will complement the U.S. Navy's AEGIS fleet, by operating in environments where it is less desirable to employ larger, multi-mission ships. It can deploy independently to overseas littoral regions, remain on station for extended periods of time either with a battle group or through a forward-basing arrangement and is capable of underway replenishment. It will operate with Carrier Strike Groups, Surface Action Groups, in groups of other similar ships, or independently for diplomatic and presence missions. Additionally, it can operate cooperatively with the U.S. Coast Guard and Allies.										
FY15 Congressional add of \$80M will be used for long lead time material for FY16 ships										
Characteristics	LM	AUSTAL								
Overall Length:	115.3m	127.6m								
Max Beam:	17.5m	31.6m								
Displacement	3089 mt	2842 mt								
Production Status:	FY14	FY14	FY14	FY14	FY15	FY15	FY 15	FY 16	FY 16	FY 16
Contract Award Date	LCS 17	LCS 18	LCS 19	LCS 20	LCS 21	LCS 22	LCS 23	LCS 24	LCS 25	LCS 26
Months to Completion	3/14	3/14	03/14	03/14	03/15	03/15	03/15	03/16	03/16	03/16
a) Contract Award to Delivery	53 months	49 months	57 months	55 months	53 months	49 months	57 months	43 months	57 months	57 months
b) Construction Start to Delivery	38 months	38 months	38 months	38 months	41 months	38 months	39 months	39 months	46 months	45 months
Delivery Date	7/18	3/18	11/18	9/18	7/19	3/19	11/19	9/19	11/20	11/20
Completion of Fitting Out	9/18	5/18	1/19	11/18	9/19	5/19	1/20	11/19	1/21	1/21
Obligation Work Limiting Date	8/19	4/19	12/19	10/19	8/20	4/20	12/20	10/20	10/21	10/21

CLASSIFICATION: UNCLASSIFIED

APPROPRIATION: SHIPBUILDING AND CONVERSION, NAVY

P-5 EXHIBIT

FY 2016 President's Budget

February 2015

WEAPON SYSTEM COST ANALYSIS (EXHIBIT P-5)

(Dollars in Thousands)

BUDGET ACTIVITY: 2		P-1 LINE ITEM NOMENCLATURE				SUBHEAD NO. BLI: 2127			
Other Warships		LITTORAL COMBAT SHIP (LCS)							
ELEMENT OF COST	FY 2010		FY 2011		FY 2012		FY 2013		
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	
PLAN COSTS	2	22,773	2	86,488	4	74,504	4	81,025	
BASIC CONST/CONVERSION		969,541		811,229		1,539,580		1,504,112	
CHANGE ORDERS		34,212		31,085		60,991		64,438	
ELECTRONICS		25,977		27,245		55,417		56,350	
HM&E		5,908		6,806		13,843		14,078	
OTHER COST		2,016		166,942		76,927		67,038	
ORDNANCE		17,056		17,300		37,295		33,996	
TOTAL SHIP ESTIMATE		1,077,483		1,147,095		1,858,557		1,821,037	
LESS ADVANCE PROCUREMENT FY11						78,949			
LESS COST TO COMPLETE FY15		35,345		41,700					
LESS COST TO COMPLETE FY16						82,674			
LESS COST TO COMPLETE FY17						3,600		82,000	
NET P-1 LINE ITEM:		1,042,138		1,105,395		1,693,334		1,739,037	

CLASSIFICATION: UNCLASSIFIED

APPROPRIATION: SHIPBUILDING AND CONVERSION, NAVY

P-5 EXHIBIT

FY 2016 President's Budget

February 2015

WEAPON SYSTEM COST ANALYSIS (EXHIBIT P-5)

(Dollars in Thousands)

BUDGET ACTIVITY: 2		P-1 LINE ITEM NOMENCLATURE				SUBHEAD NO. BLI: 2127	
Other Warships		LITTORAL COMBAT SHIP (LCS)					
ELEMENT OF COST	FY 2014		FY 2015		FY 2016		
	QTY	COST	QTY	COST	QTY	COST	
PLAN COSTS	4	84,706	3	86,146	3	95,890	
BASIC CONST/CONVERSION		1,493,152		1,137,189		1,131,115	
CHANGE ORDERS		72,896		47,383		50,998	
ELECTRONICS		57,308		44,652		45,411	
HM&E		14,318		11,041		11,228	
OTHER COST		69,035		71,469		72,684	
ORDNANCE		37,759		29,169		29,665	
TOTAL SHIP ESTIMATE		1,829,174		1,427,049		1,436,991	
LESS COST TO COMPLETE FY18		36,160					
LESS ADVANCE PROCUREMENT FY15 *						80,000	
NET P-1 LINE ITEM:		1,793,014		1,427,049		1,356,991	

\* FY15 Congressional add of \$80M will be used for long lead time material for FY16 ships.

CLASSIFICATION: UNCLASSIFIED

**SHIPBUILDING AND CONVERSION, NAVY**  
 Analysis of Ship Cost Estimate - Basic/Escalation  
 Ship Type: LITTORAL COMBAT SHIP

**P-5B Exhibit**  
**FY 2016 President's Budget**  
 DATE:  
 February 2015

**I. Design/Schedule**

	<u>Start/Issue</u>	<u>Complete</u> <u>/Response</u>	<u>Reissue</u>	<u>Complete</u> <u>/Response</u>
Issue date for TLR	N/A	N/A	N/A	N/A
Issue date for TLS	N/A	N/A	N/A	N/A
Preliminary Design	07/03	12/03	N/A	N/A
Contract Design	05/04	12/04	N/A	N/A
Detail Design	DEC 04/OCT 05	JUN 07/OCT 07	N/A	N/A
Request for Proposals	N/A	01/10	N/A	N/A
Design Agent	LOCKHEED MARTIN - AUSTAL	LOCKHEED MARTIN - AUSTAL	N/A	N/A

**II. Classification of Cost Estimate**

CLASS C

**III. Basic Construction/Conversion**

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
A. Actual Award Date	12/10	03/11	03/12	03/13	03/14	03/15	03/16
B. Contract Type ( and Share Line if applicable )	FPI	FPI	FPI	FPI	FPI	FPI	FPI
C. SHARELINE	50/50	50/50	50/50	50/50	50/50	50/50	50/50

**IV. Escalation**

Escalation Termination Date  
 Escalation Requirement  
 Labor/Material Split  
 Allowable Overhead Rate

**V. Other Basic(Reserves/Miscellaneous)**

Amount

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
SHIP PRODUCTION SCHEDULE

EXHIBIT P-27

FY 2016 President's Budget

DATE:

February 2015

SHIP TYPE	HULL NUMBER	SHIPBUILDER	FISCAL YEAR AUTHORIZED	CONTRACT AWARD	START OF CONSTRUCTION	DELIVERY DATE
LCS	5	LOCKHEED MARTIN	10	DEC-10	AUG-11	JUL-15
LCS	6	AUSTAL	10	DEC-10	AUG-11	JUL-15
LCS	7	LOCKHEED MARTIN	11	MAR-11	APR-12	OCT-15
LCS	8	AUSTAL	11	MAR-11	JUL-12	NOV-15
LCS	9	LOCKHEED MARTIN	12	MAR-12	JAN-13	JUL-16
LCS	10	AUSTAL	12	MAR-12	MAR-13	MAY-16
LCS	11	LOCKHEED MARTIN	12	MAR-12	AUG-13	NOV-16
LCS	12	AUSTAL	12	MAR-12	SEP-13	SEP-16
LCS	13	LOCKHEED MARTIN	13	MAR-13	FEB-14	JUL-17
LCS	14	AUSTAL	13	MAR-13	FEB-14	MAR-17
LCS	15	LOCKHEED MARTIN	13	MAR-13	Dec-14	NOV-17
LCS	16	AUSTAL	13	MAR-13	DEC-14	SEP-17
LCS	17	LOCKHEED MARTIN	14	MAR-14	JUN-15	JUL-18
LCS	18	AUSTAL	14	MAR-14	FEB-15	MAR-18
LCS	19	LOCKHEED MARTIN	14	MAR-14	OCT-15	NOV-18
LCS	20	AUSTAL	14	MAR-14	AUG-15	SEP-18
LCS	21	LOCKHEED MARTIN	15	MAR-15	MAR-16	JUL-19
LCS	22	AUSTAL	15	MAR-15	FEB-16	MAR-19
LCS	23	TBD	15	MAR-15	SEP-16	NOV-19
LCS	24	TBD	16	MAR-16	AUG-16	SEP-19
LCS	25	TBD	16	MAR-16	MAR-17	NOV-20
LCS	26	TBD	16	MAR-16	AUG-17	NOV-20
LCS	27	TBD	17	MAR-17	FEB-18	MAY-21
LCS	28	TBD	17	MAR-17	MAR-18	MAY-21
LCS	29	TBD	17	MAR-17	AUG-18	NOV-21
LCS	30	TBD	18	MAR-18	FEB-19	MAY-22
LCS	31	TBD	18	MAR-18	MAR-19	MAY-22
LCS	32	TBD	18	MAR-18	AUG-19	NOV-22
LCS	33	TBD	19	MAR-19	FEB-20	MAY-23
LCS	34	TBD	19	MAR-19	MAR-20	MAY-23
LCS	35	TBD	20	MAR-20	FEB-21	NOV-23
LCS	36	TBD	20	MAR-20	MAR-21	MAY-24
LCS	37	TBD	20	MAR-20	AUG-21	MAY-24

CLASSIFICATION: UNCLASSIFIED

P-8A EXHIBIT

FY 2016 President's Budget

February 2015

**SHIPBUILDING AND CONVERSION, NAVY**

Analysis of Ship Cost Estimates - Major Equipment

(Dollars in Thousands)

Ship Type: LITTORAL COMBAT SHIP

**ELECTRONICS**

a. P-35 Items

AN/WSC-6E(V)9 SUPER HIGH FREQUENCY (SHF) DUAL TERMINAL/NAVY MULTIBAND TERMINAL(NMT)

Subtotal

b. Major Items

ELECTRONIC KEY MANAGEMENT SYSTEM (EKMS)/CRYPTO SYSTEM

COMMON DATA LINK MANAGEMENT SYSTEM (CDLMS)

AN/URC-141 (C) MIDS ON SHIP (MOS)

AN/USQ-172(V)5 GLOBAL COMMAND AND CONTROL SYSTEM - MARITIME (GCCS-M)

DS- LOGISTICS MAINTENANCE AUTOMATED INFO SYSTEM - BAR CODE SUPPLY (BCS) NAVY TACTICAL COMMAND SPT SYS (NTCSS)

MULTI-VEHICLE COMMUNICATION SYSTEM (MVCS)

AN/USQ-144J(V)2 AUTOMATED DIGITAL NETWORK SYSTEM (ADNS)

Subtotal

c. Other ELECTRONICS

OTHER ELECTRONICS

Subtotal

Total ELECTRONICS

FY 2014		FY 2015		FY 2016	
<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
4	15,397	3	11,894	3	12,096
	15,397		11,894		12,096
4	2,267	3	1,751	3	1,781
2	1,992	2	2,052	2	2,087
4	10,344	3	7,991	3	8,127
4	2,833	3	2,189	3	2,226
4	1,582	3	1,222	3	1,243
4	6,885	3	5,319	3	5,409
4	2,430	3	1,877	3	1,909
	28,333		22,401		22,782
4	13,578	3	10,357	3	10,533
	13,578		10,357		10,533
	57,308		44,652		45,411

CLASSIFICATION: UNCLASSIFIED

P-8A EXHIBIT

FY 2016 President's Budget

February 2015

**SHIPBUILDING AND CONVERSION, NAVY**

Analysis of Ship Cost Estimates - Major Equipment

(Dollars in Thousands)

Ship Type: LITTORAL COMBAT SHIP

	FY 2014		FY 2015		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
<b>ORDNANCE</b>						
a. P-35 Items						
RAM						
SEARAM	4	35,192	3	27,186	3	27,648
Subtotal		35,192		27,186		27,648
b. Major Items						
ORDNANCE HANDLING EQUIPMENT	4	1,634	3	1,262	3	1,284
SMALL ARMS, MACHINE GUNS	4	933	3	721	3	733
Subtotal		2,567		1,983		2,017
c. Other ORDNANCE						
Subtotal						
Total ORDNANCE		37,759		29,169		29,665

CLASSIFICATION: UNCLASSIFIED

P-8A EXHIBIT

FY 2016 President's Budget

February 2015

**SHIPBUILDING AND CONVERSION, NAVY**

Analysis of Ship Cost Estimates - Major Equipment

(Dollars in Thousands)

Ship Type: LITTORAL COMBAT SHIP

**HM&E**

a. P-35 Items

Subtotal

b. Major Items

JOINT BIOLOGICAL POINT DETECTION SYSTEM (JBPDs)

AN/SRC-59 SHIPWIDE INTERIOR WIRELESS COMMUNICATION SYSTEM (SIWCS)

TRASH DISPOSAL - SMALL PULPER

VISUAL LANDING AIDS (VLA)

Subtotal

c. Other HM&E

OTHER HM&E

Subtotal

Total HM&E

FY 2014		FY 2015		FY 2016	
<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
4	588	3	455	3	462
4	2,279	3	1,761	3	1,791
4	655	3	506	3	515
4	8,699	3	6,720	3	6,834
	12,221		9,442		9,602
4	2,097	3	1,599	3	1,626
	2,097		1,599		1,626
	14,318		11,041		11,228



CLASSIFICATION: UNCLASSIFIED

**SHIPBUILDING AND CONVERSION, NAVY**  
**MAJOR SHIP COMPONENT FACT SHEET**  
(Dollars in Thousands)

**P-35 EXHIBIT**  
**FY 2016 President's Budget**  
February 2015

**Ship Type:** LITTORAL COMBAT SHIP  
**Equipment Item:** AN/WSC-6E(V)9 SUPER HIGH FREQUENCY (SHF) DUAL TERMINAL/NAVY MULTIBAND TERMINAL(NMT)  
**PARM Code:** 3Z

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The AN/WSC-6E(V)9 Super High Frequency (SHF) / Navy Multiband Terminal (NMT) radio provides joint interoperable high capability voice, data, and video communications for combatants and Flag-capable ships. It provides the required global connectivity among Fleet units, joint forces, allied and NATO forces, and Naval C4I commands.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2014		FY 2015		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	4	13,865	3	10,476	3	10,654
Systems Engineering		185		189		192
Engr/ILS/Mgmt Spt		231		236		240
Technical Support Services		803		818		832
Spares		107		0		0
Program Management		206		175		178
Schedule B Services		0		0		0
Total		15,397		11,894		12,096

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY14	LCS 17/18/19/20	Raytheon	SS/FFP	MAR-14	NEW	4	3,466
FY15	LCS 21/22/23	Raytheon	SS/FFP	DEC-14	OPTION	3	3,492
FY16	LCS 24/25/26	TBD	SS/FFP	MAR-16	NEW	3	3,551

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY14	LCS 17/18/19/20	MAR-18	21	14	APR-15
FY15	LCS 21/22/23	MAR-19	21	14	APR-16
FY16	LCS 24/25/26	DEC-19	21	14	OCT-16

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

**NOTE:**

LCS program transitions to Navy Multiband Terminal (NMT) beginning on FY 2014 Ships.

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: LITTORAL COMBAT SHIP  
Equipment Item: SEARAM  
PARM Code: 3P

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

SeaRAM is an Anti-Ship Missile Defense System and is an evolved Close-In Weapon System (CIWS) comprised of key attributes of both the existing Phalanx CIWS and the RAM . SeaRAM is designed to extend the battle space of the CIWS and enable the ship to effectively engage multiple targets.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2014		FY 2015		FY 2016	
	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>	<u>QTY</u>	<u>COST</u>
Major Hardware	4	29,972	3	23,059	3	23,451
Software		181		143		145
System Engineering		1,283		1,013		1,030
Test & Evaluation		1,090		863		878
Technical Data and Documentation		174		138		140
Technical Engineering Services		1,824		1,442		1,467
Program Management		668		528		537
Total		35,192		27,186		27,648

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY14	LCS 17/18/19/20	RAYTHEON	SS/FFP	May-14	OPTION	4	7,493
FY15	LCS 21/22/23	RAYTHEON	SS/FFP	APR-15	NEW	3	7,686
FY16	LCS 24/25/26	RAYTHEON	SS/FFP	DEC-15	OPTION	3	7,817

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY14	LCS 17/18/19/20	MAR-18	13	22	APR-15
FY15	LCS 21/22/23	MAR-19	13	22	APR-16
FY16	LCS 24/25/26	SEP-19	13	22	OCT-16

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

**NOTE:**

LCS program transitions to SeaRAM beginning on FY 2014 Ships for both variants.

CLASSIFICATION: UNCLASSIFIED											
BUDGET ITEM JUSTIFICATION SHEET (P-40)										DATE:	
FY 2016 President's Budget										February 2015	
APPROPRIATION/BUDGET ACTIVITY						P-1 LINE ITEM NOMENCLATURE					
SHIPBUILDING AND CONVERSION, NAVY/BA 3 Amphibious Ships						LPD-17 BLI: 3036					
(Dollars in Millions)	PRIOR YR	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TO COMP	TOTAL PROG	
QUANTITY	11	0		1	0	0	0	0	0	12	
End Cost	17,758.3	0.0	0.0	1,793.0	0.0	0.0	0.0	0.0	0.0	19,551.3	
Less Advance Procurement	1,393.0	0.0	0.0	243.0	0.0	0.0	0.0	0.0	0.0	1,636.0	
Less Cost to Complete	2,050.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2,050.8	
Less Transfer/Supplemental	279.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	279.0	
Less Hurricane Supplemental	1,623.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,623.3	
Less Subsequent Year FF	869.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	869.4	
Less Prior Year FF	0.0	0.0	0.0	1,000.0	0.0	0.0	0.0	0.0	0.0	1,000.0	
Less Program Closeout/Support	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Plus Program Closeout/Support	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Plus Subsequent Year FF	869.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	869.4	
Plus Prior Year FF	0.0	0.0	1,000.0	0.0	0.0	0.0	0.0	0.0	0.0	1,000.0	
Full Funding TOA	12,412.1	0.0	1,000.0	550.0	0.0	0.0	0.0	0.0	0.0	13,962.1	
Plus Advance Procurement	1,636.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,636.0	
Plus Cost to Complete	1,890.1	0.0	54.1	61.6	45.1	0.0	0.0	0.0	0.0	2,050.8	
Plus Transfer/Supplemental	279.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	279.0	
Plus Hurricane Supplemental	1,623.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,623.3	
Total Obligational Authority	17,840.5	0.0	1,054.1	611.6	45.1	0.0	0.0	0.0	0.0	19,551.3	
Plus Outfitting / Plus Post Delivery	788.6	58.5	20.1	56.4	65.5	30.4	0.0	0.0	0.0	1,019.4	
Plus Hurricane Supplemental (OF & PD)	28.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.4	
Total	18,657.5	58.5	1,074.2	668.0	110.6	30.4	0.0	0.0	0.0	20,599.1	
Unit Cost ( Ave. End Cost)	1,614.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1,629.3	
MISSION:											
Functional replacement for LKA 113, LPD 4, LSD 36, and LST 1179 classes of Amphibious Ships in 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 primary amphibious warfare missions.											
CHARACTERISTICS:											
Hull			FY16 LPD			FY16 LPD					
Length overall			ORDNANCE			ELECTRONICS					
Beam			RAM			Mission Systems					
Displacement			AN/SPS-48G			C4ISR					
Draft			SPQ-9B			SSDS					
			MK 46 Gun			CEC					
			50 Cal Machine			MK 12 AIMS IFF					
						AN/SLQ-32					
						AN/WSN-6					
PRODUCTION STATUS:											
FY 2016											
LPD 28											
Contract Award			9/16								
Months to Completion											
a) Award to Delivery			67 months								
b) Const. Start to Delivery			56 months								
Delivery Date			4/22								
Completion of Fitting Out			11/22								
Obligation Work Limiting Date			10/23								

**CLASSIFICATION: UNCLASSIFIED**

APPROPRIATION: SHIPBUILDING AND CONVERSION, NAVY

P-5 EXHIBIT

**FY 2016 President's Budget**

February 2015

**WEAPON SYSTEM COST ANALYSIS (EXHIBIT P-5)**

(Dollars in Thousands)

<b>BUDGET ACTIVITY: 3</b>		<b>P-1 LINE ITEM NOMENCLATURE</b>				<b>BLI: 3036</b>	
<b>Amphibious Ships</b>		<b>LPD-17</b>					
<b>ELEMENT OF COST</b>	<b>FY 2009</b>		<b>FY 2012</b>		<b>FY 2016</b>		
	<b>QTY</b>	<b>COST</b>	<b>QTY</b>	<b>COST</b>	<b>QTY</b>	<b>COST</b>	
PLAN COSTS	1		1		1		
BASIC CONST/CONVERSION		1,652,227		1,618,673		1,418,143	
CHANGE ORDERS		22,274		36,721		44,079	
ELECTRONICS		193,841		281,680		253,176	
HM&E		20,236		62,241		19,405	
OTHER COST		5,000		9,020		10,000	
ORDNANCE		48,186		70,852		48,173	
PROGRAM CLOSEOUT/SUPPORT							
TOTAL SHIP ESTIMATE		1,941,764		2,079,187		1,792,976	
LESS ADVANCE PROCUREMENT FY08		49,651					
LESS ADVANCE PROCUREMENT FY10				183,986			
LESS ADVANCE PROCUREMENT FY13						242,976	
LESS SUBSEQUENT FULL FUNDING FY10		869,394					
LESS PRIOR YEAR FULL FUNDING FY15						1,000,000	
LESS COST TO COMPLETE FY15		54,096					
LESS COST TO COMPLETE FY16		22,860		38,733			
LESS COST TO COMPLETE FY17				45,060			
NET P-1 LINE ITEM		945,763		1,811,408		550,000	

CLASSIFICATION: UNCLASSIFIED

**SHIPBUILDING AND CONVERSION, NAVY**  
Analysis of Ship Cost Estimate - Basic/Escalation  
Ship Type: LPD 17

P-5B Exhibit  
FY 2016 President's Budget  
February 2015

<b>I. <u>Design/Schedule</u></b>	<b><u>Start/Issue</u></b>	<b><u>Complete /Response</u></b>	<b><u>Reissue</u></b>	<b><u>Complete /Response</u></b>
Issue date for TLR		SEP 1988		
Issue date for TLS				
Preliminary Design	JAN 1993	NOV 1993		
Contract Design	DEC 1993	MAR 1996		
Detail Design	DEC 1996	JUL 2002		
Request for Proposals				
Design Agent				
<b>II. <u>Classification of Cost Estimate</u></b>	CLASS C			
<b>III. <u>Basic Construction/Conversion</u></b>	<b><u>FY 09 (001)</u></b>	<b><u>FY 12 (001)</u></b>	<b><u>FY 15 (001)</u></b>	
A. Actual Award Date	APR 2011	JUL 2012	SEP 2016	
B. Contract Type ( and Share Line if applicable )	FPIF	FPIF	FPIF	
C. RFP Response Date	MAR 2010	AUG 2010	MAR 2016	
<b>IV. <u>Escalation</u></b>				
Escalation Termination Date				
Escalation Requirement				
Labor/Material Split				
Allowable Overhead Rate				
BASE DATE	FORWARD PRICED	FORWARD PRICED	FORWARD PRICED	
<b>V. <u>Other Basic(Reserves/Miscellaneous)</u></b>	<b><u>Amount</u></b>			

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
SHIP PRODUCTION SCHEDULE

EXHIBIT P-27  
FY 2016 President's Budget  
February 2015

SHIP TYPE	HULL NUMBER	SHIPBUILDER	FISCAL YEAR AUTHORIZED	CONTRACT AWARD	START OF CONSTRUCTION	DELIVERY DATE
LPD	26	HUNTINGTON INGALLS INDUSTRIES	09	APR-11	MAY-11	MAY-16
LPD	27	HUNTINGTON INGALLS INDUSTRIES	12	JUL-12	AUG-12	JUL-17
LPD	28	HUNTINGTON INGALLS INDUSTRIES	16	SEP-16	AUG-17	APR-22

CLASSIFICATION: UNCLASSIFIED

P-8A EXHIBIT  
FY 2016 President's Budget  
February 2015

SHIPBUILDING AND CONVERSION, NAVY  
Analysis of Ship Cost Estimates - Major Equipment  
(Dollars in Thousands)

Ship Type: LPD 17

ELECTRONICS

a. P-35 Items

	FY 2016 QTY	COST
Mission Systems (Raytheon)	1	64,774
C4ISR	1	63,287
SSDS MARK 2	1	11,248
CEC	1	6,210
MK 12 AIMS IFF	1	8,458
AN/SLQ-32(V)2 (REFURB)	1	6,209
AN/WSN-7(RLGN)	1	3,019
BFTT	1	3,074

Subtotal 166,279

b. Major Items

NULKA	2,080
AADS	2,188
NIXIE	1,191
RADIAC	123
AN/SPQ-14 (ASDS)	851
DCAMS	180
DHYSL	284

Subtotal 6,897

c. Other ELECTRONICS

MISCELLANIOUS ELECTRONICS	76,687
IWS CSI	3,313

Subtotal 80,000

Total ELECTRONICS 253,176

CLASSIFICATION: UNCLASSIFIED

P-8A EXHIBIT  
FY 2016 President's Budget  
February 2015

**SHIPBUILDING AND CONVERSION, NAVY**  
Analysis of Ship Cost Estimates - Major Equipment  
(Dollars in Thousands)

Ship Type: LPD 17

**FY 2016**  
**QTY    COST**

**HM&E**

a. P-35 Items

Subtotal

b. Major Items

BOATS

1       514

CCTV, SITE 400

1       501

CIRCUIT 27

1       1133

TRUCK, FORKLIFT

1       1,596

CHEMICAL WARFARE DETECTOR

1       103

MILITARY PAYROLL SYSTEM

1       549

INTEGRATED CONDITION ASSESSMENT SYSTEM (ICAS)

1       208

OILY WATER SEPARATOR

1       196

PLASTIC WASTE PROCESSING EQP

1       349

Subtotal

5,149

c. Other HM&E

MISCELLANEOUS HM&E

14,256

Subtotal

14,256

Total HM&E

19,405



CLASSIFICATION: UNCLASSIFIED

P-8A EXHIBIT  
FY 2016 President's Budget  
February 2015

**SHIPBUILDING AND CONVERSION, NAVY**  
Analysis of Ship Cost Estimates - Major Equipment  
(Dollars in Thousands)

Ship Type: LPD 17

	FY 2016	
	<u>QTY</u>	<u>COST</u>
<b>ORDNANCE</b>		
a. P-35 Items		
RAM (REFURB)	1	13,626
MK 46 GUN	1	7,018
AN/SPS-48 (REFURB)	1	13,628
SPQ-9B	1	<u>8,100</u>
Subtotal		42,372
b. Major Items		
50 CAL MACHINE GUN	1	21
SGSI/HOSS/MWS Fit Control & Inst Land Sys	1	2,422
MK46 GUN BARRELS	2	931
ORDNANCE HANDLING EQUIPMENT	1	<u>427</u>
Subtotal		3,801
c. Other ORDNANCE		
MISCELLANEOUS ORDNANCE		<u>2000</u>
Subtotal		2000
Total ORDNANCE		48,173

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: LPD 17  
Equipment Item: Mission Systems  
PARM Code: PMS317

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

Mission Systems is a microcomputer-based integration of shipboard control electronics; Engineering Control System (ECS), Magnetic Signature Control System (MSCS), Ship Control System (SCS), Navigation Data Distribution System (NDDS), Shipboard Wide Area Network (SWAN), Interior Voice Network (IVN), and various distributed Sensors. These mission systems and associated integration were performed within the shipbuilding contract on LPDs 17 through 25. Mission systems and integration was provided to the shipbuilder by the government for LPD 26 & 27.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2015	
	<u>QTY</u>	<u>COST</u>
Major Hardware	1	62,947
Spares		
Ancillary Equipment		
Documentation and Systems Engineering		
Software		
Technical Engineering		
Other Appropriate Costs		1,827
Turnkey		
Total		64,774

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY16	LPD 28	TBD	TBD	TBD	TBD	1	62,947

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY22	LPD 28	APR-22	Various	Various	Various

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

NOTE:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: LPD 17  
Equipment Item: C4ISR  
PARM Code:

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

To prove the link between the ship, the command hierarchy, and other units of the operating forces.

**II. CURRENT FUNDING:**

P-35 Category	FY 2015	
	<u>QTY</u>	<u>COST</u>
Major Hardware	1	34,068
Spares		356
Ancillary Equipment		60
Documentation and Systems Engineering		93
Technical Engineering		5,996
Other Appropriate Costs		6,589
Turnkey		16,125
Total		63,287

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY16	LPD 28	TBD	TBD	TBD	TBD	1	34,068

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY22	LPD 28	APR-22	Various	Various	Various

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

NOTE:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: LPD 17  
Equipment Item: SSDS MARK 2  
PARM Code:

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

Ship Self Defense System Mark 2 is microcomputer-based, self-defense coordination system that integrates and automates multiple sensors, self defense weapons, and softkill systems to provide quick reaction combat capability against anti-ship cruise missile threats.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2015	
	<u>QTY</u>	<u>COST</u>
Major Hardware	1	8,417
Systems Engineering		292
Software		0
Technical Data and Documentation		51
Technical Engineering		298
Spares		122
Other Appropriate Costs		2,068
Total		11,248

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY16	LPD 28	TBD	TBD	TBD	TBD	1	8,417

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY22	LPD 28	APR-22	17	13	OCT-19

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

NOTE:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: LPD 17  
Equipment Item: COOPERATIVE ENGAGEMENT CAPABILITY  
PARM Code:

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

Cooperative Engagement Capability (CEC) coordinates all anti-warfare sensors into single, real time, fire control quality composite track which improves battle force air defense.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2015	
	<u>QTY</u>	<u>COST</u>
Major Hardware	1	5,772
Systems Engineering		111
Software		0
Technical Engineering		259
Other Appropriate Costs		68
Total		6,210

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY16	LPD 28	TBD	TBD	TBD	TBD	1	5,772

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY22	LPD 28	APR-22	24	18	OCT-18

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

NOTE:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: LPD 17  
Equipment Item: MK 12 AIMS IFF  
PARM Code:

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The Transponder Set is an Automatic Identification and Monitoring System (AIMS) Identification Friend or Foe (IFF) system that receives interrogation signals from air, surface, and land IFF - equipped units and automatically replies with a coded response signal that provides ownship position and identification.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2015	
	<u>QTY</u>	<u>COST</u>
Major Hardware	1	6,181
Systems Engineering		923
Technical Data and Documentation		4
Technical Engineering		596
Spares		73
Other Appropriate Costs		681
Total		8,458

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY16	LPD 28	TBD	TBD	VARIOUS	NEW	1	6,181

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY22	LPD 28	APR-22	6	30	APR-19

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

NOTE:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: LPD 17  
Equipment Item: AN/SLQ-32(V)2 (REFURB)  
PARM Code:

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The AN/SLQ-32(V)2 is a passive electronics countermeasure system.

**II. CURRENT FUNDING:**

P-35 Category

	FY 2015	
	<u>QTY</u>	<u>COST</u>
Major Hardware	1	5,516
Software		0
Ancillary Equipment		0
Systems Engineering		6
Technical Data and Documentation		1
Technical Engineering		57
Spares		142
Other Appropriate Costs		486
Total		6,209

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY16	LPD 28	TBD	TBD	TBD	TBD	1	5,516

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY22	LPD 28	APR-22	24	24	APR-18

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

NOTE:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: LPD 17  
Equipment Item: AN/WSN-7 RING LASER GYRO NAVIGATION  
PARM Code:

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The AN/WSN-7(V) 1 Ring Laser Gyro Navigation System provides real-time navigation data for use by navigation and combat systems.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2015	
	<u>QTY</u>	<u>COST</u>
Major Hardware	1	2,429
Systems Engineering		18
Technical Data and Documentation		14
Technical Engineering		300
Spares		0
Other Appropriate Costs		258
Total		3,019

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY16	LPD 28	TBD	TBD	TBD	TBD	1	2,429

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY22	LPD 28	APR-22	24	18	OCT-18

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

NOTE:



CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: LPD 17  
Equipment Item: BATTLE FORCE TACTICAL TRAINER  
PARM Code:

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The AN/USQ-146(V) Battle Force Tactical Trainer (BFTT) System provides standardized combat system team proficiency training for the Surface Fleet in accordance with the Afloat Training Strategy. BFTT provides integrated training capability for the primary combat system elements onboard LPD 17 Class ships.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2015	
	<u>QTY</u>	<u>COST</u>
Major Hardware	1	1,781
Systems Engineering		0
Software		109
Technical Data and Documentation		30
Technical Engineering		415
Spares		120
Other Appropriate Costs		619
Total		3,074

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY16	LPD 28	TBD	TBD	TBD	TBD	1	1,781

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY22	LPD 28	APR-22	18	7	MAR-20

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

NOTE:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: LPD 17  
Equipment Item: ROLLING AIRFRAME MISSILE SYSTEM (REFURB)  
PARM Code:

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The Rolling Airframe Missile (RAM) system is a short-range, fast-reaction, high-firepower, lightweight weapon designed to destroy incoming anti-ship cruise missiles.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2015	
	<u>QTY</u>	<u>COST</u>
Major Hardware	2	12,453
Systems Engineering		296
Software		0
Technical Data and Documentation		164
Technical Engineering		71
Spares		141
Other Appropriate Costs		503
Total		13,628

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY 16	LPD 28	TBD	TBD	TBD	OPTION	2	6,227

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY 22	LPD 28	APR-22	22	24	JUN-18

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

NOTE:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: LPD 17  
Equipment Item: MK 46 GUN  
PARM Code:

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The MK 46 Gun is a remotely operated naval gun system using a high velocity cannon and second-generation thermal day-night sight for close-in ship's protection.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2015	
	<u>QTY</u>	<u>COST</u>
Major Hardware	2	6,873
Systems Engineering		
Technical Data and Documentation		
Technical Engineering		145
Spares		
Other Appropriate Costs		
Total		7,018

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY 16	LPD 28	TBD	TBD	TBD	TBD	2	3,437

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY 22	LPD 28	APR-22	24	18	OCT-18

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

NOTE:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: LPD 17  
Equipment Item: AN/SPS-48G (REFURB)  
PARM Code:

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The AN/SPS-48G is a long-range, three dimensional, air-search radar system that provides contact range, bearing, and height information.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2015	
	<u>QTY</u>	<u>COST</u>
Major Hardware	1	12,329
Systems Engineering		114
Software		0
Technical Data and Documentation		7
Technical Engineering		182
Spares		608
Other Appropriate Costs		388
Total		13,627

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY 16	LPD 28	TBD	TBD	TBD	TBD	1	12,329

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY 22	LPD 28	APR-22	18	27	JUL-18

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

NOTE:

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT

FY 2016 President's Budget  
February 2015

Ship Type: LPD 17  
Equipment Item: SPQ-9B  
PARM Code:

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The AN/SPQ-9B is a high resolution, X-band, narrow beam radar that provides both air and surface tracking information.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2015	
	<u>QTY</u>	<u>COST</u>
Major Hardware	1	7,416
Systems Engineering		35
Software		0
Technical Data and Documentation		14
Technical Engineering		209
Spares		127
Other Appropriate Costs		299
Total		8,100

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
FY 16	LPD 28	TBD	TBD	TBD	TBD	1	7,416

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
FY 22	LPD 28	APR-22	24	24	APR-18

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

NOTE:

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<b>BUDGET ITEM JUSTIFICATION SHEET (P-40)</b>						DATE:				
<b>FY 2016 President's Budget Cycle</b>						February 2015				
APPROPRIATION/BUDGET ACTIVITY <b>SHIPBUILDING AND CONVERSION, NAVY/BA 3 Amphibious Ships</b>					P-1 LINE ITEM NOMENCLATURE <b>AFLOAT FORWARD STAGING BASE (AFSB)</b> <b>BLI: 3039</b>					
(Dollars in Millions)	PRIOR YR	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TO COMP	TOTAL PROG
QUANTITY	3	1	0	0	1	0	0	0	0	5
End Cost	1,561.2	579.3	0.0	0.0	661.3	0.0	0.0	0.0	0.0	2,801.8
Less Advance Procurement	179.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	179.7
Less Subsequent Year FF	162.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	162.9
Plus Subsequent Year FF	140.3	22.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	162.9
Full Funding TOA	1,358.9	601.9	0.0	0.0	661.3	0.0	0.0	0.0	0.0	2,622.1
Plus Advance Procurement	179.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	179.7
Total Obligational Authority	1,538.6	601.9	0.0	0.0	661.3	0.0	0.0	0.0	0.0	2,801.8
Plus Outfitting / Plus Post Delivery	38.2	33.3	17.3	15.5	25.5	10.5	9.6	11.3	12.1	173.3
Total	1,576.8	635.2	17.3	15.5	686.8	10.5	9.6	11.3	12.1	2,975.1
Unit Cost ( Ave. End Cost)	520.4	579.3	0.0	0.0	661.3	0.0	0.0	0.0	0.0	560.4
<b>MISSION:</b> The MLP AFSB variant will serve as a dedicated Naval Afloat Forward Staging Base, optimized to support naval assets in a variety of missions rather than independently modifying ships-of-opportunity as required to meet these roles. The MLP AFSB variant retains sealift capabilities inherent to the MLP Class through cargo transportation and distribution, but provides enhanced aviation, berthing, small boat handling, and command and control capabilities to meet a broader mission set. The MLP AFSB variant provides the Combatant Commanders flexibility to respond to immediate threats and host task organized forces, including Airborne Mine Countermeasures and Special Forces to confront irregular challenges and counter-terrorism. This includes enhanced logistics and UNREP capability (receive only) and C4I capability to support future missions.  <b>Note:</b> 1) The amounts in the Prior Year column represent the NDSF MPF,F MLP BLI 0401 Procurement Costs for MLP 1, MLP 2, and MLP 3 AFSB. 2) The Outfitting and Post Delivery amounts in the Prior Year and FY 2014 through FY 2016 columns represent NDSF BLI 5000 for MLP 1, MLP 2, and MLP 3 AFSB.										
Characteristics:		Armament :		Major Electronics:						
		N/A		C4ISR						
Hull	Nominal Requirements									
Length overall	255.0m									
Beam	50.0m									
Displacement	28879 metric tons									
Draft	9.1m									
Production Status	FY12 MLP 3 AFSB	FY14 MLP 4 AFSB								
Contract Award Date	2/12	12/14								
Months to Completion										
a) Construction Award to Delivery	43 months	39 months								
b) Construction Start to Delivery	31 months	28 months								
Delivery Date	9/15	3 /18								
Completion of Fitting Out	12/15	6/18								

CLASSIFICATION: UNCLASSIFIED

APPROPRIATION: SHIPBUILDING AND CONVERSION, NAVY

P-5 EXHIBIT

FY2016 President's Budget Cycle

February 2015

WEAPON SYSTEM COST ANALYSIS (EXHIBIT P-5)

(Dollars in Thousands)

BUDGET ACTIVITY: 3		P-1 LINE ITEM NOMENCLATURE		BLI: 3039	
Amphibious Ships		AFLOAT FORWARD STAGING BASE (AFSB)			
ELEMENT OF COST	FY 2012		FY 2014		
	QTY	COST	QTY	COST	
PLAN COSTS	1	14,000	1		
BASIC CONST/CONVERSION		543,931		534,717	
CHANGE ORDERS		4,000		5,000	
ELECTRONICS		24,000		24,000	
HM&E		18,166		12,583	
OTHER COST		4,834		3,000	
TOTAL SHIP ESTIMATE		608,931		579,300	
LESS ADVANCE PROCUREMENT FY11		60,000			
LESS SUBSEQUENT FUNDING FY14		22,617			
LESS SUBSEQUENT FUNDING FY13		140,314			
NET P-1 LINE ITEM:		386,000		579,300	

NOTE: FY12 (MLP 3 AFSB) Funded in NDSF.



CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
Analysis of Ship Cost Estimate - Basic/Escalation

P-5B Exhibit

FY2016 President's Budget Cycle

February 2015

Ship Type:

<b>I. <u>Design/Schedule</u></b>	<b><u>Start/Issue</u></b>	<b><u>Complete</u> <u>/Response</u></b>	<b><u>Reissue</u></b>	<b><u>Complete</u> <u>/Response</u></b>
Issue date for TLR				
Issue date for TLS				
Preliminary Design	SEP 2009	DEC 2009		
Contract Design	DEC 2009	AUG 2010		
Detail Design	AUG 2010	NOV 2011		
Request for Proposals				
Design Agent				
<b>II. <u>Classification of Cost Estimate</u></b>	BUDGET QUALITY CLASS			
<b>III. <u>Basic Construction/Conversion</u></b>	FY12, MLP 3 AFSB	FY14, MLP 4 AFSB		
A. Actual Award Date	FEB 2012	DEC 2014		
	FPI, 20/80 BELOW TARGET: 50/50 ABOVE TARGET	FPI, 50/50 BELOW TARGET: 50/50 ABOVE TARGET		
B. Contract Type ( and Share Line if applicable )				
<b>IV. <u>Escalation</u></b>				
Escalation Termination Date				
Escalation Requirement				
Labor/Material Split				
Allowable Overhead Rate				
<b>V. <u>Other Basic(Reserves/Miscellaneous)</u></b>	<b><u>Amount</u></b>			

NOTE: MLP 3 AFSB Funded in NDSF.

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
SHIP PRODUCTION SCHEDULE

EXHIBIT P-27

FY2016 President's Budget Cycle

February 2015

SHIP TYPE	HULL NUMBER	SHIPBUILDER	FISCAL YEAR AUTHORIZED	CONTRACT AWARD	START OF CONSTRUCTION	DELIVERY DATE
MLP AFSB	3	NASSCO	12	FEB-12	FEB-13	SEP-15
MLP AFSB	4	NASSCO	14	DEC-14	NOV-15	MAR-18
MLP AFSB	5	TBD	17	AUG-17	JUN-18	MAR-20

NOTE:

1) MLP 3 AFSB Funded in NDSF

2) MLP 5 AFSB Dates are estimated and provided based on planned execution.

SHIPBUILDING AND CONVERSION, NAVY  
Analysis of Ship Cost Estimates - Major Equipment  
(Dollars in Thousands)

Ship Type: MLP 4 AFSB

	FY 2014	
	<u>QTY</u>	<u>COST</u>
ELECTRONICS		
a. P-35 Items		
C4ISR	1	21,000
AVIATION ELECTRONICS	1	3,000
Subtotal		24,000
b. Major Items		
Subtotal		
c. Other ELECTRONICS		
Subtotal		
Total ELECTRONICS		24,000

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 President's Budget Cycle  
February 2015

Ship Type: MLP 4 AFSB  
Equipment Item: C4ISR  
PARM Code:

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

C4ISR items consist of equipment which is in a containerized environment for secure storage and operation of ship's C2 equipment (Next Generation Wideband Communications, SMIS, (classified and unclassified networks). Additional cryptographic equipment above the equipment provided with SMIS, Military radios to provide VHF, UHF Line of Site, and UHF SATCOM, Commercial Broadband Satellite Program (CBSP) for wideband SATCOM to provide voice and data communications to the shore. A Navy network consisting of a rack of electronic boxes that will provide NIPRNET, SIPRNET and CENTRIX plus additional hardware and software to support Military Detachment functions, laptops and printers to outfit several added spaces supporting embarked units: briefing room, tactical operations center, planning room, intel room, training center and communication room. The infrastructure to support installation of a HF radio.

**II. CURRENT FUNDING:**

P-35 Category

	FY 2014	
	<u>QTY</u>	<u>COST</u>
Major Hardware	1	12,390
Spares		1,470
System Engineering		4,410
Technical Engineering Services		840
Other Costs		1,890
Total		21,000

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
14	MLP 4 AFSB	TBD	FFP	JUL-15	OPTION	1	12,390

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
14	MLP 4 AFSB	MAR-18	20 Months	12 Months	JUL-15

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

**NOTE:**

- 1) C4ISR: Unit Cost is much higher for AFSB Variant MLP 4. The MLP Base Ship included a commercial command and control system for the Ship's crew. The MLP AFSB will include the MLP systems to support the Ship's crew, additional funds for an architecture for 4 MBps of SATCOM, NIPRNET, SIPRNET and CENTRIXS, as well as military VHF, UHF, and SHF SATCOM radios.
- 2) Contract Data and Delivery Date information are estimated and provided based on planned execution.

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY2016 President's Budget Cycle  
February 2015

Ship Type: MLP 4 AFSB  
Equipment Item: AVIATION ELECTRONICS  
PARM Code:

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

Consists of a Moriah wind measuring system to support helicopter operations, a Tactical Air Navigation System (TACAN) to provide a navigation beacon for aircraft, Stabilized Glide Slope Indicator and Visual Landing Aids.

**II. CURRENT FUNDING:**

P-35 Category	FY 2014	
	<u>QTY</u>	<u>COST</u>
Major Hardware	1	3,000
Total		3,000

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
14	MLP 4 AFSB	TBD	FFP	JUL-15	OPTION	1	3,000

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
14	MLP 4 AFSB	MAR-18	18 Months	14 Months	JUL-15

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

**NOTE:**

- 1) AVIATION ELECTRONICS: Aviation navigation and landing system electronics.
- 2) Contract Data and Delivery Date information are estimated and provided based on planned execution.

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CLASSIFICATION: UNCLASSIFIED																																																																										
BUDGET ITEM JUSTIFICATION SHEET (P-40)								DATE:																																																																		
PB 2016 Navy								February 2015																																																																		
APPROPRIATION/BUDGET ACTIVITY					P-1 LINE ITEM NOMENCLATURE																																																																					
SHIPBUILDING AND CONVERSION, NAVY/BA 3 Amphibious Ships					LHA REPLACEMENT																																																																					
					BLI: 3041 / SUBHEAD NO.																																																																					
(Dollars in Millions)	PRIOR YR	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TO COMP	TOTAL PROG																																																																
QUANTITY	2	0	0	0	1	0	0	0	0	3																																																																
End Cost	6,416.9	0.0	0.0	0.0	3,917.7	0.0	0.0	0.0	0.0	10,334.6																																																																
Less Advance Procurement	643.2	0.0	0.0	0.0	306.6	0.0	0.0	0.0	0.0	949.8																																																																
Less Cost To Complete	208.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	208.5																																																																
Less Hurricane Supplemental	202.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	202.0																																																																
Less Subsequent Year FF	3,294.5	0.0	0.0	0.0	2,085.2	0.0	0.0	0.0	0.0	5,379.7																																																																
Plus Subsequent Year FF	3,294.5	0.0	0.0	0.0	0.0	2,085.2	0.0	0.0	0.0	5,379.7																																																																
Full Funding TOA	5,363.2	0.0	0.0	0.0	1,525.8	2,085.2	0.0	0.0	0.0	8,974.2																																																																
Plus Advance Procurement	643.2	0.0	29.1	277.5	0.0	0.0	0.0	0.0	0.0	949.8																																																																
Plus Hurricane Supplemental	202.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	202.0																																																																
Plus Cost To Complete	170.8	37.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	208.5																																																																
Total Obligational Authority	6,379.2	37.7	29.1	277.5	1,525.8	2,085.2	0.0	0.0	0.0	10,334.6																																																																
Plus Outfitting / Plus Post Delivery	34.0	29.1	32.0	15.1	17.2	14.4	40.1	17.5	0.0	199.4																																																																
Total	6,413.2	66.8	61.1	292.6	1,543.0	2,099.6	40.1	17.5	0.0	10,534.0																																																																
Unit Cost ( Ave. End Cost)	3,208.5	0.0	0.0	0.0	3,917.7	0.0	0.0	0.0	0.0	3,444.9																																																																
<p>MISSION:</p> <p>Provide functional replacement for the LHA 1 Class ships which are reaching the end of their extended service lives. Ensure that the Amphibious Fleet remains capable of Expeditionary Warfare well into the 21st Century and provide for an affordable and sustainable amphibious ship development program. Provide forward presence and power projection as an integral part of joint, interagency, and multinational maritime expeditionary forces. Operate for sustained periods in transit to and operations in an Amphibious Objective Area to include the embarkation, deployment, and landing of a Marine Landing Force and supporting forces by helicopters and tilt rotors supported by Joint Strike Fighters F-35B.</p>																																																																										
<table border="0"> <tr> <td>Characteristics</td> <td></td> <td>Armament:</td> <td>Electronics:</td> </tr> <tr> <td>Hull</td> <td>LHA 7</td> <td>Rolling Airframe Missile (RAM)</td> <td>C4ISR</td> </tr> <tr> <td>Length overall</td> <td>844'</td> <td>AN/SPS-49A(V)1</td> <td>BFTT</td> </tr> <tr> <td>Beam</td> <td>106'</td> <td>AN/SPS-48</td> <td>CEC</td> </tr> <tr> <td>Displacement</td> <td>45,594T</td> <td>CIWS MK 15 MOD 22</td> <td>SSDS MK II 4B</td> </tr> <tr> <td>Draft</td> <td>29'1</td> <td>NATO Sea Sparrow Missile</td> <td>AN/SLQ-32/SEWIP Block 1/2</td> </tr> <tr> <td></td> <td></td> <td>AN/SPQ-9B</td> <td>IVN</td> </tr> <tr> <td></td> <td>FY11</td> <td>VSTOL</td> <td>MK-12 IFF</td> </tr> <tr> <td>PRODUCTION STATUS</td> <td>LHA 7</td> <td></td> <td>AN/SRC-55 HYDRA</td> </tr> <tr> <td>Contract Award Date</td> <td>05/12</td> <td></td> <td>AN/TPX-42 ATC</td> </tr> <tr> <td>Months to Completion</td> <td></td> <td></td> <td>AN/SPN-35C</td> </tr> <tr> <td>a) Contract Award to Delivery</td> <td>73 months</td> <td></td> <td>AN/WSN-7 RLG</td> </tr> <tr> <td>b) Construction Start to Delivery</td> <td>60 months</td> <td></td> <td>CANES</td> </tr> <tr> <td>Delivery Date</td> <td>6/18</td> <td></td> <td></td> </tr> <tr> <td>Completion of Fitting Out</td> <td>01/19</td> <td></td> <td></td> </tr> <tr> <td>Obligation Work Limiting Date</td> <td>12/19</td> <td></td> <td></td> </tr> </table>											Characteristics		Armament:	Electronics:	Hull	LHA 7	Rolling Airframe Missile (RAM)	C4ISR	Length overall	844'	AN/SPS-49A(V)1	BFTT	Beam	106'	AN/SPS-48	CEC	Displacement	45,594T	CIWS MK 15 MOD 22	SSDS MK II 4B	Draft	29'1	NATO Sea Sparrow Missile	AN/SLQ-32/SEWIP Block 1/2			AN/SPQ-9B	IVN		FY11	VSTOL	MK-12 IFF	PRODUCTION STATUS	LHA 7		AN/SRC-55 HYDRA	Contract Award Date	05/12		AN/TPX-42 ATC	Months to Completion			AN/SPN-35C	a) Contract Award to Delivery	73 months		AN/WSN-7 RLG	b) Construction Start to Delivery	60 months		CANES	Delivery Date	6/18			Completion of Fitting Out	01/19			Obligation Work Limiting Date	12/19		
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CLASSIFICATION: UNCLASSIFIED

APPROPRIATION: SHIPBUILDING AND CONVERSION, NAVY

P-5 EXHIBIT

PB 2016 Navy

February 2015

WEAPON SYSTEM COST ANALYSIS (EXHIBIT P-5)

(Dollars in Thousands)

BUDGET ACTIVITY: 3

P-1 LINE ITEM NOMENCLATURE

SUBHEAD NO. BLI: 3041

Amphibious Ships

LHA REPLACEMENT

ELEMENT OF COST	FY 2011	
	QTY	COST
PLAN COSTS	1	60,084
BASIC CONST/CONVERSION		2,498,975
CHANGE ORDERS		121,628
ELECTRONICS		265,868
HM&E		51,013
OTHER COST		99,052
ORDNANCE		115,610
TOTAL SHIP ESTIMATE		3,212,230
LESS ADVANCE PROCUREMENT FY05		
LESS ADVANCE PROCUREMENT FY06		
LESS ADVANCE PROCUREMENT FY09		176,432
LESS ADVANCE PROCUREMENT FY10		169,476
LESS SUBSEQUENT FUNDING FY08		
LESS SUBSEQUENT FUNDING FY12		1,928,692
LESS COST TO COMPLETE FY09		
LESS COST TO COMPLETE FY13		
LESS COST TO COMPLETE FY14		
LESS HURRICANE SUPPLEMENTAL FY06		
NET P-1 LINE ITEM:		937,630



CLASSIFICATION: UNCLASSIFIED

P-5B Exhibit  
PB 2016 Navy  
February 2015

**SHIPBUILDING AND CONVERSION, NAVY**  
Analysis of Ship Cost Estimate - Basic/Escalation  
Ship Type: LHA REPLACEMENT

<b><u>I. Design/Schedule</u></b>	<b><u>Start/Issue</u></b>	<b><u>Complete</u> <u>/Response</u></b>	<b><u>Reissue</u></b>	<b><u>Complete</u> <u>/Response</u></b>
Issue date for TLR				
Issue date for TLS				
Preliminary Design	MAY 2004	AUG 2005		
Contract Design	MAY 2004	AUG 2005		
Detail Design	FEB 2006	MAR 2010		
Request for Proposals				
Design Agent				
<b><u>II. Classification of Cost Estimate</u></b>	CLASS C			
<b><u>III. Basic Construction/Conversion</u></b>		<b><u>FY11</u></b>	<b><u>FY17</u></b>	
A. Actual Award Date		MAY 2012	JUN 2017 (projected)	
B. Contract Type ( and Share Line if applicable )		FPI (50/50 O/R)	FPI (tentative)	
C. RFP Response Date		APR 2011	JAN 2016	
		FORWARD	FORWARD	
		PRICED	PRICED	
<b><u>IV. Escalation</u></b>				
Escalation Termination Date				
Escalation Requirement				
Labor/Material Split				
Allowable Overhead Rate				
<b><u>V. Other Basic(Reserves/Miscellaneous)</u></b>	<b><u>Amount</u></b>			

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
SHIP PRODUCTION SCHEDULE

EXHIBIT P-27  
PB 2016 Navy  
February 2015

SHIP TYPE	HULL NUMBER	SHIPBUILDER	FISCAL YEAR AUTHORIZED	CONTRACT AWARD	START OF CONSTRUCTION	DELIVERY DATE
LHA (R)	07	HII	11	MAY-12	JUL-13	JUN-18
LHA (R)	08	TBD	17	JUN-17	NOV-18	JAN-24

<b>CLASSIFICATION:</b>			<b>UNCLASSIFIED</b>									
Exhibit P-10, Advance Procurement Requirements Analysis (Funding)									Date: <b>February 2015</b>			
Appropriation (Treasury)Code/CC/BA/BSA/Item Control Number <b>SHIPBUILDING AND CONVERSION, NAVY / 3 / Amphibious Ships / BLI 3041</b>							P-1 Line Item Nomenclature <b>LHA REPLACEMENT</b>					
Weapon System <b>LHA 8</b>			First System (BY1) Award Date and Completion Date <b>MAR 2016</b>						Interval Between Systems			
BLI	PLT	When Req'd	Prior Years	FY14	FY15	FY16	FY17	FY18	FY19	FY20	To Complete	Total
PLANS		MAR-16	0.0	0.0	29.1	99.7	0.0	0.0	0.0	0.0	0.0	128.8
BASIC			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Port Deck Edge Elevator Machinery	48	MAR-20	0.0	0.0	0.0	32.1	0.0	0.0	0.0	0.0	0.0	32.1
Steering Gear	46	JAN-20	0.0	0.0	0.0	4.7	0.0	0.0	0.0	0.0	0.0	4.7
S/S Diesel Generators	43	OCT-19	0.0	0.0	0.0	45.3	0.0	0.0	0.0	0.0	0.0	45.3
Main Reduction Gear	40	JUL-19	0.0	0.0	0.0	40.0	0.0	0.0	0.0	0.0	0.0	40.0
Oily Waste Ultrafiltration System	37	APR-19	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	2.4
A/C Chilled Water Plant	34	JAN-19	0.0	0.0	0.0	22.7	0.0	0.0	0.0	0.0	0.0	22.7
450/60Hz Switchboard	32	NOV-18	0.0	0.0	0.0	30.6	0.0	0.0	0.0	0.0	0.0	30.6
			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total AP</b>			0.0	0.0	29.1	277.5	0.0	0.0	0.0	0.0	0.0	306.6
<b>Description:</b> <div style="margin-left: 20px;"> <b>PLANS</b>      (\$128.8M) Funds required for non-recurring engineering.  <b>BASIC</b>      (\$177.8M) Procurement of Long Lead Time Contractor Furnished Equipment (CFE) to support in-yard need dates for ship production and completion of design integration efforts. </div>												

<b>CLASSIFICATION:</b>		<b>UNCLASSIFIED</b>				
Exhibit P-10, Advance Procurement Requirements Analysis						Date: <b>February 2015</b>
Appropriation (Treasury)Code/CC/BA/BSA/Item Control Number <b>SHIPBUILDING AND CONVERSION, NAVY / 3 / Amphibious Ships / BLI 3041</b>				Weapon System		P-1 Line Item Nomenclature <b>LHA REPLACEMENT</b>
(TOA \$ in Millions)				<b>FY16</b>		
	PLT	QPA	Unit Cost	Qty	Contract Forecast Date	Total Cost Request
PLANS					MAR-16	99.7
Port Deck Edge Elevator Machinery	48				MAR-16	32.1
Steering Gear	46				MAR-16	4.7
S/S Diesel Generators	43				MAR-16	45.3
Main Reduction Gear	40				MAR-16	40.0
Oily Waste Ultrafiltration System	37				MAR-16	2.4
A/C Chilled Water Plant	34				MAR-16	22.7
450/60Hz Switchboard	32				MAR-16	30.6

**Description:**

**PLANS**      Non-recurring engineering

**Port Deck Edge Elevator Machinery**      Long Lead Time Contractor Furnished Equipment (CFE) to support in-yard need dates for ship production.

**Steering Gear**      Long Lead Time Contractor Furnished Equipment (CFE) to support in-yard need dates for ship production.

**S/S Diesel Generators**      Long Lead Time Contractor Furnished Equipment (CFE) to support in-yard need dates for ship production.

**Main Reduction Gear**      Long Lead Time Contractor Furnished Equipment (CFE) to support in-yard need dates for ship production.

**Oily Waste Ultrafiltration System**      Long Lead Time Contractor Furnished Equipment (CFE) to support in-yard need dates for ship production.

**A/C Chilled Water Plant**      Long Lead Time Contractor Furnished Equipment (CFE) to support in-yard need dates for ship production.

**450/60Hz Switchboard**      Long Lead Time Contractor Furnished Equipment (CFE) to support in-yard need dates for ship production.

CLASSIFICATION: UNCLASSIFIED																																																										
<b>BUDGET ITEM JUSTIFICATION SHEET (P-40)</b>								DATE:																																																		
<b>FY 2016 President's Budget</b>								February 2015																																																		
APPROPRIATION/BUDGET ACTIVITY					P-1 LINE ITEM NOMENCLATURE																																																					
SHIPBUILDING AND CONVERSION, NAVY/BA 3 Amphibious Ships					JOINT HIGH SPEED VESSEL (JHSV)																																																					
					BLI: 3043 / SUBHEAD NO.																																																					
(Dollars in Millions)	PRIOR YR	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TO COMP	TOTAL PROG																																																
QUANTITY	6	0	1	0	0	0	0	0	0	7																																																
End Cost	1,146.4	0.0	200.0	0.0	0.0	0.0	0.0	0.0	0.0	1,346.4																																																
Less Cost to Complete	54.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.4																																																
Less Program Support	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7																																																
Less Program Support	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7																																																
Full Funding TOA	1,089.3	2.7	200.0	0.0	0.0	0.0	0.0	0.0	0.0	1,292.0																																																
Plus Cost to Complete	0.0	7.6	14.0	26.2	6.5	0.0	0.0	0.0	0.0	54.4																																																
Total Obligational Authority	1,089.3	10.3	214.0	26.2	6.5	0.0	0.0	0.0	0.0	1,346.4																																																
Plus Outfitting / Plus Post Delivery	15.6	12.0	27.0	19.3	16.3	8.7	6.3	0.0	0.0	105.2																																																
Total	1,104.9	22.4	241.0	45.6	22.8	8.7	6.3	0.0	0.0	1,451.6																																																
Unit Cost ( Ave. End Cost)	191.1	0.0	200.0	0.0	0.0	0.0	0.0	0.0	0.0	192.3																																																
<b>MISSION:</b> Future joint forces will be responsive, deployable, agile, versatile, lethal, survivable, and sustainable. The nation will need lift assets that can provide for assured access, decrease predictability and dwell time, and have the capacity to quickly deliver troops and equipment together in a manner that provides for unit integrity. Joint High Speed Vessel (JHSV) will provide combatant commanders high-speed intra-theater sealift with inherent cargo handling capability and the agility to achieve positional advantage over operational distances. Not limited to major ports, the JHSV will be able to operate in austere port environments.																																																										
<table style="width: 100%; border: none;"> <tr> <td style="width: 25%;">Characteristics</td> <td style="width: 25%;"></td> <td style="width: 25%;">Armament:</td> <td style="width: 25%;">Major Electronics:</td> </tr> <tr> <td>Hull</td> <td>Aluminum Catamaran</td> <td>N/A</td> <td>C4ISR</td> </tr> <tr> <td>Length overall</td> <td>103m (338 ft)</td> <td></td> <td></td> </tr> <tr> <td>Beam</td> <td>28.5m (93.5 ft)</td> <td></td> <td></td> </tr> <tr> <td>Displacement</td> <td>2359 LT</td> <td></td> <td></td> </tr> <tr> <td>Draft</td> <td>3.8M (12.5 ft)</td> <td></td> <td></td> </tr> </table>											Characteristics		Armament:	Major Electronics:	Hull	Aluminum Catamaran	N/A	C4ISR	Length overall	103m (338 ft)			Beam	28.5m (93.5 ft)			Displacement	2359 LT			Draft	3.8M (12.5 ft)																										
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Production Status	FY11	FY12	FY12	FY13	FY15																																																					
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CLASSIFICATION: UNCLASSIFIED

APPROPRIATION: SHIPBUILDING AND CONVERSION, NAVY

P-5 EXHIBIT

FY 2016 President's Budget

February 2015

WEAPON SYSTEM COST ANALYSIS (EXHIBIT P-5)

(Dollars in Thousands)

BUDGET ACTIVITY: 3		P-1 LINE ITEM NOMENCLATURE				SUBHEAD NO. BLI: 3043			
Amphibious Ships		JOINT HIGH SPEED VESSEL (JHSV)							
ELEMENT OF COST	FY 2011		FY 2012		FY 2013		FY 2015		
	QTY	COST	QTY	COST	QTY	COST	QTY	COST	
PLAN COSTS	1		2		1		1		
BASIC CONST/CONVERSION		160,364		337,553		174,147		174,450	
CHANGE ORDERS		3,973		8,477		3,945		3,580	
ELECTRONICS		12,271		23,953		12,190		13,105	
HM&E		3,676		7,993		2,253		4,408	
OTHER COST		3,862		8,753		2,956		4,457	
PROGRAM SUPPORT COST						2,732			
TOTAL SHIP ESTIMATE		184,146		386,729		198,223		200,000	
LESS PROGRAM SUPPORT COST FY14						2,732			
LESS COST TO COMPLETE FY15		9,340		2,620		2,040			
LESS COST TO COMPLETE FY16				22,597		3,638			
LESS COST TO COMPLETE FY17						6,545			
NET P-1 LINE ITEM:		174,806		361,512		183,268		200,000	

CLASSIFICATION: UNCLASSIFIED

**SHIPBUILDING AND CONVERSION, NAVY**  
Analysis of Ship Cost Estimate - Basic/Escalation  
Ship Type: JHSV

**P-5B Exhibit**  
FY 2016 President's Budget  
DATE:  
February 2015

<b>I. <u>Design/Schedule</u></b>	<b><u>Start/Issue</u></b>	<b><u>Complete</u></b>	<b><u>Reissue</u></b>	<b><u>Complete</u></b>	
		<b><u>/Response</u></b>		<b><u>/Response</u></b>	
Issue date for TLR					
Issue date for TLS					
Preliminary Design	JAN 2007			JUL 2008	
Contract Design	JAN 2007			JUL 2008	
Detail Design	NOV 2008			DEC 2009	
Request for Proposals					
Design Agent					
<b>II. <u>Classification of Cost Estimate</u></b>	CLASS C				
<b>III. <u>Basic Construction/Conversion</u></b>	FY11 JHSV 6	FY12 JHSV 8	FY12 JHSV 9	FY13 JHSV 10	FY15 JHSV 11
A. Actual Award Date	JUN 2011	FEB 2012	FEB 2012	DEC 2012	TBD
B. Contract Type ( and Share Line if applicable )	FPI (50/50)	FPI (50/50)	FPI (50/50)	FPI (50/50)	TBD
<b>IV. <u>Escalation</u></b>					
Escalation Termination Date					
Escalation Requirement	FWD PRICE	FWD PRICE	FWD PRICE	FWD PRICE	TBD
Labor/Material Split					
Allowable Overhead Rate					
<b>V. <u>Other Basic(Reserves/Miscellaneous)</u></b>	<b><u>Amount</u></b>				

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
SHIP PRODUCTION SCHEDULE

EXHIBIT P-27

FY 2016 President's Budget

DATE:

February 2015

SHIP TYPE	HULL NUMBER	SHIPBUILDER	FISCAL YEAR AUTHORIZED	CONTRACT AWARD	START OF CONSTRUCTION	DELIVERY DATE
JHSV	05	AUSTAL	2010	OCT-10	FEB-13	APR-15
JHSV	06	AUSTAL	2011	JUN-11	JAN-14	OCT-15
JHSV	07	AUSTAL	2011	JUN-11	SEP-14	APR-16
JHSV	08	AUSTAL	2012	FEB-12	MAR-15	NOV-16
JHSV	09	AUSTAL	2012	FEB-12	NOV-15	MAY-17
JHSV	10	AUSTAL	2013	DEC-12	MAY-16	DEC-17
JHSV	11	TBD	2015	TBD	TBD	TBD



CLASSIFICATION: UNCLASSIFIED

P-8A EXHIBIT

FY 2016 President's Budget

February 2015

**SHIPBUILDING AND CONVERSION, NAVY**

Analysis of Ship Cost Estimates - Major Equipment

(Dollars in Thousands)

**Ship Type: JOINT HIGH SPEED VESSEL**

**FY 2015**

**QTY**

**COST**

**ELECTRONICS**

a. P-35 Items

C4ISR

1

9,889

Subtotal

9,889

b. Major Items

VISUAL LANDING AIDE SUITE

1

2,539

MISC ELECTRONICS

677

Subtotal

3,216

c. Other ELECTRONICS

Subtotal

Total ELECTRONICS

13,105

CLASSIFICATION: UNCLASSIFIED

P-8A EXHIBIT

FY 2016 President's Budget

February 2015

**SHIPBUILDING AND CONVERSION, NAVY**

Analysis of Ship Cost Estimates - Major Equipment

(Dollars in Thousands)

**Ship Type: JOINT HIGH SPEED VESSEL**

**FY 2015**

**QTY**

**COST**

**HM&E**

a. P-35 Items

Subtotal

b. Major Items

ENGINEERING SERVICES

2,469

SUPSHIP MATERIAL SERVICES

736

LOGISTICS SUPPORT SERVICES

485

TEST AND INSTRUMENTATION

718

Subtotal

4,408

c. Other HM&E

Subtotal

Total HM&E

4,408

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: JOINT HIGH SPEED VESSEL  
Equipment Item: C4ISR  
PARM Code: 3Z (SPAWAR)

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) system provides the line between the ship, the command hierarchy and other units of the operation force. The C4ISR Suite consists of a Network Suite (ISNS, ADNS and CENTRIXS-M), CBSP, Fleet Broadcast, UHF SATCOM Antenna, UHF/VHF LOS Suite and UHF SATCOM Radios, TVS-TVT, IA and RCS.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2015	
	<u>QTY</u>	<u>COST</u>
Major Hardware	1	5,960
Spares		570
System Engineering		1,902
Technical Engineering Services		652
Other Costs		805
Total		9,889

**III. CONTRACT DATA:**

PROGRAM	SHIP	PRIME	CONTRACT	AWARD	NEW		HARDWARE
<u>YEAR</u>	<u>TYPE</u>	<u>CONTRACTOR</u>	<u>TYPE</u>	<u>DATE</u>	<u>/OPTION</u>	<u>QTY</u>	<u>UNIT COST</u>
15	JHSV 11	VARIOUS	VARIOUS	VAR	VARIOUS	1	5,960

**IV. DELIVERY DATE:**

PROGRAM	SHIP	EARLIEST SHIP	MONTHS REQUIRED	PRODUCTION	REQUIRED
<u>YEAR</u>	<u>TYPE</u>	<u>DELIVERY DATE</u>	<u>BEFORE DELIVERY</u>	<u>LEADTIME</u>	<u>AWARD DATE</u>
15	JHSV 11	TBD	VARIOUS	VARIOUS	

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

**NOTE:**

Multiple systems comprise the C4ISR with varying delivery dates and leadtimes.

**INTENTIONALLY  
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CLASSIFICATION: UNCLASSIFIED																													
<b>BUDGET ITEM JUSTIFICATION SHEET (P-40)</b>								DATE:																					
<b>FY 2016 President's Budget</b>								February 2015																					
APPROPRIATION/BUDGET ACTIVITY					P-1 LINE ITEM NOMENCLATURE																								
<b>SHIPBUILDING AND CONVERSION, NAVY/BA 5 Auxiliaries, Craft and Prior Year Program Costs</b>					<b>T-AO(X)</b>																								
					<b>BLI: 5025 / SUBHEAD NO.</b>																								
(Dollars in Millions)	PRIOR YR	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TO COMP	TOTAL PROG																			
QUANTITY	0	0	0	1	0	1	1	1	13	17																			
End Cost	0.0	0.0	0.0	674.2	0.0	576.8	579.2	590.6	8,617.0	11,037.8																			
Full Funding TOA	0.0	0.0	0.0	674.2	0.0	576.8	579.2	590.6	8,617.0	11,037.8																			
Total Obligational Authority	0.0	0.0	0.0	674.2	0.0	576.8	579.2	590.6	8,617.0	11,037.8																			
Plus Outfitting / Plus Post Delivery	0.0	0.0	0.0	0.0	0.0	0.0	6.3	15.2	541.5	563.0																			
Total	0.0	0.0	0.0	674.2	0.0	576.8	585.5	605.8	9,158.5	11,600.8																			
Unit Cost ( Ave. End Cost)	0.0	0.0	0.0	674.2	0.0	576.8	579.2	590.6	662.8	649.3																			
<p><b>MISSION:</b></p> <p>T-AO(X) fleet oiler is the recapitalization of the existing T-AO 187 fleet oiler class. The Navy's Combat Logistics Force (CLF) oilers supply fuel and dry cargo to navy ships at sea. The T-AO(X) will operate as a shuttle ship from resupply posts to customer ships. Additionally, in conjunction with a T-AKE, they will accompany and stay on-station with a Carrier Strike Group (CSG) to provide fuel as required to customer ships.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <b>Characteristics (NOTIONAL):</b>  Hull  Length Overall           216 M  Beam                       32 M  Lightship Displacement   19,736 MT  Draft                       10.52 M </td> <td style="width: 33%; vertical-align: top;"> <b>Armament:</b>  N/A </td> <td style="width: 33%; vertical-align: top;"> <b>Electronics (NOTIONAL):</b>  RCS (Radio Communication System) Turnkey  CANES  High Frequency Automatic Link Establishment (HF ALE)  Digital Modular Radio (DMR)  Commercial Broadband Satellite Program (CBSP) </td> </tr> </table> <table style="width: 100%; border: none;"> <tr> <td style="width: 20%;"><b>Production Status (NOTIONAL)</b></td> <td>FY16</td> </tr> <tr> <td><b>Contract Award Date</b></td> <td>T-AO(X) 1601</td> </tr> <tr> <td><b>Months to Completion</b></td> <td>06/16</td> </tr> <tr> <td><b>(a) Contract Award to Delivery</b></td> <td>50 months</td> </tr> <tr> <td><b>(b) Construction Start to Delivery</b></td> <td>26 months</td> </tr> <tr> <td><b>Delivery Date</b></td> <td>08/20</td> </tr> <tr> <td><b>Completion of Fitting Out</b></td> <td>10/20</td> </tr> <tr> <td><b>Obligation Work Limiting Date</b></td> <td>09/21</td> </tr> </table>											<b>Characteristics (NOTIONAL):</b> Hull Length Overall           216 M Beam                       32 M Lightship Displacement   19,736 MT Draft                       10.52 M	<b>Armament:</b> N/A	<b>Electronics (NOTIONAL):</b> RCS (Radio Communication System) Turnkey CANES High Frequency Automatic Link Establishment (HF ALE) Digital Modular Radio (DMR) Commercial Broadband Satellite Program (CBSP)	<b>Production Status (NOTIONAL)</b>	FY16	<b>Contract Award Date</b>	T-AO(X) 1601	<b>Months to Completion</b>	06/16	<b>(a) Contract Award to Delivery</b>	50 months	<b>(b) Construction Start to Delivery</b>	26 months	<b>Delivery Date</b>	08/20	<b>Completion of Fitting Out</b>	10/20	<b>Obligation Work Limiting Date</b>	09/21
<b>Characteristics (NOTIONAL):</b> Hull Length Overall           216 M Beam                       32 M Lightship Displacement   19,736 MT Draft                       10.52 M	<b>Armament:</b> N/A	<b>Electronics (NOTIONAL):</b> RCS (Radio Communication System) Turnkey CANES High Frequency Automatic Link Establishment (HF ALE) Digital Modular Radio (DMR) Commercial Broadband Satellite Program (CBSP)																											
<b>Production Status (NOTIONAL)</b>	FY16																												
<b>Contract Award Date</b>	T-AO(X) 1601																												
<b>Months to Completion</b>	06/16																												
<b>(a) Contract Award to Delivery</b>	50 months																												
<b>(b) Construction Start to Delivery</b>	26 months																												
<b>Delivery Date</b>	08/20																												
<b>Completion of Fitting Out</b>	10/20																												
<b>Obligation Work Limiting Date</b>	09/21																												

CLASSIFICATION: UNCLASSIFIED

APPROPRIATION: SHIPBUILDING AND CONVERSION, NAVY

P-5 EXHIBIT

FY 2016 President's Budget

February 2015

WEAPON SYSTEM COST ANALYSIS (EXHIBIT P-5)  
(Dollars in Thousands)

BUDGET ACTIVITY: 5

P-1 LINE ITEM NOMENCLATURE

SUBHEAD NO. BLI: 5025

Auxiliaries, Craft and Prior Year Program Costs

T-AO(X)

ELEMENT OF COST	FY 2016	
	QTY	COST
PLAN COSTS	1	94,000
BASIC CONST/CONVERSION		498,190
CHANGE ORDERS		23,000
ELECTRONICS		26,000
HM&E		30,000
OTHER COST		3,000
TOTAL SHIP ESTIMATE		674,190
NET P-1 LINE ITEM:		674,190

CLASSIFICATION: UNCLASSIFIED

P-5B Exhibit

SHIPBUILDING AND CONVERSION, NAVY

FY 2016 President's Budget

Analysis of Ship Cost Estimate - Basic/Escalation

DATE:

Ship Type: T-AO(X)

February 2015

<b>I. <u>Design/Schedule</u></b>	<b><u>Start/Issue</u></b>	<b><u>Complete</u> <u>/Response</u></b>	<b><u>Reissue</u></b>	<b><u>Complete</u> <u>/Response</u></b>
Issue date for TLR	N/A	N/A		
Issue date for TLS	N/A	N/A		
Preliminary Design	N/A	N/A		
Contract Design	N/A	N/A		
Detail Design	Jun-16	Jun-18		
Request for Proposals	Feb-15	Aug-15		
Design Agent				
<b>II. <u>Classification of Cost Estimate</u></b>				
<b>III. <u>Basic Construction/Conversion</u></b>				
A. Actual Award Date				
B. Contract Type ( and Share Line if applicable )				
<b>IV. <u>Escalation</u></b>				
Escalation Termination Date				
Escalation Requirement				
Labor/Material Split				
Allowable Overhead Rate				
<b>V. <u>Other Basic(Reserves/Miscellaneous)</u></b>	<b><u>Amount</u></b>			

SHIPBUILDING AND CONVERSION, NAVY  
SHIP PRODUCTION SCHEDULE

EXHIBIT P-27  
FY 2016 President's Budget  
DATE:  
February 2015

SHIP TYPE	HULL NUMBER	SHIPBUILDER	FISCAL YEAR AUTHORIZED	CONTRACT AWARD	START OF CONSTRUCTION	DELIVERY DATE
T-AO(X)	1601	TBD	16	JUN-16	JUN-18	AUG-20
T-AO(X)	1801	TBD	18	JAN-18	JUL-19	JUL-21
T-AO(X)	1901	TBD	19	JAN-19	JUL-20	JUL-22
T-AO(X)	2001	TBD	20	JAN-20	JUL-21	JUL-23



CLASSIFICATION: UNCLASSIFIED

P-8A EXHIBIT

FY 2016 President's Budget

February 2015

**SHIPBUILDING AND CONVERSION, NAVY**

Analysis of Ship Cost Estimates - Major Equipment

(Dollars in Thousands)

Ship Type:

FY 2016

QTY      COST

**ELECTRONICS**

a. P-35 Items

Radio Communication System (RCS) TURNKEY	1	8,278
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Subtotal		8,278
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b. Major Items

CANES	1	2,584
-------	---	-------

High Frequency Automatic Link Establishment (HF ALE)	1	1,050
--	---	-------

HEADQUARTERS COORDINATION	1	1,694
---------------------------	---	-------

Digital Modular Radio (DMR)	1	4,596
-----------------------------	---	-------

Commercial Broadband Satellite Program (CBSP)	1	1,971
---	---	-------

Subtotal		11,895
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c. Other ELECTRONICS

MINOR SYSTEMS	1	5,827
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Subtotal		5,827
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Total ELECTRONICS		26,000
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CLASSIFICATION: UNCLASSIFIED

P-8A EXHIBIT

FY 2016 President's Budget

February 2015

**SHIPBUILDING AND CONVERSION, NAVY**

Analysis of Ship Cost Estimates - Major Equipment

(Dollars in Thousands)

Ship Type:

FY 2016

QTY      COST

**HM&E**

a. P-35 Items

Subtotal

b. Major Items

ENGINEERING SERVICES

1      24,000

SUPSHIP MATERIAL SERVICES

1      4,000

LOGISTICS SUPPORT SERVICES

1      2,000

Subtotal

30,000

c. Other HM&E

Subtotal

Total HM&E

30,000

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
MAJOR SHIP COMPONENT FACT SHEET  
(Dollars in Thousands)

P-35 EXHIBIT  
FY 2016 President's Budget  
February 2015

Ship Type: T-AO(X)  
Equipment Item: Radio Communication System (RCS) TURNKEY  
PARM Code: SPAWAR

**I. DESCRIPTION/CHARACTERISTICS/PURPOSE:**

The Radio Communication System (RCS) consists of the subsystems that provide data and voice communications across the RF spectrum. The RCS will be comprised of subsystems provided from various sources, including SPAWAR Program of Record systems, commercial systems, and associated ancillary equipment that can be obtained through the stock system and bought commercially. These subsystems will be integrated into one system and will include the automated and manual patching equipment required to configure these subsystems. The subsystems included in the RCS include the High Frequency Automatic Link Establishment (HF ALE), Digital Modular Radio (DMR), Naval Modular Automated Communications System (NAVMACS), Battle Force Tactical Network (BFTN), Tactical Variant Switch (TVS), Tactical Voice Terminal (TVT), Automated Digital Networks System (ADNS), Commercial Broadband Satellite Program (CBSP), Fleet Broadcast, Navy Orderwire (NOW) Terminals, OE-570A/WSC-3, UHF SATCOM Antenna, Portable Communications Equipment (PCE) and Cryptologic equipment. The subsystems are integrated by SPAWAR Systems Center at the Charleston Test and Integration Facility with the proper interfaces to operate as an overall system. The RCS subsystems and interfaces will be tested prior to shipment for installation on board the T-AO(X) ships.

**II. CURRENT FUNDING:**

**P-35 Category**

	FY 2016	
	<u>QTY</u>	<u>COST</u>
Technical Engineering Services	1	3,535
Ship Installation		1,254
Program Management		3,489
Total		8,278

**III. CONTRACT DATA:**

PROGRAM <u>YEAR</u>	SHIP <u>TYPE</u>	PRIME <u>CONTRACTOR</u>	CONTRACT <u>TYPE</u>	AWARD <u>DATE</u>	NEW <u>/OPTION</u>	<u>QTY</u>	HARDWARE <u>UNIT COST</u>
16	T-AO(X) 1601	TBD	TBD	AUG-18	TBD	1	0

**IV. DELIVERY DATE:**

PROGRAM <u>YEAR</u>	SHIP <u>TYPE</u>	EARLIEST SHIP <u>DELIVERY DATE</u>	MONTHS REQUIRED <u>BEFORE DELIVERY</u>	PRODUCTION <u>LEADTIME</u>	REQUIRED <u>AWARD DATE</u>
16	T-AO(X) 1601	AUG-20	5	19	AUG-18

**V. COMPETITION/SECOND SOURCE INITIATIVES:**

N/A

NOTE:

**INTENTIONALLY  
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CLASSIFICATION: UNCLASSIFIED										
<b>BUDGET ITEM JUSTIFICATION SHEET (P-40)</b> <b>President's Budget 2016</b>								DATE: FEBRUARY 2015		
APPROPRIATION/BUDGET ACTIVITY <b>SHIPBUILDING AND CONVERSION, NAVY/BA 5 Auxiliaries, Craft and Prior Year Program Costs</b>					P-1 LINE ITEM NOMENCLATURE <b>AGOR OCEANOGRAPHIC CLASS</b> <b>BLI: 5087</b>					
(Dollars in Millions)	PRIOR YR	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TO COMP	TOTAL PROG
QUANTITY	3	0	0	0	0	0	0	0	0	3
End Cost	291.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	291.3
Full Funding TOA	291.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	291.3
Total Obligational Authority	291.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	291.3
Plus Outfitting / Plus Post Delivery	3.5	4.9	5.6	0.0	0.0	0.0	0.0	0.0	0.0	14.0
Total	294.8	4.9	5.6	0.0	0.0	0.0	0.0	0.0	0.0	305.3
Unit Cost ( Ave. End Cost)	97.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	97.1
MISSION: FY07 T-AGS 66 will be capable of deep ocean and coastal surveys, oceanographic sampling and data collections of surface, midwater and ocean floor parameters, shipboard oceanographic data processing and sample analysis, and operation of remotely operated vehicles (AUVs) and hydrographic survey launches (HSLs). FY11 and FY12 funds a new class of general purpose research vessels (R/V) designated AGOR Ocean. R/V Neil Armstrong (AGOR 27) and R/V Sally Ride (AGOR 28) are designed for integrated, interdisciplinary research that will support science, educational, and engineering operations in all oceans. The Ocean Class AGOR ships will be modern monohull research vessels capable of an integrated, interdisciplinary, general purpose oceanographic research in coastal and deep ocean areas. The vessel will support scientific research of various types including marine geology and geophysics, ocean engineering and marine acoustics, bathymetry, gravimetry, magnetometry, physical/biological/ chemical oceanography, and other multi-disciplinary environmental investigations. AGOR are Research Vessels built in support of the University-National Oceanographic Laboratory System (UNOLS) research consortium of US oceanographic institutions that date back to 1972.										
Characteristics:										
				Armament	Electronics					
HULL	T-AGS	AGOR		N/A	TBD					
Length overall	353 FT	238 FT								
Beam	58 FT	50 FT								
Displacement	4,888 LT	2,915 LT								
Draft	19 FT	15 FT								
	FY07	FY11		FY12						
PRODUCTION STATUS	T-AGS 66	AGOR 27		AGOR 28						
Contract Award Date	12/09	10/11		02/12						
Months to Complete										
a) Contract Award to Delivery	67 months	45 months		46 months						
b) Construction Start to Delivery	58 months	37 months		41 months						
Delivery Date	07/15	07/15		12/15						
Completion of Fitting-Out	10/15	10/15		03/16						
Obligation Work Limiting Date	09/16	09/16		02/17						

CLASSIFICATION: UNCLASSIFIED

P-5B Exhibit

SHIPBUILDING AND CONVERSION, NAVY  
Analysis of Ship Cost Estimate - Basic/Escalation

President's Budget 2016

FEBRUARY 2015

Ship Type: AGOR

<b>I. <u>Design/Schedule</u></b>	<b><u>Start/Issue</u></b>	<b><u>Complete</u></b>	<b><u>Reissue</u></b>	<b><u>Complete</u></b>
		<b><u>/Response</u></b>		<b><u>/Response</u></b>
Issue date for TLR	N/A	N/A		
Issue date for TLS	N/A	N/A		
Preliminary Design	JAN 2010	JAN 2011		
Contract Design	JAN 2011	MAR 2011		
Detail Design	N/A	N/A		
Request for Proposals	APR 2009	JUN 2009		
Design Agent	GUIDO PERLA ASSOCIATES	GUIDO PERLA ASSOCIATES		
	THE GLOSTEN ASSOCIATES	THE GLOSTEN ASSOCIATES		
	N/A			
<b>II. <u>Classification of Cost Estimate</u></b>				
<b>III. <u>Basic Construction/Conversion</u></b>	<b><u>AGOR 027</u></b>	<b><u>AGOR 028</u></b>		
A. Actual Award Date	OCT 11	FEB 12		
B. Contract Type ( and Share Line if applicable )	FFP	FFP		
C. RFP Response Date	MAR 2011	MAR 2011		
<b>IV. <u>Escalation</u></b>	<b><u>AGOR 027</u></b>	<b><u>AGOR 028</u></b>		
Escalation Termination Date	N/A	N/A		
Escalation Requirement	N/A	N/A		
Labor/Material Split	N/A	N/A		
Allowable Overhead Rate	N/A	N/A		
<b>V. <u>Other Basic(Reserves/Miscellaneous)</u></b>	<b><u>Amount</u></b>			

CLASSIFICATION: UNCLASSIFIED

APPROPRIATION: SHIPBUILDING AND CONVERSION, NAVY

P-5 EXHIBIT

President's Budget 2016

FEBRUARY 2015

WEAPON SYSTEM COST ANALYSIS (EXHIBIT P-5)

(Dollars in Thousands)

BUDGET ACTIVITY: 5		P-1 LINE ITEM NOMENCLATURE		BLI: 5087		
Auxiliaries, Craft and Prior Year Program Costs		AGOR OCEANOGRAPHIC CLASS				
ELEMENT OF COST	FY 2007		FY 2011		FY 2012	
	QTY	COST	QTY	COST	QTY	COST
PLAN COSTS	1	2,134	1		1	
BASIC CONST/CONVERSION		87,373		75,315		70,987
CHANGE ORDERS		2,900		2,856		1,640
ELECTRONICS		13,406		5,200		5,587
HM&E		8,665		2,336		7,900
OTHER COST		2,028		1,000		2,000
TOTAL SHIP ESTIMATE		116,506		86,707		88,113
NET P-1 LINE ITEM:		116,506		86,707		88,113

CLASSIFICATION: UNCLASSIFIED

**SHIPBUILDING AND CONVERSION, NAVY**  
SHIP PRODUCTION SCHEDULE

**EXHIBIT P-27**  
**President's Budget 2016**  
FEBRUARY 2015

SHIP TYPE	HULL NUMBER	SHIPBUILDER	FISCAL YEAR AUTHORIZED	CONTRACT AWARD	START OF CONSTRUCTION	DELIVERY DATE
T-AGS	066	VT HALTER	07	DEC-09	SEP-10	JUL-15
AGOR	027	DAKOTA CREEK INDUSTRIES, INC.	11	OCT-11	JUN-12	JUL-15
AGOR	028	DAKOTA CREEK INDUSTRIES, INC.	12	FEB-12	JUL-12	DEC-15



<b>CLASSIFICATION: UNCLASSIFIED</b>										
Exhibit P-40, Budget Item Justification Sheet /PB 2016 Navy						DATE: <b>February 2015</b>				
APPROPRIATION/BUDGET ACTIVITY <b>SHIPBUILDING AND CONVERSION, NAVY / BA 5 Auxiliaries, Craft and Prior Year Program Costs</b>						P-1 LINE ITEM NOMENCLATURE <b>MOORED TRAINING SHIP</b> <b>BLI: 5092</b>				
(Dollars in Millions)	PRIOR YR	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TO COMP	TOTAL PROG
QUANTITY	0	0	1	0	1	0	0	0	0	2
End Cost	0.0	0.0	1,322.1	0.0	868.7	0.0	0.0	0.0	0.0	2,190.8
Less Advance Procurement	0.0	0.0	584.8	0.0	239.8	0.0	0.0	0.0	0.0	824.6
Full Funding TOA	0.0	0.0	737.3	0.0	628.9	0.0	0.0	0.0	0.0	1,366.2
Plus Advance Procurement	414.7	207.3	64.4	138.2	0.0	0.0	0.0	0.0	0.0	824.6
Total Obligational Authority	414.7	207.3	801.7	138.2	628.9	0.0	0.0	0.0	0.0	2,190.8
Plus Outfitting/Plus Post Delivery	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	414.7	207.3	801.7	138.2	628.9	0.0	0.0	0.0	0.0	2,190.8
Unit Cost ( Ave. End Cost)	0.0	0.0	1,322.1	0.0	868.7	0.0	0.0	0.0	0.0	1,095.4
MISSION:										
The details of this program are classified CONFIDENTIAL and are reported annually to Congress in the classified budget justification books.										

<b>CLASSIFICATION:</b>		<b>UNCLASSIFIED</b>	
Exhibit P-5, Weapon Systems Cost Analysis / PB 2016 Navy		Date: <b>February 2015</b>	
APPROPRIATION/BUDGET ACTIVITY: <b>SHIPBUILDING AND CONVERSION, NAVY/ BA-5 Auxiliaries, Craft and Prior Year Program Costs</b>		<b>P-1 LINE ITEM NOMENCLATURE</b> <b>MOORED TRAINING SHIP</b> <b>BLI: 5092</b>	
<b>ELEMENT OF COST</b>		<b>FY 2015</b>	
(Dollars in Thousands)		<b>QTY</b>	<b>COST</b>
Total Ship Estimate		1	1322.1
Design			482.4
Plans/Conversion			387.7
GFE			30.6
Basic Construction			421.4
Less Advanced Procurement FY12			131.2
Less Advanced Procurement FY13			283.5
Less Advanced Procurement FY14			170.1
Less Advanced Procurement FY15			
Less Advanced Procurement FY16			
Net P-1 Line Item			737.3
The details of this program are classified CONFIDENTIAL and are reported annually to Congress in the classified budget justification books.			

<b>CLASSIFICATION</b>		<b>Unclassified</b>					
EXHIBIT P-27, Ship Production Schedule / PB 2016 Navy						DATE: <b>February 2015</b>	
Appropriation (Treasury) Code/CC/BA/BSA/Item Control Number <b>SHIPBUILDING AND CONVERSION, NAVY / BA 5 / Auxiliaries, Craft and Prior Year Program Costs / BLI 5092</b>						P-1 Line Item Nomenclature <b>Moored Training Ship</b>	
SHIP TYPE	HULL NUMBER	SHIPBUILDER/CONVERTER	FISCAL YEAR AUTHORIZED	CONTRACT AWARD	START OF CONSTRUCTION	DELIVERY DATE	
LOS ANGELES CLASS	MTS-701	EB/NNSY	FY-2015	FEB-15	FEB-15	OCT-17	
LOS ANGELES CLASS	MTS-711	EB/NNSY	FY-2017	JAN-17	JAN-17	SEP-19	
<b>Description:</b>  The details of this program are classified CONFIDENTIAL and are reported annually to Congress in the classified budget justification books.							

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<b>CLASSIFICATION:</b>			<b>UNCLASSIFIED</b>										
Exhibit P-10, Advance Procurement Requirements Analysis / PB 2016 Navy (Funding)									Date: <b>February 2015</b>				
Appropriation (Treasury)Code/CC/BA/BSA/Item Control Number <b>SHIPBUILDING AND CONVERSION, NAVY / BA 5 / Auxiliaries, Craft and Prior Year Program Costs / BLI 5092</b>						P-1 Line Item Nomenclature <b>Moored Training Ship</b>							
Weapon System <b>MTS-711</b>			First System (BY1) Award Date and Completion Date <b>December 2014- December 2016</b>						Interval Between Systems				
	BLI	PLT	When Req'd	Prior Years	FY14	FY15	FY16	FY17	FY18	FY18	FY19	TO COMP	Total
<b>DESIGN</b>					<b>0.0</b>	<b>0.2</b>	<b>10.6</b>						<b>10.8</b>
<b>PLANS</b>					<b>0.0</b>	<b>9.5</b>	<b>32.4</b>						<b>41.9</b>
<b>GFE</b>		Various	Various		<b>9.8</b>	<b>21.3</b>	<b>0.0</b>						<b>31.1</b>
<b>MODULE</b>					<b>27.4</b>	<b>33.4</b>	<b>95.2</b>						<b>156.0</b>
<b>Total Advanced Procurement</b>					<b>37.2</b>	<b>64.4</b>	<b>138.2</b>						<b>239.8</b>
The details of this program are classified CONFIDENTIAL and are reported annually to Congress in the classified budget justification books.													

CLASSIFICATION:			UNCLASSIFIED							
Exhibit P-10, Advance Procurement Requirements Analysis / PB 2016 Navy (Budget Justification)							Date: February 2015			
Appropriation (Treasury)Code/CC/BA/BSA/Item Control Number SHIPBUILDING AND CONVERSION, NAVY/BA 5 / Auxiliaries, Craft and Prior Year Program Costs / BLI 5092					Weapon System MTS-711		P-1 Line Item Nomenclature Moored Training Ship			
(TOA \$ in Millions)			Prior Years		FY16					
	PLT		Qty	Total Cost Request	Qty	Contract Forecast Date	Total Cost Request			
DESIGN				0.2		Nov-15	10.6			
PLANS				9.5		Oct-15	32.4			
GFE	Various	Various		31.1			0.0			
MODULE FABRICATION	Various			60.8		Nov-15	95.2			
Total AP				101.6			138.2			
Description:										
The details of this program are classified CONFIDENTIAL and are reported annually to Congress in the classified budget justification books.										

<b>CLASSIFICATION: UNCLASSIFIED</b>										
<b>BUDGET ITEM JUSTIFICATION SHEET (P-40)</b>								DATE: February 2015		
<b>FY 2016 President's Budget</b>										
<b>APPROPRIATION/BUDGET ACTIVITY</b> <b>SHIPBUILDING AND CONVERSION, NAVY/BA 5 Auxiliaries, Craft and Prior Year Program Costs</b>						<b>P-1 LINE ITEM NOMENCLATURE</b>				
						<b>OUTFITTING</b>				
						<b>BLI: 5110</b>				
(Dollars in Millions)	PRIOR YR	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TO COMP	TOTAL PROG
Full Funding TOA-Outfitting	316.9	166.7	190.8	249.2	190.0	141.7	192.5	195.3	305.5	1,948.7
Full Funding TOA-Post Delivery	178.0	211.9	278.8	442.9	527.9	390.3	361.9	373.6	467.6	3,232.8
Full Funding TOA-First Destination	18.1	4.2	5.0	5.1	5.2	5.2	5.3	5.4	5.5	59.1
Total Obligational Authority	513.0	382.8	474.6	697.2	723.2	537.2	559.8	574.3	778.7	5,240.7
<b>MISSION:</b>										
<p>Outfitting funds are used to acquire on board repair parts, other secondary items, equipage, recreation items, precommissioning crew support and general use consumables furnished to the shipbuilder or the fitting-out activity to fill the ship's initial allowances as defined by the baseline Coordinated Shipboard Allowance List (COSAL). The program also budgets for contractor-furnished spares, a lead-time away from delivery. The program ensures operational readiness of ships undergoing new construction, conversion, ship life extension program, and nuclear refueling. It ensures these ships receive their full allowances of spare parts and equipment which are vitally required to support the shipboard maintenance process; ensures ships are equipped with operating space items (tools, test equipment, damage control), personnel safety and survivability commodities for successful completion of builder sea trials; supports shipboard maintenance and thereby achieving the OPNAV-directed Supply Readiness goals for material on board ship at delivery. SCN funding for the initial fill of allowance list items are limited to those items on the COSAL and authorized requirements through the Obligation Work Limiting Date (OWLD). While most Outfitting funds are executed prior to ships' Delivery Dates, some Outfitting funding may be required in the fiscal year (FY) following the scheduled Delivery Date.</p> <p>Post Delivery funding covers the fixing of government-responsible items which were believed to have been complete to standard and/or operable at delivery, as well as funding to conduct tests and trials after delivery. It is essential to deliver to the Fleet complete ships, free from both contractor and government responsible deficiencies, capable of supporting the Navy's mission. The Post Shakedown Availability (PSA) is a shipyard availability assigned to commence after delivery and to be completed prior to the expiration of the SCN OWLD. It is during this time that Acceptance and Final Contract Trials deficiencies will be corrected. The purpose of the PSA is to correct new construction deficiencies found during the shakedown period; to correct contractor and government responsible deficiencies previously authorized; and accomplishment of other improvements or class items as authorized. Funding is used for corrections authorized by the Ship Program Manager as a result of builders' trials (pre-delivery), acceptance or underway trials, final contract trials, trial board items, and correction of production-related defects or deficiencies which develop during the Post Delivery period. Although the majority of Post Delivery funding occurs after ships' Delivery Dates, some funding is required prior to the Delivery Date in preparation for Post Delivery events.</p> <p>First Destination Transportation (FDT) finances the movement of newly procured equipment and materials from the contractor's plant to the initial point of receipt by the government.</p>										

CLASSIFICATION:		UNCLASSIFIED													
BUDGET ITEM JUSTIFICATION SHEET (P-29)											DATE				
FY 2016 President's Budget Cycle											February 2015				
APPROPRIATION/BUDGET ACTIVITY								P-1 LINE ITEM NOMENCLATURE							
SHIPBUILDING AND CONVERSION, NAVY/BA 5								OUTFITTING							
								BLI: 5110							
Ship	HULL	PROG	Contract	Start of	DEL	CFO	PSA	PSA	OWLD	PRIOR	FY	FY	FY	TO	TOTAL
Type	NO	YEAR	Award	Constr.	DATE	DATE	START	FINISH		YEARS	2014	2015	2016	COMP	
AGOR	27	11	OCT-11	JUN-12	JUL-15	OCT-15	MAY-16	JUL-16	SEP-16	763	1,565	0	0	0	2,328
AGOR	28	12	FEB-12	JUL-12	DEC-15	MAR-16	OCT-16	DEC-16	FEB-17	763	1,565	0	0	0	2,328
AGOR Total										1,526	3,130	0	0	0	4,656
TAGS	66	07	DEC-09	SEP-10	JUL-15	OCT-15	JUN-16	AUG-16	SEP-16	1,931	921	0	0	0	2,852
TAGS Total										1,931	921	0	0	0	2,852
JHSV	2	09	JAN-10	SEP-10	JUN-13	SEP-13	APR-14	JUN-14	AUG-14	3,774	8	0	0	0	3,782
JHSV	3	09	JAN-10	SEP-11	MAR-14	JUN-14	JAN-15	MAR-15	MAY-15	3,550	110	0	0	0	3,660
JHSV	4	10	OCT-10	MAY-12	SEP-14	DEC-14	JUL-15	SEP-15	NOV-15	1,963	1,602	0	0	0	3,565
JHSV	5	10	OCT-10	FEB-13	APR-15	JUL-15	JAN-16	MAR-16	JUN-16	123	4,004	250	0	0	4,377
JHSV	6	11	JUN-11	JAN-14	OCT-15	JAN-16	JUL-16	SEP-16	DEC-16	0	494	3,909	0	0	4,403
JHSV	7	11	JUN-11	SEP-14	APR-16	JUL-16	JAN-17	MAR-17	JUN-17	0	0	3,746	316	0	4,062
JHSV	8	12	FEB-12	MAR-15	NOV-16	FEB-17	AUG-17	OCT-17	JAN-18	0	0	0	4,125	0	4,125
JHSV	9	12	FEB-12	NOV-15	MAY-17	AUG-17	FEB-18	APR-18	JUL-18	0	0	0	3,555	596	4,151
JHSV	10	13	DEC-12	MAY-16	DEC-17	MAR-18	SEP-18	NOV-18	FEB-19	0	0	0	0	4,181	4,181
JHSV Total										9,410	6,218	7,905	7,996	4,777	36,306
T-AO(X)	1601	16	JUN-16	JUN-18	AUG-20	OCT-20	JAN-21	APR-21	SEP-21	0	0	0	0	12,841	12,841
T-AO(X)	1801	18	JAN-18	JUL-19	JUL-21	SEP-21	DEC-21	MAR-22	AUG-22	0	0	0	0	13,444	13,444
T-AO(X) Total										0	0	0	0	26,285	26,285
LCAC SLEP	55	12	FEB-12	OCT-12	JUN-14	JUL-14	NOV-14	DEC-14	JUN-15	0	235	0	0	0	235
LCAC SLEP	60	12	FEB-12	JAN-13	JAN-15	FEB-15	MAY-15	JUN-15	JAN-16	232	0	0	0	0	232
LCAC SLEP	73	12	FEB-12	JAN-13	MAR-14	APR-14	N/A	N/A	MAR-15	232	0	0	0	0	232
LCAC SLEP	82	12	FEB-12	OCT-12	NOV-13	DEC-13	N/A	N/A	NOV-14	0	235	0	0	0	235
LCAC SLEP	88	13	SEP-13	OCT-13	FEB-15	MAR-15	MAY-15	JUN-15	FEB-16	0	253	0	0	0	253
LCAC SLEP	89	13	SEP-13	FEB-14	MAY-15	JUN-15	AUG-15	SEP-15	MAY-16	0	253	0	0	0	253
LCAC SLEP	81	13	JUN-14	JUL-14	OCT-15	NOV-15	MAR-16	APR-16	OCT-16	0	220	0	0	0	220
LCAC SLEP	90	13	JUN-14	NOV-14	FEB-16	MAR-16	JUL-16	AUG-16	FEB-17	0	0	228	0	0	228
LCAC SLEP	78	14	JUN-14	AUG-14	DEC-15	JAN-16	MAR-16	APR-16	DEC-16	0	235	0	0	0	235
LCAC SLEP	83	14	JUN-14	FEB-15	JUN-16	JUL-16	SEP-16	OCT-16	JUN-17	0	0	228	0	0	228
LCAC SLEP	52	14	JUN-14	MAR-15	JUN-16	JUL-16	NOV-16	DEC-16	JUN-17	0	0	228	0	0	228
LCAC SLEP	57	14	JUN-14	JUL-15	OCT-16	NOV-16	MAR-17	APR-17	OCT-17	0	0	0	206	0	206
LCAC SLEP	84	15	JUL-15	NOV-15	MAR-17	APR-17	JUN-17	JUL-17	MAR-18	0	0	0	195	13	208
LCAC SLEP	58	15	JUL-15	NOV-15	MAR-17	APR-17	AUG-17	SEP-17	MAR-18	0	0	0	194	13	207
LCAC SLEP	85	16	MAR-16	JUN-16	SEP-17	OCT-17	DEC-17	JAN-18	SEP-18	0	0	0	0	234	234
LCAC SLEP	64	16	MAR-16	JUN-16	SEP-17	OCT-17	FEB-18	MAR-18	SEP-18	0	0	0	0	234	234
LCAC SLEP	65	16	MAR-16	OCT-16	JAN-18	FEB-18	JUN-18	JUL-18	JAN-19	0	0	0	0	234	234
LCAC SLEP	76	16	MAR-16	FEB-17	MAY-18	JUN-18	OCT-18	NOV-18	MAY-19	0	0	0	0	238	238
LCAC SLEP	86	17	FEB-17	JUN-17	SEP-18	OCT-18	DEC-18	JAN-19	SEP-19	0	0	0	0	238	238
LCAC SLEP	14	17	FEB-17	JUN-17	SEP-18	OCT-18	FEB-19	MAR-19	SEP-19	0	0	0	0	238	238
LCAC SLEP	87	17	FEB-17	OCT-17	JAN-19	FEB-19	APR-19	MAY-19	JAN-20	0	0	0	0	238	238
LCAC SLEP	77	17	FEB-17	FEB-18	MAY-19	JUN-19	AUG-19	SEP-19	MAY-20	0	0	0	0	238	238
LCAC SLEP Total										464	1,431	684	595	1,918	5,092



CLASSIFICATION:		UNCLASSIFIED													
BUDGET ITEM JUSTIFICATION SHEET (P-29)											DATE				
FY 2016 President's Budget Cycle											February 2015				
APPROPRIATION/BUDGET ACTIVITY								P-1 LINE ITEM NOMENCLATURE							
SHIPBUILDING AND CONVERSION, NAVY/BA 5								OUTFITTING							
								BLI: 5110							
Ship	HULL	PROG	Contract	Start of	DEL	CFO	PSA	PSA	OWLD	PRIOR	FY	FY	FY	TO	TOTAL
Type	NO	YEAR	Award	Constr.	DATE	DATE	START	FINISH		YEARS	2014	2015	2016	COMP	
MLP AFSB	4	14	DEC-14	NOV-15	MAR-18	JUN-18	MAR-19	MAY-19	MAY-19	0	0	0	0	18,416	18,416
MLP AFSB	5	17	AUG-17	JUN-18	MAR-20	JUN-20	JAN-21	MAR-21	MAY-21	0	0	0	0	18,484	18,484
MLP AFSB Total										0	0	0	0	36,900	36,900
LCAC	101	15	DEC-12	JAN-15	AUG-17	AUG-17	OCT-17	DEC-17	JUL-18	0	0	0	0	788	788
LCAC	102	15	MAR-15	MAR-16	JAN-19	JAN-19	MAR-19	MAY-19	DEC-19	0	0	0	0	788	788
LCAC	103	15	MAR-15	SEP-16	JUN-19	JUN-19	AUG-19	OCT-19	MAY-20	0	0	0	0	788	788
LCAC	104	16	MAR-16	MAR-17	DEC-19	DEC-19	JAN-20	MAR-20	NOV-20	0	0	0	0	760	760
LCAC	105	16	MAR-16	JUN-17	JAN-20	JAN-20	FEB-20	APR-20	DEC-20	0	0	0	0	760	760
LCAC	106	16	MAR-16	AUG-17	FEB-20	FEB-20	APR-20	JUN-20	JAN-21	0	0	0	0	760	760
LCAC	107	16	MAR-16	NOV-17	APR-20	APR-20	MAY-20	JUL-20	MAR-21	0	0	0	0	760	760
LCAC	108	16	MAR-16	JAN-18	MAY-20	MAY-20	JUN-20	AUG-20	APR-21	0	0	0	0	760	760
LCAC	109	17	MAR-17	MAR-18	JUL-20	JUL-20	AUG-20	OCT-20	MAY-21	0	0	0	0	760	760
LCAC	110	17	MAR-17	JUN-18	AUG-20	AUG-20	SEP-20	NOV-20	JUL-21	0	0	0	0	760	760
LCAC	111	17	MAR-17	AUG-18	SEP-20	SEP-20	NOV-20	DEC-20	AUG-21	0	0	0	0	760	760
LCAC	112	17	MAR-17	NOV-18	NOV-20	NOV-20	DEC-20	FEB-21	OCT-21	0	0	0	0	859	859
LCAC	113	17	MAR-17	JAN-19	DEC-20	DEC-20	JAN-21	MAR-21	NOV-21	0	0	0	0	859	859
LCAC	114	18	MAR-18	MAR-19	JAN-21	JAN-21	MAR-21	MAY-21	DEC-21	0	0	0	0	859	859
LCAC	115	18	MAR-18	MAY-19	FEB-21	FEB-21	MAR-21	MAY-21	JAN-22	0	0	0	0	859	859
LCAC	116	18	MAR-18	JUN-19	MAR-21	MAR-21	APR-21	JUN-21	JAN-22	0	0	0	0	859	859
LCAC	117	18	MAR-18	AUG-19	MAR-21	MAR-21	APR-21	JUN-21	FEB-22	0	0	0	0	859	859
LCAC	118	18	MAR-18	SEP-19	MAR-21	MAR-21	MAY-21	JUL-21	FEB-22	0	0	0	0	859	859
LCAC	119	18	MAR-18	NOV-19	MAY-21	MAY-21	JUN-21	AUG-21	APR-22	0	0	0	0	859	859
LCAC	120	18	MAR-18	DEC-19	JUN-21	JUN-21	AUG-21	OCT-21	MAY-22	0	0	0	0	859	859
LCAC	121	18	MAR-18	FEB-20	AUG-21	AUG-21	SEP-21	NOV-21	JUL-22	0	0	0	0	860	860
LCAC	122	18	MAR-18	MAR-19	MAR-22	MAR-22	MAY-22	JUL-22	FEB-23	0	0	0	0	860	860
LCAC Total										0	0	0	0	17,895	17,895
LHA	6	07	JUN-07	JAN-08	APR-14	MAR-15	MAY-15	DEC-15	FEB-16	33,962	16,443	0	0	0	50,405
LHA	7	11	MAY-12	JUL-13	JUN-18	JAN-19	AUG-19	OCT-19	DEC-19	0	0	0	15,127	39,556	54,683
LHA Total										33,962	16,443	0	15,127	39,556	105,088
LPD	23	05	JUN-06	OCT-06	SEP-12	JAN-13	AUG-13	DEC-13	DEC-13	20,974	2,829	0	0	0	23,803
LPD	24	06	NOV-06	AUG-07	DEC-12	JUN-13	DEC-13	MAY-14	MAY-14	24,139	863	0	0	0	25,002
LPD	25	08	DEC-07	APR-08	OCT-13	JUN-14	JAN-15	JUN-15	JUN-15	23,514	1,605	0	0	0	25,119
LPD	26	09	APR-11	MAY-11	MAY-16	NOV-16	MAY-17	SEP-17	OCT-17	620	531	7,000	19,038	0	27,189
LPD	27	12	JUL-12	AUG-12	JUL-17	JAN-18	AUG-18	NOV-18	DEC-18	0	0	0	6,271	20,194	26,465
LPD Total										69,247	5,828	7,000	25,309	20,194	127,578

CLASSIFICATION:		UNCLASSIFIED													
BUDGET ITEM JUSTIFICATION SHEET (P-29)											DATE				
FY 2016 President's Budget Cycle											February 2015				
APPROPRIATION/BUDGET ACTIVITY									P-1 LINE ITEM NOMENCLATURE						
SHIPBUILDING AND CONVERSION, NAVY/BA 5									OUTFITTING						
									BLI: 5110						
Ship	HULL	PROG	Contract	Start of	DEL	CFO	PSA	PSA	OWLD	PRIOR	FY	FY	FY	TO	TOTAL
Type	NO	YEAR	Award	Constr.	DATE	DATE	START	FINISH		YEARS	2014	2015	2016	COMP	
DDG	113	10	JUN-11	AUG-12	SEP-16	JAN-17	JUL-17	OCT-17	DEC-17	0	668	2,487	15,389	0	18,544
DDG	114	11	SEP-11	SEP-13	JAN-17	MAY-17	JAN-18	APR-18	APR-18	0	0	508	4,164	14,117	18,789
DDG	115	11	SEP-11	FEB-12	JUL-16	NOV-16	MAY-17	AUG-17	OCT-17	0	681	3,025	14,798	0	18,504
DDG	116	12	FEB-12	FEB-13	MAY-17	SEP-17	APR-18	AUG-18	AUG-18	0	0	500	4,164	14,150	18,814
DDG	117	13	JUN-13	SEP-14	JAN-18	MAY-18	JAN-19	APR-19	APR-19	0	0	0	496	18,766	19,262
DDG	118	13	JUN-13	DEC-14	NOV-18	FEB-19	SEP-19	DEC-19	JAN-20	0	0	0	0	19,655	19,655
DDG	120	13	MAR-14	JAN-16	JAN-20	JUN-20	JAN-21	APR-21	MAY-21	0	0	0	0	19,986	19,986
DDG	119	14	JUN-13	APR-16	JUL-19	NOV-19	JUL-20	OCT-20	OCT-20	0	0	0	0	19,738	19,738
DDG	121	15	JUN-13	JUN-17	JUL-20	NOV-20	JUL-21	OCT-21	OCT-21	0	0	0	0	20,163	20,163
DDG	122	15	JUN-13	NOV-16	JUL-20	NOV-20	JUL-21	OCT-21	OCT-21	0	0	0	0	20,163	20,163
DDG	123	16	JUN-13	JUN-18	JUL-21	NOV-21	JUL-22	OCT-22	OCT-22	0	0	0	0	20,543	20,543
DDG	124	16	JUN-13	SEP-17	JUL-21	NOV-21	JUL-22	OCT-22	OCT-22	0	0	0	0	20,543	20,543
DDG	125	17	JUN-13	JUN-19	JUL-22	NOV-22	JUL-23	OCT-23	OCT-23	0	0	0	0	20,940	20,940
DDG	126	17	JUN-13	JUL-18	JUL-22	NOV-22	JUL-23	OCT-23	OCT-23	0	0	0	0	20,940	20,940
DDG Total										0	1,349	6,520	39,011	229,704	276,584
DDG 1000	1000	07	FEB-08	FEB-09	NOV-15	NOV-16	APR-17	JUL-17	OCT-17	11,749	17,257	9,043	0	0	38,049
DDG 1000	1001	07	SEP-11	MAR-10	NOV-16	NOV-17	JAN-18	MAR-18	OCT-18	0	2,002	16,626	14,525	7,121	40,274
DDG 1000	1002	09	SEP-11	APR-12	DEC-18	JUL-19	SEP-19	NOV-19	JUN-20	0	0	0	1,439	39,806	41,245
DDG 1000 Total										11,749	19,259	25,669	15,964	46,927	119,568
YP SLEP	687	16	JAN-16	JAN-16	JUL-16	SEP-16	N/A	N/A	AUG-17	0	0	0	49	0	49
YP SLEP	689	16	JAN-16	JAN-16	JUL-16	SEP-16	N/A	N/A	AUG-17	0	0	0	49	0	49
YP SLEP	690	16	JAN-16	JAN-16	JUL-16	SEP-16	N/A	N/A	AUG-17	0	0	0	48	0	48
YP SLEP	692	16	JAN-16	JUL-16	JAN-17	MAR-17	N/A	N/A	FEB-18	0	0	0	0	49	49
YP SLEP	688	16	JAN-16	JUL-16	JAN-17	MAR-17	N/A	N/A	FEB-18	0	0	0	0	49	49
YP SLEP	686	16	JAN-16	JUL-16	JAN-17	MAR-17	N/A	N/A	FEB-18	0	0	0	0	49	49
YP SLEP	695	17	JAN-17	JAN-17	JUL-17	SEP-17	N/A	N/A	AUG-18	0	0	0	0	49	49
YP SLEP	698	17	JAN-17	JAN-17	JUL-17	SEP-17	N/A	N/A	AUG-18	0	0	0	0	49	49
YP SLEP	694	17	JAN-17	JAN-17	JUL-17	SEP-17	N/A	N/A	AUG-18	0	0	0	0	46	46
YP SLEP	691	17	JAN-17	JUL-17	JAN-18	MAR-18	N/A	N/A	FEB-19	0	0	0	0	49	49
YP SLEP	700	17	JAN-17	JUL-17	JAN-18	MAR-18	N/A	N/A	FEB-19	0	0	0	0	49	49
YP SLEP	683	17	JAN-17	JUL-17	JAN-18	MAR-18	N/A	N/A	FEB-19	0	0	0	0	47	47
YP SLEP Total										0	0	0	146	436	582

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APPROPRIATION/BUDGET ACTIVITY										P-1 LINE ITEM NOMENCLATURE					
SHIPBUILDING AND CONVERSION, NAVY/BA 5										OUTFITTING					
										BLI: 5110					
Ship	HULL	PROG	Contract	Start of	DEL	CFO	PSA	PSA	OWLD	PRIOR	FY	FY	FY	TO	TOTAL
Type	NO	YEAR	Award	Constr.	DATE	DATE	START	FINISH		YEARS	2014	2015	2016	COMP	
LCS	4	09	MAY-09	OCT-09	SEP-13	JAN-14	JUL-14	DEC-14	DEC-14	5,031	2,992	0	0	0	8,023
LCS	5	10	DEC-10	AUG-11	JUL-15	NOV-15	MAY-16	SEP-16	OCT-16	3,005	4,812	165	0	0	7,982
LCS	6	10	DEC-10	AUG-11	JUL-15	NOV-15	MAY-16	SEP-16	OCT-16	1,492	7,281	244	0	0	9,017
LCS	7	11	MAR-11	APR-12	OCT-15	FEB-16	SEP-16	JAN-17	JAN-17	1,708	2,950	4,260	0	0	8,918
LCS	8	11	MAR-11	JUL-12	NOV-15	MAR-16	OCT-16	JAN-17	FEB-17	2	2,449	6,791	589	0	9,831
LCS	9	12	MAR-12	JAN-13	JUL-16	SEP-16	APR-17	AUG-17	AUG-17	0	2,158	6,487	1,324	0	9,969
LCS	10	12	MAR-12	MAR-13	MAY-16	JUL-16	FEB-17	MAY-17	JUN-17	0	1,353	5,144	1,801	0	8,298
LCS	11	12	MAR-12	AUG-13	NOV-16	JAN-17	AUG-17	DEC-17	DEC-17	0	1,836	3,310	3,636	0	8,782
LCS	12	12	MAR-12	SEP-13	SEP-16	NOV-16	JUN-17	OCT-17	OCT-17	0	697	3,638	4,308	0	8,643
LCS	13	13	MAR-13	FEB-14	JUL-17	SEP-17	APR-18	AUG-18	AUG-18	0	0	0	7,249	1,872	9,121
LCS	14	13	MAR-13	FEB-14	MAR-17	MAY-17	DEC-17	MAR-18	APR-18	0	0	0	7,861	1,260	9,121
LCS	15	13	MAR-13	DEC-14	NOV-17	JAN-18	AUG-18	DEC-18	DEC-18	0	0	0	4,542	4,579	9,121
LCS	16	13	MAR-13	DEC-14	SEP-17	NOV-17	JUN-18	OCT-18	OCT-18	0	0	0	4,543	4,579	9,122
LCS	17	14	MAR-14	JUN-15	JUL-18	SEP-18	APR-19	AUG-19	AUG-19	0	0	0	0	9,326	9,326
LCS	18	14	MAR-14	FEB-15	MAR-18	MAY-18	DEC-18	MAR-19	APR-19	0	0	0	0	8,291	8,291
LCS	19	14	MAR-14	OCT-15	NOV-18	JAN-19	AUG-19	DEC-19	DEC-19	0	0	0	0	9,262	9,262
LCS	20	14	MAR-14	AUG-15	SEP-18	NOV-18	JUN-19	OCT-19	OCT-19	0	0	0	0	9,367	9,367
LCS	21	15	MAR-15	MAR-16	JUL-19	SEP-19	APR-20	AUG-20	AUG-20	0	0	0	0	9,499	9,499
LCS	22	15	MAR-15	FEB-16	MAR-19	MAY-19	DEC-19	MAR-20	APR-20	0	0	0	0	9,500	9,500
LCS	23	15	MAR-15	SEP-16	NOV-19	JAN-20	AUG-20	NOV-20	DEC-20	0	0	0	0	9,500	9,500
LCS	24	16	MAR-16	AUG-16	SEP-19	NOV-19	JUN-21	SEP-21	OCT-20	0	0	0	0	9,685	9,685
LCS	25	16	MAR-16	MAR-17	NOV-20	JAN-21	AUG-21	NOV-21	OCT-21	0	0	0	0	9,686	9,686
LCS	26	16	MAR-16	AUG-17	NOV-20	JAN-21	AUG-21	NOV-21	OCT-21	0	0	0	0	9,686	9,686
LCS	27	17	MAR-17	FEB-18	MAY-21	JUL-21	FEB-22	MAY-22	JUN-22	0	0	0	0	9,687	9,687
LCS	28	17	MAR-17	MAR-18	MAY-21	JUL-21	FEB-22	MAY-22	JUN-22	0	0	0	0	9,687	9,687
LCS Total										11,238	26,528	30,039	35,853	125,466	229,124

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SHIPBUILDING AND CONVERSION, NAVY/BA 5									OUTFITTING						
									BLI: 5110						
Ship	HULL	PROG	Contract	Start of	DEL	CFO	PSA	PSA	OWLD	PRIOR	FY	FY	FY	TO	TOTAL
Type	NO	YEAR	Award	Constr.	DATE	DATE	START	FINISH		YEARS	2014	2015	2016	COMP	
VIRGINIA	782	07	JAN-04	FEB-07	MAY-12	MAY-12	FEB-13	MAY-14	MAY-14	14,879	1,898	0	0	0	16,777
VIRGINIA	783	08	JAN-04	FEB-08	JUN-13	JUN-13	FEB-14	FEB-15	MAR-15	11,442	2,970	600	0	0	15,012
VIRGINIA	784	09	DEC-08	MAR-09	AUG-14	AUG-14	JUN-15	JUL-15	JUL-15	15,940	2,183	117	0	0	18,240
VIRGINIA	785	10	DEC-08	MAR-10	APR-15	APR-15	JUL-15	DEC-15	MAR-16	13,224	2,271	2,108	0	0	17,603
VIRGINIA	786	11	DEC-08	MAR-11	DEC-15	DEC-15	MAY-16	SEP-16	NOV-16	6,562	8,540	8,080	0	0	23,182
VIRGINIA	787	11	DEC-08	SEP-11	JUN-16	JUN-16	JAN-17	MAY-17	MAY-17	2,710	9,443	1,905	8,000	0	22,058
VIRGINIA	788	12	DEC-08	MAR-12	NOV-16	NOV-16	MAY-17	AUG-17	OCT-17	0	270	14,340	5,925	0	20,535
VIRGINIA	789	12	DEC-08	SEP-12	JUN-17	JUN-17	JAN-18	MAY-18	MAY-18	0	0	3,814	15,480	971	20,265
VIRGINIA	790	13	DEC-08	MAR-13	NOV-17	NOV-17	MAR-18	SEP-18	OCT-18	0	0	0	15,420	5,251	20,671
VIRGINIA	791	13	DEC-08	SEP-13	JUN-18	JUN-18	OCT-18	MAR-19	MAY-19	0	0	0	3,612	17,059	20,671
VIRGINIA	792	14	APR-14	MAY-14	JUN-19	JUN-19	SEP-19	FEB-20	MAY-20	0	0	0	0	22,991	22,991
VIRGINIA	793	14	APR-14	SEP-14	NOV-19	NOV-19	MAR-20	AUG-20	OCT-20	0	0	0	0	22,990	22,990
VIRGINIA	794	15	APR-14	APR-15	MAY-20	MAY-20	SEP-20	FEB-21	APR-21	0	0	0	0	23,743	23,743
VIRGINIA	795	15	APR-14	SEP-15	SEP-20	SEP-20	MAR-21	AUG-21	AUG-21	0	0	0	0	23,743	23,743
VIRGINIA	796	16	APR-14	MAR-16	FEB-21	FEB-21	JUL-21	DEC-21	JAN-22	0	0	0	0	24,249	24,249
VIRGINIA	797	16	APR-14	SEP-16	AUG-21	AUG-21	JAN-22	JUN-22	JUL-22	0	0	0	0	24,249	24,249
VIRGINIA	798	17	APR-14	MAR-17	FEB-22	FEB-22	JUL-22	DEC-22	JAN-23	0	0	0	0	24,834	24,834
VIRGINIA	799	17	APR-14	SEP-17	AUG-22	AUG-22	JAN-23	JUN-23	JUL-23	0	0	0	0	24,834	24,834
VIRGINIA Total										64,757	27,575	30,964	48,437	214,914	386,647
CVN-RCOH	71	09	AUG-09	AUG-09	AUG-13	SEP-13	AUG-13	FEB-14	DEC-14	83,197	1,587	0	0	0	84,784
CVN-RCOH	72	12	MAR-13	MAR-13	NOV-16	JAN-17	DEC-16	FEB-17	DEC-17	6,921	7,945	26,212	23,781	4,553	69,412
CVN-RCOH	73	16	JUL-17	JUL-17	FEB-21	APR-21	FEB-21	MAR-22	MAR-22	0	0	0	0	65,385	65,385
CVN-RCOH Total										90,118	9,532	26,212	23,781	69,938	219,581
CVN	78	08	SEP-08	AUG-05	MAR-16	MAY-16	SEP-16	MAR-17	APR-17	997	41,051	45,940	27,237	0	115,225
CVN	79	13	MAY-15	FEB-11	JUN-22	SEP-24	MAY-23	SEP-24	AUG-25	0	0	0	0	138,845	138,845
CVN Total										997	41,051	45,940	27,237	138,845	254,070
PUBS	N/A	11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	21,545	7,422	9,895	9,760	51,316	99,938
PUBS Total										21,545	7,422	9,895	9,760	51,316	99,938
Full Funding TOA-Outfitting Total										316,944	166,687	190,828	249,216	1,025,071	1,948,746

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<b>APPROPRIATION/BUDGET ACTIVITY</b>											<b>P-1 LINE ITEM NOMENCLATURE</b>				
<b>SHIPBUILDING AND CONVERSION, NAVY/BA 5</b>											<b>OUTFITTING</b>				
											<b>BLI: 5110</b>				
Ship Type	HULL NO	PROG YEAR	Contract Award	Start of Constr.	DEL DATE	CFO DATE	PSA START	PSA FINISH	OWLD	PRIOR YEARS	FY 2014	FY 2015	FY 2016	TO COMP	TOTAL
AGOR	27	11	OCT-11	JUN-12	JUL-15	OCT-15	MAY-16	JUL-16	SEP-16	0	500	2,550	0	0	3,050
AGOR	28	12	FEB-12	JUL-12	DEC-15	MAR-16	OCT-16	DEC-16	FEB-17	0	0	2,550	0	0	2,550
<b>AGOR Total</b>										<b>0</b>	<b>500</b>	<b>5,100</b>	<b>0</b>	<b>0</b>	<b>5,600</b>
TAGS	66	07	DEC-09	SEP-10	JUL-15	OCT-15	JUN-16	AUG-16	SEP-16	0	368	493	0	0	861
<b>TAGS Total</b>										<b>0</b>	<b>368</b>	<b>493</b>	<b>0</b>	<b>0</b>	<b>861</b>
JHSV	2	09	JAN-10	SEP-10	JUN-13	SEP-13	APR-14	JUN-14	AUG-14	4,914	2,932	0	0	0	7,846
JHSV	3	09	JAN-10	SEP-11	MAR-14	JUN-14	JAN-15	MAR-15	MAY-15	1,309	2,296	5,393	0	0	8,998
JHSV	4	10	OCT-10	MAY-12	SEP-14	DEC-14	JUL-15	SEP-15	NOV-15	0	602	8,396	0	0	8,998
JHSV	5	10	OCT-10	FEB-13	APR-15	JUL-15	JAN-16	MAR-16	JUN-16	0	0	5,256	1,926	0	7,182
JHSV	6	11	JUN-11	JAN-14	OCT-15	JAN-16	JUL-16	SEP-16	DEC-16	0	0	0	6,859	305	7,164
JHSV	7	11	JUN-11	SEP-14	APR-16	JUL-16	JAN-17	MAR-17	JUN-17	0	0	0	2,555	4,608	7,163
JHSV	8	12	FEB-12	MAR-15	NOV-16	FEB-17	AUG-17	OCT-17	JAN-18	0	0	0	0	7,182	7,182
JHSV	9	12	FEB-12	NOV-15	MAY-17	AUG-17	FEB-18	APR-18	JUL-18	0	0	0	0	7,182	7,182
JHSV	10	13	DEC-12	MAY-16	DEC-17	MAR-18	SEP-18	NOV-18	FEB-19	0	0	0	0	7,211	7,211
<b>JHSV Total</b>										<b>6,223</b>	<b>5,830</b>	<b>19,045</b>	<b>11,340</b>	<b>26,488</b>	<b>68,926</b>
T-AO(X)	1601	16	JUN-16	JUN-18	AUG-20	OCT-20	JAN-21	APR-21	SEP-21	0	0	0	0	15,935	15,935
T-AO(X)	1801	18	JAN-18	JUL-19	JUL-21	SEP-21	DEC-21	MAR-22	AUG-22	0	0	0	0	0	0
<b>T-AO(X) Total</b>										<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>15,935</b>	<b>15,935</b>
LCAC SLEP	55	12	FEB-12	OCT-12	JUN-14	JUL-14	NOV-14	DEC-14	JUN-15	0	50	0	0	0	50
LCAC SLEP	60	12	FEB-12	JAN-13	JAN-15	FEB-15	MAY-15	JUN-15	JAN-16	0	50	0	0	0	50
LCAC SLEP	88	13	SEP-13	OCT-13	FEB-15	MAR-15	MAY-15	JUN-15	FEB-16	0	0	204	0	0	204
LCAC SLEP	89	13	SEP-13	FEB-14	MAY-15	JUN-15	AUG-15	SEP-15	MAY-16	0	0	136	39	0	175
LCAC SLEP	81	13	JUN-14	JUL-14	OCT-15	NOV-15	MAR-16	APR-16	OCT-16	0	0	68	107	0	175
LCAC SLEP	90	13	JUN-14	NOV-14	FEB-16	MAR-16	JUL-16	AUG-16	FEB-17	0	0	0	175	0	175
LCAC SLEP	78	14	JUN-14	AUG-14	DEC-15	JAN-16	MAR-16	APR-16	DEC-16	0	0	0	13	156	169
LCAC SLEP	83	14	JUN-14	FEB-15	JUN-16	JUL-16	SEP-16	OCT-16	JUN-17	0	0	0	0	208	208
LCAC SLEP	52	14	JUN-14	MAR-15	JUN-16	JUL-16	NOV-16	DEC-16	JUN-17	0	0	0	0	208	208
LCAC SLEP	57	14	JUN-14	JUL-15	OCT-16	NOV-16	MAR-17	APR-17	OCT-17	0	0	0	0	208	208
LCAC SLEP	84	15	JUL-15	NOV-15	MAR-17	APR-17	JUN-17	JUL-17	MAR-18	0	0	0	0	212	212
LCAC SLEP	58	15	JUL-15	NOV-15	MAR-17	APR-17	AUG-17	SEP-17	MAR-18	0	0	0	0	230	230
LCAC SLEP	85	16	MAR-16	JUN-16	SEP-17	OCT-17	DEC-17	JAN-18	SEP-18	0	0	0	0	216	216
LCAC SLEP	64	16	MAR-16	JUN-16	SEP-17	OCT-17	FEB-18	MAR-18	SEP-18	0	0	0	0	216	216
LCAC SLEP	65	16	MAR-16	OCT-16	JAN-18	FEB-18	JUN-18	JUL-18	JAN-19	0	0	0	0	216	216
LCAC SLEP	76	16	MAR-16	FEB-17	MAY-18	JUN-18	OCT-18	NOV-18	MAY-19	0	0	0	0	216	216
LCAC SLEP	86	17	FEB-17	JUN-17	SEP-18	OCT-18	DEC-18	JAN-19	SEP-19	0	0	0	0	217	217
LCAC SLEP	14	17	FEB-17	JUN-17	SEP-18	OCT-18	FEB-19	MAR-19	SEP-19	0	0	0	0	217	217
LCAC SLEP	87	17	FEB-17	OCT-17	JAN-19	FEB-19	APR-19	MAY-19	JAN-20	0	0	0	0	217	217
LCAC SLEP	77	17	FEB-17	FEB-18	MAY-19	JUN-19	AUG-19	SEP-19	MAY-20	0	0	0	0	217	217
<b>LCAC SLEP Total</b>										<b>0</b>	<b>100</b>	<b>408</b>	<b>334</b>	<b>2,954</b>	<b>3,796</b>

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SHIPBUILDING AND CONVERSION, NAVY/BA 5																
Ship Type	HULL NO	PROG YEAR	Contract Award	Start of Constr.	DEL DATE	CFO DATE	PSA START	PSA FINISH	OWLD	PRIOR YEARS	FY 2014	FY 2015	FY 2016	TO COMP	TOTAL	
MLP AFSB	4	14	DEC-14	NOV-15	MAR-18	JUN-18	MAR-19	MAY-19	MAY-19	0	0	0	0	15,435	15,435	
MLP AFSB	5	17	AUG-17	JUN-18	MAR-20	JUN-20	JAN-21	MAR-21	MAY-21	0	0	0	0	16,688	16,688	
MLP AFSB Total										0	0	0	0	32,123	32,123	
LCAC	101	15	DEC-12	JAN-15	AUG-17	AUG-17	OCT-17	DEC-17	JUL-18	0	0	0	0	1,200	1,200	
LCAC	102	15	MAR-15	MAR-16	JAN-19	JAN-19	MAR-19	MAY-19	DEC-19	0	0	0	0	1,980	1,980	
LCAC	103	15	MAR-15	SEP-16	JUN-19	JUN-19	AUG-19	OCT-19	MAY-20	0	0	0	0	1,980	1,980	
LCAC	104	16	MAR-16	MAR-17	DEC-19	DEC-19	JAN-20	MAR-20	NOV-20	0	0	0	0	1,980	1,980	
LCAC	105	16	MAR-16	JUN-17	JAN-20	JAN-20	FEB-20	APR-20	DEC-20	0	0	0	0	1,980	1,980	
LCAC	106	16	MAR-16	AUG-17	FEB-20	FEB-20	APR-20	JUN-20	JAN-21	0	0	0	0	1,980	1,980	
LCAC	107	16	MAR-16	NOV-17	APR-20	APR-20	MAY-20	JUL-20	MAR-21	0	0	0	0	1,980	1,980	
LCAC	108	16	MAR-16	JAN-18	MAY-20	MAY-20	JUN-20	AUG-20	APR-21	0	0	0	0	1,980	1,980	
LCAC	109	17	MAR-17	MAR-18	JUL-20	JUL-20	AUG-20	OCT-20	MAY-21	0	0	0	0	1,980	1,980	
LCAC	110	17	MAR-17	JUN-18	AUG-20	AUG-20	SEP-20	NOV-20	JUL-21	0	0	0	0	1,980	1,980	
LCAC	111	17	MAR-17	AUG-18	SEP-20	SEP-20	NOV-20	DEC-20	AUG-21	0	0	0	0	1,980	1,980	
LCAC	112	17	MAR-17	NOV-18	NOV-20	NOV-20	DEC-20	FEB-21	OCT-21	0	0	0	0	1,870	1,870	
LCAC	113	17	MAR-17	JAN-19	DEC-20	DEC-20	JAN-21	MAR-21	NOV-21	0	0	0	0	1,870	1,870	
LCAC Total										0	0	0	0	24,740	24,740	
LHA	6	07	JUN-07	JAN-08	APR-14	MAR-15	MAY-15	DEC-15	FEB-16	0	12,642	31,963	0	0	44,605	
LHA	7	11	MAY-12	JUL-13	JUN-18	JAN-19	AUG-19	OCT-19	DEC-19	0	0	0	0	49,674	49,674	
LHA Total										0	12,642	31,963	0	49,674	94,279	
LPD	23	05	JUN-06	OCT-06	SEP-12	JAN-13	AUG-13	DEC-13	DEC-13	41,157	550	0	0	0	41,707	
LPD	24	06	NOV-06	AUG-07	DEC-12	JUN-13	DEC-13	MAY-14	MAY-14	28,544	17,098	0	0	0	45,642	
LPD	25	08	DEC-07	APR-08	OCT-13	JUN-14	JAN-15	JUN-15	JUN-15	12,707	35,000	13,056		0	60,763	
LPD	26	09	APR-11	MAY-11	MAY-16	NOV-16	MAY-17	SEP-17	OCT-17	0	0	0	31,077	23,473	54,550	
LPD	27	12	JUL-12	AUG-12	JUL-17	JAN-18	AUG-18	NOV-18	DEC-18	0	0	0	0	52,288	52,288	
LPD Total										82,408	52,648	13,056	31,077	75,761	254,950	
YP	707	09	MAR-09	SEP-09	JUL-13	SEP-13	N/A	N/A	AUG-14	198	444	0	0	0	642	
YP	708	09	MAR-09	NOV-09	DEC-13	FEB-14	N/A	N/A	JAN-15	0	421	0	0	0	421	
YP Total										198	865	0	0	0	1,063	
DDG	113	10	JUN-11	AUG-12	SEP-16	JAN-17	JUL-17	OCT-17	DEC-17	0	0	0	10,048	27,278	37,326	
DDG	114	11	SEP-11	SEP-13	JAN-17	MAY-17	JAN-18	APR-18	APR-18	0	0	0	0	37,500	37,500	
DDG	115	11	SEP-11	FEB-12	JUL-16	NOV-16	MAY-17	AUG-17	OCT-17	0	0	0	13,082	24,418	37,500	
DDG	116	12	FEB-12	FEB-13	MAY-17	SEP-17	APR-18	AUG-18	AUG-18	0	0	0	0	37,959	37,959	
DDG	117	13	JUN-13	SEP-14	JAN-18	MAY-18	JAN-19	APR-19	APR-19	0	0	0	0	38,614	38,614	
DDG	118	13	JUN-13	DEC-14	NOV-18	FEB-19	SEP-19	DEC-19	JAN-20	0	0	0	0	38,615	38,615	
DDG	120	13	MAR-14	JAN-16	JAN-20	JUN-20	JAN-21	APR-21	MAY-21	0	0	0	0	39,765	39,765	
DDG	119	14	JUN-13	APR-16	JUL-19	NOV-19	JUL-20	OCT-20	OCT-20	0	0	0	0	39,767	39,767	
DDG	121	15	JUN-13	JUN-17	JUL-20	NOV-20	JUL-21	OCT-21	OCT-21	0	0	0	0	41,271	41,271	
DDG	122	15	JUN-13	NOV-16	JUL-20	NOV-20	JUL-21	OCT-21	OCT-21	0	0	0	0	41,271	41,271	
DDG Total										0	0	0	23,130	366,458	389,588	

CLASSIFICATION: UNCLASSIFIED																
BUDGET ITEM JUSTIFICATION SHEET(P-30)												DATE				
FY 2016 President's Budget Cycle												February 2015				
APPROPRIATION/BUDGET ACTIVITY								P-1 LINE ITEM NOMENCLATURE								
SHIPBUILDING AND CONVERSION, NAVY/BA 5								OUTFITTING								
								BLI: 5110								
Ship Type	HULL NO	PROG YEAR	Contract Award	Start of Constr.	DEL DATE	CFO DATE	PSA START	PSA FINISH	OWLD	PRIOR YEARS	FY 2014	FY 2015	FY 2016	TO COMP	TOTAL	
DDG 1000	1000	07	FEB-08	FEB-09	NOV-15	NOV-16	APR-17	JUL-17	OCT-17	0	30,000	34,713	39,946	15,593	120,252	
DDG 1000	1001	07	SEP-11	MAR-10	NOV-16	NOV-17	JAN-18	MAR-18	OCT-18	0	0	0	31,150	46,268	77,418	
DDG 1000	1002	09	SEP-11	APR-12	DEC-18	JUL-19	SEP-19	NOV-19	JUN-20	0	0	0	0	66,447	66,447	
DDG 1000 Total										0	30,000	34,713	71,096	128,308	264,117	
LCS	4	09	MAY-09	OCT-09	SEP-13	JAN-14	JUL-14	DEC-14	DEC-14	9,034	41,637	0	0	0	50,671	
LCS	5	10	DEC-10	AUG-11	JUL-15	NOV-15	MAY-16	SEP-16	OCT-16	0	0	27,507	13,875	0	41,382	
LCS	6	10	DEC-10	AUG-11	JUL-15	NOV-15	MAY-16	SEP-16	OCT-16	0	0	27,507	13,875	0	41,382	
LCS	7	11	MAR-11	APR-12	OCT-15	FEB-16	SEP-16	JAN-17	JAN-17	0	0	13,481	28,913	0	42,394	
LCS	8	11	MAR-11	JUL-12	NOV-15	MAR-16	OCT-16	JAN-17	FEB-17	0	0	13,482	28,912	0	42,394	
LCS	9	12	MAR-12	JAN-13	JUL-16	SEP-16	APR-17	AUG-17	AUG-17	0	0	0	28,222	13,836	42,058	
LCS	10	12	MAR-12	MAR-13	MAY-16	JUL-16	FEB-17	MAY-17	JUN-17	0	0	0	28,887	13,171	42,058	
LCS	11	12	MAR-12	AUG-13	NOV-16	JAN-17	AUG-17	DEC-17	DEC-17	0	0	0	10,917	31,141	42,058	
LCS	12	12	MAR-12	SEP-13	SEP-16	NOV-16	JUN-17	OCT-17	OCT-17	0	0	0	10,916	31,141	42,057	
LCS	13	13	MAR-13	FEB-14	JUL-17	SEP-17	APR-18	AUG-18	AUG-18	0	0	0	0	43,178	43,178	
LCS	14	13	MAR-13	FEB-14	MAR-17	MAY-17	DEC-17	MAR-18	APR-18	0	0	0	0	43,178	43,178	
LCS	15	13	MAR-13	DEC-14	NOV-17	JAN-18	AUG-18	DEC-18	DEC-18	0	0	0	0	43,178	43,178	
LCS	16	13	MAR-13	DEC-14	SEP-17	NOV-17	JUN-18	OCT-18	OCT-18	0	0	0	0	43,178	43,178	
LCS	17	14	MAR-14	JUN-15	JUL-18	SEP-18	APR-19	AUG-19	AUG-19	0	0	0	0	43,952	43,952	
LCS	18	14	MAR-14	FEB-15	MAR-18	MAY-18	DEC-18	MAR-19	APR-19	0	0	0	0	43,952	43,952	
LCS	19	14	MAR-14	OCT-15	NOV-18	JAN-19	AUG-19	DEC-19	DEC-19	0	0	0	0	43,951	43,951	
LCS	20	14	MAR-14	AUG-15	SEP-18	NOV-18	JUN-19	OCT-19	OCT-19	0	0	0	0	43,951	43,951	
LCS	21	15	MAR-15	MAR-16	JUL-19	SEP-19	APR-20	AUG-20	AUG-20	0	0	0	0	45,407	45,407	
LCS	22	15	MAR-15	FEB-16	MAR-19	MAY-19	DEC-19	MAR-20	APR-20	0	0	0	0	45,407	45,407	
LCS	23	15	MAR-15	SEP-16	NOV-19	JAN-20	AUG-20	NOV-20	DEC-20	0	0	0	0	45,407	45,407	
LCS	24	16	MAR-16	AUG-16	SEP-19	NOV-19	JUN-21	SEP-21	OCT-20	0	0	0	0	46,363	46,363	
LCS	25	16	MAR-16	MAR-17	NOV-20	JAN-21	AUG-21	NOV-21	OCT-21	0	0	0	0	46,363	46,363	
LCS	26	16	MAR-16	AUG-17	NOV-20	JAN-21	AUG-21	NOV-21	OCT-21	0	0	0	0	46,363	46,363	
LCS Total										9,034	41,637	81,977	164,517	713,117	1,010,282	

<b>CLASSIFICATION:</b> UNCLASSIFIED																
<b>BUDGET ITEM JUSTIFICATION SHEET(P-30)</b>											<b>DATE</b>					
<b>FY 2016 President's Budget Cycle</b>											<b>February 2015</b>					
<b>APPROPRIATION/BUDGET ACTIVITY</b>											<b>P-1 LINE ITEM NOMENCLATURE</b>					
<b>SHIPBUILDING AND CONVERSION, NAVY/BA 5</b>											<b>OUTFITTING</b>					
											<b>BLI: 5110</b>					
Ship Type	HULL NO	PROG YEAR	Contract Award	Start of Constr.	DEL DATE	CFO DATE	PSA START	PSA FINISH	OWLD	PRIOR YEARS	FY 2014	FY 2015	FY 2016	TO COMP	TOTAL	
VIRGINIA	782	07	JAN-04	FEB-07	MAY-12	MAY-12	FEB-13	MAY-14	MAY-14	47,141	2,800	0	0	0	49,941	
VIRGINIA	783	08	JAN-04	FEB-08	JUN-13	JUN-13	FEB-14	FEB-15	MAR-15	7,492	28,452	11,300	0	0	47,244	
VIRGINIA	784	09	DEC-08	MAR-09	AUG-14	AUG-14	JUN-15	JUL-15	JUL-15	457	24,716	29,702	0	0	54,875	
VIRGINIA	785	10	DEC-08	MAR-10	APR-15	APR-15	JUL-15	DEC-15	MAR-16	0	3,998	51,001	0	0	54,999	
VIRGINIA	786	11	DEC-08	MAR-11	DEC-15	DEC-15	MAY-16	SEP-16	NOV-16	0	0	0	55,123	0	55,123	
VIRGINIA	787	11	DEC-08	SEP-11	JUN-16	JUN-16	JAN-17	MAY-17	MAY-17	0	0	0	8,523	47,476	55,999	
VIRGINIA	788	12	DEC-08	MAR-12	NOV-16	NOV-16	MAY-17	AUG-17	OCT-17	0	0	0	4,530	52,469	56,999	
VIRGINIA	789	12	DEC-08	SEP-12	JUN-17	JUN-17	JAN-18	MAY-18	MAY-18	0	0	0	0	56,999	56,999	
VIRGINIA	790	13	DEC-08	MAR-13	NOV-17	NOV-17	MAR-18	SEP-18	OCT-18	0	0	0	0	57,999	57,999	
VIRGINIA	791	13	DEC-08	SEP-13	JUN-18	JUN-18	OCT-18	MAR-19	MAY-19	0	0	0	0	57,999	57,999	
VIRGINIA	792	14	APR-14	MAY-14	JUN-19	JUN-19	SEP-19	FEB-20	MAY-20	0	0	0	0	58,999	58,999	
VIRGINIA	793	14	APR-14	SEP-14	NOV-19	NOV-19	MAR-20	AUG-20	OCT-20	0	0	0	0	58,999	58,999	
VIRGINIA	794	15	APR-14	APR-15	MAY-20	MAY-20	SEP-20	FEB-21	APR-21	0	0	0	0	59,999	59,999	
VIRGINIA	795	15	APR-14	SEP-15	SEP-20	SEP-20	MAR-21	AUG-21	AUG-21	0	0	0	0	59,999	59,999	
<b>VIRGINIA Total</b>											<b>55,090</b>	<b>59,966</b>	<b>92,003</b>	<b>68,176</b>	<b>510,938</b>	<b>786,173</b>
CVN-RCOH	71	09	AUG-09	AUG-09	AUG-13	SEP-13	AUG-13	FEB-14	DEC-14	25,019	7,350	0	0	0	32,369	
CVN-RCOH	72	12	MAR-13	MAR-13	NOV-16	JAN-17	DEC-16	FEB-17	DEC-17	0	0	0	945	34,010	34,955	
CVN-RCOH	73	16	JUL-17	JUL-17	FEB-21	APR-21	FEB-21	MAR-22	MAR-22	0	0	0	0	38,952	38,952	
<b>CVN-RCOH Total</b>											<b>25,019</b>	<b>7,350</b>	<b>0</b>	<b>945</b>	<b>72,962</b>	<b>106,276</b>
CVN	78	08	SEP-08	AUG-05	MAR-16	MAY-16	SEP-16	MAR-17	APR-17	0	0	0	72,253	2,336	74,589	
CVN	79	13	MAY-15	FEB-11	JUN-22	SEP-24	MAY-23	SEP-24	AUG-25	0	0	0	0	99,550	99,550	
<b>CVN Total</b>											<b>0</b>	<b>0</b>	<b>0</b>	<b>72,253</b>	<b>101,886</b>	<b>174,139</b>
															<b>0</b>	<b>0</b>
<b>Full Funding TOA-Post Delivery Total</b>											<b>177,972</b>	<b>211,906</b>	<b>278,758</b>	<b>442,868</b>	<b>2,121,344</b>	<b>3,232,848</b>
<b>Full Funding TOA-First Destination Transportation Total</b>											<b>18,065</b>	<b>4,243</b>	<b>5,043</b>	<b>5,123</b>	<b>26,623</b>	<b>59,097</b>
<b>Full Funding TOA-Outfitting Total</b>											<b>316,944</b>	<b>166,687</b>	<b>190,828</b>	<b>249,216</b>	<b>1,025,071</b>	<b>1,948,746</b>
<b>Total Obligational Authority Total</b>											<b>512,981</b>	<b>382,836</b>	<b>474,629</b>	<b>697,207</b>	<b>3,173,038</b>	<b>5,240,691</b>



CLASSIFICATION: UNCLASSIFIED										
BUDGET ITEM JUSTIFICATION SHEET (P-40) FY2016 PB Cycle								DATE: February 2015		
APPROPRIATION/BUDGET ACTIVITY SHIPBUILDING AND CONVERSION, NAVY/BA 5 Auxiliaries, Craft and Prior Year Program Costs						P-1 LINE ITEM NOMENCLATURE SHIP TO SHORE CONNECTOR BLI: 5112				
(Dollars in Millions)	PRIOR YR	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TO COMP	TOTAL PROG
QUANTITY	0	0	3	5	5	9	10	9	31	72
End Cost	0.0	0.0	193.7	255.6	275.6	500.6	560.6	509.9	1,746.0	4,042.0
Less Previously Appropriated RDT&E,N	0.0	0.0	34.1	0.0	0.0	0.0	0.0	0.0	0.0	34.1
Full Funding TOA	0.0	0.0	159.6	255.6	275.6	500.6	560.6	509.9	1,746.0	4,007.9
Plus Previously Appropriated RDT&E,N	21.5	12.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.1
Total Obligational Authority	21.5	12.6	159.6	255.6	275.6	500.6	560.6	509.9	1,746.0	4,042.0
Plus Outfitting / Plus Post Delivery	0.0	0.0	0.0	0.0	0.0	3.6	8.3	17.2	101.3	130.4
Total	0.0	0.0	159.6	255.6	275.6	504.2	568.9	527.1	1,847.3	4,172.4
Unit Cost ( Ave. End Cost)	0.0	0.0	64.6	51.1	55.1	55.6	56.1	56.7	56.3	56.1
MISSION:										
The Ship to Shore Connector (SSC) program provides the capability to rapidly move assault forces with the littoral operational environment to accomplish Unified Command Plan (UCP) missions and ensures the Joint Force Commander's (JFCDR's) ability to conduct amphibious operations and operate over the high water mark, including movement over ice, mud, rivers, swamps and marshes. SSC provides the functional replacement for the LCAC Class of ships, which begin reaching extended service life in 2015. This program provides SCN funding for 72 craft.										
The Test and Training craft (Craft 100) and R&D cost for Craft 101 are funded in RDT&E Project 3137 which realigns from PE 0604567N to PE 0605220N in FY15 and out.										
The Department of Defense Appropriations Act, 2015 directed that the Department complete Craft 101 in the Shipbuilding and Conversion, Navy Appropriation. Craft 101 is partially financed with \$34.1M of FY 13/FY 14 R&D funding.										
CHARACTERISTICS:										
Hull:	Aluminum									
Length overall	91.8 FT									
Beam	48.3 FT									
Displacement	180.57 mt									
Draft	N/A									
Armament:	N/A									
	FY15	FY15	FY15	FY16	FY16	FY16	FY16	FY16	FY16	
Production Status:	LCAC 101	LCAC 102	LCAC 103	LCAC 104	LCAC 105	LCAC 106	LCAC 107	LCAC 108		
Contract Award Date	12/12	3/15	3/15	3/16	3/16	3/16	3/16	3/16		
Months to Completion:										
a) Contract Award to Delivery	57 months	47 months	52 months	46 months	47 months	48 months	50 months	51 months		
b) Construction Start to Delivery	32 months	35 months	34 months	34 months	32 months	31 months	30 months	29 months		
Delivery Date	08/17	01/19	06/19	12/19	01/20	02/20	04/20	05/20		
Completion of Fitting Out	08/17	01/19	06/19	12/19	01/20	02/20	04/20	05/20		
Obligation Work Limiting Date	07/18	12/19	05/20	11/20	12/20	01/21	03/21	04/21		

**CLASSIFICATION: UNCLASSIFIED**

APPROPRIATION: SHIPBUILDING AND CONVERSION, NAVY

P-5 EXHIBIT

**FY2016 PB Cycle**

February 2015

**WEAPON SYSTEM COST ANALYSIS (EXHIBIT P-5)**

(Dollars in Thousands)

<b>BUDGET ACTIVITY: 5</b>		<b>P-1 LINE ITEM NOMENCLATURE</b>		<b>SUBHEAD NO. BLI: 5112</b>	
<b>Auxiliaries, Craft and Prior Year Program Costs</b>		<b>SHIP TO SHORE CONNECTOR</b>			
<b>ELEMENT OF COST</b>	<b>FY 2015</b>		<b>FY 2016</b>		
	<b>QTY</b>	<b>COST</b>	<b>QTY</b>	<b>COST</b>	
PLAN COSTS	3		5		
BASIC CONST/CONVERSION		144,628		210,790	
CHANGE ORDERS		6,420		10,000	
ELECTRONICS		5,633		9,800	
HM&E		11,870		6,082	
OTHER COST		25,052		18,858	
ORDNANCE		100		100	
TOTAL SHIP ESTIMATE		193,703		255,630	
LESS FY 13 RDT&E,N		21,486			
LESS FY 14 RDT&E,N		12,617			
NET P-1 LINE ITEM:		159,600		255,630	

CLASSIFICATION: UNCLASSIFIED

**SHIPBUILDING AND CONVERSION, NAVY**  
Analysis of Ship Cost Estimate - Basic/Escalation  
Ship Type: SSC

**P-5B Exhibit**  
**FY2016 PB Cycle**  
February 2015

<b><u>I. Design/Schedule</u></b>	<b><u>Start/Issue</u></b>	<b><u>Complete</u></b>	<b><u>Reissue</u></b>	<b><u>Complete</u></b>
		<b><u>/Response</u></b>		<b><u>/Response</u></b>
Issue date for TLR	N/A	N/A		
Issue date for TLS	N/A	N/A		
Preliminary Design	21 APR 08	06 MAY 09		
Contract Design	07 MAY 09	07 JUL 10		
Detail Design	06 JUL 12	15 SEP 14		
Request for Proposals	20 MAY 11	07 JUL 12		
Design Agent	NAVSEA/TEXTRON, INC			
ISSUE DATE FOR CDD	01 JUL 08	10 JUN 10		
<b><u>II. Classification of Cost Estimate</u></b>				
<b><u>III. Basic Construction/Conversion</u></b>	<b><u>FY15/16</u></b>			
A. Actual Award Date	06 JUL 12			
B. Contract Type ( and Share Line if applicable )	FPIF (50/50)			
<b><u>IV. Escalation</u></b>				
Escalation Termination Date	N/A			
Escalation Requirement	N/A			
Labor/Material Split	N/A			
Allowable Overhead Rate	N/A			
<b><u>V. Other Basic(Reserves/Miscellaneous)</u></b>	<b><u>Amount</u></b>			

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
SHIP PRODUCTION SCHEDULE

EXHIBIT P-27  
FY2016 PB Cycle  
February 2015

SHIP TYPE	HULL NUMBER	SHIPBUILDER	FISCAL YEAR AUTHORIZED	CONTRACT AWARD	START OF CONSTRUCTION	DELIVERY DATE
LCAC	101	TEXTRON, INC	15	DEC-12	JAN-15	AUG-17
LCAC	102	TEXTRON, INC	15	MAR-15	MAR-16	JAN-19
LCAC	103	TEXTRON, INC	15	MAR-15	SEP-16	JUN-19
LCAC	104	TEXTRON, INC	16	MAR-16	MAR-17	DEC-19
LCAC	105	TEXTRON, INC	16	MAR-16	JUN-17	JAN-20
LCAC	106	TEXTRON, INC	16	MAR-16	AUG-17	FEB-20
LCAC	107	TEXTRON, INC	16	MAR-16	NOV-17	APR-20
LCAC	108	TEXTRON, INC	16	MAR-16	JAN-18	MAY-20
LCAC	109	TBD	17	MAR-17	MAR-18	JUL-20
LCAC	110	TBD	17	MAR-17	JUN-18	AUG-20
LCAC	111	TBD	17	MAR-17	AUG-18	SEP-20
LCAC	112	TBD	17	MAR-17	NOV-18	NOV-20
LCAC	113	TBD	17	MAR-17	JAN-19	DEC-20
LCAC	114	TBD	18	MAR-18	MAR-19	JAN-21
LCAC	115	TBD	18	MAR-18	MAY-19	FEB-21
LCAC	116	TBD	18	MAR-18	JUN-19	MAR-21
LCAC	117	TBD	18	MAR-18	AUG-19	MAR-21
LCAC	118	TBD	18	MAR-18	SEP-19	MAR-21
LCAC	119	TBD	18	MAR-18	NOV-19	MAY-21
LCAC	120	TBD	18	MAR-18	DEC-19	JUN-21
LCAC	121	TBD	18	MAR-18	FEB-20	AUG-21
LCAC	122	TBD	18	MAR-18	MAR-19	MAR-22
LCAC	123	TBD	19	MAR-19	MAR-20	SEP-21
LCAC	124	TBD	19	MAR-19	MAY-20	NOV-21
LCAC	125	TBD	19	MAR-19	JUN-20	DEC-21
LCAC	126	TBD	19	MAR-19	AUG-20	FEB-22
LCAC	127	TBD	19	MAR-19	SEP-20	MAR-22
LCAC	128	TBD	19	MAR-19	NOV-20	MAY-22
LCAC	129	TBD	19	MAR-19	DEC-20	JUN-22
LCAC	130	TBD	19	MAR-19	FEB-21	AUG-22
LCAC	131	TBD	19	MAR-19	MAR-20	MAR-23

**CLASSIFICATION: UNCLASSIFIED**

**SHIPBUILDING AND CONVERSION, NAVY  
SHIP PRODUCTION SCHEDULE**

**EXHIBIT P-27  
FY2016 PB Cycle  
February 2015**

SHIP TYPE	HULL NUMBER	SHIPBUILDER	FISCAL YEAR AUTHORIZED	CONTRACT AWARD	START OF CONSTRUCTION	DELIVERY DATE
LCAC	132	TBD	19	MAR-19	SEP-20	JUL-23
LCAC	133	TBD	20	MAR-20	MAR-21	OCT-22
LCAC	134	TBD	20	MAR-20	MAY-21	NOV-22
LCAC	135	TBD	20	MAR-20	JUL-21	JAN-23
LCAC	136	TBD	20	MAR-20	SEP-21	MAR-23
LCAC	137	TBD	20	MAR-20	NOV-21	MAY-23
LCAC	138	TBD	20	MAR-20	JAN-22	JUL-23
LCAC	139	TBD	20	MAR-20	MAR-21	DEC-23
LCAC	140	TBD	20	MAR-20	JUL-21	MAR-24
LCAC	141	TBD	20	MAR-20	NOV-21	JUN-24

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CLASSIFICATION: UNCLASSIFIED																																																																
<b>BUDGET ITEM JUSTIFICATION SHEET (P-40)</b>								DATE:																																																								
<b>FY 2016 President's Budget</b>								FEBRUARY 2015																																																								
APPROPRIATION/BUDGET ACTIVITY <b>SHIPBUILDING AND CONVERSION, NAVY/BA 5 Auxiliaries, Craft and Prior Year Program Costs</b>					P-1 LINE ITEM NOMENCLATURE <b>SERVICE CRAFT</b> <b>BLI: 5113 / SUBHEAD NO.</b>																																																											
(Dollars in Millions)	PRIOR YR	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TO COMP	TOTAL PROG																																																						
QUANTITY	37	0	0	3	5	5	4	3	0	57																																																						
End Cost	105.2	0.0	0.0	30.0	36.6	37.2	34.7	32.2	0.0	276.0																																																						
Full Funding TOA	105.2	0.0	0.0	30.0	36.6	37.2	34.7	32.2	0.0	276.0																																																						
Total Obligational Authority	105.2	0.0	0.0	30.0	36.6	37.2	34.7	32.2	0.0	276.0																																																						
Plus Outfitting / Plus Post Delivery	2.1	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9																																																						
Total	107.2	0.9	0.0	30.0	36.6	37.2	34.7	32.2	0.0	278.9																																																						
Unit Cost ( Ave. End Cost)	2.8	0.0	0.0	10.0	7.3	7.4	8.7	10.7	0.0	4.8																																																						
<p>MISSION:</p> <p>The US Navy owns/operates approximately 370 Service Craft of 36 different classes at 57 different commands and activities throughout the world. Nearly half of the Service Craft inventory is over 40 years of age.</p> <p>The Service Craft budget will procure replacement craft for the following: Harbor Tug (YT) - To maneuver ships, tow barges and submarines in close quarters such as channel operations, harbors, coastal waters, mooring, docking or undocking;</p> <p>Fuel Oil Barge (YON) - To carry liquid petroleum products for refueling ships; Waste Oil Barge (YWO) - To offload waste oil from ships and transport for processing.</p> <div style="display: flex; justify-content: space-between;"> <div> <p>Characteristics:</p> <p>Hull Various - Multiple Craft</p> </div> <div> <p>Armament:</p> <p>N/A</p> </div> <div> <p>Electronics:</p> <p>N/A</p> </div> </div> <table style="width: 100%; border-collapse: collapse;"> <tr> <td></td> <td>FY11</td> <td>FY11</td> <td>FY16</td> <td>FY16</td> <td>FY16</td> </tr> <tr> <td>Production Status</td> <td>YON-337</td> <td>YON-338</td> <td>YWO-03</td> <td>YT-808</td> <td>YT-809</td> </tr> <tr> <td>Contract Award Date</td> <td>11/13</td> <td>11/13</td> <td>07/16</td> <td>07/16</td> <td>07/16</td> </tr> <tr> <td>Month(s) to Completion</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(a) Contract Award to Delivery</td> <td>22 months</td> <td>22 months</td> <td>17 months</td> <td>15months</td> <td>18 months</td> </tr> <tr> <td>(b) Construction Start to Delivery</td> <td>19 months</td> <td>16 months</td> <td>14 months</td> <td>12 months</td> <td>12 months</td> </tr> <tr> <td>Delivery Date</td> <td>09/15</td> <td>09/15</td> <td>12/17</td> <td>10/17</td> <td>01/18</td> </tr> <tr> <td>Completion of Fitting Out</td> <td>09/15</td> <td>09/15</td> <td>02/18</td> <td>12/17</td> <td>03/18</td> </tr> <tr> <td>Obligation Work Limiting Date</td> <td>09/15</td> <td>09/15</td> <td>01/19</td> <td>11/18</td> <td>02/19</td> </tr> </table>												FY11	FY11	FY16	FY16	FY16	Production Status	YON-337	YON-338	YWO-03	YT-808	YT-809	Contract Award Date	11/13	11/13	07/16	07/16	07/16	Month(s) to Completion						(a) Contract Award to Delivery	22 months	22 months	17 months	15months	18 months	(b) Construction Start to Delivery	19 months	16 months	14 months	12 months	12 months	Delivery Date	09/15	09/15	12/17	10/17	01/18	Completion of Fitting Out	09/15	09/15	02/18	12/17	03/18	Obligation Work Limiting Date	09/15	09/15	01/19	11/18	02/19
	FY11	FY11	FY16	FY16	FY16																																																											
Production Status	YON-337	YON-338	YWO-03	YT-808	YT-809																																																											
Contract Award Date	11/13	11/13	07/16	07/16	07/16																																																											
Month(s) to Completion																																																																
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Obligation Work Limiting Date	09/15	09/15	01/19	11/18	02/19																																																											

APPROPRIATION: SHIPBUILDING AND CONVERSION, NAVY

**FY 2016 President's Budget**

FEBRUARY 2015

## (Dollars in Thousands)

BUDGET ACTIVITY: 5	P-1 LINE ITEM NOMENCLATURE	SUBHEAD NO. BLI: 5113
Auxiliaries, Craft and Prior Year Program Costs	SERVICE CRAFT	
ELEMENT OF COST	FY 2011 QTY      COST	FY 2016 QTY      COST
PLAN COSTS	3	3
BASIC CONST/CONVERSION	13,011	28,264
CHANGE ORDERS		600
HM&E	583	950
OTHER COST	100	200
TOTAL SHIP ESTIMATE	13,694	30,014
NET P-1 LINE ITEM:	13,694	30,014
	FY 2011 3-YON      13,694	FY 2016 2-YT      26,437
		1-YWO      3,577
TOTAL	3      13,694	3      30,014



CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
SHIP PRODUCTION SCHEDULE

EXHIBIT P-27

FY 2016 President's Budget

DATE:

FEBRUARY 2015

SHIP TYPE	HULL NUMBER	SHIPBUILDER	FISCAL YEAR AUTHORIZED	CONTRACT AWARD	START OF CONSTRUCTION	DELIVERY DATE
YON	337	MAYBANK INDUSTRIES	11	NOV-13	FEB-14	SEP-15
YON	338	MAYBANK INDUSTRIES	11	NOV-13	MAY-14	SEP-15
YON	339	TBD	17	MAR-17	APR-17	JUN-18
YON	340	TBD	18	MAR-18	APR-18	JUN-19
YON	341	TBD	19	MAR-19	APR-19	JUN-20
YON	342	TBD	20	MAR-20	APR-20	JUN-21
YWO	03	TBD	16	JUL-16	OCT-16	DEC-17
YWO	04	TBD	17	MAR-17	JUN-17	APR-18
YWO	05	TBD	17	MAR-17	SEP-17	JUN-18
YWO	06	TBD	18	MAR-18	APR-18	DEC-18
YWO	07	TBD	18	MAR-18	APR-18	DEC-18
YWO	08	TBD	19	MAR-19	APR-19	DEC-19
YT	808	TBD	16	JUL-16	OCT-16	OCT-17
YT	809	TBD	16	JUL-16	JAN-17	JAN-18
YT	1701	TBD	17	MAR-17	MAY-17	MAY-18
YT	1702	TBD	17	MAR-17	JUL-17	JUL-18
YT	1801	TBD	18	MAR-18	MAY-18	MAY-19
YT	1802	TBD	18	MAR-18	JUL-18	JUL-19
YT	1901	TBD	19	MAR-19	MAY-19	MAY-20
YT	1902	TBD	19	MAR-19	JUL-19	JUL-20
YT	2001	TBD	20	MAR-20	MAY-20	APR-21
YT	2002	TBD	20	MAR-20	JUL-20	JUL-21

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CLASSIFICATION: UNCLASSIFIED																				
BUDGET ITEM JUSTIFICATION SHEET (P-40)								DATE:												
FY2016 PB Cycle								February 2015												
APPROPRIATION/BUDGET ACTIVITY						P-1 LINE ITEM NOMENCLATURE														
SHIPBUILDING AND CONVERSION, NAVY/BA 5 Auxiliaries, Craft and Prior Year Program Costs						LCAC SLEP														
						BLI: 5139														
(Dollars in Millions)	PRIOR YR	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TO COMP	TOTAL PROG										
QUANTITY	54	4	2	4	4	0	0	0	4	72										
End Cost	1,136.2	81.0	40.5	80.7	82.8	0.0	0.0	0.0	85.1	1,506										
Less Advance Procurement	27.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28										
Less Transfer	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2										
Less Cost To Complete	14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14										
Less Katrina Supplemental	19.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20										
Full Funding TOA	1,073.0	81.0	40.5	80.7	82.8	0.0	0.0	0.0	85.1	1,443										
Plus Advance Procurement	27.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28										
Plus Transfer Cost	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2										
Plus Cost To Complete	14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14										
Total Obligational Authority	1,136.2	81.0	40.5	80.7	82.8	0.0	0.0	0.0	85.1	1,506										
Plus Outfitting / Plus Post Delivery	7.8	2.4	1.1	1.1	1.9	1.9	1.0	0.1	0.0	17										
Plus Katrina Supplement	19.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20										
Total	1,163.8	83.4	41.6	81.8	84.7	1.9	1.0	0.1	85.1	1,543										
Unit Cost ( Ave. End Cost)	21.0	20.3	20.3	20.3	20.9	0.0	0.0	0.0	21.3	124										
<p>MISSION:</p> <p>Landing Craft Air Cushion (LCAC) transports weapon systems, equipment, cargo and personnel of the assault elements of the Marine Air/Ground Task Force from ship to shore and across the beach. The LCAC Service Life Extension Program (SLEP) extends the craft service life from twenty years to thirty years. The new hull incorporates four modifications: 1) Additional internal compartmentation to increase cargo carrying capacity, 2) A modified fuel system to increase range, 3) Improved skirt attachments to reduce maintenance and 4) Deep skirt to improve performance and maximize safety. The SLEP will also include the C4N electronic suite replacement as well as a modified set of TF40B engines, designated ETF40B.</p> <p>Characteristics:</p> <table style="width: 100%;"> <tr> <td style="width: 50%;">Hull</td> <td>Air Cushion</td> </tr> <tr> <td>Length Overall</td> <td>88ft</td> </tr> <tr> <td>Beam</td> <td>47ft</td> </tr> <tr> <td>Displacement</td> <td>150 tons</td> </tr> <tr> <td>Draft</td> <td>None (rides on cushion of air)</td> </tr> </table>											Hull	Air Cushion	Length Overall	88ft	Beam	47ft	Displacement	150 tons	Draft	None (rides on cushion of air)
Hull	Air Cushion																			
Length Overall	88ft																			
Beam	47ft																			
Displacement	150 tons																			
Draft	None (rides on cushion of air)																			

CLASSIFICATION: UNCLASSIFIED

APPROPRIATION: SHIPBUILDING AND CONVERSION, NAVY

P-5 EXHIBIT

FY2016 PB Cycle

February 2015

WEAPON SYSTEM COST ANALYSIS (EXHIBIT P-5)

(Dollars in Thousands)

BUDGET ACTIVITY: 5		P-1 LINE ITEM NOMENCLATURE		SUBHEAD NO. BLI: 5139	
Auxiliaries, Craft and Prior Year Program Costs		LCAC SLEP			
ELEMENT OF COST	FY 2012		FY 2013		
	QTY	COST	QTY	COST	
PLAN COSTS	4		4		
BASIC CONST/CONVERSION		35,944		37,950	
ELECTRONICS		7,007		7,600	
HM&E		37,446		36,367	
OTHER COST		3,679		3,800	
TOTAL SHIP ESTIMATE		84,076		85,717	
NET P-1 LINE ITEM:		84,076		85,717	

CLASSIFICATION: UNCLASSIFIED

APPROPRIATION: SHIPBUILDING AND CONVERSION, NAVY

P-5 EXHIBIT

FY2016 PB Cycle

February 2015

WEAPON SYSTEM COST ANALYSIS (EXHIBIT P-5)

(Dollars in Thousands)

BUDGET ACTIVITY: 5		P-1 LINE ITEM NOMENCLATURE		SUBHEAD NO. BLI: 5139		
Auxiliaries, Craft and Prior Year Program Costs		LCAC SLEP				
ELEMENT OF COST	FY 2014		FY 2015		FY 2016	
	QTY	COST	QTY	COST	QTY	COST
PLAN COSTS	4		2		4	
BASIC CONST/CONVERSION		33,714		18,000		35,796
ELECTRONICS		7,428		3,500		7,051
HM&E		36,196		17,363		35,401
OTHER COST		3,649		1,622		2,490
TOTAL SHIP ESTIMATE		80,987		40,485		80,738
NET P-1 LINE ITEM:		80,987		40,485		80,738

## SHIPBUILDING AND CONVERSION, NAVY

FY2016 PB Cycle

Analysis of Ship Cost Estimate - Basic/Escalation

February 2015

Ship Type: LCAC

<b>I. <u>Design/Schedule</u></b>	<b><u>Start/Issue</u></b>	<b><u>Complete</u></b> <b><u>/Response</u></b>	<b><u>Reissue</u></b>
Issue date for TLR	N/A	N/A	
Issue date for TLS	N/A	N/A	
Preliminary Design	N/A	N/A	
Contract Design	N/A	N/A	
Detail Design	N/A	N/A	
REQUEST FOR PROPOSALS - FY13 / FY14 SLEP	JAN 2014	FEB 2014	
Design Agent	BOSTON PLANNING YARD	BOSTON PLANNING YARD	
REQUEST FOR PROPOSALS - FY 15 SLEP	NOV 2014	FEB 2015	
REQUEST FOR PROPOSALS - FY 16 SLEP	TBD	TBD	
<b>II. <u>Classification of Cost Estimate</u></b>	N/A		
<b>III. <u>Basic Construction/Conversion</u></b>	FY13 (WEST COAST) / FY14 SLEP (EAST/ WEST COAST)	FY15 SLEP	FY16 SLEP
A. Actual Award Date	JUNE 2014	JULY 2015	MARCH 2016
B. Contract Type ( and Share Line if applicable )	FFP	FFP	FFP
<b>IV. <u>Escalation</u></b>			
Escalation Termination Date	N/A	N/A	N/A
Escalation Requirement	N/A	N/A	N/A
Labor/Material Split	N/A	N/A	N/A
Allowable Overhead Rate	N/A	N/A	N/A
<b>V. <u>Other Basic(Reserves/Miscellaneous)</u></b>			
1. LCAC SLEP DOES NOT HAVE STAGES OF DESIGN LIKE NEW CONSTRUCTION SHIPS. THE LCAC PLANNING YARD PUTS TOGETHER WORK ITEMS IN A SLEP WORK PACKAGE. THIS WORK PACKAGE IS THEN INCLUDED IN THE RFP, WHICH IS COMPETED.			
2. ESCALATION DOES NOT APPLY TO FFP CONTRACTS.			

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
SHIP PRODUCTION SCHEDULE

EXHIBIT P-27  
FY2016 PB Cycle  
February 2015

SHIP TYPE	HULL NUMBER	SHIPBUILDER	FISCAL YEAR AUTHORIZED	CONTRACT AWARD	START OF CONSTRUCTION	DELIVERY DATE
LCAC SLEP	060	L-3 UNIDYNE, INC.	12	FEB-12	JAN-13	JAN-15
LCAC SLEP	088	L-3 UNIDYNE, INC.	13	SEP-13	OCT-13	FEB-15
LCAC SLEP	089	L-3 UNIDYNE, INC.	13	SEP-13	FEB-14	MAY-15
LCAC SLEP	081	L-3 UNIDYNE, INC.	13	JUN-14	JUL-14	OCT-15
LCAC SLEP	090	L-3 UNIDYNE, INC.	13	JUN-14	NOV-14	FEB-16
LCAC SLEP	078	L-3 UNIDYNE, INC.	14	JUN-14	AUG-14	DEC-15
LCAC SLEP	083	L-3 UNIDYNE, INC.	14	JUN-14	FEB-15	JUN-16
LCAC SLEP	052	L-3 UNIDYNE, INC.	14	JUN-14	MAR-15	JUN-16
LCAC SLEP	057	L-3 UNIDYNE, INC.	14	JUN-14	JUL-15	OCT-16
LCAC SLEP	084	TBD	15	JUL-15	NOV-15	MAR-17
LCAC SLEP	058	TBD	15	JUL-15	NOV-15	MAR-17
LCAC SLEP	085	TBD	16	MAR-16	JUN-16	SEP-17
LCAC SLEP	064	TBD	16	MAR-16	JUN-16	SEP-17
LCAC SLEP	065	TBD	16	MAR-16	OCT-16	JAN-18
LCAC SLEP	076	TBD	16	MAR-16	FEB-17	MAY-18
LCAC SLEP	086	TBD	17	FEB-17	JUN-17	SEP-18
LCAC SLEP	087	TBD	17	FEB-17	OCT-17	JAN-19
LCAC SLEP	077	TBD	17	FEB-17	FEB-18	MAY-19
LCAC SLEP	014	TBD	17	FEB-17	JUN-17	SEP-18

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CLASSIFICATION: UNCLASSIFIED																																																								
<b>BUDGET ITEM JUSTIFICATION SHEET (P-40)</b> <b>FY2016 President's Budget</b>									DATE: FEBRUARY 2015																																															
APPROPRIATION/BUDGET ACTIVITY <b>SHIPBUILDING AND CONVERSION, NAVY/BA 5 Auxiliaries, Craft and Prior Year Program Costs</b>						P-1 LINE ITEM NOMENCLATURE <b>YP SLEP</b> <b>BLI: 5212</b>																																																		
(Dollars in Millions)	PRIOR YR	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TO COMP	TOTAL PROG																																														
QUANTITY	0	0	0	6	6	0	0	0	0	12																																														
End Cost	0.0	0.0	0.0	21.8	22.4	0.0	0.0	0.0	0.0	44.2																																														
Full Funding TOA	0.0	0.0	0.0	21.8	22.4	0.0	0.0	0.0	0.0	44.2																																														
Total Obligational Authority	0.0	0.0	0.0	21.8	22.4	0.0	0.0	0.0	0.0	44.2																																														
Plus Outfitting / Plus Post Delivery	0.0	0.0	0.0	0.1	0.3	0.1	0.0	0.0	0.0	0.6																																														
Total	0.0	0.0	0.0	21.9	22.7	0.1	0.0	0.0	0.0	44.8																																														
Unit Cost ( Avg. End Cost)	0.0	0.0	0.0	3.7	3.8	0.0	0.0	0.0	0.0	3.7																																														
MISSION: Naval Academy YP (Yard Patrol) craft are utilized to train midshipmen on piloting, seamanship, navigation, and engineering. The YP Service Life Extension Program (SLEP) extends the YP 676 Class service life approximately 10 years beyond the current average vessel age of 27 years. YP SLEP work items include but are not limited to the following: hull fendering, electronic navigation system components, paint and non-skid, damaged hull sections, hatches and deck planking, various pumps (bilge, seawater cooling, fire), and galley appliances. The SLEP will also include the overhaul of the engines and transformers, and propeller repair. The required repairs will vary by craft and each SLEP availability will take approximately six months per craft.																																																								
<table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">Characteristics:</td> <td style="width: 33%;">Armament:</td> <td style="width: 33%;">Electronics:</td> </tr> <tr> <td>Hull</td> <td>YP 676 Class</td> <td>N/A</td> </tr> <tr> <td>Length Overall</td> <td>108 FT</td> <td></td> </tr> <tr> <td>Beam</td> <td>24 FT</td> <td></td> </tr> <tr> <td>Displacement</td> <td>173 LT</td> <td></td> </tr> <tr> <td>Draft</td> <td>6 FT</td> <td></td> </tr> <tr> <td colspan="3"> </td> </tr> <tr> <td>Production Status</td> <td>FY16 YP SLEP - Hulls 687/689/690</td> <td>FY16 YP SLEP - Hulls 692/688/686</td> </tr> <tr> <td>Contract Award Date</td> <td>01/16</td> <td>01/16</td> </tr> <tr> <td>Month(s) to Completion</td> <td></td> <td></td> </tr> <tr> <td>(a) Contract Award to Delivery</td> <td>6 months</td> <td>12 months</td> </tr> <tr> <td>(b) Construction Start to Delivery</td> <td>6 months</td> <td>6 months</td> </tr> <tr> <td>Delivery Date</td> <td>07/16</td> <td>01/17</td> </tr> <tr> <td>Completion of Fitting Out</td> <td>09/16</td> <td>03/17</td> </tr> <tr> <td>Obligation Work Limiting Date</td> <td>08/17</td> <td>02/18</td> </tr> </table>												Characteristics:	Armament:	Electronics:	Hull	YP 676 Class	N/A	Length Overall	108 FT		Beam	24 FT		Displacement	173 LT		Draft	6 FT					Production Status	FY16 YP SLEP - Hulls 687/689/690	FY16 YP SLEP - Hulls 692/688/686	Contract Award Date	01/16	01/16	Month(s) to Completion			(a) Contract Award to Delivery	6 months	12 months	(b) Construction Start to Delivery	6 months	6 months	Delivery Date	07/16	01/17	Completion of Fitting Out	09/16	03/17	Obligation Work Limiting Date	08/17	02/18
Characteristics:	Armament:	Electronics:																																																						
Hull	YP 676 Class	N/A																																																						
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CLASSIFICATION: UNCLASSIFIED

APPROPRIATION: SHIPBUILDING AND CONVERSION, NAVY

P-5 EXHIBIT

FY2016 President's Budget

FEBRUARY 2015

WEAPON SYSTEM COST ANALYSIS (EXHIBIT P-5)

(Dollars in Thousands)

BUDGET ACTIVITY: 5		P-1 LINE ITEM NOMENCLATURE	BLI: 5212
Auxiliaries, Craft and Prior Year Program Costs		YP SLEP	
FY 2016			
ELEMENT OF COST	QTY	COST	
PLAN COSTS	6		
BASIC CONST/CONVERSION		21,338	
HM&E		500	
TOTAL SHIP ESTIMATE		21,838	
NET P-1 LINE ITEM:		21,838	

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
Analysis of Ship Cost Estimate - Basic/Escalation

Ship Type: YP SLEP

P-5B Exhibit

FY2016 President's Budget

DATE:

FEBRUARY 2015

<u>I. Design/Schedule</u>	<u>Start/Issue</u>	<u>Complete</u>	<u>Reissue</u>	<u>Complete</u>
		<u>/Response</u>		<u>/Response</u>
Issue date for TLR	N/A	N/A		
Issue date for TLS	N/A	N/A		
Preliminary Design	N/A	N/A		
Contract Design	N/A	N/A		
Detail Design	N/A	N/A		
Request for Proposals	TBD	TBD		
Design Agent	PEO SHIPS, PMS 325 DET BOSTON			
<u>II. Classification of Cost Estimate</u>	N/A			
<u>III. Basic Construction/Conversion</u>				
A. Actual Award Date				
B. Contract Type ( and Share Line if applicable )				
<u>IV. Escalation</u>				
Escalation Termination Date				
Escalation Requirement				
Labor/Material Split				
Allowable Overhead Rate				
<u>V. Other Basic(Reserves/Miscellaneous)</u>	<u>Amount</u>			

CLASSIFICATION: UNCLASSIFIED

SHIPBUILDING AND CONVERSION, NAVY  
SHIP PRODUCTION SCHEDULE

EXHIBIT P-27

FY2016 President's Budget

DATE:

FEBRUARY 2015

SHIP TYPE	HULL NUMBER	SHIPBUILDER	FISCAL YEAR AUTHORIZED	CONTRACT AWARD	START OF CONSTRUCTION	DELIVERY DATE
YP SLEP	687	TBD	16	JAN-16	JAN-16	JUL-16
YP SLEP	689	TBD	16	JAN-16	JAN-16	JUL-16
YP SLEP	690	TBD	16	JAN-16	JAN-16	JUL-16
YP SLEP	692	TBD	16	JAN-16	JUL-16	JAN-17
YP SLEP	688	TBD	16	JAN-16	JUL-16	JAN-17
YP SLEP	686	TBD	16	JAN-16	JUL-16	JAN-17
YP SLEP	695	TBD	17	JAN-17	JAN-17	JUL-17
YP SLEP	698	TBD	17	JAN-17	JAN-17	JUL-17
YP SLEP	694	TBD	17	JAN-17	JAN-17	JUL-17
YP SLEP	691	TBD	17	JAN-17	JUL-17	JAN-18
YP SLEP	700	TBD	17	JAN-17	JUL-17	JAN-18
YP SLEP	683	TBD	17	JAN-17	JUL-17	JAN-18

CLASSIFICATION: UNCLASSIFIED										
BUDGET ITEM JUSTIFICATION SHEET (P-40)							DATE:			
FY 2016 President's Budget							February 2015			
APPROPRIATION/BUDGET ACTIVITY					P-1 LINE ITEM NOMENCLATURE					
SHIPBUILDING AND CONVERSION, NAVY/BA 5 Auxiliaries, Craft and Prior Year Program Costs					COMPLETION OF PRIOR YEAR SHIPBUILDING PROGRAMS					
					BLI: 5300					
(Dollars in Millions)	PRIOR YR	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TO COMP	TOTAL PROG
Cost to Complete										
LPD 17 Class	0.0	0.0	0.0	61.6	45.1	0.0	0.0	0.0	0.0	106.7
LCS	0.0	0.0	0.0	82.7	85.6	36.2	0.0	0.0	0.0	204.4
CVN	0.0	0.0	0.0	123.8	0.0	0.0	0.0	0.0	0.0	123.8
CVN RCOH	0.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	20.0
JHSV	0.0	0.0	0.0	26.2	6.5	0.0	0.0	0.0	0.0	32.8
DDG-51	0.0	0.0	0.0	75.0	0.0	46.1	0.0	0.0	0.0	121.1
Total	0.0	0.0	0.0	389.3	137.2	82.2	0.0	0.0	0.0	608.8
Note: General Provision 8075 of the Consolidated and Further Continuing Appropriations Act, 2015 directs that funds appropriated for the Completion of Prior Year Shipbuilding Programs be merged with and available for the same purposes as the appropriation to which transferred.										
LPD-17 Class: Funds in FY16 are for restoration of Sequestration shortfalls against LPD 27 Change Orders (\$22.0M) and Electronics GFE (\$16.7M), and Government responsible portion of shipbuilding contract overrun for LPD 26 (\$22.9M).										
LCS: Fund in FY16 are required for Government responsible portion of the shipbuilding contract overruns (\$49.7M) for LCS 9, LCS 10, LCS 11, and LCS 12; and restoration of descope requirements resulting from sequestration reductions (\$33.0M) on LCS 9, LCS 10, LCS 11, and LCS 12.										
CVN-78: Funds in FY16 are required to support drawing completion and work package development (NRE) (\$57.8M) and the Government responsible portion of the shipbuilding construction contract overrun (\$66.0M).										
CVN-72 RCOH: Funds in FY16 are required for restoration of requirements for CVN-72 Electronics, Ordnance, and Hull, Mechanical & Electrical GFE modernization and refurbishment that were descope for FY 13 sequestration (\$20.0M).										
JHSV: Funds in FY16 are required for the Government responsible portion of shipbuilding contract overruns on JHSV 8 (\$7.2M) and JHSV 9 (\$7.2M) and restoration of descope requirements resulting from sequestration reductions for Change Orders and Electronics GFE (\$11.8M) for JHSV 8, JHSV 9, and JHSV 10.										
DDG-51: FY 16 funds are required for restoration of Sequestration shortfalls of descope GFE requirements (\$59.3M), Combat System Engineering requirements (\$7.9M), and deferred work (\$7.8M) for DDG 116.										

CLASSIFICATION: UNCLASSIFIED

APPROPRIATION: SHIPBUILDING AND CONVERSION, NAVY

P-5 EXHIBIT

FY 2016 President's Budget

February 2015

WEAPON SYSTEM COST ANALYSIS (EXHIBIT P-5)

(Dollars in Thousands)

BUDGET ACTIVITY: 5		P-1 LINE ITEM NOMENCLATURE		BLI: 5300
Auxiliaries, Craft and Prior Year Program Costs		COMPLETION OF PRIOR YEAR SHIPBUILDING PROGRAMS		
ELEMENT OF COST	FY 2014 COST	FY 2015 COST	FY 2016 COST	
TOTAL SHIP ESTIMATE				
LPD-17 Class:				
Government responsible portion of shipbuilding contract overrun for LPD 26	0	0	22,860	
Restoration of Sequestration shortfall: Change Orders - LPD 27	0	0	22,000	
Restoration of Sequestration shortfall: Electronics GFE - LPD 27	0	0	16,733	
Total LPD-17 Class	0	0	61,593	
LCS:				
Government responsible portion of shipbuilding contract overrun for LCS 9, LCS 10, LCS 11, and LCS 12	0	0	49,715	
Restoration of Sequestration shortfall for LCS 9, LCS 10, LCS 11, and LCS 12	0	0	32,959	
Total LCS	0	0	82,674	
CVN-78:				
Drawing Completion and Work Package Development	0	0	57,760	
Government responsible portion of shipbuilding contract overrun	0	0	66,000	
Total CVN-78	0	0	123,760	
CVN-72 RCOH:				
Restoration of Sequestration shortfall: Electronics/Ordance/Hull, Mechanical & Electrical GFE	0	0	20,029	
Total CVN-72 RCOH	0	0	20,029	
JHSV:				
Government responsible portion of shipbuilding contract overrun - JHSV 8	0	0	7,245	
Government responsible portion of shipbuilding contract overrun - JHSV 9	0	0	7,152	
Restoration of Sequestration shortfall: Change Orders/Electronics GFE - JHSV 8 and JHSV 9	0	0	8,200	
Restoration of Sequestration shortfall: Change Orders/Electronics GFE - JHSV 10	0	0	3,638	
Total JHSV	0	0	26,235	
DDG-51:				
Restoration of Sequestration shortfall: Deferred work DDG 116	0	0	7,768	
Restoration of Sequestration shortfall: Combat System Engineering for DDG 116	0	0	7,897	
Restoration of Sequestration shortfall: GFE (Electronics/Ordance) for DDG 116	0	0	59,349	
Total DDG-51	0	0	75,014	
Total, Completion of Prior Year Shipbuilding Programs	0	0	389,305	