Department of Defense
Fiscal Year (FY) 2017 President's Budget Submission

February 2016

Navy

Justification Book Volume 1 of 1

Shipbuilding and Conversion, Navy

The estimated cost for this report for the Department of the Navy (DON) is $91,892.

The estimated total cost for supporting the DON budget justification material is approximately $1,834,000 for the 2016 fiscal year. This includes $75,200 in supplies and $1,758,800 in labor.

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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: $18,354,874,000, to remain available for obligation until September 30, 2021: *Provided*, That additional obligations may be incurred after September 30, 2021, 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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Department of the Navy
FY 2017 President's Budget
Exhibit P-1 FY 2017 President's Budget
Total Obligational Authority
(Dollars in Thousands)

14 Jan 2016

Appropriation	FY 2015 (Base & OCO)	FY 2016 Base Enacted	FY 2016 OCO Enacted	FY 2016 Total Enacted
Shipbuilding and Conversion, Navy	15,994,987	18,704,539		18,704,539
Total Department of the Navy	15,994,987	18,704,539		18,704,539

P-1C1: FY 2017 President's Budget (Published Version of PB Position), as of January 14, 2016 at 09:48:03

Department of the Navy
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(Dollars in Thousands)

14 Jan 2016

Appropriation	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Shipbuilding and Conversion, Navy	18,354,874		18,354,874
Total Department of the Navy	18,354,874		18,354,874

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(Dollars in Thousands)

14 Jan 2016

Appropriation: Shipbuilding and Conversion, Navy

Budget Activity	FY 2015 (Base & OCO)	FY 2016 Base Enacted	FY 2016 OCO Enacted	FY 2016 Total Enacted
01. Fleet Ballistic Missile Ships				
02. Other Warships	13,221,428	14,601,800		14,601,800
03. Amphibious Ships	1,297,189	2,224,371		2,224,371
05. Auxiliaries, Craft, and Prior-Year Program Costs	1,476,370	1,878,368		1,878,368
Total Shipbuilding and Conversion, Navy	15,994,987	18,704,539		18,704,539

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14 Jan 2016

Appropriation: Shipbuilding and Conversion, Navy

Budget Activity	FY 2017 Base	FY 2017 OCO	FY 2017 Total
01. Fleet Ballistic Missile Ships	773,138		773,138
02. Other Warships	14,218,278		14,218,278
03. Amphibious Ships	1,623,024		1,623,024
05. Auxiliaries, Craft, and Prior-Year Program Costs	1,740,434		1,740,434
Total Shipbuilding and Conversion, Navy	18,354,874		18,354,874

P-1C1: FY 2017 President's Budget (Published Version of PB Position), as of January 14, 2016 at 09:48:03

Department of the Navy
FY 2017 President's Budget
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(Dollars in Thousands)

14 Jan 2016

Appropriation: 1611N Shipbuilding and Conversion, Navy

Line No	Item Nomenclature	Ident Code	FY 2015 (Base & OCO) Quantity	FY 2015 (Base & OCO) Cost	FY 2016 Base Enacted Quantity	FY 2016 Base Enacted Cost	FY 2016 OCO Enacted Quantity	FY 2016 OCO Enacted Cost	FY 2016 Total Enacted Quantity	FY 2016 Total Enacted Cost	Sec
	Budget Activity 01: Fleet Ballistic Missile Ships										
1	OHIO Replacement Submarine										
	Advance Procurement (CY)										U
	C (FY 2017 for FY 2021) (M)										
	Total Fleet Ballistic Missile Ships										
	Budget Activity 02: Other Warships										
2	Carrier Replacement Program	A									
	Subsequent Full Funding for FY 2013			1,219,425		1,569,571				1,569,571	
	Completion PY Shipbuild for FY 2008			663,000		123,760				123,760	
3	Carrier Replacement Program										
	Advance Procurement (CY)					862,358				862,358	U
	C (FY 2016 for FY 2018) (M)					(862,358)				(862,358)	
	C (FY 2017 for FY 2018) (M)										
	Other Warships										
4	Virginia Class Submarine	B	2	(5,265,668)	2	(5,376,854)			2	(5,376,854)	U
	Less: Advance Procurement (PY)			(-1,735,414)		(-2,030,484)				(-2,030,484)	U
				3,530,254		3,346,370				3,346,370	
5	Virginia Class Submarine										
	Advance Procurement (CY)			2,301,825		1,971,840				1,971,840	U
	C (FY 2015 for FY 2016) (M)			(666,104)							
	C (FY 2015 for FY 2017) (M)			(1,404,103)							
	C (FY 2015 for FY 2018) (M)			(231,618)							
	C (FY 2016 for FY 2017) (M)					(621,904)				(621,904)	
	C (FY 2016 for FY 2018) (M)					(1,349,936)				(1,349,936)	
	C (FY 2017 for FY 2018) (M)										
	C (FY 2017 for FY 2019) (M)										

P-1C1: FY 2017 President's Budget (Published Version of PB Position), as of January 14, 2016 at 09:48:03

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(Dollars in Thousands)

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Appropriation: 1611N Shipbuilding and Conversion, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 Base Quantity	FY 2017 Base Cost	FY 2017 OCO Quantity	FY 2017 OCO Cost	FY 2017 Total Quantity	FY 2017 Total Cost	Sec
	Budget Activity 01: Fleet Ballistic Missile Ships								
1	OHIO Replacement Submarine								
	Advance Procurement (CY)			773,138				773,138	U
	C (FY 2017 for FY 2021) (M)			(773,138)				(773,138)	
	Total Fleet Ballistic Missile Ships			773,138				773,138	
	Budget Activity 02: Other Warships								
2	Carrier Replacement Program	A							
	Subsequent Full Funding for FY 2013			1,291,783				1,291,783	
	Completion PY Shipbuild for FY 2008								
3	Carrier Replacement Program								
	Advance Procurement (CY)			1,370,784				1,370,784	U
	C (FY 2016 for FY 2018) (M)								
	C (FY 2017 for FY 2018) (M)			(1,370,784)				(1,370,784)	
	Other Warships								
4	Virginia Class Submarine	B	2	(5,408,901)			2	(5,408,901)	U
	Less: Advance Procurement (PY)			(-2,220,916)				(-2,220,916)	U
				3,187,985				3,187,985	
5	Virginia Class Submarine								
	Advance Procurement (CY)			1,767,234				1,767,234	U
	C (FY 2015 for FY 2016) (M)								
	C (FY 2015 for FY 2017) (M)								
	C (FY 2015 for FY 2018) (M)								
	C (FY 2016 for FY 2017) (M)								
	C (FY 2016 for FY 2018) (M)								
	C (FY 2017 for FY 2018) (M)			(475,940)				(475,940)	
	C (FY 2017 for FY 2019) (M)			(1,291,294)				(1,291,294)	

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Department of the Navy
FY 2017 President's Budget
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Total Obligational Authority
(Dollars in Thousands)

14 Jan 2016

Appropriation: 1611N Shipbuilding and Conversion, Navy

Line No	Item Nomenclature	Ident Code	FY 2015 (Base & OCO) Quantity	FY 2015 (Base & OCO) Cost	FY 2016 Base Enacted Quantity	FY 2016 Base Enacted Cost	FY 2016 OCO Enacted Quantity	FY 2016 OCO Enacted Cost	FY 2016 Total Enacted Quantity	FY 2016 Total Enacted Cost	Sec
6	CVN Refueling Overhauls	A			1	(4,718,978)			1	(4,718,978)	U
	Less: Advance Procurement (PY)					(-813,319)				(-813,319)	U
	Less: Subsequent Full Funding (FY)					(-3,268,071)				(-3,268,071)	U
				----------		----------		----------		----------	
						637,588				637,588	
	Subsequent Full Funding for FY 2016										
	Completion PY Shipbuild for FY 2012			54,000		20,029				20,029	
7	CVN Refueling Overhauls										
	Advance Procurement (CY)			483,600		14,951				14,951	U
	C (FY 2015 for FY 2016) (M)			(483,600)							
	C (FY 2016 for FY 2020) (M)					(14,951)				(14,951)	
	C (FY 2017 for FY 2020) (M)										
8	DDG 1000	A		460,849		433,404				433,404	U
9	DDG-51	A	2	(2,956,747)	2	(4,505,684)			2	(4,505,684)	U
	Less: Advance Procurement (PY)			(-294,840)		(-373,034)				(-373,034)	U
				----------		----------		----------		----------	
				2,661,907		4,132,650				4,132,650	
	Completion PY Shipbuild for FY 2010			65,062							
	Completion PY Shipbuild for FY 2011			63,373							
	Completion PY Shipbuild for FY 2012					75,014				75,014	
10	DDG-51										
	Advance Procurement (CY)			134,039							U
	C (FY 2015 for FY 2016) (M)			(134,039)							

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Department of the Navy
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14 Jan 2016

Appropriation: 1611N Shipbuilding and Conversion, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 Base Quantity	FY 2017 Base Cost	FY 2017 OCO Quantity	FY 2017 OCO Cost	FY 2017 Total Quantity	FY 2017 Total Cost	Sec
6	CVN Refueling Overhauls	A							U
	Less: Advance Procurement (PY)								U
	Less: Subsequent Full Funding (FY)								U
				----------		----------		----------	
	Subsequent Full Funding for FY 2016			1,743,220				1,743,220	
	Completion PY Shipbuild for FY 2012								
7	CVN Refueling Overhauls								
	Advance Procurement (CY)			248,599				248,599	U
	C (FY 2015 for FY 2016) (M)								
	C (FY 2016 for FY 2020) (M)								
	C (FY 2017 for FY 2020) (M)			(248,599)				(248,599)	
8	DDG 1000	A		271,756				271,756	U
9	DDG-51	A	2	(3,393,881)			2	(3,393,881)	U
	Less: Advance Procurement (PY)			(-182,589)				(-182,589)	U
				----------		----------		----------	
				3,211,292				3,211,292	
	Completion PY Shipbuild for FY 2010								
	Completion PY Shipbuild for FY 2011								
	Completion PY Shipbuild for FY 2012								
10	DDG-51								
	Advance Procurement (CY)								U
	C (FY 2015 for FY 2016) (M)								

P-1C1: FY 2017 President's Budget (Published Version of PB Position), as of January 14, 2016 at 09:48:03

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Appropriation: 1611N Shipbuilding and Conversion, Navy

Line No	Item Nomenclature	Ident Code	FY 2015 (Base & OCO) Quantity	FY 2015 (Base & OCO) Cost	FY 2016 Base Enacted Quantity	FY 2016 Base Enacted Cost	FY 2016 OCO Enacted Quantity	FY 2016 OCO Enacted Cost	FY 2016 Total Enacted Quantity	FY 2016 Total Enacted Cost	Sec
11	Littoral Combat Ship	A	3	(1,427,049)	3	(1,411,591)			3	(1,411,591)	U
	Less: Advance Procurement (PY)					(-80,000)				(-80,000)	U
				1,427,049		1,331,591				1,331,591	
	Completion PY Shipbuild for FY 2010			35,345							
	Completion PY Shipbuild for FY 2011			41,700							
	Completion PY Shipbuild for FY 2012					82,674				82,674	
12	Littoral Combat Ship										
	Advance Procurement (CY)			80,000							U
	C (FY 2015 for FY 2016) (M)			(80,000)							
Total Other Warships				13,221,428		14,601,800				14,601,800	
Budget Activity 03: Amphibious Ships											
13	Amphibious Ship Replacement LX(R)										
	Advance Procurement (CY)					250,000				250,000	U
	C (FY 2016 for FY 2020) (M)					(250,000)				(250,000)	
Amphibious Ships											
14	LPD-17	A		(1,792,976)							U
	Less: Advance Procurement (PY)			(-242,976)							U
	Less: Subsequent Full Funding (FY)			(-550,000)							U
				1,000,000							
	Subsequent Full Funding for FY 2015				1	550,000			1	550,000	
	Completion PY Shipbuild for FY 2009			54,096		22,860				22,860	
	Completion PY Shipbuild for FY 2012					38,733				38,733	
15	Expeditionary Mobile Base (ESB)	A			1	635,000			1	635,000	U

P-1C1: FY 2017 President's Budget (Published Version of PB Position), as of January 14, 2016 at 09:48:03

Department of the Navy
FY 2017 President's Budget
Exhibit P-1 FY 2017 President's Budget
Total Obligational Authority
(Dollars in Thousands)

14 Jan 2016

Appropriation: 1611N Shipbuilding and Conversion, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 Base Quantity	FY 2017 Base Cost	FY 2017 OCO Quantity	FY 2017 OCO Cost	FY 2017 Total Quantity	FY 2017 Total Cost	Sec
11	Littoral Combat Ship	A	2	(1,125,625)			2	(1,125,625)	U
	Less: Advance Procurement (PY)								U
				1,125,625				1,125,625	
	Completion PY Shipbuild for FY 2010								
	Completion PY Shipbuild for FY 2011								
	Completion PY Shipbuild for FY 2012								
12	Littoral Combat Ship								
	Advance Procurement (CY)								U
	C (FY 2015 for FY 2016) (M)								
				1,125,625				1,125,625	
Total Other Warships				14,218,278				14,218,278	
Budget Activity 03: Amphibious Ships									
13	Amphibious Ship Replacement LX(R)								
	Advance Procurement (CY)								U
	C (FY 2016 for FY 2020) (M)								
	Amphibious Ships								
14	LPD-17	A							U
	Less: Advance Procurement (PY)								U
	Less: Subsequent Full Funding (FY)								U
	Subsequent Full Funding for FY 2015								
	Completion PY Shipbuild for FY 2009								
	Completion PY Shipbuild for FY 2012								
15	Expeditionary Mobile Base (ESB)	A							U

P-1C1: FY 2017 President's Budget (Published Version of PB Position), as of January 14, 2016 at 09:48:03

Department of the Navy
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Exhibit P-1 FY 2017 President's Budget
Total Obligational Authority
(Dollars in Thousands)

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Appropriation: 1611N Shipbuilding and Conversion, Navy

Line No	Item Nomenclature	Ident Code	FY 2015 (Base & OCO) Quantity	FY 2015 (Base & OCO) Cost	FY 2016 Base Enacted Quantity	FY 2016 Base Enacted Cost	FY 2016 OCO Enacted Quantity	FY 2016 OCO Enacted Cost	FY 2016 Total Enacted Quantity	FY 2016 Total Enacted Cost	Sec
16	LHA Replacement	A									U
	Less: Advance Procurement (PY)										U
	Less: Subsequent Full Funding (FY)										U
				----------		----------		----------		----------	
17	LHA Replacement										
	Advance Procurement (CY)			29,093		476,543				476,543	U
	C (FY 2015 for FY 2017) (M)			(29,093)							
	C (FY 2016 for FY 2017) (M)					(476,543)				(476,543)	
18	Expeditionary Fast Transport (EPF)	A	1	200,000	1	225,000			1	225,000	U
	Completion PY Shipbuild for FY 2011			9,340							
	Completion PY Shipbuild for FY 2012			2,620		22,597				22,597	
	Completion PY Shipbuild for FY 2013			2,040		3,638				3,638	
				----------		----------		----------		----------	
Total Amphibious Ships				1,297,189		2,224,371				2,224,371	
Budget Activity 05: Auxiliaries, Craft, and Prior-Year Program Costs											
	Auxiliaries, Craft and Prior Yr Program Cost										
19	TAO Fleet Oiler	A			1	674,190			1	674,190	U
20	TAO Fleet Oiler										
	Advance Procurement (CY)										U
	C (FY 2017 for FY 2018) (M)										
21	TATS Fleet Ocean Tug				1	75,000			1	75,000	U
22	Moored Training Ship		1	(1,322,021)							U
	Less: Advance Procurement (PY)			(-584,753)							U
				----------		----------		----------		----------	
				737,268							
23	Moored Training Ship										
	Advance Procurement (CY)			64,388		138,200				138,200	U
	C (FY 2015 for FY 2017) (M)			(64,388)							
	C (FY 2016 for FY 2017) (M)					(138,200)				(138,200)	

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Appropriation: 1611N Shipbuilding and Conversion, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 Base Quantity	FY 2017 Base Cost	FY 2017 OCO Quantity	FY 2017 OCO Cost	FY 2017 Total Quantity	FY 2017 Total Cost	Sec
16	LHA Replacement	A	1	(3,807,172)			1	(3,807,172)	U
	Less: Advance Procurement (PY)			(-505,636)				(-505,636)	U
	Less: Subsequent Full Funding (FY)			(-1,678,512)				(-1,678,512)	U
				1,623,024				1,623,024	
17	LHA Replacement								
	Advance Procurement (CY)								U
	C (FY 2015 for FY 2017) (M)								
	C (FY 2016 for FY 2017) (M)								
18	Expeditionary Fast Transport (EPF)	A							U
	Completion PY Shipbuild for FY 2011								
	Completion PY Shipbuild for FY 2012								
	Completion PY Shipbuild for FY 2013								
				1,623,024				1,623,024	
Total Amphibious Ships									
Budget Activity 05: Auxiliaries, Craft, and Prior-Year Program Costs									
	Auxiliaries, Craft and Prior Yr Program Cost								
19	TAO Fleet Oiler	A							U
20	TAO Fleet Oiler								
	Advance Procurement (CY)			73,079				73,079	U
	C (FY 2017 for FY 2018) (M)			(73,079)				(73,079)	
21	TATS Fleet Ocean Tug								U
22	Moored Training Ship		1	(864,315)			1	(864,315)	U
	Less: Advance Procurement (PY)			(-239,788)				(-239,788)	U
				624,527				624,527	
23	Moored Training Ship								
	Advance Procurement (CY)								U
	C (FY 2015 for FY 2017) (M)								
	C (FY 2016 for FY 2017) (M)								

P-1C1: FY 2017 President's Budget (Published Version of PB Position), as of January 14, 2016 at 09:48:03

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(Dollars in Thousands)

14 Jan 2016

Appropriation: 1611N Shipbuilding and Conversion, Navy

Line No	Item Nomenclature	Ident Code	FY 2015 (Base & OCO) Quantity	FY 2015 (Base & OCO) Cost	FY 2016 Base Enacted Quantity	FY 2016 Base Enacted Cost	FY 2016 OCO Enacted Quantity	FY 2016 OCO Enacted Cost	FY 2016 Total Enacted Quantity	FY 2016 Total Enacted Cost	Sec
24	LCU 1700	A			1	34,000			1	34,000	U
25	Outfitting	A		474,629		613,758				613,758	U
26	Ship to Shore Connector	A	3	159,600	4	210,630			4	210,630	U
27	Service Craft	A				30,014				30,014	U
28	LCAC SLEP	A	2	40,485	4	80,738			4	80,738	U
29	YP Craft Maintenance/ROH/SLEP	A				21,838				21,838	U
30	Completion of PY Shipbuilding Programs	B									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				1,476,370		1,878,368				1,878,368	
Total Shipbuilding and Conversion, Navy				15,994,987		18,704,539				18,704,539	

P-1C1: FY 2017 President's Budget (Published Version of PB Position), as of January 14, 2016 at 09:48:03

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Appropriation: 1611N Shipbuilding and Conversion, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 Base Quantity	FY 2017 Base Cost	FY 2017 OCO Quantity	FY 2017 OCO Cost	FY 2017 Total Quantity	FY 2017 Total Cost	Sec
24	LCU 1700	A							U
25	Outfitting	A		666,158				666,158	U
26	Ship to Shore Connector	A	2	128,067			2	128,067	U
27	Service Craft	A		65,192				65,192	U
28	LCAC SLEP	A		1,774				1,774	U
29	YP Craft Maintenance/ROH/SLEP	A		21,363				21,363	U
30	Completion of PY Shipbuilding Programs	B		160,274				160,274	U
	LCS (MEMO NON ADD)			(86,000)				(86,000)	U
	JHSV (MEMO NON ADD)			(13,255)				(13,255)	U
	DDG (MEMO NON ADD)			(15,959)				(15,959)	U
	LPD 17 (MEMO NON ADD)			(45,060)				(45,060)	U
Total Auxiliaries, Craft, and Prior-Year Program Costs				1,740,434				1,740,434	
Total Shipbuilding and Conversion, Navy				18,354,874				18,354,874	

P-1C1: FY 2017 President's Budget (Published Version of PB Position), as of January 14, 2016 at 09:48:03

Exhibit P-40, Advance Procurement Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 01: Fleet Ballistic Missile Ships / BSA 1: Fleet Ballistic Missile Ships	**P-1 Line Item Number / Title:** 1045 / OHIO Replacement Submarine
Program Elements for Code B Items: N/A	**Other Related Program Elements:** N/A
Line Item MDAP/MAIS Code: N/A	

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Gross/Weapon System Cost *($ in Millions)*	-	-	-	773.138	-	773.138	787.130	2,766.991	1,311.541	-	-	5,638.800
Net Procurement (P-1) *($ in Millions)*	-	-	-	773.138	-	773.138	787.130	2,766.991	1,311.541	-	-	5,638.800
Total Obligation Authority *($ in Millions)*	**-**	**-**	**-**	**773.138**	**-**	**773.138**	**787.130**	**2,766.991**	**1,311.541**	**-**	**-**	**5,638.800**

Description:

Exhibit P-10, Advance Procurement Requirements Analysis (*page 1 - Budget Funding Justification*): PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 01 / 1	**P-1 Line Item Number / Title:** 1045 / OHIO Replacement Submarine

First System (2017) Award Date:	First System (2017) Completion Date:	Interval Between Systems:
October 2020	October 2027	0 Months

Cost Elements	Production Leadtime (Months)	When Required* (Months)	FY 2015 ($ M)	FY 2016 ($ M)	FY 2017 ($ M)	FY 2018 ($ M)	FY 2019 ($ M)	FY 2020 ($ M)	FY 2021 ($ M)
Advance Procurement									
NUCLEAR PROPULSION PLANT EQUIPMENT (1)	30-72	Various	-	-	-	-	1,700.900	-	-
ELECTRONICS EQUIPMENT (2)	37-43	Various	-	-	-	-	10.600	24.700	-
HULL MECHANICAL & ELECTRICAL (HM&E) (3)	36	Various	-	-	-	-	215.100	514.600	-
ORDNANCE (4)	12-24	Various	-	-	-	-	18.200	58.900	-
LONG LEAD-TIME CFE (5)	24-42	Various	-	-	-	-	200.600	100.300	-
PLANS (DETAIL DESIGN) (6)	12-60	Various	-	-	773.138	787.130	621.591	613.041	-
OTHER	-	-	-	-	-	-	-	-	-
EOQ	-	-	-	-	-	-	-	-	-
Total: Advance Procurement			*-*	*-*	*773.138*	*787.130*	*2,766.991*	*1,311.541*	*-*
Total Advance Procurement/Obligation Authority			**-**	**-**	**773.138**	**787.130**	**2,766.991**	**1,311.541**	**-**

*Note: "When Required" is the number of months required before ship delivery.

Exhibit P-10, Advance Procurement Requirements Analysis (*page 2 - Budget Funding Justification*): PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 01 / 1	**P-1 Line Item Number / Title:** 1045 / OHIO Replacement Submarine

Cost Elements	FY 2017						
	Production Leadtime *(Months)*	When Required* *(Months)*	Unit Cost *($ M)*	Contract Forecast Date	2017 Qty *(Each)*	For FY	Total Cost Request *($ M)*
Advance Procurement							
NUCLEAR PROPULSION PLANT EQUIPMENT (1)	30-72	Various	-		-		-
ELECTRONICS EQUIPMENT (2)	37-43	Various	-		-		-
HULL MECHANICAL & ELECTRICAL (HM&E) (3)	36	Various	-		-		-
ORDNANCE (4)	12-24	Various	-		-		-
LONG LEAD-TIME CFE (5)	24-42	Various	-		-		-
PLANS (DETAIL DESIGN) (6)	12-60	Various	-	Oct 2016	-	2021	773.138
OTHER	-	-	-		-		-
EOQ	-	-	-		-		-
Total: Advance Procurement							*773.138*
Total Advance Procurement/Obligation Authority							**773.138**

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 ballistic missile submarines, and ensure production capability that supports projected production quantities. To support the OHIO Replacement's implementation of advanced modular construction methods to drive cost efficiency, reactor plant components must be delivered earlier in the construction process. The component delivery timeline is in line with that of the VIRGINIA Class submarines. Under this method, the OHIO Replacement 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) Hull Mechanical & Electrical AP is required to satisfy in-yard need dates for ship delivery.

(4) Ordnance AP is required to fund the LLTM associated with the Trident II D-5 missile and Strategic Weapons System (SWS) including Launcher and Fire Control subsystem components.

(5) Long Lead-Time Contractor Furnished Equipment (CFE) AP is required to fund long lead time contractor furnished material including the Weapons Handling, Air Conditioning Unit, Diesel Generator Set, and Reverse Osmosis Unit. These and other components are required early in the construction phase to meet the delivery schedule.

(6) OHIO Replacement Lead Design Yard and program office support for the detail design for the Common Missile Compartment, Strategic Weapons System, Propulsion Plant, and Rest of Ship. Approximately 40 percent of design disclosures are scheduled to be completed in FY17 & FY18 in order to support an 83 percent design completion at construction start. This design maturity target is necessary to achieve the aggressive 7 year lead ship construction time, which is required to support Strategic Deterrent mission requirements. Detail design activities also support critical engineering analysis and risk reduction efforts.

*Note: "When Required" is the number of months required before ship delivery.

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Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 02: Other Warships / BSA 1: Other Warships	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program
ID Code (A=Service Ready, B=Not Service Ready): A	**Program Elements for Code B Items:** N/A	**Other Related Program Elements:** N/A
Line Item MDAP/MAIS Code: 223	

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity *(Units in Each)*	2	-	-	-	-	-	1	-	-	-	-	3
Gross/Weapon System Cost *($ in Millions)*	24,285.000	-	-	-	-	-	12,900.000	-	-	-	968.421	38,153.421
Less PY Advance Procurement *($ in Millions)*	7,020.165	-	-	-	-	-	2,233.142	-	-	-	968.421	10,221.728
Less Cost To Complete *($ in Millions)*	1,374.860	-	-	-	-	-	-	-	-	-	-	1,374.860
Less Subsequent Year Full Funding *($ in Millions)*	12,713.994	-	-	-	-	-	8,887.336	-	-	-	-	21,601.330
Net Procurement (P-1) *($ in Millions)*	3,175.981	-	-	-	-	-	1,779.522	-	-	-	-	4,955.503
Plus Subsequent Year Full Funding *($ in Millions)*	6,051.557	1,219.425	1,569.571	1,291.783	-	1,291.783	2,581.658	1,650.189	1,734.546	2,126.781	3,375.820	21,601.330
Full Funding TOA *($ in Millions)*	9,227.538	1,219.425	1,569.571	1,291.783	-	1,291.783	4,361.180	1,650.189	1,734.546	2,126.781	3,375.820	26,556.833
Plus CY Advance Procurement *($ in Millions)*	7,020.165	-	862.358	1,370.784	-	1,370.784	-	-	-	968.421	-	10,221.728
Plus Cost To Complete *($ in Millions)*	588.100	663.000	123.760	-	-	-	-	-	-	-	-	1,374.860
Total Obligation Authority *($ in Millions)*	**16,835.803**	**1,882.425**	**2,555.689**	**2,662.567**	**-**	**2,662.567**	**4,361.180**	**1,650.189**	**1,734.546**	**3,095.202**	**3,375.820**	**38,153.421**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Plus Outfitting and Post Delivery *($ in Millions)*	44.896	69.723	99.490	2.341	-	2.341	-	-	1.928	1.966	514.937	735.281
Total *($ in Millions)*	**16,880.699**	**1,952.148**	**2,655.179**	**2,664.908**	**-**	**2,664.908**	**4,361.180**	**1,650.189**	**1,736.474**	**3,097.168**	**3,890.757**	**38,888.702**
Gross/Weapon System Unit Cost *($ in Millions)*	12,142.500	-	-	-	-	-	12,900.000	-	-	-	-	12,717.807

Description:

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.

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 02: Other Warships / BSA 1: Other Warships	P-1 Line Item Number / Title: 2001 / Carrier Replacement Program	
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: 223		

Characteristics:

-

Length Overall	1092 ft
Beam	134 ft
Displacement	97,337 TONS
Draft	38.7 ft

Systems:

Electronics

-SHIP SELF DEFENSE SYSTEM (SSDS)

Ordnance

-ELECTROMAGNETIC AIRCRAFT LAUNCHING SYSTEM (EMALS)
-DUAL BAND RADAR (DBR) (SPY-3 AND VOLUME SEARCH RADAR (VSR))
-ENTERPRISE AIR SURVEILLANCE RADAR (EASR) AND X-BAND ILLUMINATOR
-ADVANCED ARRESTING GEAR (AAG)

Production Status:	CVN 78	CVN 79
Contract Award Date	Sep 2008	Jun 2015
Months to Completion		
a) Award to Delivery	92 months	84 months
b) Construction Start to Delivery	129 months	136 months
Delivery Date	May 2016	Jun 2022
Completion Of Fitting Out	Jul 2016	Sep 2024
Obligation Work Limit Date	Jun 2017	Aug 2025

Design Schedule	Start / Issue	Complete / Response	Reissue	Reissue Complete / Response
Issue Date for TLR	Apr 2004	N/A		
Issue Date for TLS	Sep 2006	N/A		
Preliminary Design	Jan 2003	Jul 2008		
Contract Design	May 2004	Apr 2008		
Detail Design	Jan 2004	Sep 2009		
Request for Proposals	Jul 2007	Oct 2007		
Design Agent	Huntington Ingalls Industries			

Classification of Cost Estimate: CLASS C BUDGET ESTIMATE

Exhibit P-5c, Ship Cost Analysis: PB 2017 Navy			**Date:** February 2016	
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1		**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program		
Cost Categories (†) indicates the presence of a P-8a	**FY 2008**		**FY 2013**	
	Qty *(Each)*	**Total Cost** *($ M)*	**Qty** *(Each)*	**Total Cost** *($ M)*
Plan Costs	1	3,326.001	1	880.078
Basic Construction/Conversion		6,040.517		6,847.223
Change Orders		206.222		199.945
Electronics (†)		319.655		238.944
Propulsion Equipment		1,515.612		2,044.582
Hull, Mechanical, and Electrical (HM&E) (†)		30.806		27.379
Ordnance (†)		1,376.957		1,060.799
Other Cost		71.230		99.050
Total Ship Estimate		**12,887.000**		**11,398.000**
Less Advance Procurement FY 2001		21.668		-
Less Advance Procurement FY 2002		135.341		-
Less Advance Procurement FY 2003		395.493		-
Less Advance Procurement FY 2004		1,162.876		-
Less Advance Procurement FY 2005		623.071		-
Less Advance Procurement FY 2006		618.866		-
Less Advance Procurement FY 2007		735.800		52.750
Less Advance Procurement FY 2008		-		123.530
Less Advance Procurement FY 2009		-		1,210.561
Less Advance Procurement FY 2010		-		482.938
Less Advance Procurement FY 2011		-		902.473
Less Advance Procurement FY 2012		-		554.798
Less Subsequent Full Funding FY 2009		2,684.556		-
Less Subsequent Full Funding FY 2010		736.989		-
Less Subsequent Full Funding FY 2011		1,712.459		-
Less Subsequent Full Funding FY 2014		-		917.553
Less Subsequent Full Funding FY 2015		-		1,219.425
Less Subsequent Full Funding FY 2016		-		1,569.571
Less Subsequent Full Funding FY 2017		-		1,291.783
Less Subsequent Full Funding FY 2018		-		2,581.658
Less Cost to Complete FY 2014		588.100		-
Less Cost to Complete FY 2015		663.000		-
Less Cost to Complete FY 2016		123.760		-
Net P-1 Funding		**2,685.021**		**490.960**

Exhibit P-27, Ship Production Schedule: PB 2017 Navy				Date: February 2016	
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1		P-1 Line Item Number / Title: 2001 / Carrier Replacement Program			
Ship	**Shipbuilder**	**Fiscal Year**	**Contract Award**	**Start of Construction**	**Delivery Date**
CVN 78	Huntington Ingalls Industries, Newport News Shipbuilder	2008	Sep 2008	Aug 2005	May 2016
CVN 79	Huntington Ingalls Industries, Newport News Shipbuilder	2013	Jun 2015	Feb 2011	Jun 2022
CVN 80	Huntington Ingalls Industries, Newport News Shipbuilder	2018	Dec 2017	Dec 2017	Sep 2027

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program

Electronics	FY 2008 Qty (Each)	FY 2008 Total Cost ($ M)	FY 2013 Qty (Each)	FY 2013 Total Cost ($ M)
P-35 Items				
AN/USQ-T46X(V)X, BATTLE FORCE TACTICAL TRAINING SYSTEM (BFTT)	1	5.211	1	4.784
CONSOLIDATED AFLOAT NETWORK AND ENTERPRISE SERVICES (CANES)	1	13.780	1	14.755
AN/USG-2, COOPERATIVE ENGAGEMENT CAPABILITY (CEC)	1	9.176	1	5.838
DIGITAL MODULAR RADIO (DMR) ULTRA HIGH FREQUENCY/VERY HIGH FREQUENCY LINE OF SIGHT (EHF/VHF LOS) SAT	1	11.396	1	10.162
AN/UPX-29(V), INTERROGATOR FRIEND OR FOE (IFF) W/MK XII	1	5.872	1	6.361
SPN-46, AUTOMATIC CARRIER LANDING SYSTEM	1	10.294	1	9.411
SHIP SELF DEFENSE SYSTEM (SSDS)	1	89.103	1	30.691
AN/TPX-42A(V)14, CARRIER AIR TRAFFIC CONTROL CENTER - DIRECT ALTITUDE AND IDENTIFY READOUT (CATCC-DAIR)	1	5.608	1	6.101
NAVY MULTI-BAND TERMINAL (NMT)	1	5.726	1	5.839
AN/SLQ-32(V)6, SURFACE ELECTRONIC WARFARE IMPROVEMENT PROGRAM (SEWIP) BLOCK 2	1	19.932	1	10.518
AN/SRQ-6/MCS-21, SHIPS SIGNAL EXPLOITATION EQUIPMENT (SSEE)	1	6.947	1	7.559
HIGH FREQUENCY RADIO GROUP (HFRG)	1	2.843	-	-
AN/SRC-61 (V)X HFDAG	-	-	1	5.959
P-35 Items Subtotal		**185.888**		**117.978**
Major Items				
AN/USQ-155(V)1 TACTICAL VARIANT SWITCH	1	2.603	1	2.521
INFORMATION ASSURANCE (IA)		0.741		1.867
MAST CLAMP CURRENT PROBE (MCCP) UPGRADE	1	1.521	1	0.702
AN/URC-141X(V), MULTI-FUNCTION INFORMATION DISTRIBUTION SYSTEM (MIDS)-ON SHIP (MOS)	1	1.992	1	2.168
AN/SLQ-25C DUAL, SURFACE SHIP TORPEDO DEFENSE SYSTEM, NIXIE	1	1.927	1	5.215
AN/SMQ-11, METEOROLOGICAL/OCEANOGRAPHIC (METOC) SATELLITE RECEIVER - RECORD SET	1	1.197	-	-
SHIPBOARD AIR TRAFFIC CONTROL COMMUNICATIONS (SATCC)	1	1.885	1	2.246
AN/WSN-7(V)3, RING LASER GYRO NAVIGATOR (RLGN)	1	1.670	1	2.869
DISTRIBUTED SYSTEMS DESIGN INTEGRATION SERVICES	1	17.654	1	6.646
C4I INTEGRATION & COORDINATION		8.650		9.301
DISTRIBUTED COMMON GROUND STATION - NAVY (DCGS-N)	1	1.998	1	2.174
AN/USQ-144K AUTOMATED DIGITAL NETWORK SYSTEM (ADNS)	1	1.380	1	1.240
AN/UYQ-86 COMMON DATA LINK MANAGEMENT SYSTEM (CDLMS) WITH NGC2P	1	1.616	1	1.759
OA-9277 ULTRA HIGH FREQUENCY (UHF) MULTICOUPLER	1	1.661	1	1.807

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program

Electronics	FY 2008 Qty (Each)	FY 2008 Total Cost ($ M)	FY 2013 Qty (Each)	FY 2013 Total Cost ($ M)
ARC-210 CARRIER AIR TRAFFIC CONTROL CENTER (CATCC) - PRIFLY - LANDING SIGNAL OFFICER (LSO) SYSTEM	1	1.359	1	1.533
WARFARE SYSTEM INTEGRATION		24.729		24.153
NET-ENABLED COMMAND CAPABILITY (NECC)	1	0.691	1	0.607
COMMERCIAL BROADBAND SATELLITE PROGRAM, FORCE LEVEL VARANT (CBSP-FLV)	1	1.156	1	1.258
AN/SSN-6(V)X BLOCK 4, NAVIGATION SENSOR SYSTEM INTERFACE (NAVSSI)	1	4.306	1	2.910
AN/SPS-73(V)12 TECH REFRESH - SURFACE SEARCH RADAR	2	2.915	2	0.354
INTEGRATED STRIKE PLANNING & EXECUTION SYSTEMS (ISP&E)	1	11.546	1	8.652
AN/USQ-123(V), COMMUNICATIONS DATA LINK-SYSTEM (CDL-S)	1	1.285	1	2.653
AN/SPN-41 (V), INSTRUMENT LANDING SYSTEM (ILS)	1	3.290	1	3.870
SHIP SIGNAL EXPLOITATION SPACE (SSES/SI) COMMUNICATIONS	1	5.320	1	4.567
TURNKEY RADIO COMMUNICATIONS SYSTEM (RCS)	1	15.691	1	14.873
Major Items Subtotal		**118.783**		**105.945**
Other Cost Elements				
Other ELECTRONICS		14.984		15.021
Other Cost Elements Subtotal		**14.984**		**15.021**
Total Electronics		**319.655**		**238.944**

Remarks:
IA: Cost increase for CVN 79 is due to increased hardware costs in procuring a modernized version of the legacy IA Crypto equipment that was procured for CVN 78. AN/SLQ-25C Dual Surface Ship Torpedo Defense System, Nixie: Cost increase on CVN 79 is due to replacing 3 critical parts that are now obsolete. AN/WSN-7(3) RLGN: Cost increase for CVN 79 due to need to replace 3 components from equipment removed from CVN 65. These will be new procurements. AN/USQ-123(V) CDL-S: Cost increase for CVN 79 due to higher hardware refurbishment costs expected for the hardware removed from CVN 65.

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program

Hull, Mechanical, and Electrical (HM&E)	FY 2008		FY 2013	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Items				
HM&E ENGINEERING SERVICES		19.208		20.736
INTEGRATED LOGISTICS SUPPORT		2.249		0.662
LIFE RAFTS		1.582		1.721
SUPSHIP MATERIAL AND GFE		0.490		0.561
TEST & INTEGRATION		3.934		-
TRUCKS (FORKLIFTS)		0.687		0.747
Major Items Subtotal		**28.150**		**24.427**
Other Cost Elements				
Other HM&E		2.656		2.952
Other Cost Elements Subtotal		**2.656**		**2.952**
Total Hull, Mechanical, and Electrical (HM&E)		**30.806**		**27.379**

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program

Ordnance	FY 2008 Qty (Each)	FY 2008 Total Cost ($ M)	FY 2013 Qty (Each)	FY 2013 Total Cost ($ M)
P-35 Items				
ELECTROMAGNETIC AIRCRAFT LAUNCHING SYSTEM (EMALS)	1	669.733	1	731.336
DUAL BAND RADAR (DBR) (SPY-3 AND VOLUME SEARCH RADAR (VSR))	1	481.797	-	10.948
ENTERPRISE AIR SURVEILLANCE RADAR (EASR) AND X-BAND ILLUMINATOR	-	-	1	74.500
ADVANCED ARRESTING GEAR (AAG)	1	147.590	1	168.233
PHALANX BLOCK 1B MK 15 MOD 21 & 22, CLOSE - IN WEAPONS SYSTEM (CIWS)	3	17.886	3	20.583
AN/SQQ-34, CARRIER-TACTICAL SUPPORT CENTER (CV-TSC)	1	6.460	1	4.354
MK29 MOD 5, GUIDED MISSILE LAUNCHING SYSTEM (GMLS)	2	12.578	2	11.597
AVIATION DATA MANAGEMENT AND CONTROL SYSTEM (ADMACS)	1	7.747	1	8.114
INTEGRATED LAUNCH AND RECOVERY TELEVISION SYSTEM (ILARTS)	1	8.217	1	5.096
MK 49, MOD 3 ROLLING AIRFRAME MISSILE (RAM)	2	13.902	2	16.126
IMPROVED FRESNEL LENS OPTICAL LANDING SYSTEM (IFLOLS)	1	3.304	1	2.088
P-35 Items Subtotal		**1,369.214**		**1,052.975**
Major Items				
LANDING SIGNAL OFFICER DISPLAY SYSTEM (LSODS)	1	1.692	1	1.941
MORIAH BLOCK 2	1	1.506	1	1.378
JET BLAST DEFLECTORS (JBD)	1	0.746	1	0.530
JOINT STRIKE FIGHTER AUTONOMIC LOGISTICS INFORMATION SYSTEM (JSF ALIS)	1	0.475	-	-
LONG RANGE LINEUP SYSTEM (LRLS)	-	-	1	0.948
Major Items Subtotal		**4.419**		**4.797**
Other Cost Elements				
Ordnance		3.324		3.027
Other Cost Elements Subtotal		**3.324**		**3.027**
Total Ordnance		**1,376.957**		**1,060.799**

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program
Equipment Item: AN/USQ-T46X(V)X, BATTLE FORCE TACTICAL TRAINING SYSTEM (BFTT)	**PARM Code:** PEO IWS 1.0

P-35 Category	FY 2008 Qty (Each)	FY 2008 Total Cost ($ M)	FY 2013 Qty (Each)	FY 2013 Total Cost ($ M)
Major Hardware	1	2.866	1	1.788
Technical Data and Documentation		0.024		0.268
Spares		0.131		0.115
System Engineering		0.553		0.922
Technical Engineering Services		0.313		0.374
Other Costs		1.324		1.317
Total	**1**	**5.211**	**1**	**4.784**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2008	CVN 78	KONTRON	C/FFP	Apr 2012		1	2.866
FY 2013	CVN 79	TBD	TBD	Feb 2022		1	1.788

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2008	CVN 78	May 2016	25	12	Apr 2013
FY 2013	CVN 79	Sep 2024	19	12	Feb 2022

Competition/Second Source Initiatives:

None

Remarks:

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.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program
Equipment Item: CONSOLIDATED AFLOAT NETWORK AND ENTERPRISE SERVICES (CANES)	**PARM Code:** PMW 750

P-35 Category	FY 2008 Qty (Each)	FY 2008 Total Cost ($ M)	FY 2013 Qty (Each)	FY 2013 Total Cost ($ M)
Major Hardware	1	10.487	1	10.173
Spares		0.200		0.436
System Engineering		1.961		2.174
Technical Engineering Services		-		0.250
Other Costs		1.132		1.722
Total	**1**	**13.780**	**1**	**14.755**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2008	CVN 78	NORTHROP GRUMMAN	C/FFP	Mar 2013		1	10.487
FY 2013	CVN 79	TBD	TBD	Jun 2017		1	10.173

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2008	CVN 78	May 2016	18	12	Nov 2013
FY 2013	CVN 79	Jun 2022	48	12	Jun 2017

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program
Equipment Item: AN/USG-2, COOPERATIVE ENGAGEMENT CAPABILITY (CEC)	**PARM Code:** PEO IWS 6.0

P-35 Category	FY 2008 Qty (Each)	FY 2008 Total Cost ($ M)	FY 2013 Qty (Each)	FY 2013 Total Cost ($ M)
Major Hardware	1	5.316	1	2.750
Spares		-		0.432
System Engineering		1.503		2.017
Technical Engineering Services		0.066		0.181
Other Costs		2.291		0.458
Total	**1**	**9.176**	**1**	**5.838**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2008	CVN 78	RAYTHEON	C/FFP	Apr 2011	Option	1	5.316
FY 2013	CVN 79	RAYTHEON	TBD	Aug 2021		1	2.750

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2008	CVN 78	May 2016	30	18	May 2012
FY 2013	CVN 79	Sep 2024	19	18	Aug 2021

Competition/Second Source Initiatives:

N/A

Remarks:

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.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program
Equipment Item: DIGITAL MODULAR RADIO (DMR) ULTRA HIGH FREQUENCY/VERY HIGH FREQUENCY LINE OF SIGHT (EHF/VHF LOS) SAT	**PARM Code:** PMW 750

P-35 Category	FY 2008		FY 2013	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	1	9.976	1	8.444
Technical Data and Documentation		0.031		-
Spares		0.008		0.050
System Engineering		0.511		0.478
Technical Engineering Services		0.262		0.604
Other Costs		0.608		0.518
Ancillary Equipment		-		0.068
Total	**1**	**11.396**	**1**	**10.162**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2008	CVN 78	GENERAL DYNAMICS	Various	Sep 2011		1	9.976
FY 2013	CVN 79	TBD	TBD	Mar 2017		1	8.444

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2008	CVN 78	May 2016	30	18	May 2012
FY 2013	CVN 79	Jun 2022	44	18	Apr 2017

Competition/Second Source Initiatives:

None

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program
Equipment Item: AN/UPX-29(V), INTERROGATOR FRIEND OR FOE (IFF) W/MK XII	**PARM Code:** PMA 213

P-35 Category	FY 2008 Qty (Each)	FY 2008 Total Cost ($ M)	FY 2013 Qty (Each)	FY 2013 Total Cost ($ M)
Major Hardware	1	5.027	1	5.026
Ancillary Equipment		0.039		0.094
Spares		0.076		0.112
System Engineering		0.368		0.570
Technical Engineering Services		0.120		0.139
Other Costs		0.242		0.420
Total	**1**	**5.872**	**1**	**6.361**

Description:

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, sectored, 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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2008	CVN 78	NOTHROP GRUMMAN-BAE SYSTEMS	SS/FFP	Nov 2008		1	5.027
FY 2013	CVN 79	NOTHROP GRUMMAN-BAE SYSTEMS	SS/FFP	Feb 2021		1	5.026

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2008	CVN 78	May 2016	47	24	Jun 2010
FY 2013	CVN 79	Sep 2024	19	24	Feb 2021

Competition/Second Source Initiatives:

None

Remarks:

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.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program
Equipment Item: SPN-46, AUTOMATIC CARRIER LANDING SYSTEM	**PARM Code:** PMA 213

P-35 Category	FY 2008 Qty (Each)	FY 2008 Total Cost ($ M)	FY 2013 Qty (Each)	FY 2013 Total Cost ($ M)
Major Hardware	1	6.479	1	5.870
System Engineering		1.010		1.342
Technical Engineering Services		0.052		0.312
Other Costs		2.753		1.887
Total	**1**	**10.294**	**1**	**9.411**

Description:

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

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2008	CVN 78	NAWCAD	Various	Apr 2008		1	6.479
FY 2013	CVN 79	NAWCAD	Various	Feb 2021		1	5.870

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2008	CVN 78	May 2016	25	24	Apr 2012
FY 2013	CVN 79	Sep 2024	19	24	Feb 2021

Competition/Second Source Initiatives:

None.

Remarks:

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.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program
Equipment Item: SHIP SELF DEFENSE SYSTEM (SSDS)	**PARM Code:** PEO IWS 10.0

P-35 Category	FY 2008 Qty (Each)	FY 2008 Total Cost ($ M)	FY 2013 Qty (Each)	FY 2013 Total Cost ($ M)
Major Hardware	1	16.795	1	10.389
Technical Data and Documentation		1.226		1.347
Spares		0.848		0.483
System Engineering		11.392		7.573
Technical Engineering Services		0.372		0.738
Other Costs		58.470		10.161
Total	**1**	**89.103**	**1**	**30.691**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2008	CVN 78	RAYTHEON/GEN DYNAMICS	C/FFP	Sep 2008	New	1	16.795
FY 2013	CVN 79	TBD	TBD	Feb 2021		1	10.389

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2008	CVN 78	May 2016	22	24	Jul 2012
FY 2013	CVN 79	Sep 2024	19	24	Feb 2021

Competition/Second Source Initiatives:

None

Remarks:

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.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / 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

P-35 Category	FY 2008		FY 2013	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	1	2.955	1	3.244
Spares		0.224		0.267
System Engineering		1.864		1.865
Technical Engineering Services		0.044		0.056
Other Costs		0.521		0.669
Total	**1**	**5.608**	**1**	**6.101**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2008	CVN 78	NAVAIR	Various	Nov 2009		1	2.955
FY 2013	CVN 79	TBD	TBD	Feb 2021		1	3.244

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2008	CVN 78	May 2016	46	24	Jul 2010
FY 2013	CVN 79	Sep 2024	19	24	Feb 2021

Competition/Second Source Initiatives:

none

Remarks:

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.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program
Equipment Item: NAVY MULTI-BAND TERMINAL (NMT)	**PARM Code:** PMW 750

P-35 Category	FY 2008 Qty (Each)	FY 2008 Total Cost ($ M)	FY 2013 Qty (Each)	FY 2013 Total Cost ($ M)
Major Hardware	1	5.197	1	5.240
Ancillary Equipment		0.040		0.048
Spares		0.106		-
System Engineering		0.100		0.072
Technical Engineering Services		0.073		0.090
Other Costs		0.210		0.389
Total	**1**	**5.726**	**1**	**5.839**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2008	CVN 78	RAYTHEON	C/FFP	Oct 2011		1	5.197
FY 2013	CVN 79	TBD	TBD	Dec 2016		1	5.240

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2008	CVN 78	May 2016	28	18	Jul 2012
FY 2013	CVN 79	Jun 2022	39	27	Dec 2016

Competition/Second Source Initiatives:

None

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program
Equipment Item: AN/SLQ-32(V)6, SURFACE ELECTRONIC WARFARE IMPROVEMENT PROGRAM (SEWIP) BLOCK 2	**PARM Code:** PEO IWS 2E

P-35 Category	FY 2008		FY 2013	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	1	14.110	1	10.100
Ancillary Equipment		0.443		0.315
Spares		0.517		-
System Engineering		2.423		0.091
Technical Engineering Services		0.477		-
Other Costs		1.962		0.012
Total	**1**	**19.932**	**1**	**10.518**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2008	CVN 78	LOCKHEED MARTIN	C/FFP	Sep 2012		1	14.110
FY 2013	CVN 79	TBD	TBD	Aug 2021		1	10.100

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2008	CVN 78	May 2016	18	18	May 2013
FY 2013	CVN 79	Sep 2024	19	18	Aug 2021

Competition/Second Source Initiatives:

None

Remarks:

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.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program
Equipment Item: AN/SRQ-6/MCS-21, SHIPS SIGNAL EXPLOITATION EQUIPMENT (SSEE)	**PARM Code:** PMW 750

P-35 Category	FY 2008 Qty (Each)	FY 2008 Total Cost ($ M)	FY 2013 Qty (Each)	FY 2013 Total Cost ($ M)
Major Hardware	1	4.478	1	5.214
Ancillary Equipment		-		0.078
Technical Data and Documentation		0.141		-
Spares		0.318		0.192
System Engineering		0.767		0.827
Technical Engineering Services		0.151		0.176
Other Costs		1.092		1.072
Total	**1**	**6.947**	**1**	**7.559**

Description:

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).

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2008	CVN 78	ARGON	C/FFP	Jun 2012		1	4.478
FY 2013	CVN 79	TBD	TBD	Feb 2022		1	5.214

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2008	CVN 78	May 2016	21	18	Feb 2013
FY 2013	CVN 79	Sep 2024	19	12	Feb 2022

Competition/Second Source Initiatives:

None

Remarks:

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.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program

Equipment Item: HIGH FREQUENCY RADIO GROUP (HFRG) **PARM Code:** PMW 170

P-35 Category	FY 2008 Qty (Each)	FY 2008 Total Cost ($ M)	FY 2013 Qty (Each)	FY 2013 Total Cost ($ M)
Major Hardware	1	1.349	-	-
Spares		0.040		-
System Engineering		0.256		-
Technical Engineering Services		0.971		-
Other Costs		0.227		-
Total	**1**	**2.843**	**-**	**-**

Description:

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

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2008	CVN 78	HARRIS CORP	Various	Sep 2008		1	1.349
FY 2013	CVN 79					-	-

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2008	CVN 78	May 2016	29	12	Dec 2012
FY 2013	CVN 79	Jun 2022	0	0	

Competition/Second Source Initiatives:

None

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program
Equipment Item: AN/SRC-61 (V)X HFDAG	**PARM Code:** PMW 170

P-35 Category	FY 2008 Qty (Each)	FY 2008 Total Cost ($ M)	FY 2013 Qty (Each)	FY 2013 Total Cost ($ M)
Major Hardware	-	-	1	4.816
Ancillary Equipment		-		0.048
Spares		-		0.010
System Engineering		-		0.199
Technical Engineering Services		-		0.484
Other Costs		-		0.402
Total	**-**	**-**	**1**	**5.959**

Description:

High Frequency (HF) Distributed Amplifier Group (DAG) is the Navy's Program of Record (POR) HF system and is the follow-on replacement of HF Radio Group (HFRG). HFDAG has a modular architecture and utilizes COTS equipment to the maximum extent possible. It provides Line Of Sight (LOS/Beyond Line of Sight (BLOS) voice and data transmission capabilities to USN Ships. The 16-channel CVN variant greatly improves capabilities from HFRG: (1) increases availability (Ao), (2) provides reprogrammable waveforms, (3) increases the number of waveforms available, (4) provides automatic link establishment (ALE).

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2008	CVN 78					-	-
FY 2013	CVN 79	TBD	TBD	Aug 2021	New	1	4.816

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2008	CVN 78	May 2016	0	0	
FY 2013	CVN 79	Sep 2024	19	18	Aug 2021

Competition/Second Source Initiatives:

N/A

Remarks:

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 the AN/SRC-61(V)X High Frequency Distribution Amplifier Group (HFDAG).

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.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program
Equipment Item: ELECTROMAGNETIC AIRCRAFT LAUNCHING SYSTEM (EMALS)	**PARM Code:** PMA 251

P-35 Category	FY 2008 Qty (Each)	FY 2008 Total Cost ($ M)	FY 2013 Qty (Each)	FY 2013 Total Cost ($ M)
Major Hardware	1	613.307	1	674.849
Technical Data and Documentation		0.817		0.511
Spares		-		7.702
System Engineering		12.480		18.695
Technical Engineering Services		11.675		2.834
Other Costs		31.454		26.745
Total	**1**	**669.733**	**1**	**731.336**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2008	CVN 78	GENERAL ATOMICS	C/FFP	Jun 2009		1	613.307
FY 2013	CVN 79	GENERAL ATOMICS	C/FFP	Jun 2015		1	674.849

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2008	CVN 78	May 2016	52	22	Mar 2010
FY 2013	CVN 79	Jun 2022	62	22	Jun 2015

Competition/Second Source Initiatives:

None

Remarks:

Spares costs were removed from hardware for the CVN 79 for better alignment of cost reporting. For the CVN 78 Spares costs are embedded in hardware.

Systems Engineering costs for CVN 79 include costs realigned from Technical Engineering Services budgeted in PB 16 for better alignment of work scope.

Long Lead Time Materials Undefinitized Contract Action (UCA) awarded May 2014, Production UCA awarded June 2015 for CVN 79.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program
Equipment Item: DUAL BAND RADAR (DBR) (SPY-3 AND VOLUME SEARCH RADAR (VSR))	**PARM Code:** PEO IWS 2.0

P-35 Category	FY 2008 Qty (Each)	FY 2008 Total Cost ($ M)	FY 2013 Qty (Each)	FY 2013 Total Cost ($ M)
Major Hardware	1	330.481	-	10.948
Technical Data and Documentation		0.125		-
System Engineering		133.369		-
Technical Engineering Services		6.661		-
Other Costs		11.161		-
Total	**1**	**481.797**	**-**	**10.948**

Description:

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.

Hardware costs on CVN 78 updated to reflect latest revised estimate. A portion of this increase ($22.8M) was a realignment from systems engineering to hardware to accurately reflect the non-recurring engineering associated with the hardware costs.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2008	CVN 78	RAYTHEON	C/CPIF	Mar 2008		1	330.481
FY 2013	CVN 79		C/CPIF			-	-

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2008	CVN 78	May 2016	53	34	Feb 2009
FY 2013	CVN 79	Jun 2022	0	0	

Competition/Second Source Initiatives:

None

Remarks:

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 (TY$M):
DBR (includes SPY-3 arrays and below deck electronic cabinets) -- 121.745

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	P-1 Line Item Number / Title: 2001 / Carrier Replacement Program	
Equipment Item: DUAL BAND RADAR (DBR) (SPY-3 AND VOLUME SEARCH RADAR (VSR))		PARM Code: PEO IWS 2.0

VSR (Volume Search Radar) -- 115.068
Common Array Power/Cooling Systems (CAPS/CACS) -- 59.385
Miscellaneous hardware -- 27.016
HIgh Power Interface -- 7.267

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

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program
Equipment Item: ENTERPRISE AIR SURVEILLANCE RADAR (EASR) AND X-BAND ILLUMINATOR	**PARM Code:** PEO IWS 2.0

P-35 Category	FY 2008 Qty (Each)	FY 2008 Total Cost ($ M)	FY 2013 Qty (Each)	FY 2013 Total Cost ($ M)
Major Hardware	-	-	1	56.000
System Engineering		-		18.500
Total	**-**	**-**	**1**	**74.500**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2008	CVN 78					-	-
FY 2013	CVN 79	TBD	C/CPIF	Apr 2020	New	1	56.000

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2008	CVN 78	May 2016	0	0	
FY 2013	CVN 79	Sep 2024	19	34	Apr 2020

Competition/Second Source Initiatives:

None

Remarks:

The hardware configuration for the CVN 79 (non-rotating) is essentially three times that of a rotating configuration, which is currently planned for the big deck amphibious warfare ships. CVN 79 will have three phased arrays mounted around the island, while the amphibious warfare ships will use one rotating array. Below deck equipment is also provided at a larger scale with the non-rotating variant of EASR.

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.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program
Equipment Item: ADVANCED ARRESTING GEAR (AAG)	**PARM Code:** PMA 251

P-35 Category	FY 2008 Qty (Each)	FY 2008 Total Cost ($ M)	FY 2013 Qty (Each)	FY 2013 Total Cost ($ M)
Major Hardware	1	118.987	1	143.575
Ancillary Equipment		2.366		-
Technical Data and Documentation		0.295		0.495
Spares		5.207		2.659
System Engineering		5.933		7.237
Technical Engineering Services		1.385		5.172
Other Costs		13.417		9.095
Total	**1**	**147.590**	**1**	**168.233**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2008	CVN 78	GENERAL ATOMICS	C/FFP	Nov 2009		1	118.987
FY 2013	CVN 79	GENERAL ATOMICS	C/FFP	Jun 2015		1	143.575

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2008	CVN 78	May 2016	37	33	Jul 2010
FY 2013	CVN 79	Jun 2022	51	33	Jun 2015

Competition/Second Source Initiatives:

None

Remarks:

Long Lead Time Materials Undefinitized Contract Action (UCA) awarded May 2014, Production UCA awarded June 2015 for CVN 79.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program
Equipment Item: PHALANX BLOCK 1B MK 15 MOD 21 & 22, CLOSE - IN WEAPONS SYSTEM (CIWS)	**PARM Code:** IWS 3B

P-35 Category	FY 2008 Qty (Each)	FY 2008 Total Cost ($ M)	FY 2013 Qty (Each)	FY 2013 Total Cost ($ M)
Major Hardware	3	14.163	3	16.297
Ancillary Equipment		0.197		0.231
Spares		0.234		0.278
System Engineering		1.830		1.857
Technical Engineering Services		0.560		0.628
Other Costs		0.902		1.292
Total	**3**	**17.886**	**3**	**20.583**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2008	CVN 78	RAYTHEON	C/FFP	May 2009		3	4.721
FY 2013	CVN 79	RAYTHEON	C/FFP	Apr 2021		3	5.432

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2008	CVN 78	May 2016	20	22	Nov 2012
FY 2013	CVN 79	Sep 2024	19	22	Apr 2021

Competition/Second Source Initiatives:

None

Remarks:

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.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program
Equipment Item: AN/SQQ-34, CARRIER-TACTICAL SUPPORT CENTER (CV-TSC)	**PARM Code:** PEO IWS 5E

P-35 Category	FY 2008 Qty (Each)	FY 2008 Total Cost ($ M)	FY 2013 Qty (Each)	FY 2013 Total Cost ($ M)
Major Hardware	1	2.492	1	3.199
Technical Data and Documentation		0.147		-
Spares		0.111		0.100
System Engineering		2.005		0.350
Technical Engineering Services		0.770		0.250
Other Costs		0.935		0.455
Total	**1**	**6.460**	**1**	**4.354**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2008	CVN 78	GTS/GENERAL DYNAMICS	C/CPFF	Mar 2009		1	2.492
FY 2013	CVN 79	TBD	TBD	Aug 2021		1	3.199

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2008	CVN 78	May 2016	26	21	Jun 2012
FY 2013	CVN 79	Sep 2024	19	18	Aug 2021

Competition/Second Source Initiatives:

None

Remarks:

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.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program
Equipment Item: MK29 MOD 5, GUIDED MISSILE LAUNCHING SYSTEM (GMLS)	**PARM Code:** PEO IWS 3

P-35 Category	FY 2008 Qty (Each)	FY 2008 Total Cost ($ M)	FY 2013 Qty (Each)	FY 2013 Total Cost ($ M)
Major Hardware	2	6.352	2	7.071
Ancillary Equipment		0.150		0.400
Technical Data and Documentation		0.056		-
Spares		0.530		0.922
System Engineering		1.305		0.750
Technical Engineering Services		0.497		0.710
Other Costs		3.688		1.744
Total	**2**	**12.578**	**2**	**11.597**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2008	CVN 78	RAYTHEON	C/FFP	Jun 2011	New	2	3.176
FY 2013	CVN 79	TBD	TBD	Sep 2020		2	3.536

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2008	CVN 78	May 2016	22	29	Feb 2012
FY 2013	CVN 79	Sep 2024	19	29	Sep 2020

Competition/Second Source Initiatives:

None

Remarks:

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.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program
Equipment Item: AVIATION DATA MANAGEMENT AND CONTROL SYSTEM (ADMACS)	**PARM Code:** PMA 251

P-35 Category	FY 2008 Qty (Each)	FY 2008 Total Cost ($ M)	FY 2013 Qty (Each)	FY 2013 Total Cost ($ M)
Major Hardware	1	4.106	1	4.725
Technical Data and Documentation		0.097		-
Spares		0.299		-
System Engineering		1.119		0.873
Technical Engineering Services		0.700		0.544
Other Costs		1.426		1.972
Total	**1**	**7.747**	**1**	**8.114**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2008	CVN 78	CHUGACH	C/FFP	Jul 2012	New	1	4.106
FY 2013	CVN 79	TBD	TBD	Aug 2016		1	4.725

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2008	CVN 78	May 2016	26	12	Mar 2013
FY 2013	CVN 79	Jun 2022	43	27	Aug 2016

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program
Equipment Item: INTEGRATED LAUNCH AND RECOVERY TELEVISION SYSTEM (ILARTS)	**PARM Code:** PMA 251

P-35 Category	FY 2008 Qty (Each)	FY 2008 Total Cost ($ M)	FY 2013 Qty (Each)	FY 2013 Total Cost ($ M)
Major Hardware	1	4.899	1	2.693
Technical Data and Documentation		0.229		-
Spares		0.343		0.109
System Engineering		1.606		1.275
Technical Engineering Services		0.251		-
Other Costs		0.889		1.019
Total	**1**	**8.217**	**1**	**5.096**

Description:

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 Landing Signal Officer 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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2008	CVN 78	EPSILON/FULLVIEW	C/FFP	Oct 2010	New	1	4.899
FY 2013	CVN 79	COBHAM/FULLVIEW	C/FFP	Sep 2016	New	1	2.693

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2008	CVN 78	May 2016	19	36	Oct 2011
FY 2013	CVN 79	Jun 2022	39	30	Sep 2016

Competition/Second Source Initiatives:

None

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program
Equipment Item: MK 49, MOD 3 ROLLING AIRFRAME MISSILE (RAM)	**PARM Code:** PEO IWS 3B

P-35 Category	FY 2008 Qty (Each)	FY 2008 Total Cost ($ M)	FY 2013 Qty (Each)	FY 2013 Total Cost ($ M)
Major Hardware	2	6.816	2	7.902
Ancillary Equipment		1.191		1.381
Technical Data and Documentation		0.030		0.035
Spares		0.121		0.140
System Engineering		1.846		2.190
Technical Engineering Services		0.370		0.380
Other Costs		3.528		4.098
Total	**2**	**13.902**	**2**	**16.126**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2008	CVN 78	RAYTHEON	C/FFP	Jan 2009		2	3.408
FY 2013	CVN 79	TBD	TBD	Feb 2021		2	3.951

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2008	CVN 78	May 2016	20	21	Dec 2012
FY 2013	CVN 79	Sep 2024	19	24	Feb 2021

Competition/Second Source Initiatives:

None

Remarks:

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.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program

Equipment Item: IMPROVED FRESNEL LENS OPTICAL LANDING SYSTEM (IFLOLS) **PARM Code:** PMA 251

P-35 Category	FY 2008 Qty (Each)	FY 2008 Total Cost ($ M)	FY 2013 Qty (Each)	FY 2013 Total Cost ($ M)
Major Hardware	1	1.781	1	1.456
System Engineering		0.736		0.186
Technical Engineering Services		0.233		-
Other Costs		0.554		0.446
Total	**1**	**3.304**	**1**	**2.088**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2008	CVN 78	N/A	TBD	Feb 2009		1	1.781
FY 2013	CVN 79	TBD	TBD	Jan 2016		1	1.456

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2008	CVN 78	May 2016	36	24	May 2011
FY 2013	CVN 79	Jun 2022	53	24	Jan 2016

Competition/Second Source Initiatives:

None

Remarks:

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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Exhibit P-10, Advance Procurement Requirements Analysis (*page 1 - Budget Funding Justification*): PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program

First System (2017) Award Date:	First System (2017) Completion Date:	Interval Between Systems:
December 2017	September 2027	0 Months

Cost Elements	Production Leadtime (Months)	When Required* (Months)	FY 2015 ($ M)	FY 2016 ($ M)	FY 2017 ($ M)	FY 2018 ($ M)	FY 2019 ($ M)	FY 2020 ($ M)	FY 2021 ($ M)
P-5 Categories									
Basic	16-72	45	-	179.147	351.304	-	-	-	37.221
Nuc Prop Equip	36-96	72	-	683.211	1,004.480	-	-	-	931.200
Ordnance	60	64	-	-	15.000	-	-	-	-
Total: P-5 Categories			-	*862.358*	*1,370.784*	-	-	-	*968.421*
Total Advance Procurement/Obligation Authority			**-**	**862.358**	**1,370.784**	**-**	**-**	**-**	**968.421**

*Note: "When Required" is the number of months required before ship delivery.

Exhibit P-10, Advance Procurement Requirements Analysis (*page 2 - Budget Funding Justification*): PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2001 / Carrier Replacement Program

Cost Elements	FY 2017						
	Production Leadtime *(Months)*	When Required* *(Months)*	Unit Cost *($ M)*	Contract Forecast Date	2017 Qty *(Each)*	For FY	Total Cost Request *($ M)*
P-5 Categories							
Basic	16-72	45	-	Oct 2016	-	2018	351.304
Nuc Prop Equip	36-96	72	-	Oct 2016	-	2018	1,004.480
Ordnance	60	64	-	May 2017	-	2018	15.000
Total: P-5 Categories							*1,370.784*
Total Advance Procurement/Obligation Authority							**1,370.784**

Description:
Basic 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.

Nuclear Propulsion Equipment (GFE) 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.

Ordnance funding is required to procure EMALS Energy Storage Subsystem (ESS) Motor Generator and AAG Electric Motor Long Lead Time Material to support GFE required-in-yard dates and ship construction schedule.

*Note: "When Required" is the number of months required before ship delivery.

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 02: Other Warships / BSA 1: Other Warships	**P-1 Line Item Number / Title:** 2013 / Virginia Class Submarine
ID Code (A=Service Ready, B=Not Service Ready): A	**Program Elements for Code B Items:** N/A
Other Related Program Elements: N/A	
Line Item MDAP/MAIS Code: N/A	

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity *(Units in Each)*	20	2	2	2	-	2	2	2	2	1	-	33
Gross/Weapon System Cost *($ in Millions)*	51,709.227	5,265.668	5,376.854	5,408.901	-	5,408.901	5,522.925	7,156.170	6,987.864	3,645.780	3,874.615	94,948.004
Less PY Advance Procurement *($ in Millions)*	14,324.057	1,577.014	1,613.536	1,623.288	-	1,623.288	1,647.040	2,006.775	1,743.848	984.073	3,164.257	28,683.888
Less Cost To Complete *($ in Millions)*	1,844.685	-	-	-	-	-	-	-	-	-	-	1,844.685
Less Economic Order Quantity *($ in Millions)*	2,036.697	158.400	416.948	597.628	-	597.628	580.363	-	-	249.117	710.358	4,749.511
Net Procurement (P-1) *($ in Millions)*	33,503.788	3,530.254	3,346.370	3,187.985	-	3,187.985	3,295.522	5,149.395	5,244.016	2,412.590	-	59,669.920
Plus CY Advance Procurement *($ in Millions)*	17,046.071	1,621.036	1,641.888	1,767.234	-	1,767.234	1,883.298	1,267.147	1,588.578	1,868.636	-	28,683.888
Plus Cost To Complete *($ in Millions)*	1,844.685	-	-	-	-	-	-	-	-	-	-	1,844.685
Plus Economic Order Quantity *($ in Millions)*	2,779.295	680.789	329.952	-	-	-	-	356.514	491.159	111.802	-	4,749.511
Total Obligation Authority *($ in Millions)*	**55,173.839**	**5,832.079**	**5,318.210**	**4,955.219**	**-**	**4,955.219**	**5,178.820**	**6,773.056**	**7,323.753**	**4,393.028**	**-**	**94,948.004**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Plus Outfitting and Post Delivery *($ in Millions)*	818.149	110.523	104.613	142.667	-	142.667	147.110	112.382	163.764	167.023	631.094	2,397.325
Total *($ in Millions)*	**55,991.988**	**5,942.602**	**5,422.823**	**5,097.886**	**-**	**5,097.886**	**5,325.930**	**6,885.438**	**7,487.517**	**4,560.051**	**631.094**	**97,345.329**
Gross/Weapon System Unit Cost *($ in Millions)*	2,585.461	2,632.834	2,688.427	2,704.451	-	2,704.451	2,761.463	3,578.085	3,493.932	3,645.780	-	2,877.212

Description:

MISSION: 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.

NOTE: 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).

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 02: Other Warships / BSA 1: Other Warships	**P-1 Line Item Number / Title:** 2013 / Virginia Class Submarine
ID Code (A=Service Ready, B=Not Service Ready): A	**Program Elements for Code B Items:** N/A
Other Related Program Elements: N/A	
Line Item MDAP/MAIS Code: N/A	

Characteristics: -

Length Overall	377 feet
Beam	34 feet
Displacement	7830 TONS
Draft	32 feet

Production Status:	SSN 786	SSN 787	SSN 788	SSN 789	SSN 790	SSN 791	SSN 792
Contract Award Date	Dec 2008	Dec 2008	Dec 2008	Dec 2008	Dec 2008	Dec 2008	Apr 2014
Months to Completion							
a) Award to Delivery	86 months	90 months	95 months	102 months	107 months	114 months	62 months
b) Construction Start to Delivery	59 months	57 months	56 months	57 months	56 months	57 months	61 months
Delivery Date	Feb 2016	Jun 2016	Nov 2016	Jun 2017	Nov 2017	Jun 2018	Jun 2019
Completion Of Fitting Out	Feb 2016	Jun 2016	Nov 2016	Jun 2017	Nov 2017	Jun 2018	Jun 2019
Obligation Work Limit Date	Jan 2017	Aug 2017	Oct 2017	May 2018	Oct 2018	May 2019	May 2020

Production Status:	SSN 793	SSN 794	SSN 795	SSN 796	SSN 797	SSN 798	SSN 799
Contract Award Date	Apr 2014	Apr 2014	Apr 2014	Apr 2014	Apr 2014	Apr 2014	Apr 2014
Months to Completion							
a) Award to Delivery	67 months	73 months	77 months	82 months	88 months	94 months	100 months
b) Construction Start to Delivery	62 months	61 months	60 months	59 months	59 months	59 months	59 months
Delivery Date	Nov 2019	May 2020	Sep 2020	Feb 2021	Aug 2021	Feb 2022	Aug 2022
Completion Of Fitting Out	Nov 2019	May 2020	Sep 2020	Feb 2021	Aug 2021	Feb 2022	Aug 2022
Obligation Work Limit Date	Oct 2020	Apr 2021	Aug 2021	Jan 2022	Jul 2022	Jan 2023	Jul 2023

Design Schedule	Start / Issue	Complete / Response	Reissue	Reissue Complete / Response
Issue Date for TLR	N/A	N/A		
Issue Date for TLS	N/A	N/A		
Preliminary Design	Oct 1993	Sep 1995		
Contract Design	Oct 1994	Sep 1996		
Detail Design	Jan 1996	Jun 2004		
Request for Proposals	N/A	N/A		
Design Agent	Electric Boat			

Classification of Cost Estimate: C

Exhibit P-5c, Ship Cost Analysis: PB 2017 Navy	**Date:** February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2013 / Virginia Class Submarine

Cost Categories (†) indicates the presence of a P-8a	FY 2011		FY 2012		FY 2013		FY 2014		FY 2015		FY 2016		FY 2017	
	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)
Plan Costs	2	184.659	2	176.536	2	183.597	2	167.937	2	177.095	2	183.078	2	180.184
Basic Construction/Conversion		3,384.964		3,306.362		3,232.704		3,492.087		3,335.501		3,384.290		3,430.573
Change Orders		100.644		98.600		92.430		104.021		89.481		91.459		73.043
Electronics (†)		529.217		489.947		499.746		503.718		504.701		514.795		515.852
Technology Insertion		80.000		25.600		45.500		73.500		28.835		13.535		12.501
Propulsion Equipment		887.000		878.000		896.000		910.157		970.000		1,025.000		1,032.500
Hull, Mechanical, and Electrical (HM&E) (†)		99.738		100.116		102.476		105.248		106.822		109.920		110.190
Other Cost		48.170		49.158		51.124		52.658		53.233		54.777		54.058
Total Ship Estimate		**5,314.392**		**5,124.319**		**5,103.577**		**5,409.326**		**5,265.668**		**5,376.854**		**5,408.901**
Less Advance Procurement FY 2008		513.884		-		-		-		-		-		-
Less Advance Procurement FY 2009		563.000		-		-		-		-		-		-
Less Advance Procurement FY 2010		432.400		914.000		-		-		-		-		-
Less Advance Procurement FY 2011		-		498.961		932.000		-		-		-		-
Less Advance Procurement FY 2012		-		-		473.115		988.246		-		-		-
Less Advance Procurement FY 2013		-		-		-		540.376		1,110.000		-		-
Less Advance Procurement FY 2014		-		-		-		-		467.014		1,145.000		-
Less Advance Procurement FY 2015		-		-		-		-		-		468.536		1,152.500
Less Advance Procurement FY 2016		-		-		-		-		-		-		470.788
Less Cost to Complete FY 2014		-		-		227.000		-		-		-		-
Less EOQ FY 2009		186.488		162.131		162.128		-		-		-		-
Less EOQ FY 2010		207.222		199.898		200.160		-		-		-		-
Less EOQ FY 2011		-		128.015		122.920		-		-		-		-
Less EOQ FY 2014		-		-		-		-		158.400		219.380		194.909
Less EOQ FY 2015		-		-		-		-		-		197.568		251.603
Less EOQ FY 2016		-		-		-		-		-		-		151.116
Net P-1 Funding		**3,411.398**		**3,221.314**		**2,986.254**		**3,880.704**		**3,530.254**		**3,346.370**		**3,187.985**

Exhibit P-27, Ship Production Schedule: PB 2017 Navy			Date: February 2016		
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1			P-1 Line Item Number / Title: 2013 / Virginia Class Submarine		
Ship	**Shipbuilder**	**Fiscal Year**	**Contract Award**	**Start of Construction**	**Delivery Date**
SSN 786	EB/NSS	2011	Dec 2008	Mar 2011	Feb 2016
SSN 787	EB/NSS	2011	Dec 2008	Sep 2011	Jun 2016
SSN 788	EB/NSS	2012	Dec 2008	Mar 2012	Nov 2016
SSN 789	EB/NSS	2012	Dec 2008	Sep 2012	Jun 2017
SSN 790	EB/NSS	2013	Dec 2008	Mar 2013	Nov 2017
SSN 791	EB/NSS	2013	Dec 2008	Sep 2013	Jun 2018
SSN 792	EB/NSS	2014	Apr 2014	May 2014	Jun 2019
SSN 793	EB/NSS	2014	Apr 2014	Sep 2014	Nov 2019
SSN 794	EB/NSS	2015	Apr 2014	Apr 2015	May 2020
SSN 795	EB/NSS	2015	Apr 2014	Sep 2015	Sep 2020
SSN 796	EB/NSS	2016	Apr 2014	Mar 2016	Feb 2021
SSN 797	EB/NSS	2016	Apr 2014	Sep 2016	Aug 2021
SSN 798	EB/NSS	2017	Apr 2014	Mar 2017	Feb 2022
SSN 799	EB/NSS	2017	Apr 2014	Sep 2017	Aug 2022
SSN 800	EB/NSS	2018	Apr 2014	Mar 2018	Feb 2023
SSN 801	EB/NSS	2018	Apr 2014	Sep 2018	Aug 2023
SSN 802	EB/NSS	2019	Dec 2018	Mar 2019	Feb 2024
SSN 803	EB/NSS	2019	Dec 2018	Sep 2019	Aug 2024
SSN 804	EB/NSS	2020	Dec 2018	Mar 2020	Feb 2025
SSN 805	EB/NSS	2020	Dec 2018	Sep 2020	Aug 2025
SSN 806	EB/NSS	2021	Dec 2018	Mar 2021	Feb 2026

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	P-1 Line Item Number / Title: 2013 / Virginia Class Submarine

Electronics	FY 2015		FY 2016		FY 2017	
	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)
P-35 Items						
Sonar, Combat Control & Architecture	2	206.882	2	211.046	2	211.792
ESM	2	56.512	2	57.650	2	57.854
Photonics Masts	2	38.008	2	38.774	2	38.909
UMMs	2	21.676	2	22.112	2	22.190
ECS Recurring	2	51.274	2	52.306	2	52.491
P-35 Items Subtotal		**374.352**		**381.888**		**383.236**
Major Items						
System Level Activities	2	38.718	2	39.473	2	38.953
AN/BPS-16	2	5.968	2	6.048	2	5.972
Navigation	2	6.617	2	6.750	2	6.773
CWITT	2	43.032	2	43.898	2	44.050
NPES SE&I	2	33.676	2	34.354	2	34.476
Major Items Subtotal		**128.011**		**130.523**		**130.224**
Other Cost Elements						
Misc Electronics	-	2.338	-	2.384	-	2.392
Other Cost Elements Subtotal		**2.338**		**2.384**		**2.392**
Total Electronics		**504.701**		**514.795**		**515.852**

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2013 / Virginia Class Submarine

Hull, Mechanical, and Electrical (HM&E)	FY 2015		FY 2016		FY 2017	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
P-35 Items						
Propulsor	2	73.496	2	75.628	2	76.348
P-35 Items Subtotal		**73.496**		**75.628**		**76.348**
Major Items						
CSA MK2		3.186		3.278		3.234
Major Items Subtotal		**3.186**		**3.278**		**3.234**
Other Cost Elements						
HM&E Installation and testing		18.828		19.374		19.120
T&E		9.180		9.446		9.322
SUPSHIP responsible material		2.132		2.194		2.166
Other Cost Elements Subtotal		**30.140**		**31.014**		**30.608**
Total Hull, Mechanical, and Electrical (HM&E)		**106.822**		**109.920**		**110.190**

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2013 / Virginia Class Submarine
Equipment Item: Sonar, Combat Control & Architecture	**PARM Code:** N/A

P-35 Category	FY 2015		FY 2016		FY 2017	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	2	168.685	2	172.084	2	172.703
Technical Engineering Services		3.022		3.082		3.092
Other Costs		35.175		35.880		35.997
Total	**2**	**206.882**	**2**	**211.046**	**2**	**211.792**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2015	SSN 794	LMMSS	C/CPIF	Jan 2015	Option	2	46.111
FY 2016	SSN 796	LMMSS	C/CPIF	Jan 2016	Option	2	47.126
FY 2017	SSN 798	LMMSS	C/CPIF	Jan 2017	Option	2	48.068

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2015	SSN 794	May 2020	29	32	May 2015
FY 2016	SSN 796	Feb 2021	26	32	May 2016
FY 2017	SSN 798	Feb 2022	26	32	May 2017

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2013 / Virginia Class Submarine
Equipment Item: ESM	**PARM Code:** N/A

P-35 Category	FY 2015 Qty (Each)	FY 2015 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)	FY 2017 Qty (Each)	FY 2017 Total Cost ($ M)
Major Hardware	2	42.852	2	43.718	2	43.877
Technical Engineering Services		2.402		2.450		2.458
Other Costs		11.258		11.482		11.519
Total	**2**	**56.512**	**2**	**57.650**	**2**	**57.854**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2015	SSN 794	Competitive	C/FFP	Dec 2015	New	2	21.426
FY 2016	SSN 796	Competitive	C/FFP	Dec 2016	Option	2	21.859
FY 2017	SSN 798	Competitive	C/FFP	Dec 2017	Option	2	21.938

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2015	SSN 794	May 2020	29	24	Dec 2015
FY 2016	SSN 796	Feb 2021	26	24	Dec 2016
FY 2017	SSN 798	Feb 2022	26	24	Dec 2017

Competition/Second Source Initiatives:

Multi-Functional Modular Mast (MMM) completed negotiations in December 2015 and is expected to award in January 2016.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2013 / Virginia Class Submarine
Equipment Item: Photonics Masts	**PARM Code:** N/A

P-35 Category	FY 2015		FY 2016		FY 2017	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	2	26.272	2	26.804	2	26.899
Technical Engineering Services		1.182		1.204		1.207
Other Costs		10.554		10.766		10.803
Total	**2**	**38.008**	**2**	**38.774**	**2**	**38.909**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2015	SSN 794	L-3 KEO	C/FFP	Apr 2015	New	2	13.136
FY 2016	SSN 796	L-3 KEO	C/FFP	Apr 2016	Option	2	13.402
FY 2017	SSN 798	L-3 KEO	C/FFP	Apr 2017	Option	2	13.449

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2015	SSN 794	May 2020	29	24	Dec 2015
FY 2016	SSN 796	Feb 2021	26	24	Dec 2016
FY 2017	SSN 798	Feb 2022	26	24	Dec 2017

Competition/Second Source Initiatives:

Low Profile Photonics Mast (LPPM): Full and Open competition RFP released April 2014 and contract awarded April 2015 includes common diploop/EHP plan as part of contract to maintain future mast flexibility and antenna assembly and ESM mast components.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2013 / Virginia Class Submarine
Equipment Item: UMMs	**PARM Code:** N/A

P-35 Category	FY 2015		FY 2016		FY 2017	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	2	16.153	2	16.478	2	16.537
Technical Engineering Services		2.681		2.734		2.743
Other Costs		2.842		2.900		2.910
Total	**2**	**21.676**	**2**	**22.112**	**2**	**22.190**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2015	SSN 794	L-3 KEO	SS/FP	Jun 2015	New	2	8.077
FY 2016	SSN 796	L-3 KEO	SS/FP	Apr 2016	Option	2	8.239
FY 2017	SSN 798	L-3 KEO	SS/FP	Apr 2017	Option	2	8.268

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2015	SSN 794	May 2020	40	21	Apr 2015
FY 2016	SSN 796	Feb 2021	37	21	Apr 2016
FY 2017	SSN 798	Feb 2022	37	21	Apr 2017

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2013 / Virginia Class Submarine
Equipment Item: ECS Recurring	**PARM Code:** N/A

P-35 Category	FY 2015		FY 2016		FY 2017	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	2	34.389	2	35.082	2	35.210
Technical Engineering Services		5.832		5.950		5.970
Other Costs		11.053		11.274		11.311
Total	**2**	**51.274**	**2**	**52.306**	**2**	**52.491**

Description:

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)

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2015	SSN 794	SAIC	C/IDIQ	May 2017	Option	2	17.195
FY 2016	SSN 796	SAIC	C/IDIQ	May 2018	Option	2	17.541
FY 2017	SSN 798	SAIC	C/IDIQ	May 2019	Option	2	17.605

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2015	SSN 794	May 2020	27	9	May 2017
FY 2016	SSN 796	Feb 2021	24	9	May 2018
FY 2017	SSN 798	Feb 2022	24	9	May 2019

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2013 / Virginia Class Submarine
Equipment Item: Propulsor	**PARM Code:** N/A

P-35 Category	FY 2015		FY 2016		FY 2017	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	2	62.668	2	64.486	2	66.034
TECH ENGINEERING SERVICES		10.828		11.142		10.314
Total	**2**	**73.496**	**2**	**75.628**	**2**	**76.348**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2015	SSN 794	BAE Systems	C/FFP	Jun 2015	New	2	23.800
FY 2016	SSN 796	BAE Systems	C/FFP	Dec 2015		2	24.650
FY 2017	SSN 798	BAE Systems	C/FFP	Dec 2015		2	25.500

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2015	SSN 794	May 2020	35	30	Dec 2014
FY 2016	SSN 796	Feb 2021	35	30	Sep 2015
FY 2017	SSN 798	Feb 2022	35	30	Sep 2016

Competition/Second Source Initiatives:

N/A

Remarks:

Hardware unit costs increased on the Block IV hulls due to switching from high yield (HY) steel to Inconel material, which will support reducing the number of availabilities and thus lower total ownership costs. Inconel costs more than HY steel and requires more machining hours for manufacturing.

The Block IV contract, which consists of SSNs 794-803, was executed in June 2015 as an undefinitized contract action (UCA) for the long lead time material (LLTM) for SSN 794 and SSN 795. The Block IV contract is planned to be modified and definitized by December 2015 for SSNs 794-803. The definitization modificiation will include the award for the full effort of SSN 796 and SSN 797 as well as the LLTM for SSN 798 and SSN 799.

Required award date includes the time needed to start procuring Long Lead Time Material (LLTM).

The Program Office is currently looking at ways to mitigate the impact to in yard need dates.

Exhibit P-10, Advance Procurement Requirements Analysis (*page 1 - Budget Funding Justification*): PB 2017 Navy			Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1		**P-1 Line Item Number / Title:** 2013 / Virginia Class Submarine	
First System (2017) Award Date:	**First System (2017) Completion Date:**	**Interval Between Systems:** 0 Months	

Cost Elements	Production Leadtime (Months)	When Required* (Months)	FY 2015 ($ M)	FY 2016 ($ M)	FY 2017 ($ M)	FY 2018 ($ M)	FY 2019 ($ M)	FY 2020 ($ M)	FY 2021 ($ M)
Advance Procurement									
Nuclear Propulsion Plant Equipment (1)	30-72	Various	1,032.500	1,051.100	1,046.000	1,047.000	618.000	1,122.000	1,161.000
Elecronics Equipment (2)	37-43	Various	27.200	27.800	28.214	28.836	29.414	15.060	30.782
NON-Nuclear Propulsion Plant Equipment - Propulsor (3)	36	Various	40.500	41.800	43.100	44.400	45.732	23.552	48.516
NON-Nuclear - Various (Heat Exchange, Main Condensers, Main Propulsion Complex...)	18-66	Various	-	-	-	-	-	-	-
Long Lead-Time CFE (4)	24-42	Various	520.836	521.188	542.600	602.554	484.825	353.706	514.422
Detail Design/Design Transfer/Shipbuilder Integration	-	-	-	-	-	-	-	-	-
VPM (Detail Design & LLTM CFE) (5)	-	Various	-	-	107.320	160.508	89.176	74.260	113.916
Other (6)	-	-	-	-	-	-	-	-	-
Total: Advance Procurement			*1,621.036*	*1,641.888*	*1,767.234*	*1,883.298*	*1,267.147*	*1,588.578*	*1,868.636*
Economic Order of Quantity									
EOQ (7)	-	Various	680.789	329.952	-	-	356.514	491.159	111.802
Total: Economic Order of Quantity			*680.789*	*329.952*	-	-	*356.514*	*491.159*	*111.802*
Total Advance Procurement/Obligation Authority			**2,301.825**	**1,971.840**	**1,767.234**	**1,883.298**	**1,623.661**	**2,079.737**	**1,980.438**

*Note: "When Required" is the number of months required before ship delivery.

Exhibit P-10, Advance Procurement Requirements Analysis (*page 2 - Budget Funding Justification*): PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2013 / Virginia Class Submarine

Cost Elements	FY 2017 Production Leadtime (Months)	When Required* (Months)	Unit Cost ($ M)	Contract Forecast Date	2017 Qty (Each)	For FY	Total Cost Request ($ M)
Advance Procurement							
Nuclear Propulsion Plant Equipment (1)	30-72	Various	523.000	Jan 2017	2	2019	1,046.000
Elecronics Equipment (2)	37-43	Various	14.107		2	2018	28.214
NON-Nuclear Propulsion Plant Equipment - Propulsor (3)	36	Various	21.550		2	2018	43.100
NON-Nuclear - Various (Heat Exchange, Main Condensers, Main Propulsion Complex...)	18-66	Various	-		-		-
Long Lead-Time CFE (4)	24-42	Various	-		-	2018	542.600
Detail Design/Design Transfer/Shipbuilder Integration	-	-	-		-		-
VPM (Detail Design & LLTM CFE) (5)	-	Various	-		-	2019	107.320
Other (6)	-	-	-		-		-
Total: Advance Procurement							*1,767.234*
Economic Order of Quantity							
EOQ (7)	-	Various	-		-		-
Total: Economic Order of Quantity							-
Total Advance Procurement/Obligation Authority							**1,767.234**

Description:

*Note: "When Required" is the number of months required before ship delivery.

Footnotes:

(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. Naval Reactors is in the midst of decreasing procurements for reactor plant GFE, primarily a result of fewer aircraft carrier and submarine refuelings. Between FY15 and FY21, production volume at the Program's reactor core vendor will decrease by ~33% or nearly 500,000 manhours and require allocation of overhead across fewer product lines, resulting in increased costs per ship set. This period of higher overhead allocation coincides with the manufacturing periods of the five planned equipment ship sets to be procured using the FY19-21 SCN AP. This burden is reflected in the estimated escalation rate used to derive the required AP funding in those years. Naval Reactors is actively managing and assessing the required reactor core manufacturing capabilities to identify overhead efficiencies and reduce costs.

(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

Exhibit P-10, Advance Procurement Requirements Analysis (*page 2 - Budget Funding Justification*): PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2013 / Virginia Class Submarine

(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) 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 (Block V Detail Design & LLTM CFE): Includes $93.7M for Detail Design and $13.6M for LLTM CFE for the FY19 SSNs. Funding required to support the increased VPM material procurement (i.e. electrical, valves, flanges, fittings, pipe, fabricated parts, hardware, and tools, etc.) and is required to maintain the anticipated ship construction schedule.

(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. 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

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Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 02: Other Warships / BSA 1: Other Warships	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
ID Code (A=Service Ready, B=Not Service Ready): A	**Program Elements for Code B Items:** N/A — **Other Related Program Elements:** N/A
Line Item MDAP/MAIS Code: N/A	

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity *(Units in Each)*	5	-	1	-	-	-	-	-	1	-	1	8
Gross/Weapon System Cost *($ in Millions)*	17,989.200	-	4,718.978	-	-	-	-	-	5,047.995	-	5,788.811	33,544.984
Less PY Advance Procurement *($ in Millions)*	4,462.200	-	813.319	-	-	-	-	-	1,287.850	-	1,117.912	7,681.281
Less Cost To Complete *($ in Millions)*	180.598	-	-	-	-	-	-	-	-	-	-	180.598
Less Subsequent Year Full Funding *($ in Millions)*	6,859.200	-	3,268.071	-	-	-	-	-	2,126.573	-	2,502.147	14,755.991
Less Transfer *($ in Millions)*	128.131	-	-	-	-	-	-	-	-	-	-	128.131
Net Procurement (P-1) *($ in Millions)*	6,359.071	-	637.588	-	-	-	-	-	1,633.572	-	2,168.752	10,798.983
Plus Subsequent Year Full Funding *($ in Millions)*	6,859.200	-	-	1,743.220	-	1,743.220	1,524.851	-	-	2,126.573	-	12,253.844
Full Funding TOA *($ in Millions)*	13,218.271	-	637.588	1,743.220	-	1,743.220	1,524.851	-	1,633.572	2,126.573	2,168.752	23,052.827
Plus CY Advance Procurement *($ in Millions)*	4,791.919	483.600	14.951	248.599	-	248.599	449.476	600.014	106.534	433.271	552.917	7,681.281
Plus Cost To Complete *($ in Millions)*	106.569	54.000	20.029	-	-	-	-	-	-	-	-	180.598
Plus Subsequent Year FF CTC *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	2,502.147	2,502.147
Plus Transfer *($ in Millions)*	128.131	-	-	-	-	-	-	-	-	-	-	128.131
Total Obligation Authority *($ in Millions)*	**18,244.890**	**537.600**	**672.568**	**1,991.819**	**-**	**1,991.819**	**1,974.327**	**600.014**	**1,740.106**	**2,559.844**	**5,223.816**	**33,544.984**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Plus Outfitting and Post Delivery *($ in Millions)*	130.437	22.220	24.726	34.416	-	34.416	13.079	17.002	51.304	52.394	44.619	390.197
Total *($ in Millions)*	**18,375.327**	**559.820**	**697.294**	**2,026.235**	**-**	**2,026.235**	**1,987.406**	**617.016**	**1,791.410**	**2,612.238**	**5,268.435**	**33,935.181**
Gross/Weapon System Unit Cost *($ in Millions)*	3,597.840	-	4,718.978	-	-	-	-	-	5,047.995	-	5,788.811	4,193.123

Description:

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.

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 02: Other Warships / BSA 1: Other Warships	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
ID Code (A=Service Ready, B=Not Service Ready): A	**Program Elements for Code B Items:** N/A — **Other Related Program Elements:** N/A
Line Item MDAP/MAIS Code: N/A	

Characteristics:	CVN 72	CVN 73
Length Overall	1092 ft	1092 ft
Beam	252 ft	252 ft
Displacement	101,047 LT	101,200 LT
Draft	39.89 ft	39.96 ft

Systems:

Electronics

-C4ISR
-INTEGRATED COMMUNICATION NETWORK (ICAN / DDCN & IVCN)
-SSDS MK2
-COOPERATIVE ENGAGEMENT CAPABILITY (CEC)
-AN/SPN-46 OVERHAUL/UPGRADE
-NAVAL STRIKE WARFARE PLANNING CENTER (NSWPC)
-BATTLE FORCE TACTICAL TRAINER (BFTT)
-READY ROOM TRANSFORMATIONAL TECHNOLOGIES UPGRADE
-IFF INTERROGATOR SET (AN/UPX-29)
-AN/SPN-41 REFURBISHMENT
-AN/SLQ-32A(V)4
-ELECTRONIC CONSOLIDATED AUTOMATED SUPPORT SYSTEM (ECASS)
-UNMANNED CARRIER LAUNCHED AIRBORNE SURVEILLANCE AND STRIKE (UCLASS)

Ordnance

-AVIATION EQUIPMENT & 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
-ADVANCED SENSOR DISTRIBUTION SYSTEM (ASDS)
-EW DECOY LAUNCHING SYSTEM

Production Status:	CVN 72	CVN 73
Contract Award Date	Mar 2013	Aug 2017
Months to Completion		
a) Award to Delivery	44 months	44 months
b) Construction Start to Delivery	44 months	44 months
Delivery Date	Nov 2016	Apr 2021
Completion Of Fitting Out	Jan 2017	Jun 2021
Obligation Work Limit Date	Dec 2017	May 2022

Design Schedule	Start / Issue	Complete / Response	Reissue	Reissue Complete / Response
Issue Date for TLR	Jan 2000	Feb 2000	Mar 2000	Apr 2000
Issue Date for TLS	Jan 2001	Feb 2001	Mar 2001	Apr 2001
Preliminary Design	Jan 2002	Feb 2002	N/A	N/A
Contract Design	Jan 2003	Feb 2003	N/A	N/A
Detail Design	Jan 2004	Feb 2004	N/A	Apr 2004
Request for Proposals	Jan 2005	Feb 2005	Mar 2005	N/A

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy			Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 02: Other Warships / BSA 1: Other Warships		P-1 Line Item Number / Title: 2086 / CVN Refueling Overhauls	
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A	
Line Item MDAP/MAIS Code: N/A			

Design Schedule	Start / Issue	Complete / Response	Reissue	Reissue Complete / Response
Design Agent	[Design Agent]			

Classification of Cost Estimate: [cost estimate]

Exhibit P-5c, Ship Cost Analysis: PB 2017 Navy	**Date:** February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls

Cost Categories (†) indicates the presence of a P-8a	**FY 2012**		**FY 2016**	
	Qty *(Each)*	**Total Cost** *($ M)*	**Qty** *(Each)*	**Total Cost** *($ M)*
Plan Costs	1	41.600	1	61.253
Basic Construction/Conversion		3,642.158		3,765.397
Electronics (†)		277.863		351.308
Propulsion Equipment		138.550		148.500
Hull, Mechanical, and Electrical (HM&E) (†)		108.783		147.030
Ordnance (†)		151.646		138.225
Other Cost		110.006		107.265
Total Ship Estimate		**4,470.606**		**4,718.978**
Less Advance Procurement FY 2009		21.325		-
Less Advance Procurement FY 2010		211.167		-
Less Advance Procurement FY 2011		396.763		-
Less Advance Procurement FY 2012		515.644		14.008
Less Advance Procurement FY 2013		-		69.918
Less Advance Procurement FY 2014		-		245.793
Less Advance Procurement FY 2015		-		483.600
Less Subsequent Full Funding FY 2013		1,546.254		-
Less Subsequent Full Funding FY 2014		1,609.324		-
Less Subsequent Full Funding FY 2017		-		1,743.220
Less Subsequent Full Funding FY 2018		-		1,524.851
Less Cost to Complete FY 2015		54.000		-
Less Cost to Complete FY 2016		20.029		-
Net P-1 Funding		**96.100**		**637.588**

Exhibit P-27, Ship Production Schedule: PB 2017 Navy			Date: February 2016		
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1		P-1 Line Item Number / Title: 2086 / CVN Refueling Overhauls			
Ship	**Shipbuilder**	**Fiscal Year**	**Contract Award**	**Start of Construction**	**Delivery Date**
CVN 72	HUNTINGTON INGALLS INDUSTRIES	2012	Mar 2013	Mar 2013	Nov 2016
CVN 73	HUNTINGTON INGALLS INDUSTRIES	2016	Aug 2017	Aug 2017	Apr 2021
CVN 74	HUNTINGTON INGALLS INDUSTRIES	2020	Mar 2020	Mar 2020	Nov 2023

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls

Electronics	FY 2012 Qty (Each)	FY 2012 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
P-35 Items				
C4ISR	1	97.140	1	114.933
INTEGRATED COMMUNICATION NETWORK (ICAN / DDCN & IVCN)	1	51.669	1	61.806
SSDS MK2	1	43.073	1	46.201
COOPERATIVE ENGAGEMENT CAPABILITY (CEC)	1	9.624	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	6.845	1	7.903
READY ROOM TRANSFORMATIONAL TECHNOLOGIES UPGRADE	1	6.494	-	-
IFF INTERROGATOR SET (AN/UPX-29)	1	5.969	-	-
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
UNMANNED CARRIER LAUNCHED AIRBORNE SURVEILLANCE AND STRIKE (UCLASS)	-	-	1	26.700
P-35 Items Subtotal		**241.863**		**332.058**
Major Items				
AN/SLQ-32 REFURBISHMENT	1	2.436	-	-
AN/SPN-43C REFURBISHMENT	1	2.353	1	3.799
JOINT STRIKE FIGHTER AUTONOMIC LOGISTICS INFORMATION SYSTEM (JSF-ALIS)	1	1.763	1	1.667
JOINT PRECISION APPROACH AND LANDING SYSTEM (JPALS)		3.732		5.706
AN/TPX-42(V)15 UPGRADE	1	1.734	1	1.187
Major Items Subtotal		**12.018**		**12.359**
Other Cost Elements				
TEST & CERTIFICATIONS, MISC.		10.631		6.891
CARRIER AIR DEFENSE IMPROVEMENT PROGRAM (CADIP)		13.351		-
Other Cost Elements Subtotal		**23.982**		**6.891**
Total Electronics		**277.863**		**351.308**

Remarks:
Major Items: Increase from PB 16 by $1.156M for AN/SPN-43C REFURBISHMENT(CVN 73) Cost increase for this system is due to the installation costs associated with systems performed by the Alteration Installation Team (AIT). Installation efforts on the CVN 72 was performed by Huntington Ingalls Industries (HII) and executed from the "Basic" category. Other Electronics: Decrease from PB 16 in "TEST & CERTIFICATIONS, MISC." line for CVN 72 requirement leveraging from lessons learned on CVN 71 test program as well as increases off-ship testing. Reduced costs taken in this area represent a risk to final testing, but the program believes this a manageable risk. Efficiencies gained in this area were used to offset increases in other P-35 categories.

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls

Hull, Mechanical, and Electrical (HM&E)	FY 2012 Qty (Each)	FY 2012 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
P-35 Items				
FURNITURE (NON PROPULSION PLANT)	1	21.710	1	19.700
AIR CONDITIONING (AC) PLANT / RETUBE AC PLANT CONDENSER AND EVAPORATOR	1	6.366	1	5.178
LOW PRESSURE AIR PLANT (LPAP)	1	3.818	1	4.228
DECK EDGE AND HANGAR DIVISIONAL DOORS	1	3.602	-	-
EMERGENCY ESCAPE BREATHING DEVICE (EEBD)	1	2.025	-	-
AIRCRAFT ELECTRICAL SERVICE STATION (AESS) INSTALL	-	-	1	14.551
O2N2 (REPLACE O2N2 PLANT WITH VSA 02GEN)	-	-	1	4.705
AUTOMATIC VOLTAGE REGULATOR	-	-	1	4.914
P-35 Items Subtotal		**37.521**		**53.276**
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	2.273	-	-
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	3.426
DECK EDGE DOOR UPGRADE	-	-	1	2.810
HANGAR DIVISION DOOR UPGRADE	-	-	1	2.158
LITHIUM-ION BATTERY SHOP TO SUPPORT JSF	-	-	1	1.627
PASSIVE COUNTER MEASURE SYSTEM (PCMS)	-	-	1	11.000
Major Items Subtotal		**27.751**		**34.919**
Other Cost Elements				
ENGINEERING, TEST & CERTIFICATIONS, MISC.		43.511		58.835
Other Cost Elements Subtotal		**43.511**		**58.835**
Total Hull, Mechanical, and Electrical (HM&E)		**108.783**		**147.030**

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls

Remarks:

Major Items: Increase by $1.112M in ACE PLC CONTROL SYSTEM UPGRADE (CVN 73) since PB 16 is due to installation cost associated with systems performed by the Alteration Installation Team (AIT). Installation effort on the CVN 72 was performed by Huntington Ingalls Industries (HII) and executed from the "Basic" category.

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls

Ordnance	FY 2012 Qty (Each)	FY 2012 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
P-35 Items				
AVIATION EQUIPMENT & SUPPORT	1	45.780	1	50.795
NATO SEASPARROW MISSILE SYSTEM (NSSMS)	1	43.464	1	8.200
AN/SPS-48G (V1) RAPID OVERT AIR RECONNAISSANCE (ROAR)	1	12.846	1	16.359
AN/SPS-49(V)5 UPGRADE/REPAIR	1	12.554	1	8.785
AN/SPQ-9B RADAR	1	10.878	-	-
MK38 MOD 2 GUN SYSTEM	1	7.275	1	11.139
AN/SQQ-34C(V) CARRIER TACTICAL SUPPORT CENTER	1	4.997	1	6.660
ADVANCED SENSOR DISTRIBUTION SYSTEM (ASDS)	1	4.277	1	3.858
EW DECOY LAUNCHING SYSTEM	1	4.142	-	-
P-35 Items Subtotal		**146.213**		**105.796**
Major Items				
IWS CDC/FLAG PARTIAL RECONFIGURATION (RIPOUT/INSTALL)	-	-	1	16.524
SEAT SHOP MODIFICATIONS (JSF CVN)/PILOT EQUIPMENT AND HELM	-	-	1	3.600
AN/SPQ-9B RADAR - TUP CONFIGURATION	-	-	1	2.746
RAM GUIDED MISSILE LAUNCHING SYSTEM	-	-	1	1.474
PHALANX MK 15 MOD 22 (CIWS)	-	-	1	1.241
Major Items Subtotal		**-**		**25.585**
Other Cost Elements				
TEST & CERTIFICATIONS, MISC		5.433		6.844
Other Cost Elements Subtotal		**5.433**		**6.844**
Total Ordnance		**151.646**		**138.225**

Remarks:
Other Ordnance: Decrease by $4.168M from PB16 in "TEST & CERTIFICATIONS, MISC." line for CVN 72 requirement leveraging from lessons learned on CVN 71 test program as well as increases off-ship testing. Reduced costs taken in this area represent a risk to final testing, but program believes this a manageable risk. Efficiencies gained in this area were used to offset increases in other P-35 categories.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: C4ISR	**PARM Code:** SPAWAR PMW 750

P-35 Category	FY 2012 Qty (Each)	FY 2012 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
Major Hardware	1	33.522	1	35.126
Ancillary Equipment		1.817		4.732
Technical Data and Documentation		0.680		1.288
Spares		0.854		0.781
System Engineering		10.530		15.683
Technical Engineering Services		33.798		44.467
Other Costs		15.939		12.856
Total	**1**	**97.140**	**1**	**114.933**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2012	CVN 72	Various	Various	Various	Various	1	33.522
FY 2016	CVN 73	Various	Various	Various	Various	1	35.126

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	0		Various
FY 2016	CVN 73	Apr 2021	0		Various

Competition/Second Source Initiatives:

N/A

Remarks:

Technical Engineering Services increase on the CVN 73 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 CVN72 were performed by Huntington Ingalls Industries (HII) and executed under the basic construction contract.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: INTEGRATED COMMUNICATION NETWORK (ICAN / DDCN & IVCN)	**PARM Code:** NAVSEA 05H3, NAVSEA 05Z33

P-35 Category	FY 2012		FY 2016	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	1	18.011	1	23.411
Ancillary Equipment		1.519		0.015
Technical Data and Documentation		1.169		1.255
Spares		0.970		0.529
System Engineering		11.261		11.550
Technical Engineering Services		11.109		16.546
Other Costs		7.630		8.500
Total	**1**	**51.669**	**1**	**61.806**

Description:

The Integrated Communication 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 / Non Secure 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 (FOCP). 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/0 controllers to convert digital NAV data for analog outputs. It will use the FOCP 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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2012	CVN 72	Various	Various	Various	Various	1	18.011
FY 2016	CVN 73	Various	Various	Various	Various	1	23.411

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	0		Various
FY 2016	CVN 73	Apr 2021	0		Various

Competition/Second Source Initiatives:

N/A

Remarks:

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: INTEGRATED COMMUNICATION NETWORK (ICAN / DDCN & IVCN)	**PARM Code:** NAVSEA 05H3, NAVSEA 05Z33

Technical Engineering Services increase on the CVN 73 is due to installation cost 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 cost on the CVN7 2 was performed by Huntington Ingalls Industries (HII) and executed from the "Basic" category.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: SSDS MK2	**PARM Code:** PEO IWS - 1A1C

P-35 Category	FY 2012 Qty (Each)	FY 2012 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
Major Hardware	1	13.670	1	11.523
Technical Data and Documentation		3.434		3.120
Spares		1.030		1.093
System Engineering		6.489		10.517
Technical Engineering Services		2.366		1.896
Other Costs		16.084		18.052
Total	**1**	**43.073**	**1**	**46.201**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2012	CVN 72	RAYTHEON/LOCKHEED MARTIN	C/CPFF	Jan 2012	Option	1	13.670
FY 2016	CVN 73	TBD	TBD	TBD		1	11.523

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	19	34	Jun 2012
FY 2016	CVN 73	Apr 2021	27	24	Jan 2017

Competition/Second Source Initiatives:

N/A

Remarks:

Technical Engineering Services increase by $1.549M on the CVN73 is due to installation cost associated with the updated SSDS MK2 Mod 1E performed by the Alteration Installation Team (AIT).Installation work on the CVN 72 was performed by Huntington Ingalls Industries (HII) and executed from the "Basic" category. Systems Engineering increase by $4.028M 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 by $3.968M are attributable to Software and System Test and Evaluation of the new system (SSDS MK2 Mod 1E).

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: COOPERATIVE ENGAGEMENT CAPABILITY (CEC)	**PARM Code:** PEO IWS 6.0

P-35 Category	FY 2012		FY 2016	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	1	4.775	1	4.973
Technical Data and Documentation		2.303		-
Spares		0.243		0.476
System Engineering		0.637		0.680
Technical Engineering Services		0.331		1.910
Other Costs		1.335		4.291
Total	**1**	**9.624**	**1**	**12.330**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2012	CVN 72	RAYTHEON/SECHAN	C/FFP	Apr 2011	New	1	4.775
FY 2016	CVN 73	RAYTHEON/SECHAN	TBD	TBD		1	4.973

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	36	18	May 2012
FY 2016	CVN 73	Apr 2021	30	18	Apr 2017

Competition/Second Source Initiatives:

N/A

Remarks:

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.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: AN/SPN-46 OVERHAUL/UPGRADE	**PARM Code:** PMA 2131

P-35 Category	FY 2012 Qty (Each)	FY 2012 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
Major Hardware	1	5.770	1	6.660
System Engineering		0.466		0.627
Technical Engineering Services		0.200		0.236
Other Costs		2.508		2.618
Total	**1**	**8.944**	**1**	**10.141**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2012	CVN 72	NAWCAD	WR	Dec 2010		1	5.770
FY 2016	CVN 73	TBD	TBD	TBD		1	6.660

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	24	39	Aug 2011
FY 2016	CVN 73	Apr 2021	29	36	Nov 2015

Competition/Second Source Initiatives:

N/A

Remarks:

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

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: NAVAL STRIKE WARFARE PLANNING CENTER (NSWPC)	**PARM Code:** NAVAIR PMA 281

P-35 Category	FY 2012		FY 2016	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	1	0.399	1	0.586
Technical Data and Documentation		0.189		0.055
System Engineering		5.874		5.087
Technical Engineering Services		2.016		0.826
Other Costs		0.092		0.864
Total	**1**	**8.570**	**1**	**7.418**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2012	CVN 72	NAWCAD	WR	Feb 2013	Option	1	0.399
FY 2016	CVN 73	TBD	TBD	TBD		1	0.586

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	22	6	Jul 2014
FY 2016	CVN 73	Apr 2021	23	6	Nov 2018

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: BATTLE FORCE TACTICAL TRAINER (BFTT)	**PARM Code:** IWS 7C

P-35 Category	FY 2012 Qty (Each)	FY 2012 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
Major Hardware	1	3.193	1	1.685
Technical Data and Documentation		-		0.436
Spares		0.129		0.133
System Engineering		0.712		0.778
Technical Engineering Services		1.565		3.391
Other Costs		1.246		1.480
Total	**1**	**6.845**	**1**	**7.903**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2012	CVN 72	Various	C/FFP	Aug 2011	New	1	3.193
FY 2016	CVN 73	TBD	TBD	TBD		1	1.685

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	19	24	Apr 2013
FY 2016	CVN 73	Apr 2021	28	24	Dec 2016

Competition/Second Source Initiatives:

N/A

Remarks:

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.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: READY ROOM TRANSFORMATIONAL TECHNOLOGIES UPGRADE	**PARM Code:** PMA 281

P-35 Category	FY 2012		FY 2016	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	1	2.513	-	-
Technical Engineering Services		3.661		-
Other Costs		0.320		-
Total	**1**	**6.494**	**-**	**-**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2012	CVN 72	NAWCAD	WR	Aug 2014		1	2.513
FY 2016	CVN 73					-	-

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	16	6	Jan 2015
FY 2016	CVN 73	Apr 2021	0	0	

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: IFF INTERROGATOR SET (AN/UPX-29)	**PARM Code:** PMA 2133

P-35 Category	FY 2012 Qty (Each)	FY 2012 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
Major Hardware	1	4.787	-	-
Ancillary Equipment		0.036		-
Technical Data and Documentation		0.013		-
Spares		0.084		-
System Engineering		0.571		-
Technical Engineering Services		0.105		-
Other Costs		0.373		-
Total	**1**	**5.969**	**-**	**-**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2012	CVN 72	LITTON & BAE	SS/FP	Jun 2012	New	1	4.787
FY 2016	CVN 73					-	-

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	29	24	Jun 2012
FY 2016	CVN 73	Apr 2021	0	0	

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: AN/SPN-41 REFURBISHMENT	**PARM Code:** PMA 2131

P-35 Category	FY 2012 Qty (Each)	FY 2012 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
Major Hardware	1	1.722	1	3.509
Ancillary Equipment		0.006		-
Spares		-		0.091
System Engineering		0.374		0.408
Technical Engineering Services		0.107		0.028
Other Costs		1.326		0.304
Total	**1**	**3.535**	**1**	**4.340**

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

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2012	CVN 72	NAWCAD	WR	Dec 2011		1	1.722
FY 2016	CVN 73	TBD	WR	TBD		1	3.509

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	15	39	May 2012
FY 2016	CVN 73	Apr 2021	21	39	Apr 2016

Competition/Second Source Initiatives:
N/A

Remarks:
Major 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.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: AN/SLQ-32A(V)4	**PARM Code:** PEO IWS 2E

P-35 Category	FY 2012 Qty (Each)	FY 2012 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
Major Hardware	-	-	1	1.370
Ancillary Equipment		-		0.995
Spares		-		0.117
Technical Engineering Services		-		0.850
Other Costs		-		0.329
Total	**-**	**-**	**1**	**3.661**

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

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2012	CVN 72					-	-
FY 2016	CVN 73	TBD	TBD	TBD		1	1.370

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	0	0	
FY 2016	CVN 73	Apr 2021	36	18	Oct 2016

Competition/Second Source Initiatives:
N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: ELECTRONIC CONSOLIDATED AUTOMATED SUPPORT SYSTEM (ECASS)	**PARM Code:** PMA 260

P-35 Category	FY 2012		FY 2016	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	-	-	1	35.000
Technical Engineering Services		-		1.225
Other Costs		-		0.400
Total	**-**	**-**	**1**	**36.625**

Description:

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 electronics, avionics, and missile systems. 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 approximately 1,100 weapon system electronics units.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2012	CVN 72					-	-
FY 2016	CVN 73	TBD	TBD	TBD		1	35.000

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	0	0	
FY 2016	CVN 73	Apr 2021	31	12	Sep 2017

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: UNMANNED CARRIER LAUNCHED AIRBORNE SURVEILLANCE AND STRIKE (UCLASS)	**PARM Code:** PMA 268

P-35 Category	FY 2012		FY 2016	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	-	-	1	26.700
Total	**-**	**-**	**1**	**26.700**

Description:

Unmanned Carrier Launched Airborne Surveillance and Strike (UCLASS) will incorporate a family of systems providing a carrier-based unmanned aircraft system that supports long-endurance, proven Intelligence, Surveillance, Reconnaissance, and Targeting (ISR&T) and precision strike capability to Joint and Naval Warfare Commanders.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2012	CVN 72					-	-
FY 2016	CVN 73	TBD	TBD	TBD		1	26.700

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	0	0	
FY 2016	CVN 73	Apr 2021	0		Various

Competition/Second Source Initiatives:

N/A

Remarks:

This CNO priority effort has been newly added to CVN 73 in President's Budget 2017.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: FURNITURE (NON PROPULSION PLANT)	**PARM Code:** NAVSSES 912

P-35 Category	FY 2012		FY 2016	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	1	7.975	1	9.300
System Engineering		0.575		0.680
Technical Engineering Services		12.650		9.115
Other Costs		0.510		0.605
Total	**1**	**21.710**	**1**	**19.700**

Description:
Shipboard Furniture Procurement and Installation in Non-Propulsion Spaces.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2012	CVN 72	NOTE 1	C/IDIQ	Jul 2012	New	1	7.975
FY 2016	CVN 73	TBD	TBD	TBD		1	9.300

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	32	12	Mar 2013
FY 2016	CVN 73	Apr 2021	35	6	Nov 2017

Competition/Second Source Initiatives:
N/A

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

The increased cost in Technical Engineering Services on the CVN 73 is due to installation work being performed by Alteration Installation Teams (AIT). Installation work on the CVN 72 was performed by Huntington Ingalls Industries (HII) and executed from the "Basic" category.

CVN 72 increase since PB16 in Technical Engineering Services is due to new decking in 145 spaces added to scope and growth work.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls

Equipment Item: AIR CONDITIONING (AC) PLANT / RETUBE AC PLANT CONDENSER AND EVAPORATOR | **PARM Code:** NAVSSES 912

P-35 Category	FY 2012		FY 2016	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	1	1.128	1	1.037
System Engineering		0.293		0.175
Technical Engineering Services		4.715		3.846
Other Costs		0.230		0.120
Total	**1**	**6.366**	**1**	**5.178**

Description:
Accomplishes modifications to the Ship's Air Conditioning Plant.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2012	CVN 72	QED	C/CPFF	Sep 2011	New	1	1.128
FY 2016	CVN 73	TBD	TBD	TBD		1	1.037

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	42	12	May 2012
FY 2016	CVN 73	Apr 2021	47	12	May 2016

Competition/Second Source Initiatives:
N/A

Remarks:
CVN 72 increase since PB16 in Technical Engineering Services is due to increased scope and work growth.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: LOW PRESSURE AIR PLANT (LPAP)	**PARM Code:** NAVSSES 912

P-35 Category	FY 2012		FY 2016	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	1	3.115	1	3.881
Spares		0.374		-
System Engineering		0.044		0.113
Technical Engineering Services		0.155		0.085
Other Costs		0.130		0.149
Total	**1**	**3.818**	**1**	**4.228**

Description:

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

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2012	CVN 72	PIX INDUSTRIES	C/FFP	Jul 2011	Option	1	3.115
FY 2016	CVN 73	TBD	TBD	TBD		1	3.881

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	39	12	Aug 2012
FY 2016	CVN 73	Apr 2021	47	12	May 2016

Competition/Second Source Initiatives:

N/A

Remarks:

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

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: DECK EDGE AND HANGAR DIVISIONAL DOORS	**PARM Code:** NAVSSES 912

P-35 Category	FY 2012		FY 2016	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	1	1.065	-	-
Technical Data and Documentation		0.246		-
System Engineering		1.472		-
Technical Engineering Services		0.182		-
Other Costs		0.637		-
Total	**1**	**3.602**	**-**	**-**

Description:

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

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2012	CVN 72	ROCKWELL CORP	C/IDIQ	Aug 2012	Option	1	1.065
FY 2016	CVN 73					-	-

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	42	8	Sep 2012
FY 2016	CVN 73	Apr 2021	0	0	

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: EMERGENCY ESCAPE BREATHING DEVICE (EEBD)	**PARM Code:** NAVSSES 912

P-35 Category	FY 2012		FY 2016	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	1	0.193	-	-
Technical Data and Documentation		0.120		-
System Engineering		0.457		-
Technical Engineering Services		1.134		-
Other Costs		0.121		-
Total	**1**	**2.025**	**-**	**-**

Description:

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

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2012	CVN 72	Various	C/CPFF	May 2012	New	1	0.193
FY 2016	CVN 73					-	-

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	38	11	Oct 2012
FY 2016	CVN 73	Apr 2021	0	0	

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: AIRCRAFT ELECTRICAL SERVICE STATION (AESS) INSTALL	**PARM Code:** NAVSSES 912

P-35 Category	FY 2012		FY 2016	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	-	-	1	6.891
System Engineering		-		0.250
Technical Engineering Services		-		7.035
Other Costs		-		0.375
Total	**-**	**-**	**1**	**14.551**

Description:

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

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2012	CVN 72					-	-
FY 2016	CVN 73	TBD	TBD	TBD		1	6.891

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	0	0	
FY 2016	CVN 73	Apr 2021	47	12	May 2016

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: O2N2 (REPLACE O2N2 PLANT WITH VSA 02GEN)	**PARM Code:** NAVSSES912

P-35 Category	FY 2012		FY 2016	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	-	-	1	3.375
System Engineering		-		0.785
Technical Engineering Services		-		0.175
Other Costs		-		0.370
Total	**-**	**-**	**1**	**4.705**

Description:

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

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2012	CVN 72					-	-
FY 2016	CVN 73	TBD	TBD	TBD		1	3.375

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	0	0	
FY 2016	CVN 73	Apr 2021	47	12	May 2016

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: AUTOMATIC VOLTAGE REGULATOR	**PARM Code:** NAVSSES 912

P-35 Category	FY 2012		FY 2016	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	-	-	1	4.574
Spares		-		0.300
System Engineering		-		0.030
Other Costs		-		0.010
Total	**-**	**-**	**1**	**4.914**

Description:

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

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2012	CVN 72					-	-
FY 2016	CVN 73	TBD	TBD	TBD		1	4.574

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	0	0	
FY 2016	CVN 73	Apr 2021	27	26	Nov 2016

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: AVIATION EQUIPMENT & SUPPORT	**PARM Code:** NAVAIR PMA 251

P-35 Category	FY 2012		FY 2016	
	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)
Major Hardware	1	28.660	1	30.549
Ancillary Equipment		0.045		0.054
Technical Data and Documentation		0.382		0.193
Spares		0.333		0.506
System Engineering		2.674		3.936
Technical Engineering Services		9.073		11.186
Other Costs		4.613		4.371
Total	**1**	**45.780**	**1**	**50.795**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2012	CVN 72	Various	Various	Various	Various	1	28.660
FY 2016	CVN 73	Various	Various	Various	Various	1	30.549

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	0		Various
FY 2016	CVN 73	Apr 2021	0		Various

Competition/Second Source Initiatives:

N/A

Remarks:

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.

CVN 73 increase in Hardware costs since PB 16 is due to cost increases for the Low Loss Launch Valve and the Capacity Selector Valves.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: NATO SEASPARROW MISSILE SYSTEM (NSSMS)	**PARM Code:** PEO IWS - 3D

P-35 Category	FY 2012		FY 2016	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	1	31.179	1	0.100
Ancillary Equipment		0.339		-
Spares		1.527		-
System Engineering		1.604		-
Technical Engineering Services		7.981		8.100
Other Costs		0.834		-
Total	**1**	**43.464**	**1**	**8.200**

Description:

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 air/surface threats.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2012	CVN 72	RAYTHEON	SS/FFP	Dec 2011	New	1	31.179
FY 2016	CVN 73	TBD	TBD	TBD		1	0.100

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	30	29	Dec 2011
FY 2016	CVN 73	Apr 2021	30	14	Aug 2017

Competition/Second Source Initiatives:

N/A

Remarks:

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

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: AN/SPS-48G (V1) RAPID OVERT AIR RECONNAISSANCE (ROAR)	**PARM Code:** PEO IWS 2R1

P-35 Category	FY 2012		FY 2016	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	1	7.800	1	8.938
Technical Data and Documentation		0.030		0.033
Spares		0.335		-
System Engineering		0.687		0.851
Technical Engineering Services		3.244		4.328
Other Costs		0.750		2.209
Total	**1**	**12.846**	**1**	**16.359**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2012	CVN 72	ITT GILFILLAN	C/FFP	Apr 2012	Option	1	7.800
FY 2016	CVN 73	TBD	TBD	TBD		1	8.938

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	30	25	Apr 2012
FY 2016	CVN 73	Apr 2021	29	24	Nov 2016

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: AN/SPS-49(V)5 UPGRADE/REPAIR	**PARM Code:** PEO IWS 2R1

P-35 Category	FY 2012 Qty (Each)	FY 2012 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
Major Hardware	1	6.331	1	3.299
Ancillary Equipment		-		0.030
Technical Data and Documentation		0.134		-
Spares		0.275		0.275
System Engineering		0.665		0.705
Technical Engineering Services		3.755		3.658
Other Costs		1.394		0.818
Total	**1**	**12.554**	**1**	**8.785**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2012	CVN 72	NSWC CRANE	WR	Jul 2011		1	6.331
FY 2016	CVN 73	TBD	TBD	TBD		1	3.299

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	31	29	Nov 2011
FY 2016	CVN 73	Apr 2021	29	30	May 2016

Competition/Second Source Initiatives:

N/A

Remarks:

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.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: AN/SPQ-9B RADAR	**PARM Code:** IWS 2RI

P-35 Category	FY 2012 Qty (Each)	FY 2012 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
Major Hardware	1	5.998	-	-
Ancillary Equipment		0.012		-
Technical Data and Documentation		0.075		-
Spares		0.373		-
System Engineering		0.349		-
Technical Engineering Services		1.627		-
Other Costs		2.444		-
Total	**1**	**10.878**	**-**	**-**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2012	CVN 72	NORTHROP GRUMMAN	SS/FFP	May 2011	Option	1	5.998
FY 2016	CVN 73					-	-

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	35	30	Jun 2011
FY 2016	CVN 73	Apr 2021	0	0	

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: MK38 MOD 2 GUN SYSTEM	**PARM Code:** PMS 480

P-35 Category	FY 2012		FY 2016	
	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)
Major Hardware	1	5.100	1	7.217
Spares		0.140		0.068
System Engineering		0.355		0.080
Technical Engineering Services		0.710		3.404
Other Costs		0.970		0.370
Total	**1**	**7.275**	**1**	**11.139**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2012	CVN 72	BAE SYSTEMS	C/FFP	Nov 2012	New	1	5.100
FY 2016	CVN 73	TBD	TBD	TBD		1	7.217

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	29	12	Jun 2013
FY 2016	CVN 73	Apr 2021	34	24	Jun 2016

Competition/Second Source Initiatives:

N/A

Remarks:

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 electro-optical/infrared sensor.

Technical Engineering Services cost increase on the CVN 73 is due to installation work being performed by Alteration Installation Teams (AIT). Installation work on the CVN 72 was performed by Huntington Ingalls Industries (HII) and executed from the "Basic" category.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: AN/SQQ-34C(V) CARRIER TACTICAL SUPPORT CENTER	**PARM Code:** PEO IWS 5E

P-35 Category	FY 2012 Qty (Each)	FY 2012 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
Major Hardware	1	2.107	1	2.200
Ancillary Equipment		0.020		-
Technical Data and Documentation		0.253		-
Spares		0.035		0.050
System Engineering		0.941		1.065
Technical Engineering Services		0.676		1.460
Other Costs		0.965		1.885
Total	**1**	**4.997**	**1**	**6.660**

Description:

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

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2012	CVN 72	LOCKHEED MARTIN	C/CPFF			1	2.107
FY 2016	CVN 73	NUWC Keyport	Various	Various		1	2.200

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	30	24	May 2012
FY 2016	CVN 73	Apr 2021	27	18	Jul 2017

Competition/Second Source Initiatives:

N/A

Remarks:

The increased cost in Technical Engineering Services on the CVN 73 is due to installation work being performed by Alteration Installation Teams (AIT). Installation work on the CVN 72 was performed by Huntington Ingalls Industries (HII) and executed from the "Basic" category.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: ADVANCED SENSOR DISTRIBUTION SYSTEM (ASDS)	**PARM Code:** PEO IWS 2R1

P-35 Category	FY 2012		FY 2016	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	1	2.317	1	1.247
Spares		0.037		0.045
System Engineering		0.759		0.103
Technical Engineering Services		0.360		1.196
Other Costs		0.804		1.267
Total	**1**	**4.277**	**1**	**3.858**

Description:

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

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2012	CVN 72	OTHER ELECTRONICS	C/IDIQ	Jan 2014	New	1	2.317
FY 2016	CVN 73	TBD	TBD	TBD		1	1.247

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	17	12	Jun 2014
FY 2016	CVN 73	Apr 2021	29	18	May 2017

Competition/Second Source Initiatives:

N/A

Remarks:

The increased cost in Technical Engineering Services on the CVN 73 is due to installation work being performed by Alteration Installation Teams (AIT). Installation work on the CVN 72 was performed by Huntington Ingalls Industries (HII) and executed from the "Basic" category.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls
Equipment Item: EW DECOY LAUNCHING SYSTEM	**PARM Code:** PEO IWS 2E

P-35 Category	FY 2012 Qty (Each)	FY 2012 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
Major Hardware	1	1.040	-	-
Technical Data and Documentation		0.055		-
Spares		0.060		-
System Engineering		0.833		-
Technical Engineering Services		1.543		-
Other Costs		0.611		-
Total	**1**	**4.142**	**-**	**-**

Description:

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

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2012	CVN 72	SECHAN ELECTRONICS	C/FFP	Nov 2011	New	1	1.040
FY 2016	CVN 73					-	-

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	CVN 72	Nov 2016	40	18	Jan 2012
FY 2016	CVN 73	Apr 2021	0	0	

Competition/Second Source Initiatives:

N/A

Exhibit P-10, Advance Procurement Requirements Analysis (*page 1 - Budget Funding Justification*): PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls

First System (2017) Award Date:	First System (2017) Completion Date:	Interval Between Systems:
March 2020	November 2023	0 Months

Cost Elements	Production Leadtime (Months)	When Required* (Months)	FY 2015 ($ M)	FY 2016 ($ M)	FY 2017 ($ M)	FY 2018 ($ M)	FY 2019 ($ M)	FY 2020 ($ M)	FY 2021 ($ M)
Advance Procurement									
Plans	-	Various	19.290	1.212	18.000	21.500	30.100	15.500	22.900
Basic	-	Various	332.440	2.401	173.999	313.476	422.220	8.634	191.071
Other	-	Various	5.503	0.838	7.500	10.200	22.600	8.500	9.000
Propulsion Equipment	-	Various	20.400	9.700	41.200	15.100	18.600	44.600	16.300
HM&E	-	-	15.303	-	-	4.000	36.360	4.500	22.600
Electronics	-	Various	82.444	0.800	7.300	79.000	47.034	16.900	81.200
Ordnance	-	Various	8.220	-	0.600	6.200	23.100	7.900	90.200
Total: Advance Procurement			*483.600*	*14.951*	*248.599*	*449.476*	*600.014*	*106.534*	*433.271*
Total Advance Procurement/Obligation Authority			**483.600**	**14.951**	**248.599**	**449.476**	**600.014**	**106.534**	**433.271**

*Note: "When Required" is the number of months required before ship delivery.

Exhibit P-10, Advance Procurement Requirements Analysis (*page 2 - Budget Funding Justification*): PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2086 / CVN Refueling Overhauls

Cost Elements	FY 2017						
	Production Leadtime *(Months)*	When Required* *(Months)*	Unit Cost *($ M)*	Contract Forecast Date	2017 Qty *(Each)*	For FY	Total Cost Request *($ M)*
Advance Procurement							
Plans	-	Various	-	Dec 2016	-	2020	18.000
Basic	-	Various	-	Oct 2016	-	2020	173.999
Other	-	Various	-	Dec 2016	-	2020	7.500
Propulsion Equipment	-	Various	-	Nov 2016	-	2020	41.200
HM&E	-	-	-		-		-
Electronics	-	Various	-	Jan 2017	-	2020	7.300
Ordnance	-	Various	-	Jan 2017	-	2020	0.600
Total: Advance Procurement							*248.599*
Total Advance Procurement/Obligation Authority							**248.599**

Description:
CVN 74 RCOH: FY 2017 funding is required to procure long-lead items and fund long-lead efforts critical to supporting the contract award for CVN 74. 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.

Plans: Advance Planning Engineering Support & Authorized Work Package (AWP) development, Shipcheck & Shipcheck Oversight, Government-Furnished Information (GFI) Development, Technical Oversight/ Authority.

Basic: 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.

Other: Program Management Plans, Budget Development, Work Package Review, IDE, Logistic Plans and Review, Cost Estimating and Studies

Propulsion Equipment: Nuclear Component Procurement and Technical Support Services

Electronics: Electronics GFI/GFE and Technical Support Services

Ordnance: Ordnance GFI/GFE and Technical Support Services

*Note: "When Required" is the number of months required before ship delivery.

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 02: Other Warships / BSA 1: Other Warships	**P-1 Line Item Number / Title:** 2119 / DDG 1000
ID Code (A=Service Ready, B=Not Service Ready): A	**Program Elements for Code B Items:** N/A
Other Related Program Elements: N/A	
Line Item MDAP/MAIS Code: N/A	

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity *(Units in Each)*	3	-	-	-	-	-	-	-	-	-	-	3
Gross/Weapon System Cost *($ in Millions)*	12,738.184	-	-	-	-	-	-	-	-	-	-	12,738.184
Less PY Advance Procurement *($ in Millions)*	1,160.116	-	-	-	-	-	-	-	-	-	-	1,160.116
Less Subsequent Year Full Funding *($ in Millions)*	7,456.204	-	-	-	-	-	-	-	-	-	-	7,456.204
Net Procurement (P-1) *($ in Millions)*	4,121.864	-	-	-	-	-	-	-	-	-	-	4,121.864
Plus Subsequent Year Full Funding *($ in Millions)*	6,081.090	460.849	433.404	271.756	-	271.756	127.421	53.689	27.995	-	-	7,456.204
Full Funding TOA *($ in Millions)*	10,202.954	460.849	433.404	271.756	-	271.756	127.421	53.689	27.995	-	-	11,578.068
Plus CY Advance Procurement *($ in Millions)*	1,160.116	-	-	-	-	-	-	-	-	-	-	1,160.116
Total Obligation Authority *($ in Millions)*	**11,363.070**	**460.849**	**433.404**	**271.756**	**-**	**271.756**	**127.421**	**53.689**	**27.995**	**-**	**-**	**12,738.184**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Plus Outfitting and Post Delivery *($ in Millions)*	61.935	60.982	45.621	38.059	-	38.059	34.540	54.705	47.414	39.630	60.791	443.677
Total *($ in Millions)*	**11,425.005**	**521.831**	**479.025**	**309.815**	**-**	**309.815**	**161.961**	**108.394**	**75.409**	**39.630**	**60.791**	**13,181.861**
Gross/Weapon System Unit Cost *($ in Millions)*	4,246.061	-	-	-	-	-	-	-	-	-	-	4,246.061

Description:

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 15,742 tons displacement with two Advanced Gun Systems (AGS) including a total magazine capacity of 600 rounds. FY17 funding will support continued construction (for all three hulls), Class Services, and GFE / Mission Systems Equipment (MSE) procurement.

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 02: Other Warships / BSA 1: Other Warships	**P-1 Line Item Number / Title:** 2119 / DDG 1000

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		

Characteristics:

	DDG
Length Overall	610 ft
Beam	80.7 FT
Displacement	15,742 TONS
Draft	27.6

Systems:

Electronics
-EXTERIOR COMMUNICATIONS (EXCOMMS)
-MULTI FUNCTION RADAR (MFR)
-TOTAL SHIP COMPUTING ENVIRONMENT (TSCE)

Hull, Mechanical, and Electrical (HM&E)
-MAIN TURBINE GENERATOR (MTG)

Ordnance
-ADVANCED GUN SYSTEM (AGS)
-CLOSE-IN GUN SYSTEM (CIGS)

Production Status:	DDG 1000 (1)	DDG 1001 (2)	DDG 1002 (3)
Contract Award Date	Feb 2008	Sep 2011	Sep 2011
Months to Completion			
a) Award to Delivery	98 months	66 months	95 months
b) Construction Start to Delivery	86 months	84 months	88 months
Delivery Date	Apr 2016	Mar 2017	Aug 2019
Completion Of Fitting Out	Jan 2018	Dec 2018	Jun 2021
Obligation Work Limit Date	Dec 2018	Nov 2019	May 2022

Design Schedule	Start / Issue	Complete / Response	Reissue	Reissue Complete / Response
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	Jan 2006	Apr 2006		
Design Agent	Northrop Grumman Ship Systems			

Classification of Cost Estimate: CLASS C BUDGET ESTIMATE

Footnotes:

(1) DDG 1000 is a dual delivery. HM&E delivery is April 2016 and Combat Systems activation is January 2018.

(2) DDG 1001 was re-awarded to BIW in September 2011.

(3) DDG 1001 and DDG 1002 will follow suit with a dual delivery.

Exhibit P-5c, Ship Cost Analysis: PB 2017 Navy		**Date:** February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2119 / DDG 1000	

Cost Categories (†) indicates the presence of a P-8a	**FY 2007**		**FY 2009**	
	Qty *(Each)*	**Total Cost** *($ M)*	**Qty** *(Each)*	**Total Cost** *($ M)*
Plan Costs	2	1,506.420	1	555.737
Basic Construction/Conversion		3,564.296		1,188.770
Change Orders		283.944		67.208
Electronics (†)		2,662.162		1,348.288
Hull, Mechanical, and Electrical (HM&E) (†)		223.795		97.022
Ordnance (†)		528.244		266.057
Other Cost		303.170		143.072
Total Ship Estimate		**9,072.031**		**3,666.154**
Less Advance Procurement FY 2005		304.046		-
Less Advance Procurement FY 2006		706.240		-
Less Advance Procurement FY 2008		-		149.830
Less Subsequent Full Funding FY 2008		3,009.929		-
Less Subsequent Full Funding FY 2010		313.025		1,065.509
Less Subsequent Full Funding FY 2011		107.214		139.870
Less Subsequent Full Funding FY 2012		437.230		71.497
Less Subsequent Full Funding FY 2013		529.920		144.603
Less Subsequent Full Funding FY 2014		242.971		19.322
Less Subsequent Full Funding FY 2015		386.517		74.332
Less Subsequent Full Funding FY 2016		197.096		236.308
Less Subsequent Full Funding FY 2017		166.354		105.402
Less Subsequent Full Funding FY 2018		38.721		88.700
Less Subsequent Full Funding FY 2019		14.400		39.289
Less Subsequent Full Funding FY 2020		-		27.995
Net P-1 Funding		**2,618.368**		**1,503.497**

Exhibit P-27, Ship Production Schedule: PB 2017 Navy					Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1			P-1 Line Item Number / Title: 2119 / DDG 1000		
Ship	**Shipbuilder**	**Fiscal Year**	**Contract Award**	**Start of Construction**	**Delivery Date**
DDG 1000 (1)	BIW	2007	Feb 2008	Feb 2009	Apr 2016
DDG 1001 (2)	BIW	2007	Sep 2011	Mar 2010	Mar 2017
DDG 1002 (3)	BIW	2009	Sep 2011	Apr 2012	Aug 2019

Footnotes:

(1) DDG 1000 is a dual delivery. HM&E delivery is April 2016 and Combat Systems activation is January 2018.

(2) DDG 1001 was re-awarded to BIW in September 2011.

(3) DDG 1001 and DDG 1002 will follow suit with a dual delivery.

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2119 / DDG 1000

Electronics	FY 2007 Qty (Each)	FY 2007 Total Cost ($ M)	FY 2009 Qty (Each)	FY 2009 Total Cost ($ M)
P-35 Items				
EXTERIOR COMMUNICATIONS (EXCOMMS)	2	470.348	1	79.962
INTEGRATED UNDERSEA WARFARE (IUSW) SYSTEM	2	216.263	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	375.377	1	266.083
ELECTRO-OPTICAL / INFRARED (EO/IR)	2	94.411	1	31.452
IDENTIFICATION FRIEND OR FOE (IFF)	2	35.532	1	28.138
COMMON ARRAY COOLING SYSTEM (CACS)	2	20.065	1	0.965
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	40.242	1	17.682
VERTICAL LAUNCHING SYSTEM (VLS) MK 57 4-CELL MODULES	40	276.782	20	241.023
P-35 Items Subtotal		**2,273.198**		**1,174.878**
Other Cost Elements				
MISSION SYSTEM ENGR INTEGR & TEST (MSEIT)		322.274		132.510
MISSION SYSTEM ACTIVATION		66.690		40.900
Other Cost Elements Subtotal		**388.964**		**173.410**
Total Electronics		**2,662.162**		**1,348.288**

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2119 / DDG 1000

Hull, Mechanical, and Electrical (HM&E)	FY 2007 Qty (Each)	FY 2007 Total Cost ($ M)	FY 2009 Qty (Each)	FY 2009 Total Cost ($ M)
P-35 Items				
MAIN TURBINE GENERATOR (MTG)	4	78.125	2	39.412
P-35 Items Subtotal		**78.125**		**39.412**
Major Items				
BATTLE SPARES (MTG)		32.168		-
RIGID HULL INFLATABLE BOAT (RHIB)	4	2.100	2	1.100
Major Items Subtotal		**34.268**		**1.100**
Other Cost Elements				
HM&E (NGVLA, Moriah Wind Measurement System (WMS), Aviation Integration)		68.492		31.010
MISSION SYSTEM ACTIVATION		42.910		25.500
Other Cost Elements Subtotal		**111.402**		**56.510**
Total Hull, Mechanical, and Electrical (HM&E)		**223.795**		**97.022**

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	P-1 Line Item Number / Title: 2119 / DDG 1000

Ordnance	FY 2007		FY 2009	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
P-35 Items				
ADVANCED GUN SYSTEM (AGS)	4	487.593	2	248.762
CLOSE-IN GUN SYSTEM (CIGS)	4	38.151	2	14.795
P-35 Items Subtotal		**525.744**		**263.557**
Other Cost Elements				
MISSION SYSTEM ACTIVATION		2.500		2.500
Other Cost Elements Subtotal		**2.500**		**2.500**
Total Ordnance		**528.244**		**266.057**

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	P-1 Line Item Number / Title: 2119 / DDG 1000	
Equipment Item: EXTERIOR COMMUNICATIONS (EXCOMMS)		PARM Code: PEOC4I

P-35 Category	FY 2007		FY 2009	
	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)
Major Hardware	2	195.953	1	20.600
Technical Support Services		33.947		6.585
Other / NRE		240.448		52.777
Total	**2**	**470.348**	**1**	**79.962**

Description:

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).

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2007	DDG 1000	Raytheon	C/CPIF	May 2008		2	97.977
FY 2009	DDG 1002	Raytheon	C/CPIF	May 2012		1	20.600

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2007	DDG 1000	Apr 2016	43	26	Jul 2010
FY 2009	DDG 1002	Aug 2019	43	26	Nov 2013

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2119 / DDG 1000
Equipment Item: INTEGRATED UNDERSEA WARFARE (IUSW) SYSTEM	**PARM Code:** IWS 5.0 XR

P-35 Category	FY 2007 Qty (Each)	FY 2007 Total Cost ($ M)	FY 2009 Qty (Each)	FY 2009 Total Cost ($ M)
Major Hardware	2	95.829	1	54.300
Technical Support Services		11.293		5.639
Other / NRE		109.141		45.197
Total	**2**	**216.263**	**1**	**105.136**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2007	DDG 1000	Raytheon	C/CPIF	May 2008		2	47.915
FY 2009	DDG 1002	Raytheon	C/CPIF	Oct 2012		1	54.300

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2007	DDG 1000	Apr 2016	47	18	Nov 2010
FY 2009	DDG 1002	Aug 2019	46	18	Apr 2014

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2119 / DDG 1000
Equipment Item: MULTI FUNCTION RADAR (MFR)	**PARM Code:** IWS 2.0 SQ

P-35 Category	FY 2007 Qty (Each)	FY 2007 Total Cost ($ M)	FY 2009 Qty (Each)	FY 2009 Total Cost ($ M)
Major Hardware	2	314.313	1	189.573
Technical Support Services		21.993		8.145
Other / NRE		183.303		65.281
Total	**2**	**519.609**	**1**	**262.999**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2007	DDG 1000	Raytheon	C/CPIF	Mar 2008		2	157.157
FY 2009	DDG 1002	Raytheon	C/CPIF	Oct 2012		1	189.573

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2007	DDG 1000	Apr 2016	45	28	Mar 2010
FY 2009	DDG 1002	Aug 2019	36	28	Apr 2014

Competition/Second Source Initiatives:

N/A

Remarks:

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.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2119 / DDG 1000
Equipment Item: COMMON ARRAY POWER SYSTEM (CAPS)	**PARM Code:** IWS 2.0 SQ

P-35 Category	FY 2007 Qty (Each)	FY 2007 Total Cost ($ M)	FY 2009 Qty (Each)	FY 2009 Total Cost ($ M)
Major Hardware	2	56.185	1	12.624
Battle Spares		1.000		-
Technical Support Services		4.490		0.420
Other / NRE		35.342		3.365
Total	**2**	**97.017**	**1**	**16.409**

Description:

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).

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2007	DDG 1000	Raytheon	C/CPIF	Mar 2008		2	28.093
FY 2009	DDG 1002	Raytheon	C/CPIF	Nov 2012		1	12.624

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2007	DDG 1000	Apr 2016	48	28	Dec 2009
FY 2009	DDG 1002	Aug 2019	35	28	May 2014

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2119 / DDG 1000
Equipment Item: TOTAL SHIP COMPUTING ENVIRONMENT (TSCE)	**PARM Code:** IWS 9.0 XV

P-35 Category	FY 2007		FY 2009	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	2	196.450	1	134.345
Technical Support Services		21.834		14.224
Other / NRE		157.093		117.514
Total	**2**	**375.377**	**1**	**266.083**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2007	DDG 1000	Raytheon	C/CPIF	May 2008		2	98.225
FY 2009	DDG 1002	Raytheon	C/CPIF	Oct 2012		1	134.345

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2007	DDG 1000	Apr 2016	48	21	Jul 2010
FY 2009	DDG 1002	Aug 2019	43	21	Apr 2014

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2119 / DDG 1000
Equipment Item: ELECTRO-OPTICAL / INFRARED (EO/IR)	**PARM Code:** IWS 2.0 SJ

P-35 Category	FY 2007 Qty (Each)	FY 2007 Total Cost ($ M)	FY 2009 Qty (Each)	FY 2009 Total Cost ($ M)
Major Hardware	2	33.368	1	12.973
Technical Support Services		6.900		1.551
Other / NRE		54.143		16.928
Total	**2**	**94.411**	**1**	**31.452**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2007	DDG 1000	Raytheon	C/CPIF	May 2008		2	16.684
FY 2009	DDG 1002	Raytheon	C/CPIF	Nov 2012		1	12.973

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2007	DDG 1000	Apr 2016	47	22	Jul 2010
FY 2009	DDG 1002	Aug 2019	41	22	May 2014

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2119 / DDG 1000
Equipment Item: IDENTIFICATION FRIEND OR FOE (IFF)	**PARM Code:** NAVAIR

P-35 Category	FY 2007 Qty (Each)	FY 2007 Total Cost ($ M)	FY 2009 Qty (Each)	FY 2009 Total Cost ($ M)
Major Hardware	2	16.018	1	8.640
Technical Support Services		2.186		2.163
Other / NRE		17.328		17.335
Total	**2**	**35.532**	**1**	**28.138**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2007	DDG 1000	Raytheon	C/CPIF	May 2008		2	8.009
FY 2009	DDG 1002	Raytheon	C/CPIF	Dec 2012		1	8.640

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2007	DDG 1000	Apr 2016	40	29	Jul 2010
FY 2009	DDG 1002	Aug 2019	33	29	Jun 2014

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2119 / DDG 1000
Equipment Item: COMMON ARRAY COOLING SYSTEM (CACS)	**PARM Code:** IWS 2.0 SQ

P-35 Category	FY 2007 Qty (Each)	FY 2007 Total Cost ($ M)	FY 2009 Qty (Each)	FY 2009 Total Cost ($ M)
Major Hardware	2	11.766	1	-
Battle Spares		1.000		-
Technical Support Services		0.824		0.107
Other / NRE		6.475		0.858
Total	**2**	**20.065**	**1**	**0.965**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2007	DDG 1000	Raytheon	C/CPIF	May 2008		2	5.883
FY 2009	DDG 1002	Raytheon	C/CPIF	Nov 2012		1	-

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2007	DDG 1000	Apr 2016	49	28	Nov 2009
FY 2009	DDG 1002	Aug 2019	35	28	May 2014

Competition/Second Source Initiatives:

N/A

Remarks:

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

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2119 / DDG 1000
Equipment Item: SHIP CONTROL SYSTEM (SCS)	**PARM Code:** SPAWAR

P-35 Category	FY 2007 Qty (Each)	FY 2007 Total Cost ($ M)	FY 2009 Qty (Each)	FY 2009 Total Cost ($ M)
Major Hardware	2	58.000	1	42.801
Technical Support Services		6.031		8.256
Other / NRE		47.496		66.172
Total	**2**	**111.527**	**1**	**117.229**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2007	DDG 1000	Raytheon	C/CPIF	May 2008		2	29.000
FY 2009	DDG 1002	Raytheon	C/CPIF	May 2012		1	42.801

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2007	DDG 1000	Apr 2016	38	31	Jul 2010
FY 2009	DDG 1002	Aug 2019	38	31	Nov 2013

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2119 / DDG 1000
Equipment Item: COOPERATIVE ENGAGEMENT CAPABILITY (CEC)	**PARM Code:** IWS 6.0 XN

P-35 Category	FY 2007 Qty (Each)	FY 2007 Total Cost ($ M)	FY 2009 Qty (Each)	FY 2009 Total Cost ($ M)
Major Hardware	2	12.000	1	6.800
Technical Support Services		4.025		1.000
Total	**2**	**16.025**	**1**	**7.800**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2007	DDG 1000	Raytheon	C/FPIF	Feb 2007		2	6.000
FY 2009	DDG 1002	Raytheon	C/FPIF	Oct 2013		1	6.800

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2007	DDG 1000	Apr 2016	34	18	Dec 2011
FY 2009	DDG 1002	Aug 2019	34	18	Apr 2015

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2119 / DDG 1000
Equipment Item: SURFACE ELECTRONIC WARFARE IMPROVEMENT PROGRAM (SEWIP)	**PARM Code:** IWS 2.0 SJ

P-35 Category	FY 2007 Qty (Each)	FY 2007 Total Cost ($ M)	FY 2009 Qty (Each)	FY 2009 Total Cost ($ M)
Major Hardware	2	36.214	1	15.906
Technical Support Services		2.406		0.935
Other / NRE		1.622		0.841
Total	**2**	**40.242**	**1**	**17.682**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2007	DDG 1000	Lockheed Martin	C/FPIF	Jul 2012		2	18.107
FY 2009	DDG 1002	Lockheed Martin	C/FPIF	Jan 2015		1	15.906

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2007	DDG 1000	Apr 2016	2	19	Jul 2014
FY 2009	DDG 1002	Aug 2019	2	16	Feb 2018

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2119 / DDG 1000
Equipment Item: VERTICAL LAUNCHING SYSTEM (VLS) MK 57 4-CELL MODULES	**PARM Code:** IWS 3L S8

P-35 Category	FY 2007		FY 2009	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	40	180.987	20	172.878
Technical Support Services		9.029		4.231
Other / NRE		86.766		63.914
Total	**40**	**276.782**	**20**	**241.023**

Description:

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 Sea Sparrow Missile (ESSM), Standard Missile-2 (SM-2) Blk III, Tomahawk Land Attack Missile (TLAM) Blk III/IV, and Vertical Launch Anti-Submarine Rocket (VLA).

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2007	DDG 1000	Raytheon	C/CPIF	May 2008		40	4.525
FY 2009	DDG 1002	Raytheon	C/CPIF	Oct 2012		20	8.644

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2007	DDG 1000	Apr 2016	40	24	Dec 2010
FY 2009	DDG 1002	Aug 2019	40	24	Apr 2014

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2119 / DDG 1000
Equipment Item: MAIN TURBINE GENERATOR (MTG)	**PARM Code:** PMS 500 WA

P-35 Category	FY 2007		FY 2009	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	4	73.262	2	39.412
Technical Support Services		1.485		-
Other / NRE		3.378		-
Total	**4**	**78.125**	**2**	**39.412**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2007	DDG 1000	Rolls-Royce	C/FFP	Mar 2007	New	4	18.316
FY 2009	DDG 1002	Rolls-Royce	C/FFP	Jan 2008	Option	2	19.706

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2007	DDG 1000	Apr 2016	33	24	Jul 2011
FY 2009	DDG 1002	Aug 2019	33	24	Nov 2014

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2119 / DDG 1000
Equipment Item: ADVANCED GUN SYSTEM (AGS)	**PARM Code:** IWS 3C YF

P-35 Category	FY 2007 Qty (Each)	FY 2007 Total Cost ($ M)	FY 2009 Qty (Each)	FY 2009 Total Cost ($ M)
Major Hardware	4	298.654	2	206.747
Battle Spares		19.000		-
Technical Support Services		14.500		3.860
Other / NRE		155.439		38.155
Total	**4**	**487.593**	**2**	**248.762**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2007	DDG 1000	BAE	C/CPIF	Apr 2008		4	74.664
FY 2009	DDG 1002	BAE	C/CPIF	Apr 2012		2	103.374

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2007	DDG 1000	Apr 2016	31	39	Jun 2010
FY 2009	DDG 1002	Aug 2019	31	39	Oct 2013

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2119 / DDG 1000
Equipment Item: CLOSE-IN GUN SYSTEM (CIGS)	**PARM Code:** IWS 3C YF

P-35 Category	FY 2007 Qty (Each)	FY 2007 Total Cost ($ M)	FY 2009 Qty (Each)	FY 2009 Total Cost ($ M)
Major Hardware	4	18.034	2	8.534
Technical Support Services		7.177		3.381
Other / NRE		12.940		2.880
Total	**4**	**38.151**	**2**	**14.795**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2007	DDG 1000	General Dynamics Land Systems	C/FFP	Jan 2015		4	4.509
FY 2009	DDG 1002	General Dynamics Land Systems	C/FFP	Mar 2016		2	4.267

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2007	DDG 1000	Apr 2016	6	22	Dec 2013
FY 2009	DDG 1002	Aug 2019	6	18	Aug 2017

Competition/Second Source Initiatives:

N/A

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 02: Other Warships / BSA 1: Other Warships	**P-1 Line Item Number / Title:** 2122 / DDG-51
ID Code (A=Service Ready, B=Not Service Ready): A	**Program Elements for Code B Items:** N/A
Other Related Program Elements: N/A	
Line Item MDAP/MAIS Code: N/A	

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity *(Units in Each)*	70	2	2	2	-	2	2	2	2	2	2	86
Gross/Weapon System Cost *($ in Millions)*	69,736.357	2,994.493	4,505.684	3,393.881	-	3,393.881	3,427.566	3,508.166	3,595.403	3,665.113	3,736.315	98,562.978
Less PY Advance Procurement *($ in Millions)*	2,482.641	294.839	373.034	182.589	-	182.589	-	-	-	-	-	3,333.103
Less Cost To Complete *($ in Millions)*	1,156.151	37.747	-	-	-	-	-	-	-	-	-	1,193.898
Less Hurricane *($ in Millions)*	227.100	-	-	-	-	-	-	-	-	-	-	227.100
Less Escalation *($ in Millions)*	48.200	-	-	-	-	-	-	-	-	-	-	48.200
Less Transfer *($ in Millions)*	218.500	-	-	-	-	-	-	-	-	-	-	218.500
Net Procurement (P-1) *($ in Millions)*	65,603.765	2,661.907	4,132.650	3,211.292	-	3,211.292	3,427.566	3,508.166	3,595.403	3,665.113	3,736.315	93,542.177
Plus CY Advance Procurement *($ in Millions)*	3,199.064	134.039	-	-	-	-	-	-	-	-	-	3,333.103
Plus Cost To Complete *($ in Millions)*	831.400	128.435	75.014	15.959	-	15.959	105.343	37.747	-	-	-	1,193.898
Plus Escalation *($ in Millions)*	48.200	-	-	-	-	-	-	-	-	-	-	48.200
Plus Transfer *($ in Millions)*	218.500	-	-	-	-	-	-	-	-	-	-	218.500
Plus Hurricane *($ in Millions)*	227.100	-	-	-	-	-	-	-	-	-	-	227.100
Total Obligation Authority *($ in Millions)*	**70,128.029**	**2,924.381**	**4,207.664**	**3,227.251**	**-**	**3,227.251**	**3,532.909**	**3,545.913**	**3,595.403**	**3,665.113**	**3,736.315**	**98,562.978**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Plus Outfitting and Post Delivery *($ in Millions)*	2,188.349	8.520	59.141	121.661	-	121.661	103.648	87.329	116.628	118.909	544.068	3,348.253
Total *($ in Millions)*	**72,316.378**	**2,932.901**	**4,266.805**	**3,348.912**	**-**	**3,348.912**	**3,636.557**	**3,633.242**	**3,712.031**	**3,784.022**	**4,280.383**	**101,911.231**
Gross/Weapon System Unit Cost *($ in Millions)*	996.234	1,497.247	2,252.842	1,696.941	-	1,696.941	1,713.783	1,754.083	1,797.702	1,832.557	1,868.158	1,146.081

Description:

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 multi-threat environments that include air, surface and subsurface threats. These ships will respond to Low Intensity Conflict/Coastal and Littoral Offshore Warfare (LIC/CALOW) scenarios as well as open ocean conflict providing or augmenting power projection and forward presence requirements, and escort operations at sea. FY10 and follow ships will provide Ballistic Missile Defense capability.

Note:
(1) FY16 reflects $1B congressional add.
(2) 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 Advance Procurement supports FLT III Introduction.
(3) FY15/FY16 CTC reflects buyback of reductions on FY10-12 ships as a result of FY13 Sequestration. FY17 CTC funds government responsible portion of Program Manager Estimate at Complete for FY11. FY18 CTC funds the government responsible portion of the Program Manager's Estimate at Complete for FY12 and FY13. FY19 CTC funds the government responsible portion of the Program Manager's Estimate at Complete for FY15.

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 02: Other Warships / BSA 1: Other Warships	**P-1 Line Item Number / Title:** 2122 / DDG-51

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		

Characteristics:	FLIGHT IIA	FLIGHT III
Length Overall	509 ft	509 ft
Beam	59 ft	59 ft
Displacement	9217 TONS	9650 TONS
Draft	-	

Production Status:	DDG 113	DDG 114	DDG 115	DDG 116	DDG 117	DDG 118	DDG 120
Contract Award Date	Jun 2011	Sep 2011	Sep 2011	Feb 2012	Jun 2013	Jun 2013	Mar 2014
Months to Completion							
a) Award to Delivery	63 months	67 months	61 months	66 months	55 months	71 months	70 months
b) Construction Start to Delivery	49 months	43 months	56 months	54 months	40 months	45 months	48 months
Delivery Date	Sep 2016	Apr 2017	Oct 2016	Aug 2017	Jan 2018	May 2019	Jan 2020
Completion Of Fitting Out	Jan 2017	Aug 2017	Feb 2017	Dec 2017	May 2018	Sep 2019	Jun 2020
Obligation Work Limit Date	Dec 2017	Jul 2018	Jan 2018	Nov 2018	Apr 2019	Aug 2020	May 2021

Production Status:	DDG 119	DDG 121	DDG 122	DDG 123	DDG 124	DDG 125	DDG 126
Contract Award Date	Jun 2013	Jun 2013	Jun 2013	Jun 2013	Jun 2013	Jun 2013	Jun 2013
Months to Completion							
a) Award to Delivery	64 months	85 months	85 months	97 months	97 months	109 months	109 months
b) Construction Start to Delivery	39 months	37 months	44 months	37 months	46 months	37 months	48 months
Delivery Date	Oct 2018	Jul 2020	Jul 2020	Jul 2021	Jul 2021	Jul 2022	Jul 2022
Completion Of Fitting Out	Feb 2019	Nov 2020	Nov 2020	Nov 2021	Nov 2021	Nov 2022	Nov 2022
Obligation Work Limit Date	Jan 2020	Oct 2021	Oct 2021	Oct 2022	Oct 2022	Oct 2023	Oct 2023

Design Schedule	Start / Issue	Complete / Response	Reissue	Reissue Complete / Response
Issue Date for TLR	Jun 1983	N/A		
Issue Date for TLS	N/A	N/A		
Preliminary Design	Mar 1982	Dec 1982		
Contract Design	May 1983	Jun 1984		
Detail Design	N/A	N/A		
Request for Proposals	N/A	N/A		
Design Agent	BIW			

Classification of Cost Estimate: CLASS C BUDGET ESTIMATE

Exhibit P-5c, Ship Cost Analysis: PB 2017 Navy	**Date:** February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2122 / DDG-51

Cost Categories (†) indicates the presence of a P-8a	**FY 2010**		**FY 2011**		**FY 2012**		**FY 2013**		**FY 2014**		**FY 2015**		**FY 2016**		**FY 2017**	
	Qty *(Each)*	**Total Cost** *($ M)*	**Qty** *(Each)*	**Total Cost** *($ M)*	**Qty** *(Each)*	**Total Cost** *($ M)*	**Qty** *(Each)*	**Total Cost** *($ M)*	**Qty** *(Each)*	**Total Cost** *($ M)*	**Qty** *(Each)*	**Total Cost** *($ M)*	**Qty** *(Each)*	**Total Cost** *($ M)*	**Qty** *(Each)*	**Total Cost** *($ M)*
Plan Costs	1	92.079	2	77.174	1	122.109	3	67.450	1	74.980	2	68.814	2	204.160	2	81.454
Basic Construction/Conversion		868.799		1,485.412		761.786		2,152.752		713.431		1,444.415		2,448.277		1,478.206
Change Orders		41.507		68.923		20.823		60.461		21.087		42.133		229.981		229.002
Electronics (†)		223.352		357.084		219.431		544.024		226.095		349.746		348.016		346.044
Hull, Mechanical, and Electrical (HM&E) (†)		103.280		145.691		80.265		201.246		91.207		159.533		158.749		161.437
Ordnance (†)		733.268		916.153		629.228		1,202.489		527.866		852.077		1,036.468		1,016.231
Other Cost		70.558		71.949		70.327		81.240		76.736		77.775		80.033		81.507
Total Ship Estimate		**2,132.843**		**3,122.386**		**1,903.969**		**4,309.662**		**1,731.402**		**2,994.493**		**4,505.684**		**3,393.881**
Less Advance Procurement FY 2007		126.097		-		-		-		-		-		-		-
Less Advance Procurement FY 2009		198.628		-		-		-		-		-		-		-
Less Advance Procurement FY 2010		-		577.210		-		-		-		-		-		-
Less Advance Procurement FY 2011		-		-		47.719		-		-		-		-		-
Less Advance Procurement FY 2012		-		-		-		92.454		-		-		-		-
Less Advance Procurement FY 2013		-		-		-		-		115.838		224.850		108.345		13.677
Less Advance Procurement FY 2014		-		-		-		-		-		69.989		130.650		168.912
Less Advance Procurement FY 2015		-		-		-		-		-		-		134.039		-
Less Cost to Complete FY 2014		-		-		-		100.000		-		-		-		-
Less Cost to Complete FY 2015		65.062		63.373		-		-		-		-		-		-
Less Cost to Complete FY 2016		-		-		75.014		-		-		-		-		-
Less Cost to Complete FY 2017		-		15.959		-		-		-		-		-		-
Less Cost to Complete FY 2018		-		-		19.436		85.907		-		-		-		-
Less Cost to Complete FY 2019		-		-		-		-		-		37.747		-		-
Net P-1 Funding		**1,743.056**		**2,465.844**		**1,761.800**		**4,031.301**		**1,615.564**		**2,661.907**		**4,132.650**		**3,211.292**

Exhibit P-27, Ship Production Schedule: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2122 / DDG-51

Ship	Shipbuilder	Fiscal Year	Contract Award	Start of Construction	Delivery Date
DDG 113	Huntington Ingalls Industries	2010	Jun 2011	Aug 2012	Sep 2016
DDG 114	Huntington Ingalls Industries	2011	Sep 2011	Sep 2013	Apr 2017
DDG 115	Bath Iron Works	2011	Sep 2011	Feb 2012	Oct 2016
DDG 116	Bath Iron Works	2012	Feb 2012	Feb 2013	Aug 2017
DDG 117	Huntington Ingalls Industries	2013	Jun 2013	Sep 2014	Jan 2018
DDG 118	Bath Iron Works	2013	Jun 2013	Aug 2015	May 2019
DDG 120	Bath Iron Works	2013	Mar 2014	Jan 2016	Jan 2020
DDG 119	Huntington Ingalls Industries	2014	Jun 2013	Jul 2015	Oct 2018
DDG 121	Huntington Ingalls Industries	2015	Jun 2013	Jun 2017	Jul 2020
DDG 122	Bath Iron Works	2015	Jun 2013	Nov 2016	Jul 2020
DDG 123	Huntington Ingalls Industries	2016	Jun 2013	Jun 2018	Jul 2021
DDG 124	Bath Iron Works	2016	Jun 2013	Sep 2017	Jul 2021
DDG 125	Huntington Ingalls Industries	2017	Jun 2013	Jun 2019	Jul 2022
DDG 126	Bath Iron Works	2017	Jun 2013	Jul 2018	Jul 2022
DDG 127	TBD	2018	Jun 2018	Jul 2019	Jul 2023
DDG 128	TBD	2018	Jun 2018	Jul 2019	Jul 2023
DDG 129	TBD	2019	Jun 2018	Jul 2020	Jul 2024
DDG 130	TBD	2019	Jun 2018	Jul 2020	Jul 2024
DDG 131	TBD	2020	Jun 2018	Jul 2021	Jul 2025
DDG 132	TBD	2020	Jun 2018	Jul 2021	Jul 2025
DDG 133	TBD	2021	Jun 2018	Jul 2022	Jul 2026
DDG 134	TBD	2021	Jun 2018	Jul 2022	Jul 2026

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2122 / DDG-51

Electronics	FY 2015		FY 2016		FY 2017	
	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)
P-35 Items						
SQQ 89 ASW	2	77.509	2	78.797	2	80.107
AN/SLQ-32 (V)6 SEWIP	2	29.686	2	30.191	2	30.697
USQ 82(V) GEDMS	2	26.763	2	27.221	2	27.684
EXCOMM	2	95.163	2	96.887	2	98.485
AN/UPX 29(V) IFF and TACAN	2	12.800	2	14.030	2	14.269
CEC	2	11.260	2	10.647	2	10.860
P-35 Items Subtotal		**253.181**		**257.773**		**262.102**
Major Items						
NAVIGATION SYSTEM	2	7.457	2	7.584	2	7.713
SLQ 25 NIXIE	2	3.072	2	3.133	2	3.186
SRQ 4 LAMPS III	2	8.247	2	8.387	2	8.530
SSEE						
MIDS	2	6.418	2	6.527	2	6.638
MK 53 NULKA	2	4.206	2	4.278	2	4.351
TSA ANTENNA	2	3.350	2	3.407	2	3.465
Major Items Subtotal		**32.750**		**33.316**		**33.883**
Other Cost Elements						
MISC. ELECTRONICS	2	63.815	2	56.927	2	50.059
Other Cost Elements Subtotal		**63.815**		**56.927**		**50.059**
Total Electronics		**349.746**		**348.016**		**346.044**

Remarks:
1) MK-12 IFF replacement for obsolete antenna introduced in FY16. 2) SSEE descoped from FY15 and follow ships

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	P-1 Line Item Number / Title: 2122 / DDG-51

Hull, Mechanical, and Electrical (HM&E)	FY 2015		FY 2016		FY 2017	
	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)
P-35 Items						
STC 3 IVCS	2	15.419	2	14.684	2	14.931
Main Reduction Gear	2	81.175	2	82.555	2	83.958
P-35 Items Subtotal		**96.594**		**97.239**		**98.889**
Major Items						
Machinery Control System	2	10.071	2	10.242	2	10.416
Integrated Bridge Navigation System	2	11.153	2	8.843	2	8.986
Major Items Subtotal		**21.224**		**19.085**		**19.402**
Other Cost Elements						
MISC. HM&E	2	41.715	2	42.425	2	43.146
Other Cost Elements Subtotal		**41.715**		**42.425**		**43.146**
Total Hull, Mechanical, and Electrical (HM&E)		**159.533**		**158.749**		**161.437**

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2122 / DDG-51

Ordnance	FY 2015		FY 2016		FY 2017	
	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)
P-35 Items						
AEGIS WEAPON SYSTEM (MK-7)	2	441.659	2	364.704	2	262.078
AN/SPY-6 (AMDR)	-	-	1	262.296	2	351.645
VLS MK 41	2	109.225	2	102.966	2	104.589
MK 45 LWG	2	50.129	2	50.986	2	51.853
MK 37 TOMAHAWK	2	24.662	2	25.077	2	25.498
PHALANX (CIWS)	2	15.946	2	16.248	2	16.573
SPQ-9B Radar	2	18.081	2	18.406	2	18.734
P-35 Items Subtotal		**659.702**		**840.683**		**830.970**
Major Items						
MK 32 SVTT	2	5.785	2	5.883	2	5.983
ELECTRO-OPTICAL SYSTEM	2	6.121	2	6.225	2	6.331
MK 160 GFCS	2	6.366	2	6.474	2	6.584
Major Items Subtotal		**18.272**		**18.582**		**18.898**
Other Cost Elements						
MISC. ORDNANCE	2	174.103	2	177.203	2	166.363
Other Cost Elements Subtotal		**174.103**		**177.203**		**166.363**
Total Ordnance		**852.077**		**1,036.468**		**1,016.231**

Remarks:
1) AWS/SPY-6 (AMDR): SPY-6 introduced on one ship in FY16. 2) SPS 67/SPQ-9B: Non-recurring funding in FY16 associated with integration of periscope detection.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2122 / DDG-51
Equipment Item: SQQ 89 ASW	**PARM Code:** N/A

P-35 Category	FY 2015		FY 2016		FY 2017	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	2	44.961	2	45.693	2	46.453
Spares		0.956		0.972		0.988
System Engineering		8.023		8.160		8.296
Technical Engineering Services		4.660		4.740		4.818
Other Costs		18.909		19.232		19.552
Total	**2**	**77.509**	**2**	**78.797**	**2**	**80.107**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2015	DDG 121	LOCKHEED MARTIN	C/FFP	Jul 2015	Option	2	22.481
FY 2016	DDG 123	LOCKHEED MARTIN	C/FFP	Jul 2016	Option	2	22.847
FY 2017	DDG 125	LOCKHEED MARTIN	C/FFP	Jul 2017	Option	2	23.227

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2015	DDG 121	Jul 2020	14	24	May 2017
FY 2016	DDG 123	Jul 2021	14	24	May 2018
FY 2017	DDG 125	Jul 2022	14	24	May 2019

Competition/Second Source Initiatives:

Competitive

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2122 / DDG-51
Equipment Item: AN/SLQ-32 (V)6 SEWIP	**PARM Code:** N/A

P-35 Category	FY 2015		FY 2016		FY 2017	
	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)
Major Hardware	2	25.236	2	25.665	2	26.095
Spares		0.718		0.730		0.742
System Engineering		1.740		1.770		1.800
Technical Engineering Services		0.254		0.258		0.262
Other Costs		1.738		1.768		1.798
Total	**2**	**29.686**	**2**	**30.191**	**2**	**30.697**

Description:

SLQ-32(V)6 Surface Electronic Warfare Improvement Program (SEWIP) 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).

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2015	DDG 121	Lockheed Martin	C/FFP	Jul 2015	Option	2	12.618
FY 2016	DDG 123	Lockheed Martin	C/FFP	Jul 2016	Option	2	12.833
FY 2017	DDG 125	Lockheed Martin	C/FFP	Jul 2017	Option	2	13.048

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2015	DDG 121	Jul 2020	19	16	Aug 2017
FY 2016	DDG 123	Jul 2021	19	16	Aug 2018
FY 2017	DDG 125	Jul 2022	19	16	Aug 2019

Competition/Second Source Initiatives:

Competitive

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2122 / DDG-51
Equipment Item: USQ 82(V) GEDMS	**PARM Code:** N/A

P-35 Category	FY 2015		FY 2016		FY 2017	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	2	14.322	2	14.560	2	14.808
Technical Data and Documentation		1.273		1.295		1.317
System Engineering		3.086		3.139		3.192
Technical Engineering Services		0.520		0.529		0.538
Other Costs		7.562		7.698		7.829
Total	**2**	**26.763**	**2**	**27.221**	**2**	**27.684**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2015	DDG 121	BOEING	C/FFP	Mar 2015	Option	2	7.161
FY 2016	DDG 123	COMPETITIVE	C/FFP	Jan 2017	New	2	7.280
FY 2017	DDG 125	COMPETITIVE	C/FFP	Jan 2017	Option	2	7.404

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2015	DDG 121	Jul 2020	25	18	Dec 2016
FY 2016	DDG 123	Jul 2021	25	18	Dec 2017
FY 2017	DDG 125	Jul 2022	25	18	Dec 2018

Competition/Second Source Initiatives:

Competitive

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2122 / DDG-51
Equipment Item: EXCOMM	**PARM Code:** N/A

P-35 Category	FY 2015		FY 2016		FY 2017	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	2	56.905	2	57.922	2	58.877
Technical Data and Documentation		0.227		0.231		0.235
Spares		0.524		0.534		0.543
System Engineering		5.917		6.029		6.128
Technical Engineering Services		3.452		3.518		3.576
Other Costs		11.198		11.391		11.579
Assembly & Integration		16.940		17.262		17.547
Total	**2**	**95.163**	**2**	**96.887**	**2**	**98.485**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2015	DDG 121	VARIOUS	Various	Various	Various	2	28.453
FY 2016	DDG 123	VARIOUS	Various	Various	Various	2	28.961
FY 2017	DDG 125	VARIOUS	Various	Various	Various	2	29.439

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2015	DDG 121	Jul 2020	15	9	Jul 2018
FY 2016	DDG 123	Jul 2021	15	9	Jul 2019
FY 2017	DDG 125	Jul 2022	15	9	Jul 2020

Competition/Second Source Initiatives:

Numerous contract arrangements (sole source/competitive)

Remarks:

There are numerous components and contracts resulting in various award dates.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2122 / DDG-51
Equipment Item: AN/UPX 29(V) IFF and TACAN	**PARM Code:** N/A

P-35 Category	FY 2015		FY 2016		FY 2017	
	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)
Major Hardware	2	10.864	2	12.061	2	12.267
Spares		0.148		0.151		0.154
System Engineering		0.719		0.731		0.743
Technical Engineering Services		0.303		0.308		0.313
Other Costs		0.766		0.779		0.792
Total	**2**	**12.800**	**2**	**14.030**	**2**	**14.269**

Description:

The UPX-29 Interrogator System is a centralized Mark XIIA interrogator and target processor. It employs a cooperative challenge and reply technique to positively identify friendly platforms. The system is capable of interrogating Mark XII, Mark XIIA, International Civil Aviation Organization (ICAO), or Federal Aviation Administration (FAA)-compliant IFF transponders using a standard shipboard interrogator set, a target processor, and an Electronically Steerable Antenna (ESA) system. TACAN is a navigational beacon system that provides azimuth, slant range, and station identification information to TACAN equipped aircraft, permitting 24/7, all weather landing operations.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2015	DDG 121	BAE	SS/FFP	May 2015	New	2	5.432
FY 2016	DDG 123	BAE	SS/FFP	May 2016	Option	2	6.031
FY 2017	DDG 125	BAE	SS/FFP	May 2018	New	2	6.134

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2015	DDG 121	Jul 2020	6	24	Jan 2018
FY 2016	DDG 123	Jul 2021	6	24	Jan 2019
FY 2017	DDG 125	Jul 2022	6	24	Jan 2020

Competition/Second Source Initiatives:

N/A

Remarks:

FY16/FY17 hardware budgets reflect Navy's reduced quantity procurements of MK IFF units.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2122 / DDG-51
Equipment Item: CEC	**PARM Code:** N/A

P-35 Category	FY 2015		FY 2016		FY 2017	
	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)
Major Hardware	2	9.758	2	9.119	2	9.301
System Engineering		0.460		0.468		0.477
Technical Engineering Services		0.328		0.334		0.341
Other Costs		0.714		0.726		0.741
Total	**2**	**11.260**	**2**	**10.647**	**2**	**10.860**

Description:

Cooperative Engagement Capability (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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2015	DDG 121	DRS	C/FFP	Sep 2015	New	2	4.879
FY 2016	DDG 123	DRS	C/FFP	Feb 2016	Option	2	4.560
FY 2017	DDG 125	DRS	C/FFP	Feb 2017	Option	2	4.651

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2015	DDG 121	Jul 2020	30	24	Jan 2016
FY 2016	DDG 123	Jul 2021	30	24	Jan 2017
FY 2017	DDG 125	Jul 2022	30	24	Jan 2018

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2122 / DDG-51
Equipment Item: STC 3 IVCS	**PARM Code:** N/A

P-35 Category	FY 2015		FY 2016		FY 2017	
	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)
Major Hardware	2	10.277	2	9.448	2	9.608
Spares		0.503		0.512		0.519
System Engineering		1.746		1.776		1.806
Technical Engineering Services		0.444		0.452		0.460
Other Costs		2.449		2.496		2.538
Total	**2**	**15.419**	**2**	**14.684**	**2**	**14.931**

Description:

A solid state integrated voice communication system (IVCS) for application with the AEGIS combat system.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2015	DDG 121	COMPETITIVE	C/FFP	Jul 2015	New	2	5.139
FY 2016	DDG 123	COMPETITIVE	C/FFP	Jul 2016	Option	2	4.724
FY 2017	DDG 125	COMPETITIVE	C/FFP	Jul 2017	Option	2	4.804

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2015	DDG 121	Jul 2020	30	16	Sep 2016
FY 2016	DDG 123	Jul 2021	30	16	Sep 2017
FY 2017	DDG 125	Jul 2022	30	16	Sep 2018

Competition/Second Source Initiatives:

Competitive

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2122 / DDG-51
Equipment Item: Main Reduction Gear	**PARM Code:** N/A

P-35 Category	FY 2015		FY 2016		FY 2017	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	2	62.523	2	63.588	2	64.669
System Engineering		9.442		9.601		9.764
Technical Engineering Services		7.293		7.411		7.537
Other Costs		1.917		1.955		1.988
Total	**2**	**81.175**	**2**	**82.555**	**2**	**83.958**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2015	DDG 121	PHILADELPHIA GEAR	C/FFP	Mar 2015	Option	2	31.262
FY 2016	DDG 123	PHILADELPHIA GEAR	C/FFP	Mar 2016	Option	2	31.794
FY 2017	DDG 125	COMPETITIVE	C/FFP	Mar 2017	New	2	32.335

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2015	DDG 121	Jul 2020	39	23	May 2015
FY 2016	DDG 123	Jul 2021	39	23	May 2016
FY 2017	DDG 125	Jul 2022	39	23	May 2017

Competition/Second Source Initiatives:

Competitive

Remarks:

FY 2016 reflects option exercise date extension within existing MRG contract.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2122 / DDG-51
Equipment Item: AEGIS WEAPON SYSTEM (MK-7)	**PARM Code:** N/A

P-35 Category	FY 2015		FY 2016		FY 2017	
	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)
Major Hardware	2	275.988	2	216.274	2	153.718
System Engineering		5.509		3.657		1.734
Technical Engineering Services		12.674		7.258		1.632
Other Costs		42.918		30.960		12.632
Logistics Support		34.708		35.367		19.822
Combat System Integration		69.862		71.188		72.540
Total	**2**	**441.659**	**2**	**364.704**	**2**	**262.078**

Description:

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 digitizalized 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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2015	DDG 121	LM/ RTN/ GD	Various	Dec 2013	Option	2	137.994
FY 2016	DDG 123	LM/ RTN/ GD/ RTN	Various	Jan 2016	New	2	108.137
FY 2017	DDG 125	LM/ RTN/ GD/ RTN	Various	Jan 2017	Option	2	76.859

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2015	DDG 121	Jul 2020	15	36	Apr 2016
FY 2016	DDG 123	Jul 2021	15	36	Apr 2017
FY 2017	DDG 125	Jul 2022	15	36	Apr 2018

Competition/Second Source Initiatives:

Multiple contract arrangements (sole source/competitive)

Remarks:

1) Power Conversion Modules (PCMs) are introduced beginning with one FY16 ship.
2) AWS MYP includes SPY-D(V) radar through one FY16 ship. Legacy AWS equipment is procured for a second FY16 and all follow ships.
3) Funding for AN/SPY-6 (AMDR) is broken out on a separate P-35 for one FY16 and all follow ships (as part of Flight III).

Contract Data Notes:
AWS Antenna and Signal Processors - Contractor: Lockheed Martin

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	P-1 Line Item Number / Title: 2122 / DDG-51	
Equipment Item: AEGIS WEAPON SYSTEM (MK-7)		PARM Code: N/A

AWS Spy Transmitter and Fire Control System Transmitter - Contractor: Raytheon
AWS Director/Director Controller - General Dynamics

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2122 / DDG-51
Equipment Item: AN/SPY-6 (AMDR)	**PARM Code:** N/A

P-35 Category	FY 2015		FY 2016		FY 2017	
	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)
Major Hardware	-	-	1	198.696	2	282.545
System Engineering		-		14.392		21.002
Technical Engineering Services		-		11.654		15.140
Other Costs		-		31.266		23.406
Logistics		-		6.288		9.552
Total	**-**	**-**	**1**	**262.296**	**2**	**351.645**

Description:

The AN/SPY-6 Air and Missile Defense Radar (AMDR) suite consists of an S-Band radar (AMDR-S), an X-band radar (via SPQ-9B on the first 11 SCN ships), and a Radar Suite Controller (RSC). AMDR will provide multi-mission capabilities, simultaneously supporting both long range, exoatmospheric detection, tracking and discrimination of ballistic missiles, as well as Area and Self Defense against air and surface threats.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2015	DDG 121					-	-
FY 2016	DDG 123	Raytheon	C/FPIF	Sep 2016	Option	1	198.696
FY 2017	DDG 125	Raytheon	C/FPIF	Oct 2017	Option	2	141.273

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2015	DDG 121	Jul 2020	0	0	
FY 2016	DDG 123	Jul 2021	6	40	Sep 2017
FY 2017	DDG 125	Jul 2022	6	40	Sep 2018

Competition/Second Source Initiatives:

Competitive

Remarks:

The AN/SPY-6 radar will be introduced on one of the FY 16 ships and the costs are broken out for the first time on a unique P-35.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2122 / DDG-51
Equipment Item: VLS MK 41	**PARM Code:** N/A

P-35 Category	FY 2015		FY 2016		FY 2017	
	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)	Qty (Each)	Total Cost ($ M)
Major Hardware	2	73.040	2	66.162	2	67.207
Ancillary Equipment		3.028		3.080		3.129
Technical Data and Documentation		0.535		0.544		0.553
System Engineering		13.455		13.685		13.899
Technical Engineering Services		12.407		12.619		12.816
Other Costs		6.760		6.876		6.985
Total	**2**	**109.225**	**2**	**102.966**	**2**	**104.589**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2015	DDG 121	LOCKHEED MARTIN	C/FFP	Dec 2014		2	36.520
FY 2016	DDG 123	LOCKHEED MARTIN	C/FFP	Dec 2014		2	33.081
FY 2017	DDG 125	LOCKHEED MARTIN	C/FFP	Dec 2014		2	33.604

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2015	DDG 121	Jul 2020	18	24	Jan 2017
FY 2016	DDG 123	Jul 2021	18	24	Jan 2018
FY 2017	DDG 125	Jul 2022	18	24	Jan 2019

Competition/Second Source Initiatives:

Competitive

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2122 / DDG-51
Equipment Item: MK 45 LWG	**PARM Code:** N/A

P-35 Category	FY 2015		FY 2016		FY 2017	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	2	37.110	2	37.745	2	38.387
Spares		0.318		0.323		0.328
System Engineering		4.484		4.561		4.639
Technical Engineering Services		2.408		2.449		2.491
Other Costs		5.809		5.908		6.008
Total	**2**	**50.129**	**2**	**50.986**	**2**	**51.853**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2015	DDG 121	BAE AD/MCNALLY	Various	Jan 2015		2	18.555
FY 2016	DDG 123	BAE AD/MCNALLY	Various	Jan 2016		2	18.873
FY 2017	DDG 125	BAE AD/MCNALLY	Various	Jan 2017		2	19.194

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2015	DDG 121	Jul 2020	18	24	Jan 2017
FY 2016	DDG 123	Jul 2021	18	24	Jan 2018
FY 2017	DDG 125	Jul 2022	18	24	Jan 2019

Competition/Second Source Initiatives:

Sole Source

Remarks:

Contract Data notes:
Gun Mount contract: BAE Armament Division - Sole Source
Lower Hoist contract: McNally - Sole Source

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2122 / DDG-51
Equipment Item: MK 37 TOMAHAWK	**PARM Code:** N/A

P-35 Category	FY 2015		FY 2016		FY 2017	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	2	8.476	2	8.621	2	8.766
Spares		1.378		1.402		1.426
System Engineering		4.289		4.362		4.435
Technical Engineering Services		4.073		4.143		4.213
Other Costs		6.446		6.549		6.658
Total	**2**	**24.662**	**2**	**25.077**	**2**	**25.498**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2015	DDG 121	NSWC PT HUENEME	WR	Apr 2016	New	2	4.238
FY 2016	DDG 123	NSWC PT HUENEME	WR	Apr 2017	New	2	4.311
FY 2017	DDG 125	NSWC PT HUENEME	WR	Apr 2018	New	2	4.383

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2015	DDG 121	Jul 2020	19	8	Apr 2018
FY 2016	DDG 123	Jul 2021	19	8	Apr 2019
FY 2017	DDG 125	Jul 2022	19	8	Apr 2020

Competition/Second Source Initiatives:

Navy construction

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2122 / DDG-51
Equipment Item: PHALANX (CIWS)	**PARM Code:** N/A

P-35 Category	FY 2015		FY 2016		FY 2017	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	2	11.804	2	12.028	2	12.281
System Engineering		0.802		0.817		0.831
Technical Engineering Services		1.434		1.461		1.486
Other Costs		1.906		1.942		1.975
Total	**2**	**15.946**	**2**	**16.248**	**2**	**16.573**

Description:

Phalanx Close-In Weapon System (CIWS) provides fast reaction terminal defense against anti-ship missiles, aircraft, helicopters, low-slow flyers (e.g. unmanned aerial vehicles) and surface threats. The system is an automatic, self-contained unit consisting of search/track radar, threat evaluation and fire control subsystem, and a 20 mm M61A1 Gatling gun subsystem all mounted in a single structure requiring a minimum of integration with other ship systems.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2015	DDG 121	RAYTHEON	SS/FFP	Apr 2015	New	2	5.902
FY 2016	DDG 123	RAYTHEON	SS/FFP	Apr 2016	Option	2	6.014
FY 2017	DDG 125	RAYTHEON	SS/FFP	Apr 2017	Option	2	6.141

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2015	DDG 121	Jul 2020	25	22	Aug 2016
FY 2016	DDG 123	Jul 2021	25	22	Aug 2017
FY 2017	DDG 125	Jul 2022	25	22	Aug 2018

Competition/Second Source Initiatives:

Sole Source

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2122 / DDG-51
Equipment Item: SPQ-9B Radar	**PARM Code:** N/A

P-35 Category	FY 2015		FY 2016		FY 2017	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	2	15.290	2	15.568	2	15.848
Spares		0.200		0.203		0.207
System Engineering		0.800		0.814		0.827
Technical Engineering Services		0.850		0.864		0.879
Other Costs		0.941		0.957		0.973
Total	**2**	**18.081**	**2**	**18.406**	**2**	**18.734**

Description:

The AN/SPQ-9B Radar detects and tracks low flying Anti-Ship Missile targets in heavy clutter. The mission of the AN/SPQ-9B is currently being expanded to include the capability to detect and classify periscopes with the completion and incorporation of a Periscope Detection and Discrimination (PDD) capability designed to operate concurrently with the AN/SPY-6 capability.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2015	DDG 121	NORTHROP GRUMMAN	SS/FFP	Sep 2015	New	2	7.645
FY 2016	DDG 123	NORTHROP GRUMMAN	SS/FFP	Apr 2016	Option	2	7.784
FY 2017	DDG 125	NORTHROP GRUMMAN	SS/FFP	Apr 2017	Option	2	7.924

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2015	DDG 121	Jul 2020	24	18	Jan 2017
FY 2016	DDG 123	Jul 2021	24	18	Jan 2018
FY 2017	DDG 125	Jul 2022	24	18	Jan 2019

Competition/Second Source Initiatives:

N/A

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Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 02: Other Warships / BSA 1: Other Warships	**P-1 Line Item Number / Title:** 2127 / Littoral Combat Ship (LCS)
ID Code (A=Service Ready, B=Not Service Ready): A	**Program Elements for Code B Items:** N/A
Other Related Program Elements: N/A	
Line Item MDAP/MAIS Code: N/A	

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity *(Units in Each)*	18	3	3	2	-	2	1	1	1	2	7	38
Gross/Weapon System Cost *($ in Millions)*	9,074.404	1,510.735	1,445.888	1,125.625	-	1,125.625	634.104	822.496	739.400	1,416.067	5,158.127	21,926.846
Less PY Advance Procurement *($ in Millions)*	78.900	-	80.000	-	-	-	-	-	-	-	-	158.900
Less Cost To Complete *($ in Millions)*	280.890	83.686	34.297	-	-	-	-	-	-	-	-	398.873
Net Procurement (P-1) *($ in Millions)*	8,714.614	1,427.049	1,331.591	1,125.625	-	1,125.625	634.104	822.496	739.400	1,416.067	5,158.127	21,369.073
Plus CY Advance Procurement *($ in Millions)*	78.900	80.000	-	-	-	-	-	-	-	-	-	158.900
Plus Cost To Complete *($ in Millions)*	-	77.045	82.674	86.000	-	86.000	35.171	83.686	34.297	-	-	398.873
Total Obligation Authority *($ in Millions)*	**8,793.514**	**1,584.094**	**1,414.265**	**1,211.625**	**-**	**1,211.625**	**669.275**	**906.182**	**773.697**	**1,416.067**	**5,158.127**	**21,926.846**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Plus Outfitting and Post Delivery *($ in Millions)*	151.665	105.869	188.816	176.399	-	176.399	191.417	218.174	121.755	124.143	938.124	2,216.362
Total *($ in Millions)*	**8,945.179**	**1,689.963**	**1,603.081**	**1,388.024**	**-**	**1,388.024**	**860.692**	**1,124.356**	**895.452**	**1,540.210**	**6,096.251**	**24,143.208**
Gross/Weapon System Unit Cost *($ in Millions)*	504.134	503.578	481.963	562.813	-	562.813	634.104	822.496	739.400	708.034	736.875	577.022

Description:

Provides for the design, construction, integration, and testing of the Littoral Combat Ship (LCS) and the Frigate (FF), including ordnance, government furnished equipment (GFE), plans and change order costs.

LCS: Operates with focused-mission packages that deploy manned and unmanned vehicles to execute a variety of missions, including anti-submarine warfare (ASW), surface warfare (SUW), and mine countermeasures (MCM). LCS also possesses inherent capabilities, regardless of the mission package installed, including intelligence, surveillance, and reconnaissance (ISR), maritime interdiction/interception operations (MIO), anti-terrorism/force protection (AT/FP), air warfare self-defense, joint littoral mobility, and logistic support for movement of personnel and supplies. This relatively small, shallow-draft, high-speed surface combatant complements the U.S. Navy's Surface Fleet by operating in environments where it is impossible or undesirable to employ larger deeper-draft, multi-mission ships. LCS can deploy independently to overseas littoral regions or remain on station for extended periods of time either with a battle group or through a forward-basing arrangement. LCS will operate with Carrier Strike Groups, Surface Action Groups, or independently as dictated by the mission and environment. Additionally, LCS can operate cooperatively with the U.S. Coast Guard and Allies.

FRIGATE: The Frigate will begin production in FY19 and will provide a more lethal and survivable multi-mission warship focusing on both anti-surface warfare and anti-submarine warfare capabilities (SUW/ASW). The Frigate will be a multi-mission ship that will leverage the existing Littoral Combat Ship (LCS) designs. The Frigate adds capability while maximizing the LCS investments made to date in the small surface combatant force. Modifications will include over-the-horizon surface-to-surface missile system, upgraded Air Defense weapons and sensors, advanced electronic warfare system and improved decoys, and all elements of the SUW and ASW mission packages (horizon surface-to-surface missile system, 30mm guns, variable depth sonar, towed array and torpedo defense).

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 02: Other Warships / BSA 1: Other Warships	**P-1 Line Item Number / Title:** 2127 / Littoral Combat Ship (LCS)
ID Code (A=Service Ready, B=Not Service Ready): A	**Program Elements for Code B Items:** N/A
Other Related Program Elements: N/A	
Line Item MDAP/MAIS Code: N/A	

Characteristics:	**LM**	**AUSTAL**
Length Overall	115.3m	127.6m
Beam	17.5m	31.6m
Displacement	3089 mt	2842 mt
Draft	4.3m	4.4m

Production Status:	**LCS 7**	**LCS 8**	**LCS 9**	**LCS 10**	**LCS 11**	**LCS 12**	**LCS 13**
Contract Award Date	Mar 2011	Mar 2011	Mar 2012	Mar 2012	Mar 2012	Mar 2012	Mar 2013
Months to Completion							
a) Award to Delivery	63 months	62 months	54 months	54 months	59 months	58 months	52 months
b) Construction Start to Delivery	50 months	46 months	44 months	42 months	42 months	40 months	41 months
Delivery Date	Jun 2016	May 2016	Sep 2016	Sep 2016	Feb 2017	Jan 2017	Jul 2017
Completion Of Fitting Out	Aug 2016	Aug 2016	Dec 2016	Dec 2016	Jun 2017	May 2017	Nov 2017
Obligation Work Limit Date	Jul 2017	Jul 2017	Nov 2017	Nov 2017	May 2018	Apr 2018	Oct 2018

Production Status:	**LCS 14**	**LCS 15**	**LCS 16**	**LCS 17**	**LCS 18**	**LCS 19**	**LCS 20**
Contract Award Date	Mar 2013	Mar 2013	Mar 2013	Mar 2014	Mar 2014	Mar 2014	Mar 2014
Months to Completion							
a) Award to Delivery	48 months	59 months	55 months	52 months	50 months	56 months	56 months
b) Construction Start to Delivery	37 months	38 months	37 months	35 months	38 months	33 months	33 months
Delivery Date	Mar 2017	Feb 2018	Oct 2017	Jul 2018	May 2018	Nov 2018	Nov 2018
Completion Of Fitting Out	Sep 2017	Jun 2018	Feb 2018	Nov 2018	Aug 2018	Mar 2019	Mar 2019
Obligation Work Limit Date	Aug 2018	May 2019	Jan 2019	Oct 2019	Aug 2019	Feb 2020	Feb 2020

Production Status:	**LCS 21**	**LCS 22**	**LCS 24**	**LCS 23**	**LCS 25**	**LCS 26**	**LCS 27**
Contract Award Date	Mar 2015	Mar 2015	Mar 2015	Nov 2015	Mar 2016	Mar 2016	Mar 2017
Months to Completion							
a) Award to Delivery	52 months	51 months	59 months	48 months	56 months	56 months	50 months
b) Construction Start to Delivery	37 months	37 months	39 months	35 months	44 months	39 months	39 months
Delivery Date	Jul 2019	Jun 2019	Feb 2020	Nov 2019	Nov 2020	Nov 2020	May 2021
Completion Of Fitting Out	Nov 2019	Oct 2019	Jun 2020	Mar 2020	Jan 2021	Jan 2021	Sep 2021
Obligation Work Limit Date	Oct 2020	Sep 2020	May 2021	Feb 2021	Dec 2021	Dec 2021	Aug 2022

Production Status:	**LCS 28**
Contract Award Date	Mar 2017
Months to Completion	
a) Award to Delivery	50 months
b) Construction Start to Delivery	38 months
Delivery Date	May 2021
Completion Of Fitting Out	Sep 2021
Obligation Work Limit Date	Aug 2022

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 02: Other Warships / BSA 1: Other Warships	**P-1 Line Item Number / Title:** 2127 / Littoral Combat Ship (LCS)

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		

Design Schedule	Start / Issue	Complete / Response	Reissue	Reissue Complete / Response
Issue Date for TLR	N/A	N/A		
Issue Date for TLS	N/A	N/A		
Preliminary Design	Jul 2003	Dec 2003		
Contract Design	May 2004	Dec 2004		
Detail Design	Dec 2004	Jun 2007		
Request for Proposals	N/A	Jan 2010		
Design Agent	LOCKHEED MARTIN - AUSTAL			

Classification of Cost Estimate: CLASS C

Exhibit P-5c, Ship Cost Analysis: PB 2017 Navy	**Date:** February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2127 / Littoral Combat Ship (LCS)

Cost Categories (†) indicates the presence of a P-8a	**FY 2011**		**FY 2012**		**FY 2013**		**FY 2014**		**FY 2015**		**FY 2016**		**FY 2017**	
	Qty *(Each)*	**Total Cost** *($ M)*	**Qty** *(Each)*	**Total Cost** *($ M)*	**Qty** *(Each)*	**Total Cost** *($ M)*	**Qty** *(Each)*	**Total Cost** *($ M)*	**Qty** *(Each)*	**Total Cost** *($ M)*	**Qty** *(Each)*	**Total Cost** *($ M)*	**Qty** *(Each)*	**Total Cost** *($ M)*
Plan Costs	2	86.488	4	74.504	4	81.025	4	84.706	3	86.146	3	87.490	2	86.300
Basic Construction/Conversion		811.229		1,539.580		1,504.512		1,492.163		1,221.901		1,165.412		876.799
Change Orders		31.085		60.991		64.438		72.896		47.383		33.998		26.284
Electronics (†)		27.245		55.417		56.350		57.308		43.626		45.411		34.624
Hull, Mechanical, and Electrical (HM&E) (†)		6.806		13.843		14.078		14.318		11.041		11.228		7.836
Ordnance (†)		17.300		37.295		33.996		37.759		29.169		29.665		20.315
Other Cost		166.942		76.927		67.038		69.035		71.469		72.684		73.467
Total Ship Estimate		**1,147.095**		**1,858.557**		**1,821.437**		**1,828.185**		**1,510.735**		**1,445.888**		**1,125.625**
Less Advance Procurement FY 2011		-		78.949		-		-		-		-		-
Less Advance Procurement FY 2015		-		-		-		-		-		80.000		-
Less Cost to Complete FY 2015		41.700		-		-		-		-		-		-
Less Cost to Complete FY 2016		-		82.674		-		-		-		-		-
Less Cost to Complete FY 2017		-		3.600		82.400		-		-		-		-
Less Cost to Complete FY 2018		-		-		-		35.171		-		-		-
Less Cost to Complete FY 2019		-		-		-		-		83.686		-		-
Less Cost to Complete FY 2020		-		-		-		-		-		34.297		-
Net P-1 Funding		**1,105.395**		**1,693.334**		**1,739.037**		**1,793.014**		**1,427.049**		**1,331.591**		**1,125.625**

Remarks:
FY17 decrease in Basic Construction is attributed to ship quantity reduction.

Exhibit P-27, Ship Production Schedule: PB 2017 Navy			Date: February 2016		
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1			P-1 Line Item Number / Title: 2127 / Littoral Combat Ship (LCS)		
Ship	**Shipbuilder**	**Fiscal Year**	**Contract Award**	**Start of Construction**	**Delivery Date**
LCS 7	LOCKHEED MARTIN	2011	Mar 2011	Apr 2012	Jun 2016
LCS 8	AUSTAL	2011	Mar 2011	Jul 2012	May 2016
LCS 9	LOCKHEED MARTIN	2012	Mar 2012	Jan 2013	Sep 2016
LCS 10	AUSTAL	2012	Mar 2012	Mar 2013	Sep 2016
LCS 11	LOCKHEED MARTIN	2012	Mar 2012	Aug 2013	Feb 2017
LCS 12	AUSTAL	2012	Mar 2012	Sep 2013	Jan 2017
LCS 13	LOCKHEED MARTIN	2013	Mar 2013	Feb 2014	Jul 2017
LCS 14	AUSTAL	2013	Mar 2013	Feb 2014	Mar 2017
LCS 15	LOCKHEED MARTIN	2013	Mar 2013	Dec 2014	Feb 2018
LCS 16	AUSTAL	2013	Mar 2013	Sep 2014	Oct 2017
LCS 17	LOCKHEED MARTIN	2014	Mar 2014	Aug 2015	Jul 2018
LCS 18	AUSTAL	2014	Mar 2014	Mar 2015	May 2018
LCS 19	LOCKHEED MARTIN	2014	Mar 2014	Feb 2016	Nov 2018
LCS 20	AUSTAL	2014	Mar 2014	Feb 2016	Nov 2018
LCS 21	LOCKHEED MARTIN	2015	Mar 2015	Jun 2016	Jul 2019
LCS 22	AUSTAL	2015	Mar 2015	May 2016	Jun 2019
LCS 24	AUSTAL	2015	Mar 2015	Nov 2016	Feb 2020
LCS 23	LOCKHEED MARTIN	2016	Nov 2015	Dec 2016	Nov 2019
LCS 25	LOCKHEED MARTIN	2016	Mar 2016	Mar 2017	Nov 2020
LCS 26	AUSTAL	2016	Mar 2016	Aug 2017	Nov 2020
LCS 27	TBD	2017	Mar 2017	Feb 2018	May 2021
LCS 28	TBD	2017	Mar 2017	Mar 2018	May 2021
LCS 29	TBD	2018	Mar 2018	Feb 2019	May 2022
FF 1	TBD	2019	Mar 2019	Feb 2020	Feb 2024
FF 2	TBD	2020	Feb 2020	Oct 2020	Jun 2024
FF 3	TBD	2021	Feb 2021	Oct 2021	Apr 2025
FF 4	TBD	2021	Feb 2021	Jun 2022	Nov 2025

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2127 / Littoral Combat Ship (LCS)

Electronics	FY 2015 Qty (Each)	FY 2015 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)	FY 2017 Qty (Each)	FY 2017 Total Cost ($ M)
P-35 Items						
AN/WSC-6E(V)9 SUPER HIGH FREQUENCY (SHF) DUAL TERMINAL/NAVY MULTIBAND TERMINAL(NMT)	3	11.894	3	12.096	2	8.299
P-35 Items Subtotal		**11.894**		**12.096**		**8.299**
Major Items						
ELECTRONIC KEY MANAGEMENT SYSTEM (EKMS)/CRYPTO SYSTEM	3	1.751	3	1.781	2	1.222
COMMON DATA LINK MANAGEMENT SYSTEM (CDLMS)	1	1.026	2	2.087	1	1.043
AN/URC-141 (C) MIDS ON SHIP (MOS)	3	7.991	3	8.127	2	5.576
AN/USQ-172(V)5 GLOBAL COMMAND AND CONTROL SYSTEM - MARITIME (GCCS-M)	3	2.189	3	2.226	2	1.527
DS- LOGISTICS MAINTENANCE AUTOMATED INFO SYSTEM - BAR CODE SUPPLY (BCS) NAVY TACTICAL COMMAND SPT SY	3	1.222	3	1.243	2	0.853
MULTI-VEHICLE COMMUNICATION SYSTEM (MVCS)	3	5.319	3	5.409	2	3.711
AN/USQ-144J(V)2 AUTOMATED DIGITAL NETWORK SYSTEM (ADNS)	3	1.877	3	1.909	2	1.310
Major Items Subtotal		**21.375**		**22.782**		**15.242**
Other Cost Elements						
OTHER ELECTRONICS	3	10.357	3	10.533	2	11.083
Other Cost Elements Subtotal		**10.357**		**10.533**		**11.083**
Total Electronics		**43.626**		**45.411**		**34.624**

Remarks:
In FY17 GFE pricing assumes award of one ship to each shipyard.

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2127 / Littoral Combat Ship (LCS)

Hull, Mechanical, and Electrical (HM&E)	FY 2015		FY 2016		FY 2017	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Items						
JOINT BIOLOGICAL POINT DETECTION SYSTEM (JBPDS)	3	0.455	3	0.462	2	0.323
AN/SRC-59 SHIPWIDE INTERIOR WIRELESS COMMUNICATION SYSTEM (SIWCS)	3	1.761	3	1.791	2	1.250
TRASH DISPOSAL - SMALL PULPER	3	0.506	3	0.515	2	0.360
VISUAL LANDING AIDS (VLA)	3	6.720	3	6.834	2	4.769
Major Items Subtotal		**9.442**		**9.602**		**6.702**
Other Cost Elements						
OTHER HM&E	3	1.599	3	1.626	2	1.134
Other Cost Elements Subtotal		**1.599**		**1.626**		**1.134**
Total Hull, Mechanical, and Electrical (HM&E)		**11.041**		**11.228**		**7.836**

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2127 / Littoral Combat Ship (LCS)

Ordnance	FY 2015		FY 2016		FY 2017	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
P-35 Items						
SEARAM	3	27.186	3	27.648	2	18.942
P-35 Items Subtotal		**27.186**		**27.648**		**18.942**
Major Items						
ORDNANCE HANDLING EQUIPMENT	3	1.262	3	1.284	2	0.879
SMALL ARMS, MACHINE GUNS		0.721		0.733		0.494
Major Items Subtotal		**1.983**		**2.017**		**1.373**
Total Ordnance		**29.169**		**29.665**		**20.315**

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2127 / Littoral Combat Ship (LCS)
Equipment Item: AN/WSC-6E(V)9 SUPER HIGH FREQUENCY (SHF) DUAL TERMINAL/NAVY MULTIBAND TERMINAL(NMT)	**PARM Code:** 3Z

P-35 Category	FY 2015		FY 2016		FY 2017	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	3	10.476	3	10.654	2	7.309
System Engineering		0.189		0.192		0.132
Engr/ILS/Mgmt Spt		0.236		0.240		0.165
Technical Support Services		0.818		0.832		0.571
Program Management		0.175		0.178		0.122
Total	**3**	**11.894**	**3**	**12.096**	**2**	**8.299**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2015	LCS 21	Raytheon	SS/FFP	Dec 2014	Option	3	3.492
FY 2016	LCS 23	TBD	SS/FFP	Dec 2016	New	3	3.551
FY 2017	LCS 27	TBD	SS/FFP	TBD	Option	2	3.655

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2015	LCS 21	Jun 2019	21	14	Jul 2016
FY 2016	LCS 23	Nov 2019	21	14	Dec 2016
FY 2017	LCS 27	May 2021	21	14	Jun 2018

Competition/Second Source Initiatives:

N/A

Remarks:

LCS program transitioned to Navy Multiband Terminal (NMT) beginning on FY 2014 Ships.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 02 / 1	**P-1 Line Item Number / Title:** 2127 / Littoral Combat Ship (LCS)
Equipment Item: SEARAM	**PARM Code:** N/A

P-35 Category	FY 2015 Qty (Each)	FY 2015 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)	FY 2017 Qty (Each)	FY 2017 Total Cost ($ M)
Major Hardware	3	23.059	3	23.451	2	16.060
Technical Data and Documentation		0.138		0.140		0.100
System Engineering		1.013		1.030		0.706
Technical Engineering Services		1.442		1.467		1.005
Software		0.143		0.145		0.099
Test & Evaluation		0.863		0.878		0.605
Program Management		0.528		0.537		0.367
Total	**3**	**27.186**	**3**	**27.648**	**2**	**18.942**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2015	LCS 21	RAYTHEON	SS/FFP	Apr 2015	New	3	7.686
FY 2016	LCS 23	RAYTHEON	SS/FFP	Dec 2015	Option	3	7.817
FY 2017	LCS 27	TBD	SS/FFP	TBD	New	2	8.030

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2015	LCS 21	Jun 2019	13	22	Jul 2016
FY 2016	LCS 23	Nov 2019	13	22	Dec 2016
FY 2017	LCS 27	May 2021	13	22	Jun 2018

Competition/Second Source Initiatives:

N/A

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 03: Amphibious Ships / BSA 1: Amphibious Ships	**P-1 Line Item Number / Title:** 3036 / LPD-17
ID Code (A=Service Ready, B=Not Service Ready): A	**Program Elements for Code B Items:** N/A — **Other Related Program Elements:** N/A
Line Item MDAP/MAIS Code: N/A	

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity *(Units in Each)*	11	-	1	-	-	-	-	-	-	-	-	12
Gross/Weapon System Cost *($ in Millions)*	17,758.303	-	1,792.976	-	-	-	-	-	-	-	-	19,551.279
Less PY Advance Procurement *($ in Millions)*	1,393.265	-	242.976	-	-	-	-	-	-	-	-	1,636.241
Less Cost To Complete *($ in Millions)*	2,050.849	-	-	-	-	-	-	-	-	-	-	2,050.849
Less Subsequent Year Full Funding *($ in Millions)*	869.394	-	-	-	-	-	-	-	-	-	-	869.394
Less Prior Year Full Funding *($ in Millions)*	-	-	1,000.000	-	-	-	-	-	-	-	-	1,000.000
Less Hurricane *($ in Millions)*	1,623.280	-	-	-	-	-	-	-	-	-	-	1,623.280
Less Transfer *($ in Millions)*	279.031	-	-	-	-	-	-	-	-	-	-	279.031
Net Procurement (P-1) *($ in Millions)*	11,542.484	-	550.000	-	-	-	-	-	-	-	-	12,092.484
Plus Subsequent Year Full Funding *($ in Millions)*	869.394	-	-	-	-	-	-	-	-	-	-	869.394
Plus Prior Year FF *($ in Millions)*	-	1,000.000	-	-	-	-	-	-	-	-	-	1,000.000
Full Funding TOA *($ in Millions)*	12,411.878	1,000.000	550.000	-	-	-	-	-	-	-	-	13,961.878
Plus CY Advance Procurement *($ in Millions)*	1,636.241	-	-	-	-	-	-	-	-	-	-	1,636.241
Plus Cost To Complete *($ in Millions)*	1,890.100	54.096	61.593	45.060	-	45.060	-	-	-	-	-	2,050.849
Plus Transfer *($ in Millions)*	279.031	-	-	-	-	-	-	-	-	-	-	279.031
Plus Hurricane *($ in Millions)*	1,623.280	-	-	-	-	-	-	-	-	-	-	1,623.280
Plus Hurricane Supplemental (OF & PD) *($ in Millions)*	25.970	-	-	-	-	-	-	-	-	-	-	25.970
Total Obligation Authority *($ in Millions)*	**17,840.530**	**1,054.096**	**611.593**	**45.060**	**-**	**45.060**	**-**	**-**	**-**	**-**	**-**	**19,551.279**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Plus Outfitting and Post Delivery *($ in Millions)*	847.982	23.041	43.636	69.613	-	69.613	30.220	-	-	-	6.124	1,020.616
Total *($ in Millions)*	**18,714.482**	**1,077.137**	**655.229**	**114.673**	**-**	**114.673**	**30.220**	**-**	**-**	**-**	**6.124**	**20,597.865**
Gross/Weapon System Unit Cost *($ in Millions)*	1,614.391	-	1,792.976	-	-	-	-	-	-	-	-	-

Description:

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.

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 03: Amphibious Ships / BSA 1: Amphibious Ships	**P-1 Line Item Number / Title:** 3036 / LPD-17
ID Code (A=Service Ready, B=Not Service Ready): A	**Program Elements for Code B Items:** N/A
Other Related Program Elements: N/A	
Line Item MDAP/MAIS Code: N/A	

Characteristics:	-	
Length Overall	208.5 m	684 ft
Beam	31.9 m	105 ft
Displacement	25.3 lmt	24.9 klt
Draft	7.0 m	23 ft

Systems:

Electronics

-Mission Systems

Production Status:	**LPD 26**	**LPD 27**	**LPD 28**
Contract Award Date	Apr 2011	Jul 2012	Oct 2016
Months to Completion			
a) Award to Delivery	61 months	60 months	60 months
b) Construction Start to Delivery	60 months	59 months	58 months
Delivery Date	May 2016	Jul 2017	Oct 2021
Completion Of Fitting Out	Dec 2016	Feb 2018	Jul 2022
Obligation Work Limit Date	Nov 2017	Jan 2019	Jun 2023

Design Schedule	**Start / Issue**	**Complete / Response**	**Reissue**	**Reissue Complete / Response**
Issue Date for TLR	N/A	Sep 1988		
Issue Date for TLS	N/A	N/A		
Preliminary Design	Jan 1993	Nov 1993		
Contract Design	Dec 1993	Mar 1996		
Detail Design	Dec 1996	Jul 2002		
Request for Proposals	N/A	N/A		
Design Agent				

Classification of Cost Estimate: CLASS C

Exhibit P-5c, Ship Cost Analysis: PB 2017 Navy	**Date:** February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3036 / LPD-17

Cost Categories (†) indicates the presence of a P-8a	**FY 2009**		**FY 2012**		**FY 2016**	
	Qty *(Each)*	**Total Cost** *($ M)*	**Qty** *(Each)*	**Total Cost** *($ M)*	**Qty** *(Each)*	**Total Cost** *($ M)*
Plan Costs	1		1		1	
Basic Construction/Conversion		1,652.227		1,618.673		1,446.000
Change Orders		22.274		36.721		36.000
Electronics (†)		193.841		281.680		227.161
Hull, Mechanical, and Electrical (HM&E) (†)		20.236		62.241		15.826
Ordnance (†)		48.186		70.852		62.013
Other Cost		5.000		9.020		5.976
Total Ship Estimate		**1,941.764**		**2,079.187**		**1,792.976**
Less Advance Procurement FY 2008		49.651		-		-
Less Advance Procurement FY 2010		-		183.986		-
Less Advance Procurement FY 2013		-		-		242.976
Less Subsequent Full Funding FY 2010		869.394		-		-
Less Cost to Complete FY 2015		54.096		-		-
Less Cost to Complete FY 2016		22.860		38.733		-
Less Cost to Complete FY 2017		-		45.060		-
Less Prior Year Full Funding FY 2015		-		-		1,000.000
Net P-1 Funding		**945.763**		**1,811.408**		**550.000**

Exhibit P-27, Ship Production Schedule: PB 2017 Navy				Date: February 2016	
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1			P-1 Line Item Number / Title: 3036 / LPD-17		
Ship	**Shipbuilder**	**Fiscal Year**	**Contract Award**	**Start of Construction**	**Delivery Date**
LPD 26	HUNTINGTON INGALLS INDUSTRIES	2009	Apr 2011	May 2011	May 2016
LPD 27	HUNTINGTON INGALLS INDUSTRIES	2012	Jul 2012	Aug 2012	Jul 2017
LPD 28	HUNTINGTON INGALLS INDUSTRIES	2016	Oct 2016	Dec 2016	Oct 2021

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3036 / LPD-17

Electronics	FY 2012 Qty (Each)	FY 2012 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
P-35 Items				
Mission Systems		73.194		45.617
C4ISR		72.148		77.224
Ship Self Defense System (SSDS)		14.073		13.328
Cooperative Engagement Capability (CEC)		5.345		5.286
Interrogator System (IFF)		6.698		7.088
Surface Electronic Warfare Improvement Program (SEWIP)		5.520		15.087
P-35 Items Subtotal		**176.978**		**163.630**
Major Items				
Battle Force Tactical Training (BFTT)		4.005		-
AN/WSN-7(RLGN)		4.275		2.922
Nulka Decoy Launching System (DLS)		2.207		2.875
AADS		3.589		1.434
Torpedo Countermeasures Transmitting Set (Nixie)		1.285		1.191
RADIAC		0.085		0.077
AN/SPQ-14 (ASDS)		1.580		1.256
AN/UQN-4		0.220		-
DCAMS		0.328		0.180
DHYSL		0.546		0.450
Major Items Subtotal		**18.120**		**10.385**
Other Cost Elements				
Miscellaneous Electronics		86.582		49.833
IWS CSI		-		3.313
Other Cost Elements Subtotal		**86.582**		**53.146**
Total Electronics		**281.680**		**227.161**

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3036 / LPD-17

Hull, Mechanical, and Electrical (HM&E)	FY 2012		FY 2016	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Items				
Boats		1.231		0.514
CCTV, Site 400		0.559		-
Circuit 27		0.774		-
Truck, Forklift		1.383		1.596
Chemical Warfare Detector		0.158		0.248
Military Payroll System		0.683		0.552
NSIPS		0.125		-
Integrated Condition Assessment System (ICAS)		0.421		0.208
Oily Water Separator		0.861		0.273
Plastic Waste Processing EQP		0.341		0.435
AC Plant		3.405		-
Major Items Subtotal		**9.941**		**3.826**
Other Cost Elements				
Miscellaneous HM&E		52.300		12.000
Other Cost Elements Subtotal		**52.300**		**12.000**
Total Hull, Mechanical, and Electrical (HM&E)		**62.241**		**15.826**

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3036 / LPD-17

Ordnance	FY 2012 Qty (Each)	FY 2012 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
P-35 Items				
RAM BLOCK 2		17.642		23.328
MK 46 GUN		6.329		8.530
AN/SPS-48G (REFURB)		13.240		15.097
AN/SPQ-9B Radar Set	1	7.108	1	10.170
P-35 Items Subtotal		**44.319**		**57.125**
Major Items				
50 CAL MACHINE GUN		0.078		0.021
ASGSI/HOSS/MWS Fit Control & Inst Land Sys		2.897		3.440
MK-46 Gun Barrels		0.946		-
ORDNANCE HANDLING EQUIPMENT		0.495		0.427
AN/SPS-73		-		-
Major Items Subtotal		**4.416**		**3.888**
Other Cost Elements				
MISCELLANEOUS ORDNANCE		22.117		1.000
Other Cost Elements Subtotal		**22.117**		**1.000**
Total Ordnance		**70.852**		**62.013**

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3036 / LPD-17
Equipment Item: Mission Systems	**PARM Code:** PMS 317

P-35 Category	FY 2012 Qty (Each)	FY 2012 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
Major Hardware	1	71.484	1	43.790
Other Appropriate Costs		1.710		1.827
Total	**1**	**73.194**	**1**	**45.617**

Description:

Mission Systems is a microcomputer-based integration of shipboard control electronics; Engineering Control System (ECS), Ship Control System (SCS), HM&E Network, Navigation Data Distribution System (NDDS), Interior Voice Network (IVN), and various distributed Sensors. Mission systems and associated integration will be provided by a combination of CFE and Government supplied material and services for LPD'S 26 through 28.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2012	LPD 27	Raytheon	SS/FFP	May 2012	Option	1	71.484
FY 2016	LPD 28	Various	TBD	Aug 2016	Option	1	43.790

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	LPD 27	Jul 2017	37	24	Jun 2012
FY 2016	LPD 28	Oct 2021	37	24	Sep 2016

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3036 / LPD-17
Equipment Item: C4ISR	**PARM Code:** PMS 317

P-35 Category	FY 2012 Qty (Each)	FY 2012 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
Major Hardware	1	43.051	1	48.005
Spares		0.626		0.356
Technical Engineering Services		3.912		5.996
Ancillary Equipment		0.128		0.060
Documentation and Systems Engineering		3.421		0.093
Other Appropriate Costs		5.646		6.589
Turnkey		15.364		16.125
Total	**1**	**72.148**	**1**	**77.224**

Description:

To provide the link between the ship, the command hierarchy, and other units of the operating forces.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2012	LPD 27	Various	Various	Dec 2012	Various	1	43.051
FY 2016	LPD 28	Various	TBD	Mar 2016	Various	1	48.005

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	LPD 27	Jul 2017	9	9	Jan 2016
FY 2016	LPD 28	Oct 2021	16	16	Feb 2019

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3036 / LPD-17
Equipment Item: Ship Self Defense System (SSDS)	**PARM Code:** PMS 317

P-35 Category	FY 2012 Qty (Each)	FY 2012 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
Major Hardware	1	9.296	1	10.497
Spares		0.381		0.122
Technical Engineering Services		0.343		0.298
Other Appropriate Costs		2.601		2.068
Documentation and Systems Engineering		1.452		0.343
Total	**1**	**14.073**	**1**	**13.328**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2012	LPD 27	Raytheon	SS/CPFF	Jan 2010	Option	1	9.296
FY 2016	LPD 28	Raytheon	C/BA	Jan 2017	New	1	10.497

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	LPD 27	Jul 2017	17	13	Jan 2015
FY 2016	LPD 28	Oct 2021	17	13	Apr 2019

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3036 / LPD-17
Equipment Item: Cooperative Engagement Capability (CEC)	**PARM Code:** PMS 317

P-35 Category	FY 2012 Qty (Each)	FY 2012 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
Major Hardware	1	4.934	1	4.848
Technical Engineering Services		0.265		0.259
Documentation and Systems Engineering		0.097		0.111
Other Appropriate Costs		0.049		0.068
Total	**1**	**5.345**	**1**	**5.286**

Description:

Cooperative Engagement Capability (CEC) coordinates all anti-warfare sensors into single, real time, fire control quality composite track which improves battle force air defense.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2012	LPD 27	Raytheon	SS/FFP	Various	Various	1	4.934
FY 2016	LPD 28	TBD	TBD	Various	Various	1	4.848

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	LPD 27	Jul 2017	24	18	Jan 2014
FY 2016	LPD 28	Oct 2021	24	18	Apr 2018

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3036 / LPD-17
Equipment Item: Interrogator System (IFF)	**PARM Code:** PMS 317

P-35 Category	FY 2012 Qty (Each)	FY 2012 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
Major Hardware	1	4.886	1	4.811
Spares		0.064		0.073
Technical Engineering Services		0.433		0.596
Other Appropriate Costs		0.549		0.681
Documentation and Systems Engineering		0.766		0.927
Total	**1**	**6.698**	**1**	**7.088**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2012	LPD 27	BAE and NG	C/FFP	Various	New	1	4.886
FY 2016	LPD 28	TBD	TBD	Various	New	1	4.811

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	LPD 27	Jul 2017	6	30	Jul 2014
FY 2016	LPD 28	Oct 2021	6	30	Oct 2018

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3036 / LPD-17

Equipment Item: Surface Electronic Warfare Improvement Program (SEWIP) **PARM Code:** PMS 317

P-35 Category	FY 2012 Qty (Each)	FY 2012 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
Major Hardware	1	4.772	1	14.395
Spares		0.143		0.142
Technical Engineering Services		0.071		0.057
Other Appropriate Costs		0.477		0.486
Documentation and Systems Engineering		0.057		0.007
Total	**1**	**5.520**	**1**	**15.087**

Description:

The AN/SLQ-32(V)6 (SEWIP) is a shipboard system that provides a full suite of Electronic Warfare capabilities designed to protect against anti-cruise ship missle threats

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2012	LPD 27	Raytheon	SS/BOA	TBD		1	4.772
FY 2016	LPD 28	TBD	TBD	TBD		1	14.395

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	LPD 27	Jul 2017	18	24	Jan 2014
FY 2016	LPD 28	Oct 2021	24	24	Oct 2017

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3036 / LPD-17
Equipment Item: RAM BLOCK 2	**PARM Code:** PMS 317

P-35 Category	FY 2012 Qty (Each)	FY 2012 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
Major Hardware	2	13.038	2	22.153
Spares		0.129		0.141
Technical Engineering Services		-		0.071
Other Costs		2.999		0.503
Documentation and Systems Engineering		1.476		0.460
Total	**2**	**17.642**	**2**	**23.328**

Description:

The Rolling Airframe Missile (RAM) Block 2 system is a short-range, fast-reaction, high-firepower, lightweight weapon designed to destroy incoming anti-ship cruise missiles.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2012	LPD 27	Raytheon	SS/FFP	TBD	Option	2	6.519
FY 2016	LPD 28	TBD	TBD	TBD		2	11.076

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	LPD 27	Jul 2017	22	24	Sep 2013
FY 2016	LPD 28	Oct 2021	22	24	Dec 2017

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3036 / LPD-17
Equipment Item: MK 46 GUN	**PARM Code:** PMS 317

P-35 Category	FY 2012 Qty (Each)	FY 2012 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
Major Hardware	2	6.329	2	8.385
Technical Engineering Services		-		0.145
Total	**2**	**6.329**	**2**	**8.530**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2012	LPD 27	General Dynamics	C/FFP	TBD	Option	2	3.165
FY 2016	LPD 28	TBD	TBD	TBD		2	4.193

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	LPD 27	Jul 2017	12	18	Jan 2015
FY 2016	LPD 28	Oct 2021	24	18	Apr 2018

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3036 / LPD-17
Equipment Item: AN/SPS-48G (REFURB)	**PARM Code:** PMS 317

P-35 Category	FY 2012		FY 2016	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	1	11.465	1	13.799
Spares		0.350		0.608
Technical Engineering Services		0.209		0.182
Other Costs		0.377		0.387
Documentation and Systems Engineering		0.839		0.121
Total	**1**	**13.240**	**1**	**15.097**

Description:

The AN/SPS-48G is a long-range, three dimensional, air-search radar system that provides contact range, bearing, and height information.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2012	LPD 27	ITT/G	Various	TBD		1	11.465
FY 2016	LPD 28	TBD	TBD	TBD		1	13.799

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	LPD 27	Jul 2017	18	27	Oct 2013
FY 2016	LPD 28	Oct 2021	18	27	Jan 2018

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3036 / LPD-17
Equipment Item: AN/SPQ-9B Radar Set	**PARM Code:** PMS 317

P-35 Category	FY 2012 Qty (Each)	FY 2012 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
Major Hardware	1	5.965	1	9.486
Spares		0.116		0.127
Technical Engineering Services		0.332		0.209
Other Costs		0.434		0.299
Documentation and Systems Engineering		0.261		0.049
Total	**1**	**7.108**	**1**	**10.170**

Description:

The AN/SPQ-9B is a high resolution, X-band, narrow beam radar that provides both air and surface tracking information.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2012	LPD 27	Northrop Grumman	C/FFP	TBD		1	5.965
FY 2016	LPD 28	TBD	TBD	TBD		1	9.486

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2012	LPD 27	Jul 2017	18	24	Jan 2014
FY 2016	LPD 28	Oct 2021	24	24	Oct 2017

Competition/Second Source Initiatives:

N/A

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Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 03: Amphibious Ships / BSA 1: Amphibious Ships	**P-1 Line Item Number / Title:** 3039 / Expeditionary Mobile Base (ESB)
ID Code (A=Service Ready, B=Not Service Ready): A	**Program Elements for Code B Items:** N/A
Other Related Program Elements: N/A	
Line Item MDAP/MAIS Code: N/A	

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity *(Units in Each)*	4	-	1	-	-	-	-	-	-	-	-	5
Gross/Weapon System Cost *($ in Millions)*	2,140.500	-	662.000	-	-	-	-	-	-	-	-	2,802.500
Less PY Advance Procurement *($ in Millions)*	179.700	-	-	-	-	-	-	-	-	-	-	179.700
Less Cost To Complete *($ in Millions)*	-	-	27.000	-	-	-	-	-	-	-	-	27.000
Less Subsequent Year Full Funding *($ in Millions)*	162.900	-	-	-	-	-	-	-	-	-	-	162.900
Net Procurement (P-1) *($ in Millions)*	1,797.900	-	635.000	-	-	-	-	-	-	-	-	2,432.900
Plus Subsequent Year Full Funding *($ in Millions)*	162.900	-	-	-	-	-	-	-	-	-	-	162.900
Full Funding TOA *($ in Millions)*	1,960.800	-	635.000	-	-	-	-	-	-	-	-	2,595.800
Plus CY Advance Procurement *($ in Millions)*	179.700	-	-	-	-	-	-	-	-	-	-	179.700
Plus Cost To Complete *($ in Millions)*	-	-	-	-	-	-	27.000	-	-	-	-	27.000
Total Obligation Authority *($ in Millions)*	**2,140.500**	**-**	**635.000**	**-**	**-**	**-**	**27.000**	**-**	**-**	**-**	**-**	**2,802.500**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Plus Outfitting and Post Delivery *($ in Millions)*	71.500	-	-	18.030	-	18.030	8.968	17.771	10.922	11.254	-	138.445
Total *($ in Millions)*	**2,212.000**	**-**	**635.000**	**18.030**	**-**	**18.030**	**35.968**	**17.771**	**10.922**	**11.254**	**-**	**2,940.945**
Gross/Weapon System Unit Cost *($ in Millions)*	535.125	-	662.000	-	-	-	-	-	-	-	-	560.500

Description:

The Expeditionary Mobile Base (ESB) (formerly MLP Afloat Forward Staging Base (AFSB) 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 ESB retains sealift capabilities inherent to the 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 ESB 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.

Note:
1) The amounts in the Prior Year Column includes the NDSF MPF,F MLP BLI 00401 Procurement Costs for Expeditionary Transport Dock (ESD) 1, ESD 2, and ESB 3 as well as SCN BLI 3039 for the ESB 4.

2) The Outfitting and Post Delivery amounts in the Prior Year and FY 2015 through FY 2016 columns represent NDSF BLI 5000 for ESD 1, ESD 2, and ESB 3.

3) ESB 5 dates reflect an FY2017 ship and are under review following the congressional add in FY2016.

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 03: Amphibious Ships / BSA 1: Amphibious Ships	**P-1 Line Item Number / Title:** 3039 / Expeditionary Mobile Base (ESB)
ID Code (A=Service Ready, B=Not Service Ready): A	**Program Elements for Code B Items:** N/A	**Other Related Program Elements:** N/A
Line Item MDAP/MAIS Code: N/A	

Characteristics:	Nominal Requirements
Length Overall	255M
Beam	50M
Displacement	28879 TONS
Draft	9.1M

Production Status:	ESB 3	ESB 4	ESB 5 (1)
Contract Award Date	Feb 2012	Dec 2014	Aug 2017
Months to Completion			
a) Award to Delivery	40 months	39 months	31 months
b) Construction Start to Delivery	28 months	28 months	21 months
Delivery Date	Jun 2015	Mar 2018	Mar 2020
Completion Of Fitting Out	Dec 2015	Jun 2018	Jun 2020
Obligation Work Limit Date		May 2019	May 2021

Design Schedule	Start / Issue	Complete / Response	Reissue	Reissue Complete / Response
Issue Date for TLR	N/A	N/A		
Issue Date for TLS	N/A	N/A		
Preliminary Design	Sep 2009	Dec 2009		
Contract Design	Dec 2009	Aug 2010		
Detail Design	Aug 2010	Nov 2011		
Request for Proposals	N/A	N/A		
Design Agent				

Classification of Cost Estimate: Budget Quality Class

Footnotes:

(1) ESB 5 dates reflect an FY2017 ship and are under review following the congressional add in FY2016.

Exhibit P-5c, Ship Cost Analysis: PB 2017 Navy	**Date:** February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3039 / Expeditionary Mobile Base (ESB)

Cost Categories (†) indicates the presence of a P-8a	**FY 2012**		**FY 2014**		**FY 2016**	
	Qty *(Each)*	**Total Cost** *($ M)*	**Qty** *(Each)*	**Total Cost** *($ M)*	**Qty** *(Each)*	**Total Cost** *($ M)*
Plan Costs	1	14.000	1	-	1	-
Basic Construction/Conversion		543.931		534.717		600.958
Change Orders		4.000		5.000		5.517
Electronics (†)		24.000		24.000		39.500
Hull, Mechanical, and Electrical (HM&E)		18.166		12.583		12.260
Other Cost		4.834		3.000		3.765
Total Ship Estimate		**608.931**		**579.300**		**662.000**
Less Advance Procurement FY 2011		60.000		-		-
Less Subsequent Full Funding FY 2013		140.314		-		-
Less Subsequent Full Funding FY 2014		22.617		-		-
Less Cost to Complete FY 2018		-		-		27.000
Net P-1 Funding		**386.000**		**579.300**		**635.000**

Remarks:
1. FY12 (ESB 3) Funded in NDSF.
2. Ship cost increase between FY2014 and FY2016 is to account for SOF requirements being backfitted (using other appropriations) on ESB 4 but included in SCN for ESB 5.

Exhibit P-27, Ship Production Schedule: PB 2017 Navy					**Date:** February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1			**P-1 Line Item Number / Title:** 3039 / Expeditionary Mobile Base (ESB)		
Ship	**Shipbuilder**	**Fiscal Year**	**Contract Award**	**Start of Construction**	**Delivery Date**
ESB 3	NASSCO	2012	Feb 2012	Feb 2013	Jun 2015
ESB 4	NASSCO	2014	Dec 2014	Nov 2015	Mar 2018
ESB 5 (1)	NASSCO	2016	Aug 2017	Jun 2018	Mar 2020

Footnotes:

(1) ESB 5 dates reflect an FY2017 ship and are under review following the congressional add in FY2016.

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	P-1 Line Item Number / Title: 3039 / Expeditionary Mobile Base (ESB)

Electronics	FY 2014 Qty (Each)	FY 2014 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
P-35 Items				
C4ISR	1	21.000	1	27.000
AVIATION ELECTRONICS	1	3.000	1	12.500
P-35 Items Subtotal		**24.000**		**39.500**
Total Electronics		**24.000**		**39.500**

Remarks:
Electronics cost Increase between FY2014 to FY2016 is to account for SOF requirements being backfitted (using other appropriations) on ESB 4 but included in SCN for ESB 5.)

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3039 / Expeditionary Mobile Base (ESB)
Equipment Item: C4ISR	**PARM Code:** N/A

P-35 Category	FY 2014 Qty (Each)	FY 2014 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
Major Hardware	1	12.390	1	16.135
Spares		1.470		1.855
System Engineering		4.410		5.565
Technical Engineering Services		0.840		1.060
Other Costs		1.890		2.385
Total	**1**	**21.000**	**1**	**27.000**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2014	ESB 4	Booz, Allen and Hamilton (BAH)	C/FFP	Aug 2015	Option	1	12.390
FY 2016	ESB 5	Booz, Allen and Hamilton (BAH)	C/FFP	Aug 2017	Option	1	16.135

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2014	ESB 4	Mar 2018	19	12	Aug 2015
FY 2016	ESB 5	Mar 2020	19	12	Aug 2017

Competition/Second Source Initiatives:

N/A

Remarks:

1) BAH is prime contractor with several other contractors. NSWC Panama City is the coordinating activity for the C4ISR system.
2) C4ISR: Cost for the ESB 5 includes the procurement, installation and testing of additional radios and antennas, satellite communication terminals, and network capabilities in support of the Special Operations Forces (SOF) capability. C4ISR cost increase between FY2104 to FY2016 is to account for SOF requirements being backfitted (using other appropriations) on ESB 4 but included in SCN for ESB 5.
3) ESB 5 dates reflect an FY 2017 ship and are under review following the congressional add in FY 2016.

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3039 / Expeditionary Mobile Base (ESB)
Equipment Item: AVIATION ELECTRONICS	**PARM Code:** N/A

P-35 Category	FY 2014 Qty (Each)	FY 2014 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
Major Hardware	1	1.018	1	4.242
Spares		0.036		0.150
System Engineering		0.109		0.454
Technical Engineering Services		0.861		3.587
Technical Data		0.028		0.116
Other Costs		0.948		3.951
Total	**1**	**3.000**	**1**	**12.500**

Description:

Consists of a Moriah wind measuring system to support helicopter operations, a Tactical Air Navigation System (TACAN) to provide a navigation beacon for aircraft, Advanced Stabilized Glide Slope Indicator (ASGSI) and Visual Landing Aids (VLA).

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2014	ESB 4	Various	Various	Aug 2015	Option	1	3.000
FY 2016	ESB 5	Various	Various	Aug 2017	Option	1	4.242

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2014	ESB 4	Mar 2018	17	14	Aug 2015
FY 2016	ESB 5	Mar 2020	17	14	Aug 2017

Competition/Second Source Initiatives:

N/A

Remarks:

1) AVIATION ELECTRONICS: Aviation navigation and landing system electronics.
2) Contract Data and Delivery Date information are estimated and provided based on planned execution.
3) Cost for the ESB 5 includes the procurement, installation and test infrastructure of antennas and control systems for the STUAS and Fire Scout UAV system in support of the Special Operations Forces (SOF) capability. Aviation Electronics cost increase between FY2014 to FY2016 is to account for SOF requirements being backfitted (using other appropriatons) on ESB 4 but included in SCN for ESB 5.
4) ESB 5 dates reflect an FY 2017 ship and are under review following the congressional add in FY 2016.

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Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 03: Amphibious Ships / BSA 1: Amphibious Ships	**P-1 Line Item Number / Title:** 3041 / LHA Replacement

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0604567N
Line Item MDAP/MAIS Code: 333		

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity *(Units in Each)*	2	-	-	1	-	1	-	-	-	-	-	3
Gross/Weapon System Cost *($ in Millions)*	6,416.900	-	-	3,807.172	-	3,807.172	-	-	-	-	-	10,224.072
Less PY Advance Procurement *($ in Millions)*	643.200	-	-	505.636	-	505.636	-	-	-	-	-	1,148.836
Less Cost To Complete *($ in Millions)*	208.500	-	-	-	-	-	-	-	-	-	-	208.500
Less Subsequent Year Full Funding *($ in Millions)*	3,294.500	-	-	1,678.512	-	1,678.512	-	-	-	-	-	4,973.012
Less Hurricane *($ in Millions)*	202.000	-	-	-	-	-	-	-	-	-	-	202.000
Net Procurement (P-1) *($ in Millions)*	2,068.700	-	-	1,623.024	-	1,623.024	-	-	-	-	-	3,691.724
Plus Subsequent Year Full Funding *($ in Millions)*	3,294.500	-	-	-	-	-	1,678.512	-	-	-	-	4,973.012
Full Funding TOA *($ in Millions)*	5,363.200	-	-	1,623.024	-	1,623.024	1,678.512	-	-	-	-	8,664.736
Plus CY Advance Procurement *($ in Millions)*	643.200	29.093	476.543	-	-	-	-	-	-	-	-	1,148.836
Plus Cost To Complete *($ in Millions)*	208.500	-	-	-	-	-	-	-	-	-	-	208.500
Plus Hurricane *($ in Millions)*	202.000	-	-	-	-	-	-	-	-	-	-	202.000
Total Obligation Authority *($ in Millions)*	**6,416.900**	**29.093**	**476.543**	**1,623.024**	**-**	**1,623.024**	**1,678.512**	**-**	**-**	**-**	**-**	**10,224.072**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Plus Outfitting and Post Delivery *($ in Millions)*	63.085	35.566	12.627	15.731	-	15.731	13.391	39.080	17.424	-	-	196.904
Total *($ in Millions)*	**6,479.985**	**64.659**	**489.170**	**1,638.755**	**-**	**1,638.755**	**1,691.903**	**39.080**	**17.424**	**-**	**-**	**10,420.976**
Gross/Weapon System Unit Cost *($ in Millions)*	3,208.450	-	-	3,807.172	-	3,807.172	-	-	-	-	-	3,408.024

Description:

The LHA(R) Program replaces the Tarawa Class (LHA 1) General Purpose Amphibious Assault Class Ships. The Tarawa Class Ships are reaching the end of their extended service lives. The LHA(R) class program ensures 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. Provides forward presence and power projection as an integral part of joint, interagency, and multinational maritime expeditionary forces. Operates 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.

LHA(R) Flight 0 is considered a transitional increment intended to increase the aviation capabilities of amphibious assault ships. The LHA (R) Flight 1 design continues the incremental development of amphibious assault ships by adding a well deck, and increasing flight deck capacity by reducing the footprint of the island and adding a sponson. LHA(R) Flight 0 consisted of two ships, LHA 6 and LHA 7. LHA(R) Flight 1 is the second increment in the LHA 6 Class with LHA 8 being the first ship of Flight 1.

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 03: Amphibious Ships / BSA 1: Amphibious Ships	**P-1 Line Item Number / Title:** 3041 / LHA Replacement
ID Code (A=Service Ready, B=Not Service Ready): A	**Program Elements for Code B Items:** N/A — **Other Related Program Elements:** 0604567N
Line Item MDAP/MAIS Code: 333	

Characteristics:	LHA 7	LHA 8
Length Overall	844ft	844ft
Beam	106ft	106ft
Displacement	45,594 tons	43,000 tons
Draft	29ft 1in	27ft 8in

Systems:

Electronics

-AN/SLQ-32(V), Surface Warfare Improvement Program (SEWIP)
-Command, Control, Communication, Computer Intelligence Surveillance and Reconnaissance (C4ISR)
-AN/USG-2, Cooperative Engagement Capability (CEC)
-MK 2 MOD 4E Ship Self Defense System (SSDS)
-USQ-82, Gigabit Ethernet Data Multiplex System (GEDMS)
-AN/USQ-T46(V), Battle Force Tactical Training (BFTT)
-Integrated Voice Network (IVN)
-AN/UPX-29(V), Identification Friend or Foe (IFF) MK12
-Hierarchical Yet Dynamically Reprogrammable Architecture (HYDRA) AN/SRC-55
-Amphibious Air Traffic Control Direct Attitude and Identity Readout (AATC-DAIR) AN/TPX-42
-Aircraft Approach Control Transmitting Set (AACTS) AN/SPN-41B
-Aircraft Control Approach Central AN/SPN-35C
-AN/SLQ-25C, Torpedo Countermeasures Transmitting Set (NIXIE)
-Joint Precision Approach and Landing System (JPALS)
-Ring Laser Gyro Navigator (RLGN) AN/WSN-7

Ordnance

-Enterprise Air Surveillance Radar (EASR)
-PHALANX Block 1B MK15 Mod 21 & 22, Close-in Weapon System (CIWS)
-MK31 Mod 3, Rolling Airframe Missile (RAM) (Tech Refresh)
-AN/SPQ-9B Radar Set
-NATO Sea Sparrow Missile System (NSSMS) MK 57 Mod 14
-Vertical/Stationary Take-Off Landing Optical Landing System (VSTOL OLS)

Production Status:	LHA 7	LHA 8
Contract Award Date	May 2012	Jun 2017
Months to Completion		
a) Award to Delivery	79 months	79 months
b) Construction Start to Delivery	65 months	62 months
Delivery Date	Dec 2018	Jan 2024
Completion Of Fitting Out	Sep 2019	Sep 2024
Obligation Work Limit Date	Aug 2020	Aug 2025

Design Schedule	Start / Issue	Complete / Response	Reissue	Reissue Complete / Response
Issue Date for TLR	N/A	N/A		

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy			Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 03: Amphibious Ships / BSA 1: Amphibious Ships		P-1 Line Item Number / Title: 3041 / LHA Replacement	
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0604567N	
Line Item MDAP/MAIS Code: 333			

Design Schedule	Start / Issue	Complete / Response	Reissue	Reissue Complete / Response
Issue Date for TLS	N/A	N/A		
Preliminary Design	Nov 2011	Mar 2013		
Contract Design	Mar 2013	Sep 2015		
Detail Design	Jun 2017	Aug 2025		
Request for Proposals	Jun 2015	Nov 2015		
Design Agent	TBD			

Classification of Cost Estimate: CLASS C

Exhibit P-5c, Ship Cost Analysis: PB 2017 Navy	**Date:** February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3041 / LHA Replacement

Cost Categories (†) indicates the presence of a P-8a	**FY 2011**		**FY 2017**	
	Qty *(Each)*	**Total Cost** *($ M)*	**Qty** *(Each)*	**Total Cost** *($ M)*
Plan Costs	1	60.084	1	300.000
Basic Construction/Conversion		2,498.975		2,759.430
Change Orders		121.628		137.735
Electronics (†)		265.868		307.552
Hull, Mechanical, and Electrical (HM&E) (†)		51.013		57.400
Ordnance (†)		115.610		145.500
Other Cost		98.971		99.555
Total Ship Estimate		**3,212.149**		**3,807.172**
Less Advance Procurement FY 2009		176.351		-
Less Advance Procurement FY 2010		169.476		-
Less Advance Procurement FY 2015		-		29.093
Less Advance Procurement FY 2016		-		476.543
Less Subsequent Full Funding FY 2012		1,928.692		-
Less Subsequent Full Funding FY 2018		-		1,678.512
Net P-1 Funding		**937.630**		**1,623.024**

Exhibit P-27, Ship Production Schedule: PB 2017 Navy					Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1			P-1 Line Item Number / Title: 3041 / LHA Replacement		
Ship	**Shipbuilder**	**Fiscal Year**	**Contract Award**	**Start of Construction**	**Delivery Date**
LHA 7	HII	2011	May 2012	Jul 2013	Dec 2018
LHA 8	TBD	2017	Jun 2017	Nov 2018	Jan 2024

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3041 / LHA Replacement

Electronics	FY 2017 Qty (Each)	FY 2017 Total Cost ($ M)
P-35 Items		
AN/SLQ-32(V), Surface Warfare Improvement Program (SEWIP)	1	15.513
Command, Control, Communication, Computer Intelligence Surveillance and Reconnaissance (C4ISR)	1	152.346
AN/USG-2, Cooperative Engagement Capability (CEC)	1	6.937
MK 2 MOD 4E Ship Self Defense System (SSDS)	1	26.185
USQ-82, Gigabit Ethernet Data Multiplex System (GEDMS)	1	6.525
AN/USQ-T46(V), Battle Force Tactical Training (BFTT)	1	4.002
Integrated Voice Network (IVN)	1	16.165
AN/UPX-29(V), Identification Friend or Foe (IFF) MK12	1	6.993
Hierarchical Yet Dynamically Reprogrammable Architecture (HYDRA) AN/SRC-55	1	7.503
Amphibious Air Traffic Control Direct Attitude and Identity Readout (AATC-DAIR) AN/TPX-42	1	5.729
Aircraft Approach Control Transmitting Set (AACTS) AN/SPN-41B	1	4.397
Aircraft Control Approach Central AN/SPN-35C	1	4.548
AN/SLQ-25C, Torpedo Countermeasures Transmitting Set (NIXIE)	2	6.211
Joint Precision Approach and Landing System (JPALS)	1	7.893
Ring Laser Gyro Navigator (RLGN) AN/WSN-7	1	6.002
P-35 Items Subtotal		**276.949**
Major Items		
AN/SPN-43C		2.955
Digital Photo Lab		1.870
Print Shop		1.539
Amphibious Assault Direction System (AADS)		1.949
SATCC		2.035
Next Generation Navigational Radar		1.173
MK 53 NULKA Decoy Launching System (DLS) Mod 3		1.725
Announcing Systems AN/SIA-127H		3.007
30 TV		1.263
Major Items Subtotal		**17.516**
Other Cost Elements		
Miscellaneous Electronics		13.087
Other Cost Elements Subtotal		**13.087**
Total Electronics		**307.552**

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3041 / LHA Replacement

Hull, Mechanical, and Electrical (HM&E)	FY 2017	
	Qty *(Each)*	Total Cost *($ M)*
Major Items		
Equipment & Engineering		45.058
SUPSHIP Material/Services		4.092
Test & Instrumentation		8.250
Major Items Subtotal		**57.400**
Total Hull, Mechanical, and Electrical (HM&E)		**57.400**

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3041 / LHA Replacement

Ordnance	FY 2017 Qty (Each)	FY 2017 Total Cost ($ M)
P-35 Items		
Enterprise Air Surveillance Radar (EASR)	1	24.213
PHALANX Block 1B MK15 Mod 21 & 22, Close-in Weapon System (CIWS)	1	14.431
MK31 Mod 3, Rolling Airframe Missile (RAM) (Tech Refresh)	2	15.743
AN/SPQ-9B Radar Set	1	10.909
NATO Sea Sparrow Missile System (NSSMS) MK 57 Mod 14	1	35.142
Vertical/Stationary Take-Off Landing Optical Landing System (VSTOL OLS)	1	13.824
P-35 Items Subtotal		**114.262**
Major Items		
AN/SPQ-14		2.537
MK 38 Mod 2 Stabilized Gun Stand Assembly	3	6.145
MORIAH		1.762
Major Items Subtotal		**10.444**
Other Cost Elements		
Aviation Support		7.745
Miscellaneous Ordnance		2.800
Total Ship Test Program		10.249
Other Cost Elements Subtotal		**20.794**
Total Ordnance		**145.500**

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3041 / LHA Replacement
Equipment Item: AN/SLQ-32(V), Surface Warfare Improvement Program (SEWIP)	**PARM Code:** PEO IWS2E

P-35 Category	FY 2017 Qty (Each)	FY 2017 Total Cost ($ M)
Major Hardware	1	13.421
Technical Data and Documentation		0.039
Spares		0.498
System Engineering		0.919
Technical Engineering Services		0.118
Other Costs		0.518
Total	**1**	**15.513**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2017	LHA 8	Various	Various	Oct 2019	New	1	13.421

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2017	LHA 8	Jan 2024	33	18	Oct 2019

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3041 / LHA Replacement
Equipment Item: Command, Control, Communication, Computer Intelligence Surveillance and Reconnaissance (C4ISR)	**PARM Code:** PEO C4I

P-35 Category	FY 2017 Qty (Each)	FY 2017 Total Cost ($ M)
Major Hardware	1	93.937
Technical Data and Documentation		0.965
Spares		2.319
System Engineering		14.809
Technical Engineering Services		23.962
Other Costs		16.354
Total	**1**	**152.346**

Description:

The Command, Control, Communication, Computer Intelligence Surveillance and Reconnaissance (C4ISR) system is used to prove the link between the ship, the command hierarchy, and other units of the operating forces.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2017	LHA 8	Various	Various	Oct 2017	Various	1	93.937

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2017	LHA 8	Jan 2024	0		Various

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3041 / LHA Replacement
Equipment Item: AN/USG-2, Cooperative Engagement Capability (CEC)	**PARM Code:** PEO IWS6.0

P-35 Category	FY 2017 Qty (Each)	FY 2017 Total Cost ($ M)
Major Hardware	1	5.377
Spares		0.215
System Engineering		0.605
Technical Engineering Services		0.325
Other Costs		0.415
Total	**1**	**6.937**

Description:

Cooperative Engagement Capability (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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2017	LHA 8	Various	C/FFP	Dec 2019	New	1	5.377

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2017	LHA 8	Jan 2024	31	18	Dec 2019

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3041 / LHA Replacement
Equipment Item: MK 2 MOD 4E Ship Self Defense System (SSDS)	**PARM Code:** PEO IWS1A5

P-35 Category	FY 2017 Qty (Each)	FY 2017 Total Cost ($ M)
Major Hardware	1	8.414
Technical Data and Documentation		1.483
Spares		0.808
System Engineering		5.590
Technical Engineering Services		0.468
Other Costs		9.422
Total	**1**	**26.185**

Description:

The Ship Self Defense System (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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2017	LHA 8	Various	C/FFP	Apr 2019	New	1	8.414

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2017	LHA 8	Jan 2024	33	24	Apr 2019

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3041 / LHA Replacement
Equipment Item: USQ-82, Gigabit Ethernet Data Multiplex System (GEDMS)	**PARM Code:** PEO SHIPS AM

P-35 Category	FY 2017 Qty (Each)	FY 2017 Total Cost ($ M)
Major Hardware	1	2.797
Technical Data and Documentation		0.190
Spares		0.158
System Engineering		0.995
Technical Engineering Services		0.450
Other Costs		1.935
Total	**1**	**6.525**

Description:

Gigabit Ethernet Data Multiplex System (GEDMS) is an upgrade to the Data Multiplex System (DMS) family of networks. 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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2017	LHA 8	Boeing/Argon & DR	C/FFP	Mar 2020	Option	1	1.690

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2017	LHA 8	Jan 2024	28	18	Mar 2020

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3041 / LHA Replacement
Equipment Item: AN/USQ-T46(V), Battle Force Tactical Training (BFTT)	**PARM Code:** PEO IWS1B

P-35 Category	FY 2017 Qty (Each)	FY 2017 Total Cost ($ M)
Major Hardware	1	1.668
Technical Data and Documentation		0.175
Spares		0.111
System Engineering		0.599
Technical Engineering Services		0.514
Other Costs		0.935
Total	**1**	**4.002**

Description:

Battle Force Tactical Training (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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2017	LHA 8	Various	C/FFP	Jan 2020	New	1	1.668

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2017	LHA 8	Jan 2024	33	15	Jan 2020

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3041 / LHA Replacement
Equipment Item: Integrated Voice Network (IVN)	**PARM Code:** SEA05H

P-35 Category	FY 2017 Qty (Each)	FY 2017 Total Cost ($ M)
Major Hardware	1	12.650
Technical Data and Documentation		0.500
System Engineering		0.760
Technical Engineering Services		1.570
Other Costs		0.685
Total	**1**	**16.165**

Description:

The Integrated Voice Communications Network (IVCN) is an overarching engineering approach to establish consistent engineering practices and integrated voice communication capabilities across the Fleet. IVN is a fully integrated, supportable communication voice solution.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2017	LHA 8	Various	C/FFP	Apr 2021	New	1	12.650

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2017	LHA 8	Jan 2024	50	6	May 2019

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3041 / LHA Replacement
Equipment Item: AN/UPX-29(V), Identification Friend or Foe (IFF) MK12	**PARM Code:** NAVAIR PMA213

P-35 Category	FY 2017 Qty (Each)	FY 2017 Total Cost ($ M)
Major Hardware	1	6.061
Spares		0.106
System Engineering		0.293
Technical Engineering Services		0.103
Other Costs		0.430
Total	**1**	**6.993**

Description:

Identification Friend or Foe (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, sectored, 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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2017	LHA 8	BAE Systems Greenlawn NY	Various	Apr 2019	New	1	6.061

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2017	LHA 8	Jan 2024	33	24	Apr 2019

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3041 / LHA Replacement
Equipment Item: Hierarchical Yet Dynamically Reprogrammable Architecture (HYDRA) AN/SRC-55	**PARM Code:** SEA05H

P-35 Category	FY 2017 Qty (Each)	FY 2017 Total Cost ($ M)
Major Hardware	1	4.542
Technical Data and Documentation		0.301
Spares		0.093
System Engineering		1.139
Technical Engineering Services		0.642
Other Costs		0.786
Total	**1**	**7.503**

Description:

AN/SRC-55 HYDRA is a Wireless Interior Communications System that provides wire free mobile communications throughout the ship. HYDRA supports security, navigation, combat systems, engineering, damage control, maintenance and general operations such as maneuvering and docking, shore patrol and beach guard. It is interoperable with other shipboard communication systems and it has improved capabilities over the legacy wireless systems.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2017	LHA 8	Various	Various	Feb 2021	New	1	4.542

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2017	LHA 8	Jan 2024	29	6	Feb 2021

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3041 / LHA Replacement
Equipment Item: Amphibious Air Traffic Control Direct Attitude and Identity Readout (AATC-DAIR) AN/TPX-42	**PARM Code:** NAVAIR PMA213

P-35 Category	FY 2017 Qty (Each)	FY 2017 Total Cost ($ M)
Major Hardware	1	4.246
Spares		0.208
System Engineering		0.506
Technical Engineering Services		0.056
Other Costs		0.713
Total	**1**	**5.729**

Description:

The Amphibious Air Traffic Control (AATC) Direct Attitude and Identity Readout (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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2017	LHA 8	Various	Various	Oct 2019	New	1	4.246

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2017	LHA 8	Jan 2024	27	24	Oct 2019

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3041 / LHA Replacement
Equipment Item: Aircraft Approach Control Transmitting Set (AACTS) AN/SPN-41B	**PARM Code:** NAVAIR PMA213

P-35 Category	FY 2017 Qty (Each)	FY 2017 Total Cost ($ M)
Major Hardware	1	3.381
System Engineering		0.622
Technical Engineering Services		0.063
Other Costs		0.331
Total	**1**	**4.397**

Description:

The AN/SPN-41 transmitting set is an electronic instrument control landing system that provides proper flight path data to an approaching aircraft. The AN/SPN-41 has two separate transmitters (azimuth and elevation) with
individual antennas used for sector scanning. It provides primary or backup instrument approach capability.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2017	LHA 8	Various	Various	Feb 2018	New	1	3.381

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2017	LHA 8	Jan 2024	32	39	Feb 2018

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3041 / LHA Replacement
Equipment Item: Aircraft Control Approach Central AN/SPN-35C	**PARM Code:** NAVAIR PMA213

P-35 Category	FY 2017 Qty (Each)	FY 2017 Total Cost ($ M)
Major Hardware	1	3.529
System Engineering		0.603
Technical Engineering Services		0.083
Other Costs		0.333
Total	**1**	**4.548**

Description:

The AN/SPN-35 is a precision approach radar that provides glide slope guidance to Navy and Marine Corps aircraft. The system is used in conjunction with a vertical/short take-off and landing, optical landing system and the AN/SPN-41 Instrument Control Landing System for precision landing operations. It is also used for aircraft recovery during adverse weather and night conditions.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2017	LHA 8	Various	Various	May 2018	New	1	3.529

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2017	LHA 8	Jan 2024	32	36	May 2018

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3041 / LHA Replacement
Equipment Item: AN/SLQ-25C, Torpedo Countermeasures Transmitting Set (NIXIE)	**PARM Code:** PMS415

P-35 Category	FY 2017 Qty (Each)	FY 2017 Total Cost ($ M)
Major Hardware	2	5.952
Technical Data and Documentation		0.050
Technical Engineering Services		0.185
Other Costs		0.024
Total	**2**	**6.211**

Description:

The Torpedo Countermeasures Transmitting Set AN/SLQ-25C, commonly referred to as Nixie, is a passive, electro-acoustic decoy system used to provide deceptive countermeasures against acoustic homing torpedoes. The AN/SLQ-25C employs an underwater acoustic projector housed in a streamlined body which is towed astern on a combination tow/signal-transfer coaxial cable.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2017	LHA 8	Various	SS/FFP	May 2019	New	2	2.976

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2017	LHA 8	Jan 2024	38	18	May 2019

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3041 / LHA Replacement
Equipment Item: Joint Precision Approach and Landing System (JPALS)	**PARM Code:** NAVAIR PMA213

P-35 Category	FY 2017 Qty (Each)	FY 2017 Total Cost ($ M)
Major Hardware	1	4.898
Spares		0.914
System Engineering		0.739
Technical Engineering Services		1.075
Other Costs		0.267
Total	**1**	**7.893**

Description:

The Joint Precision Approach Landing System (JPALS) works with the GPS satellite navigation system to provide accurate, reliable and high-integrity guidance for fixed- and rotary-wing aircraft. The system features anti-jam protection to ensure mission continuity in hostile environments. JPALS is a differential GPS that will provide an adverse weather precision approach and landing capability.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2017	LHA 8	Various	Various	Jul 2020	New	1	4.898

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2017	LHA 8	Jan 2024	33	12	Apr 2020

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	P-1 Line Item Number / Title: 3041 / LHA Replacement	
Equipment Item: Ring Laser Gyro Navigator (RLGN) AN/WSN-7		PARM Code: PEO IWS6.0

P-35 Category	FY 2017	
	Qty *(Each)*	Total Cost *($ M)*
Major Hardware	1	5.491
System Engineering		0.072
Technical Engineering Services		0.300
Other Costs		0.139
Total	**1**	**6.002**

Description:

The AN/WSN-7(V) Ring Laser Gyro Navigation System provides real-time navigation data for use by navigation and combat systems.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity *(Each)*	Unit Cost *($ M)*
FY 2017	LHA 8	Various	C/FFP	May 2018	New	1	5.491

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2017	LHA 8	Jan 2024	50	18	May 2018

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3041 / LHA Replacement
Equipment Item: Enterprise Air Surveillance Radar (EASR)	**PARM Code:** PEO IWS2.0

P-35 Category	FY 2017 Qty (Each)	FY 2017 Total Cost ($ M)
Major Hardware	1	17.978
Technical Data and Documentation		0.154
Spares		0.927
System Engineering		1.500
Technical Engineering Services		0.621
Other Costs		3.033
Total	**1**	**24.213**

Description:

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.

EASR serves as the replacement for the AN/SPN-48/49. The LHA 8 configuration includes a rotating antenna array, below decks radar and cooling equipment.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2017	LHA 8	Various	Various	May 2016	New	1	17.978

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2017	LHA 8	Jan 2024	32	60	May 2016

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3041 / LHA Replacement
Equipment Item: PHALANX Block 1B MK15 Mod 21 & 22, Close-in Weapon System (CIWS)	**PARM Code:** PEO IWS3.0

P-35 Category	FY 2017 Qty (Each)	FY 2017 Total Cost ($ M)
Major Hardware	1	11.627
Technical Data and Documentation		0.098
Spares		0.383
System Engineering		0.514
Technical Engineering Services		0.720
Other Costs		1.089
Total	**1**	**14.431**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2017	LHA 8	Various	C/FFP	Feb 2019	New	1	11.627

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2017	LHA 8	Jan 2024	33	26	Feb 2019

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3041 / LHA Replacement
Equipment Item: MK31 Mod 3, Rolling Airframe Missile (RAM) (Tech Refresh)	**PARM Code:** PEO IWS3B

P-35 Category	FY 2017 Qty (Each)	FY 2017 Total Cost ($ M)
Major Hardware	2	10.954
Technical Data and Documentation		0.663
Spares		0.103
System Engineering		2.145
Technical Engineering Services		0.083
Other Costs		1.795
Total	**2**	**15.743**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2017	LHA 8	Various	C/FFP	Feb 2019	New	2	5.477

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2017	LHA 8	Jan 2024	35	24	Feb 2019

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3041 / LHA Replacement
Equipment Item: AN/SPQ-9B Radar Set	**PARM Code:** PEO IWS2B

P-35 Category	FY 2017 Qty (Each)	FY 2017 Total Cost ($ M)
Major Hardware	1	8.890
Technical Data and Documentation		0.115
Spares		0.129
System Engineering		0.365
Technical Engineering Services		0.684
Other Costs		0.726
Total	**1**	**10.909**

Description:

The AN/SPQ-9B is an X-Band Horizon Search, pulse Doppler, frequency agile radar designed for the littoral environment. It has a very high clutter improvement factor supporting a very low false track rate in the littorals and in high clutter environments.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2017	LHA 8	Various	C/FFP	Apr 2019	New	1	8.890

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2017	LHA 8	Jan 2024	33	24	Apr 2019

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3041 / LHA Replacement
Equipment Item: NATO Sea Sparrow Missile System (NSSMS) MK 57 Mod 14	**PARM Code:** PEO IWS3.0

P-35 Category	FY 2017 Qty (Each)	FY 2017 Total Cost ($ M)
Major Hardware	1	23.744
Spares		1.437
System Engineering		1.486
Technical Engineering Services		3.336
Other Costs		5.139
Total	**1**	**35.142**

Description:

The NSSMS MK 57 is a short-range weapon system, which provides self-defense capability against air-to-surface missiles, surface-to-surface missiles, manned attack aircraft, and surface craft. The system is designed to provide these capabilities under both clear and adverse environmental conditions as well as in a hostile electronics attack environment. NSSMS MK 57 performs target engageability; and provides launcher control, missile control and missing firing orders.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2017	LHA 8	Various	C/FFP	Apr 2018	New	1	23.744

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2017	LHA 8	Jan 2024	33	36	Apr 2018

Competition/Second Source Initiatives:

N/A

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3041 / LHA Replacement
Equipment Item: Vertical/Stationary Take-Off Landing Optical Landing System (VSTOL OLS)	**PARM Code:** NAVAIR PMA251

P-35 Category	FY 2017 Qty (Each)	FY 2017 Total Cost ($ M)
Major Hardware	1	11.700
Technical Data and Documentation		0.150
Spares		0.413
System Engineering		0.319
Technical Engineering Services		0.781
Other Costs		0.461
Total	**1**	**13.824**

Description:

The Vertical/Stationary Take-Off Landing (VSTOL) Optical Landing System is a visual landing aid that displays glide path and trend information to the VSTOL pilot preparing to land on ship. The system can guide an aircraft to the ship from a distance of 0.8 nautical miles. The OLS guides the aircraft to 50 feet above the flight deck up to the final approach phase.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2017	LHA 8	Various	C/FFP	Apr 2018	New	1	11.700

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2017	LHA 8	Jan 2024	27	42	Apr 2018

Competition/Second Source Initiatives:

N/A

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Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 03: Amphibious Ships / BSA 1: Amphibious Ships	**P-1 Line Item Number / Title:** 3043 / Expeditionary Fast Transport (EPF)
ID Code (A=Service Ready, B=Not Service Ready): A	**Program Elements for Code B Items:** N/A — **Other Related Program Elements:** N/A
Line Item MDAP/MAIS Code: N/A	

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity *(Units in Each)*	6	1	1	-	-	-	-	-	-	-	-	8
Gross/Weapon System Cost *($ in Millions)*	1,160.148	202.500	225.000	-	-	-	-	-	-	-	-	1,587.648
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Less Cost To Complete *($ in Millions)*	66.341	2.500	-	-	-	-	-	-	-	-	-	68.841
Less Program Support *($ in Millions)*	2.732	-	-	-	-	-	-	-	-	-	-	2.732
Net Procurement (P-1) *($ in Millions)*	1,091.075	200.000	225.000	-	-	-	-	-	-	-	-	1,516.075
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Plus Cost To Complete *($ in Millions)*	7.600	14.000	26.235	13.255	-	13.255	7.751	-	-	-	-	68.841
Plus Program Support *($ in Millions)*	2.732	-	-	-	-	-	-	-	-	-	-	2.732
Total Obligation Authority *($ in Millions)*	**1,101.407**	**214.000**	**251.235**	**13.255**	**-**	**13.255**	**7.751**	**-**	**-**	**-**	**-**	**1,587.648**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Plus Outfitting and Post Delivery *($ in Millions)*	27.648	20.350	19.336	15.628	-	15.628	8.599	6.221	-	-	24.600	122.382
Total *($ in Millions)*	**1,129.055**	**234.350**	**270.571**	**28.883**	**-**	**28.883**	**16.350**	**6.221**	**-**	**-**	**24.600**	**1,710.030**
Gross/Weapon System Unit Cost *($ in Millions)*	193.358	202.500	225.000	-	-	-	-	-	-	-	-	198.456

Description:

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. Expeditionary Fast Transport (EPF) (formerly Joint High Speed Vessel) 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 EPF will be able to operate in austere port environments.

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 03: Amphibious Ships / BSA 1: Amphibious Ships	**P-1 Line Item Number / Title:** 3043 / Expeditionary Fast Transport (EPF)
ID Code (A=Service Ready, B=Not Service Ready): A	**Program Elements for Code B Items:** N/A — **Other Related Program Elements:** N/A
Line Item MDAP/MAIS Code: N/A	

Characteristics: **Aluminum Catamaran**

Length Overall	338 ft
Beam	93.5 ft
Displacement	2359 Long Tons
Draft	12.5 ft

Systems:
Electronics
-C4ISR

Production Status:	EPF 6	EPF 7	EPF 8	EPF 9	EPF 10	EPF 11	EPF 12 (1)
Contract Award Date	Jun 2011	Jun 2011	Feb 2012	Feb 2012	Dec 2012	Jun 2016	
Months to Completion							
a) Award to Delivery	55 months	61 months	59 months	65 months	61 months	27 months	
b) Construction Start to Delivery	24 months	22 months	21 months	20 months	19 months	20 months	
Delivery Date	Jan 2016	Jul 2016	Jan 2017	Jul 2017	Jan 2018	Sep 2018	
Completion Of Fitting Out	Apr 2016	Oct 2016	Apr 2017	Oct 2017	Apr 2018	Dec 2018	
Obligation Work Limit Date	Mar 2017	Sep 2017	Mar 2018	Sep 2018	Mar 2019	Nov 2019	

Design Schedule	Start / Issue	Complete / Response	Reissue	Reissue Complete / Response
Issue Date for TLR	N/A	N/A		
Issue Date for TLS	N/A	N/A		
Preliminary Design	Jan 2007	Jul 2008		
Contract Design	Jan 2007	Jul 2008		
Detail Design	Nov 2008	Dec 2009		
Request for Proposals	N/A	N/A		
Design Agent				

Classification of Cost Estimate: CLASS C

Footnotes:
(1) All EPF 12 dates: TBD

Exhibit P-5c, Ship Cost Analysis: PB 2017 Navy	**Date:** February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3043 / Expeditionary Fast Transport (EPF)

Cost Categories (†) indicates the presence of a P-8a	**FY 2011**		**FY 2012**		**FY 2013**		**FY 2015**		**FY 2016**	
	Qty *(Each)*	**Total Cost** *($ M)*	**Qty** *(Each)*	**Total Cost** *($ M)*	**Qty** *(Each)*	**Total Cost** *($ M)*	**Qty** *(Each)*	**Total Cost** *($ M)*	**Qty** *(Each)*	**Total Cost** *($ M)*
Plan Costs	2		2		1		1		1	
Basic Construction/Conversion		164.281		339.553		175.447		176.950		196.256
Change Orders		1.473		6.477		2.645		3.580		4.028
Electronics (†)		12.271		23.953		12.190		13.105		14.743
Hull, Mechanical, and Electrical (HM&E) (†)		3.739		12.429		6.624		4.408		4.959
Other Cost		4.204		11.027		6.568		4.457		5.014
Total Ship Estimate		**185.968**		**393.439**		**203.474**		**202.500**		**225.000**
Less Cost to Complete FY 2014		-		-		2.732		-		-
Less Cost to Complete FY 2015		9.340		2.620		2.040		-		-
Less Cost to Complete FY 2016		-		22.597		3.638		-		-
Less Cost to Complete FY 2017		-		6.710		6.545		-		-
Less Cost to Complete FY 2018		-		-		5.251		2.500		-
Net P-1 Funding		**176.628**		**361.512**		**183.268**		**200.000**		**225.000**

Exhibit P-27, Ship Production Schedule: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3043 / Expeditionary Fast Transport (EPF)

Ship	Shipbuilder	Fiscal Year	Contract Award	Start of Construction	Delivery Date
EPF 6	AUSTAL	2011	Jun 2011	Jan 2014	Jan 2016
EPF 7	AUSTAL	2011	Jun 2011	Sep 2014	Jul 2016
EPF 8	AUSTAL	2012	Feb 2012	Apr 2015	Jan 2017
EPF 9	AUSTAL	2012	Feb 2012	Nov 2015	Jul 2017
EPF 10	AUSTAL	2013	Dec 2012	Jun 2016	Jan 2018
EPF 11	AUSTAL	2015	Jun 2016	Jan 2017	Sep 2018
EPF 12 (1)	AUSTAL	2016			

Footnotes:

(1) All EPF 12 dates: TBD

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3043 / Expeditionary Fast Transport (EPF)

Electronics	FY 2015 Qty (Each)	FY 2015 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
P-35 Items				
C4ISR	1	9.889	1	11.125
P-35 Items Subtotal		**9.889**		**11.125**
Major Items				
VISUAL LANDING AIDE SUITE	1	2.539	1	2.856
MISC ELECTRONICS		0.677		0.762
Major Items Subtotal		**3.216**		**3.618**
Total Electronics		**13.105**		**14.743**

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3043 / Expeditionary Fast Transport (EPF)

Hull, Mechanical, and Electrical (HM&E)	FY 2015		FY 2016	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Major Items				
ENGINEERING SERVICES		2.469		2.778
SUPSHIP MATERIAL SERVICES		0.736		0.827
LOGISTICS SUPPORT SERVICES		0.485		0.546
TEST AND INSTRUMENTATION		0.718		0.808
Major Items Subtotal		**4.408**		**4.959**
Total Hull, Mechanical, and Electrical (HM&E)		**4.408**		**4.959**

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 03 / 1	**P-1 Line Item Number / Title:** 3043 / Expeditionary Fast Transport (EPF)
Equipment Item: C4ISR	**PARM Code:** 3Z (SPAWAR)

P-35 Category	FY 2015 Qty (Each)	FY 2015 Total Cost ($ M)	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
Major Hardware	1	5.960	1	6.705
Spares		0.570		0.640
System Engineering		1.902		2.140
Technical Engineering Services		0.652		0.734
Other Costs		0.805		0.906
Total	**1**	**9.889**	**1**	**11.125**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2015	EPF 11	Various	Various		Various	1	5.960
FY 2016	EPF 12	Various	Various		Various	1	6.705

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2015	EPF 11	Sep 2018	0		Various
FY 2016	EPF 12		0		Various

Competition/Second Source Initiatives:

N/A

Remarks:

Multiple systems comprise the C4ISR with varying delivery dates and leadtimes.

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Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 05: Auxiliaries, Craft, and Prior-Year Program Costs / BSA 1: Auxiliaries, Craft and Prior Yr Program Cost	**P-1 Line Item Number / Title:** 5025 / TAO Fleet Oiler

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity *(Units in Each)*	-	-	1	-	-	-	1	1	1	1	12	17
Gross/Weapon System Cost *($ in Millions)*	0.000	-	674.190	-	-	-	528.633	518.984	544.251	539.583	7,985.804	10,791.445
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	73.079	74.803	74.815	74.809	74.804	372.310
Net Procurement (P-1) *($ in Millions)*	0.000	-	674.190	-	-	-	455.554	444.181	469.436	464.774	7,911.000	10,419.135
Plus CY Advance Procurement *($ in Millions)*	-	-	-	73.079	-	73.079	74.803	74.815	74.809	74.804	-	372.310
Total Obligation Authority *($ in Millions)*	**0.000**	**-**	**674.190**	**73.079**	**-**	**73.079**	**530.357**	**518.996**	**544.245**	**539.578**	**7,911.000**	**10,791.445**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Plus Outfitting and Post Delivery *($ in Millions)*	-	-	-	-	-	-	-	6.257	15.046	15.342	438.451	475.096
Total *($ in Millions)*	**-**	**-**	**674.190**	**73.079**	**-**	**73.079**	**530.357**	**525.253**	**559.291**	**554.920**	**7,920.532**	**10,837.622**
Gross/Weapon System Unit Cost *($ in Millions)*	-	-	674.190	-	-	-	528.633	518.984	544.251	539.583	665.484	634.791

Description:

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.

Advance Procurement (AP) reflected in PB 2017 is requested as part of a block buy and AP acquisition strategy for hulls 2-6 that is estimated to yield savings of up to $45 million per ship.

Characteristics:

	Notional	
Length Overall	709 ft	
Beam	105 ft	
Displacement	21,755 tons	(Lightship)
Draft	34 ft	

Production Status:	T-AO(X) 1601
Contract Award Date	Jun 2016
Months to Completion	
a) Award to Delivery	50 months
b) Construction Start to Delivery	26 months
Delivery Date	Aug 2020
Completion Of Fitting Out	Oct 2020
Obligation Work Limit Date	Sep 2021

Design Schedule	Start / Issue	Complete / Response	Reissue	Reissue Complete / Response
Issue Date for TLR	N/A	N/A		

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 05: Auxiliaries, Craft, and Prior-Year Program Costs / BSA 1: Auxiliaries, Craft and Prior Yr Program Cost	**P-1 Line Item Number / Title:** 5025 / TAO Fleet Oiler	
ID Code (A=Service Ready, B=Not Service Ready): A	**Program Elements for Code B Items:** N/A	**Other Related Program Elements:** N/A
Line Item MDAP/MAIS Code: N/A		

Design Schedule	Start / Issue	Complete / Response	Reissue	Reissue Complete / Response
Issue Date for TLS	N/A	N/A		
Preliminary Design	N/A	N/A		
Contract Design	N/A	N/A		
Detail Design	Jun 2016	Jun 2018		
Request for Proposals	Jun 2015	Dec 2015		
Design Agent				

Classification of Cost Estimate:

Exhibit P-5c, Ship Cost Analysis: PB 2017 Navy		**Date:** February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1	**P-1 Line Item Number / Title:** 5025 / TAO Fleet Oiler	

Cost Categories (†) indicates the presence of a P-8a	**FY 2016**	
	Qty *(Each)*	**Total Cost** *($ M)*
Plan Costs	1	94.000
Basic Construction/Conversion		498.190
Change Orders		23.000
Electronics (†)		26.000
Hull, Mechanical, and Electrical (HM&E) (†)		30.000
Other Cost		3.000
Total Ship Estimate		**674.190**
Net P-1 Funding		**674.190**

Exhibit P-27, Ship Production Schedule: PB 2017 Navy				Date: February 2016	
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1		P-1 Line Item Number / Title: 5025 / TAO Fleet Oiler			
Ship	**Shipbuilder**	**Fiscal Year**	**Contract Award**	**Start of Construction**	**Delivery Date**
T-AO(X) 1601	TBD	2016	Jun 2016	Jun 2018	Aug 2020
T-AO(X) 1801	TBD	2018	Dec 2017	Dec 2018	Dec 2020
T-AO(X) 1901	TBD	2019	Dec 2018	Jun 2019	Jun 2021
T-AO(X) 2001	TBD	2020	Dec 2019	Jun 2020	Jun 2022
T-AO(X) 2101	TBD	2021	Dec 2020	Jun 2021	Jun 2023

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1	**P-1 Line Item Number / Title:** 5025 / TAO Fleet Oiler

Electronics	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
P-35 Items		
Radio Communication System (RCS) TURNKEY	1	8.278
P-35 Items Subtotal		**8.278**
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
Major Items Subtotal		**11.895**
Other Cost Elements		
MINOR SYSTEMS	1	5.827
Other Cost Elements Subtotal		**5.827**
Total Electronics		**26.000**

Exhibit P-8a, Analysis of Ship Cost Estimates: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1	**P-1 Line Item Number / Title:** 5025 / TAO Fleet Oiler

Hull, Mechanical, and Electrical (HM&E)	FY 2016	
	Qty *(Each)*	Total Cost *($ M)*
Major Items		
ENGINEERING SERVICES	1	24.000
SUPSHIP MATERIAL SERVICES	1	4.000
LOGISTICS SUPPORT SERVICES	1	2.000
Major Items Subtotal		**30.000**
Total Hull, Mechanical, and Electrical (HM&E)		**30.000**

Exhibit P-35, Major Ship Component Fact Sheet: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1	**P-1 Line Item Number / Title:** 5025 / TAO Fleet Oiler
Equipment Item: Radio Communication System (RCS) TURNKEY	**PARM Code:** N/A

P-35 Category	FY 2016 Qty (Each)	FY 2016 Total Cost ($ M)
Technical Engineering Services	1	3.535
Ship Installation		1.254
Program Management		3.489
Total	**1**	**8.278**

Description:

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.

Contract Data:

Program Year	Hull	Prime Contractor	Contract Method/Type	Award Date	New/Option	Quantity (Each)	Unit Cost ($ M)
FY 2016	T-AO(X) 1601	TBD	TBD	Jul 2018		1	3.535

Delivery Date:

Program Year	Hull	Earliest Ship Delivery Date	Months Required Before Delivery	Production Leadtime	Required Award Date
FY 2016	T-AO(X) 1601	Aug 2020	5	19	Aug 2018

Competition/Second Source Initiatives:

N/A

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Exhibit P-10, Advance Procurement Requirements Analysis (*page 1 - Budget Funding Justification*): PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1	**P-1 Line Item Number / Title:** 5025 / TAO Fleet Oiler

First System (2017) Award Date:	First System (2017) Completion Date:	Interval Between Systems:
January 2018	January 2021	12 Months

Cost Elements	Production Leadtime (Months)	When Required* (Months)	FY 2015 ($ M)	FY 2016 ($ M)	FY 2017 ($ M)	FY 2018 ($ M)	FY 2019 ($ M)	FY 2020 ($ M)	FY 2021 ($ M)
CFE									
Propulsion & Auxiliary, Machinery and Components	12	12	-	-	73.079	74.803	74.815	74.809	74.804
Total: CFE			-	-	*73.079*	*74.803*	*74.815*	*74.809*	*74.804*
Total Advance Procurement/Obligation Authority			**-**	**-**	**73.079**	**74.803**	**74.815**	**74.809**	**74.804**

*Note: "When Required" is the number of months required before ship delivery.

Exhibit P-10, Advance Procurement Requirements Analysis (*page 2 - Budget Funding Justification*): PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1	**P-1 Line Item Number / Title:** 5025 / TAO Fleet Oiler

Cost Elements	FY 2017						
	Production Leadtime *(Months)*	When Required* *(Months)*	Unit Cost *($ M)*	Contract Forecast Date	2017 Qty *(Each)*	For FY	Total Cost Request *($ M)*
CFE							
Propulsion & Auxiliary, Machinery and Components	12	12	73.079	Jan 2017	1	2018	73.079
Total: CFE							*73.079*
Total Advance Procurement/Obligation Authority							**73.079**

Description:
Funding is required to procure Contractor Furnished Equipment (CFE) Long Lead Time and Materials (LLTM). AP funding will be exercised each January, and if applicable, along with the Full Funding appropriated that fiscal year.

*Note: "When Required" is the number of months required before ship delivery.

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 05: Auxiliaries, Craft, and Prior-Year Program Costs / BSA 1: Auxiliaries, Craft and Prior Yr Program Cost	**P-1 Line Item Number / Title:** 5035 / TATS Fleet Ocean Tug

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity *(Units in Each)*	-	-	1	-	-	-	1	1	1	1	3	8
Gross/Weapon System Cost *($ in Millions)*	0.000	-	75.000	-	-	-	76.204	77.767	79.646	74.526	253.522	636.665
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	0.000	-	75.000	-	-	-	76.204	77.767	79.646	74.526	253.522	636.665
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**0.000**	**-**	**75.000**	**-**	**-**	**-**	**76.204**	**77.767**	**79.646**	**74.526**	**253.522**	**636.665**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Plus Outfitting and Post Delivery *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	71.800	71.800
Total *($ in Millions)*	**-**	**-**	**75.000**	**-**	**-**	**-**	**76.204**	**77.767**	**79.646**	**74.526**	**325.322**	**708.465**
Gross/Weapon System Unit Cost *($ in Millions)*	-	-	75.000	-	-	-	76.204	77.767	79.646	74.526	84.507	79.583

Description:

The Navy requires ocean-going towing, salvage, and rescue capabilities to support Fleet operations. The Navy's current capabilities are provided by four T-ATF 166 class Fleet Tugs and four T-ARS 50 class Salvage ships which reach the end of their expected service lives starting in 2020 and 2025, respectively. The T-ATS(X) program will recapitalize the current Fleet Tugs and Salvage Ships with a common hull Towing, Salvage and Rescue Ship (T-ATS(X)) that is capable of performing the missions of the retiring T-ATF and T-ARS classes.

Note:
The Department of Defense Appropriations Act, 2016 has provided funding to accelerate the program from the planned FY2017 lead craft award.

Characteristics:

	Notional
Length Overall	270 ft
Beam	59 ft
Displacement	5,000 tons
Draft	20 ft

Production Status:	**T-ATS(X) 1601**
Contract Award Date	Jun 2017
Months to Completion	
a) Award to Delivery	34 months
b) Construction Start to Delivery	22 months
Delivery Date	Apr 2020
Completion Of Fitting Out	May 2020
Obligation Work Limit Date	Apr 2021

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 05: Auxiliaries, Craft, and Prior-Year Program Costs / BSA 1: Auxiliaries, Craft and Prior Yr Program Cost	**P-1 Line Item Number / Title:** 5035 / TATS Fleet Ocean Tug	
ID Code (A=Service Ready, B=Not Service Ready): A	**Program Elements for Code B Items:** N/A	**Other Related Program Elements:** N/A
Line Item MDAP/MAIS Code: N/A		

Design Schedule	Start / Issue	Complete / Response	Reissue	Reissue Complete / Response
Issue Date for TLR	Dec 2015	Mar 2016		
Issue Date for TLS	N/A	N/A		
Preliminary Design	N/A	N/A		
Contract Design	N/A	N/A		
Detail Design	Jul 2017	Nov 2018		
Request for Proposals	Sep 2016	Dec 2016		
Design Agent				

Classification of Cost Estimate:

Exhibit P-5c, Ship Cost Analysis: PB 2017 Navy	**Date:** February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1	**P-1 Line Item Number / Title:** 5035 / TATS Fleet Ocean Tug

Cost Categories	FY 2016	
	Qty *(Each)*	Total Cost *($ M)*
Plan Costs	1	
Basic Construction/Conversion		60.148
Change Orders		3.000
Electronics		7.500
Hull, Mechanical, and Electrical (HM&E)		3.852
Other Cost		0.500
Total Ship Estimate		**75.000**
Net P-1 Funding		**75.000**

Exhibit P-27, Ship Production Schedule: PB 2017 Navy				Date: February 2016	
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1		P-1 Line Item Number / Title: 5035 / TATS Fleet Ocean Tug			
Ship	**Shipbuilder**	**Fiscal Year**	**Contract Award**	**Start of Construction**	**Delivery Date**
T-ATS(X) 1601	TBD	2016	Jun 2017	Jun 2018	Apr 2020
T-ATS(X) 1801	TBD	2018	Jan 2018	Dec 2018	Sep 2020
T-ATS(X) 1901	TBD	2019	Feb 2019	Aug 2019	Apr 2021
T-ATS(X) 2001	TBD	2020	Feb 2020	Aug 2020	Apr 2022
T-ATS(X) 2101	TBD	2021	Feb 2021	Aug 2021	Apr 2023

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 05: Auxiliaries, Craft, and Prior-Year Program Costs / BSA 1: Auxiliaries, Craft and Prior Yr Program Cost	**P-1 Line Item Number / Title:** 5092 / Moored Training Ship

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity *(Units in Each)*	-	1	-	1	-	1	-	-	-	-	-	2
Gross/Weapon System Cost *($ in Millions)*	0.000	1,322.021	-	864.315	-	864.315	-	-	-	-	-	2,186.336
Less PY Advance Procurement *($ in Millions)*	-	584.753	-	239.788	-	239.788	-	-	-	-	-	824.541
Net Procurement (P-1) *($ in Millions)*	0.000	737.268	-	624.527	-	624.527	-	-	-	-	-	1,361.795
Plus CY Advance Procurement *($ in Millions)*	621.953	64.388	138.200	-	-	-	-	-	-	-	-	824.541
Total Obligation Authority *($ in Millions)*	**621.953**	**801.656**	**138.200**	**624.527**	**-**	**624.527**	**-**	**-**	**-**	**-**	**-**	**2,186.336**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Plus Outfitting and Post Delivery *($ in Millions)*	-	-	-	14.810	-	14.810	9.773	4.965	-	-	-	29.548
Total *($ in Millions)*	**621.953**	**801.656**	**138.200**	**639.337**	**-**	**639.337**	**9.773**	**4.965**	**-**	**-**	**-**	**2,215.884**
Gross/Weapon System Unit Cost *($ in Millions)*	-	1,322.021	-	864.315	-	864.315	-	-	-	-	-	1,093.168

Description:

(1) The details of this program are classified CONFIDENTIAL and are reported annually to Congress in the classified budget justification books.

Characteristics:

	MTS-701	MTS-711
Length Overall	433 ft	433 ft
Beam	33 ft	33 ft
Displacement	7,500 LT	7,500 LT
Draft	27 ft	27 ft

Production Status:	MTS- 701 (1)	MTS- 711
Contract Award Date	Feb 2015	Jan 2017
Months to Completion		
a) Award to Delivery	32 months	32 months
b) Construction Start to Delivery	32 months	32 months
Delivery Date	Oct 2017	Sep 2019
Completion Of Fitting Out	Oct 2017	Sep 2019
Obligation Work Limit Date	Sep 2018	Aug 2020

Design Schedule	Start / Issue	Complete / Response	Reissue	Reissue Complete / Response
Issue Date for TLR	N/A	N/A		
Issue Date for TLS	Apr 2008	Jan 2015		
Preliminary Design	Jan 2012	N/A		
Contract Design	Feb 2012	N/A		

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 05: Auxiliaries, Craft, and Prior-Year Program Costs / BSA 1: Auxiliaries, Craft and Prior Yr Program Cost	**P-1 Line Item Number / Title:** 5092 / Moored Training Ship

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		

Design Schedule	Start / Issue	Complete / Response	Reissue	Reissue Complete / Response
Detail Design	Feb 2012	N/A		
Request for Proposals	N/A	N/A		
Design Agent	ELECTRIC BOAT			

Classification of Cost Estimate:

Footnotes:

(1) The details of this program are CONFIDENTIAL and are reported annually to Congress in the classified budget justification books.

Exhibit P-5c, Ship Cost Analysis: PB 2017 Navy				**Date:** February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1			**P-1 Line Item Number / Title:** 5092 / Moored Training Ship	

Cost Categories	FY 2015		FY 2017	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Design	1	482.400	1	46.449
Plans/Conversion		387.700		382.214
GFE		30.600		31.100
Basic Construction		421.321		404.552
Total Ship Estimate		**1,322.021**		**864.315**
Less Advance Procurement FY 2012		131.200		-
Less Advance Procurement FY 2013		283.453		-
Less Advance Procurement FY 2014		170.100		37.200
Less Advance Procurement FY 2015		-		64.388
Less Advance Procurement FY 2016		-		138.200
Net P-1 Funding		**737.268**		**624.527**

Exhibit P-27, Ship Production Schedule: PB 2017 Navy					Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1			P-1 Line Item Number / Title: 5092 / Moored Training Ship		
Ship	**Shipbuilder**	**Fiscal Year**	**Contract Award**	**Start of Construction**	**Delivery Date**
MTS- 701 (1)	EB/NNSY	2015	Feb 2015	Feb 2015	Oct 2017
MTS- 711	EB/NNSY	2017	Jan 2017	Jan 2017	Sep 2019

Footnotes:

(1) The details of this program are CONFIDENTIAL and are reported annually to Congress in the classified budget justification books.

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 05: Auxiliaries, Craft, and Prior-Year Program Costs / BSA 1: Auxiliaries, Craft and Prior Yr Program Cost	**P-1 Line Item Number / Title:** 5100 / LCU 1700
ID Code (A=Service Ready, B=Not Service Ready): A	**Program Elements for Code B Items:** N/A — **Other Related Program Elements:** N/A
Line Item MDAP/MAIS Code: N/A	

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity *(Units in Each)*	-	-	1	-	-	-	1	2	4	4	-	12
Gross/Weapon System Cost *($ in Millions)*	0.000	-	34.000	-	-	-	33.842	41.663	86.497	88.227	-	284.229
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	0.000	-	34.000	-	-	-	33.842	41.663	86.497	88.227	-	284.229
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**0.000**	**-**	**34.000**	**-**	**-**	**-**	**33.842**	**41.663**	**86.497**	**88.227**	**-**	**284.229**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Total *($ in Millions)*	**-**	**-**	**34.000**	**-**	**-**	**-**	**33.842**	**41.663**	**86.497**	**88.227**	**-**	**284.229**
Gross/Weapon System Unit Cost *($ in Millions)*	-	-	34.000	-	-	-	33.842	20.832	21.624	22.057	-	23.686

Description:

The Landing Craft Utility (LCU) 1700 program provides heavy lift capability to transport personnel, weapons, equipment and cargo from the ship to shore and shore to shore across the range of military operations (ROMO). LCU 1700 will be able to conduct 24 hours/day operations for up to 10 days for continuous landing of troops, equipment, and supplies; provide support for missions requiring persistence such as Riverine sustainment, surveillance or port clearing; and execute missions to reinforce, reposition, and resupply forces over a wide operating area.

LCU 1700 provides the functional replacement for the LCU 1610 class of landing craft, all of which have significantly exceeded their 25 year service life (the average age is over 45 years old).

The Department of Defense Appropriations Act, 2016 has provided funding to accelerate the program from the planned FY2018 award of the lead craft.

Note:
Notional Characteristics based on Government Preliminary Design

Characteristics:

	LCU
Length Overall	139 ft
Beam	31 ft
Displacement	428 Tons
Draft	7.3 ft

Production Status:	**LCU 1700**
Contract Award Date	Apr 2017
Months to Completion	
a) Award to Delivery	42 months
b) Construction Start to Delivery	24 months
Delivery Date	Oct 2020
Completion Of Fitting Out	Nov 2020
Obligation Work Limit Date	Oct 2021

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 05: Auxiliaries, Craft, and Prior-Year Program Costs / BSA 1: Auxiliaries, Craft and Prior Yr Program Cost	**P-1 Line Item Number / Title:** 5100 / LCU 1700

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		

Design Schedule	Start / Issue	Complete / Response	Reissue	Reissue Complete / Response
Issue Date for TLR	N/A	N/A		
Issue Date for TLS	N/A	N/A		
Preliminary Design	Mar 2014	May 2015		
Contract Design	N/A	N/A		
Detail Design	Apr 2017	Sep 2018		
Request for Proposals	Sep 2016	Jan 2017		
Design Agent				

Classification of Cost Estimate:

Exhibit P-5c, Ship Cost Analysis: PB 2017 Navy	**Date:** February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1	**P-1 Line Item Number / Title:** 5100 / LCU 1700

Cost Categories	FY 2016	
	Qty *(Each)*	**Total Cost** *($ M)*
Plan Costs	1	6.000
Basic Construction/Conversion		16.050
Change Orders		1.600
Electronics		3.890
Hull, Mechanical, and Electrical (HM&E)		3.360
Other Cost		3.100
Total Ship Estimate		**34.000**
Net P-1 Funding		**34.000**

Exhibit P-27, Ship Production Schedule: PB 2017 Navy				Date: February 2016	
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1		P-1 Line Item Number / Title: 5100 / LCU 1700			
Ship	**Shipbuilder**	**Fiscal Year**	**Contract Award**	**Start of Construction**	**Delivery Date**
LCU 1700	TBD	2016	Apr 2017	Oct 2018	Oct 2020
LCU 1701	TBD	2018			
LCU 1702	TBD	2019			
LCU 1703	TBD	2019			
LCU 1704	TBD	2020			
LCU 1705	TBD	2020			
LCU 1706	TBD	2020			
LCU 1707	TBD	2020			
LCU 1708	TBD	2021			
LCU 1709	TBD	2021			
LCU 1710	TBD	2021			
LCU 1711	TBD	2021			

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 05: Auxiliaries, Craft, and Prior-Year Program Costs / BSA 1: Auxiliaries, Craft and Prior Yr Program Cost	**P-1 Line Item Number / Title:** 5110 / Outfitting

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Full Funding TOA - Outfitting *($ in Millions)*	283.519	204.062	220.321	174.469	149.159	214.030	201.681	196.987	365.343	2,009.571
Full Funding TOA - Post Delivery *($ in Millions)*	223.326	265.116	388.314	486.701	426.334	368.683	371.384	360.945	345.937	3,236.740
Full Funding TOA - First Destination *($ in Millions)*	18.109	5.451	5.123	4.988	5.132	5.219	5.328	5.436	5.581	60.367
Total Obligation Authority *($ in Millions)*	**524.954**	**474.629**	**613.758**	**666.158**	**580.625**	**587.932**	**578.393**	**563.368**	**716.861**	**5,306.678**

Description:

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' completion of fitting out dates, some outfitting funding may be required in the fiscal year following the scheduled Delivery Date.

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's 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.

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.

Exhibit P-29, Outfitting: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1	**P-1 Line Item Number / Title:** 5110 / Outfitting

Ship Class	Hull Number	Program Year	Contract Award	Start of Const.	Delivery Date	CFO	PSA Start	PSA Finish	OWL Date	Prior Years	FY 2015	FY 2016	FY 2017	To Complete	Total
AGOR	27	2011	Oct 2011	Jun 2012	Sep 2015	Feb 2016	Jul 2016	Sep 2016	Jan 2017	2.328	-	-	-	-	2.328
AGOR	28	2012	Feb 2012	Jul 2012	Jul 2016	Jul 2016	May 2017	May 2017	Jun 2017	2.328	-	-	-	-	2.328
									AGOR Total	**4.656**	**-**	**-**	**-**	**-**	**4.656**
T-AGS	66	2007	Dec 2009	Sep 2010	Feb 2016	May 2016	Jan 2017	Feb 2017	Apr 2017	2.938	-	-	-	-	2.938
									T-AGS Total	**2.938**	**-**	**-**	**-**	**-**	**2.938**
EPF	3	2009	Jan 2010	Sep 2011	Mar 2014	Jun 2014	Jan 2015	Mar 2015	May 2015	3.646	-	-	-	-	3.646
EPF	4	2010	Oct 2010	May 2012	Sep 2014	Dec 2014	Jul 2015	Sep 2015	Nov 2015	3.601	-	-	-	-	3.601
EPF	5	2010	Oct 2010	Feb 2013	Apr 2015	Jul 2015	Jan 2016	Mar 2016	Jun 2016	3.583	0.250	-	-	-	3.833
EPF	6	2011	Jun 2011	Jan 2014	Jan 2016	Apr 2016	Jul 2016	Sep 2016	Mar 2017	3.629	3.909	-	-	-	7.538
EPF	7	2011	Jun 2011	Sep 2014	Jul 2016	Oct 2016	Apr 2017	Jun 2017	Sep 2017	1.213	3.340	0.316	-	-	4.869
EPF	8	2012	Feb 2012	Apr 2015	Jan 2017	Apr 2017	Oct 2017	Dec 2017	Mar 2018	-	0.406	4.125	-	-	4.531
EPF	9	2012	Feb 2012	Nov 2015	Jul 2017	Oct 2017	Apr 2018	Jun 2018	Sep 2018	-	-	3.555	0.716	-	4.271
EPF	10	2013	Dec 2012	Jun 2016	Jan 2018	Apr 2018	Oct 2018	Dec 2018	Mar 2019	-	-	-	4.188	-	4.188
EPF	11	2015	Jun 2016	Jan 2017	Sep 2018	Dec 2018	Jun 2019	Aug 2019	Nov 2019	-	-	-	-	4.700	4.700
									EPF Total	**15.672**	**7.905**	**7.996**	**4.904**	**4.700**	**41.177**
T-AO(X)	1601	2016	Jun 2016	Jun 2018	Aug 2020	Oct 2020	Jan 2021	Apr 2021	Sep 2021	-	-	-	-	15.942	15.942
T-AO(X)	1801	2018	Dec 2017	Dec 2018	Dec 2020	Feb 2021	May 2021	Jul 2021	Jun 2022	-	-	-	-	17.990	17.990
T-AO(X)	1901	2019	Dec 2018	Jun 2019	Jun 2021	Aug 2021	Nov 2021	Feb 2022	Jan 2023	-	-	-	-	17.990	17.990
									T-AO(X) Total	**-**	**-**	**-**	**-**	**24.740**	**51.922**
MTS	701	2015	Feb 2015	Feb 2015	Oct 2017	Oct 2017			Sep 2018	-	-	-	14.810	-	14.810
MTS	711	2017	Jan 2017	Jan 2017	Sep 2019	Sep 2019			Aug 2020	-	-	-	-	14.738	14.738
									MTS Total	**-**	**-**	**-**	**14.810**	**-**	**29.548**
LCAC SLEP	60	2012	Feb 2012	Jan 2013	Jan 2015	Feb 2015	May 2015	May 2015	Jan 2016	0.232	-	-	-	-	0.232
LCAC SLEP	88	2013	Sep 2013	Oct 2013	Apr 2015	May 2015	Aug 2015	Sep 2015	Apr 2016	0.243	-	-	-	-	0.243
LCAC SLEP	89	2013	Sep 2013	Feb 2014	Jun 2015	Jul 2015	Aug 2015	Sep 2015	Jun 2016	0.233	-	-	-	-	0.233
LCAC SLEP	81	2013	Jun 2014	Jul 2014	Sep 2015	Oct 2015	Feb 2016	Mar 2016	Sep 2016	0.225	-	-	-	-	0.225
LCAC SLEP	90	2013	Jun 2014	Nov 2014	Feb 2016	Mar 2016	Aug 2016	Sep 2016	Feb 2017	-	0.212	-	-	-	0.212
LCAC SLEP	78	2014	Jun 2014	Aug 2014	Jan 2016	Feb 2016	Apr 2016	May 2016	Jan 2017	0.227	-	-	-	-	0.227
LCAC SLEP	52	2014	Jun 2014	Mar 2015	Jun 2016	Jul 2016	Nov 2016	Dec 2016	Jun 2017	-	0.226	-	-	-	0.226
LCAC SLEP	83	2014	Jun 2014	Feb 2015	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Jun 2017	-	0.246	-	-	-	0.246
LCAC SLEP	57	2014	Jun 2014	Jul 2015	Oct 2016	Nov 2016	Mar 2017	Apr 2017	Oct 2017	-	-	0.130	-	-	0.130
LCAC SLEP	58	2015	Sep 2015	Dec 2015	Mar 2017	Apr 2017	Aug 2017	Sep 2017	Mar 2018	-	-	0.130	0.013	-	0.143
LCAC SLEP	84	2015	Sep 2015	Dec 2015	Mar 2017	Apr 2017	Jun 2017	Jul 2017	Mar 2018	-	-	0.129	0.013	-	0.142
LCAC SLEP	64	2016	Mar 2016	Jun 2016	Sep 2017	Oct 2017	Feb 2018	Mar 2018	Sep 2018	-	-	-	0.234	-	0.234
LCAC SLEP	85	2016	Mar 2016	Jun 2016	Sep 2017	Oct 2017	Dec 2017	Jan 2018	Sep 2018	-	-	-	0.234	-	0.234
LCAC SLEP	65	2016	Mar 2016	Oct 2016	Feb 2018	Mar 2018	Jun 2018	Jul 2018	Feb 2019	-	-	-	0.156	0.078	0.234
LCAC SLEP	76	2016	Mar 2016	Feb 2017	May 2018	Jun 2018	Oct 2018	Nov 2018	May 2019	-	-	-	0.210	0.028	0.238
LCAC SLEP	14	2017	Feb 2017	Jun 2017	Sep 2018	Oct 2018	Feb 2019	Mar 2019	Sep 2019	-	-	-	-	0.238	0.238
LCAC SLEP	86	2017	Feb 2017	Jun 2017	Sep 2018	Oct 2018	Dec 2018	Jan 2019	Sep 2019	-	-	-	-	0.238	0.238

Exhibit P-29, Outfitting: PB 2017 Navy | **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
1611N / 05 / 1

P-1 Line Item Number / Title:
5110 / Outfitting

Ship Class	Hull Number	Program Year	Contract Award	Start of Const.	Delivery Date	CFO	PSA Start	PSA Finish	OWL Date	Prior Years	FY 2015	FY 2016	FY 2017	To Complete	Total
LCAC SLEP	87	2017	Feb 2017	Oct 2017	Jan 2019	Feb 2019	Apr 2019	May 2019	Jan 2020	-	-	-	-	0.238	0.238
LCAC SLEP	77	2017	Feb 2017	Feb 2018	May 2019	Jun 2019	Aug 2019	Sep 2019	May 2020	-	-	-	-	0.238	0.238
									LCAC SLEP Total	**1.160**	**0.684**	**0.389**	**0.860**	**-**	**4.151**
ESB	4	2014	Dec 2014	Nov 2015	Mar 2018	Jun 2018	Mar 2019	May 2019	May 2019	-	-	-	18.030	2.033	20.063
ESB	5	2016	Aug 2017	Jun 2018	Mar 2020	Jun 2020	Jan 2021	Mar 2021	May 2021	-	-	-	-	22.815	22.815
									ESB Total	**-**	**-**	**-**	**18.030**	**-**	**42.878**
LCAC	101	2015	Dec 2012	Jan 2015	Aug 2017	Aug 2017	Oct 2017	Dec 2017	Jul 2018	-	-	-	-	0.614	0.614
LCAC	102	2015	Mar 2015	Mar 2016	Jan 2019	Jan 2019	Mar 2019	May 2019	Dec 2019	-	-	-	-	0.615	0.615
LCAC	103	2015	Mar 2015	Sep 2016	Jun 2019	Jun 2019	Aug 2019	Oct 2019	May 2020	-	-	-	-	0.615	0.615
LCAC	104	2016	Mar 2016	Mar 2017	Dec 2019	Dec 2019	Jan 2020	Mar 2020	Oct 2020	-	-	-	-	0.726	0.726
LCAC	105	2016	Mar 2016	Jun 2017	Jan 2020	Jan 2020	Mar 2020	May 2020	Dec 2020	-	-	-	-	0.726	0.726
LCAC	106	2016	Mar 2016	Sep 2017	Mar 2020	Mar 2020	May 2020	Jul 2020	Feb 2021	-	-	-	-	0.727	0.727
LCAC	107	2016	Mar 2016	Dec 2017	May 2020	May 2020	Jul 2020	Sep 2020	Apr 2021	-	-	-	-	0.727	0.727
LCAC	108	2017	Mar 2017	Mar 2018	Jul 2020	Jul 2020	Sep 2020	Nov 2020	Jun 2021	-	-	-	-	0.727	0.727
LCAC	109	2017	Mar 2017	Sep 2018	Dec 2020	Dec 2020	Feb 2021	Apr 2021	Nov 2021	-	-	-	-	0.727	0.727
LCAC	110	2018	Mar 2018	Mar 2019	May 2021	May 2021	Jul 2021	Sep 2021	Apr 2022	-	-	-	-	0.727	0.727
LCAC	111	2018	Mar 2018	May 2019	Jun 2021	Jun 2021	Aug 2021	Oct 2021	May 2022	-	-	-	-	0.727	0.727
LCAC	112	2018	Mar 2018	Jul 2019	Jul 2021	Jul 2021	Sep 2021	Nov 2021	Jun 2022	-	-	-	-	0.805	0.805
LCAC	113	2018	Mar 2018	Sep 2019	Aug 2021	Aug 2021	Oct 2021	Dec 2021	Jul 2022	-	-	-	-	0.805	0.805
LCAC	114	2018	Mar 2018	Nov 2019	Sep 2021	Sep 2021	Nov 2021	Jan 2022	Aug 2022	-	-	-	-	0.805	0.805
LCAC	115	2018	Mar 2018	Jan 2020	Oct 2021	Oct 2021	Dec 2021	Feb 2022	Sep 2022	-	-	-	-	0.805	0.805
LCAC	116	2019	Mar 2019	Mar 2020	Nov 2021	Nov 2021	Jan 2022	Mar 2022	Oct 2022	-	-	-	-	0.805	0.805
LCAC	117	2019	Mar 2019	May 2020	Nov 2021	Nov 2021	Dec 2021	Feb 2022	Oct 2022	-	-	-	-	0.805	0.805
LCAC	118	2019	Mar 2019	Jun 2020	Jan 2022	Jan 2022	Feb 2022	Apr 2022	Dec 2022	-	-	-	-	0.805	0.805
LCAC	119	2019	Mar 2019	Jul 2020	Jan 2022	Jan 2022	Feb 2022	Apr 2022	Dec 2022	-	-	-	-	0.805	0.805
LCAC	120	2019	Mar 2019	Aug 2020	Feb 2022	Feb 2022	Apr 2022	Jun 2022	Jan 2023	-	-	-	-	0.805	0.805
LCAC	121	2019	Mar 2019	Sep 2020	Mar 2022	Mar 2022	May 2022	Jul 2022	Feb 2023	-	-	-	-	0.805	0.805
LCAC	122	2019	Mar 2019	Nov 2020	May 2022	May 2022	Jun 2022	Aug 2022	Apr 2023	-	-	-	-	0.806	0.806
LCAC	123	2019	Mar 2019	Dec 2020	Jun 2022	Jun 2022	Jul 2022	Sep 2022	May 2023	-	-	-	-	0.817	0.817
LCAC	124	2019	Mar 2019	Jan 2021	Jul 2022	Jul 2022	Aug 2022	Oct 2022	Jun 2023	-	-	-	-	0.817	0.817
LCAC	125	2019	Mar 2019	Feb 2021	Aug 2022	Aug 2022	Oct 2022	Nov 2022	Jul 2023	-	-	-	-	0.817	0.817
LCAC	126	2020	Mar 2020	Mar 2021	Oct 2022	Oct 2022	Nov 2022	Jan 2023	Aug 2023	-	-	-	-	0.817	0.817
LCAC	127	2020	Mar 2020	Apr 2021	Oct 2022	Oct 2022	Dec 2022	Feb 2023	Sep 2023	-	-	-	-	0.817	0.817
LCAC	128	2020	Mar 2020	May 2021	Nov 2022	Nov 2022	Jan 2023	Mar 2023	Oct 2023	-	-	-	-	0.818	0.818
LCAC	129	2020	Mar 2020	Jun 2021	Dec 2022	Dec 2022	Feb 2023	Apr 2023	Nov 2023	-	-	-	-	0.818	0.818
LCAC	130	2020	Mar 2020	Jul 2021	Jan 2023	Jan 2023	Mar 2023	May 2023	Dec 2023	-	-	-	-	0.818	0.818
LCAC	131	2020	Mar 2020	Aug 2021	Mar 2023	Mar 2023	Apr 2023	Jun 2023	Jan 2024	-	-	-	-	0.818	0.818
LCAC	132	2020	Mar 2020	Sep 2021	Mar 2023	Mar 2023	May 2023	Jul 2023	Feb 2024	-	-	-	-	0.818	0.818
LCAC	133	2020	Mar 2020	Oct 2021	Apr 2023	Apr 2023	Jun 2023	Aug 2023	Mar 2024	-	-	-	-	0.818	0.818

Exhibit P-29, Outfitting: PB 2017 Navy | **Date:** February 2016

Appropriation / Budget Activity / Budget Sub Activity:
1611N / 05 / 1

P-1 Line Item Number / Title:
5110 / Outfitting

Ship Class	Hull Number	Program Year	Contract Award	Start of Const.	Delivery Date	CFO	PSA Start	PSA Finish	OWL Date	Prior Years	FY 2015	FY 2016	FY 2017	To Complete	Total
									LCAC Total	**-**	**-**	**-**	**-**	**-**	**25.507**
LHA	7	2011	May 2012	Jul 2013	Dec 2018	Sep 2019	Feb 2020	Jun 2020	Aug 2020	0.213	-	12.627	15.731	20.339	48.910
									LHA Total	**0.213**	**-**	**12.627**	**15.731**	**-**	**48.910**
LPD	25	2008	Dec 2007	Apr 2008	Oct 2013	Jun 2014	Jan 2015	Jun 2015	Jun 2015	23.475	1.162	-	-	-	24.637
LPD	26	2009	Apr 2011	May 2011	May 2016	Dec 2016	May 2017	Oct 2017	Nov 2017	6.212	8.823	17.538	-	-	32.573
LPD	27	2012	Jul 2012	Aug 2012	Jul 2017	Feb 2018	Aug 2018	Dec 2018	Jan 2019	-	-	5.021	14.305	6.124	25.450
									LPD Total	**29.687**	**9.985**	**22.559**	**14.305**	**6.124**	**82.660**
DDG	113	2010	Jun 2011	Aug 2012	Sep 2016	Jan 2017	Jul 2017	Nov 2017	Dec 2017	0.665	7.993	15.389	-	-	24.047
DDG	115	2011	Sep 2011	Feb 2012	Oct 2016	Feb 2017	Aug 2017	Dec 2017	Jan 2018	0.625	0.395	14.798	-	-	15.818
DDG	114	2011	Sep 2011	Sep 2013	Apr 2017	Aug 2017	Mar 2018	Jul 2018	Jul 2018	-	0.132	4.164	14.086	-	18.382
DDG	116	2012	Feb 2012	Feb 2013	Aug 2017	Dec 2017	Jul 2018	Nov 2018	Nov 2018	-	-	4.164	14.119	-	18.283
DDG	117	2013	Jun 2013	Sep 2014	Jan 2018	May 2018	Jan 2019	Apr 2019	Apr 2019	-	-	0.496	5.462	13.276	19.234
DDG	118	2013	Jun 2013	Aug 2015	May 2019	Sep 2019	Apr 2020	Jul 2020	Aug 2020	-	-	-	0.465	19.166	19.631
DDG	120	2013	Mar 2014	Jan 2016	Jan 2020	Jun 2020	Jan 2021	Apr 2021	May 2021	-	-	-	-	19.961	19.961
DDG	119	2014	Jun 2013	Jul 2015	Oct 2018	Feb 2019	Sep 2019	Dec 2019	Jan 2020	-	-	-	0.465	19.248	19.713
DDG	121	2015	Jun 2013	Jun 2017	Jul 2020	Nov 2020	Jul 2021	Oct 2021	Oct 2021	-	-	-	-	20.028	20.028
DDG	122	2015	Jun 2013	Nov 2016	Jul 2020	Nov 2020	Jul 2021	Oct 2021	Oct 2021	-	-	-	-	20.028	20.028
DDG	123	2016	Jun 2013	Jun 2018	Jul 2021	Nov 2021	Jul 2022	Oct 2022	Oct 2022	-	-	-	-	20.520	20.520
DDG	124	2016	Jun 2013	Sep 2017	Jul 2021	Nov 2021	Jul 2022	Oct 2022	Oct 2022	-	-	-	-	23.520	23.520
DDG	125	2017	Jun 2013	Jun 2019	Jul 2022	Nov 2022	Jul 2023	Oct 2023	Oct 2023	-	-	-	-	20.921	20.921
DDG	126	2017	Jun 2013	Jul 2018	Jul 2022	Nov 2022	Jul 2023	Oct 2023	Oct 2023	-	-	-	-	20.921	20.921
DDG	127	2018	Jun 2018	Jul 2019	Jul 2023	Nov 2023	Jul 2024	Oct 2024	Oct 2024	-	-	-	-	22.359	22.359
DDG	128	2018	Jun 2018	Jul 2019	Jul 2023	Nov 2023	Jul 2024	Oct 2024	Oct 2024	-	-	-	-	22.359	22.359
									DDG Total	**1.290**	**8.520**	**39.011**	**34.597**	**66.292**	**325.725**
DDG 1000	1000	2007	Feb 2008	Feb 2009	Apr 2016	Jan 2018	Aug 2018	Nov 2018	Dec 2018	28.675	14.588	-	-	-	43.263
DDG 1000	1001	2007	Sep 2011	Mar 2010	Mar 2017	Dec 2018	Aug 2019	Nov 2019	Nov 2019	2.031	11.081	4.525	7.137	10.000	34.774
DDG 1000	1002	2009	Sep 2011	Apr 2012	Aug 2019	Jun 2021	Feb 2022	May 2022	May 2022	0.029	-	-	-	39.695	39.724
									DDG 1000 Total	**30.735**	**25.669**	**4.525**	**7.137**	**10.000**	**117.761**
YP SLEP	688	2016	Mar 2016	Jun 2016	Apr 2017	Jul 2017			Jun 2018	-	-	0.048	-	-	0.048
YP SLEP	695	2016	Sep 2016	Dec 2016	Jun 2017	Sep 2017			Aug 2018	-	-	0.049	-	-	0.049
YP SLEP	689	2016	Sep 2016	Mar 2017	Sep 2017	Dec 2017			Nov 2018	-	-	-	0.046	-	0.046
YP SLEP	686	2016	Mar 2016	Apr 2017	Dec 2017	Mar 2018			Feb 2019	-	-	0.049	-	-	0.049
YP SLEP	692	2016	Mar 2016	Oct 2017	Apr 2018	Jul 2018			Jun 2019	-	-	-	0.046	-	0.046
YP SLEP	694	2016	Mar 2016	Feb 2018	Aug 2018	Nov 2018			Oct 2019	-	-	-	0.047	-	0.047
YP SLEP	690	2017	Jan 2017	Jun 2017	Dec 2017	Mar 2018			Feb 2019	-	-	-	0.047	-	0.047
YP SLEP	683	2017	Jan 2017	Sep 2017	Mar 2018	Jun 2018			May 2019	-	-	-	0.047	-	0.047
YP SLEP	684	2017	Jan 2017	Dec 2017	Jun 2018	Sep 2018			Aug 2019	-	-	-	-	0.048	0.048
YP SLEP	691	2017	Jan 2017	Mar 2018	Sep 2018	Dec 2018			Nov 2019	-	-	-	-	0.049	0.049
YP SLEP	698	2017	Jan 2017	Jun 2018	Dec 2018	Mar 2018			Feb 2019	-	-	-	0.047	-	0.047

Exhibit P-29, Outfitting: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1	**P-1 Line Item Number / Title:** 5110 / Outfitting

Ship Class	Hull Number	Program Year	Contract Award	Start of Const.	Delivery Date	CFO	PSA Start	PSA Finish	OWL Date	Prior Years	FY 2015	FY 2016	FY 2017	To Complete	Total
YP SLEP	700	2017	Jan 2017	Jun 2018	Dec 2018	Mar 2018			Feb 2019	-	-	-	-	0.048	0.048
									YP SLEP Total	**-**	**-**	**0.146**	**0.280**	**-**	**0.571**
LCS	4	2009	May 2009	Oct 2009	Sep 2013	Jan 2014	Jul 2014	Dec 2014	Dec 2014	9.747	0.351	-	-	-	10.098
LCS	6	2010	Dec 2010	Aug 2011	Aug 2015	Nov 2015	May 2016	Sep 2016	Oct 2016	5.176	0.262	-	-	-	5.438
LCS	5	2010	Dec 2010	Aug 2011	Oct 2015	Nov 2015	May 2016	Sep 2016	Oct 2016	6.886	1.262	-	-	-	8.148
LCS	8	2011	Mar 2011	Jul 2012	May 2016	Aug 2016	Feb 2017	May 2017	Jul 2017	2.984	6.791	0.589	-	-	10.364
LCS	7	2011	Mar 2011	Apr 2012	Jun 2016	Aug 2016	Dec 2016	Mar 2017	Jul 2017	4.220	4.260	-	-	-	8.480
LCS	10	2012	Mar 2012	Mar 2013	Sep 2016	Dec 2016	Jul 2017	Nov 2017	Nov 2017	1.594	1.179	2.856	-	-	5.629
LCS	9	2012	Mar 2012	Jan 2013	Sep 2016	Dec 2016	Jul 2017	Oct 2017	Nov 2017	2.310	3.796	1.324	-	-	7.430
LCS	12	2012	Mar 2012	Sep 2013	Jan 2017	May 2017	Dec 2017	Mar 2018	Apr 2018	0.963	0.604	6.808	0.839	-	9.214
LCS	11	2012	Mar 2012	Aug 2013	Feb 2017	Jun 2017	Dec 2017	Mar 2018	May 2018	2.020	0.293	5.825	-	-	8.138
LCS	14	2013	Mar 2013	Feb 2014	Mar 2017	Sep 2017	Apr 2018	Jul 2018	Aug 2018	-	1.055	5.361	2.382	-	8.798
LCS	13	2013	Mar 2013	Feb 2014	Jul 2017	Nov 2017	Jun 2018	Oct 2018	Oct 2018	-	2.048	5.120	2.578	-	9.746
LCS	16	2013	Mar 2013	Sep 2014	Oct 2017	Feb 2018	Sep 2018	Jan 2019	Jan 2019	-	-	5.428	2.561	0.611	8.600
LCS	15	2013	Mar 2013	Dec 2014	Feb 2018	Jun 2018	Dec 2018	Mar 2019	May 2019	-	1.991	2.542	4.431	1.000	9.964
LCS	18	2014	Mar 2014	Mar 2015	May 2018	Aug 2018	Apr 2019	Jul 2019	Aug 2019	-	-	-	1.827	6.463	8.290
LCS	17	2014	Mar 2014	Aug 2015	Jul 2018	Nov 2018	Jun 2019	Oct 2019	Oct 2019	-	-	-	1.827	6.463	8.290
LCS	19	2014	Mar 2014	Feb 2016	Nov 2018	Mar 2019	Oct 2019	Jan 2020	Feb 2020	-	-	-	0.810	7.479	8.289
LCS	20	2014	Mar 2014	Feb 2016	Nov 2018	Mar 2019	Oct 2019	Jan 2020	Feb 2020	-	-	-	0.810	7.479	8.289
LCS	22	2015	Mar 2015	May 2016	Jun 2019	Oct 2019	May 2020	Aug 2020	Sep 2020	-	-	-	-	8.371	8.371
LCS	21	2015	Mar 2015	Jun 2016	Jul 2019	Nov 2019	Jun 2020	Oct 2020	Oct 2020	-	-	-	-	8.371	8.371
LCS	24	2015	Mar 2015	Nov 2016	Feb 2020	Jun 2020	Jan 2021	May 2021	May 2021	-	-	-	-	8.371	8.371
LCS	23	2016	Nov 2015	Dec 2016	Nov 2019	Mar 2020	Oct 2020	Jan 2021	Feb 2021	-	-	-	-	8.634	8.634
LCS	25	2016	Mar 2016	Mar 2017	Nov 2020	Jan 2021	Aug 2021	Nov 2021	Dec 2021	-	-	-	-	8.635	8.635
LCS	26	2016	Mar 2016	Aug 2017	Nov 2020	Jan 2021	Aug 2021	Nov 2021	Dec 2021	-	-	-	-	8.635	8.635
LCS	27	2017	Mar 2017	Feb 2018	May 2021	Sep 2021	Apr 2022	Jul 2022	Aug 2022	-	-	-	-	8.823	8.823
LCS	28	2017	Mar 2017	Mar 2018	May 2021	Sep 2021	Apr 2022	Jul 2022	Aug 2022	-	-	-	-	8.823	8.823
LCS	29	2018	Mar 2018	Feb 2019	May 2022	Sep 2022	Apr 2023	Jul 2023	Aug 2023	-	-	-	-	8.823	8.823
									LCS Total	**35.900**	**23.892**	**35.853**	**18.065**	**2.791**	**220.691**
VIRGINIA	783	2008	Jan 2004	Feb 2008	Jun 2013	Jun 2013	Feb 2014	Jun 2015	Feb 2016	12.030	0.311	-	-	-	12.341
VIRGINIA	784	2009	Dec 2008	Mar 2009	Aug 2014	Aug 2014	Jun 2015	Jul 2015	Aug 2016	16.943	0.117	-	-	-	17.060
VIRGINIA	785	2010	Dec 2008	Mar 2010	Jun 2015	Jun 2015	Mar 2016	May 2016	May 2016	17.658	0.884	-	-	-	18.542
VIRGINIA	786	2011	Dec 2008	Mar 2011	Feb 2016	Feb 2016	Jul 2016	Dec 2016	Jan 2017	15.831	0.890	-	-	-	16.721
VIRGINIA	787	2011	Dec 2008	Sep 2011	Jun 2016	Jun 2016	Apr 2017	Aug 2017	Aug 2017	12.350	2.793	6.000	-	-	21.143
VIRGINIA	788	2012	Dec 2008	Mar 2012	Nov 2016	Nov 2016	May 2017	Aug 2017	Oct 2017	0.311	14.305	5.654	-	-	20.270
VIRGINIA	789	2012	Dec 2008	Sep 2012	Jun 2017	Jun 2017	Jan 2018	Apr 2018	May 2018	-	11.664	10.751	-	-	22.415
VIRGINIA	790	2013	Dec 2008	Mar 2013	Nov 2017	Nov 2017	Mar 2018	Oct 2018	Oct 2018	-	-	10.420	13.758	-	24.178
VIRGINIA	791	2013	Dec 2008	Sep 2013	Jun 2018	Jun 2018	Nov 2018	Mar 2019	May 2019	-	-	3.612	14.331	2.768	20.711
VIRGINIA	792	2014	Apr 2014	May 2014	Jun 2019	Jun 2019	Aug 2019	Dec 2019	May 2020	-	-	-	3.666	19.284	22.950

Exhibit P-29, Outfitting: PB 2017 Navy										**Date:** February 2016					
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1							**P-1 Line Item Number / Title:** 5110 / Outfitting								
Ship Class	**Hull Number**	**Program Year**	**Contract Award**	**Start of Const.**	**Delivery Date**	**CFO**	**PSA Start**	**PSA Finish**	**OWL Date**	**Prior Years**	**FY 2015**	**FY 2016**	**FY 2017**	**To Complete**	**Total**
VIRGINIA	793	2014	Apr 2014	Sep 2014	Nov 2019	Nov 2019	Jan 2020	Apr 2020	Oct 2020	-	-	-	-	22.951	22.951
VIRGINIA	794	2015	Apr 2014	Apr 2015	May 2020	May 2020	Jun 2020	Oct 2020	Apr 2021	-	-	-	-	23.743	23.743
VIRGINIA	795	2015	Apr 2014	Sep 2015	Sep 2020	Sep 2020	Nov 2020	Mar 2021	Aug 2021	-	-	-	-	23.743	23.743
VIRGINIA	796	2016	Apr 2014	Mar 2016	Feb 2021	Feb 2021	May 2021	Aug 2021	Jan 2022	-	-	-	-	24.187	24.187
VIRGINIA	797	2016	Apr 2014	Sep 2016	Aug 2021	Aug 2021	Nov 2021	Mar 2022	Jul 2022	-	-	-	-	24.188	24.188
VIRGINIA	798	2017	Apr 2014	Mar 2017	Feb 2022	Feb 2022	May 2022	Aug 2022	Jan 2023	-	-	-	-	24.734	24.734
VIRGINIA	799	2017	Apr 2014	Sep 2017	Aug 2022	Aug 2022	Nov 2022	Mar 2023	Jul 2023	-	-	-	-	24.734	24.734
VIRGINIA	800	2018	Apr 2014	Mar 2018	Feb 2023	Feb 2023	May 2023	Aug 2023	Jan 2024	-	-	-	-	35.353	35.353
VIRGINIA	801	2018	Apr 2014	Sep 2018	Aug 2023	Aug 2023	Nov 2023	Mar 2024	Jul 2024	-	-	-	-	25.229	25.229
									VIRGINIA Total	**75.123**	**30.964**	**36.437**	**31.755**	**69.482**	**425.193**
CVN-RCOH	72	2012	Mar 2013	Mar 2013	Nov 2016	Jan 2017	Nov 2016	Dec 2017	Dec 2017	17.993	22.220	23.781	4.504	-	68.498
CVN-RCOH	73	2016	Aug 2017	Aug 2017	Apr 2021	Jun 2021	Apr 2021	May 2022	May 2022	-	-	-	-	66.154	66.154
CVN-RCOH	74	2020	Mar 2020	Mar 2020	Nov 2023	Jan 2024	Nov 2023	Dec 2024	Dec 2024	-	-	-	-	70.920	70.920
									CVN-RCOH Total	**17.993**	**22.220**	**23.781**	**4.504**	**35.394**	**205.572**
CVN	78	2008	Sep 2008	Aug 2005	May 2016	Jul 2016	Jan 2017	Jun 2017	Jun 2017	44.896	67.223	27.237	-	-	139.356
CVN	79	2013	Jun 2015	Feb 2011	Jun 2022	Sep 2024	Mar 2023	Sep 2024	Aug 2025	-	-	-	-	138.845	138.845
									CVN Total	**44.896**	**67.223**	**27.237**	**-**	**134.951**	**278.201**
PUBS	0	2010								23.256	7.000	9.760	9.491	52.003	101.510
									PUBS Total	**23.256**	**7.000**	**9.760**	**9.491**	**10.869**	**101.510**
									Full Funding TOA - Outfitting Total	**283.519**	**204.062**	**220.321**	**174.469**	**1,127.200**	**2,009.571**

Exhibit P-30, Delivery: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1	**P-1 Line Item Number / Title:** 5110 / Outfitting

Ship Class	Hull Number	Program Year	Contract Award	Start of Const.	Delivery Date	CFO	PSA Start	PSA Finish	OWL Date	Prior Years	FY 2015	FY 2016	FY 2017	To Complete	Total
AGOR	27	2011	Oct 2011	Jun 2012	Sep 2015	Feb 2016	Jul 2016	Sep 2016	Jan 2017	0.500	2.550	-	-	-	3.050
AGOR	28	2012	Feb 2012	Jul 2012	Jul 2016	Jul 2016	May 2017	May 2017	Jun 2017	-	1.750	-	-	-	1.750
									AGOR Total	**0.500**	**4.300**	**-**	**-**	**-**	**4.800**
T-AGS	66	2007	Dec 2009	Sep 2010	Feb 2016	May 2016	Jan 2017	Feb 2017	Apr 2017	0.368	0.300	-	-	-	0.668
									T-AGS Total	**0.368**	**0.300**	**-**	**-**	**-**	**0.668**
EPF	3	2009	Jan 2010	Sep 2011	Mar 2014	Jun 2014	Jan 2015	Mar 2015	May 2015	4.345	0.515	-	-	-	4.860
EPF	4	2010	Oct 2010	May 2012	Sep 2014	Dec 2014	Jul 2015	Sep 2015	Nov 2015	4.330	6.717	-	-	-	11.047
EPF	5	2010	Oct 2010	Feb 2013	Apr 2015	Jul 2015	Jan 2016	Mar 2016	Jun 2016	0.845	3.118	1.926	-	-	5.889
EPF	6	2011	Jun 2011	Jan 2014	Jan 2016	Apr 2016	Jul 2016	Sep 2016	Mar 2017	1.480	0.973	6.859	0.289	-	9.601
EPF	7	2011	Jun 2011	Sep 2014	Jul 2016	Oct 2016	Apr 2017	Jun 2017	Sep 2017	0.255	1.122	2.555	4.288	-	8.220
EPF	8	2012	Feb 2012	Apr 2015	Jan 2017	Apr 2017	Oct 2017	Dec 2017	Mar 2018	-	-	-	6.147	0.547	6.694
EPF	9	2012	Feb 2012	Nov 2015	Jul 2017	Oct 2017	Apr 2018	Jun 2018	Sep 2018	-	-	-	-	7.153	7.153
EPF	10	2013	Dec 2012	Jun 2016	Jan 2018	Apr 2018	Oct 2018	Dec 2018	Mar 2019	-	-	-	-	7.120	7.120
EPF	11	2015	Jun 2016	Jan 2017	Sep 2018	Dec 2018	Jun 2019	Aug 2019	Nov 2019	-	-	-	-	7.600	7.600
									EPF Total	**11.255**	**12.445**	**11.340**	**10.724**	**7.600**	**68.184**
T-AO(X)	1601	2016	Jun 2016	Jun 2018	Aug 2020	Oct 2020	Jan 2021	Apr 2021	Sep 2021	-	-	-	-	9.463	9.463
									T-AO(X) Total	**-**	**-**	**-**	**-**	**-**	**9.463**
LCAC SLEP	55	2012	Feb 2012	Oct 2012	Jun 2014	Jul 2014	Nov 2014	Dec 2014	Jun 2015	0.050	-	-	-	-	0.050
LCAC SLEP	60	2012	Feb 2012	Jan 2013	Jan 2015	Feb 2015	May 2015	May 2015	Jan 2016	0.050	-	-	-	-	0.050
LCAC SLEP	88	2013	Sep 2013	Oct 2013	Apr 2015	May 2015	Aug 2015	Sep 2015	Apr 2016	-	0.050	-	-	-	0.050
LCAC SLEP	89	2013	Sep 2013	Feb 2014	Jun 2015	Jul 2015	Aug 2015	Sep 2015	Jun 2016	-	0.050	0.039	-	-	0.089
LCAC SLEP	81	2013	Jun 2014	Jul 2014	Sep 2015	Oct 2015	Feb 2016	Mar 2016	Sep 2016	-	-	0.107	-	-	0.107
LCAC SLEP	90	2013	Jun 2014	Nov 2014	Feb 2016	Mar 2016	Aug 2016	Sep 2016	Feb 2017	-	-	0.175	-	-	0.175
LCAC SLEP	78	2014	Jun 2014	Aug 2014	Jan 2016	Feb 2016	Apr 2016	May 2016	Jan 2017	-	-	0.013	0.156	-	0.169
LCAC SLEP	52	2014	Jun 2014	Mar 2015	Jun 2016	Jul 2016	Nov 2016	Dec 2016	Jun 2017	-	-	-	0.200	-	0.200
LCAC SLEP	83	2014	Jun 2014	Feb 2015	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Jun 2017	-	-	-	0.200	-	0.200
LCAC SLEP	57	2014	Jun 2014	Jul 2015	Oct 2016	Nov 2016	Mar 2017	Apr 2017	Oct 2017	-	-	-	0.200	-	0.200
LCAC SLEP	58	2015	Sep 2015	Dec 2015	Mar 2017	Apr 2017	Aug 2017	Sep 2017	Mar 2018	-	-	-	0.215	-	0.215
LCAC SLEP	84	2015	Sep 2015	Dec 2015	Mar 2017	Apr 2017	Jun 2017	Jul 2017	Mar 2018	-	-	-	0.106	0.106	0.212
LCAC SLEP	64	2016	Mar 2016	Jun 2016	Sep 2017	Oct 2017	Feb 2018	Mar 2018	Sep 2018	-	-	-	-	0.216	0.216
LCAC SLEP	85	2016	Mar 2016	Jun 2016	Sep 2017	Oct 2017	Dec 2017	Jan 2018	Sep 2018	-	-	-	0.107	0.108	0.215
LCAC SLEP	65	2016	Mar 2016	Oct 2016	Feb 2018	Mar 2018	Jun 2018	Jul 2018	Feb 2019	-	-	-	-	0.216	0.216
LCAC SLEP	76	2016	Mar 2016	Feb 2017	May 2018	Jun 2018	Oct 2018	Nov 2018	May 2019	-	-	-	-	0.216	0.216
LCAC SLEP	14	2017	Feb 2017	Jun 2017	Sep 2018	Oct 2018	Feb 2019	Mar 2019	Sep 2019	-	-	-	-	0.217	0.217
LCAC SLEP	86	2017	Feb 2017	Jun 2017	Sep 2018	Oct 2018	Dec 2018	Jan 2019	Sep 2019	-	-	-	-	0.217	0.217
LCAC SLEP	87	2017	Feb 2017	Oct 2017	Jan 2019	Feb 2019	Apr 2019	May 2019	Jan 2020	-	-	-	-	0.217	0.217
LCAC SLEP	77	2017	Feb 2017	Feb 2018	May 2019	Jun 2019	Aug 2019	Sep 2019	May 2020	-	-	-	-	0.217	0.217
									LCAC SLEP Total	**0.100**	**0.100**	**0.334**	**1.184**	**-**	**3.448**
ESB	4	2014	Dec 2014	Nov 2015	Mar 2018	Jun 2018	Mar 2019	May 2019	May 2019	-	-	-	-	15.129	15.129

Exhibit P-30, Delivery: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1	**P-1 Line Item Number / Title:** 5110 / Outfitting

Ship Class	Hull Number	Program Year	Contract Award	Start of Const.	Delivery Date	CFO	PSA Start	PSA Finish	OWL Date	Prior Years	FY 2015	FY 2016	FY 2017	To Complete	Total
ESB	5	2016	Aug 2017	Jun 2018	Mar 2020	Jun 2020	Jan 2021	Mar 2021	May 2021	-	-	-	-	8.938	8.938
									ESB Total	**-**	**-**	**-**	**-**	**-**	**24.067**
LCAC	101	2015	Dec 2012	Jan 2015	Aug 2017	Aug 2017	Oct 2017	Dec 2017	Jul 2018	-	-	-	-	1.067	1.067
LCAC	102	2015	Mar 2015	Mar 2016	Jan 2019	Jan 2019	Mar 2019	May 2019	Dec 2019	-	-	-	-	1.980	1.980
LCAC	103	2015	Mar 2015	Sep 2016	Jun 2019	Jun 2019	Aug 2019	Oct 2019	May 2020	-	-	-	-	1.980	1.980
LCAC	104	2016	Mar 2016	Mar 2017	Dec 2019	Dec 2019	Jan 2020	Mar 2020	Oct 2020	-	-	-	-	1.980	1.980
LCAC	105	2016	Mar 2016	Jun 2017	Jan 2020	Jan 2020	Mar 2020	May 2020	Dec 2020	-	-	-	-	1.980	1.980
LCAC	106	2016	Mar 2016	Sep 2017	Mar 2020	Mar 2020	May 2020	Jul 2020	Feb 2021	-	-	-	-	1.980	1.980
LCAC	107	2016	Mar 2016	Dec 2017	May 2020	May 2020	Jul 2020	Sep 2020	Apr 2021	-	-	-	-	1.980	1.980
LCAC	108	2017	Mar 2017	Mar 2018	Jul 2020	Jul 2020	Sep 2020	Nov 2020	Jun 2021	-	-	-	-	1.980	1.980
LCAC	109	2017	Mar 2017	Sep 2018	Dec 2020	Dec 2020	Feb 2021	Apr 2021	Nov 2021	-	-	-	-	1.980	1.980
LCAC	110	2018	Mar 2018	Mar 2019	May 2021	May 2021	Jul 2021	Sep 2021	Apr 2022	-	-	-	-	1.980	1.980
LCAC	111	2018	Mar 2018	May 2019	Jun 2021	Jun 2021	Aug 2021	Oct 2021	May 2022	-	-	-	-	1.980	1.980
LCAC	112	2018	Mar 2018	Jul 2019	Jul 2021	Jul 2021	Sep 2021	Nov 2021	Jun 2022	-	-	-	-	1.875	1.875
LCAC	113	2018	Mar 2018	Sep 2019	Aug 2021	Aug 2021	Oct 2021	Dec 2021	Jul 2022	-	-	-	-	1.875	1.875
LCAC	114	2018	Mar 2018	Nov 2019	Sep 2021	Sep 2021	Nov 2021	Jan 2022	Aug 2022	-	-	-	-	1.875	1.875
									LCAC Total	**-**	**-**	**-**	**-**	**8.340**	**26.492**
LHA	6	2007	Jun 2007	Jan 2008	Apr 2014	Dec 2014	May 2015	Mar 2016	Mar 2016	14.142	35.566	-	-	-	49.708
LHA	7	2011	May 2012	Jul 2013	Dec 2018	Sep 2019	Feb 2020	Jun 2020	Aug 2020	-	-	-	-	49.556	49.556
									LHA Total	**14.142**	**35.566**	**-**	**-**	**-**	**99.264**
LPD	25	2008	Dec 2007	Apr 2008	Oct 2013	Jun 2014	Jan 2015	Jun 2015	Jun 2015	48.351	7.660	-	-	-	56.011
LPD	26	2009	Apr 2011	May 2011	May 2016	Dec 2016	May 2017	Oct 2017	Nov 2017	-	5.396	21.077	33.406	-	59.879
LPD	27	2012	Jul 2012	Aug 2012	Jul 2017	Feb 2018	Aug 2018	Dec 2018	Jan 2019	-	-	-	21.902	30.220	52.122
									LPD Total	**48.351**	**13.056**	**21.077**	**55.308**	**-**	**168.012**
DDG	113	2010	Jun 2011	Aug 2012	Sep 2016	Jan 2017	Jul 2017	Nov 2017	Dec 2017	-	-	7.048	30.358	-	37.406
DDG	115	2011	Sep 2011	Feb 2012	Oct 2016	Feb 2017	Aug 2017	Dec 2017	Jan 2018	-	-	13.082	24.422	-	37.504
DDG	114	2011	Sep 2011	Sep 2013	Apr 2017	Aug 2017	Mar 2018	Jul 2018	Jul 2018	-	-	-	23.736	13.768	37.504
DDG	116	2012	Feb 2012	Feb 2013	Aug 2017	Dec 2017	Jul 2018	Nov 2018	Nov 2018	-	-	-	8.548	29.280	37.828
DDG	117	2013	Jun 2013	Sep 2014	Jan 2018	May 2018	Jan 2019	Apr 2019	Apr 2019	-	-	-	-	38.680	38.680
DDG	118	2013	Jun 2013	Aug 2015	May 2019	Sep 2019	Apr 2020	Jul 2020	Aug 2020	-	-	-	-	35.680	35.680
DDG	120	2013	Mar 2014	Jan 2016	Jan 2020	Jun 2020	Jan 2021	Apr 2021	May 2021	-	-	-	-	38.681	38.681
DDG	119	2014	Jun 2013	Jul 2015	Oct 2018	Feb 2019	Sep 2019	Dec 2019	Jan 2020	-	-	-	-	39.492	39.492
DDG	121	2015	Jun 2013	Jun 2017	Jul 2020	Nov 2020	Jul 2021	Oct 2021	Oct 2021	-	-	-	-	40.290	40.290
DDG	122	2015	Jun 2013	Nov 2016	Jul 2020	Nov 2020	Jul 2021	Oct 2021	Oct 2021	-	-	-	-	40.281	40.281
									DDG Total	**-**	**-**	**20.130**	**87.064**	**25.653**	**383.346**
DDG 1000	1000	2007	Feb 2008	Feb 2009	Apr 2016	Jan 2018	Aug 2018	Nov 2018	Dec 2018	31.200	35.248	19.946	15.661	29.229	131.284
DDG 1000	1001	2007	Sep 2011	Mar 2010	Mar 2017	Dec 2018	Aug 2019	Nov 2019	Nov 2019	-	0.065	21.150	15.261	58.875	95.351
DDG 1000	1002	2009	Sep 2011	Apr 2012	Aug 2019	Jun 2021	Feb 2022	May 2022	May 2022	-	-	-	-	99.281	99.281
									DDG 1000 Total	**31.200**	**35.313**	**41.096**	**30.922**	**50.791**	**325.916**

Exhibit P-30, Delivery: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1	**P-1 Line Item Number / Title:** 5110 / Outfitting

Ship Class	Hull Number	Program Year	Contract Award	Start of Const.	Delivery Date	CFO	PSA Start	PSA Finish	OWL Date	Prior Years	FY 2015	FY 2016	FY 2017	To Complete	Total
LCS	4	2009	May 2009	Oct 2009	Sep 2013	Jan 2014	Jul 2014	Dec 2014	Dec 2014	52.328	7.029	-	-	-	59.357
LCS	6	2010	Dec 2010	Aug 2011	Aug 2015	Nov 2015	May 2016	Sep 2016	Oct 2016	-	31.756	20.875	-	-	52.631
LCS	5	2010	Dec 2010	Aug 2011	Oct 2015	Nov 2015	May 2016	Sep 2016	Oct 2016	0.159	31.457	20.875	-	-	52.491
LCS	8	2011	Mar 2011	Jul 2012	May 2016	Aug 2016	Feb 2017	May 2017	Jul 2017	-	0.486	30.912	10.060	-	41.458
LCS	7	2011	Mar 2011	Apr 2012	Jun 2016	Aug 2016	Dec 2016	Mar 2017	Jul 2017	-	10.929	29.513	1.016	-	41.458
LCS	10	2012	Mar 2012	Mar 2013	Sep 2016	Dec 2016	Jul 2017	Nov 2017	Nov 2017	-	0.014	18.887	22.957	-	41.858
LCS	9	2012	Mar 2012	Jan 2013	Sep 2016	Dec 2016	Jul 2017	Oct 2017	Nov 2017	-	0.306	16.668	24.884	-	41.858
LCS	12	2012	Mar 2012	Sep 2013	Jan 2017	May 2017	Dec 2017	Mar 2018	Apr 2018	-	-	8.316	24.739	9.060	42.115
LCS	11	2012	Mar 2012	Aug 2013	Feb 2017	Jun 2017	Dec 2017	Mar 2018	May 2018	-	-	6.917	25.572	9.620	42.109
LCS	14	2013	Mar 2013	Feb 2014	Mar 2017	Sep 2017	Apr 2018	Jul 2018	Aug 2018	-	-	-	20.616	22.080	42.696
LCS	13	2013	Mar 2013	Feb 2014	Jul 2017	Nov 2017	Jun 2018	Oct 2018	Oct 2018	-	-	-	18.337	24.359	42.696
LCS	16	2013	Mar 2013	Sep 2014	Oct 2017	Feb 2018	Sep 2018	Jan 2019	Jan 2019	-	-	-	6.278	36.418	42.696
LCS	15	2013	Mar 2013	Dec 2014	Feb 2018	Jun 2018	Dec 2018	Mar 2019	May 2019	-	-	-	3.875	38.821	42.696
LCS	18	2014	Mar 2014	Mar 2015	May 2018	Aug 2018	Apr 2019	Jul 2019	Aug 2019	-	-	-	-	43.815	43.815
LCS	17	2014	Mar 2014	Aug 2015	Jul 2018	Nov 2018	Jun 2019	Oct 2019	Oct 2019	-	-	-	-	43.815	43.815
LCS	19	2014	Mar 2014	Feb 2016	Nov 2018	Mar 2019	Oct 2019	Jan 2020	Feb 2020	-	-	-	-	43.815	43.815
LCS	20	2014	Mar 2014	Feb 2016	Nov 2018	Mar 2019	Oct 2019	Jan 2020	Feb 2020	-	-	-	-	43.815	43.815
LCS	22	2015	Mar 2015	May 2016	Jun 2019	Oct 2019	May 2020	Aug 2020	Sep 2020	-	-	-	-	44.609	44.609
LCS	21	2015	Mar 2015	Jun 2016	Jul 2019	Nov 2019	Jun 2020	Oct 2020	Oct 2020	-	-	-	-	44.609	44.609
LCS	24	2015	Mar 2015	Nov 2016	Feb 2020	Jun 2020	Jan 2021	May 2021	May 2021	-	-	-	-	44.807	44.807
LCS	23	2016	Nov 2015	Dec 2016	Nov 2019	Mar 2020	Oct 2020	Jan 2021	Feb 2021	-	-	-	-	44.807	44.807
LCS	25	2016	Mar 2016	Mar 2017	Nov 2020	Jan 2021	Aug 2021	Nov 2021	Dec 2021	-	-	-	-	45.363	45.363
LCS	26	2016	Mar 2016	Aug 2017	Nov 2020	Jan 2021	Aug 2021	Nov 2021	Dec 2021	-	-	-	-	45.363	45.363
									LCS Total	**52.487**	**81.977**	**152.963**	**158.334**	**33.877**	**1,030.937**
VIRGINIA	783	2008	Jan 2004	Feb 2008	Jun 2013	Jun 2013	Feb 2014	Jun 2015	Feb 2016	36.979	8.969	-	-	-	45.948
VIRGINIA	784	2009	Dec 2008	Mar 2009	Aug 2014	Aug 2014	Jun 2015	Jul 2015	Aug 2016	21.235	25.343	1.178	-	-	47.756
VIRGINIA	785	2010	Dec 2008	Mar 2010	Jun 2015	Jun 2015	Mar 2016	May 2016	May 2016	6.709	44.871	1.103	-	-	52.683
VIRGINIA	786	2011	Dec 2008	Mar 2011	Feb 2016	Feb 2016	Jul 2016	Dec 2016	Jan 2017	-	0.376	52.842	-	-	53.218
VIRGINIA	787	2011	Dec 2008	Sep 2011	Jun 2016	Jun 2016	Apr 2017	Aug 2017	Aug 2017	-	-	8.523	46.428	-	54.951
VIRGINIA	788	2012	Dec 2008	Mar 2012	Nov 2016	Nov 2016	May 2017	Aug 2017	Oct 2017	-	-	4.530	51.924	-	56.454
VIRGINIA	789	2012	Dec 2008	Sep 2012	Jun 2017	Jun 2017	Jan 2018	Apr 2018	May 2018	-	-	-	8.017	48.437	56.454
VIRGINIA	790	2013	Dec 2008	Mar 2013	Nov 2017	Nov 2017	Mar 2018	Oct 2018	Oct 2018	-	-	-	4.543	52.745	57.288
VIRGINIA	791	2013	Dec 2008	Sep 2013	Jun 2018	Jun 2018	Nov 2018	Mar 2019	May 2019	-	-	-	-	57.287	57.287
VIRGINIA	792	2014	Apr 2014	May 2014	Jun 2019	Jun 2019	Aug 2019	Dec 2019	May 2020	-	-	-	-	59.401	59.401
VIRGINIA	793	2014	Apr 2014	Sep 2014	Nov 2019	Nov 2019	Jan 2020	Apr 2020	Oct 2020	-	-	-	-	59.401	59.401
VIRGINIA	794	2015	Apr 2014	Apr 2015	May 2020	May 2020	Jun 2020	Oct 2020	Apr 2021	-	-	-	-	59.810	59.810
VIRGINIA	795	2015	Apr 2014	Sep 2015	Sep 2020	Sep 2020	Nov 2020	Mar 2021	Aug 2021	-	-	-	-	59.809	59.809
VIRGINIA	796	2016	Apr 2014	Mar 2016	Feb 2021	Feb 2021	May 2021	Aug 2021	Jan 2022	-	-	-	-	60.898	60.898
VIRGINIA	797	2016	Apr 2014	Sep 2016	Aug 2021	Aug 2021	Nov 2021	Mar 2022	Jul 2022	-	-	-	-	60.898	60.898

Exhibit P-30, Delivery: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1	**P-1 Line Item Number / Title:** 5110 / Outfitting

Ship Class	Hull Number	Program Year	Contract Award	Start of Const.	Delivery Date	CFO	PSA Start	PSA Finish	OWL Date	Prior Years	FY 2015	FY 2016	FY 2017	To Complete	Total
									VIRGINIA Total	**64.923**	**79.559**	**68.176**	**110.912**	**109.839**	**842.256**
CVN-RCOH	72	2012	Mar 2013	Mar 2013	Nov 2016	Jan 2017	Nov 2016	Dec 2017	Dec 2017	-	-	0.945	29.912	3.469	34.326
CVN-RCOH	73	2016	Aug 2017	Aug 2017	Apr 2021	Jun 2021	Apr 2021	May 2022	May 2022	-	-	-	-	38.917	38.917
									CVN-RCOH Total	**-**	**-**	**0.945**	**29.912**	**10.287**	**73.243**
CVN	78	2008	Sep 2008	Aug 2005	May 2016	Jul 2016	Jan 2017	Jun 2017	Jun 2017	-	2.500	72.253	2.341	-	77.094
CVN	79	2013	Jun 2015	Feb 2011	Jun 2022	Sep 2024	Mar 2023	Sep 2024	Aug 2025	-	-	-	-	99.550	99.550
									CVN Total	**-**	**2.500**	**72.253**	**2.341**	**99.550**	**176.644**
									Full Funding TOA - Post Delivery Total	**223.326**	**265.116**	**388.314**	**486.701**	**1,873.283**	**3,236.740**

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 05: Auxiliaries, Craft, and Prior-Year Program Costs / BSA 1: Auxiliaries, Craft and Prior Yr Program Cost	**P-1 Line Item Number / Title:** 5112 / Ship to Shore Connector

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity *(Units in Each)*	-	3	4	2	-	2	6	10	12	12	23	72
Gross/Weapon System Cost *($ in Millions)*	0.000	183.677	210.630	128.067	-	128.067	333.002	501.365	625.520	653.615	1,261.837	3,897.713
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Less Previously Appropriated RDT&E,N *($ in Millions)*	-	24.077	-	-	-	-	-	-	-	-	-	24.077
Net Procurement (P-1) *($ in Millions)*	0.000	159.600	210.630	128.067	-	128.067	333.002	501.365	625.520	653.615	1,261.837	3,873.636
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Plus Previously Appropriated RDT&E,N *($ in Millions)*	24.077	-	-	-	-	-	-	-	-	-	-	24.077
Total Obligation Authority *($ in Millions)*	**24.077**	**159.600**	**210.630**	**128.067**	**-**	**128.067**	**333.002**	**501.365**	**625.520**	**653.615**	**1,261.837**	**3,897.713**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Plus Outfitting and Post Delivery *($ in Millions)*	-	-	-	-	-	-	2.911	7.754	16.361	16.633	76.830	120.489
Total *($ in Millions)*	**24.077**	**159.600**	**210.630**	**128.067**	**-**	**128.067**	**335.913**	**509.119**	**641.881**	**670.248**	**1,338.667**	**4,018.202**
Gross/Weapon System Unit Cost *($ in Millions)*	-	61.226	52.658	64.034	-	64.034	55.500	50.137	52.127	54.468	54.862	54.135

Description:

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.

The Test and Training craft (Craft 100) and R&D costs for Craft 101 are funded in RDT&E PE 0604567N and PE 0605220N Project 3137.

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 $24.1M of FY 13/FY 14 R&D funding.

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 05: Auxiliaries, Craft, and Prior-Year Program Costs / BSA 1: Auxiliaries, Craft and Prior Yr Program Cost	**P-1 Line Item Number / Title:** 5112 / Ship to Shore Connector

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		

Characteristics:	Aluminum
Length Overall	91.8 ft
Beam	48.3 ft
Displacement	180.57 metric tons
Draft	N/A

Production Status:	LCAC 101	LCAC 102	LCAC 103	LCAC 104	LCAC 105	LCAC 106	LCAC 107
Contract Award Date	Dec 2012	Mar 2015	Mar 2015	Mar 2016	Mar 2016	Mar 2016	Mar 2016
Months to Completion							
a) Award to Delivery	56 months	46 months	51 months	45 months	46 months	48 months	50 months
b) Construction Start to Delivery	31 months	34 months	33 months	33 months	31 months	30 months	29 months
Delivery Date	Aug 2017	Jan 2019	Jun 2019	Dec 2019	Jan 2020	Mar 2020	May 2020
Completion Of Fitting Out	Aug 2017	Jan 2019	Jun 2019	Dec 2019	Jan 2020	Mar 2020	May 2020
Obligation Work Limit Date	Jul 2018	Dec 2019	May 2020	Oct 2020	Dec 2020	Feb 2021	Apr 2021

Production Status:	LCAC 108	LCAC 109
Contract Award Date	Mar 2017	Mar 2017
Months to Completion		
a) Award to Delivery	40 months	45 months
b) Construction Start to Delivery	28 months	27 months
Delivery Date	Jul 2020	Dec 2020
Completion Of Fitting Out	Jul 2020	Dec 2020
Obligation Work Limit Date	Jun 2021	Nov 2021

Design Schedule	Start / Issue	Complete / Response	Reissue	Reissue Complete / Response
Issue Date for TLR	N/A	N/A		
Issue Date for TLS	N/A	N/A		
Preliminary Design	Apr 2008	May 2009		
Contract Design	May 2009	Jul 2010		
Detail Design	Jul 2012	Sep 2014		
Request for Proposals	May 2011	Jul 2012		
Design Agent	NAVSEA/TEXTRON,INC			

Classification of Cost Estimate:

Exhibit P-5c, Ship Cost Analysis: PB 2017 Navy	**Date:** February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1	**P-1 Line Item Number / Title:** 5112 / Ship to Shore Connector

Cost Categories	FY 2015		FY 2016		FY 2017	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Plan Costs	3		4		2	
Basic Construction/Conversion		144.628		172.741		112.172
Change Orders		10.857		11.200		2.833
Electronics		5.633		8.160		4.162
Hull, Mechanical, and Electrical (HM&E)		7.593		8.025		4.235
Ordnance		0.010		0.012		0.006
Other Cost		14.956		10.492		4.659
Total Ship Estimate		**183.677**		**210.630**		**128.067**
Less RDTEN FY 2013		21.486		-		-
Less RDTEN FY 2014		2.591		-		-
Net P-1 Funding		**159.600**		**210.630**		**128.067**

Remarks:
The FY 2017 unit cost increase over FY 2016 craft is due to completion of the priced options contract in FY 2016 (new contract in FY 2017) and reduced quantity procurements in FY 2017 (from 4 in FY 2016 to 2 in FY 2017).

Exhibit P-27, Ship Production Schedule: PB 2017 Navy				Date: February 2016	
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1			P-1 Line Item Number / Title: 5112 / Ship to Shore Connector		
Ship	**Shipbuilder**	**Fiscal Year**	**Contract Award**	**Start of Construction**	**Delivery Date**
LCAC 101	TEXTRON, INC	2015	Dec 2012	Jan 2015	Aug 2017
LCAC 102	TEXTRON, INC	2015	Mar 2015	Mar 2016	Jan 2019
LCAC 103	TEXTRON, INC	2015	Mar 2015	Sep 2016	Jun 2019
LCAC 104	TEXTRON, INC	2016	Mar 2016	Mar 2017	Dec 2019
LCAC 105	TEXTRON, INC	2016	Mar 2016	Jun 2017	Jan 2020
LCAC 106	TEXTRON, INC	2016	Mar 2016	Sep 2017	Mar 2020
LCAC 107	TEXTRON, INC	2016	Mar 2016	Dec 2017	May 2020
LCAC 108	TEXTRON, INC	2017	Mar 2017	Mar 2018	Jul 2020
LCAC 109	TEXTRON, INC	2017	Mar 2017	Sep 2018	Dec 2020
LCAC 110	TBD	2018	Mar 2018	Mar 2019	May 2021
LCAC 111	TBD	2018	Mar 2018	May 2019	Jun 2021
LCAC 112	TBD	2018	Mar 2018	Jul 2019	Jul 2021
LCAC 113	TBD	2018	Mar 2018	Sep 2019	Aug 2021
LCAC 114	TBD	2018	Mar 2018	Nov 2019	Sep 2021
LCAC 115	TBD	2018	Mar 2018	Jan 2020	Oct 2021
LCAC 116	TBD	2019	Mar 2019	Mar 2020	Nov 2021
LCAC 117	TBD	2019	Mar 2019	May 2020	Nov 2021
LCAC 118	TBD	2019	Mar 2019	Jun 2020	Jan 2022
LCAC 119	TBD	2019	Mar 2019	Jul 2020	Jan 2022
LCAC 120	TBD	2019	Mar 2019	Aug 2020	Feb 2022
LCAC 121	TBD	2019	Mar 2019	Sep 2020	Mar 2022
LCAC 122	TBD	2019	Mar 2019	Nov 2020	May 2022
LCAC 123	TBD	2019	Mar 2019	Dec 2020	Jun 2022
LCAC 124	TBD	2019	Mar 2019	Jan 2021	Jul 2022
LCAC 125	TBD	2019	Mar 2019	Feb 2021	Aug 2022
LCAC 126	TBD	2020	Mar 2020	Mar 2021	Oct 2022
LCAC 127	TBD	2020	Mar 2020	Apr 2021	Oct 2022
LCAC 128	TBD	2020	Mar 2020	May 2021	Nov 2022
LCAC 129	TBD	2020	Mar 2020	Jun 2021	Dec 2022
LCAC 130	TBD	2020	Mar 2020	Jul 2021	Jan 2023
LCAC 131	TBD	2020	Mar 2020	Aug 2021	Mar 2023
LCAC 132	TBD	2020	Mar 2020	Sep 2021	Mar 2023
LCAC 133	TBD	2020	Mar 2020	Oct 2021	Apr 2023

Exhibit P-27, Ship Production Schedule: PB 2017 Navy			Date: February 2016		
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1			P-1 Line Item Number / Title: 5112 / Ship to Shore Connector		
Ship	**Shipbuilder**	**Fiscal Year**	**Contract Award**	**Start of Construction**	**Delivery Date**
LCAC 134	TBD	2020	Mar 2020	Nov 2021	May 2023
LCAC 135	TBD	2020	Mar 2020	Dec 2021	Jun 2023
LCAC 136	TBD	2020	Mar 2020	Jan 2022	Jul 2023
LCAC 137	TBD	2020	Mar 2020	Feb 2022	Aug 2023
LCAC 138	TBD	2021	Mar 2021	Mar 2022	Oct 2023
LCAC 139	TBD	2021	Mar 2021	Apr 2022	Oct 2023
LCAC 140	TBD	2021	Mar 2021	May 2022	Nov 2023
LCAC 141	TBD	2021	Mar 2021	Jun 2022	Dec 2023
LCAC 142	TBD	2021	Mar 2021	Jul 2022	Jan 2024
LCAC 143	TBD	2021	Mar 2021	Aug 2022	Mar 2024
LCAC 144	TBD	2021	Mar 2021	Sep 2022	Mar 2024
LCAC 145	TBD	2021	Mar 2021	Oct 2022	Apr 2024
LCAC 146	TBD	2021	Mar 2021	Nov 2022	May 2024
LCAC 147	TBD	2021	Mar 2021	Dec 2022	Jun 2024
LCAC 148	TBD	2021	Mar 2021	Jan 2023	Jul 2024
LCAC 149	TBD	2021	Mar 2021	Feb 2023	Aug 2024

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Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 05: Auxiliaries, Craft, and Prior-Year Program Costs / BSA 1: Auxiliaries, Craft and Prior Yr Program Cost	**P-1 Line Item Number / Title:** 5113 / Service Craft

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity *(Units in Each)*	37	-	3	3	-	3	6	5	4	5	-	63
Gross/Weapon System Cost *($ in Millions)*	105.200	-	30.014	65.192	-	65.192	74.915	72.471	68.984	103.621	-	520.397
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	105.200	-	30.014	65.192	-	65.192	74.915	72.471	68.984	103.621	-	520.397
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**105.200**	**-**	**30.014**	**65.192**	**-**	**65.192**	**74.915**	**72.471**	**68.984**	**103.621**	**-**	**520.397**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Plus Outfitting and Post Delivery *($ in Millions)*	3.000	-	-	-	-	-	-	-	-	-	-	3.000
Total *($ in Millions)*	**108.200**	**-**	**30.014**	**65.192**	**-**	**65.192**	**74.915**	**72.471**	**68.984**	**103.621**	**-**	**523.397**
Gross/Weapon System Unit Cost *($ in Millions)*	2.843	-	10.005	21.731	-	21.731	12.486	14.494	17.246	20.724	-	8.260

Description:

The US Navy owns/operates approximately 365 Service Craft of 36 different classes at 56 different commands and activities throughout the world. Nearly half of the Service Craft inventory is over 40 years of age. 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; 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. Barracks Craft - Small (APL) - To provide crew messing, duty crew berthing and administrative training spaces to ships in CNO availabilities.

Characteristics:

	Hull Various	Multiple Craft
Length Overall	Various	Various
Beam	Various	Various
Displacement	Various	Various
Draft	Various	Various

Production Status:	YWO 03	YT 808	YT 809	APL 67	YT 810	YT 811
Contract Award Date	Jul 2016	Jul 2016	Jul 2016	Mar 2017	Mar 2017	Mar 2017
Months to Completion						
a) Award to Delivery	17 months	15 months	18 months	18 months	14 months	16 months
b) Construction Start to Delivery	14 months	12 months	12 months	14 months	12 months	12 months
Delivery Date	Dec 2017	Oct 2017	Jan 2018	Sep 2018	May 2018	Jul 2018
Completion Of Fitting Out	Mar 2018	Jan 2018	Apr 2018	Dec 2018	Aug 2018	Oct 2018
Obligation Work Limit Date	Feb 2019	Dec 2018	Mar 2019	Nov 2019	Jul 2019	Sep 2019

Design Schedule	Start / Issue	Complete / Response	Reissue	Reissue Complete / Response
Issue Date for TLR	N/A	N/A		
Issue Date for TLS	N/A	N/A		

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 05: Auxiliaries, Craft, and Prior-Year Program Costs / BSA 1: Auxiliaries, Craft and Prior Yr Program Cost	**P-1 Line Item Number / Title:** 5113 / Service Craft	
ID Code (A=Service Ready, B=Not Service Ready): A	**Program Elements for Code B Items:** N/A	**Other Related Program Elements:** N/A
Line Item MDAP/MAIS Code: N/A		

Design Schedule	Start / Issue	Complete / Response	Reissue	Reissue Complete / Response
Preliminary Design	N/A	N/A		
Contract Design	N/A	N/A		
Detail Design	N/A	N/A		
Request for Proposals	N/A	N/A		
Design Agent				

Classification of Cost Estimate:

Exhibit P-5c, Ship Cost Analysis: PB 2017 Navy	**Date:** February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1	**P-1 Line Item Number / Title:** 5113 / Service Craft

Cost Categories	FY 2016		FY 2017	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Plan Costs	3		3	
Basic Construction/Conversion		27.901		60.832
Change Orders		1.413		3.260
Hull, Mechanical, and Electrical (HM&E)		0.500		0.900
Other Cost		0.200		0.200
Total Ship Estimate		**30.014**		**65.192**
Net P-1 Funding		**30.014**		**65.192**

Remarks:
FY 16 Craft:
2 YT: 26.437
1 YWO: 3.577

FY 17 Craft:
1 APL: 39.000
2 YT: 26.192

Exhibit P-27, Ship Production Schedule: PB 2017 Navy				Date: February 2016	
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1			P-1 Line Item Number / Title: 5113 / Service Craft		
Ship	**Shipbuilder**	**Fiscal Year**	**Contract Award**	**Start of Construction**	**Delivery Date**
YWO 03	TBD	2016	Jul 2016	Oct 2016	Dec 2017
YT 808	TBD	2016	Jul 2016	Oct 2016	Oct 2017
YT 809	TBD	2016	Jul 2016	Jan 2017	Jan 2018
APL 67	TBD	2017	Mar 2017	Jul 2017	Sep 2018
YT 810	TBD	2017	Mar 2017	May 2017	May 2018
YT 811	TBD	2017	Mar 2017	Jul 2017	Jul 2018
YON 339	TBD	2018	Mar 2018	Apr 2018	Jun 2019
YWO 04	TBD	2018	Mar 2018	Jun 2018	Apr 2019
YWO 05	TBD	2018	Mar 2018	Sep 2018	Jun 2019
YT 812	TBD	2018	Mar 2018	May 2018	May 2019
YT 813	TBD	2018	Mar 2018	Jul 2018	Jul 2019
APL 68	TBD	2018	Feb 2018	Mar 2018	Apr 2019
YON 340	TBD	2019	Mar 2019	Apr 2019	Jun 2020
YT 814	TBD	2019	Mar 2019	May 2019	May 2020
YT 815	TBD	2019	Mar 2019	Jul 2019	Jul 2020
APL 69	TBD	2019	Feb 2019	Mar 2019	Apr 2020
YWO 06	TBD	2019	Mar 2019	Apr 2019	Dec 2019
YON 341	TBD	2020	Mar 2020	Apr 2020	Jun 2021
YT 816	TBD	2020	Mar 2020	May 2020	May 2021
YT 817	TBD	2020	Mar 2020	Jul 2020	Jul 2021
APL 70	TBD	2020	Feb 2020	Mar 2020	Apr 2021
YT 818	TBD	2021	Mar 2021	May 2021	May 2022
YT 819	TBD	2021	Mar 2021	Jul 2021	Jul 2022
YON 342	TBD	2021	Mar 2021	Apr 2021	Jun 2022
APL 71	TBD	2021	Feb 2021	Mar 2021	Apr 2022
APL 72	TBD	2021	Feb 2021	Jun 2021	Jul 2022

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 05: Auxiliaries, Craft, and Prior-Year Program Costs / BSA 1: Auxiliaries, Craft and Prior Yr Program Cost	**P-1 Line Item Number / Title:** 5139 / LCAC SLEP

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity *(Units in Each)*	58	2	4	-	-	-	-	-	-	-	-	64
Gross/Weapon System Cost *($ in Millions)*	1,217.200	40.485	82.512	-	-	-	-	-	-	-	-	1,340.197
Less PY Advance Procurement *($ in Millions)*	27.900	-	-	-	-	-	-	-	-	-	-	27.900
Less Cost To Complete *($ in Millions)*	14.000	-	-	-	-	-	-	-	-	-	-	14.000
Less Subsequent Year Full Funding *($ in Millions)*	-	-	1.774	-	-	-	-	-	-	-	-	1.774
Less Hurricane *($ in Millions)*	19.800	-	-	-	-	-	-	-	-	-	-	19.800
Less Transfer *($ in Millions)*	1.500	-	-	-	-	-	-	-	-	-	-	1.500
Net Procurement (P-1) *($ in Millions)*	1,154.000	40.485	80.738	-	-	-	-	-	-	-	-	1,275.223
Plus Subsequent Year Full Funding *($ in Millions)*	-	-	-	1.774	-	1.774	-	-	-	-	-	1.774
Full Funding TOA *($ in Millions)*	1,154.000	40.485	80.738	1.774	-	1.774	-	-	-	-	-	1,276.997
Plus CY Advance Procurement *($ in Millions)*	27.900	-	-	-	-	-	-	-	-	-	-	27.900
Plus Cost To Complete *($ in Millions)*	14.000	-	-	-	-	-	-	-	-	-	-	14.000
Plus Transfer *($ in Millions)*	1.500	-	-	-	-	-	-	-	-	-	-	1.500
Plus Hurricane *($ in Millions)*	19.800	-	-	-	-	-	-	-	-	-	-	19.800
Total Obligation Authority *($ in Millions)*	**1,217.200**	**40.485**	**80.738**	**1.774**	**-**	**1.774**	**-**	**-**	**-**	**-**	**-**	**1,340.197**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Plus Outfitting and Post Delivery *($ in Millions)*	9.331	0.784	0.723	2.044	-	2.044	1.678	0.978	0.132	-	-	15.670
Total *($ in Millions)*	**1,226.531**	**41.269**	**81.461**	**3.818**	**-**	**3.818**	**1.678**	**0.978**	**0.132**	**-**	**-**	**1,355.867**
Gross/Weapon System Unit Cost *($ in Millions)*	20.986	20.243	20.628	-	-	-	-	-	-	-	-	20.941

Description:

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.

The FY 2017 requirement is in support of LCAC SLEP program execution and close-out. An affordability-based business case analysis that focused on meeting the requirement for 72 operational LCAC and sustaining LCAC until they can be replaced by SSC and the acceleration of the SSC delivery resulted in a reduction of SLEP quantity from 72 to 64. The FY 2016 LCAC SLEP availabilities are the final LCAC SLEP procurements. The execution of these availabilities will extend into FY18.

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 05: Auxiliaries, Craft, and Prior-Year Program Costs / BSA 1: Auxiliaries, Craft and Prior Yr Program Cost	**P-1 Line Item Number / Title:** 5139 / LCAC SLEP

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		

FY 2017 funding will still be required for shared overhead and administrative costs, as well as SLEP program close-out tasks. These efforts include, but are not limited to, ISEA technical support, ILS and GFE support, OSR support and oversight, and INSURV support. These estimates are based upon actuals, current execution, and adjustments for level of support required as the final craft enter and deliver from the SLEP program

Characteristics:

	Air Cushion
Length Overall	88 ft
Beam	47 ft
Displacement	150 tons
Draft	None (rides on cushion of air.)

Production Status:	LCAC SLEP 81	LCAC SLEP 90	LCAC SLEP 78	LCAC SLEP 83	LCAC SLEP 52	LCAC SLEP 57	LCAC SLEP 84
Contract Award Date	Jun 2014	Jun 2014	Jun 2014	Jun 2014	Jun 2014	Jun 2014	Sep 2015
Months to Completion							
a) Award to Delivery	15 months	20 months	19 months	24 months	24 months	28 months	18 months
b) Construction Start to Delivery	14 months	15 months	17 months	16 months	15 months	15 months	15 months
Delivery Date	Sep 2015	Feb 2016	Jan 2016	Jun 2016	Jun 2016	Oct 2016	Mar 2017
Completion Of Fitting Out	Oct 2015	Mar 2016	Feb 2016	Jul 2016	Jul 2016	Nov 2016	Apr 2017
Obligation Work Limit Date	Sep 2016	Feb 2017	Jan 2017	Jun 2017	Jun 2017	Oct 2017	Mar 2018

Production Status:	LCAC SLEP 58	LCAC SLEP 85	LCAC SLEP 64	LCAC SLEP 65	LCAC SLEP 76
Contract Award Date	Sep 2015	Mar 2016	Mar 2016	Mar 2016	Mar 2016
Months to Completion					
a) Award to Delivery	18 months	18 months	18 months	23 months	26 months
b) Construction Start to Delivery	15 months	15 months	15 months	16 months	15 months
Delivery Date	Mar 2017	Sep 2017	Sep 2017	Feb 2018	May 2018
Completion Of Fitting Out	Apr 2017	Oct 2017	Oct 2017	Mar 2018	Jun 2018
Obligation Work Limit Date	Mar 2018	Sep 2018	Sep 2018	Feb 2019	May 2019

Design Schedule	Start / Issue	Complete / Response	Reissue	Reissue Complete / Response
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	Apr 2015	May 2015		
Design Agent	BOSTON PLANNING YARD			

Classification of Cost Estimate: N/A

Exhibit P-5c, Ship Cost Analysis: PB 2017 Navy	**Date:** February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1	**P-1 Line Item Number / Title:** 5139 / LCAC SLEP

Cost Categories	FY 2012		FY 2013		FY 2014		FY 2015		FY 2016	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Plan Costs	4		4		4		2		4	
Basic Construction/Conversion		35.944		37.950		33.714		18.000		35.796
Electronics		7.007		7.600		7.428		3.500		7.051
Hull, Mechanical, and Electrical (HM&E)		37.446		36.367		36.196		17.363		35.401
Other Cost		3.679		3.800		3.649		1.622		4.264
Total Ship Estimate		**84.076**		**85.717**		**80.987**		**40.485**		**82.512**
Less Subsequent Full Funding FY 2017		-		-		-		-		1.774
Net P-1 Funding		**84.076**		**85.717**		**80.987**		**40.485**		**80.738**

Exhibit P-27, Ship Production Schedule: PB 2017 Navy			Date: February 2016		
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1		P-1 Line Item Number / Title: 5139 / LCAC SLEP			
Ship	**Shipbuilder**	**Fiscal Year**	**Contract Award**	**Start of Construction**	**Delivery Date**
LCAC SLEP 81	L-3 UNIDYNE, INC.	2013	Jun 2014	Jul 2014	Sep 2015
LCAC SLEP 90	L-3 UNIDYNE, INC.	2013	Jun 2014	Nov 2014	Feb 2016
LCAC SLEP 78	L-3 UNIDYNE, INC.	2014	Jun 2014	Aug 2014	Jan 2016
LCAC SLEP 83	L-3 UNIDYNE, INC.	2014	Jun 2014	Feb 2015	Jun 2016
LCAC SLEP 52	L-3 UNIDYNE, INC.	2014	Jun 2014	Mar 2015	Jun 2016
LCAC SLEP 57	L-3 UNIDYNE, INC.	2014	Jun 2014	Jul 2015	Oct 2016
LCAC SLEP 84	L-3 UNIDYNE, INC.	2015	Sep 2015	Dec 2015	Mar 2017
LCAC SLEP 58	L-3 UNIDYNE, INC.	2015	Sep 2015	Dec 2015	Mar 2017
LCAC SLEP 85	L-3 UNIDYNE, INC.	2016	Mar 2016	Jun 2016	Sep 2017
LCAC SLEP 64	L-3 UNIDYNE, INC.	2016	Mar 2016	Jun 2016	Sep 2017
LCAC SLEP 65	L-3 UNIDYNE, INC.	2016	Mar 2016	Oct 2016	Feb 2018
LCAC SLEP 76	L-3 UNIDYNE, INC.	2016	Mar 2016	Feb 2017	May 2018

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 05: Auxiliaries, Craft, and Prior-Year Program Costs / BSA 1: Auxiliaries, Craft and Prior Yr Program Cost	**P-1 Line Item Number / Title:** 5212 / YP Craft Maintenance/ROH/SLEP

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity *(Units in Each)*	-	-	6	6	-	6	-	-	-	-	-	12
Gross/Weapon System Cost *($ in Millions)*	0.000	-	21.838	21.363	-	21.363	-	-	-	-	-	43.201
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	0.000	-	21.838	21.363	-	21.363	-	-	-	-	-	43.201
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**0.000**	**-**	**21.838**	**21.363**	**-**	**21.363**	**-**	**-**	**-**	**-**	**-**	**43.201**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Plus Outfitting and Post Delivery *($ in Millions)*	-	-	0.146	0.280	-	0.280	0.145	-	-	-	-	0.571
Total *($ in Millions)*	**-**	**-**	**21.984**	**21.643**	**-**	**21.643**	**0.145**	**-**	**-**	**-**	**-**	**43.772**
Gross/Weapon System Unit Cost *($ in Millions)*	-	-	3.640	3.561	-	3.561	-	-	-	-	-	3.600

Description:

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 will be conducted at both the U.S. Coast Guard Yard in Baltimore and other private facilities.

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 05: Auxiliaries, Craft, and Prior-Year Program Costs / BSA 1: Auxiliaries, Craft and Prior Yr Program Cost	**P-1 Line Item Number / Title:** 5212 / YP Craft Maintenance/ROH/SLEP

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		

Characteristics:

	YP 676 Class
Length Overall	108 ft
Beam	24 ft
Displacement	173 tons
Draft	6 ft

Production Status:	YP SLEP 688	YP SLEP 686	YP SLEP 695	YP SLEP 689	YP SLEP 692	YP SLEP 694	YP SLEP 690
Contract Award Date	Mar 2016	Mar 2016	Sep 2016	Sep 2016	Mar 2016	Mar 2016	Jan 2017
Months to Completion							
a) Award to Delivery	13 months	21 months	9 months	12 months	25 months	29 months	11 months
b) Construction Start to Delivery	10 months	8 months	6 months	6 months	6 months	6 months	6 months
Delivery Date	Apr 2017	Dec 2017	Jun 2017	Sep 2017	Apr 2018	Aug 2018	Dec 2017
Completion Of Fitting Out	Jul 2017	Mar 2018	Sep 2017	Dec 2017	Jul 2018	Nov 2018	Mar 2018
Obligation Work Limit Date	Jun 2018	Feb 2019	Aug 2018	Nov 2018	Jun 2019	Oct 2019	Feb 2019

Production Status:	YP SLEP 683	YP SLEP 698	YP SLEP 700	YP SLEP 684	YP SLEP 691
Contract Award Date	Jan 2017	Jan 2017	Jan 2017	Jan 2017	Jan 2017
Months to Completion					
a) Award to Delivery	14 months	23 months	23 months	17 months	20 months
b) Construction Start to Delivery	6 months	6 months	6 months	6 months	6 months
Delivery Date	Mar 2018	Dec 2018	Dec 2018	Jun 2018	Sep 2018
Completion Of Fitting Out	Jun 2018	Mar 2018	Mar 2018	Sep 2018	Dec 2018
Obligation Work Limit Date	May 2019	Feb 2019	Feb 2019	Aug 2019	Nov 2019

Design Schedule	Start / Issue	Complete / Response	Reissue	Reissue Complete / Response
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	N/A	N/A		
Design Agent	PEO (Ships), PMS 325 Detachment Boston			

Classification of Cost Estimate: N/A

Exhibit P-5c, Ship Cost Analysis: PB 2017 Navy	**Date:** February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1	**P-1 Line Item Number / Title:** 5212 / YP Craft Maintenance/ROH/SLEP

Cost Categories	FY 2016		FY 2017	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Plan Costs	6		6	
Basic Construction/Conversion		21.338		20.863
Hull, Mechanical, and Electrical (HM&E)		0.500		0.500
Total Ship Estimate		**21.838**		**21.363**
Net P-1 Funding		**21.838**		**21.363**

Exhibit P-27, Ship Production Schedule: PB 2017 Navy			Date: February 2016		
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1			P-1 Line Item Number / Title: 5212 / YP Craft Maintenance/ROH/SLEP		
Ship	**Shipbuilder**	**Fiscal Year**	**Contract Award**	**Start of Construction**	**Delivery Date**
YP SLEP 688	USCG YARD	2016	Mar 2016	Jun 2016	Apr 2017
YP SLEP 686	USCG YARD	2016	Mar 2016	Apr 2017	Dec 2017
YP SLEP 695	TBD	2016	Sep 2016	Dec 2016	Jun 2017
YP SLEP 689	TBD	2016	Sep 2016	Mar 2017	Sep 2017
YP SLEP 692	USCG YARD	2016	Mar 2016	Oct 2017	Apr 2018
YP SLEP 694	USCG YARD	2016	Mar 2016	Feb 2018	Aug 2018
YP SLEP 690	TBD	2017	Jan 2017	Jun 2017	Dec 2017
YP SLEP 683	TBD	2017	Jan 2017	Sep 2017	Mar 2018
YP SLEP 698	TBD	2017	Jan 2017	Jun 2018	Dec 2018
YP SLEP 700	TBD	2017	Jan 2017	Jun 2018	Dec 2018
YP SLEP 684	TBD	2017	Jan 2017	Dec 2017	Jun 2018
YP SLEP 691	TBD	2017	Jan 2017	Mar 2018	Sep 2018

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 05: Auxiliaries, Craft, and Prior-Year Program Costs / BSA 1: Auxiliaries, Craft and Prior Yr Program Cost	**P-1 Line Item Number / Title:** 5300 / Completion of PY Shpbldg Progr

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A	Item MDAP/MAIS Code(s): N/A	

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	0.000	-	-	160.274	-	160.274	175.265	121.433	34.297	-	-	491.269
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	0.000	-	-	160.274	-	160.274	175.265	121.433	34.297	-	-	491.269
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
LPD 17 Class *($ in Millions)*	-	-	-	45.060	-	45.060	-	-	-	-	-	45.060
ESB *($ in Millions)*	-	-	-	-	-	-	27.000	-	-	-	-	27.000
LCS *($ in Millions)*	-	-	-	86.000	-	86.000	35.171	83.686	34.297	-	-	239.154
EPF *($ in Millions)*	-	-	-	13.255	-	13.255	7.751	-	-	-	-	21.006
DDG-51 *($ in Millions)*	-	-	-	15.959	-	15.959	105.343	37.747	-	-	-	159.049
Total Obligation Authority *($ in Millions)*	**0.000**	**-**	**-**	**160.274**	**-**	**160.274**	**175.265**	**121.433**	**34.297**	**-**	**-**	**491.269**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Total *($ in Millions)*	**-**	**-**	**-**	**160.274**	**-**	**160.274**	**175.265**	**121.433**	**34.297**	**-**	**-**	**491.269**
Gross/Weapon System Unit Cost *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Note: General Provision 8072 of the Consolidated Appropriations Act, 2016 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.

[P5 / [3036] LPD]: Funds in FY 17 are for the Government responsible portion of shipbuilding contract overrun for LPD 27 ($45.1M).

[P5 / [2127] Littoral Combat Ship (LCS)]: Funds in FY 2017 are for Government responsible portion of the shipbuilding contract overrun for LCS 10 and LCS 12 ($3.6M), restoration of descoped requirements resulting from sequestration reductions on LCS 13, LCS 14, LCS 15, and LCS 16 ($43.6M) and Government responsible portion of the shipbuilding contract overrun for LCS 13, LCS 14, LCS 15, and LCS 16 ($38.8M).

[P5 / [3043] EPF]: Funds in FY 17 are required for the Government responsible portion of shipbuilding contract overrun on EPF 10 ($6.5M), and for Government responsible portion of shipbuilding contract overrun and increased HM&E and Other Costs on EPF 8 and EPF 9 ($6.7M).

[P5 / [2122] DDG-51]: Funds in FY 17 are for the Government responsible portion for the shipbuilding construction contract overrun for DDG 115 ($16.0M).

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 05: Auxiliaries, Craft, and Prior-Year Program Costs / BSA 1: Auxiliaries, Craft and Prior Yr Program Cost	**P-1 Line Item Number / Title:** 5300 / Completion of PY Shpbldg Progr

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A	Item MDAP/MAIS Code(s): N/A	

Exhibits Schedule				Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Exhibit Type	Title*	Subexhibits	ID CD	Quantity / Total Cost *(Each) / ($ M)*	Quantity / Total Cost *(Each) / ($ M)*	Quantity / Total Cost *(Each) / ($ M)*	Quantity / Total Cost *(Each) / ($ M)*	Quantity / Total Cost *(Each) / ($ M)*	Quantity / Total Cost *(Each) / ($ M)*
P-5	Ship Estimate			- / 0.000	- / -	- / -	- / 160.274	- / -	- / 160.274
P-40	**Total Gross/Weapon System Cost**			**- / 0.000**	**- / -**	**- / -**	**- / 160.274**	**- / -**	**- / 160.274**

*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Exhibit P-5, Cost Analysis: PB 2017 Navy		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1	**P-1 Line Item Number / Title:** 5300 / Completion of PY Shpbldg Progr	**Item Number / Title [DODIC]:** - / Ship Estimate
ID Code (A=Service Ready, B=Not Service Ready) :	**MDAP/MAIS Code:**	

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Procurement Quantity *(Units in Each)*	-	-	-	-	-	-
Gross/Weapon System Cost *($ in Millions)*	0.000	-	-	160.274	-	160.274
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	0.000	-	-	160.274	-	160.274
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**0.000**	**-**	**-**	**160.274**	**-**	**160.274**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)						
Initial Spares *($ in Millions)*	-	-	-	-	-	-
Gross/Weapon System Unit Cost *($ in Millions)*	-	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*	Unit Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Completion of PY Shipbuilding Programs - [3036] LPD Cost																		
1.1) Government responsible portion of shipbuilding contract overrun for LPD 27	-	-	-	-	-	-	-	-	-	-	-	45.060	-	-	-	-	-	45.060
Subtotal: Completion of PY Shipbuilding Programs - [3036] LPD Cost	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	***45.060***	**-**	**-**	**-**	**-**	**-**	***45.060***
Completion of PY Shipbuilding Programs - [2127] Littoral Combat Ship (LCS) Cost																		
2.1) Government responsible portion of shipbuilding contract overrun for LCS 10 and LCS 12	-	-	-	-	-	-	-	-	-	-	-	3.600	-	-	-	-	-	3.600
2.2) Restoration of Sequestration shortfall for LCS 13 through LCS 16	-	-	-	-	-	-	-	-	-	-	-	43.566	-	-	-	-	-	43.566
2.3) Government responsible portion of shipbuilding contract overrun for LCS 13 through LCS 16	-	-	-	-	-	-	-	-	-	-	-	38.834	-	-	-	-	-	38.834
Subtotal: Completion of PY Shipbuilding Programs - [2127] Littoral Combat Ship (LCS) Cost	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	***86.000***	**-**	**-**	**-**	**-**	**-**	***86.000***
Completion of PY Shipbuilding Programs - [3043] EPF Cost																		

Exhibit P-5, Cost Analysis: PB 2017 Navy		Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1	P-1 Line Item Number / Title: 5300 / Completion of PY Shpbldg Progr	Item Number / Title [DODIC]: - / Ship Estimate
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2015			FY 2016			FY 2017 Base			FY 2017 OCO			FY 2017 Total		
	Unit Cost ($ M)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ M)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ M)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ M)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ M)	Qty (Each)	Total Cost ($ M)	Unit Cost ($ M)	Qty (Each)	Total Cost ($ M)
4.1) Government responsible portion of shipbuilding contract overrun for EPF 10	-	-	-	-	-	-	-	-	-	-	-	6.545	-	-	-	-	-	6.545
4.2) Government responsible portion of shipbuilding contract overrun and HM&E/Other - EPF 8/9	-	-	-	-	-	-	-	-	-	-	-	6.710	-	-	-	-	-	6.710
Subtotal: Completion of PY Shipbuilding Programs - [3043] EPF Cost	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	***13.255***	**-**	**-**	**-**	**-**	**-**	***13.255***
Completion of PY Shipbuilding Programs - [2122] DDG-51 Cost																		
5.1) Government responsible portion of shipbuilding contract overrun for DDG 115	-	-	-	-	-	-	-	-	-	-	-	15.959	-	-	-	-	-	15.959
Subtotal: Completion of PY Shipbuilding Programs - [2122] DDG-51 Cost	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	***15.959***	**-**	**-**	**-**	**-**	**-**	***15.959***
Gross/Weapon System Cost	**-**	**-**	**0.000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**160.274**	**-**	**-**	**-**	**-**	**-**	**160.274**

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 05: Auxiliaries, Craft, and Prior-Year Program Costs / BSA 1: Auxiliaries, Craft and Prior Yr Program Cost	**P-1 Line Item Number / Title:** 5087 / Oceanographic Ships
ID Code (A=Service Ready, B=Not Service Ready): A	**Program Elements for Code B Items:** N/A / **Other Related Program Elements:** N/A
Line Item MDAP/MAIS Code: N/A	

Resource Summary	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	To Complete	Total
Procurement Quantity *(Units in Each)*	3	-	-	-	-	-	-	-	-	-	-	3
Gross/Weapon System Cost *($ in Millions)*	291.326	-	-	-	-	-	-	-	-	-	-	291.326
Less PY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) *($ in Millions)*	291.326	-	-	-	-	-	-	-	-	-	-	291.326
Plus CY Advance Procurement *($ in Millions)*	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority *($ in Millions)*	**291.326**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**291.326**
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Plus Outfitting and Post Delivery *($ in Millions)*	8.462	4.600	-	-	-	-	-	-	-	-	-	13.062
Total *($ in Millions)*	**299.788**	**4.600**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**304.388**
Gross/Weapon System Unit Cost *($ in Millions)*	97.109	-	-	-	-	-	-	-	-	-	-	97.109

Description:

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) (delivered September 2015) 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:	T-AGS	AGOR
Length Overall	353 ft	238 ft
Beam	58 ft	50 ft
Displacement	4,888 Long Tons	2,915 Long Tons
Draft	19 ft	15 ft

Production Status:	T-AGS 66	AGOR 28
Contract Award Date	Dec 2009	Feb 2012
Months to Completion		
a) Award to Delivery	74 months	53 months
b) Construction Start to Delivery	65 months	48 months
Delivery Date	Feb 2016	Jul 2016
Completion Of Fitting Out	May 2016	Jul 2016
Obligation Work Limit Date	Apr 2017	Jun 2017

Exhibit P-40, Budget Line Item Justification: PB 2017 Navy	Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N: Shipbuilding and Conversion, Navy / BA 05: Auxiliaries, Craft, and Prior-Year Program Costs / BSA 1: Auxiliaries, Craft and Prior Yr Program Cost	**P-1 Line Item Number / Title:** 5087 / Oceanographic Ships

ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		

Design Schedule	Start / Issue	Complete / Response	Reissue	Reissue Complete / Response
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; The Glosten Associates			

Classification of Cost Estimate: N/A

Exhibit P-5c, Ship Cost Analysis: PB 2017 Navy	**Date:** February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1	**P-1 Line Item Number / Title:** 5087 / Oceanographic Ships

Cost Categories	FY 2007		FY 2012	
	Qty *(Each)*	Total Cost *($ M)*	Qty *(Each)*	Total Cost *($ M)*
Plan Costs	1	2.134	1	-
Basic Construction/Conversion		87.230		70.986
Change Orders		2.248		2.859
Electronics		13.406		5.587
Hull, Mechanical, and Electrical (HM&E)		9.468		6.681
Other Cost		2.020		2.000
Total Ship Estimate		**116.506**		**88.113**
Net P-1 Funding		**116.506**		**88.113**

Exhibit P-27, Ship Production Schedule: PB 2017 Navy					Date: February 2016
Appropriation / Budget Activity / Budget Sub Activity: 1611N / 05 / 1			P-1 Line Item Number / Title: 5087 / Oceanographic Ships		
Ship	**Shipbuilder**	**Fiscal Year**	**Contract Award**	**Start of Construction**	**Delivery Date**
T-AGS 66	VT HALTER	2007	Dec 2009	Sep 2010	Feb 2016
AGOR 28	DAKOTA CREEK INDUSTRIES, INC.	2012	Feb 2012	Jul 2012	Jul 2016