Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress

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Summary

The planned size of the Navy, the rate of Navy ship procurement, and the prospective affordability of the Navy's shipbuilding plans have been matters of concern for the congressional defense committees for the past several years.

The Navy in February 2006 presented to Congress a goal of achieving and maintaining a fleet of 313 ships, consisting of certain types and quantities of ships. Since then, the Navy has changed its desired quantities for some of those ship types, and the Navy's goals now add up to a desired fleet of 320 or 321 ships.

The Navy's proposed FY2012 budget requests funding for the procurement of 10 new battle force ships (i.e., ships that count against the 320-321 ship goal). The 10 ships include two Virginia-class attack submarines, one DDG-51 class Aegis destroyer, four Littoral Combat Ships (LCSs), one LPD-17 class amphibious ship, one Mobile Landing Platform (MLP) ship (i.e., a maritime prepositioning ship), and one Joint High Speed Vessel (JHSV). The Navy's five-year (FY2012-FY2016) shipbuilding plan, submitted to Congress in conjunction with the Navy's proposed FY2012 budget, includes a total of 55 new battle force ships, or an average of 11 per year. Of the 55 ships in the plan, 27, or almost half, are relatively inexpensive LCSs or JHSVs.

The Navy's FY2011 30-year (FY2011-FY2040) shipbuilding plan, submitted to Congress in February 2010 in conjunction with its proposed FY2011 budget, includes 276 ships. The FY2011 30-year plan does not include enough ships to fully support all elements of the Navy's de facto 320-321 ship plan over the long run. Among other things, the Navy projects that the attack submarine and cruiser-destroyer forces would drop substantially below required levels in the latter years of the 30-year plan.

The Navy last year estimated that executing the FY2011 30-year shipbuilding plan would require an average of $15.9 billion per year in constant FY2010 dollars. A May 2010 Congressional Budget Office (CBO) report estimated that the plan would require an average of $19.0 billion per year in constant FY2010 dollars, or about 19% more than the Navy estimated.

A near-term issue for Congress is the potential impact on the executability of FY2011 Navy shipbuilding programs of a year-long continuing resolution (CR) for FY2011 at FY2010 funding levels. Several FY2011 Navy shipbuilding programs, including the Virginia-class attack submarine program and the DDG-51 destroyer program, would face executability challenges under this scenario because of increases in ship quantities and/or funding levels from FY2010 to FY2011.

Additional issues for Congress include the sufficiency of the Navy's FY2011 30-year shipbuilding plan for achieving and maintaining the Navy's current 320-321 ship force-level objective, the affordability of the FY2011 30-year shipbuilding plan, and proposals that some study groups have made for Navy ship force structure.

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Introduction

The planned size of the Navy, the rate of Navy ship procurement, and the prospective affordability of the Navy's shipbuilding plans have been matters of concern for the congressional defense committees for the past several years. This report provides background information and presents potential issues for Congress concerning the Navy's ship force-structure goals and shipbuilding plans. Decisions that Congress makes on Navy shipbuilding programs can substantially affect Navy capabilities and funding requirements, and the U.S. shipbuilding industrial base.

A near-term issue for Congress is the potential impact on the executability of FY2011 Navy shipbuilding programs of a year-long continuing resolution (CR) for FY2011 at FY2010 funding levels. Several FY2011 Navy shipbuilding programs, including the Virginia-class attack submarine program and the DDG-51 destroyer program, would face executability challenges under this scenario because of increases in ship quantities and/or funding levels from FY2010 to FY2011.

Background

Navy's De Facto 320-321 Ship Force Structure Plan

The Navy in February 2006 presented to Congress a goal of achieving and maintaining a fleet of 313 ships, consisting of certain types and quantities of ships. Since then, the Navy has changed its desired quantities for some of those ship types, and the Navy's goals now add up to a desired fleet of 320 or 321 ships. Although the 313-ship plan of 2006 is no longer a fully accurate representation of current Navy ship force-structure goals, the Navy has not presented to Congress an official replacement for the 313-ship plan. Many observers continue to refer to the Navy's planned fleet as a 313-ship fleet. Navy officials sometimes refer to the figure of 313 ships as a "floor," or to a force-structure goal of 313-321 ships. This CRS report treats the Navy's desire for a fleet of 320-321 ships as the service's de facto ship force structure plan.

Table 1 compares the current 320-321 ship plan to the 313-ship plan of 2006 and earlier Navy ship force structure plans.

Table 1. Navy Ship Force Structure Plans Since 2001

Ship type	De facto 320-321 ship plan reflecting changes since 2006 to the 313-ship plan	2006 Navy plan for 313-ship fleet	Early-2005 Navy plan for fleet of 260-325 ships		2002-2004 Navy plan for 375-ship Navy[a]	2001 QDR plan for 310-ship Navy
			260-ships	325-ships		
Ballistic missile submarines (SSBNs)	12[b]	14	14	14	14	14
Cruise missile submarines (SSGNs)	0[c]	4	4	4	4	2 or 4[d]
Attack submarines (SSNs)	48	48	37	41	55	55
Aircraft carriers	10 or 11[e]	11[f]	10	11	12	12
Cruisers and destroyers	88[g]	88	67	92	104	116
Frigates	0	0	0	0	0	
Littoral Combat Ships (LCSs)	55	55	63	82	56	0
Amphibious ships	33[h]	31	17	24	37	36
MPF(F) ships[i]	0[j]	12[i]	14[i]	20[i]	0[i]	0[i]
Combat logistics (resupply) ships	30	30	24	26	42	34
Dedicated mine warfare ships	0	0	0	0	26[k]	16
Other[l]	44[m]	20	10	11	25	25
Total battle force ships	**320 or 321**	**313**	**260**	**325**	**375**	**310 or 312**

Sources: Table prepared by CRS based on U.S. Navy data.

Note: QDR is Quadrennial Defense Review.

a. Initial composition. Composition was subsequently modified.

b. The Navy plans to replace the 14 current Ohio-class SSBNs with a new class of 12 next-generation SSBNs. For further discussion, see CRS Report R41129, *Navy SSBN(X) Ballistic Missile Submarine Program: Background and Issues for Congress*, by Ronald O'Rourke.

c. Although the Navy plans to continue operating its four SSGNs until they reach retirement age in the late 2020s, the Navy does not plan to replace these ships when they retire.

d. The report on the 2001 QDR did not mention a specific figure for SSGNs. The Administration's proposed FY2001 Department of Defense (DOD) budget requested funding to support the conversion of two available Trident SSBNs into SSGNs, and the retirement of two other Trident SSBNs. Congress, in marking up this request, supported a plan to convert all four available SSBNs into SSGNs.

e. The FY2011 30-year (FY2011-FY2040) shipbuilding plan would reduce the Navy's carrier force from 11 ships to 10 ships after 2040.

f. For a time, the Navy characterized the goal as 11 carriers in the nearer term, and eventually 12 carriers.

g. Although the 88 number remains unchanged from the 2006 plan, the types and quantities of cruisers and destroyers has changed. The 2006 plan envisioned 62 DDG-51 destroyers, 7 DDG-1000 destroyers, and 19 next-generation CG(X) cruisers. The 19 CG(X)s would replace today's 22 Aegis cruisers. The new plan calls for 88 destroyers, including 85 DDG-51s and 3 DDG-1000s. The 85 DDG-51s are to include Flight III DDG-51s that are to be procured as replacements for today's 22 Aegis cruisers. For further discussion, see CRS Report RL32109, *Navy DDG-51 and DDG-1000 Destroyer Programs: Background and Issues for Congress*, by Ronald O'Rourke, and CRS Report RL34179, *Navy CG(X) Cruiser Program: Background for Congress*, by Ronald O'Rourke.

h. The Navy acknowledges that meeting a requirement for being able to lift the assault echelons of 2.0 Marine Expeditionary Brigades (MEBs) would require a minimum of 33 amphibious ships rather than 31. For further discussion, see CRS Report RL34476, *Navy LPD-17 Amphibious Ship Procurement: Background, Issues, and Options for Congress*, by Ronald O'Rourke.

i. Today's Maritime Prepositioning Force (MPF) ships are intended primarily to support Marine Corps operations ashore, rather than Navy combat operations, and thus are not counted as Navy battle force ships. The MPF (Future) ships, however, would contribute to Navy combat capabilities (for example, by supporting Navy aircraft operations). For this reason, the ships in the planned MPF(F) squadron were counted by the Navy as battle force ships.

j. The Navy no longer plans to acquire an MPF(F) squadron. The Navy, however, has procured or plans to procure six ships that were previously planned for the MPF(F) squadron—three modified TAKE-1 class cargo ships, and three Mobile Landing Platform (MLP) ships. These six ships are now included in the 46-ship total shown for "Other" ships.

k. The figure of 26 dedicated mine warfare ships includes 10 ships maintained in a reduced mobilization status called Mobilization Category B. Ships in this status are not readily deployable and thus do not count as battle force ships. The 375-ship proposal thus implied transferring these 10 ships to a higher readiness status.

l. This category includes, among other things, command ships and support ships.

m. The increase in this category from 20 ships under the 313-ship plan to 44 ships under the 320-321 ship plan includes a 18-ship increase in the planned number of JHSVs (from 3 to 21), and the transfer into this category of six ships—three modified TAKE-1 class cargo ships, and three Mobile Landing Platform (MLP) ships—that were previously intended for the planned (but now canceled) MPF(F) squadron. The 21 JHSVs include 16 ships dedicated to Navy missions and 5 ships transferred from the Army to the Navy and operated by the Navy primarily for the performance of Army missions.

Navy's 5-Year, 10-Year, and 30-Year Shipbuilding Plans

FY2012 Five-Year (FY2012-FY2016) Shipbuilding Plan

Table 2 shows the Navy's FY2012 five-year (FY2012-FY2016) shipbuilding plan.

Table 2. Navy FY2012 Five-Year (FY2012-FY2016) Shipbuilding Plan

(Battle force ships—i.e., ships that count against 320-321 ship goal)

Ship type	FY12	FY13	FY14	FY15	FY16	Total
Ford (CVN-78) class aircraft carrier		1				1
Virginia (SSN-774) class attack submarine	2	2	2	2	2	10
Arleigh Burke (DDG-51) class destroyer	1	2	2	2	1	8
Littoral Combat Ship (LCS)	4	4	4	4	3	19
San Antonio (LPD-17) class amphibious ship	1					1
LHA(R) amphibious assault ship					1	1
Fleet tug (TATF)				1		1
Mobile Landing Platform (MLP) ship	1	1				2
Joint High Speed Vessel (JHSV)	1	2	2	2	1	8
TAO(X) oiler			1	1	1	3
TAGOS ocean surveillance ship		1				1
TOTAL	10	13	11	12	9	55

Source: FY2012 Navy budget submission.

Notes: The FY2012-FY2016 shipbuilding plan also includes, in FY2012, an oceanographic ship that does not count against the 320-321 ship goal. JHSVs are being procured by both the Navy and the Army. The Army is procuring a second JHSV in FY2012; this ship is included in the Army's budget.

Observations that can be made about the Navy's proposed five-year (FY2012-FY2016) shipbuilding plan include the following:

- The FY2012-FY2016 plan includes a total of 55 battle force ships, or 5 more than the FY2011-FY2015 plan. The net increase of five ships includes the addition of six ships and the subtraction of one previously planned ship. The six added ships include a second DDG-51 in FY2014, a fourth Littoral Combat Ship (LCS) in FY2012, three TAO(X) oilers in FY2014-FY2016, and a TAGOS ocean surveillance ship in FY2013. The ship that was subtracted was a second JHSV that was previously planned for FY2016.
- The FY2012-FY2016 plan includes an average of 11 battle force ships per year, making this the second year in a row that the Navy has presented a five-year shipbuilding plan showing an average of 10 or more battle force ships per year. Given the single-digit numbers of battle force ships that have been procured each year since FY1993, shipbuilding supporters for some time have wanted to increase the shipbuilding rate to 10 or more battle force ships per year. A rate of 10 battle force ships per year is above the steady-state replacement rate for a fleet of 320-321 ships with an average service life of 35 years, which is about 9.2 ships per year. The average shipbuilding rate since FY1993 has been substantially below 9.2 ships per year (see **Appendix D**).
- Although LCSs and JHSVs account for about 24% of the ships in the Navy's planned force structure (78 of 320-321 ships), they account 49% of the ships in the FY2012-FY2016 shipbuilding plan (27 of 55). In this sense, these relatively inexpensive ships are overrepresented in the five-year shipbuilding plan relative

to their portion of the 320-321 ship requirement, making it easier to procure an average of 11 ships per year within available resources. Starting a few years from now, when the LCS and JHSV programs are no longer overrepresented in the shipbuilding plan, and particularly when procurement of next-generation SSBN(X) ballistic missile submarines begins, procuring an average of 10 or more ships per year will become a considerably more expensive proposition. In this sense, the FY2012-FY2016 shipbuilding program's average of 11 ships per year does not necessarily imply that the Navy has solved the challenge it faces concerning the long-term affordability of its shipbuilding plans.

- The addition of the fourth LCS in FY2012 brings planned annual LCS procurement quantities into line with those called for in the dual-award acquisition strategy that Congress approved in December 2010 for the LCS program.[1]
- The San Antonio (LPD-17) class amphibious ship planned for FY2012 is to be the 11th and final ship in the class. The 33-ship force-structure goal for amphibious ships includes 11 LPD-17s.[2]
- The first of three planned Mobile Landing Platform ships (MLPs) was requested in the Navy's FY2011 budget. The FY2011-FY2015 plan scheduled the second and third ships for FY2013 and FY2015. The FY2012-FY2016 plan accelerates the second and third ships to FY2012 and FY2013. The procurement profile for the three MLPs has thus been changed from 1-0-1-0-1 to 1-1-1. Last year, some supporters of the MLP program proposed making this change (or, at a minimum, accelerating the third MLP from FY2015 to FY2014), on the grounds that it would permit a more efficient production profile for the three ships. The Navy last year was presumably aware of the potential production-line advantages of procuring the ships in consecutive years, but may have nevertheless stretched out the procurement profile to 1-0-1-0-1 to help bridge the builder of these ships—National Steel and Shipbuilding Company (NASSCO) of San Diego—to the planned start of the TAO(X) oiler and LSD(X) amphibious ship programs in FY2017. As noted in the next point below, the planned start of the TAO(X) program has now been accelerated from FY2017 to FY2014. The Navy plans to compete the TAO(X) program; NASSCO is generally considered to be a likely competitor for the program.
- The addition of the three TAO(X) oilers in FY2014-FY2016 reflects an acceleration of the start of this program from FY2017 to FY2014. This acceleration was one of a series of measures that the Navy announced on September 17, 2010, for sustaining the shipbuilding capability in Louisiana.[3] As mentioned above, the Navy plans to compete the TAO(X), so it is not certain that the program will be awarded to a shipyard in Louisiana, such as the Avondale

[1] For further discussion, see CRS Report RL33741, *Navy Littoral Combat Ship (LCS) Program: Background, Issues, and Options for Congress*, by Ronald O'Rourke.

[2] For further discussion, see CRS Report RL34476, *Navy LPD-17 Amphibious Ship Procurement: Background, Issues, and Options for Congress*, by Ronald O'Rourke.

[3] For the text of the Navy's announcement, see http://www.wwltv.com/news/Sec-of-Navy-remarks-on-shipyard-in-Avondale-103150169.html.

shipyard near New Orleans that forms part of Huntington Ingalls Industries (HII), which until recently was part of Northrop Grumman.

FY2012 10-Year (FY2012-FY2021) Shipbuilding Plan

Table 3 shows the Navy's proposed FY2012 10-year (FY2012-FY2021) shipbuilding plan. The first five years of this plan include the same ships as those in the FY2012 five-year (FY2012-FY2016) shipbuilding plan shown in the previous section.

Table 3. Navy FY2012 10-Year (FY2012-FY2021) Shipbuilding Plan

(Battle force ships—i.e., ships that count against 320-321 ship goal)

Ship type	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21
Aircraft carriers		1					1			
Large surface combatants (i.e., destroyers)	1	2	2	2	1	2	1	2	1	2
Small surface combatant (i.e., LCSs)	4	4	4	4	3	3	3	3	2	2
Attack submarines	2	2	2	2	2	2	1	2	2	2
Ballistic missile submarines								1		
Amphibious ships	1				1	1		1		2
Combat logistics force (i.e., resupply) ships			1	1	1	1	1	1	1	1
Support ships	2	4	2	3	1	3	3	2	2	
TOTAL	10	13	11	12	9	12	10	12	8	9

Source: FY2012 Navy budget submission.

Notes: Tables does not include ships, such as oceanographic ships, that do not count against the 320-321 ship goal.

FY2011 30-Year (FY2011-FY2040) Shipbuilding Plan

The Navy did not submit an FY2012 30-year (FY2012-FY2041) shipbuilding plan.[4] **Table 4** shows the FY2011 30-year (FY2011-FY2040) shipbuilding plan that the Navy submitted to

[4] Section 1023 of the FY2011 defense authorization act (H.R. 6523/P.L. 111-383 of January 7, 2011) amended the law (10 U.S.C. 231) that had required DOD to submit a 30-year shipbuilding plan each year. As amended by Section 1023, 10 U.S.C. 231 now requires DOD to submit a 30-year shipbuilding plan once every four years, in the same year that DOD submits a Quadrennial Defense Review (QDR). Regarding the three years between each QDR, the joint explanatory statement of the House and Senate Armed Services Committees on H.R. 6523 stated:

> The committees expect that, following the submission of the President's budget materials for a fiscal year, the Secretary of the Navy, at the written request of one of the congressional defense committees, will promptly deliver the Navy's long-term shipbuilding plan used to develop the President's budget request for that fiscal year, as well as a certification from the Secretary of the Navy that both the President's budget request for that fiscal year and the budget for the future-years defense program is sufficient to fund the construction schedule provided in that plan. The committees expect that such a plan would include the quantity of each class of ship to be constructed in that fiscal year and the nine following fiscal years.

Congress in February 2010, in conjunction with its proposed FY2011 budget. Because this 30-year plan reflects the Navy's FY2011 budget submission rather than the Navy's FY2012 budget submission, the figures it shows for FY2012-FY2021 do not match those in the FY2012 5-year (FY2012-FY2016) and FY2012 10-year (FY2012-FY2021) shipbuilding plans shown in the previous two sections. The FY2011 30-year (FY2011-FY2040) plan includes a total of 276 ships.

Table 4. Navy FY2011 30-Year (FY2011-FY2040) Shipbuilding Plan

FY	CVN	LSC	SSC	SSN	SSBN	AWS	CLF	Supt	Total
11		2	2	2		1		2	**9**
12		1	3	2		1		1	**8**
13	1	2	4	2				3	**12**
14		1	4	2				2	**9**
15		2	4	2				4	**12**
16		1	3	2		1		2	**9**
17		2	3	2		1	1	3	**12**
18	1	1	3	1				3	**9**
19		2	3	2	1	1	1	3	**13**
20		1	2	2				4	**9**
21		2	2	2		2	1	2	**11**
22		1	2	2	1		1	3	**10**
23	1	2	2	1		1	1	3	**11**
24		1	2	1	1		1	2	**8**
25		1	1	1	1	2	1	1	**8**
26		2	2	1	1		1		**7**
27		2	1	1	1	1	1		**7**
28	1	1	2	1	1		1	1	**8**
29		2	1	1	1	2	1		**8**
30		1	2	1	1		1	2	**8**
31		2	1	1	1	1	1	1	**8**
32		2	2	1	1		1	1	**8**
33	1	2	1	1	1	2	1	2	**11**
34		2	2	1			1	2	**8**
35		2	2	2		1	1	2	**10**
36		2	2	1				2	**7**
37		2	2	2		1	1	2	**10**
38	1	2	2	1		1		2	**9**
39		2	2	2		1	1	2	**10**
40		2	2	1				2	**7**

Source: Navy FY2011 budget submission.

Key: FY = Fiscal Year; **CVN** = aircraft carriers; **LSC** = surface combatants (i.e., cruisers and destroyers); **SSC** = small surface combatants (i.e., Littoral Combat Ships [LCSs]); **SSN** = attack submarines; **SSGN** = cruise missile submarines; **SSBN** = ballistic missile submarines; **AWS** = amphibious warfare ships; **CLF** = combat logistics force (i.e., resupply) ships; **MPF(F)** = Maritime Prepositioning Force (Future) ships; **Supt** = support ships.

Navy's Projected Force Levels

Projected Force Levels Under FY2012 10-Year Plan

Table 5 shows the Navy's projection of force levels for FY2012-FY2021 that would result from implementing the FY2012 10-year (FY2012-FY2021) shipbuilding plan shown in **Table 3**. This table, unlike **Table 6**, includes five JHSVs transferred from the Army to the Navy and operated by the Navy primarily for the performance of Army missions.

Table 5. Projected Force Levels Resulting from FY2012 10-Year Plan

FY	CVN	LSC	SSC	SSN	SSGN	SSBN	AWS	CLF	Supt	Total
Goal in 320-321 ship plan	**10 or11**	**88**	**55**	**48**	**0**	**12**	**33**	**30**	**44**	**320 or 321**
12	11	84	41	54	4	14	30	31	21	**290**
13	10	84	35	55	4	14	30	30	25	**287**
14	10	85	30	55	4	14	30	30	28	**286**
15	11	86	26	54	4	14	30	30	31	**286**
16	11	90	31	52	4	14	31	30	34	**297**
17	11	91	32	50	4	14	33	29	37	**301**
18	11	93	36	50	4	14	33	30	40	**311**
19	11	95	36	51	4	14	33	30	42	**316**
20	12	97	40	49	4	14	33	30	43	**322**
21	12	97	40	49	4	14	34	30	44	**324**

Source: Navy FY2012 budget submission.

Note: Unlike **Table 6**, figures in this table include, in the category for support ships, five JHSVs transferred from the Army to the Navy and operated by the Navy primarily for the performance of Army missions.

Key: FY = Fiscal Year; **CVN** = aircraft carriers; **LSC** = surface combatants (i.e., cruisers and destroyers); **SSC** = small surface combatants (i.e., frigates, Littoral Combat Ships [LCSs], and mine warfare ships); **SSN** = attack submarines; **SSGN** = cruise missile submarines; **SSBN** = ballistic missile submarines; **AWS** = amphibious warfare ships; **CLF** = combat logistics force (i.e., resupply) ships; **MPF(F)** = Maritime Prepositioning Force (Future) ships; **Supt** = support ships.

Projected Force Levels Under FY2011 30-Year Plan

Table 6 shows the Navy's projection of force levels for FY2011-FY2040 that would result from implementing the FY2011 30-year (FY2011-FY2040) shipbuilding plan shown in **Table 4**. This table, unlike **Table 5**, does not include five JHSVs transferred from the Army to the Navy and operated by the Navy primarily for the performance of Army missions.

Table 6. Projected Force Levels Resulting from FY2011 30-Year Plan

FY	CVN	LSC	SSC	SSN	SSGN	SSBN	AWS	CLF	Supt	Total
Goal in 320-321 ship plan	**10 or11**	**88**	**55**	**48**	**0**	**12**	**33**	**30**	**44**	**320 or 321**
11	11	84	42	53	4	14	29	29	18	**284**
12	11	84	41	54	4	14	30	29	20	**287**
13	10	85	37	55	4	14	30	29	23	**287**
14	10	86	32	55	4	14	30	30	24	**285**
15	11	88	28	54	4	14	31	30	25	**285**
16	11	90	32	51	4	14	33	30	27	**292**
17	11	91	33	51	4	14	33	30	31	**298**
18	11	93	37	50	4	14	33	30	33	**305**
19	11	94	37	51	4	14	33	30	37	**311**
20	12	96	39	49	4	14	33	30	38	**315**
21	12	96	39	49	4	14	34	31	39	**318**
22	12	95	41	48	4	14	34	29	41	**318**
23	11	94	39	48	4	14	35	29	45	**319**
24	11	94	40	46	4	14	36	28	47	**320**
25	12	92	41	45	4	14	35	28	46	**317**
26	12	89	43	44	4	14	36	28	45	**313**
27	12	87	45	43	2	13	35	26	46	**308**
28	11	85	46	41	1	13	36	26	46	**304**
29	11	81	48	40	0	13	34	25	44	**296**
30	12	77	49	39	0	12	33	25	44	**291**
31	12	73	51	41	0	12	33	24	44	**290**
32	11	71	52	41	0	12	32	25	44	**288**
33	11	69	53	42	0	12	31	26	44	**288**
34	11	67	54	43	0	12	33	26	44	**290**
35	12	68	55	44	0	12	30	25	44	**290**
36	11	70	56	45	0	12	30	26	44	**294**
37	11	72	56	46	0	12	29	27	44	**297**
38	11	74	56	45	0	12	29	27	44	**298**
39	11	76	56	45	0	12	29	28	44	**301**
40	11	76	55	45	0	12	30	28	44	**301**

Source: Navy FY2011 budget submission.

Note: Unlike **Table 5**, figures in this table do not include, in the category for support ships, five JHSVs transferred from the Army to the Navy and operated by the Navy primarily for the performance of Army missions.

Key: FY = Fiscal Year; **CVN** = aircraft carriers; **LSC** = surface combatants (i.e., cruisers and destroyers); **SSC** = small surface combatants (i.e., frigates, Littoral Combat Ships [LCSs], and mine warfare ships); **SSN** = attack

submarines; **SSGN** = cruise missile submarines; **SSBN** = ballistic missile submarines; **AWS** = amphibious warfare ships; **CLF** = combat logistics force (i.e., resupply) ships; **MPF(F)** = Maritime Prepositioning Force (Future) ships; **Supt** = support ships.

Oversight Issues for Congress

Official Replacement for 313-Ship Plan of 2006

As mentioned earlier, although the 313-ship plan of 2006 is no longer a fully accurate representation of current Navy ship force-structure goals, the Navy has not presented to Congress an official replacement for the 313-ship plan. Consequently, a potential oversight issue for Congress is whether and when the Navy plans to present to Congress an official replacement for the 313-ship plan of 2006. Such a replacement presumably would take into account the changes that have led to the 320-321 ship total shown in the first data column of **Table 1**, plus any other changes the Navy might wish to announce.

The Navy's February 2010 report on its FY2011 30-year (FY2011-FY2040) shipbuilding plan stated that the Navy was undertaking a force structure assessment (FSA). Such an assessment could lead to a new plan to replace the 313-ship plan of 2006, but the Navy's report did not say when the FSA might be completed, or when the Navy might present a new official ship force structure plan to Congress. The Navy testified in March 2011 that

> we in fact during the past year have done a force structure assessment. And what we are currently doing is working through the leadership both on the Department of the Navy side and the Department of Defense side. And I expect that we should be delivering that [assessment] in the near future as soon as we go through the wickets with the leadership.[5]

Sufficiency of FY2011 30-Year Shipbuilding Plan

Another potential oversight issue for Congress concerns the sufficiency of the FY2011 30-year (FY2011-FY2040) shipbuilding plan. As shown in **Table 6**, the plan does not include enough ships to fully support all elements of the 320-321 ship plan over the long run:

- The Navy projects that the attack submarine and cruiser-destroyer forces will drop substantially below required levels in the latter years of the 30-year plan. The projected number of attack submarines drops below the required level of 48 boats in FY2022, reaches a minimum of 39 boats in FY2030, and remains below 48 boats through 2040. The projected number of cruisers and destroyers drops below the required level of 88 ships in 2027, reaches a minimum of 67 ships in FY2034, and remains below 88 ships through FY2040.
- There would also be shortfalls in certain years in amphibious ships, combat logistics force (i.e., resupply) ships, and support ships.

[5] Spoken remarks of Vice Admiral John Blake, Deputy Chief of Naval Operations, Integration of Capabilities and Resources, at a March 9, 2011, hearing on Navy shipbuilding programs before the Seapower and Projection Forces subcommittee of the House Armed Services Committee, as shown in the transcript of the hearing.

The projected shortfalls in cruisers and destroyers, attack submarines, and other ships could make it difficult or impossible for the Navy to fully perform its projected missions during the latter years of the 30-year plan. In light of the projected shortfalls in cruisers-destroyers and attack submarines, policymakers may wish to consider two options:

- increasing planned procurement rates of destroyers and attack submarines, perhaps particularly in years prior to the start of SSBN(X) procurement, and
- extending the service lives of older cruisers and destroyers to 45 years, and refueling older attack submarines an extending their service lives to 40 or more years.

Regarding the second option above, possible candidates for service life extensions include the Navy's 22 Aegis cruisers, the first 28 DDG-51 destroyers (i.e., the Flight I/II DDG-51s), the final 23 Los Angeles (SSN-688) attack submarines (i.e., the Improved 688s), and the 3 Seawolf (SSN-21) class attack submarines—a total of 76 ships. Whether such service life extensions would be technically feasible or cost-effective is not clear. Feasibility would be a particular issue for the attack submarines, given limits on submarine pressure hull life.

Extending the service lives of any of these ships could require increasing funding for their maintenance, possibly beginning in the near term, so that the ships would be in good enough condition years from now to remain eligible for service life extension work. Such funding increases would be in addition to those the Navy has recently programmed for ensuring that its surface ships can remain in service to the end of their currently planned service lives.

Affordability of FY2011 30-Year Shipbuilding Plan

Another potential oversight issue for Congress concerns the affordability of the FY2011 30-year (FY2011-FY2040) shipbuilding plan. The Navy estimated that executing the FY2011 30-year shipbuilding plan would require an average of $15.9 billion per year in constant FY2010 dollars for new-construction ships. A May 2010 Congressional Budget Office (CBO) report estimated that the plan would require an average of $19.0 billion per year in constant FY2010 dollars for new-construction ships, or about 19% more than the Navy estimates. The CBO report stated: "If the Navy receives the same amount of funding for ship construction in the next 30 years as it has over the past three decades—an average of about $15 billion a year in 2010 dollars—it will not be able to afford all of the purchases in the 2011 plan."[6] **Table 7** summarizes the Navy and CBO estimates, as presented in the CBO report.

[6] Congressional Budget Office, *An Analysis of the Navy's Fiscal Year 2011 Shipbuilding Plan*, May 201, p. vii.

Table 7. Navy and CBO Estimates of Cost of FY2011 30-Year (FY2011-FY2040) Shipbuilding Plan

Funding for new-construction ships, in billions of constant FY2010 dollars

	First 10 years (FY2011-FY2020)	Next 10 years (FY2021-2030)	Final 10- years (FY2031-FY2040)	Entire 30 years (FY2011-FY2040)
Navy estimate	14.5	17.9	15.3	15.9
CBO estimate	15.2	20.4	21.4	19.0
% difference between Navy and CBO estimates	5%	14%	40%	19%

Source: Congressional Budget Office, *An Analysis of the Navy's Fiscal Year 2011 Shipbuilding Plan*, May 2010, Table 2 (page 9). The CBO report calculates the percent difference between the Navy and CBO estimates for the entire 30-year period as 20% rather than 19%. $19.0 billion is 19.497% greater than $15.9 billion.

As mentioned earlier, the Navy was able to assemble a five-year (FY2012-FY2016) shipbuilding plan with a total of 55 ships, or an average of 11 per year, within available resources in part because almost half of those ships are relatively inexpensive LCSs and JHSVs. Starting a few years from now, when the LCS and JHSV programs are no longer overrepresented in the shipbuilding plan, and particularly when procurement of next-generation SSBN(X) ballistic missile submarines begins, procuring an average of 10 or more ships per year will become a considerably more expensive proposition.

The Navy wants to procure 12 SSBN(X)s, and is working to reduce the estimated unit procurement cost of ships 2 through 12 in the program to $4.9 billion in FY2010 dollars.[7] To help pay for the SSBN(X)s without reducing other shipbuilding programs, the shipbuilding funding profile in the Navy's FY2011 30-year shipbuilding plan includes a "hump" of approximately $2 billion per year in constant FY2010 dollars during the years (FY2019-FY2033) when the 12 SSBN(X)s are to be procured. The Navy's report on the FY2011 30-year plan, however, contains little explanation of how this $2-billion-per-year hump in shipbuilding funding will be realized, particularly if the Navy's budget experiences little or no real growth in coming years. If the $2-billion-per-year hump is not realized, the total number of ships of various kinds procured in FY2019-FY2033 could be less than the figures shown in the FY2011 30-year plan. If so, the shortfalls projected for cruisers and destroyers, attack submarines, and other categories of ships could be larger than those shown in **Table 6**.

Recent Study Group Proposals for Navy Ship Force Structure

Some study groups have recently made their own proposals for Navy ship force structure. **Table 8** shows some of these proposals. For purposes of comparison, **Table 8** also shows the Navy's current 320-321 ship plan. In assessing proposals for Navy ship force structures, Congress may consider various factors, such as potential future defense spending levels in the context of the federal budget and debt situation, U.S. interests and potential threats to those interests, the value

[7] For more on the SSBN(X) program, see CRS Report R41129, *Navy SSBN(X) Ballistic Missile Submarine Program: Background and Issues for Congress*, by Ronald O'Rourke.

of naval forces in defending those interests, and the relative cost-effectiveness of various ship types for performing various missions.[8]

Table 8. Recent Study Group Proposals for Navy Ship Force Structure

Ship type	Navy's current 320-321 ship plan	Heritage Foundation (April 2011)	Cato Institute (September 2010)[a]	Independent Panel Assessment of 2010 QDR (July 2010)	Sustainable Defense Task Force (June 2010)	Center for a New American Security (CNAS) (November 2008)	Center for Strategic and Budgetary Assessments (CSBA) (2008)[b]
Submarines							
SSBN	12	14[c]	6	14	7	14	12
SSGN	0	4	0	4	4	0	2
SSN	48	55	40	55	37	40	41
Aircraft carriers							
CVN	10 or 11	11	8	11	9	8	11
CVE	0	0	0	0	0	0	4
Surface combatants							
Cruiser	88	88	22	n/a	85	18	14
Destroyer			65	n/a		56	73
Frigate	0	28[d]	14	n/a	0	0	9[e]
LCS	55		4	n/a	25	48	55
SSC	0	0	0	n/a	0	40	0[f]
Amphibious and Maritime Prepositioning Force (Future) (MPF[F]) ships							
Amphibious ships	33	37	23	n/a	27	36	33
MPF(F) ships	0	0	0	n/a	n/a	0	3[g]
LSD station ships	0	0	0	n/a	n/a	n/a	7[h]
Other: Mine warfare (MIW) ships; Combat logistics force (CLF) ships (i.e., at-sea resupply ships), and support ships							
MIW	0	14	11	0	0	0	0
CLF ships	30	33	21	n/a	36	40	31
Support ships	44	25	27	n/a			31
TOTAL battle force ships	**320-321**	**309**	**241**	**346**	**230**	**300**	**326[i]**

Source: Table prepared by CRS based on the following sources: **For Heritage Foundation**: *A Strong National Defense[:] The Armed Forces America Needs and What They Will Cost*, Heritage Foundation, April 5, 2011, pp. 25-26. **For Cato Institute**: Benjamin H. Friedman and Christopher Preble, *Budgetary Savings from Military Restraint*, Washington, Cato Institute, September 23, 2010 (Policy Analysis No. 667), pp. 6, 8-10, and additional information provided by Cato Institute to CRS by e-mail on September 22, 2010. **For Independent Panel Assessment**: Stephen J. Hadley and William J. Perry, co-chairmen, et al., *The QDR in Perspective: Meeting*

[8] For more on this larger debate, see CRS Report R41250, *Quadrennial Defense Review 2010: Overview and Implications for National Security Planning*, by Stephen Daggett.

America's National Security Needs In the 21st Century, The Final Report of the Quadrennial Defense Review Independent Panel, Washington, 2010, Figure 3-2 on pages 58-59. **For Sustainable Defense Task Force**: *Debt, Deficits, and Defense, A Way Forward[:] Report of the Sustainable Defense Task Force*, June 11, 2010, pp. 19-20. **For CNAS**: Frank Hoffman, *From Preponderance to Partnership: American Maritime Power in the 21st Century.* Washington, Center for a New American Security, November 2008. p. 19 (Table 2). **For CSBA**: Robert O. Work, *The US Navy[:] Charting a Course for Tomorrow's Fleet*. Washington, Center for Strategic and Budgetary Assessments, 2008. p. 81 (Figure 5).

Notes: n/a is not addressed in the report. **SSBN** is nuclear-powered ballistic missile submarine; **SSGN** is nuclear-powered cruise missile and special operations forces submarine; **SSN** is nuclear-powered attack submarine; **CVN** is large nuclear-powered aircraft carrier; **CVE** is medium-sized aircraft carrier; **LCS** is Littoral Combat Ship; **SSC** (an acronym created by CRS for this table) is small surface combatant of 1,000+ tons displacement—a ship similar to late-1990s Streetfighter concept; **MPF(F)** is Maritime Prepositioning Force (Future) ship; **LSD** is LSD-41/49 class amphibious ship operating as a station ship for a formation like a Global Fleet Station (GFS); **MIW** is mine warfare ship; **CLF** is combat logistics force (i.e., resupply) ship.

a. Figures shown are for the year 2020; for subsequent years, reductions from these figures would be considered.

b. Figures shown are for the year 2028.

c. The report calls for a force of 280 SLBMs, which appears to equate to a force of 14 SSBNs, each with 20 SLBM tubes.

d. The report calls for a force of 28 small surface combatants, and appears to use the term small surface combatants the same way that the Navy does in the 30-year shipbuilding plan – as a way of collectively referring to frigates and LCSs. The small surface combatants (SSCs) called for in the November 2008 CNAS report are separate from and smaller than the LCS.

e. Maritime Security Frigates.

f. Plan includes 28 patrol craft (PCs) of a few hundred tons displacement each, as well as 29 boat detachments and seven riverine squadrons.

g. Plan shows three Mobile Landing Platform (MLP) ships that the Navy currently plans for the MPF(F) squadron, plus 16 existing current-generation maritime prepositioning force (MPF) ships and 17 existing prepositioning ships for Army and other service/agency equipment. Plan also shows 67 other DOD sealift ships.

h. T-LSDs, meaning LSDs operated by the Military Sealift Command (MSC) with a partly civilian crew.

i. The CSBA report shows a total of 488 units by including 162 additional force units that do not count toward the 320-321 ship goal under the battle force ships counting method that has been used since the early 1980s for public policy discussions of the size of the Navy. These 162 additional force units include 16 existing current-generation maritime prepositioning force (MPF) ships and 17 existing prepositioning ships for Army and other service/agency equipment, 67 other DOD sealift ships, 28 PCs, 29 boat detachments, and certain other small-scale units. The CSBA report proposes a new counting method for naval/maritime forces that includes units such as these in the total count.

Legislative Activity for FY2012

FY2012 Funding Request

The Navy's proposed FY2012 budget requests funding for the procurement of 10 new battle force ships (i.e., ships that count against the 320-321 ship goal). The 10 ships include two Virginia-class attack submarines, one DDG-51 class Aegis destroyer, four Littoral Combat Ships (LCSs), one LPD-17 class amphibious ship, one Mobile Landing Platform (MLP) ship (i.e., a maritime prepositioning ship), and one Joint High Speed Vessel (JHSV). The Navy's five-year (FY2012-FY2016) shipbuilding plan, submitted to Congress in conjunction with the Navy's proposed

FY2012 budget, includes a total of 55 new battle force ships, or an average of 11 per year. Of the 55 ships in the plan, 27, or almost half, are relatively inexpensive LCSs or JHSVs.

CRS Reports Tracking Legislation on Specific Navy Shipbuilding Programs

For funding levels and legislative activity on individual Navy shipbuilding, conversion, and modernization programs, see the following CRS reports:

- CRS Report RS20643, *Navy Ford (CVN-78) Class Aircraft Carrier Program: Background and Issues for Congress*, by Ronald O'Rourke.
- CRS Report R41129, *Navy SSBN(X) Ballistic Missile Submarine Program: Background and Issues for Congress*, by Ronald O'Rourke.
- CRS Report RL32418, *Navy Virginia (SSN-774) Class Attack Submarine Procurement: Background and Issues for Congress*, by Ronald O'Rourke.
- CRS Report RL32109, *Navy DDG-51 and DDG-1000 Destroyer Programs: Background and Issues for Congress*, by Ronald O'Rourke.
- CRS Report RL33741, *Navy Littoral Combat Ship (LCS) Program: Background, Issues, and Options for Congress*, by Ronald O'Rourke.
- CRS Report RL34476, *Navy LPD-17 Amphibious Ship Procurement: Background, Issues, and Options for Congress*, by Ronald O'Rourke.

Appendix A. Legislative Activity for FY2011

This appendix presents legislative activity on the Navy's proposed FY2011 shipbuilding budget.

FY2011 DOD and Full-Year Continuing Appropriations Act (H.R. 1473)

According to line-item funding tables posted by the House Rules Committee,[9] the FY2011 Department of Defense and Full-Year Continuing Appropriations Act (H.R. 1473 of the 112th Congress, introduced on April 11, 2011) supports the Navy's FY2011 request for nine new-construction ships in the Shipbuilding and Conversion, Navy (SCN) account and the National Defense Sealift Fund (NDSF). These nine ships are two Virginia-class attack submarines, two DDG-51 destroyers, two LCSs, one LHA-6 amphibious assault ship (which is to be split-funded between FY2011 and FY2012), one Joint High Speed Vessel (JHSV), and (in the NDSF) one Mobile Landing Platform (MLP) ship. The funding tables show that H.R. 1473 provides full or close-to-full funding for all nine ships. (A substantial reduction to the requested funding level for the two LCSs reflects a reduction in the Navy's estimated procurement cost for these ships following the implementation of a new LCS acquisition strategy.) In addition, the funding tables show an increase of $500 million in the NDSF for an additional MLP. On this basis, it would appear that the intent of H.R. 1473 is to fund the procurement of 10 new-construction ships in FY2011, or one more than requested, with the additional ship being a second MLP.

FY2011 DOD Appropriations Bill (S. 3800)

Senate

The Senate Appropriations Committee, in its report (S.Rept. 111-295 of September 16, 2010) on S. 3800 of the 111th Congress, recommends approval of the Navy's FY2011 requests for procurement and advance procurement funding for new ships, with two exceptions:

- For the Littoral Combat Ship (LCS) program, the report recommends $615.5 million for the procurement of one LCS, a reduction of $615.5 million and one ship from the Navy's request (pages 7, 86, and 87). For the text of the report's discussion of the LCS, see the CRS report on the LCS program.[10]
- For the Mobile Landing Platform (MLP) program, which is funded through the National Defense Sealift Fund (NDSF), the report recommends an increase of $100 million for advance procurement and advance construction activities (page 181).

[9] The funding tables were posted at http://rules.house.gov/Legislation/legislationDetails.aspx?NewsID=244.

[10] CRS Report RL33741, *Navy Littoral Combat Ship (LCS) Program: Background, Issues, and Options for Congress*, by Ronald O'Rourke.

FY2011 Defense Authorization Act (H.R. 6523/P.L. 111-383)

House (H.R. 5136)

The House Armed Services Committee, in its report (H.Rept. 111-491 of May 21, 2010) on the FY2011 defense authorization bill (H.R. 5136), recommends approval of the Navy's request for procurement and advance procurement funding for all of its shipbuilding programs (pages 73-74). The report states: "Demonstrating the committee's commitment to reverse the decline in the size of the Navy fleet, the committee authorizes 9 new ships, including 2 Virginia-class submarines, 2 DDG 51 destroyers, and 2 Littoral Combat Ships." (Page 20)

Section 121 of the bill as reported by the committee would broaden the Navy's authority for using incremental funding for procuring Navy ships.[11]

Section 123 would require the Navy to submit a report on, among other things, required numbers of cruisers and destroyers, particularly in light of demands for these ships for ballistic missile defense operations.[12]

Section 1021 would amend the current law (10 U.S.C. 231) that requires DOD to annually submit a 30-year shipbuilding plan.

Section 1022 states that the Secretary of the Navy may not decommission any battle force vessel of the active fleet of the Navy unless the Secretary provides to the congressional defense committees written notification of such decommissioning in accordance with established procedures.

Section 1023 states that until the number of vessels in the battle force fleet of the Navy reaches 313 vessels, the Secretary of the Navy shall not decommission, in FY2011 or any subsequent fiscal year, more than two-thirds of the number of vessels slated for commissioning into the battle force fleet for that fiscal year.

Section 1024 states that the Secretary of the Navy shall retain the amphibious assault ships Nassau (LHA-4) and Peleliu (LHA-5) in a commissioned and operational status until the delivery to the Navy of the new amphibious assault ships America (LHA-6) and LHA-7, respectively.

The text of **Section 121** is as follows:

> SEC. 121. INCREMENTAL FUNDING FOR PROCUREMENT OF LARGE NAVAL VESSELS.
>
> (a) Incremental Funding of Large Naval Vessels- Except as provided in subsection (b), the Secretary of the Navy may use incremental funding for the procurement of a large naval

[11] For more on incremental funding, particularly in the procurement of Navy ships, see CRS Report RL32776, *Navy Ship Procurement: Alternative Funding Approaches—Background and Options for Congress*, by Ronald O'Rourke, and CRS Report RL31404, *Defense Procurement: Full Funding Policy—Background, Issues, and Options for Congress*, by Ronald O'Rourke and Stephen Daggett.

[12] For further discussion of this issue, see CRS Report RL33745, *Navy Aegis Ballistic Missile Defense (BMD) Program: Background and Issues for Congress*, by Ronald O'Rourke.

vessel over a period not to exceed the number of years equal to three-fourths of the total period of planned ship construction of such vessel.

(b) LPD 26- With respect to the vessel designated LPD 26, the Secretary may use incremental funding for the procurement of such vessel through fiscal year 2012 if the Secretary determines that such incremental funding—

(1) is in the best interest of the overall shipbuilding efforts of the Navy;

(2) is needed to provide the Secretary with the ability to facilitate changes to the shipbuilding industrial base of the Navy; and

(3) will provide the Secretary with the ability to award a contract for construction of the vessel that provides the best value to the United States.

(c) Condition for Out-year Contract Payments- A contract entered into under subsection (a) or (b) shall provide that any obligation of the United States to make a payment under the contract for a fiscal year after the fiscal year the vessel was authorized is subject to the availability of appropriations for that purpose for that later fiscal year.

(d) Definitions- In this section:

(1) The term `large naval vessel' means a vessel—

(A) that is—

(i) an aircraft carrier designated a CVN;

(ii) an amphibious assault ship designated LPD, LHA, LHD, or LSD; or

(iii) an auxiliary vessel; and

(B) that has a light ship displacement of 17,000 tons or more.

(2) The term `total period of planned ship construction' means the period of years beginning on the date of the first authorization of funding (not including funding requested for advance procurement) and ending on the date that is projected on the date of the first authorization of funding to be the delivery date of the vessel to the Navy.

The text of **Section 123** is as follows:

SEC. 123. REPORT ON NAVAL FORCE STRUCTURE AND MISSILE DEFENSE.

(a) Report- Not later than March 1, 2011, the Secretary of the Navy, in coordination with the Chief of Naval Operations, shall submit to the congressional defense committees a report on the requirements of the major combatant surface vessels with respect to missile defense.

(b) Matters Included- The report shall include the following:

(1) An analysis of whether the requirement for sea-based missile defense can be accommodated by upgrading Aegis ships that exist as of the date of the report or by procuring additional combatant surface vessels.

(2) Whether such sea-based missile defense will require increasing the overall number of combatant surface vessels beyond the requirement of 88 cruisers and destroyers in the 313-ship fleet plan of the Navy.

(3) The number of Aegis ships needed by each combatant commander to fulfill ballistic missile defense requirements, including (in consultation with the Chairman of the Joints Chiefs of Staff) the number of such ships needed to support the phased, adaptive approach to ballistic missile defense in Europe.

(4) A discussion of the potential effect of ballistic missile defense operations on the ability of the Navy to meet surface fleet demands in each geographic area and for each mission set.

(5) An evaluation of how the Aegis ballistic missile defense program can succeed as part of a balanced fleet of adequate size and strength to meet the security needs of the United States.

(6) A description of both the shortfalls and the benefits of expected technological advancements in the sea-based missile defense program.

(7) A description of the anticipated plan for deployment of Aegis ballistic missile ships within the context of the fleet response plan.

The text of **Section 1021** is as follows:

SEC. 1021. REQUIREMENTS FOR LONG-RANGE PLAN FOR CONSTRUCTION OF NAVAL VESSELS.

(a) In General- Section 231 of title 10, United States Code, is amended to read as follows:

`Sec. 231. Long-range plan for construction of naval vessels

`(a) Quadrennial Naval Vessel Construction Plan- At the same time that the budget of the President is submitted under section 1105(a) of title 31 during each year in which the Secretary of Defense submits a quadrennial defense review, the Secretary of the Navy shall submit to the congressional defense committees a long-range plan for the construction of combatant and support vessels for the Navy that supports the force structure recommendations of the quadrennial defense review.

`(b) Matters Included- The plan under subsection (a) shall include the following:

`(1) A detailed construction schedule of naval vessels for the ten-year period beginning on the date on which the plan is submitted, including a certification by the Secretary that the budget for the fiscal year in which the plan is submitted and the budget for the future-years defense program submitted under section 221 of this title are sufficient for funding such schedule.

`(2) A probable construction schedule for the ten-year period beginning on the date that is 10 years after the date on which the plan is submitted.

`(3) A notional construction schedule for the ten-year period beginning on the date that is 20 years after the date on which the plan is submitted.

`(4) The estimated levels of annual funding necessary to carry out the construction schedules under paragraphs (1), (2), and (3).

`(5) For the construction schedules under paragraphs (1) and (2)—

`(A) a determination by the Director of Cost Assessment and Program Evaluation of the level of funding necessary to execute such schedules; and

`(B) an evaluation by the Director of the potential risk associated with such schedules, including detailed effects on operational plans, missions, deployment schedules, and fulfillment of the requirements of the combatant commanders.

`(c) Naval Composition- In submitting the plan under subsection (a), the Secretary shall ensure that such plan—

`(1) is in accordance with section 5062(b) of this title; and

`(2) phases the construction of new aircraft carriers during the periods covered by such plan in a manner that minimizes the total cost for procurement for such vessels.

`(d) Assessment When Budget Is Insufficient- If the budget for a fiscal year provides for funding of the construction of naval vessels at a level that is less than the level determined necessary by the Director of Cost Assessment and Program Evaluation under subsection (b)(5), the Secretary of the Navy shall include with the defense budget materials for that fiscal year an assessment that describes and discusses the risks associated with the budget, including the risk associated with a reduced force structure that may result from funding naval vessel construction at such a level.

`(e) CBO Evaluation- Not later than 60 days after the date on which the congressional defense committees receive the plan under subsection (a), the Director of the Congressional Budget Office shall submit to such committees a report assessing the sufficiency of the construction schedules and the estimated levels of annual funding included in such plan with respect to the budget submitted during the year in which the plan is submitted and the future-years defense program submitted under section 221 of this title.

`(f) Changes to the Construction Plan- In any year in which a quadrennial defense review is not submitted, the Secretary of the Navy may not modify the construction schedules submitted in the plan under subsection (a) unless—

`(1) the modification is an increase in planned ship construction;

`(2) the modification is a realignment of less than one year of construction start dates in the future-years defense plan submitted under section 221 of this title and the Secretary submits to the congressional defense committees a report on such modification, including—

`(A) the reasons for realignment;

`(B) any increased cost that will be incurred by the Navy because of the realignment; and

`(C) an assessment of the effects that the realignment will have on the shipbuilding industrial base, including the secondary supply base; or

`(3) the modification is a decrease in the number or type of combatant and support vessels of the Navy and the Secretary submits to the congressional defense committees a report on such modification, including—

> `(A) an addendum to the most recent quadrennial defense review that fully explains and justifies the decrease with respect to the national security strategy of the United States as set forth in the most recent national security strategy report of the President under section 108 of the National Security Act of 1947 (50 U.S.C. 404a); and
>
> `(B) a description of the additional reviews and analyses considered by the Secretary after the previous quadrennial defense review was submitted that justify the decrease.
>
> `(g) Definitions- In this section:
>
> `(1) The term `budget', with respect to a fiscal year, means the budget for that fiscal year that is submitted to Congress by the President under section 1105(a) of title 31.
>
> `(2) The term `defense budget materials', with respect to a fiscal year, means the materials submitted to Congress by the Secretary of Defense in support of the budget for that fiscal year.
>
> `(3) The term `quadrennial defense review' means the review of the defense programs and policies of the United States that is carried out every four years under section 118 of this title.'.
>
> (b) Clerical Amendment- The table of sections at the beginning of chapter 9 of such title is amended by striking the item relating to section 231 and inserting the following new item:
>
> `231. Long-range plan for construction of naval vessels.'.

In summarizing Section 1021, the committee's report states:

> This section would amend section 231 of title 10, United States Code, to require the Secretary of the Navy to submit a long-range plan for the construction of naval vessels with each submission of the Quadrennial Defense Review (QDR). The long-range plan would be required to have 3 distinct sections each spanning a period of 10 years. The first section would be a detailed construction plan for the first 10 years, the second a probable construction plan for the second 10 years, and the third a notional construction plan for the last 10 years. This section would require that during the intervening years between submissions of the QDR, the plan may not be modified unless the change is accompanied by an addendum to the QDR which explains and justifies the decrease with respect to the national security of the United States. This section would further require that the plan fully comply with section 5062(b) of title 10, United States Code, to maintain a minimum of 11 operational aircraft carriers and to phase the construction of such carriers as to minimize the total cost of procurement. (Page 363)

The text of **Section 1022** is as follows:

> SEC. 1022. REQUIREMENTS FOR THE DECOMMISSIONING OF NAVAL VESSELS.
>
> (a) Notice of Decommissioning- The Secretary of the Navy may not decommission any battle force vessel of the active fleet of the Navy unless the Secretary provides to the congressional defense committees written notification of such decommissioning in accordance with established procedures.
>
> (b) Content of Notification- Any notification provided under subsection (a) shall include each of the following:

(1) The reasons for the proposed decommissioning of the vessel.

(2) An analysis of the effect the decommissioning would be likely to have on the deployment schedules of other vessels in the same class as the vessel proposed to be decommissioned.

(3) A certification from the Chairman of the Joint Chiefs of Staff that the decommissioning of the vessel will not adversely affect the requirements of the combatant commanders to fulfill missions critical to national security.

(4) Any budgetary implications associated with retaining the vessel in commission, expressed for each applicable appropriation account.

The text of **Section 1023** is as follows:

SEC. 1023. REQUIREMENTS FOR THE SIZE OF THE NAVY BATTLE FORCE FLEET.

(a) Limitation on Decommissioning- Until the number of vessels in the battle force fleet of the Navy reaches 313 vessels, the Secretary of the Navy shall not decommission, in fiscal year 2011 or any subsequent fiscal year, more than two-thirds of the number of vessels slated for commissioning into the battle force fleet for that fiscal year.

(b) Treatment of Submarines- For purposes of subsection (a), submarines of the battle force fleet slated for decommissioning for any fiscal year shall not count against the number of vessels the Secretary of the Navy is required to maintain for that fiscal year.

The text of **Section 1024** is as follows:

SEC. 1024. RETENTION AND STATUS OF CERTAIN NAVAL VESSELS.

The Secretary of the Navy shall retain the vessels the U.S.S. Nassau (LHA 4) and the U.S.S. Peleliu (LHA 5), in a commissioned and operational status, until the delivery to the Navy of the vessels the U.S.S. America (LHA 6) and the vessel designated as LHA 7, respectively.

The committee's report also states:

The committee notes that the Long-Range Plan for the Construction of Naval Vessels, known as the 30–year shipbuilding plan, submitted in accordance with section 231 of title 10, United States Code, proposes an average of 10 new vessels per year during the 5-year period of the Future Years Defense Plan (FYDP). While this is a positive step in shipbuilding procurement, the total number of battle force vessels remains essentially constant during the FYDP due to the high rate of ship retirements planned during the period. Only after the FYDP, do the battle force levels begin to increase in real terms and the stated goal of a 313-ship Navy is not achieved until fiscal year 2018. The committee further notes that a short term solution to the stagnant number of battle force ships through the FYDP is to delay retirement of vessels with useful service life and that a planned approach to retire no more ships in any one fiscal year than are being delivered to the Navy would accomplish this goal. (Page 75)

The report also states:

U.S. shipbuilding industrial base

The committee has reservations as to the continued health of the shipbuilding industrial base and its ability to remain viable in its current form. The shipbuilding industrial base currently

> serving the needs of Navy and the nation is a legacy from the cold war when the size of the Navy fleet, and the construction required to maintain that fleet, was significantly higher than today. The committee is concerned that the relatively low orders for new ships as proposed in the 30-year shipbuilding plan are not sufficient to maintain all shipyards currently constructing naval vessels. This is a very difficult situation for the Navy since reducing the number of shipyards constructing vessels could have the unintended consequence of driving up cost due to limited or no competition for particular classes of ships, yet the current industrial base adds increased costs due to the significant overhead rates that must be charged to each vessel.
>
> Perhaps even more significant than shipyard over-capacity for the current shipbuilding plan is the reduction in vendors willing to provide equipment and materiel necessary for the shipbuilding industry. Low orders coupled with significant government requirements for testing, traceability, and financial controls have driven many former suppliers out of the market altogether. The committee received testimony that the vendor supply base is currently 60 to 70 percent sole source. While this almost total lack of competition may be manageable in terms of maintaining the ability to construct vessels, it is not a condition that is bringing the best value to the taxpayer.
>
> The committee understands that the Secretary of the Navy has embarked on a comprehensive review of the industrial base, including the supply base. The committee requests the Secretary of the Navy to inform the committee when the comprehensive review is complete and to make available to the committee those officials who participated in the review to testify before the committee at a hearing in open session aimed at oversight of this potential threat to national security. (Page 78)

Senate (S. 3454)

The FY2011 defense authorization bill (S. 3454) as reported by the Senate Armed Services Committee (S.Rept. 111-201 of June 4, 2010) recommends approval of the Navy's request for procurement and advance procurement funding for all of its shipbuilding programs (see pages 677-678 of the printed version of S. 3454).

Section 124 of the bill states:

> SEC. 124. INCLUSION OF BASIC AND FUNCTIONAL DESIGN IN ASSESSMENTS REQUIRED PRIOR TO START OF CONSTRUCTION OF FIRST SHIP OF A SHIPBUILDING PROGRAM.
>
> (a) Inclusion in Assessments- Subsection (b)(1) of section 124 of the National Defense Authorization Act for Fiscal Year 2008 (P.L. 110-181; 122 Stat. 28; 10 U.S.C. 7291 note) is amended by inserting `(and in particular completion of basic and functional design)' after `completion of detail design'.
>
> (b) Basic and Functional Design Defined- Subsection (d) of such section is amended by adding at the end the following new paragraph:
>
> `(5) BASIC AND FUNCTION DESIGN- The term `basic and functional design', for a ship, means design, whether in the form of two-dimensional drawings, three-dimensional models, or computer-aided models, that fixes the hull structure of the ship, sets the hydrodynamics of the ship, routes all major distributive systems (including electricity, water, and other utilities) of the ship, and identifies the exact positioning of piping and other outfitting within each block of the ship.'.

Regarding Section 124, the committee's report states:

> **Inclusion of basic and functional design in assessments required prior to start of construction of first ship of a shipbuilding program (sec. 124)**
>
> The committee recommends a provision that would amend section 124 of the National Defense Authorization Act for Fiscal Year 2008 (Public Law 110–181) to tighten the requirements under which the Secretary of the Navy is required to certify that a new shipbuilding program has achieved sufficient design maturity at the time the Navy begins construction on the first ship of any major shipbuilding program.
>
> The Government Accountability Office, in its May 2009 report, "Best Practices: High Levels of Knowledge at Key Points Differentiate Commercial Shipbuilding from Navy Shipbuilding (GAO–09–322)," identified key steps that leading commercial shipbuilders and ship buyers follow to ensure their vessels deliver on-time, within planned costs, and with a high degree of innovation.
>
> One critical step in this process is achieving design stability before start of fabrication. Leading commercial firms assess a ship design as stable once all basic and functional design activities have been completed (usually in the form of a complete 3D product model).
>
> Section 124 as currently written does not specifically require that the assessment of design maturity directly address the completeness of the 3D modeling or completion of the activities that make up basic and functional design. This provision would add that requirement. (Page 13)

The committee's report also states:

> **Surface ship construction and industrial base issues**
>
> The committee recognizes that the Navy's most recent Long-Range Plan for the Construction of Naval Vessels continues the Navy's long stated goal of a minimum fleet of 313 battle force ships. The committee notes that this plan is based on a 2005 Force Structure Assessment and a new Force Structure Assessment is required to address expanded requirements identified in the 2009 Quadrennial Defense Review for irregular warfare support, ballistic missile defense, intratheater lift, and humanitarian missions. The committee encourages the Navy to complete this review as expeditiously as possible so the results can be incorporated in the next Long-Range Plan.
>
> The committee continues to have significant concerns regarding the implications of the plan for the non-nuclear surface ship industrial base. If the Navy and industry, working together, are unable to control requirement driven cost growth and deliver the ships in the plan for the projected costs, the inevitable reductions in quantity will likely impact the Navy's ability to reach the required fleet size and further jeopardize the industrial base. The committee notes that the current shipbuilding plan includes the cost of the SSBN (X) program and the committee encourages the Navy to closely scrutinize requirements for this program in order to minimize its impact on the recapitalization of the Navy's battle force.
>
> Furthermore, the committee urges the Navy and the contractors to negotiate as expeditiously as possible fair and reasonable construction contracts for ships previously authorized in order to reduce uncertainty and maintain and foster affordability in the procurement of large surface combatants and other naval vessels.

In reviewing the Long-Range Plan for the Construction of Naval Vessels in conjunction with recent program performance highlights, the committee notes the following observations and expectations:

The stated requirement for amphibious ships is 38 vessels; however, the Long-Range Plan projects accepting moderate risk by having 33 ships by 2016, but then declining to 29 or 30 ships after 2034. Although there have been improvements in recently delivered ships, cost and quality issues have been all too common in the procurement of large and medium amphibious ships, making an already constrained shipbuilding budget more difficult to execute. A new dock landing ship class, LSD(X), is important to the recapitalization of the amphibious force. The requirements for this ship must be closely validated to ensure affordability. The committee notes the Navy's plan to have a gap year following the lead ship of the class and believes that this may help alleviate cost, schedule, and performance issues. Overall, the committee remains concerned with the Navy's management of the amphibious ship accounts and expects continued close scrutiny of these programs by Navy leadership.

In large surface combatants, the Navy's last official report stated that the industrial base can only be effectively sustained if naval ship yards were building the equivalent of three DDG–51 destroyers per year, with additional work assumed at one of the yards. Even if the Navy fully executes both of the large surface combatant programs of record in the near-term, the President's fiscal year 2011 budget request and future-years defense program propose to buy an average of 1.5 large surface combatants per year. Even at projected procurement rates, the number of cruisers and destroyers falls below the required level of 88 ships in 2027 and remains below that level for the following 13 years. At its worst, the number of large surface combatants is 21 ships below the expected requirement in 2034.

The Navy has testified that continued demand for large surface combatants to meet forward presence and strike operations requirements coupled with emerging ballistic missile defense requirements drives the Navy to consider abandoning lesser priority missions for more recent, higher priority ones. In light of the current pressure on the large surface combatant force, the committee is concerned that the Navy's projected rate of production is insufficient, and anticipates that the Navy will closely assess future demand for large surface combatants, and operational and additional risk to the industrial base of maintaining relatively low rates of procurement for large surface combatants.

The committee remains concerned with the Navy's ability to execute what it believes is an overly optimistic procurement strategy for large surface combatants. The truncation of the DDG–1000, the restart of the DDG–51 class and the proposed Flight III variant of the DDG–51 inject a great deal of instability into the SCN accounts. The Navy's testimony before Congress has led this committee to identify six risk areas in the Navy's plan for DDG–51s: (1) the availability of the Air and Missile Defense Radar; (2) the extent and cost of modifications to the underlying ship's design package to support proposed changes to the ship; (3) increased limitation on service life margins of the early restart ships; (4) combat system software integration; (5) the overall complexity of various separate programs that need to converge for successful completion of the restart and Flight III programs; and (6) cost and schedule growth for the Aegis Combat System Modernization. The committee expects the Navy to keep it closely apprised of developments in these risk areas so that it can monitor appropriate risk mitigation efforts.

The Littoral Combat Ship (LCS) program has made progress during the past year and the recent decision to move to a single design should improve affordability. The LCS fleet is expected to comprise 55 vessels of the Navy's 313-ship fleet force structure. Even modest cost growth in this large component of the fleet magnifies the problem of achieving that objective. The committee notes that the Navy's acquisition strategy for the LCS program

introduces competition for this class of ships and is therefore cautiously optimistic that this program is making progress.

In summary, the committee considers the specialized shipbuilding industrial base for large surface combatants, amphibious ships, Navy auxiliary ships, and littoral vessels as a critical component of national security and expects the Department of Defense to appropriately sustain this industrial base. The committee expects the Department of the Navy to include these considerations as it incorporates the updated force structure assessment in the upcoming Long-Range Plan for the Construction of Naval Vessels.

The committee understands that the Navy is conducting a comprehensive review of the shipbuilding industrial base and calls upon the Navy to update the committee on the scope and timeline for such a study. The committee understands the objective of the study is to identify the challenges facing the Navy and the associated shipbuilding industrial base and the strategies for mitigating the effects of those challenges. The committee expects that this study will inform its deliberations in connection with the fiscal year 2012 budget. As a general proposition, the committee expects that the Department of Defense will provide the Navy with the support it needs to focus on the matters referred to above. (Pages 40-42)

Final Version (H.R. 6523/P/L. 111-383)

Section 1023 of H.R. 6523/P.L. 111-383 of January 7, 2011, amends the current law (10 U.S.C. 231) that requires DOD to annually submit a 30-year shipbuilding plan. The text of Section 1023 is as follows:

SEC. 1023. REQUIREMENTS FOR LONG-RANGE PLAN FOR CONSTRUCTION OF NAVAL VESSELS.

(a) In General- Section 231 of title 10, United States Code, is amended to read as follows:

`Sec. 231. Long-range plan for construction of naval vessels

`(a) Quadrennial Naval Vessel Construction Plan- At the same time that the budget of the President is submitted under section 1105(a) of title 31 during each year in which the Secretary of Defense submits a quadrennial defense review, the Secretary of the Navy shall submit to the congressional defense committees a long-range plan for the construction of combatant and support vessels for the Navy that supports the force structure recommendations of the quadrennial defense review.

`(b) Matters Included- The plan under subsection (a) shall include the following:

`(1) A detailed construction schedule of naval vessels for the 10-year period beginning on the date on which the plan is submitted, including a certification by the Secretary that the budget for the fiscal year in which the plan is submitted and the budget for the future-years defense program submitted under section 221 of this title are sufficient for funding such schedule.

`(2) A probable construction schedule for the 10-year period beginning on the date that is 10 years after the date on which the plan is submitted.

`(3) A notional construction schedule for the 10-year period beginning on the date that is 20 years after the date on which the plan is submitted.

`(4) The estimated levels of annual funding necessary to carry out the construction schedules under paragraphs (1), (2), and (3).

`(5) For the construction schedules under paragraphs (1) and (2)—

`(A) a determination by the Director of Cost Assessment and Program Evaluation of the level of funding necessary to execute such schedules; and

`(B) an evaluation by the Director of the potential risk associated with such schedules, including detailed effects on operational plans, missions, deployment schedules, and fulfillment of the requirements of the combatant commanders.

`(c) Naval Composition- In submitting the plan under subsection (a), the Secretary shall ensure that such plan is in accordance with section 5062(b) of this title.

`(d) Assessment When Budget Is Insufficient- If the budget for a fiscal year provides for funding of the construction of naval vessels at a level that is less than the level determined necessary by the Director of Cost Assessment and Program Evaluation under subsection (b)(5), the Secretary of the Navy shall include with the defense budget materials for that fiscal year an assessment that describes and discusses the risks associated with the budget, including the risk associated with a reduced force structure that may result from funding naval vessel construction at such a level.

`(e) CBO Evaluation- Not later than 60 days after the date on which the congressional defense committees receive the plan under subsection (a), the Director of the Congressional Budget Office shall submit to such committees a report assessing the sufficiency of the estimated levels of annual funding included in such plan with respect to the budget submitted during the year in which the plan is submitted and the future-years defense program submitted under section 221 of this title.

`(f) Changes to the Construction Plan- In any year in which a quadrennial defense review is not submitted and the budget of the President submitted under section 1105(a) of title 31 decreases the number of vessels requested in the future-years defense program submitted under section 221 of this title, the Secretary of the Navy shall submit to the congressional defense committees a report on such decrease including—

`(1) an addendum to the most recent quadrennial defense review that fully explains and justifies the decrease with respect to the national security strategy of the United States as set forth in the most recent national security strategy report of the President under section 108 of the National Security Act of 1947 (50 U.S.C. 404a); and

`(2) a description of the additional reviews and analyses considered by the Secretary after the previous quadrennial defense review was submitted that justify the decrease.

`(g) Definitions- In this section:

`(1) The term `budget', with respect to a fiscal year, means the budget for that fiscal year that is submitted to Congress by the President under section 1105(a) of title 31.

`(2) The term `defense budget materials', with respect to a fiscal year, means the materials submitted to Congress by the Secretary of Defense in support of the budget for that fiscal year.

`(3) The term `quadrennial defense review' means the review of the defense programs and policies of the United States that is carried out every four years under section 118 of this title.'.

> (b) Clerical Amendment- The table of sections at the beginning of chapter 9 of such title is amended by striking the item relating to section 231 and inserting the following new item:
>
> `231. Long-range plan for construction of naval vessels.'.

Regarding Section 1023, the joint explanatory statement of the House and Senate Armed Services Committees on H.R. 6523 stated:

> The committees expect that, following the submission of the President's budget materials for a fiscal year, the Secretary of the Navy, at the written request of one of the congressional defense committees, will promptly deliver the Navy's long-term shipbuilding plan used to develop the President's budget request for that fiscal year, as well as a certification from the Secretary of the Navy that both the President's budget request for that fiscal year and the budget for the future-years defense program is sufficient to fund the construction schedule provided in that plan. The committees expect that such a plan would include the quantity of each class of ship to be constructed in that fiscal year and the nine following fiscal years.

Section 113 of H.R. 6523 requires a report on the force structure requirements of major combatant surface vessels (i.e., cruisers and destroyers) with respect to ballistic missile defense. The text of Section 113 is as follows:

> SEC. 113. REPORT ON NAVAL FORCE STRUCTURE AND MISSILE DEFENSE.
>
> (a) Report- Not later than March 31, 2011, the Secretary of Defense, in coordination with the Secretary of the Navy and the Chief of Naval Operations, shall submit to the congressional defense committees a report on the force structure requirements of the major combatant surface vessels with respect to ballistic missile defense.
>
> (b) Matters Included- The report shall include the following:
>
> (1) An analysis of whether the requirement for sea-based missile defense can be accommodated by upgrading Aegis ships that exist as of the date of the report or by procuring additional combatant surface vessels.
>
> (2) A discussion of whether such sea-based missile defense will require increasing the overall number of combatant surface vessels beyond the requirement of 88 cruisers and destroyers in the 313-ship fleet plan of the Navy.
>
> (3) A discussion of the process for determining the number of Aegis ships needed by each commander of the combatant commands to fulfill ballistic missile defense requirements, including (in consultation with the Chairman of the Joints Chiefs of Staff) the number of such ships needed to support the phased, adaptive approach to ballistic missile defense in Europe.
>
> (4) A discussion of the impact of Aegis Ashore missile defense deployments, as well as deployment of other elements of the ballistic missile defense system, on Aegis ballistic missile defense ship force structure requirements.
>
> (5) A discussion of the potential effect of ballistic missile defense operations on the ability of the Navy to meet surface fleet demands in each geographic area and for each mission set.
>
> (6) An evaluation of how the Aegis ballistic missile defense program can succeed as part of a balanced fleet of adequate size and strength to meet the security needs of the United States.

(7) A description of both the shortfalls and the benefits of expected technological advancements in the sea-based missile defense program.

(8) A description of the anticipated plan for deployment of Aegis ballistic missile defense ships within the context of the fleet response plan.

National Shipbuilding Budget Policy Act (H.R. 5035)

H.R. 5035, which was introduced on April 15, 2010, and referred to the Seapower and Expeditionary Forces subcommittee of the House Armed Services Committee on April 28, 2010, would authorize $20 billion per year for the period FY2011-FY2015 for the construction of Navy ships to meet the ship force structure requirements presented in the Navy's report on its 30-year shipbuilding plan. (It would also authorize $60 million per year for the period FY2011-FY2015 for loan guarantees for the construction of commercial ships.) The text of H.R. 5035 states:

A BILL

To authorize appropriations for the construction of vessels for the Navy and to authorize appropriations for loan guarantees for commercial vessels.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the `National Shipbuilding Budget Policy Act'.

SEC. 2. NATIONAL SHIPBUILDING AUTHORIZATIONS OF APPROPRIATIONS.

(a) Navy- Funds are hereby authorized to be appropriated for each of fiscal years 2011 through 2015 for the construction of vessels for the Navy to meet the force requirements of the Navy (as described in the annual naval vessel construction plan required by section 231 of title 10, United States Code) in the amount of $20,000,000,000.

(b) The Merchant Marine- Funds are hereby authorized to be appropriated for each of fiscal years 2011 through 2015 for loan guarantees and commitments authorized under chapter 537 of title 46, United States Code, for the construction of new vessels to replace and expand the domestic fleet of commercial vessels (as that term is defined in that chapter) in the amount of $60,000,000.

Appendix B. Independent Panel Assessment of 2010 QDR

The law that requires DOD to perform QDRs (10 U.S.C. 118) states that the results of each QDR shall be assessed by an independent panel. The report of the independent panel that assessed the 2010 QDR was released on July 29, 2010. The independent panel's report recommends a Navy of 346 ships, including 11 aircraft carriers and 55 attack submarines.[13] The report states the following, among other things:

- "The QDR should reflect current commitments, but it must also plan effectively for potential threats that could arise over the next 20 years.… we believe the 2010 QDR did not accord sufficient priority to the need to counter anti-access challenges, strengthen homeland defense (including our defense against cyber threats), and conduct post-conflict stabilization missions." (Page 54)
- "In this remarkable period of change, global security will still depend upon an American presence capable of unimpeded access to all international areas of the Pacific region. In an environment of 'anti-access strategies,' and assertions to create unique 'economic and security zones of influence,' America's rightful and historic presence will be critical. To preserve our interests, the United States will need to retain the ability to transit freely the areas of the Western Pacific for security and economic reasons. Our allies also depend on us to be fully present in the Asia-Pacific as a promoter of stability and to ensure the free flow of commerce. A robust U.S. force structure, largely rooted in maritime strategy but including other necessary capabilities, will be essential." (Page 51)
- "The United States will need agile forces capable of operating against the full range of potential contingencies. However, the need to deal with irregular and hybrid threats will tend to drive the size and shape of ground forces for years to come, whereas the need to continue to be fully present in Asia and the Pacific and other areas of interest will do the same for naval and air forces." (Page 55)
- "The force structure in the Asia-Pacific needs to be increased. In order to preserve U.S. interests, the United States will need to retain the ability to transit freely the areas of the Western Pacific for security and economic reasons. The United States must be fully present in the Asia-Pacific region to protect American lives and territory, ensure the free flow of commerce, maintain stability, and defend our allies in the region. A robust U.S. force structure, one that is largely rooted in maritime strategy and includes other necessary capabilities, will be essential." (Page 66)
- "Force structure must be strengthened in a number of areas to address the need to counter anti-access challenges, strengthen homeland defense (including defense against cyber threats), and conduct post-conflict stabilization missions: First, as a Pacific power, the U.S. presence in Asia has underwritten the regional stability that has enabled India and China to emerge as rising economic powers. The

[13] Stephen J. Hadley and William J. Perry, co-chairmen, et al, *The QDR in Perspective: Meeting America's National Security Needs In the 21st Century, The Final Report of the Quadrennial Defense Review Independent Panel*, Washington, 2010, Figure 3-2 on page 58.

United States should plan on continuing that role for the indefinite future. The Panel remains concerned that the QDR force structure may not be sufficient to assure others that the United States can meet its treaty commitments in the face of China's increased military capabilities. Therefore, we recommend an increased priority on defeating anti-access and area-denial threats. This will involve acquiring new capabilities, and, as Secretary Gates has urged, developing innovative concepts for their use. Specifically, we believe the United States must fully fund the modernization of its surface fleet. We also believe the United States must be able to deny an adversary sanctuary by providing persistent surveillance, tracking, and rapid engagement with high-volume precision strike. That is why the Panel supports an increase in investment in long-range strike systems and their associated sensors. In addition, U.S. forces must develop and demonstrate the ability to operate in an information-denied environment." (Pages 59-60)

- "To compete effectively, the U.S. military must continue to develop new conceptual approaches to dealing with operational challenges, like the Capstone Concept for Joint Operations (CCJO). The Navy and Air Force's effort to develop an Air-Sea Battle concept is one example of an approach to deal with the growing anti-access challenge. It will be necessary to invest in modernized capabilities to make this happen. The Chief of Naval Operations and Chief of Staff of the Air Force deserve support in this effort, and the Panel recommends the other military services be brought into the concept when appropriate." (Page 51; a similar passage appears on page 67)

In recommending a Navy of 346 ships, the independent panel's report cited the 1993 Bottom-Up Review (BUR) of U.S. defense plans and policies. **Table B-1** compares the Navy's 320-321 ship plan to the 346-ship Navy recommended in the 1993 BUR (as detailed partly in subsequent Navy testimony and publications) and the ship force levels recommended in the independent panel report.

Table B-1. Comparison of Navy's 320-321 Ship Plan, Navy Plan from 1993 BUR, and Navy Plan from 2010 QDR Review Panel

Ship Type	Navy's 320-321 Ship Plan	Bottom-Up Review (BUR) (1993)	2010 QDR Independent Review Panel (July 2010)
SSBNs	12	18	14
		(SSBN force was later reduced to 14 as a result of the 1994 Nuclear Posture Review)	
SSGNs	0	0	4
		(SSGN program did not yet exist)	
SSNs	48	45 to 55	55
		(55 in FY99, with a long-term goal of about 45)	
Aircraft carriers	10 or 11 active	11 active + 1 operational/reserve	11 active
Surface combatants	143	124	n/a
		(114 active + 10 frigates in Naval Reserve Force; a total of 110-116 active ships was also cited)	
Cruisers and destroyers	*88*	*n/a*	*n/a*
Frigates	*0*	*n/a*	*n/a*
	(to be replaced by LCSs)		
LCSs	*55*	*0*	*n/a*
		(LCS program did not exist)	
Amphibious ships	33	41	n/a
	(33 needed to lift 2.0 MEBs)	(Enough to lift 2.5 MEBs)	
Dedicated mine warfare ships	0	26	n/a
	(to be replaced by LCSs)	(LCS program did not exist)	
CLF ships	30	43	n/a
Support ships	46	22	n/a
TOTAL ships	**320 or 321**	**346**	**346**
		(numbers above add to 331-341)[a]	

Source: Table prepared by CRS. ***Sources for 1993 Bottom-Up Review:*** Department of Defense, *Report on the Bottom-Up Review*, October 1993, Figure 7 on page 28; Department of the Navy, *Highlights of the FY 1995 Department of the Navy Budget*, February 1994, p. 1; Department of the Navy, *Force 2001, A Program Guide to the U.S. Navy*, 1994 edition, p. 15; Statement of VADM T. Joseph Lopez, U.S. Navy, Deputy Chief of Naval Operations (Resources, Warfare Requirements & Assessments), Testimony to the Military Forces and Personnel Subcommittee of the House Armed Services Committee, March 22, 1994, pp. 2-5. ***Source for independent panel report:*** Stephen J. Hadley and William J. Perry, co-chairmen, et al., *The QDR in Perspective: Meeting*

America's National Security Needs In the 21st Century, The Final Report of the Quadrennial Defense Review Independent Panel, Washington, 2010, Figure 3-2 on pages 58-59.

Notes: n/a is not addressed in the report. **SSBN** is nuclear-powered ballistic missile submarine; **SSGN** is nuclear-powered cruise missile and special operations forces submarine; **SSN** is nuclear-powered attack submarine; **LCS** is Littoral Combat Ship; **MPF(F)** is Maritime Prepositioning Force (Future) ship; **CLF** is combat logistics force (i.e., resupply) ship; **MEB** is Marine Expeditionary Brigade.

a. The Navy testified in 1994 that the planned number was adjusted from 346 to 330 to reflect reductions in numbers of tenders and early retirements of some older amphibious ships.

In a letter dated August 11, 2010, Secretary of Defense Robert Gates provided his comments on the independent panel's report. The letter stated in part:

> I completely agree with the Panel that a strong navy is essential; however, I disagree with the Panel's recommendation that DoD should establish the 1993 Bottom Up Review's (BUR's) fleet of 346 ships as the objective target. That number was a simple projection of the then-planned size of [the] Navy in FY 1999, not a reflection of 21st century, steady-state requirements. The fleet described in the 2010 QDR report, with its overall target of 313 to 321 ships, has roughly the same number of aircraft carriers, nuclear-powered attack submarines, surface combatants, mine warfare vessels, and amphibious ships as the larger BUR fleet. The main difference between the two fleets is in the numbers of combat logistics, mobile logistics, and support ships. Although it is true that the 2010 fleet includes fewer of these ships, they are all now more efficiently manned and operated by the Military Sealift Command and meet all of DoD's requirements….
>
> I agree with the Panel's general conclusion that DoD ought to enhance its overall posture and capabilities in the Asia-Pacific region. As I outlined in my speech at the Naval War College in April 2009, "to carry out the missions we may face in the future… we will need numbers, speed, and the ability to operate in shallow waters." So as the Air-Sea battle concept development reaches maturation, and as DoD's review of global defense posture continues, I will be looking for ways to meet plausible security threats while emphasizing sustained forward presence – particularly in the Pacific.[14]

[14] Letter dated August 11, 2010, from Secretary of Defense Robert Gates to the chairmen of the House and Senate Armed Services and Appropriations Committees, pp. 3 and 4. The ellipsis in the second paragraph appears in the letter.

Appendix C. Comparing Past Ship Force Levels to 320-321 Ship Plan

One possible method for assessing the Navy's 320-321 ship force structure plan is to compare it to historical figures for total Navy fleet size. Historical figures for total fleet size, however, might not be a reliable yardstick for assessing the appropriateness of the Navy's 320-321 ship force structure plan, particularly if the historical figures are more than a few years old, because the missions to be performed by the Navy, the mix of ships that make up the Navy, and the technologies that are available to Navy ships for performing missions all change over time.

The Navy, for example, reached a late-Cold War peak of 568 battle force ships at the end of FY1987,[15] and as of February 18, 2011, had declined to a total of 286 battle force ships. The FY1987 fleet, however, was intended to meet a set of mission requirements that focused on countering Soviet naval forces at sea during a potential multi-theater NATO-Warsaw Pact conflict, while the February 2011 fleet is intended to meet a considerably different set of mission requirements centered on influencing events ashore by countering both land- and sea-based military forces of potential regional threats other than Russia, including non-state terrorist organizations. In addition, the Navy of FY1987 differed substantially from the February 2011 fleet in areas such as profusion of precision-guided air-delivered weapons, numbers of Tomahawk-capable ships, and sophistication of C4ISR systems.[16]

In coming years, Navy missions may shift again, to include, for example, a greater emphasis on being able to counter improved Chinese maritime military capabilities.[17] In addition, the capabilities of Navy ships will likely have changed further by that time due to developments such as more comprehensive implementation of networking technology and increased use of ship-based unmanned vehicles.

The 568-ship fleet of FY1987 may or may not have been capable of performing its stated missions; the 286-ship fleet of February 2011 may or may not be capable of performing its stated missions; and a fleet years from now with a certain number of ships may or may not be capable of performing its stated missions. Given changes over time in mission requirements, ship mixes, and technologies, however, these three issues are to a substantial degree independent of one another.

For similar reasons, trends over time in the total number of ships in the Navy are not necessarily a reliable indicator of the direction of change in the fleet's ability to perform its stated missions. An

[15] Some publications, such as those of the American Shipbuilding Association, have stated that the Navy reached a peak of 594 ships at the end of FY1987. This figure, however, is the total number of active ships in the fleet, which is not the same as the total number of battle force ships. The battle force ships figure is the number used in government discussions of the size of the Navy. In recent years, the total number of active ships has been larger than the total number of battle force ships. For example, the Naval Historical Center states that as of November 16, 2001, the Navy included a total of 337 active ships, while the Navy states that as of November 19, 2001, the Navy included a total of 317 battle force ships. Comparing the total number of active ships in one year to the total number of battle force ships in another year is thus an apple-to-oranges comparison that in this case overstates the decline since FY1987 in the number of ships in the Navy. As a general rule to avoid potential statistical distortions, comparisons of the number of ships in the Navy over time should use, whenever possible, a single counting method.

[16] C4ISR stands for command and control, communications, computers, intelligence, surveillance, and reconnaissance.

[17] For a discussion, see CRS Report RL33153, *China Naval Modernization: Implications for U.S. Navy Capabilities—Background and Issues for Congress*, by Ronald O'Rourke.

increasing number of ships in the fleet might not necessarily mean that the fleet's ability to perform its stated missions is increasing, because the fleet's mission requirements might be increasing more rapidly than ship numbers and average ship capability. Similarly, a decreasing number of ships in the fleet might not necessarily mean that the fleet's ability to perform stated missions is decreasing, because the fleet's mission requirements might be declining more rapidly than numbers of ships, or because average ship capability and the percentage of time that ships are in deployed locations might be increasing quickly enough to more than offset reductions in total ship numbers.

Previous Navy force structure plans, such as those shown in **Table 1**, might provide some insight into the potential adequacy of a proposed new force-structure plan, but changes over time in mission requirements, technologies available to ships for performing missions, and other force-planning factors suggest that some caution should be applied in using past force structure plans for this purpose, particularly if those past force structure plans are more than a few years old. The Reagan-era plan for a 600-ship Navy, for example, was designed for a Cold War set of missions focusing on countering Soviet naval forces at sea, which is not an appropriate basis for planning the Navy today.[18]

[18] Navy force structure plans that predate those shown in **Table 1** include the Reagan-era 600-ship plan of the 1980s, the Base Force fleet of more than 400 ships planned during the final two years of the George H. W. Bush Administration, the 346-ship fleet from the Clinton Administration's 1993 Bottom-Up Review (or BUR, sometimes also called Base Force II), and the 310-ship fleet of the Clinton Administration's 1997 QDR. The table below summarizes some key features of these plans.

Features of Recent Navy Force Structure Plans

Plan	600-ship	Base Force	1993 BUR	1997 QDR
Total ships	~600	~450/416[a]	346	~305/310[b]
Attack submarines	100	80/~55[c]	45-55	50/55[d]
Aircraft carriers	15[e]	12	11+1[f]	11+1[f]
Surface combatants	242/228[g]	~150	~124	116
Amphibious ships	~75[h]	51[i]	41[i]	36[i]

Source: Prepared by CRS based on DOD and U.S. Navy data.
a. Commonly referred to as 450-ship plan, but called for decreasing to 416 ships by end of FY1999.
b. Original total of about 305 ships was increased to about 310 due to increase in number of attack submarines to 55 from 50.
c. Plan originally included 80 attack submarines, but this was later reduced to about 55.
d. Plan originally included 50 attack submarines but this was later increased to 55.
e. Plus one additional aircraft carrier in the service life extension program (SLEP).
f. Eleven active carriers plus one operational reserve carrier.
g. Plan originally included 242 surface combatants but this was later reduced to 228.
h. Number needed to lift assault echelons of one Marine Expeditionary Force (MEF) plus one Marine Expeditionary Brigade (MEB).
i. Number needed to lift assault echelons of 2.5 MEBs. Changing numbers needed to meet this goal reflect in part changes in the design and capabilities of amphibious ships.

Appendix D. Size of the Navy and Navy Shipbuilding Rate

Size of the Navy

Table D-1 shows the size of the Navy in terms of total number of ships since FY1948; the numbers shown in the table reflect changes over time in the rules specifying which ships count toward the total. Differing counting rules result in differing totals, and for certain years, figures reflecting more than one set of counting rules are available. Figures in the table for FY1978 and subsequent years reflect the battle force ships counting method, which is the set of counting rules established in the early 1980s for public policy discussions of the size of the Navy.

As shown in the table, the total number of battle force ships in the Navy reached a late-Cold War peak of 568 at the end of FY1987 and began declining thereafter.[19] The Navy fell below 300 battle force ships in August 2003 and included 286 battle force ships as of February 18, 2011.

As discussed in **Appendix C**, historical figures for total fleet size might not be a reliable yardstick for assessing the appropriateness of the Navy's 320-321 ship plan, particularly if the historical figures are more than a few years old, because the missions to be performed by the Navy, the mix of ships that make up the Navy, and the technologies that are available to Navy ships for performing missions all change over time. For similar reasons, trends over time in the total number of ships in the Navy are not necessarily a reliable indicator of the direction of change in the fleet's ability to perform its stated missions. An increasing number of ships in the fleet might not necessarily mean that the fleet's ability to perform its stated missions is increasing, because the fleet's mission requirements might be increasing more rapidly than ship numbers and average ship capability. Similarly, a decreasing number of ships in the fleet might not necessarily mean that the fleet's ability to perform stated missions is decreasing, because the fleet's mission requirements might be declining more rapidly than numbers of ships, or because average ship capability and the percentage of time that ships are in deployed locations might be increasing quickly enough to more than offset reductions in total ship numbers.

[19] Some publications have stated that the Navy reached a peak of 594 ships at the end of FY1987. This figure, however, is the total number of active ships in the fleet, which is not the same as the total number of battle force ships. The battle force ships figure is the number used in government discussions of the size of the Navy. In recent years, the total number of active ships has been larger than the total number of battle force ships. For example, the Naval Historical Center states that as of November 16, 2001, the Navy included a total of 337 active ships, while the Navy states that as of November 19, 2001, the Navy included a total of 317 battle force ships. Comparing the total number of active ships in one year to the total number of battle force ships in another year is thus an apple-to-oranges comparison that in this case overstates the decline since FY1987 in the number of ships in the Navy. As a general rule to avoid potential statistical distortions, comparisons of the number of ships in the Navy over time should use, whenever possible, a single counting method.

Table D-1. Total Number of Ships in the Navy Since FY1948

FY[a]	Number	FY[a]	Number	FY[a]	Number
1948	737	1969	926	1990	547
1949	690	1970	769	1991	526
1950	634	1971	702	1992	466
1951	980	1972	654	1993	435
1952	1,097	1973	584	1994	391
1953	1,122	1974	512	1995	373
1954	1,113	1975	496	1996	356
1955	1,030	1976	476	1997	354
1956	973	1977	464	1998	333
1957	967	1978	468	1999	317
1958	890	1979	471	2000	318
1959	860	1980	477	2001	316
1960	812	1981	490	2002	313
1961	897	1982	513	2003	297
1962	959	1983	514	2004	291
1963	916	1984	524	2005	282
1964	917	1985	541	2006	281
1965	936	1986	556	2007	279
1966	947	1987	568	2008	282
1967	973	1988	565	2009	285
1968	976	1989	566	2010	288

Source: Compiled by CRS using U.S. Navy data. Numbers shown reflect changes over time in the rules specifying which ships count toward the total. Figures for FY1978 and subsequent years reflect the battle force ships counting method, which is the set of counting rules established in the early 1980s for public policy discussions of the size of the Navy.

a. Data for earlier years in the table may be for the end of the calendar year (or for some other point during the year), rather than for the end of the fiscal year.

Shipbuilding Rate

Table D-2 shows past (FY1982-FY2010) and requested (FY2011-FY2016) rates of Navy ship procurement.

Table D-2. Battle Force Ships Procured or Requested, FY1982-FY2016

(Procured FY1982-FY2010; *requested FY2011-FY2015)*

82	**83**	**84**	**85**	**86**	**87**	**88**	**89**	**90**	**91**	**92**	**93**	**94**	**95**	**96**	**97**	**98**	**99**
17	14	16	19	20	17	15	19	15	11	11	7	4	4	5	4	5	5
00	**01**	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	
6	6	6	5	7	8	4[a]	5[a]	3[a]	8	*7*	*9*	*10*	*13*	*11*	*12*	*9*	

Source: CRS compilation based on examination of defense authorization and appropriation committee and conference reports for each fiscal year. The table excludes non-battle force ships that do not count toward the 320-321 ship goal, such as certain sealift and prepositioning ships operated by the Military Sealift Command and oceanographic ships operated by agencies such as the National Oceanic and Atmospheric Administration (NOAA).

a. The totals shown for FY2006, FY2007, and FY2008, reflect the cancellation two LCSs funded in FY2006, another two LCSs funded in FY2007, and an LCS funded in FY2008.

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