



Statement of

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Before

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The Status of Coast Guard Cutter Acquisition Programs

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Chairman Hunter, Ranking Member Garamendi, distinguished members of the subcommittee, thank you for the opportunity to appear before you today to discuss the status of Coast Guard cutter acquisition programs. As requested, my testimony focuses on how multiyear procurement (MYP) and block buy contracting (BBC) could reduce the acquisition cost of new Coast Guard cutters.

Some Key Points Up Front

Some key points that can be made up front include the following:

- MYP and BBC are two forms of multiyear contracting. The Coast Guard, like the Navy and the other armed services, has authority under 10 USC 2306b to use MYP. Specific legislation has been used to grant the Navy authority to use BBC in two of its shipbuilding programs. Based on this precedent, it would appear that specific legislation could be used to grant the Coast Guard authority to use BBC in cutter acquisition programs.
- MYP can reduce the unit procurement costs of ships by roughly 10%, compared to unit procurement costs under the standard or default approach of annual contracting. BBC can reduce the unit procurement costs of ships by amounts comparable to those of MYP, if the authority granted for using BBC explicitly includes authority for making economic order quantity (EOQ) purchases (i.e., up-front batch purchases) of components. If the authority granted for using BBC does not explicitly include authority for making EOQ purchases, then the savings from BBC will be less—in the range of roughly 5%. EOQ authority comes automatically with MYP authority, but must be explicitly included in legislation granting BBC authority.
- The Navy in recent years has used MYP and BBC in shipbuilding and aircraft acquisition programs to reduce the acquisition costs of those programs. The Coast Guard, in contrast, to date has not used MYP or BBC in cutter acquisition programs. The Coast Guard has used contracts with options in cutter acquisition programs. A contract with options may look like a form of multiyear contracting, but operates more like a series of annual contracts. Contracts with options do not achieve the reductions in acquisition costs that are possible with MYP and BBC.
- MYP contracts and block buy contracts can be awarded competitively. 10 USC 2306b requires MYP contracts to be fixed price contracts. BBC contracts can also be fixed price contracts.
- BBC, unlike MYP, can be used at the outset of a shipbuilding program, starting with the lead ship in the class. MYP, in contrast, cannot be used until the lead ship has completed construction. Thus, for a class of ships that is procured at a rate of one ship per year and in which each ship takes five years to build, BBC can be a contracting option starting with the first ship in the class, and MYP can become a contracting option starting with the fifth or sixth ship in the class. This difference is due to the requirement under the statute governing MYP (10 U.S.C. 2306b) that a program must demonstrate design stability to qualify for MYP. In a shipbuilding program, design stability is typically demonstrated by completing the construction of the lead ship in the class.
- From a congressional perspective, tradeoffs in making greater use of MYP and BBC include the following:
 - reduced congressional control over year-to-year spending, and tying the hands of future Congresses;

- reduced flexibility for making changes in Coast Guard acquisition programs in response to unforeseen changes in strategic or budgetary circumstances (which can cause any needed funding reductions to fall more heavily on acquisition programs not covered by MYP or BBC contracts);
 - a potential need to shift funding from later fiscal years to earlier fiscal years to fund EOQ purchases of components;
 - the risk of having to make penalty payments to shipbuilders if multiyear contracts need to be terminated due to unavailability of funds needed for the continuation of the contracts; and
 - the risk that materials and components purchased for ships to be procured in future years might go to waste if those ships are not eventually procured.
- The Offshore Patrol Cutter (OPC) program and the polar icebreaker (PIB) program can be viewed as candidates for using BBC, and the Fast Response Cutter (FRC) program can be viewed as a candidate for using either MYP or BBC. Using MYP and BBC for all three of these programs might produce savings totaling about \$1.2 billion, an amount roughly equivalent to the average annual funding level in the Coast Guard’s Acquisition, Construction, and Improvements (AC&I) account. In considering whether to grant authority for using MYP or BBC for these programs, Congress may weigh the potential savings of these contracting mechanisms against the tradeoffs listed above.
 - In discussing MYP and BBC, it can be helpful to distinguish contracting mechanisms from funding approaches such as incremental funding. Contracting mechanisms and funding approaches are often mixed together in discussions of acquisition programs, sometimes leading to confusion. For more on the distinction between contracting mechanisms and funding approaches, see **Appendix A**. For additional background information on MYP and BBC, see **Appendix B**.
 - Incremental funding has been used more extensively in certain Navy shipbuilding programs in recent years to mitigate budget “spikes” associated with the procurement of very expensive ships that are procured at a rate of less than one per year, such as aircraft carriers and LHA-type amphibious assault ships. Based on this precedent, the polar icebreaking program can be viewed as a candidate for using incremental funding.
 - Using incremental funding distributes the acquisition cost of a ship across multiple years, but as a general matter does not materially change the total acquisition cost of the ship. Mitigating budget spikes associated with funding polar icebreakers, however, might reduce the need for the Coast Guard to shift the acquisition of other items to years before and after the spike. Since such shifts can increase costs for those other programs by disrupting their acquisition schedules, using incremental funding in the PIB program might help avoid cost increases to other programs. This would not be a savings, but rather an avoided cost increase.

Context for Considering Coast Guard Cutter Acquisition Programs

The context for considering Coast Guard cutter acquisition programs is formed by several elements, including those discussed below.

Mission Needs and Planned Number of Cutters

In assessing the potential use of MYP and BBC in Coast Guard cutter acquisition programs, it can be noted, as a starting point, that the Coast Guard’s planned number of new cutters falls considerably short of the number that the Coast Guard has calculated would be needed to fully perform the Coast Guard’s statutory missions in coming years. For example, the Coast Guard has calculated that fully performing its missions in coming years would require 9 NSCs, 49 OPCs, and 91 FRCs (149 cutters in total), or about 64% more than the 8 NSCs, 25 OPCs, and 58 FRCs (91 cutters in total) that are included in the Coast Guard’s program of record (POR).

Although the POR force would have considerably more mission capability and capacity than the Coast Guard’s legacy force, the Coast Guard has estimated that the POR force would nevertheless have capability or capacity gaps for performing six of the Coast Guard’s 11 statutory missions in coming years—search and rescue; defense readiness; counter-drug operations; ports, waterways, and coastal security; protection of living marine resources; and alien migrant interdiction operations. The Coast Guard has judged that some of these mission performance gaps would be “high risk” or “very high risk.” The mission performance gaps of the POR force, which have not been emphasized in public discussions of Coast Guard planning and budgeting, are discussed in some detail in the CRS report on Coast Guard cutter procurement.¹ If limits on Coast Guard acquisition funding lead to a future Coast Guard with fewer and/or older platforms than called for under the POR, the mission performance gaps noted above will be greater still.

Funding Level of Coast Guard’s Acquisition (AC&I) Account

The Coast Guard has testified over the years that acquiring the ships and aircraft in its POR on a timely basis while also adequately funding other Coast Guard acquisition programs would require a funding level for the Coast Guard’s AC&I account of roughly \$1.5 billion to \$2.5 billion per year. As shown in **Table 1**, the Administration’s FY2013 budget submission programmed an average of about \$1.5 billion per year in the AC&I account. As also shown in the table, subsequent budget submissions have reduced that figure to between \$1 billion and \$1.2 billion per year.

Table 1. Funding in AC&I Account in FY2013-FY2016 Budgets

Millions of dollars, rounded to nearest tenth

	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	Avg.
FY13 budget	1,217.3	1,429.5	1,619.9	1,643.8	1,722.0				1,526.5
FY14 budget		951.1	1,195.7	901.0	1,024.8	1,030.3			1,020.6
FY15 budget			1,084.2	1,103.0	1,128.9	1,180.4	1,228.7		1,145.0
FY16 budget				1,017.3	1,125.3	1,255.7	1,201.0	1,294.6	1,178.8

Source: Coast Guard FY2013-FY2016 budget submissions.

At a June 26, 2013, hearing before this subcommittee, I testified that the FY2014 budget submission’s one-third reduction in the average AC&I account funding level compared to the level in the FY2013 budget submission.

is one of the largest percentage reductions in funding that I have seen a five-year acquisition account experience from one year to the next in many years.

¹ See the section entitled “Planned NSC, OPC, and FRC Procurement Quantities” in CRS Report R42567, *Coast Guard Cutter Procurement: Background and Issues for Congress*, by Ronald O’Rourke.

About twenty years ago, in the early 1990s, Department of Defense (DOD) five-year procurement plans were reduced sharply in response to the end of the Cold War—a large-scale change in the strategic environment that led to a significant reduction in estimated future missions for U.S. military forces. In contrast to that situation, there has been no change in the Coast Guard’s strategic environment since last year that would suggest a significant reduction in estimated future missions for the Coast Guard.²

The Coast Guard has testified that funding the AC&I account at a level of about \$1 billion to \$1.2 billion per year would make it difficult to fund various Coast Guard acquisition projects, including a new polar icebreaker, and improvements to Coast Guard shore installations. Coast Guard plans call for procuring OPCs at an eventual rate of two per year. If each OPC costs roughly \$400 million, procuring two OPCs per year in an AC&I account of about \$1 billion to \$1.2 billion per year would leave about \$200 million to \$400 million per year for all other AC&I-funded programs.

Using figures from the FY2014 budget submission, the Coast Guard has about 12.9% as many active-duty personnel as the Navy.³ If the amount of funding for the surface ship acquisition and sustainment part of the AC&I account were equivalent to 12.9% of the amount of funding in the Navy’s shipbuilding account, the surface ship acquisition and sustainment part of the AC&I account would be about \$1.8 billion per year.⁴ Navy surface ship acquisition, unlike Coast Guard surface ship acquisition, includes substantial numbers of large and complex ships, including nuclear-powered aircraft carriers, highly capable surface combatants, and large amphibious and auxiliary ships. Accounting for this difference in Navy and Coast Guard surface ship acquisition by reducing the \$1.8 billion figure by, say, one-half or one-third would produce an adjusted figure of about \$900 million to about \$1.2 billion per year for surface ship acquisition and sustainment.

Again using figures from the FY2014 budget submission, funding in the Navy’s shipbuilding account is equivalent to about 51% of the Navy’s funding for active-duty personnel.⁵ If Coast Guard funding for surface ship acquisition and sustainment were equivalent to 51% of Coast Guard funding for military pay and allowances, the surface ship acquisition and sustainment part of the AC&I account would be about \$1.7 billion per year.⁶ Reducing the \$1.8 billion figure by, say, one-half or one-third to account for differences in the types of surface ships acquired by the Navy and Coast Guard (see previous paragraph) would produce an adjusted figure of about \$850 million to about \$1.1 billion per year for surface ship acquisition and sustainment.⁷

Navy Use of MYP and BBC in Shipbuilding Programs

With congressional approval, the Navy in recent years has made significant use of MYP and BBC in its shipbuilding and aircraft acquisition programs. Among other things, the Navy in recent years has used MYP or BBC for all three of its year-to-year shipbuilding programs—the Virginia-class attack submarine

² Statement of Ronald O’Rourke, Specialist in Naval Affairs, Congressional Research Service, before the House Transportation and Infrastructure Committee, Subcommittee on Coast Guard and Maritime Transportation, Hearing on Coast Guard Readiness: Examining Cutter, Aircraft, and Communications Needs, June 26, 2013, p. 1.

³ The Coast Guard for FY2014 appears to be requesting an active-duty end strength—the number of active-duty military personnel—of 41,594 (measured by the Coast Guard in full-time equivalent [FTE] positions); the Navy for FY2014 is requesting an active-duty end strength of 323,600.

⁴ The Navy’s proposed FY2014 budget requested \$14,078 million for the Shipbuilding and Conversion, Navy (SCN) appropriation account.

⁵ The Navy’s proposed FY2014 budget requested \$27,824 million for the Military Personnel, Navy (MPN) appropriation account.

⁶ The Coast Guard’s proposed FY2014 budget requested \$3,425.3 million for military pay and allowances.

⁷ For further discussion, see the section entitled “Funding Level of Coast Guard’s Acquisition Account” in CRS Report R42567, *Coast Guard Cutter Procurement: Background and Issues for Congress*, by Ronald O’Rourke.

program, the DDG-51 destroyer program, and the Littoral Combat Ship program. These three programs account for a significant share of the Navy's shipbuilding effort: Of the 48 new-construction ships in the Navy's FY2016 five-year (FY2016-FY2020) shipbuilding plan, these three programs account for 34, or about 71%. Savings from the use of MYP recently have, among other things, helped Congress and the Navy to convert a nine-ship buy of DDG-51 class destroyers in FY2013-FY2017 into a 10-ship buy, and a nine-ship buy of Virginia-class attack submarines in FY2014-FY2018 into a 10-ship buy.

The Navy's increasing use of MYP and BBC in recent years amounts to a significant change—some might say a quiet revolution—in Navy ship and aircraft acquisition. In an interview published on January 13, 2014, Sean Stackley, the Assistant Secretary of the Navy for Research, Development, and Acquisition (i.e., the Navy's acquisition executive), stated:

What the industrial base clamors for is stability, so they can plan, invest, train their work force. It [multiyear contracting] gives them the ability in working with say, the Street [Wall Street], to better predict their own performance, then meet expectations in the same fashion we try to meet our expectations with the Hill.

It's emblematic of stability that we've got more multiyear programs in the Department of the Navy than the rest of the Department of Defense combined. We've been able to harvest from that significant savings, and that has been key to solving some of our budget problems. It's allowed us in certain cases to put the savings right back into other programs tied to requirements.⁸

Opportunities for Using MYP and BBC in Cutter Acquisition Programs

Certain Coast Guard cutter acquisition programs can be viewed as candidates for using MYP or BBC. In considering whether to grant authority for using MYP or BBC, Congress may weigh the potential savings of these measures against the tradeoffs listed earlier. Below are brief discussions of individual cutter acquisition programs.

Offshore Patrol Cutter (OPC) Program

The Coast Guard wants to procure a total of 25 OPCs, and currently plans to use a contract with options for acquiring the first 9 to 11 ships in the program. The OPC program can be viewed as a candidate for instead using BBC for the initial ships in the program, and either BBC or MYP for later ships in the program. If using BBC and MYP were to reduce the acquisition costs of OPCs by about 10% (compared to costs under a contract with options), the savings would amount to roughly \$1 billion. An alternate way to characterize such savings would be to say that using BBC or MYP would enable the Coast Guard to get about two and a half of the 25 OPCs for "free," or to pay for the acquisition of a polar icebreaker.

Section 223 of the Howard Coble Coast Guard and Maritime Transportation Act of 2014 (S. 2444/P.L. 113-281 of December 18, 2014) states:

SEC. 223. MULTIYEAR PROCUREMENT AUTHORITY FOR OFFSHORE PATROL CUTTERS.

In fiscal year 2015 and each fiscal year thereafter, the Secretary of the department in which the Coast Guard is operating may enter into, in accordance with section 2306b of title 10, United States Code, multiyear contracts for the procurement of Offshore Patrol Cutters and associated equipment.

⁸ "Interview: Sean Stackley, US Navy's Acquisition Chief," *Defense News*, January 13, 2014: 22.

Fast Response Cutter (FRC) Program

The Coast Guard plans to soon award a contract with options for acquiring the final 26 ships in the 58-ship FRC program. The final 26 ships in the program can be viewed as a candidate for instead using either MYP or BBC. If using MYP or BBC were to reduce the acquisition costs of OPCs by about 10% (compared to costs under a contract with options), the savings would amount to more than \$100 million. An alternate way to characterize such savings would be to say that using MYP or BBC could enable the Coast Guard to get about two and a half of the 26 FRCs for “free.”

Polar Icebreaker (PIB) Program

On September 1, 2015, the White House issued a fact sheet in conjunction with a visit to Alaska by President Obama indicating that the Administration wants to procure a new polar icebreaker in FY2020, and that the Administration will also “begin planning for construction of additional icebreakers” beyond the one that the Administration proposes to procure in FY2020.⁹ On January 13, 2016, the Coast Guard announced that “the United States Coast Guard (USCG) Polar Icebreaker Replacement Program intends to host an Industry Day followed by one-on-one meetings with prospective shipbuilders and ship designers as a part of ongoing market research.... Industry Day is tentatively planned to occur in March 2016.”¹⁰

A program to procure multiple polar icebreakers could be viewed as a candidate for using BBC. The acquisition cost of the first polar icebreaker has been notionally estimated at about \$1 billion. On this basis, if using BBC were to reduce the acquisition costs of a two-ship polar icebreaker program by about 5% (compared to costs under annual contracting),¹¹ the combined savings on the two ships would amount to upwards of \$100 million.

⁹ The White House, “FACT SHEET: President Obama Announces New Investments to Enhance Safety and Security in the Changing Arctic,” September 1, 2015, accessed September 2, 2015, at <https://www.whitehouse.gov/the-press-office/2015/09/01/fact-sheet-president-obama-announces-new-investments-enhance-safety-and>.

¹⁰ “USCG Polar Class Icebreaker Replacement Program,” accessed January 15, 2016, at <https://www.fbo.gov/index?s=opportunity&mode=form&id=a778c49349c443d2658666e19cc100e9&tab=core&tabmode=list&=>.

As part of this announcement, the Coast Guard released an industry data package for the polar icebreaker replacement program. A notional schedule for the program included in the package shows a draft Request for Proposals (RFP) being released in the first quarter of FY2017, a final RFP being released in the fourth quarter of FY2017 or the first quarter of FY2018, a contract award being made between the fourth quarter of FY2018 and the fourth quarter of FY2019, and construction of the ship beginning as soon as the fourth quarter of FY2019. (*Polar Icebreaker Industry Data Package*, undated, released January 13, p. 3. Accessed January 15, 2016, at <https://www.fbo.gov/index?tab=documents&tabmode=form&subtab=core&tabid=a82ce0769a3dc86fc8984d6854dea47f>.)

For more on the PIB program, see CRS Report RL34391, *Coast Guard Polar Icebreaker Modernization: Background and Issues for Congress*, by Ronald O'Rourke.

¹¹ For a program involving two ships rather than a larger number of ships, the potential savings under BBC, even with EOQ authority, might be closer to 5% than 10%. When the Navy, as part of its FY1983 budget submission, proposed procuring two Nimitz (CVN-68) class aircraft carriers (CVN-72 and CVN-73) together in a single year, the Navy estimated that doing so would reduce the combined cost of CVN-72 and CVN-73 by 5.6% in real terms. Congress, in its action on the FY1983 defense budget, fully funded CVN-72 and CVN-73 in the FY1983. When the Navy, as part of its FY1988 budget submission, proposed procuring two more Nimitz-class aircraft carriers (CVN-74 and CVN-75) under a two ship block buy, with CVN-74 to be procured in FY1990 and CVN-75 to be procured FY1993, the Navy estimated that the block buy would reduce the combined cost of CVN-74 and CVN-75 by a considerably larger percentage. The Government Accountability Office (GAO) stated that the savings would be considerably less than the Navy estimated, but agreed that a two-ship acquisition strategy is less expensive than a single-ship acquisition strategy, and that some savings would occur in a two-ship strategy for CVN-74 and CVN-75. Congress, in its action on the FY1988 budget, accelerated the procurement of CVN-74 and CVN-75 to FY1988 and fully funded the two ships in FY1988. For further discussion, see the section entitled “Potential Two-Ship Block Buy on CVN-79 and CVN-80” in the December 22, 2014, version of CRS Report RS20643, *Navy Ford (CVN-78) Class Aircraft Carrier Program: Background and Issues for Congress*, by Ronald O'Rourke, available from the author to congressional clients upon request.

Based on precedents in Navy shipbuilding, the PIB program can also be viewed as a candidate for using incremental funding. Using incremental funding in the PIB program would not materially reduce the acquisition costs of polar icebreakers, but it would reduce the funding spikes associated with funding polar icebreakers and thereby reduce the need for the Coast Guard to shift the acquisition of other items to years before and after such spikes. Since such shifts can increase costs for those other programs by disrupting their acquisition schedules, using incremental funding in the PIB program might help avoid cost increases to other programs. This would not be a savings, but rather an avoided cost increase.

The three above instances of potential savings from using MYP and BBC—roughly \$1 billion for the OPC program, more than \$100 million for the FRC program, and upwards of \$100 million for the PIB program—total about \$1.2 billion, an amount roughly equivalent to the average annual funding level in the Coast Guard’s AC&I account.

As mentioned earlier, in considering whether to grant authority for using MYP or BBC in cutter acquisition programs, Congress may weigh the potential savings of these measures against the tradeoffs listed earlier.

Mr. Chairman, this concludes my statement. Thank you again for the opportunity to testify, and I will be pleased to respond to any questions the subcommittee may have.

Appendix A. Contracting Mechanisms and Funding Approaches

In discussing MYP and BBC, it can be helpful to distinguish contracting mechanisms from funding approaches such as incremental funding. Contracting mechanisms and funding approaches are often mixed together in discussions of acquisition programs, sometimes leading to confusion. Stated briefly:

- **Funding approaches** are ways that Congress can appropriate funding for weapon procurement programs. Examples of funding approaches include traditional full funding (the standard or default approach), incremental funding, and advance appropriations. In Department of Defense (DOD) acquisition, any of these funding approaches might make use of advance procurement (AP) funding.¹² As a general matter, funding approaches do not materially change the total procurement cost of a ship.
- **Contracting mechanisms** are ways contract for the procurement of weapons systems, once funding for those systems has been appropriated by Congress. Examples of contracting mechanisms include annual contracting (the standard or default approach), MYP, and BBC. Contracting mechanisms can materially change the total procurement cost of a ship.

The use of a particular funding approach in a defense acquisition program does not dictate the use of a particular contracting mechanism. Acquisition programs consequently can be implemented using various combinations of funding approaches and contracting mechanisms. Most DOD weapon acquisition programs use a combination of traditional full funding and annual contracting. A few DOD programs, particularly certain Navy shipbuilding programs, use incremental funding as their funding approach. A limited number of DOD programs use MYP as their contracting approach, and to date two Navy shipbuilding programs have used BBC as their contracting approach. The situation is summarized in **Table A-1**.

Table A-1. DOD Use of Contracting Mechanisms and Funding Approaches

		Funding approaches		
		Full funding	Incremental funding	Advance appropriations
Contracting mechanisms	Annual contracting	Most DOD programs	A few DOD programs (e.g., CVNs, LHAs, DDG-1000s)	
	MYP	Selected DOD programs		
	Block buy contracting	Virginia-class submarines (units 1-4) and Littoral Combat Ships (units 5-24)		

Source: Table prepared by CRS.

Notes: Advance procurement (AP) can be used with any of the funding approaches. As a general matter, funding approaches do not materially change the total procurement cost of a ship. (By mitigating budgets spikes, however, incremental funding might prevent disruptions to other programs.) Contracting approaches can materially change the total

¹² AP funding is provided in one or more years prior to the year of procurement of a weapon system for the procurement of long-leadtime components—components with long construction times. Such components must be funded prior to the procurement of the remainder of the weapon system if they are to be ready for installation in the weapon system at the appropriate point in the construction process. AP funding is a permitted exception to the full funding provision. AP funding is not to be confused with advance appropriations.

procurement cost of a ship. Funding a ship inside or outside the procurement title of the DOD appropriation act can affect the application of the full funding policy, and thus how funds can be used for purposes such as making combined purchases of components for multiple ships in a class.

Appendix B. Background Information On MYP and BBC

This appendix provides basic background information on DOD use of MYP and BBC.¹³ The Coast Guard, like DOD, has authority under 10 USC 2306b to use MYP. Specific legislation has been used to grant the Navy authority to use BBC in two of its shipbuilding programs. Based on this precedent, it would appear that specific legislation could be used to grant the Coast Guard authority to use BBC in cutter acquisition programs.

Multiyear Procurement (MYP)

MYP in Brief

What is MYP, and how does it differ from annual contracting? MYP, also known as multiyear contracting, is an alternative to the standard or default approach of annual contracting. Under annual contracting, DOD uses one or more contracts for each year's worth of procurement of a given kind of item. Under MYP, DOD instead uses a single contract for two to five years' worth of procurement of a given kind of item, without having to exercise a contract option for each year after the first year. DOD needs congressional approval for each use of MYP.

To illustrate the basic difference between MYP and annual contracting, consider a hypothetical DOD program to procure 20 single-engine aircraft of a certain kind over the five-year period FY2015-FY2019, at a rate of four aircraft per year:

- **Under annual contracting**, DOD would issue one or more contracts for each year's procurement of four aircraft. After Congress funds the procurement of the first four aircraft in FY2015, DOD would issue one or more contracts (or exercise a contract option) for those four aircraft. The next year, after Congress funds the procurement of the next four aircraft in FY2016, DOD would issue one or more contracts (or exercise a contract option) for those four aircraft, and so on.
- **Under MYP**, DOD would issue one contract covering all 20 aircraft to be procured during the five-year period FY2015-FY2019. DOD would award this contract in FY2015, at the beginning of the five-year period, following congressional approval to use MYP for the program, and congressional appropriation of the FY2015 funding for the program. To continue the implementation of the contract over the next four years, DOD would request the FY2016 funding for the program as part of DOD's proposed FY2016 budget, the FY2017 funding as part of DOD's proposed FY2017 budget, and so on.

Potential Savings Under MYP

How much can MYP save? Compared with estimated costs under annual contracting, estimated savings for programs being proposed for MYP have ranged from less than 5% to more than 15%, depending on the particulars of the program in question, with many estimates falling in the range of 5% to 10%. In practice, actual savings from using MYP rather than annual contracting can be difficult to observe or verify because of cost growth during the execution of the contract that was caused by developments independent of the use of MYP rather than annual contracting.

¹³ Material in this appendix is adapted from CRS Report R41909, *Multiyear Procurement (MYP) and Block Buy Contracting in Defense Acquisition: Background and Issues for Congress*, by Ronald O'Rourke and Moshe Schwartz.

A February 2012 briefing by the Cost Assessment and Program Evaluation (CAPE) office within the Office of the Secretary of Defense (OSD) states that “MYP savings analysis is difficult due to the lack of actual costs on the alternative acquisition path, i.e., the path not taken.”¹⁴ The briefing states that CAPE up to that point had assessed MYP savings for four aircraft procurement programs—F/A-18E/F strike fighters, H-60 helicopters, V-22 tilt-rotor aircraft, and CH-47F helicopters—and that CAPE’s assessed savings ranged from 2% to 8%.¹⁵

A 2008 Government Accountability Office (GAO) report stated that

DOD does not have a formal mechanism for tracking multiyear results against original expectations and makes few efforts to validate whether actual savings were achieved by multiyear procurement. It does not maintain comprehensive central records and historical information that could be used to enhance oversight and knowledge about multiyear performance to inform and improve future multiyear procurement (MYP) candidates. DOD and defense research centers officials said it is difficult to assess results because of the lack of historical information on multiyear contracts, comparable annual costs, and the dynamic acquisition environment.¹⁶

How does MYP potentially save money? Compared to annual contracting, using MYP can in principle reduce the cost of the weapons being procured in two primary ways:

- **Contractor optimization of workforce and production facilities.** An MYP contract gives the contractor (e.g., an airplane manufacturer or shipbuilder) confidence that a multiyear stream of business of a known volume will very likely materialize. This confidence can permit the contractor to make investments in the firm’s workforce and production facilities that are intended to optimize the facility for the production of the items being procured under the contract. Such investments can include payments for retaining or training workers, or for building, expanding, or modernizing production facilities. Under annual contracting, the manufacturer might not have enough confidence about its future stream of business to make these kinds of investments, or might be unable to convince its parent firm to finance them.
- **Economic order quantity (EOQ) purchases of selected long-leadtime components.** Under an MYP contract, DOD is permitted to bring forward selected key components of the items to be procured under the contract and to purchase the components in batch form during the first year or two of the contract. In the hypothetical example introduced earlier, using MYP could permit DOD to purchase, say, the 20 engines for the 20 aircraft in the first year or two of the five-year contract. Procuring selected components in this manner under an MYP contract is called an economic order quantity (EOQ) purchase.¹⁷ EOQ purchases can reduce the procurement cost of the weapons being procured under the

¹⁴ Slide 10 from briefing entitled “Multiyear Procurement: A CAPE Perspective,” given at DOD cost analysis symposium, February 15-17, 2012, posted at InsideDefense.com (subscription required) May 14, 2012.

¹⁵ Slide 12 from briefing entitled “Multiyear Procurement: A CAPE Perspective,” given at DOD cost analysis symposium, February 15-17, 2012, posted at InsideDefense.com (subscription required) May 14, 2012. Slide 12 also stated that these assessed savings were based on comparing CAPE’s estimate of what the programs would cost under annual contracting (which the briefing refers to as single-year procurement or SYP) to the contractor’s MYP proposal.

¹⁶ Government Accountability Office, *Defense Acquisitions[:] DOD’s Practices and Processes for Multiyear Procurement Should Be Improved*, GAO-08-298, February 2008, p. 3.

¹⁷ The term EOQ is occasionally used in discussions of defense acquisition, somewhat loosely, to refer to any high-quantity or batch order of items, even those that do not take place under MYP or BBC. As a general matter, however, EOQs as described here occur only within MYP and block buy contracts.

MYP contract by allowing the manufacturers of components to take maximum advantage of production economies of scale that are possible with batch orders.¹⁸

What gives the contractor confidence that the multiyear stream of business will materialize? At least two things give the contractor confidence that DOD will not terminate an MYP contract and that the multiyear stream of business consequently will materialize:

- For a program to qualify for MYP, DOD must certify, among other things, that the minimum need for the items to be purchased is expected to remain substantially unchanged during the contract in terms of production rate, procurement rate, and total quantities.
- Perhaps more important to the contractor, MYP contracts include a cancellation penalty intended to reimburse a contractor for costs that the contractor has incurred (i.e., investments the contractor has made) in anticipation of the work covered under the MYP contract. The undesirability of paying a cancellation penalty acts as a disincentive for the government against canceling the contract. (And if the contract is canceled, the cancellation penalty helps to make the contractor whole.)¹⁹

Permanent Statute Governing MYP

Is there a permanent statute governing MYP contracting? There is a permanent statute governing MYP contracting—10 U.S.C. 2306b. The statute was created by Section 909 of the FY1982 Department of Defense Authorization Act (S. 815/P.L. 97-86 of December 1, 1981), revised and reorganized by Section 1022 of the Federal Acquisition Streamlining Act of 1994 (S. 1587/P.L. 103-355 of October 13, 1994), and further amended on several occasions since. DOD’s use of MYP contracting is further governed by DOD acquisition regulations.

Under this statute, what criteria must a program meet to qualify for MYP? 10 U.S.C. 2306b(a) states that to qualify for MYP, a program must meet several criteria, including the following.

- **Substantial savings.** DOD must estimate that using an MYP contract would result in “substantial savings” compared with using annual contracting.

¹⁸ A 2008 GAO report on multiyear contracting lists five areas of savings, most of which are covered in the two general areas of savings outlined above. One of GAO’s five areas of savings—limited engineering changes due to design stability—can also occur in programs that use annual contracting. The GAO report states:

Multiyear procurement can potentially save money and improve the defense industrial base by permitting the more efficient use of a contractor’s resources. Multiyear contracts are expected to achieve lower unit costs compared to annual contracts through one or more of the following sources: (1) purchase of parts and materials in economic order quantities (EOQ), (2) improved production processes and efficiencies, (3) better utilized industrial facilities, (4) limited engineering changes due to design stability during the multiyear period, and (5) cost avoidance by reducing the burden of placing and administering annual contracts. Multiyear procurement also offers opportunities to enhance the industrial base by providing defense contractors a longer and more stable time horizon for planning and investing in production and by attracting subcontractors, vendors, and suppliers. However, multiyear procurement also entails certain risks that must be balanced against potential benefits, such as the increased costs to the government should the multiyear contract be changed or canceled and decreased annual budget flexibility for the program and across DOD’s portfolio of weapon systems. Additionally, multiyear contracts often require greater budgetary authority in the earlier years of the procurement to economically buy parts and materials for multiple years of production than under a series of annual buys.

Government Accountability Office, *Defense Acquisitions[:] DOD’s Practices and Processes for Multiyear Procurement Should Be Improved*, GAO-08-298, February 2008, pp. 4-5.

¹⁹ Annual contracts can also include cancellation penalties.

- **Realistic cost estimates.** DOD’s estimates of the cost of the MYP contract and the anticipated savings must be realistic.
- **Stable need for the items.** DOD must expect that its minimum need for the items will remain substantially unchanged during the contract in terms of production rate, procurement rate, and total quantities.
- **Stable design for the items.** The design for the items to be acquired must be stable, and the technical risks associated with the items must not be excessive.

Section 811 of the FY2008 National Defense Authorization Act (H.R. 4986/P.L. 110-181 of January 28, 2008) amended 10 U.S.C. 2306b to require the Secretary of Defense to certify in writing, by no later than March 1 of the year in which DOD requests MYP authority for a program, that these and certain other criteria have been met. It also requires that the Secretary provide the congressional defense committees with the basis for this determination, as well as a cost analysis performed by DOD’s office of Cost Assessment and Program Evaluation (CAPE) that supports the findings.²⁰ Section 811 further amended 10 U.S.C. 2306b to require the following:

- **Sufficient prior deliveries to determine whether estimated unit costs are realistic.** A sufficient number of the type of item to be acquired under the proposed MYP contract must have been delivered under previous contracts at or within the most current estimates of the program acquisition unit cost or procurement unit cost to determine whether current estimates of such unit costs are realistic.
- **No Nunn-McCurdy critical cost growth breaches within the last five years.** The system being proposed for an MYP contract must not have experienced within five years of the anticipated award date of the MYP contract a critical cost growth breach as defined under the Nunn-McCurdy act (10 U.S.C. 2433).²¹
- **Fixed-price type contract.** The proposed MYP contract must be a fixed-price type contract.²²

What is meant by “substantial savings”? The meaning of “substantial savings” is open to interpretation and might depend on the circumstances of the program in question. In practice, estimated savings of at least 5% might be judged substantial, and estimated savings in the range of 10% (or more) are more likely to be judged substantial. The amount of savings required under 10 U.S.C. 2306b to qualify has changed over time; the requirement for “substantial savings” was established by Section 808(a)(2) of the FY1991 National Defense Authorization Act (H.R. 4739/P.L. 101-510 of November 5, 1990), which amended 10 U.S.C. 2306b in this regard.²³

What is meant by “stable design”? The term “stable design” is generally understood to mean that the design for the items to be procured is not expected to change substantially during the period of the contract. Having a stable design is generally demonstrated by having already built at least a few items to that design (or in the case of a shipbuilding program, at least one ship to that design) and concluding,

²⁰ §811 states that the cost analysis is to be performed by DOD’s Cost Analysis Improvement Group (CAIG). In a subsequent DOD reorganization, CAIG was made part of CAPE.

²¹ For more on the Nunn-McCurdy provision, see CRS Report R41293, *The Nunn-McCurdy Act: Background, Analysis, and Issues for Congress*, by Moshe Schwartz.

²² The requirement for using a fixed price contract is now codified at 10 U.S.C. 2306b, subsection (i)(3)(F).

²³ For a discussion of the evolution of the savings requirement under 10 U.S.C. 2306b, including a figure graphically summarizing the legislative history of the requirement, see Government Accountability Office, *Defense Acquisitions[:] DOD’s Practices and Processes for Multiyear Procurement Should Be Improved*, GAO-08-298, February 2008, pp. 21-22, including Figure 3 on p. 22.

through testing and operation of those items, that the design does not require any substantial changes during the period of the contract.

Potential Consequences of Not Fully Funding an MYP Contract

What happens if Congress does not provide the annual funding requested by DOD to continue the implementation of the contract? If Congress does not provide the funding requested by DOD to continue the implementation of an MYP contract, DOD would be required to renegotiate, suspend, or terminate the contract. Terminating the contract could require the government to pay a cancellation penalty to the contractor. Renegotiating or suspending the contract could also have a financial impact.

Effect on Flexibility for Making Procurement Changes

What effect does using MYP have on flexibility for making procurement changes? A principal potential disadvantage of using MYP is that it can reduce Congress's and DOD's flexibility for making changes (especially reductions) in procurement programs in future years in response to changing strategic or budgetary circumstances, at least without incurring cancellation penalties. In general, the greater the portion of DOD's procurement account that is executed under MYP contracts, the greater the potential loss of flexibility. The use of MYP for executing some portion of the DOD procurement account means that if policymakers in future years decide to reduce procurement spending below previously planned levels, the spending reduction might fall more heavily on procurement programs that do not use MYP, which in turn might result in a less-than-optimally balanced DOD procurement effort.

Congressional Approval

How does Congress approve the use of MYP? Congress approves the use of MYP on a case-by-case basis, typically in response to requests by DOD.²⁴ Congressional approval for MYP contracts with a value of more than \$500 million must occur in two places: an annual DOD appropriations act²⁵ and an act other than the annual DOD appropriations act.²⁶

In annual DOD appropriations acts, the provision permitting the use of MYP for one or more defense acquisition programs is typically included in the title containing general provisions, which typically is Title VIII.

An annual defense authorization act is usually the act other than an appropriations act in which provisions granting authority for using MYP contracting on individual defense acquisition programs are included. Such provisions typically occur in Title I of the defense authorization act, the title covering procurement programs.

Provisions in which Congress approves the use of MYP for a particular defense acquisition program may include specific conditions for that program in addition to the requirements and conditions of 10 U.S.C. 2306b.

How often is MYP used? MYP is used for a limited number of DOD acquisition programs. Annual DOD appropriations acts since FY1990 typically (but not always) have approved the use of MYP for one or a few DOD programs each year.

²⁴ The Anti-Deficiency Act (31 U.S.C. 1341) prohibits the making of contracts in advance of appropriations. A multiple-year commitment may be made when authorized by Congress by entering into a firm commitment for one year and making the government's liability for future years contingent on funds becoming available.

²⁵ 10 U.S.C. 2306b, subsection (l)(3).

²⁶ 10 U.S.C. 2306b, subsection (i)(1).

A February 2012 briefing by the Cost Assessment and Program Evaluation (CAPE) office within the Office of the Secretary of Defense (OSD) shows that the total dollar value of DOD MYP contracts has remained more or less stable between FY2000 and FY2012 at roughly \$7 billion to \$13 billion per year. The briefing shows that since the total size of DOD's procurement budget has increased during this period, the portion of DOD's total procurement budget accounted for by programs using MYP contracts has declined from about 17% in FY2000 to less than 8% in FY2012.²⁷ The briefing also shows that the Navy makes more use of MYP contracts than does the Army or Air Force, and that the Air Force made very little use of MYP in FY2010-FY2012.²⁸

A 2008 GAO report stated:

Although DOD had been entering into multiyear contracts on a limited basis prior to the 1980s, the Department of Defense Authorization Act, [for fiscal year] 1982,²⁹ codified the authority for DOD to procure on a multiyear basis major weapon systems that meet certain criteria. Since that time, DOD has annually submitted various weapon systems as multiyear procurement candidates for congressional authorization. Over the past 25 years, Congress has authorized the use of multiyear procurement for approximately 140 acquisition programs, including some systems approved more than once.³⁰

Block Buy Contracting (BBC)

BBC in Brief

What is BBC, and how does it compare to MYP? BBC is similar to MYP in that it permits DOD to use a single contract for more than one year's worth of procurement of a given kind of item without having to exercise a contract option for each year after the first year.³¹ BBC is also similar to MYP in that DOD needs congressional approval for each use of BBC.

BBC differs from MYP in the following ways:

- There is no permanent statute governing the use of BBC.
- There is no requirement that BBC be approved in both a DOD appropriations act and an act other than a DOD appropriations act.
- Programs being considered for BBC do not need to meet any legal criteria to qualify for BBC because there is no permanent statute governing the use of BBC that establishes such criteria.

²⁷ Slide 4 from briefing entitled "Multiyear Procurement: A CAPE Perspective," given at DOD cost analysis symposium, February 15-17, 2012, posted at InsideDefense.com (subscription required) May 14, 2012.

²⁸ Slide 5 from briefing entitled "Multiyear Procurement: A CAPE Perspective," given at DOD cost analysis symposium, February 15-17, 2012, posted at InsideDefense.com (subscription required) May 14, 2012.

²⁹ S. 815/P.L. 97-86 of December 1, 1981, §909.

³⁰ Government Accountability Office, *Defense Acquisitions[:] DOD's Practices and Processes for Multiyear Procurement Should Be Improved*, GAO-08-298, February 2008, p. 5.

³¹ Using the hypothetical example introduced earlier involving the procurement of 20 aircraft over the five-year period FY2013-FY2017, DOD would follow the same general path as it would under MYP: DOD would issue one contract covering all 20 aircraft in FY2013, at the beginning of the five-year period, following congressional approval to use BBC for the program, and congressional appropriation of the FY2013 funding for the program. To continue the implementation of the contract over the next four years, DOD would request the FY2014 funding for the program as part of DOD's proposed FY2014 budget, the FY2015 funding as part of DOD's proposed FY2015 budget, and so on.

- A BBC contract can cover more than five years of planned procurements. The BBC contracts currently being used by the Navy for procuring Littoral Combat Ships (LCSs), for example, cover a period of seven years (FY2010-FY2016).
- Economic order quantity (EOQ) authority does not come automatically as part of BBC authority because there is no permanent statute governing the use of BBC that includes EOQ authority as an automatic feature. To provide EOQ authority as part of a BBC contract, the provision granting authority for using BBC in a program may need to state explicitly that the authority to use BBC includes the authority to use EOQ.
- BBC contracts are less likely to include cancellation penalties.

Given the one key similarity between BBC and MYP (the use of a single contract for more than one year's worth of procurement), and the various differences between BBC and MYP, BBC might be thought of as a less formal stepchild of MYP.

When and why was BBC invented? BBC was invented by Section 121(b) of the FY1998 National Defense Authorization Act (H.R. 1119/P.L. 105-85 of November 18, 1997), which granted the Navy the authority to use a single contract for the procurement of the first four Virginia (SSN-774) class attack submarines. The four boats were scheduled to be procured during the five-year period FY1998-FY2002 in annual quantities of 1-1-0-1-1. Congress provided the authority granted in Section 121(b) at least in part to reduce the combined procurement cost of the four submarines. Using MYP was not an option for the Virginia-class program at that time because the Navy had not even begun, let alone finished, construction of the first Virginia-class submarine, and consequently could not demonstrate that it had a stable design for the program.

When Section 121(b) was enacted, there was no name for the contracting authority it provided. The term block buy contracting came into use later, when observers needed a term to refer to the kind of contracting authority that Congress authorized in Section 121(b).

Potential Savings Under BBC

How much can BBC save, compared with MYP? BBC can reduce the unit procurement costs of ships by amounts comparable to those of MYP, if the authority granted for using BBC explicitly includes authority for making economic order quantity (EOQ) purchases of components. If the authority granted for using BBC does not explicitly include authority for making EOQ purchases, then the savings from BBC will be less. Potential savings under BBC might also be less than those under MYP if the BBC contract does not include a cancellation penalty, or includes one that is more limited than typically found in an MYP contract, because this might give the contractor less confidence than would be the case under an MYP contract that the future stream of business will materialize as planned, which in turn might reduce the amount of money the contractor invests to optimize its workforce and production facilities for producing the items to be procured under the contract.

Frequency of Use of BBC

How frequently has BBC been used? Since its use at the start of the Virginia-class program, BBC has been used very rarely. The Navy did not use it again in a shipbuilding program until December 2010, when it awarded two block buy contracts, each covering 10 LCSs to be procured over the six-year period FY2010-FY2015, to the two LCS builders.³² A third example, arguably, is the Air Force's KC-46 aerial

³² For further discussion, see CRS Report RL33741, *Navy Littoral Combat Ship (LCS)/Frigate Program: Background and Issues for Congress*, by Ronald O'Rourke. The contracts were later extended to cover FY2016.

refueling tanker program, which is employing a fixed price incentive fee (FPIF) development contract that includes a “back end” commitment to procure certain minimum numbers of KC-46s in certain fiscal years.³³

Using BBC Rather than MYP

When might BBC be suitable as an alternative to MYP? BBC might be particularly suitable as an alternative to MYP in cases where using a multiyear contract can reduce costs, but the program in question cannot meet all the statutory criteria needed to qualify for MYP. As shown in the case of the first four Virginia-class boats, this can occur at or near the start of a procurement program, when design stability has not been demonstrated through the production of at least a few of the items to be procured (or, for a shipbuilding program, at least one ship).

MYP and BBC vs. Contracts with Options

What’s the difference between an MYP or block buy contract and a contract with options? The military services sometimes use contracts with options to procure multiple copies of an item that are procured over a period of several years. The Navy, for example, used a contract with options to procure Lewis and Clark (TAKE-1) class dry cargo ships that were procured over a period of several years. A contract with options can be viewed as somewhat similar to an MYP or block buy contract in that a single contract is used to procure several years’ worth of procurement of a given kind of item.

There is, however, a key difference between an MYP or block buy contract and a contract with options: In a contract with options, the service is under no obligation to exercise any of the options, and a service can choose to not exercise an option without having to make a penalty payment to the contractor. In contrast, in an MYP or block buy contract, the service is under an obligation to continue implementing the contract beyond the first year, provided that Congress appropriates the necessary funds. If the service chooses to terminate an MYP or block buy contract, and does so as a termination for government convenience rather than as a termination for contractor default, then the contractor can, under the contract’s termination for convenience clause, seek a payment from the government for cost incurred for work that is complete or in process at the time of termination, and may include the cost of some of the investments made in anticipation of the MYP or block buy contract being fully implemented. The contractor can do this even if the MYP or block buy contract does not elsewhere include a provision for a cancellation penalty.

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³³ For more on the KC-46 program, see CRS Report RL34398, *Air Force KC-46A Tanker Aircraft Program*, by Jeremiah Gertler.