

Air Missile Defense Radar Amdr An Spy 6 V

The President's FY 2011 budget request included \$733 billion in new budget authority for national defense. Contents of this report: (1) Most Recent Developments; (2) FY 2011 Defense Budget Overview: Real Growth and 'Security Agencies'; War Costs, FY 2011 and FY 2010; Budget by Function; (3) FY 2011 DoD Base Budget: Defense Budget as Share of Gross Domestic Product; (4) Long-Term Planning; (5) FY 2011 Base Budget Highlights and Potential Issues: Military Personnel: Military Pay Raise; Don't Ask, Don't Tell; Military Health Care Costs; Procurement and R&D: Army Combat Force Modernization Programs; Navy Force Structure and Shipbuilding Plans; Aircraft Programs; Military Construct. (6) Bill-by-Bill Synopsis of Congress. Action to Date.

The Navy began procuring Arleigh Burke (DDG-51) class destroyers, also known as Aegis destroyers, in FY1985, and a total of 85 have been procured through FY2020, including three in FY2020. The Navy's proposed FY2021 budget requests funding for the procurement of two more DDG-51s, which would be the 86th and 87th ships in the class. DDG-51s are being procured in FY2018-FY2022 under a multiyear procurement (MYP) contract that Congress approved as part of its action on the Navy's FY2018 budget. DDG-51s procured in FY2017 and subsequent years are being built to a revised design, called the Flight III design, that incorporates a new and more capable radar called the Air and Missile Defense Radar (AMDR) or SPY-6 radar. The Navy wants to procure the first ship of a new class of large surface combatants in FY2028. Under the Navy's plan, FY2027 would be the final year of DDG-51 procurement.

The Aegis ballistic missile defense (BMD) program, which is carried out by the Missile Defense Agency (MDA) and the Navy, gives Navy Aegis cruisers and destroyers a capability for conducting BMD operations. BMD-capable Aegis ships operate in European waters to defend Europe from potential ballistic missile attacks from countries such as Iran, and in the Western Pacific and the Persian Gulf to provide regional defense against potential ballistic missile attacks from countries such as North Korea and Iran. Under the FY2021 budget submission, the number of BMD-capable Navy Aegis ships is projected to increase from 48 at the end of FY2021 to 65 at the end of FY2025.

The Navy is required by law to submit a report to the Congress each year that projects the service's shipbuilding requirements, procurement plans, inventories, and costs over the coming 30 years. Since 2006, the Congressional Budget Office (CBO) has been performing an independent analysis of the Navy's latest shipbuilding plan at the request of the Subcommittee on Seapower and Expeditionary Forces of the House Armed Services Committee. This CBO report, the latest in that series, summarizes the ship requirements and purchases described in the Navy's 2011 plan and assesses their implications for the Navy's funding needs and ship inventories through 2040. The new plan appears to increase the required size of the fleet compared with earlier plans, while reducing the number of ships to be purchased, and thus the costs for ship construction, over the next three decades. Despite those reductions, the total costs of carrying out the 2011 plan would be much higher than the funding levels that the Navy has received in recent years.

In 2010, NATO decided to expand its ballistic missile defense program, in part because of the American offer to include its European Phased Adaptive Approach (EPAA) as the centerpiece of an expanded effort. For the Allies' part, few have actually contributed tangible ballistic missile defense assets, in terms of missile interceptors, radars or other sensors, or ballistic missile defense-related platforms. This is likely to have significant implications for the U.S. Army, which has an important but largely underappreciated role in NATO missile defense today. In particular, the Army is likely to face increased manpower demands, materiel requirements, and training needs in order to meet the demand signal created by the NATO ballistic missile defense program. Additionally, Army units involved directly in or in support of ballistic missile defense are likely to face a higher OPTEMPO than currently projected. Ultimately, this will exacerbate the perceived imbalance in transatlantic burden-sharing, particularly if the EPAA provides little, if any, benefit to the defense of U.S. territory, given Washington's decision to cancel Phase 4 of that framework.

This book introduces modern directed-energy beam weaponry and emerging technical concepts based on unclassified and declassified information. The book covers laser systems, analyzing the interaction between high-power laser beams and matter, and examines penetration of high power beams such as microwave and scalar wave. It also covers the use of particle and high-power radar beams and scalar wave as weapons of the future. In-depth coverage of the relevant mathematical and engineering topics and concepts are included. The book will provide scientists and engineers with valuable guidance on the fundamentals needed to understand state-of-the-art directed energy weaponry technology research and applications. Provides guidance on the fundamentals of state-of-the-art directed-energy weaponry technology; Introduces the physics behind directed-energy weapons; Offers in-depth coverage of mathematical and engineering topics.

The Navy's FY2013 budget submission calls for procuring nine Arleigh Burke (DDG-51) class destroyers in FY2013-FY2017, in annual quantities of 2-1-2-2-2. The five DDG-51s scheduled for procurement in FY2013-FY2015, and one of the two scheduled for procurement in FY2016, are to be of the current Flight IIA design. The Navy wants to begin procuring a new version of the DDG-51 design, called the Flight III design, starting with the second of the two ships scheduled for procurement in FY2016. The two DDG-51s scheduled for procurement in FY2017 are also to be of the Flight III design. The Flight III design is to feature a new and more capable radar called the Air and Missile Defense Radar (AMDR). The Navy this year is requesting congressional approval to use a multiyear procurement (MYP) arrangement for the nine DDG-51s scheduled for procurement in FY2013-FY2017.

As part of its proposed FY2015 budget, the Navy is requesting funding for the procurement of two Arleigh Burke (DDG-51) class Aegis destroyers. The 10 DDG-51s programmed for procurement in FY2013-FY2017 (three ships in FY2013, one in FY2014, and two each in FY2015-FY2017) are being procured under a multiyear procurement (MYP) contract. The Navy estimates the combined procurement cost of the two DDG-51s requested for procurement in FY2015 at \$2,969.4 million, or an average of \$1,484.7 million each. The two ships have received a total of \$297.9 million in prior-year advance procurement (AP) funding. The Navy's proposed FY2015 budget requests the remaining \$2,671.4 million to complete the two ships' combined procurement cost. The Navy's proposed FY2015 budget also requests \$129.1 million to complete the cost of one of the three DDG-51s funded in FY2013 (where a funding shortfall occurred as a result of the March 1, 2013, sequester on Department of Defense [DOD])

programs), and \$134.0 million in advance procurement (AP) funding for DDG-51s to be procured in future fiscal years, bringing the total requested for the DDG-51 program for FY2015 (excluding outfitting and post-delivery costs) to \$2,934.6 million. The Navy's proposed FY2015 budget also requests \$419.5 million in procurement funding to help complete the procurement cost of three Zumwalt (DDG-1000) class destroyers procured in FY2007-FY2009. The current version of the DDG-51 is called the Flight IIA design. The Navy wants to begin procuring a new version of the DDG-51 design, called the Flight III design, starting with the second of the two ships scheduled for procurement in FY2016. The Flight III design is to feature a new and more capable radar called the Air and Missile Defense Radar (AMDR). The Navy's proposed budget requests \$144.7 million in research and development funding for the AMDR.

This is the report from the Pentagon's Operational Test and Evaluation (OTE) Director, issued in January 2015 which contains extensive detailed information about over 100 major weapons systems under development by the Department of Defense, Army, Navy, and Air Force - including such consequential systems as the F-35 and BMD. Thorough operational testing should be conducted prior to a system's Full-Rate Production decision or deployment to combat in order to inform acquisition decision makers and operators in an objective way about how the system will perform in its combat missions. Under current law, the Director of Operational Test and Evaluation (DOT&E) is required to present his opinion on whether the operational testing conducted prior to the Beyond Low-Rate Initial Production decision is adequate or not. The Director must consider all the operational facets of a system's employment in combat when he determines what constitutes adequate operational testing, including the performance envelope the system must be able to achieve, the various operating conditions anticipated in a time of war, and the range of realistic operational threats.

DOD Programs * Defense Medical Information Exchange (DMIX) * Department of Defense (DOD) Teleport * F-35 Joint Strike Fighter (JSF) * Global Command and Control System - Joint (GCCS-J) * Joint Information Environment (JIE) * Joint Warning and Reporting Network (JWARN) * Key Management Infrastructure (KMI) * Public Key Infrastructure (PKI) * Army Programs * Network Integration Evaluation (NIE) * AH-64E * AN/PRC-117G * C-17 Increased Gross Weight (IGW) and Formation Spacing Reduction (FSR) * Distributed Common Ground System - Army (DCGS-A) * DOD Automated Biometric Identification System (ABIS) * Excalibur Increment 1b M982E1 * Guided Multiple Launch Rocket System - Alternate Warhead (GMLRS-AW) XM30E1 * Integrated Personnel and Pay System - Army (IPPS-A) * Joint Battle Command - Platform (JBC-P) * Joint Light Tactical Vehicle (JLTV) Family of Vehicles (FoV) * Joint Tactical Network (JTN) * M80A1 7.62 mm Cartridge * M109 Family of Vehicles (FoV) Paladin Integrated Management (PIM) * M829E4 Armor Piercing, Fin Stabilized, Discarding Sabot - Tracer (APFSDS-T) * Manpack Radio * Mine Resistant Ambush Protected (MRAP) Family of Vehicles (FoV) - Army * Nett Warrior * Patriot Advanced Capability-3 (PAC-3) * Precision Guidance Kit (PGK) * Q-53 Counterfire Target Acquisition Radar System * Rifleman Radio * RQ-7BV2 Shadow Tactical Unmanned Aircraft System (TUAS) * Warfighter Information Network - Tactical (WIN-T) * Navy Programs * Aegis Modernization Program * AGM-88E Advanced Anti-Radiation Guided Missile (AARGM) Program * AIM-9X Air-to-Air Missile Upgrade * AN/SQQ-89A(V)15 Integrated Undersea Warfare (USW) Combat System Suite * Armored Tactical Vehicles - Naval * Cobra King * Common Aviation Command and Control System (CAC2S) * CVN-78 Gerald R. Ford Class Nuclear Aircraft Carrier * DDG 51 Flight III Destroyer/Air and Missile Defense Radar (AMDR)/Aegis Modernization * Distributed Common Ground System - Marine Corps (DCGS-MC) * E-2D Advanced Hawkeye * F/A-18E/F Super Hornet and EA-18G Growler * Global Command and Control System - Maritime (GCCS-M) * Infrared Search and Track (IRST) * Integrated Defensive Electronic Countermeasures (IDECM) * Joint High Speed Vessel (JHSV) * Joint Standoff Weapon (JSOW) * LHA-6 New Amphibious Assault Ship * Littoral Combat Ship (LCS) * Mark XIIA Mode 5 Identification Friend or Foe (IFF) * MH-60R Multi-Mission Helicopter * MH-60S Multi-Mission Combat Support Helicopter * Mine Resistant Ambush Protected (MRAP) Family of Vehicles (FoV) - Marine Corps

The Aegis BMD program gives Navy Aegis cruisers and destroyers a capability for conducting BMD operations. Under current plans, the number of BMD-capable Navy Aegis ships is scheduled to grow from 20 at the end of FY 2010 to 38 at the end of FY 2015. Contents of this report: (1) Intro.; (2) Background: Planned Quantities of Ships, Ashore Sites, and Interceptor Missiles; Aegis BMD Flight Tests; Allied Participation and Interest in Aegis BMD Program; (3) Issues for Congress: Demands for BMD-Capable Aegis Ships; Demands for Aegis Ships in General; Numbers of SM-3 Interceptors; SM-2 Block IV Capability for 4.0.1 and Higher Versions; (4) Legislative Activity for FY 2011. Charts and tables. This is a print on demand publication.

Includes observations on the performance of DoD's 2010 portfolio of 98 major defense acquisition programs; data on selected factors that can affect program outcomes; an assessment of the knowledge attained by key junctures in the acquisition process for a subset of 40 programs; and observations on the implementation of acquisition reforms. To conduct this review, the auditor analyzed cost, schedule, and quantity data and collected data from program offices on performance requirements and software development; technology, design, and manufacturing knowledge; and the implementation of DoD's acquisition policy and acquisition reforms. He also compiled assessments of 71 weapon programs. Charts and tables. This is a print on demand report.

Statement of Eric J. Labs on the Navy's plans for its shipbuilding programs and corresponding budget. Contents: (1) Changes in Ship Requirements Under the 2011 Plan; (2) Ship Purchases and Inventories Under the 2011 Plan: Combat Ships; Logistics and Support Ships; (3) Ship Costs Under the 2011 Plan: The Navy's Estimates; CBO's Estimates; Changes from the 2009 Plan; (4) Outlook for Individual Ship Programs; Aircraft Carriers; Submarines; Large Surface Combatants; Littoral Combat Ships; Amphibious Ships. Charts and tables. This is a print on demand edition of an important, hard-to-find publication.

Air and Missile Defense Systems Engineering fills a need for those seeking insight into the design procedures of the air and missile defense system engineering process. Specifically aimed at policy planners, engineers, researchers, and consultants, it presents a balanced approach to negating a target in both natural and electronic attack environments. This report presents background information and potential oversight issues for Congress on the Navy's Arleigh Burke (DDG-51) and Zumwalt (DDG-1000) class destroyer programs. The Navy procured DDG-51s from FY1985 through FY2005, and resumed procuring them in FY2010. The three DDG-51s requested for procurement in FY2019 are to be the 80th, 81st, and 82nd ships in the class. The Navy procured three DDG-1000s in FY2007-FY2009 and plans no further procurement of DDG-1000s. The 13 DDG-51s planned for procurement in FY2018-FY2022 are to be procured under a multiyear procurement (MYP) contract that Congress approved as part of its action on the Navy's FY2018 budget. DDG-51s procured in FY2017 and subsequent years are being built to a new design (the Flight III DDG-51 design), which incorporates a new and more capable radar called the Air and Missile Defense Radar (AMDR) or SPY-6 radar. The Navy estimates the combined procurement cost of the three DDG-51s requested for procurement in FY2019

at \$5,292.7 million, or an average of \$1,764.2 million each. The ships are to receive \$39.4 million in prior-year (FY2018) Economic Order Quantity (EOQ) advance procurement (AP) funding (i.e., funding for up-front batch orders of components of DDG-51s to be procured under the FY2018-FY2022 MYP contract). The Navy's proposed FY2019 budget requests the following: the remaining \$5,253.3 million in procurement funding needed to complete the estimated procurement cost for the three DDG-51s requested for FY2019; \$391.9 million in additional EOQ AP funding for DDG-51s to be procured under the FY2018-FY2022 MYP contract; \$54.0 million in cost-to-complete procurement funding to cover cost increases on DDG-51s procured in prior fiscal years; and \$271.0 million in procurement funding to cover cost increases on Zumwalt (DDG-1000) class destroyers. Issues for Congress for FY2019 for the DDG-51 and DDG-1000 destroyer programs include the following: whether to approve, reject, or modify the Navy's FY2019 funding requests for the DDG-51 and DDG-1000 programs; whether to provide funding for the procurement of an additional DDG-51 (for a total procurement of four DDG-51s rather than three) in FY2019; continued cost growth in the DDG-1000 program; the Navy's intended shift in mission orientation for the DDG-1000s; cost, schedule, and technical risk in the Flight III DDG-51 effort; and the lack of an announced Navy roadmap for accomplishing three things in the cruiser-destroyer force: restoring ship growth margins; introducing large numbers of ships with integrated electric drive systems or other technologies that could provide ample electrical power for supporting future electrically powered weapons; and introducing technologies for substantially reducing ship operating and support (O&S) costs.

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