



# FY2024 Defense Budget Request: Strategic Missile Programs

June 12, 2023

## Introduction

For Fiscal Year (FY) 2024, the Department of Defense (DOD) has requested \$7.3 billion for the development and procurement of strategic missiles, here defined as nuclear-capable missiles with a range exceeding 1,500 nautical miles and counted under the New START Treaty. The request is for strategic missile funding in the Research, Development, Test & Evaluation (RDT&E) and Procurement appropriations for FY2024.

Three broad programs account for over 98% of DOD’s FY2024 strategic missile funding request: Navy’s Trident II (D5) submarine launched ballistic missile (SLBM), including the D5 life extension (D5LE) and second life extension (D5LE II); Air Force’s LGM-35A Sentinel intercontinental ballistic missile (ICBM), previously called the Ground Based Strategic Deterrent (GBSD); and Air Force’s Long Range Standoff (LRSO) nuclear cruise missile (see Table 1). The remaining ~2% covers a variety of fuze modifications, nuclear weapons support (including nuclear red teaming), and planning for long-term ICBM system sustainment.

Congress may assess strategic missile acquisition strategies and schedules, program performance, missile component costs, and projected Future Years Defense Program (FYDP) funding levels to determine whether to provide authorization and appropriations at amounts less than, equal to, or more than those requested by DOD.

**Table 1. Selected FY2023 – FY2024 DOD Strategic Missile Funding**

Millions of U.S. Dollars

	FY2023 Enacted		FY2024 Requested	
	RDT&E	Procurement	RDT&E	Procurement
Trident II (D5) (including D5LE and D5LE-II)	312.5	1,404.6	321.6	1,610.0

Congressional Research Service

<https://crsreports.congress.gov>

IN12174

	FY2023 Enacted		FY2024 Requested	
	RDT&E	Procurement	RDT&E	Procurement
LGM-35A Sentinel (Ground Based Strategic Deterrent)	3,614.3	2.8	3,746.9	544.0
Long-Range Standoff Weapon (LRSO)	928.9	51.9	911.4	66.8

**Source:** Office of the Under Secretary of Defense (Comptroller) *Program Acquisition Cost by Weapon System: United States Department of Defense Fiscal Year 2024 Budget Request*; DOD Comptroller budget materials; Congressional Record—Senate for December 20, 2022.

**Note:** A portion of requested funds in [fuze modernization](#), [nuclear weapons support](#), and [ICBM long range planning](#) support programs in Table I but also include funds for fielded missile systems, strategic bombers, and submarines.

### Trident II (D5) SLBM

According to DOD, Navy’s [goal](#) is for D5 SLBMs to remain effective “through the 2080s.” To pursue this goal, Navy’s FY2024 budget includes several Procurement and RDT&E efforts.

Navy’s D5 life extension (D5LE) procurement [modifications](#) aim to enable 14 [Ohio-class](#) ballistic missile submarines (SSBNs) to launch D5’s through FY2042. Life-extended D5 missiles will also equip the first [eight](#) Columbia-class SSBNs, which will begin [succeeding](#) Ohio-class SSBNs in [FY2028](#). D5LE procurement funds are to procure new guidance hardware, missile electronics, [systems](#) equipment, rocket motors, warhead components, nuclear safety electronics, test equipment, and associated operating and support costs.

Following acquisition program [milestone decisions](#) to utilize Trident II missiles on Columbia-class SSBNs, Navy began designing the next generation of D5 missiles, referred to currently as the Trident II D5 Life Extension (D5LE2). Navy utilizes RDT&E funds to design the missiles (with flight tests scheduled to begin in [FY2033](#)) and [procurement](#) funds to modify subsystem components shared with D5LE missiles. Navy plans to place D5LE2 missiles on later Columbia-class SSBNs beginning in [FY2039](#).

Figure I. Trident II D5 SLBM



Source: Defense Visual Information Distribution Service

### LGM-35A Sentinel ICBM

According to DOD’s FY2024 *Program Acquisition Costs by Weapon System* [report](#), the Air Force’s Sentinel program will replace the existing Minuteman III ICBM inventory with a capability that meets existing and future requirements [through 2075](#), with initial deployment currently expected beginning in

**FY2029.** For FY2024, Air Force requested \$4.3 billion in budget authority for Sentinel RDT&E and Procurement.

Sentinel's FY2024 **RDT&E efforts** include aerospace vehicle equipment (AVE) and command and launch (C&L) segments of the program, in addition to cybersecurity and data management, nuclear surety and safety certification, operator training systems, and a range of testing equipment, support equipment, transport equipment, and maintenance support equipment to enable ongoing test and evaluation events. Sentinel RDT&E funds also cover modeling and simulation efforts that compare weapon system performance against potential adversary capabilities in a range of realistic combat scenarios. Modeling and simulation are also used to assess ICBM supply chains to ensure the defense industrial base can support long-term Sentinel operation and sustainment. Sentinel RDT&E funding also **supports** collaborative work between the **prime contractor** (Northrop Grumman) and various university affiliated research centers (UARCs) and federally funded research and development centers (FFRDCs).

The FY2024 Sentinel **procurement** request increases \$541.2 million from FY2023 enacted levels to provide the conversion of Minuteman III ICBM launch centers and test facilities for Sentinel usage, along with the purchase of missile guidance computers and electronics, propulsion systems, on-board testing equipment, and subsystem electronics. Air Force **reports** that acquiring this equipment from vendors can take between 24 and 30 months.

## Long Range Standoff Weapon (LRSO)

LRSO is Air Force's effort to replace the Air Launched Cruise Missile (ALCM), initially deployed in 1982, with a capability that can deliver air-launched nuclear weapons that survive adversary air defenses and attempts to jam navigation satellites.

Air Force's FY2024 budget justification for the LRSO cruise missile covers a variety of **Procurement** and **RDT&E** efforts maturing missile sub-systems and logistics support systems, mission planning, and preparations for formal developmental test and evaluation events. In addition, RDT&E funds provide for collaboration with the Department of Energy (DOE) to ensure the LRSO systems fully integrate DOE's nuclear warhead design, the **W80-4**.

Like the Sentinel program, LRSO's RDT&E funding is currently located in **Budget Activity 5**, indicating the program has received **Milestone B** approval ("considered the official start of a program.") Programs in this **phase** utilize engineering design, modeling and simulation, developmental and early operational testing to ensure real-world performance matches the operational requirements of combat. This phase also involves evaluating supply chains that will need to provide system components over many decades, assessing their resilience and responding to anticipated obsolescence in spare parts and components.

Procurement funding for LRSO provides "backbone infrastructure hardware and associated software." Since aspects of LRSO are governed by **Special Access Program** protections, details of these procurements are classified.

## Author Information

Cameron M. Keys

Analyst in Defense Logistics and Resource Management  
Policy

Alexandra G. Neenan

Analyst in U.S. Defense Infrastructure Policy

---

## Disclaimer

This document was prepared by the Congressional Research Service (CRS). CRS serves as nonpartisan shared staff to congressional committees and Members of Congress. It operates solely at the behest of and under the direction of Congress. Information in a CRS Report should not be relied upon for purposes other than public understanding of information that has been provided by CRS to Members of Congress in connection with CRS's institutional role. CRS Reports, as a work of the United States Government, are not subject to copyright protection in the United States. Any CRS Report may be reproduced and distributed in its entirety without permission from CRS. However, as a CRS Report may include copyrighted images or material from a third party, you may need to obtain the permission of the copyright holder if you wish to copy or otherwise use copyrighted material.