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# FY2024 Defense Budget Request: Strategic Missile Programs

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## 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 FY 2024 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 FY 2023 – FY 2024 DOD Strategic Missile Funding**

Millions of U.S. Dollars

| | FY 2023 Enacted | | FY 2024 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 |

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| | FY 2023 Enacted | | FY 2024 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 1 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 FY 2024 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 FY 2042. Life-extended D5 missiles will also equip the first eight Columbia-class SSBNs, which will begin succeeding Ohio-class SSBNs in FY 2028. 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 FY 2033) and procurement funds to modify subsystem components shared with D5LE missiles. Navy plans to place D5LE2 missiles on later Columbia-class SSBNs beginning in FY 2039.

**Figure 1. Trident II D5 SLBM**

**Source:** Defense Visual Information Distribution Service

## LGM-35A Sentinel ICBM

According to DOD's FY 2024 *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

FY 2029. For FY 2024, Air Force requested $4.3 billion in budget authority for Sentinel RDT&E and Procurement.

Sentinel's FY 2024 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 FY 2024 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.

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