COLUMBIA Class Submarine Program

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COLUMBIA Class

- Sea Based Strategic Deterrence (SBSD) is the most survivable leg of the Nuclear Triad

- COLUMBIA Class is the #1 Navy acquisition priority that must deliver on time; no further margin for delay without impacting USSTRATCOM requirements

- Program is on track to support construction start in FY2021

- Program is funded, costs are understood, and actions are targeted to drive affordability
COLUMBIA Class Program
A Holistic Plan to Deliver SBSD:
“Aligned Execution of Multiple Discrete Elements”

Coordinated Approach is Necessary to Provide a Credible and Affordable Strategic Deterrent Capability by 1st Quarter FY 2031
Critical Need for Recapitalization

Historical Sea Based Strategic Deterrent (SBSD) Force Structure

- **Current OHIO Class is reaching the end of its operational life**
  - Designed in 1970, commissioned between 1984 and 1997, and will begin to retire in 2027
  - Operational life already extended from 30 years to an unprecedented 42 years

- **Lead COLUMBIA construction must commence in 2021**
  - Maintains fleet of 10 operational SSBNs through transition with moderate risk
  - Lead ship unique treaty requirements must be completed

**SSBN Force Structure:**

- SSBNs 742 and 743 complete ERO and return to strategic service
- OHIO Class commence retirement in 2027 with SSBN 730
- COLUMBIA Class lead ship on Strategic Patrol in 2031

Planned recapitalization deferred 20 years; "There is no more margin"
COLUMBIA Class Submarine Program

Specifications:
- Length: 560 feet
- 2 crews: 155 each
- 42 year Service Life
- Armament:
  - D-5 Missile; MK48 Torpedo

Builder:
- General Dynamics – Electric Boat, Groton, CT (Lead)
- Newport News Shipbuilding, Newport News, VA
- Construction work split
  Only nuclear capable U.S. Shipyards
- United Kingdom Partnership – CMC build

Cost (FY 17)
- Average Procurement Unit Cost: $7.2B (CY17$)
- Total Program 1 to 2% of DoD budget
  (consistent with historical investment)

Today 2021 2028 2031 42 Year Service Life
Prototyping & Design Construction Sea Trials Operational

The Navy’s #1 Priority requires industry support into the 2080s
COLUMBIA Class Schedule

**Technology Maturation & Risk Reduction Phase**
- Navy Approved CDD
- JROC CDD
- MS-B
- Ship Specifications
- Sys Definition Docs
- Sys Descrip & Rev A Diagrams

**Engineering & Manufacturing Development Phase**
- Ship Detailed Arrangements
- Ship Construction Design Disclosure and NC Data
- Detail Design / LLTM
- Lead Ship Construction (84 Months)
- Lead Ship T&E
- T&E / PSA / DASO

**Lead Ship Authorization**
- First OHIO Class SSBN Retires
- Second OHIO Class SSBN Retires
- Third OHIO Class SSBN Retires
- Fourth OHIO Class SSBN Retires
- Fifth OHIO Class SSBN Retires
- Sixth OHIO Class SSBN Retires

**Fiscal Year**

- 2010
- 2011
- 2012
- 2013
- 2014
- 2015
- 2016
- 2017
- 2018
- 2019
- 2020
- 2021
- 2022
- 2023
- 2024
- 2025
- 2026
- 2027
- 2028
- 2029
- 2030
- 2031
- 2032

**First OHIO Replacement Strategic Deterrent Patrol**
First Article Quad Pack (FAQP)

Construction

Automated Frame & Cylinder (AFC) Facility, Quonset Point, RI

- B’ - Cylinder Shell Fabrication and Assembly
  First Use Nov 2016

- Start Cut/Form Frames Aug 2016

Missile Tubes 5-8 (bare from vendor)
Expected Receipt 2017-2018

- R-Fixture

E-Fixture Usage 2018

Automated Frame & Cylinder (AFC)
Facility, Quonset Point, RI

- D’ – Hull Cylinder Stacking
  First Use May 2017

- Pressure Hull Cylinders Stacked Aug 2017

- F-Fixture Usage 2018 – 2019

FAQP Complete 2019

Missile Tube Outfitting 2017 – 2018

CY2016

CY2017

CY2018

- A’ - Frame Fabrication and Assembly
  First Use Aug 2016

- C’ – Frame to Shell Integration – Hull Cylinder
  First Use Feb 2017

- D’ – Hull Cylinder Stacking
  First Use May 2017

- Pressure Hull Cylinders Stacked Aug 2017
The IEP is critical to ensuring the ability to deliver COLUMBIA Class SSBNs on time

- While continuing to deliver VIRGINIAs with VIRGINIA Payload Modules at 2 per year
- While achieving savings across SSBN, SSN, and CVN programs