Sea, Air, and Space Symposium
April 9, 2013

PMS397 Program Manager
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OHIO Replacement SSBN

21st Century Capability…

- Sufficient payload: 16 missile tubes (D5)
  - Meets USSTRATCOM requirements
  - Flexibility to handle problems across triad or degradation in strategic environment
- Sufficient stealth to address the projected threat through the 2080s
- 12 OHIO Replacement SSBNs to replace 14 OHIOs
  - Life of ship reactor core
  - Reduced mid-life maintenance period
- Maximize reuse of OHIO and VIRGINIA components to minimize cost

In an Affordable Package…

- Lead ship construction must commence in 2021
  - First Strategic Patrol in 2031
  - Maintains fleet of 10 operational SSBNs through transition to OHIO Replacement
- Procurement timeline meets USSTRATCOM requirements with moderate operational risk during transition period – no additional room for delay
  - Low margin for unforeseen SSBN maintenance issues or late OHIO Replacement delivery
- 12 OHIO Replacement SSBNs needed to meet long term requirements during OHIO Replacement mid-life overhaul period

At Responsible Cost…
OHIO Replacement Program – Design Schedule

**Fiscal Year**

|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|

**Concept Studies**
- Component Evaluation / Tech. Road Maps
- Point Studies

**Design / Build / Sustain Development**
- Milestone A: Navy Approved CDD
- Milestone B: JROC CDD

**Construction**
- Milestone C / Lead Ship Authorization

**Technology Development Phase**

In 3rd year of Technology Development Phase

- First Article MTs
- Production-Shipboard Prototype Design/Construction
- Non-Shipboard Prototype Design/Construction
- Large Scale Prototype

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Early Life-Cycle Definition

- Modified from existing OHIO class: Proven to work and allow OHIO Replacement to seamlessly utilize existing facilities during the period of time when both classes will operate.
- Early definition of life cycle requirements informs the design team about when the ship is available to perform maintenance.
- Adherence ensures mission requirements are achieved.

**Notional OHIO Replacement Life-Cycle**

- **DEL** – Delivery
- **DASO** – Demonstration and Shakedown Operation
- **ERP** – Extended Refit Period
- **WO&H** – Weapons Offload and Handling
- **EOH** – Engineered Overhaul Handling
- **INACT** – Inactivation
- **PSA** – Post Shakedown Availability

Not to scale

42 Years
Delivering Required Capability at the Least Cost

Re-host TRIDENT II (D-5)
- Most Reliable Strategic Nuclear Weapon System
- Strategic Launched Ballistic Missile (SLBM) leg responsible for ~70% of operationally deployed warheads under New START
- Long-range of D-5 enables operations in broad operational areas, assuring survivability with smaller SSBN force
- Leverages D-5 Life Extension and Modernization Investments
- Avoids cost and risk of new weapon system development

OHIO REPLACEMENT

System and Component Re-use

VIRGINIA Class
- Propulsor
- Ship Control System
- Modular Construction

OHIO Class
- Strategic Weapons System and Support Systems
- Closure Segments
- Fire Control System
- Integrated Tube/ Hull Construction

New Development
- X Stern
- Electric Drive
- Life-Of-Ship Reactor Core
- 42 Year Operational Life

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Delivering the Core Essential Military Capability at the Lowest Possible Cost

Report to Congress on Annual Long-Range Plan for Construction of Naval Vessels for FY2011

Unit Cost CY10 $= $6B to $7B

Delivering the Core Essential Military Capability at the Lowest Possible Cost

Detailed requirements review produced savings

- Reduced number of missile tubes
- Reduced missile tube diameter
- Reduced torpedo room capacity
- Removed chin array
- Reduced sail mast capacity
- Reduced force protection features
- Reduced OHIO Replacement unique design features

- 20 to 16 tubes
- 97 inches to 87 inches
- Minimum capacity for defensive load only
- Minimum acoustic sensors for defensive detection
- Leverage VIRGINIA-Class combat systems
- 10 to 6 masts
- Current OHIO-Class system
- Increased use of VIRGINIA-Class components

Milestone A Service Cost Position

Average Follow-on Ship CY10 $ = $5.6B

Recent Affordability Initiatives

- EOQ and multi-year procurement
- Facilities
- Design for producability
- Requirements and regulations
- Integrated Product Development Environment (IPDE)
- Manufacturing technologies, service, and support

Milestone A Cost Target

Average Follow-on Ship CY10 $= $4.9B

(CY10 $s) Costs developed by NAVSEA05C for OHIO Replacement Service Cost Position; Inflation based on NAVSEA 05C Jan 2010 SCN Shipbuilding Composite Inflation Table
Performance: *Missile Tubes Installation* - 1982
Performance: **Missile Tubes Installation - Today**
Our Goal is Maximize Work in the Earliest Stage of Construction

Starting in the early 1980’s we began to implement significant advancements in submarine module construction “1-3-8 Thumb Rule”

8X 3X 1X

IN HULL  ON MODULE  SHOP FLOOR

Improves Safety, Quality and Performance to Cost and Schedule