# Electric Boat Business Update

***Presentation to Commission for Connecticut's Future***

***September 30, 2014***

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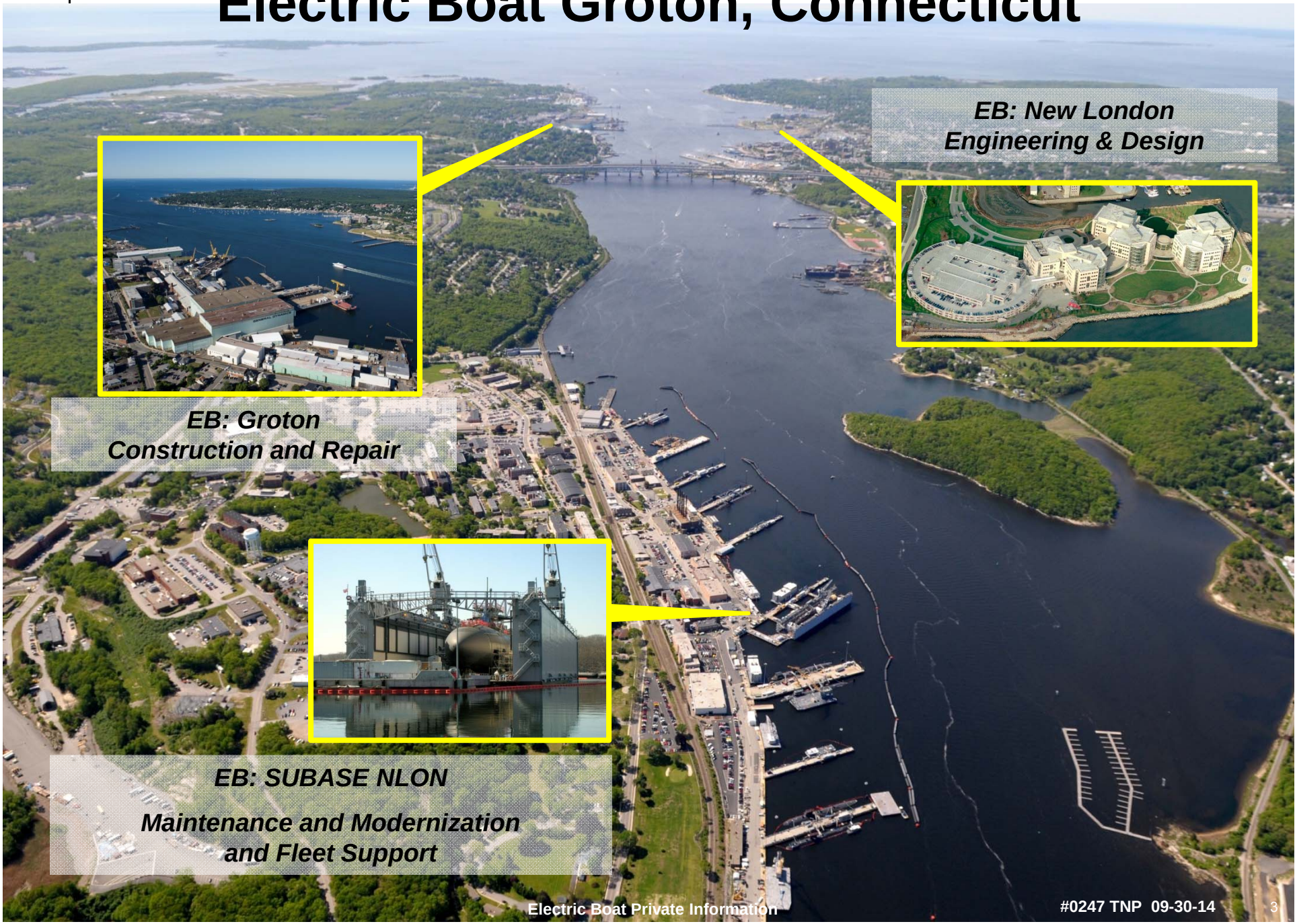
# Agenda

- Electric Boat Overview
- Submarine Market
- Major Programs
- Business Environment
- Resource Deployment
- Summary

# Electric Boat Groton, Connecticut



# Electric Boat

*Groton, Connecticut Shipyard*

- Operations began at site in 1910 - *New London Ship and Engine Company*
  - Acquired – 1911
  - 1934: 1st submarine built for US Navy at this site
- Final Assembly, Outfitting, Test and Delivery
  - Land Level Hull Assembly
  - Nuclear Fuel Loading
  - Final Outfitting
  - Ship System Testing
  - Sea Trials and Delivery
- Post Delivery Support and Fleet Maintenance

# New London Facility

*Engineering and Design Programs*

- Max Staffing Level: 3,300

- Former Pfizer builds Global Research Facility, GD purchased facility in 2010
- 700,000 ft2 interconnected buildings, 6 floors each, originally 2,200 work spaces
  - Concept Formulation
  - Ship Design and Integration
  - Component Development
  - Engineering Analysis
  - Systems Integration
  - Technology Development
  - Construction Support
  - Program Management

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# Electric Boat

*Quonset Point, RI Manufacturing Facility*

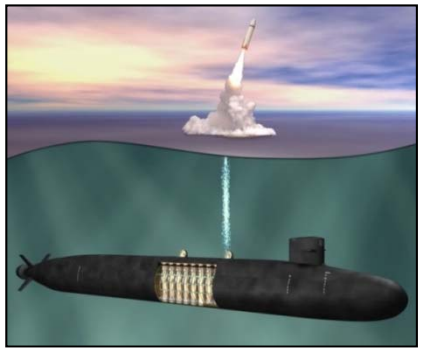
- Established 1973
- Flexible workforce in Factory Environment
- Module Manufacturing and Assembly
  - Automated Manufacturing
  - Automated Hull Frame & Cylinder
  - Area Based Installation
  - Vertical Outfitting
  - Accuracy Control
- Transportation and Handling
  - Air, Rail, Barge Transport

# Lines of Business
## Electric Boat

**Construction**

- VA-Class Block III
- VA-Class Block IV

**Engineering & Design**



- OHIO Replacement
- VA Payload Module

**Overhaul and Repair**

- Moored Training Ship
- Fleet Support

**Ship Operations**

- Military Sealift
- LNG Tankers

**Staffing**

| | |
|---|---|
| **Connecticut** | |
| • Operations/Support | 4,200 |
| • Engineering/Design | 4,400 |
| **Rhode Island** | |
| • Manufacturing | 3,400 |
| **Other Locations** | 500 |
| **Total** | **12,500** |

| | |
|---|---|
| 63% | Construction |
| 28% | Engineering and Design |
| 7% | Overhaul and Repair |
| 2% | Ship Operations |

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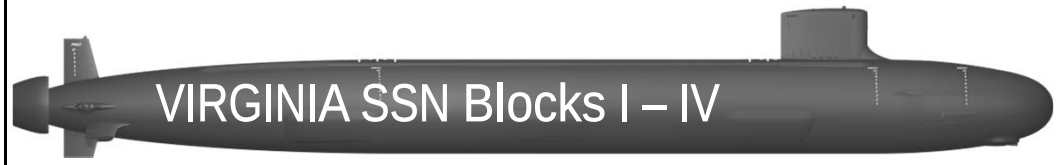
# Submarine Market

# The U.S. Submarine Force consists of:

- 40 *Los Angeles* class attack submarines (SSN)
- 3 *Seawolf* class attack submarines (SSN)
- 11 *Virginia* class attack submarines (SSN)
- 4 *Ohio* class Guided Missile Submarines (SSGN)
- 14 *Ohio* class Ballistic Missile Submarines (SSBN)
- 72 Nuclear Submarines

# EB: Submarine Product Overview

*Current & Future*




*17 More Ships Through End of Block IV*

*Trainer Modules for 2 Moored Training Ships*

*Block V and Follow Ships with VIRGINIA Payload Modules*

*Design and Construction of 12 ships*

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# Navy FY15 Shipbuilding Plan

*Procurement Forecast*

## Navy FY15 Shipbuilding Plan and Submarine Block Buys

| FY | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | VCS Block IV | | | | | VCS Block V | | | | | VCS Block VI | | | | | VCS Block VII | | | | | SSN(X) | | SSN |
| SSN | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 36 |
| | | | | | | | | OR Blk I | | | OR Block II | | | | | OR Block III | | | | | Blk IV | | OR |
| SSBN | | | | | | | | 1 | | | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 12 |
| Total | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 3 | 1 | 3 | 2 | 3 | 2 | 3 | 2 | 3 | 2 | 3 | 2 | 48 |
| VPMs | | | | | | 2 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | | | 23 |

- **VCS 2/Year**
  ***(present to 2020)***

**Transition Period**
***(2019- 2025)***
- VCS w/ VPM,
- OHIO Replacement

- **SSBN 1/Year**
- **SSN 1.5/Year**
  ***(2026 - 2035)***

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# Major Programs

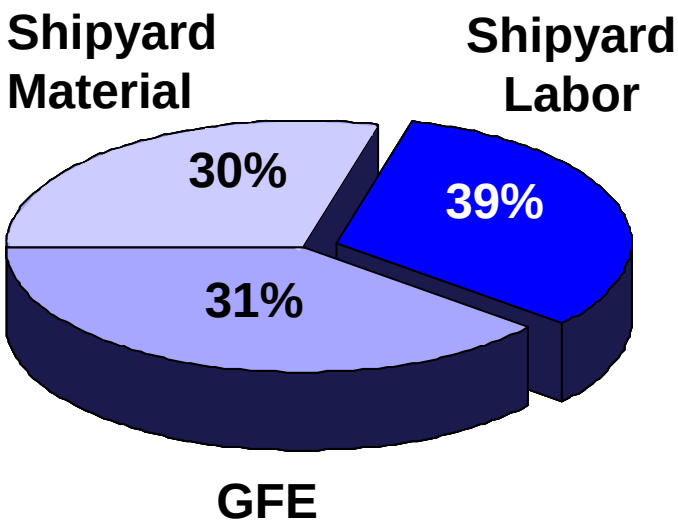
# Virginia Class SSN Program

*30-Ship SSN Program Summary*

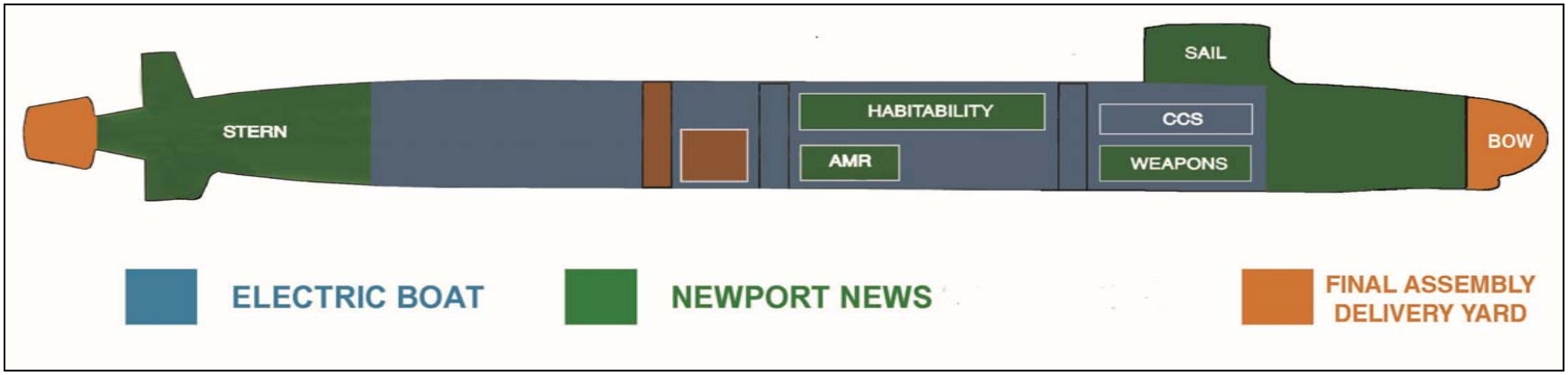
- Design Build Program (1992 – 2004)
- Current Plan (1998 Construction Start)
  - ✓ Procured with multi-year contracts
  - ✓ Submarine ordered in 5 year blocks
  - ✓ Takes 10 years to build a block of submarines
- Acquisition Program
  - ✓ $93B VCS Program - 66% Authorized
  - ✓ 2 ships/ year authorized 2011 - 2018
- Expect VA-Class to be increased to ~50 SSNs
  - ✓ Block V in 2019, proposed payload module

***USS VIRGINIA, Delivered 2004***

# Virginia Class Program Summary




- 5 year construction span
- Ship bid on Learning Curve
- Each shipyard builds same modules for each VA-Class
- 2/3 of hours assigned to delivery yard
- 1/3 of hours to non-delivery yard



# VIRGINIA Class Submarine Program

*Recent Accomplishments*

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- Block IV contract signed on 4/28/14
- 10 ships ordered over 2014 – 2018
- Maintains 2 ships/year build rate
- $17.8B total contract value
- Continues co-production with Newport News Shipbuilding

# Maintenance and Modernization

- **Maintenance Availabilities**
  - Completed four submarine availabilities in first half of year
- **New London Subase and Naval Shipyard Support**
- **Submarine Planning Yard and Life Cycle Support**

# S6G Moored Training Ship (MTS) Conversion

*Project Description*

**Objective**

- Replace two existing training platforms at NPTU Charleston, SC

**Site Purpose**

- Operating reactor plant for training naval nuclear plant operators

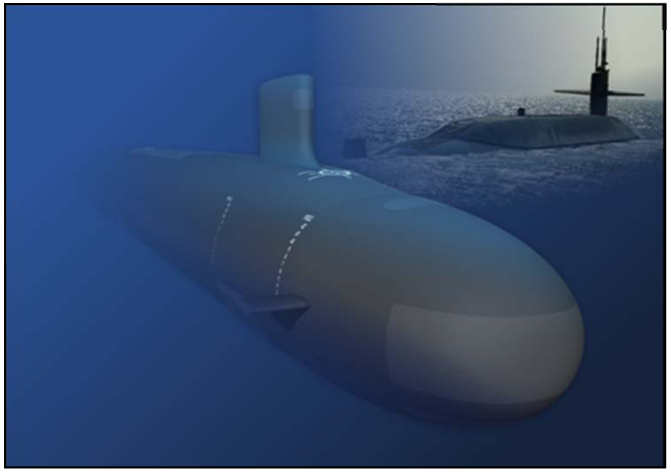
**Scope**

- Convert USS La Jolla (SSN701) and USS San Francisco (SSN711) into waterborne nuclear propulsion plant (S6G) training platforms
  - Design, major hull module construction and engineering support
  - Includes required shore-based safety systems and a shielded Auxiliary Control Room Forward to monitor and control the plant
  - Adds safety features to meet the intent of NRC regulations
- Conversion to occur at Norfolk Naval Shipyard

# OHIO Replacement (OR) Program

*Program Description and Development Plan*

## Program Description



- 12 OHIO Replacement SSBNs to replace 14 OHIO Class SSBNs
- #1 priority for US Navy
- Most survivable leg of the TRIAD

## Development Program

- Technology development phase in process
  - Driving EB's future; tools, processes, facilities, people
  - EB OR staffing projected to increase to 2,500 by end of the year
- Lead ship authorization FY2021, delivery in 2027
- Lead ship on patrol in 2030, Ships in service until 2080

***OHIO Replacement Program is critical to the future of EB***

# Business Environment

# Washington Legislative Outlook

- **Uncertain Budget Environment - All Federal Spending**
  - Decline in defense spending is a reality
  - Budget Control Act is the “law of the land”
  - DOD top-line budget exceeds BCA by $115B, FY16 – FY19
  - Public sentiment on other issues
- **Despite this, Submarine Programs Strongly Supported**
  - Pivot to Asia - Pacific
  - Attack Submarine Mission Requirements Unmet
  - Strategic Nuclear Deterrent Critical to National Security

***Our Goal: Well Executed Programs That Remain Affordable and Relevant***

# Business Environment Overview

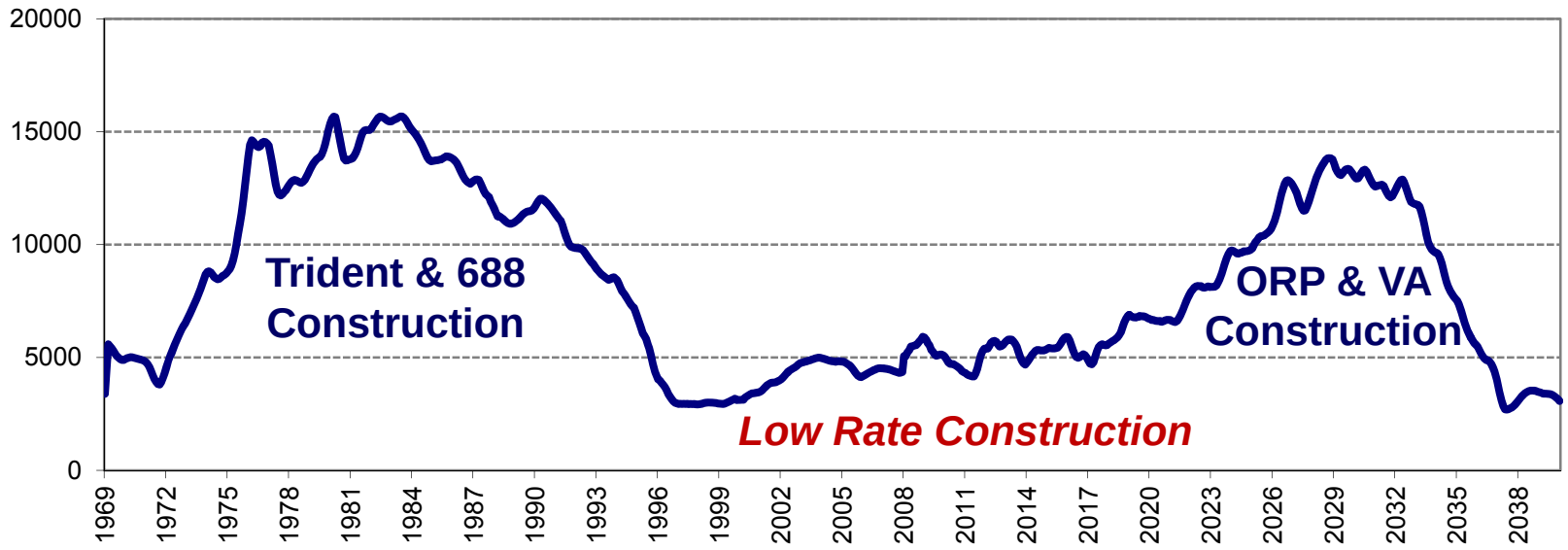
*DOD Budget Pressures*

- Internal
  - Excess infrastructure & aging equipment
  - Dwindling war funding (OCO)
  - Rising personnel & healthcare costs
- External
  - Increasing entitlement program costs
  - Growing interest expense
  - Future across-the-board sequester cuts

**Is Putting a Squeeze on DoD Investment Accounts**

# Resource Deployment

# Business Imperatives

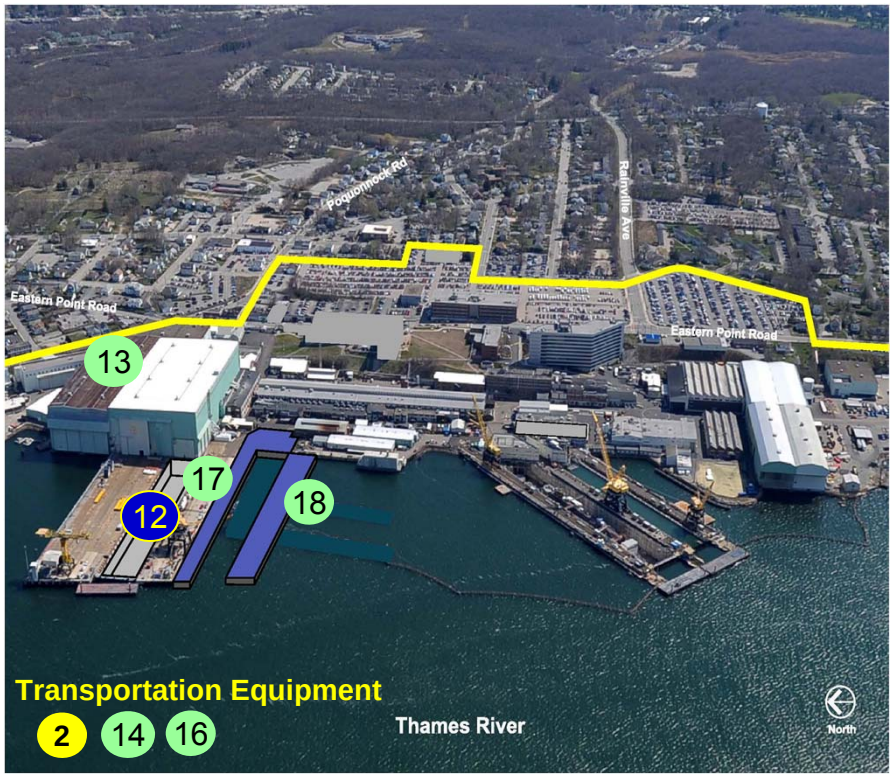



- EB will be facing growth it has not seen for 40 years
- Short term challenges - Retention of critical skills
- Long term challenges - Preparing for growth
- Resource Master Plan (RMP) is an approach to address both challenges

**Key to competitiveness is onboarding people and making them productive quickly**

# EB: Facility Master Plan

*18 Projects by Program*




- # VA-Class 2/year and MTS: Projects 1, 2, 4
- # Refurbish / Replace Aged Assets: Projects 3, 11, 12
- # Support OHIO Replacement : Projects 5-10, 13-17, 18 (if required)

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# Summary

# Summary

- **Business outlook strong**
- **Employment outlook positive**
  - Long term growth expected across the business
- **Electric Boat Priorities**
  - Continue to Perform
  - Support the Integrated Undersea Future Strategy
    - Platforms, Payloads, Payload Integration
- **Electric Boat will continue to be**
  - Strong corporate citizen
  - Key contributor to economic vitality of the region