



ACIBC



Carrier Program Update

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ACIBC - Carrier Program Update

Todd West, Vice President

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ACIBC In-Service Aircraft Carrier Programs

Todd West, Vice President



In-Service Aircraft Carrier Program



Refueling & Complex Overhaul (RCOH)



Fleet Support



Carrier Inactivation

ISCVN Total 5 Year Spend ~ \$956M



Carrier Refueling and Complex Overhaul (RCOH) - (*Nimitz*-Class)

- Very mature and long running program
- Represents the mid-life overhaul and refueling of the aircraft carrier
- Recapitalization of the centerpiece of our U.S. Navy fleet for another 25 years
- 35% of a carrier's lifetime maintenance and modernization occurs during the RCOH
- 576 suppliers from 39 states provide material and services critical to the RCOH program
- *Nimitz*-Class material support required for an additional ~40 years
- Sustaining critical sub-tier supplier health is key to continued success
- Early notification of obsolescence needed

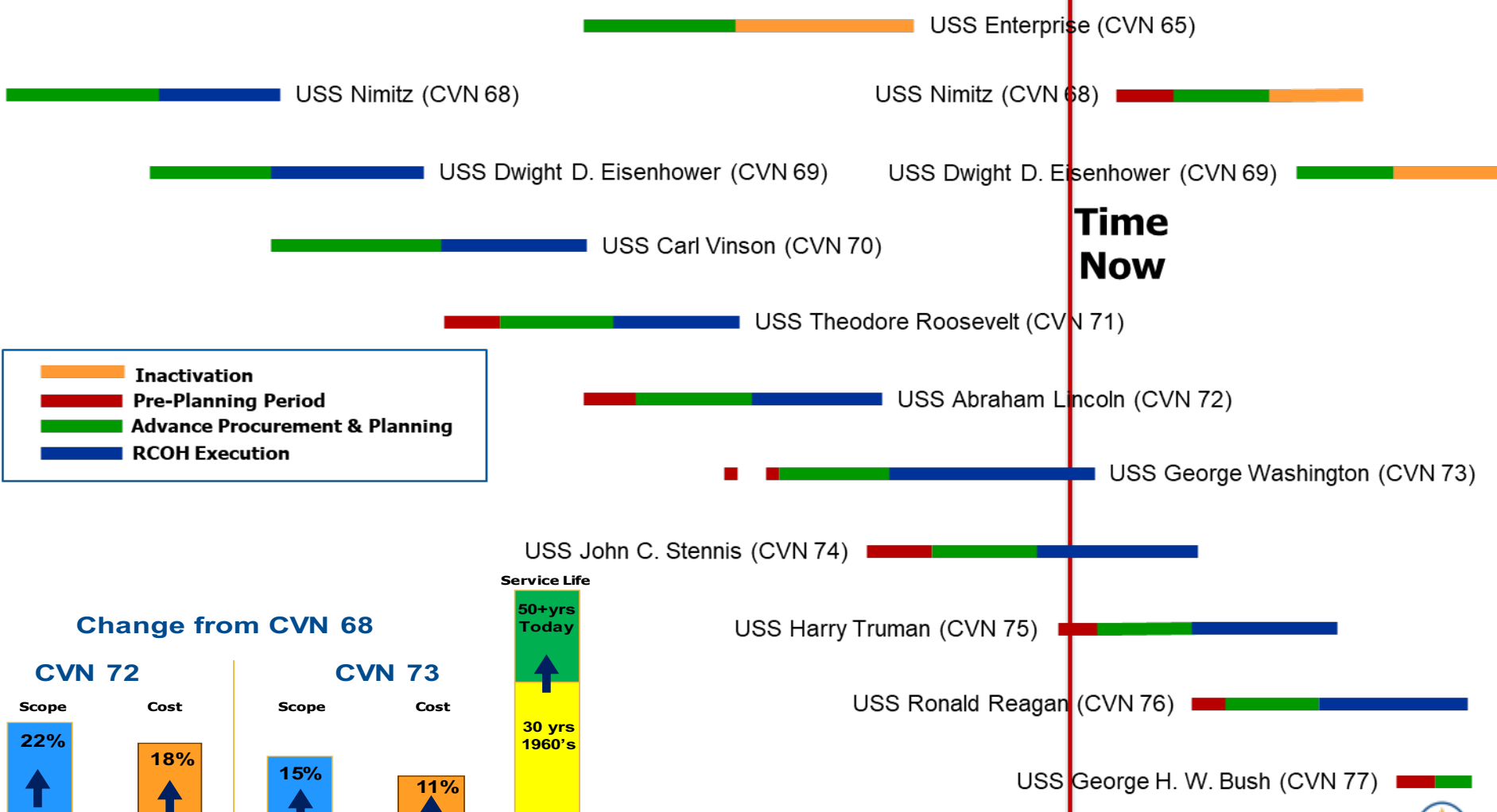


"The midlife refueling/complex overhaul (RCOH) of a nuclear aircraft carrier may be the most challenging engineering and industrial task undertaken anywhere."
--The RAND Corporation

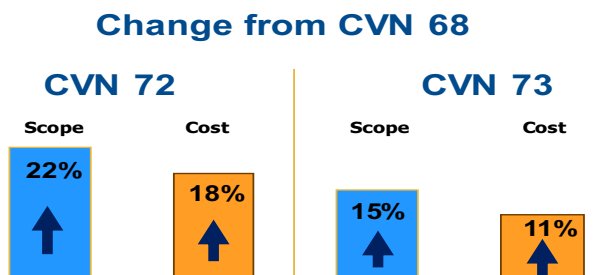
**Building a Strong Foundation for the
Remaining Service Life of *Nimitz*-Class Carriers**



Carrier Refueling and Complex Overhaul (RCOH) & Inactivation - Schedules



- Inactivation
- Pre-Planning Period
- Advance Procurement & Planning
- RCOH Execution



Heel to Toe Planning and Execution = Program Efficiency



Carrier Refueling and Complex Overhaul (RCOH) - Program Status

USS George Washington (CVN 73)



- Execution Contract started in August 2017
- Currently 94% complete
- Projected redelivery 4th Qtr. 2022
- Focused on recertification of ship's systems (Propulsion Plant, Combat Systems, Habitability, and Aircraft Launch & Recovery)
- Leveraging digital shipbuilding technology
- Direct buy material procurement estimated at **~\$340M** (Planning and Execution)

USS John C. Stennis (CVN 74)



- Awarded Execution Contract on 1/15
- Ship arrival at NNS in May 2021
- ~51 Month Schedule Duration
- Currently 21% complete
- Significant overlap with CVN 73 while in yard
- Primary focus includes underwater hull repairs, defueling preparations & superstructure upgrades
- Direct buy material procurement estimated at **~\$417M** (Planning and Execution)

USS Harry S. Truman (CVN 75)



- Pre-AP contract & ship checks underway
- Advanced Planning Contract expected to be awarded in November 2022
- Execution Start at NNS in May 2025
- Anticipating ~48 Month Schedule Duration
- Short overlap with CVN 74 RCOH in 2025
- Direct buy material procurement forecasted at **~\$450M** (Planning and Execution)

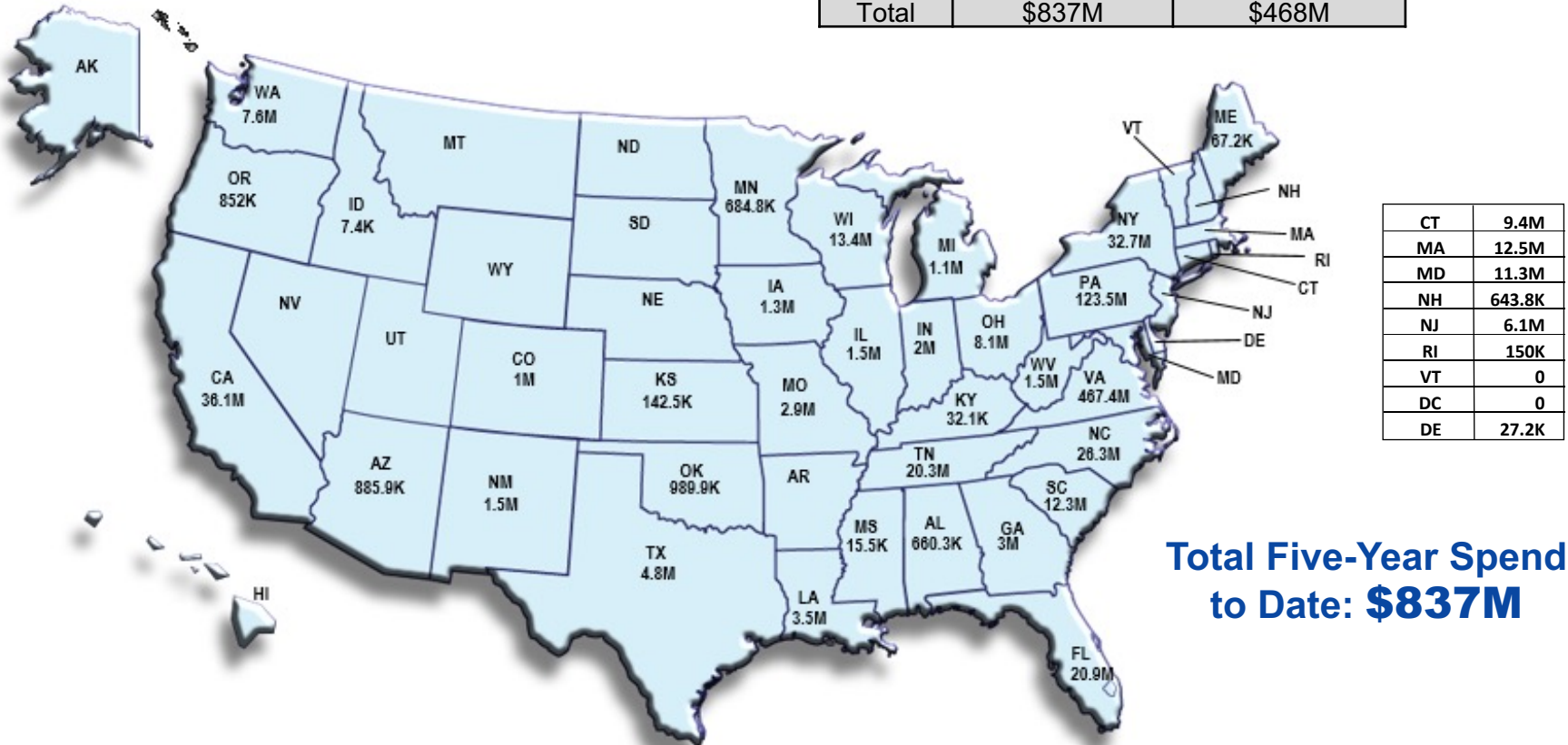
Delivering Another 25 Years of Critical Aircraft Carrier Value to the Fleet



Carrier Refueling and Complex Overhaul (RCOH) - Total Purchase Order Spending

January 2017 thru February 2022

Project	Spend to Date	Projected Spend
CVN65	\$11M	\$400K
CVN73	\$386M	\$2.4M
CVN74	\$438M	\$46M
CVN75	\$1.2M	\$420M
Total	\$837M	\$468M



Total Five-Year Spend to Date: \$837M

576 Suppliers from 39 States Provide Material & Services Critical to RCOH



Carrier Fleet Support



- Fleet Support—East Coast/West Coast
 - Planning or executing maintenance on 3 nuclear aircraft carriers
 - Providing direct support to Naval shipyards to support on time Delivery
 - Focused on providing skilled shipbuilders in response to Navy requests
 - Supporting a variety of shorter and longer term maintenance availabilities
 - Procuring material and services support during each Availability Planning Phase

Providing Continuous Maintenance for the Carrier Fleet



Carrier Fleet Support - Program Status



Current Work

- **East Coast Maintenance**
Availability Execution
 - USS Dwight D. Eisenhower (CVN 69) PIA
- **West Coast Maintenance**
Availability Planning
 - USS Carl Vinson (CVN 70) PIA
 - USS Abraham Lincoln (CVN 72) PIAAvailability Execution
 - USS Carl Vinson (CVN 70) CM

Availability Types

- Continuous Maintenance Availability (CM)
 - Occurs between at sea periods
 - 1 to 5 weeks duration
- Planned Incremental Availability (PIA)
 - Occurs every 3 to 5 years
 - 3 to 6 month Duration
 - Drydocking PIA (DPIA)
 - Occurs Every 10 to 12 years
 - 15 to 18 month duration

Concurrently Planning and Executing Multiple Fleet Support Availabilities

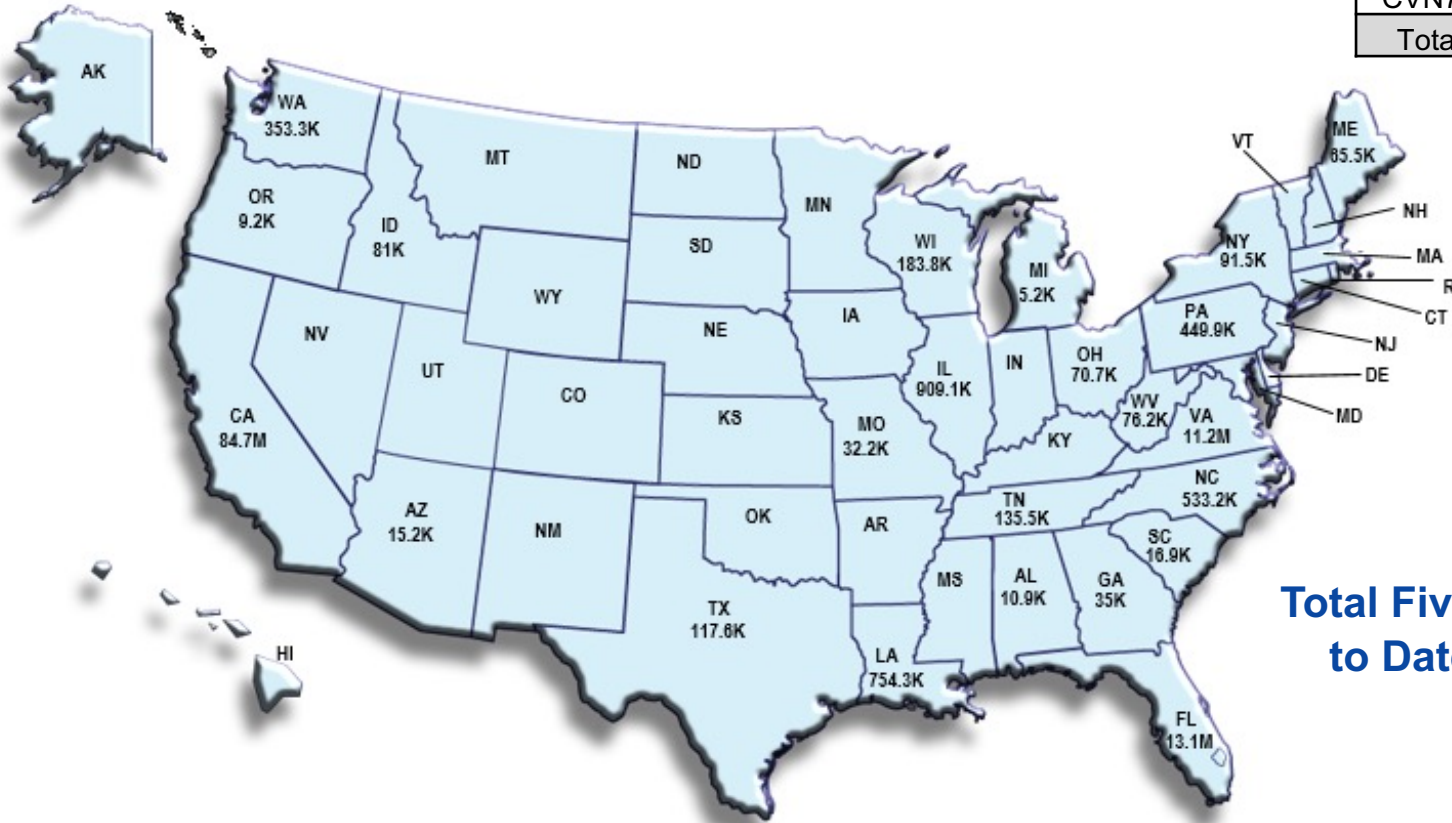


Carrier Fleet Support - *Nimitz* Class Supplier Profile

January 2017 thru February 2022

Total Vendors	Total States
197	28

Project	Spend to Date
CVN69	\$3.2M
CVN72	\$101M
CVN75	\$281K
CVN76	\$307K
CVN77	\$14M
Total	\$119M



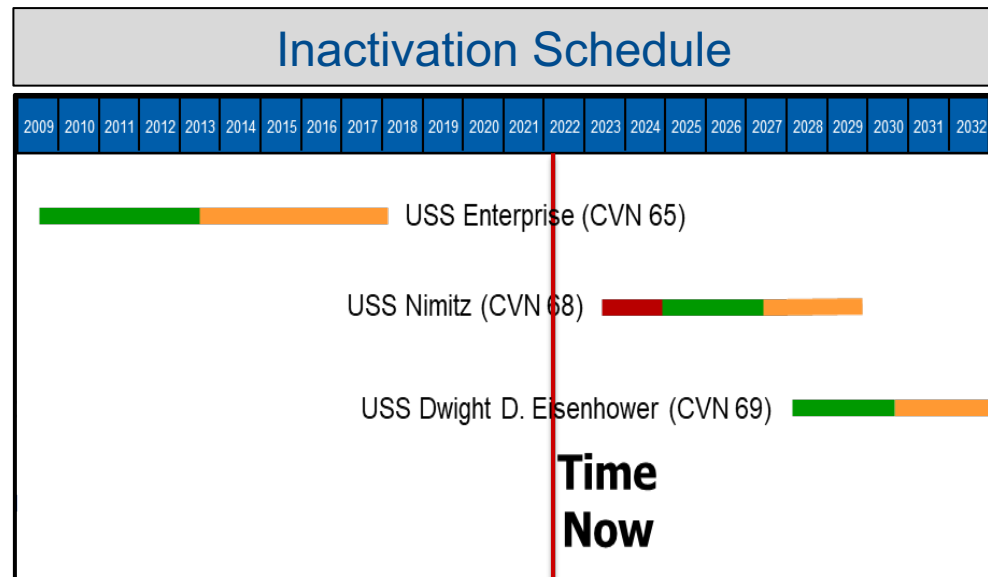
Total Five-Year Spend to Date: \$119M

197 Suppliers from 28 States Provide Material and Services Critical to Fleet Support Maintenance and Upkeep of *Nimitz* Class Carriers



Carrier – Inactivation Program

- Inactivation encompasses defueling & inactivating ship's systems equipment
- Lessons learned from CVN 65 to be applied to CVN 68 (*Nimitz*) Class
 - Pre-Planning contract awarded March 2022
 - Class Planning contracted expected in 2023 – defines strategy for the class, AP to follow in 2023
 - CVN 68 begins 2026. Ten ships in the class thru ~2060
- Estimated direct buy material procurement similar to CVN 65, ~\$50M
 - temp piping, storage & tow systems
- Removal and Refurbishment of *Nimitz* class equipment to be used on later ships; supports class remaining service life



Preparing the *Nimitz*-Class Carriers for End of Life Disposal



ACIBC New Construction Aircraft Carrier Programs

Brian Fields, Vice President



Newport News
Shipbuilding
A Division of
Huntington Ingalls Industries

New Construction Aircraft Carrier Programs



USS Gerald R. Ford (CVN 78)



John F. Kennedy (CVN 79)



Enterprise (CVN 80)



Doris Miller (CVN 81)

NEWCON Total 5 Year Spend ~ \$3.8B



FORD Class Construction Evolution

CVN 78
FORD

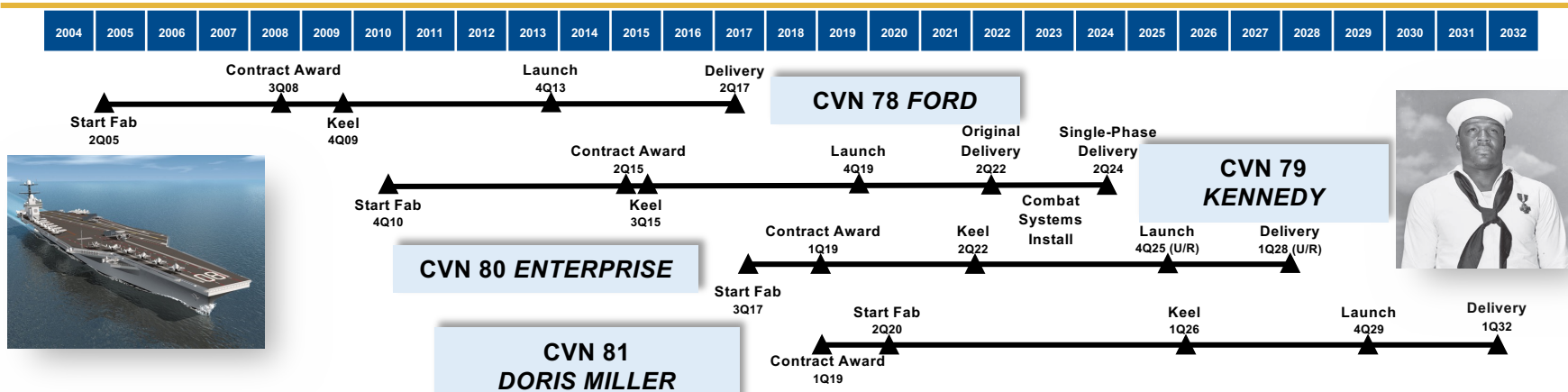
Design it Differently

CVN 79
KENNEDY

Build it Differently

CVN 80
ENTERPRISE & CVN 81
DORIS MILLER

Buy it Differently



Integrated Digital Shipbuilding (IDS)

- Utilizing the Product Model to Drive Cost Efficiency throughout the life cycle of a ship
- VBM - Construction Mgt Focused
- VWI - Drawing Replacement

Empowering the Workforce with Digital Data

Material Procurement

- Aggregation of Material Demands
- Support Long Range Procurements
- Workforce Level Loading / Continuous Production
- Multi-year Contracting

Economic Ordering Quantities Resulting in Material Savings

CFA Component Manufacturing

- Batch Manufacturing
- Additive Manufacturing (3D Print)
- Improved Shop Equipment
- Increased Shop Built Complex Assemblies
- Digital Work Packages

Additional Complex Assemblies Identified

SFA Steel Manufacturing

- Increased Use of Digital Data
- Pre-Outfitted Panels and Decks
- Unit Outfitting
- Larger Units

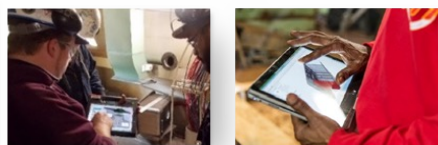
Increased Outfitting Structural Attachments on Panel Line

Final Assembly Platen / Shipboard

- Additional Pre-Outfitting
- Improved Erect Plan
- New and Larger Superlifts
- Full Utilization of Weather Covers and Unit Outfitting Hall
- New Assembly Hall online in 4Q22

Work moved Indoors to Weather Covers and Unit Outfitting Hall

NNS is investing to develop the tools and processes to support the "Design-Build" portion of the digital thread



"It generally takes three to four years for a mechanic to become proficient using paper drawings. Whereas, with Visual Work Instructions, I've personally had mechanics of all ages - we're talking about 20 year olds to 60 year olds - become very proficient using VWI's in only a matter of weeks. That's been a major benefit for us here on the waterfront."

Rich Suders, Shipfitter Foreman for 2.5 years



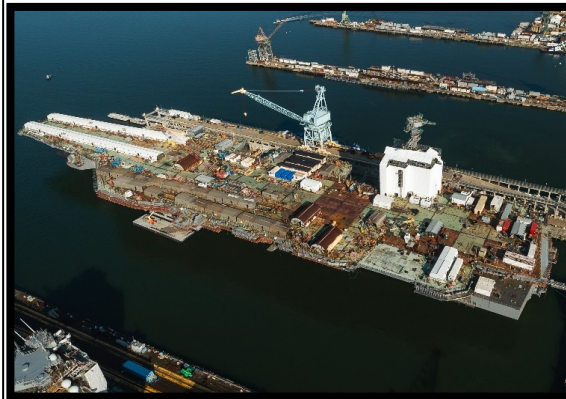
FORD Class (NEWCON) – Program Status

USS Gerald R. Ford (CVN 78)



- Completed Post Delivery Test & Trials (PDT&T)
- Completed Full Ship Shock Trials
- Completed Planned Incremental Availability (PIA) and redelivered 2/28/2022
- Business Partners supporting key technology enhancements:
 - Advanced Weapons Elevators (FEC/Hunt/DRS)
 - Valve Actuators (Honeywell/DRS)
- Commenced Continuous Maintenance Availabilities (CMAV) Periods

John F. Kennedy (CVN 79)



Good Progress to Date:

- Total program – 83% progressed
- 36% of total compartments turned over to Ship's Force
- 91% of baseline cable pulled
- Topside testing commencing
- 98% of material is committed to vendors

Where We'll Be Year End:

- ~50% of total compartments turned over to Ship's Force
- Communication Center Certification
- Combat systems testing underway
- Stores elevator testing
- Distributed systems testing
- Key Propulsion Plant milestones achieved
- Heavily focused on system testing and turnover

Enterprise (CVN 80) / Doris Miller (CVN 81)



- Two-ship procurements being executed to support CVN 80 and CVN 81 construction schedules
- 79% (~\$1.97B) of CVN 80 material dollars have been committed
- 61% (~\$1.55B) of CVN 81 material dollars have been committed
- CVN 80 – 307 of 1,075 Structural Units complete
- CVN 81 – Started Structural Units in August of 2021
- Outsourcing 183 Structural Units to support CVN 80

Building Bigger and Delivering Innovation to Those Who Protect Our Freedom

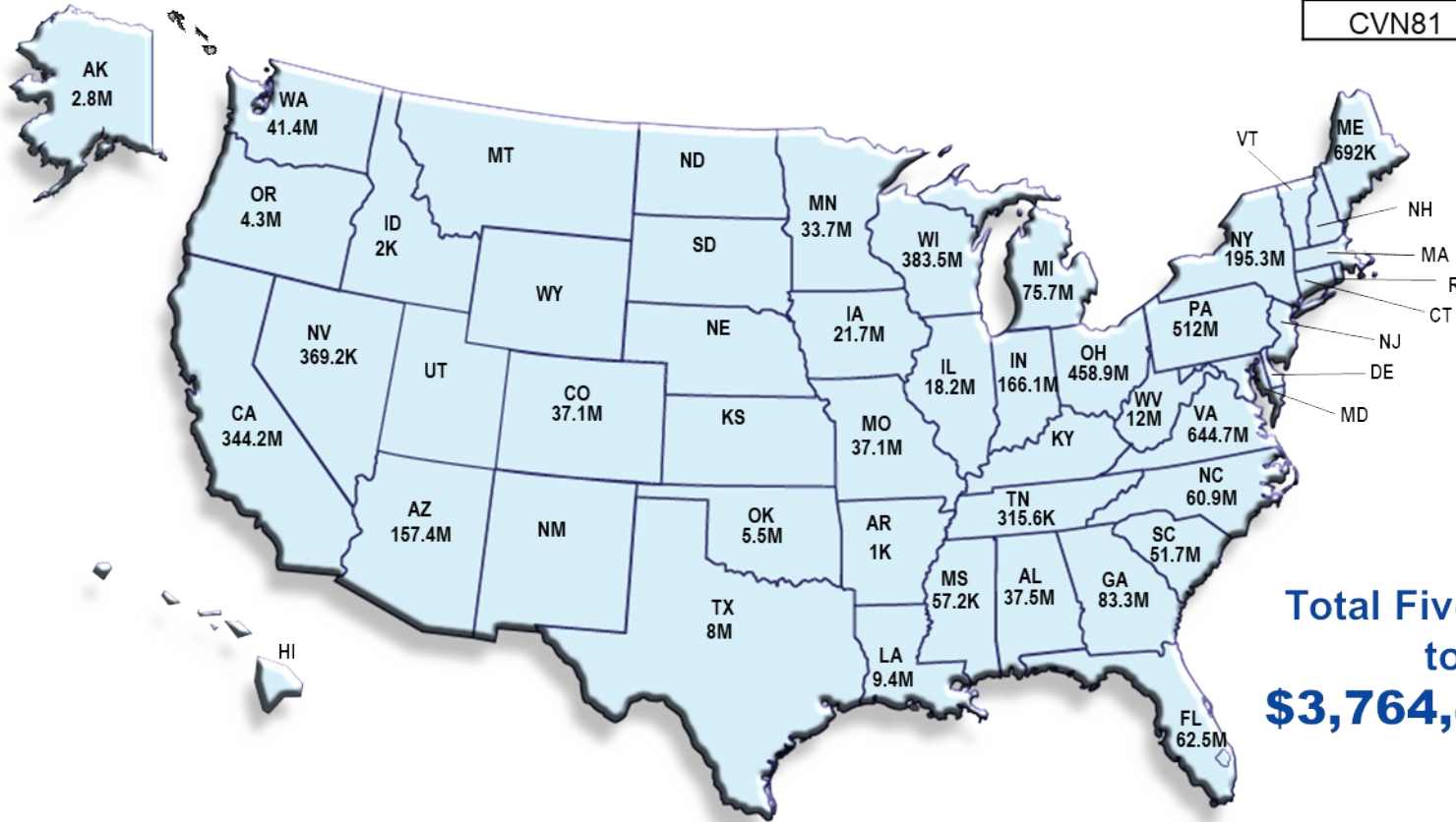


New Construction Aircraft Carrier Programs – (NEWCON) Total Purchase Order Spending

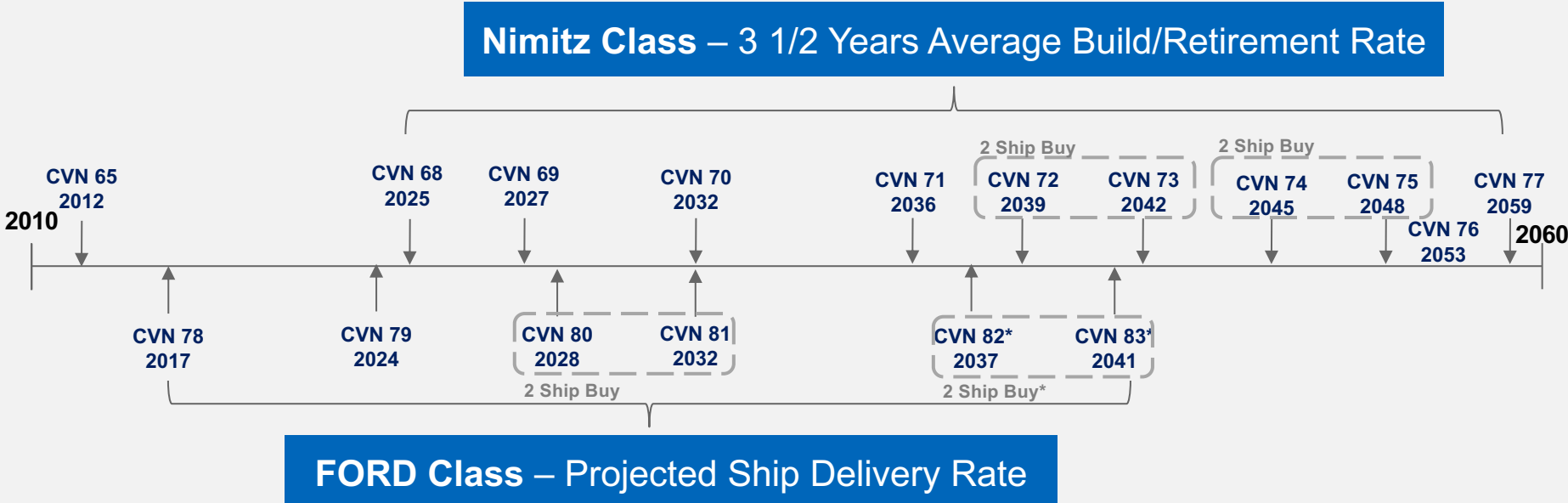
January 2017 through February 2022

Total Vendors	Total States
607	38

Project	Spend to Date
CVN78	\$147,663,501.46
CVN79	\$430,132,917.58
CVN80	\$1,645,969,545.95
CVN81	\$1,540,701,392.89



CVN Projected Retirement / Build Plan



* Not Under Contract

FORD Class – 2 Ship Buys Every 8 Years Sustains 11 Carrier Operating Fleet



Newport News Shipbuilding Carrier Programs Summary

- **SECNAV priority** - “Maintain Maritime Dominance in the Defense of our Nation”
- **Chief of Naval Operations** has said, “I think we need 12 aircraft carriers”
- Every leader and worker in the defense industry needs to understand **how critical their performance is to the defense of our country and the American way of life**. To get to 12 CVNs, **industry performance must improve**.
- Well done to all involved in the **re-delivery of FORD** as she begins her training for her first operational deployment. She will be a **game changer** for Naval Aviation.
- **JFK Single Phase delivery** contract enables the team to be **more efficient** in providing the Navy a combat-ready ship sooner than the two-phase acquisition approach.
- Industry’s **performance on CVN 80/81 will directly influence** the Navy’s appetite for a CVN **82/83 two-ship buy**.
- **Strong collaboration & innovation between Industrial Base & Navy**
 - Leads to **continued & improved cost efficiencies**
 - **Sustainability for maintenance & modernization** of our carrier fleet in the future
 - **Updating the combat warfare systems** to the latest warfighting technologies
- **Investing to meet new threats** for the second half of a 50-year lifetime
- **Steady predictable funding** vital to the stability of the industry base

“For the first time in at least a generation, we have a strategic competitor who possesses naval capabilities that rival our own, and who seeks to aggressively employ its forces to challenge U.S. principles, partnerships, and prosperity.”
- SECNAV Del Toro

