2022 MODELOF EXCELLENCE AWARDS CEREMONY



Newport News Shipbuilding A Division of HII

"As Models of Excellence, our honorees set the bar for their fellow shipbuilders and future generations."

Jennifer Boykin



F R WARD STRATEGY OBJECTIVES

The annual Model of Excellence awards ceremony recognizes individuals and teams who have made extraordinary contributions to the achievement of Newport News Shipbuilding's strategic objectives through their performance and accomplishments in the following award categories:

Enable Our Workforce

Individual or team contributions that demonstrate care and improve the work environment for NNS employees.

Fransform Business Operations

Individual or team contributions that demonstrate innovative thinking and/or result in new ideas and solutions that successfully achieve and significantly improve or create new processes or approaches in support of the company's growth profitability and competitive advantage.

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Execute Efficiently

Individual or team contributions that streamline and transform our current business model into a culture that embraces and implements lean thinking and processes.

ow The Business Base

Individual's or team's delivery of quality products or services that far exceed the customer's expectations or their success at creating company value through new business growth.



ead The Way

Individual or team contributions that demonstrate courage, leadership, inspiration, teamwork, integrity and other behaviors that positively change company culture or make a difference in our community.







Shipbuilders,

Each of us answers a noble call to build and support our Navy's ships in defense of our nation. At Newport News Shipbuilding, more than 25,000 women and men dedicate their hearts, hands

and minds to this calling, and I thank each of you for your commitment.

While we celebrate these efforts every day, each year we take time to recognize those who have gone above and beyond to best serve their fellow shipbuilders and the Navy. This year, we celebrate 273 employees whose dedication has earned them the President's Model of Excellence Award, the highest honor presented to NNS employees. I am proud to stand with this impressive group as they live our company values and set the bar even higher for future generations of shipbuilders.

Please join me in congratulating our 2022 Model of Excellence Award honorees on a job well done!

All the best,

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Jennifer Boykin President, Newport News Shipbuilding

DIGITAL TWIN CREATES VERSATILE TRAINING AND OPERATIONAL TESTING ON FORD-CLASS CARRIERS

The Advanced Weapons Elevator (AWE) Digital Twin provides a real-time, immersive and integrated environment for testing shipboard hardware and software. The AWE design and test program lacked an off-hull integration site, which affected waterfront test schedules and shipbuilders' ability to resolve issues in a practical manner. This shipbuilder team not only established successful testing methods but developed a way for the product model and shipboard software to be included. The technical complexities inherent in integrating hardware with digital products and physics-based models were solved to ultimately replicate the AWE functionality in Newport News Shipbuilding's Virginia Advanced Shipbuilding Carrier Integration Center (VASCIC). It now runs seamlessly in real-time and has already helped resolve several shipboard AWE issues. Additionally, the ship's force and others are using it for training. The team's work to integrate functional models, product model geometries, software, realtime operating hardware and augmented reality completely transforms future engineering.

Greta-Marie Alvesteffer, T55 Mark Hoffman, E11 Emily Kodl, E59 Keith Mabry, E44 Daniel McPeters, T55 Gabe Sava, E41 James Turso, E05



Not Pictured: Mohammad Elwir, E56





ADDITIVE MANUFACTURING ENHANCES CONSTRUCTION ON ENTERPRISE (CVN 80)

Enterprise (CVN 80) shipbuilders proved there's more than one way to achieve a desired goal. During a planning review, the team realized support hinges for the reactor compartment pressure door were not ordered properly. To avoid delays, Newport News Shipbuilding's Propulsion Plant Planning Yard suggested shipbuilders make the hinges themselves using conventional methods and wire-based additive manufacturing with the help of supplier Lincoln Electric. In less than nine weeks, plans were developed and approved, giving the customer confidence that the hinges would be technically sound and adequate for an aircraft carrier's 50-year lifespan. The team – comprising the Machine Shop, Laboratory Services and The Apprentice School – also produced the parts, which typically takes five to six months using tradition casting methods, in less than eight weeks. The Navy has already agreed to this deviation following an ongoing successful qualification program, recognizing this new approach reduces cost and schedule, and opens doors for other applications.



Shane Christian, E86 Andrew Collins, E86 Louie Cribb, E70 Andrea Dolan, E70 Benn Frazier, E86 Rich Johns, K72 Stephen McGrew II, O22 Jade Nguyen, E70 Tim Pline, O31

John Ralls, E32 Richard Wilmoth, E70



Not Pictured: Chris Arnold, E37 Gregory Fisher, X22 Troy Floyd, X24 Randall Hall, E37 Robert Taylor, O31

CROSS-FUNCTIONAL TEAM DEVELOPS ECONOMICAL SOLUTION FOR RELOCATING SHIPYARD MATERIAL

Space is challenging at Newport News Shipbuilding, and moving pipe storage offsite was necessary as business growth continues to require more space in the North Yard.

Storing carbon steel pipe details under cover would also help a corrosion problem resulting from their outdoor storage at Dry Dock 12. Although the pipes are sealed to stay clean, this has not prevented corrosion that requires additional work before they can be installed.

A team of shipbuilders mapped out the entire value stream process to better understand the flow and identify possible improvements. They determined that the offsite location needed to be cost-effective and close to NNS, provide adequate indoor and outdoor storage, and be secure. They also decided that use of commercial trailers and trucks to transport the pipe would ensure reliability. Thanks to their perseverance and attention to detail, 9,500 pipe details were successfully relocated offsite with no injuries, accidents or damages.



Jabarie White, O53

Not Pictured: Jacob Abercrombie, O54 Michael Coleman, O54 Ty Harrison, O53 Mondrale Hicks, O53 Gladys Smith, O53 Tori Stith, O53







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OUT-OF-THE-BOX THINKING CREATES NEW OPPORTUNITIES FOR AIRCRAFT CARRIER CONSTRUCTION

Construction of aircraft carriers *Enterprise* (CVN 80) and *Doris Miller* (CVN 81) are vital mission objectives for Newport News Shipbuilding and the Navy, so when delivery of both ships was threatened by pandemic-related supply chain delays, a diverse team came together to find a solution.

Shipbuilders from construction, planning and engineering developed a methodology to brainstorm options, collaborate and determine recommendations for the best plan possible to keep and maintain the current and future New Aircraft Carrier Construction Program on schedule, all while continuing CVN 80 construction and keeping leadership informed.

As a result of the team's efforts, the New Aircraft Carrier Construction Program is working with the Navy to implement a build strategy that allows two carriers to be built concurrently in Dry Dock 12. This innovative approach also affords NNS the opportunity and strategic flexibility to credibly procure and execute future two-ship carrier construction contracts and earn back customer confidence.



John Anderson, X36 Mark W. Barker, X02 Frances Glenn, X44 Kyle Harrington, E86 Dennis Knutson Jr., X23 Matt Michael, E42 Kevin Prussia, E22 Cary Ray, X44 Dave Rockey, X23

Ed Spruill, XO2 Jeremy Tucker, E70

Not Pictured: Adam Bierbauer, EO2 Jacob Peek, E21



TRANSFORMATIVE APPROACH AND INNOVATION BRING CHANGE TO THE NAVAL NUCLEAR PROPULSION PROGRAM

An availability after a ship's post shakedown availability requires radiological work be performed with stringent controls to protect personnel and the environment.

In the case of the planned incremental availability for USS *Gerald R. Ford* (CVN 78), the nuclear propulsion design team recognized that radiological controls required by the Navy were overly conservative for the project. The team collected data and evaluated risk to make a strong case to modernize the approach used to reduce

Curtis Anderson, E81 Michael Davidson, E85 Yonathan A. Kassaye, E81 Brett Kulhanek, E85 Joshua Tanner, K45 John Weisflog, X73



Not Pictured: Craig Comeaux, X82 Leah Ewart, E87 Susanna Whitehead, E85 Benjamin Wu, E81 radiation exposure to the team and save significant time and money. It also used a broader skilled workforce and reallocated resources that improved efficiency.

This transformative approach is a game changer for the Naval Nuclear Propulsion Program, driving significant cost and schedule savings by right-sizing the risk based on the planned scope of work. Newport News Shipbuilding's efforts will serve as a model for other shipyards to challenge their processes and approach to help drive efficiencies and significant savings in cost, schedule and resources.





APPLYING LESSONS LEARNED TO EXCEED EXPECTATIONS ON ENTERPRISE (CVN 80)

Welding is a critical job in shipbuilding, and the reactor vessel to primary shield tank weld on aircraft carriers is among the most technically and schedule challenging jobs performed by Newport News Shipbuilding. The quality requirements of this weld are strict and require around-the-clock, on-scene government oversight. The *Enterprise* (CVN 80) welding team applied lessons learned from John F. Kennedy (CVN 79) to improve performance and increase efficiency. They surpassed expectations, completing the 121-day job in 53 days with zero injuries and high first-time quality. While the welding team performed the work, around-the-clock coordination of multiple departments on multiple shifts enabled a focus on the task at hand. It is this exemplary teamwork that achieved one of the most difficult welding jobs on an aircraft carrier with incredible results.



Vincent Barone, X18 Lydia Fleck, X01 Chris Gillitzer, X18 John L. Harrell, K47 John Hooper, X02 Taylor R. Johnson, X18 Asa Kelly III, X18 Kelvin Larrimore, K47 Joseph L. Turner, X18



Not Pictured: Herman Bland, X36 Jimmy Ervin, X36 Fermond Jones Jr., X18 Ephony King, X18

COMPLEX CHOREOGRAPHED NUCLEAR EVOLUTION SAVES TIME AND KEEPS SHIPBUILDERS SAFE

Elimination of risk and efficient execution is the goal of every shipbuilding program, and it is particularly important in reactor work where safety is of primary concern. A pinnacle evolution during the S8G Prototype refueling and overhaul is reactor vessel pump down and power unit installation. These well-choreographed, time-sensitive operations require extensive engineering, planning, training and a full understanding of the operation to ensure alignment and safe execution.

This operation was necessary at the Kenneth A. Kesselring site, where

Doug Harsh, O39 Robert Hopfinger, E68 Matt Jeffery, E82 Jimmy Johnson, X73 Eric Kilner, E84 Nick McFatter, X43 Travis Messick, E82 Keon Odom, X09 Cory Sherwood, X73

Cesaere Watkins, O67

Not Pictured: Matt Butler, X73 Ryan Farries, E82 Sean Fitzpatrick, E82 Jarrod Griffith, E84 Ronald Herrick III. X42 Brandon Hill, X43 Brent Howell, E82 Tom Manley, X73 Sean McDonnell, E84 John Mulvaney Jr., E85 Dean Pallera, E82 Darrell Patten, O96 Bob Weinmann, E82 Tim Weisflog, E85 Marcus Woody, E82



Navy sailors are trained and Newport News shipbuilders provide support. They removed the radiologically contaminated water from the reactor vessel and installed the power unit using an engineered drape to protect shipbuilders. Use of the engineering drape eliminated the need to place the workers in special protective equipment, eliminated 22 lifts and saved about 10 days of critical path schedule.

The team completed both operations in rapid succession to shorten schedule duration while improving safety. Thanks to their innovative and flawless execution, these shipbuilders have reshaped the standard for future work to be performed in the Navy Nuclear Propulsion Program.









EAGER TO LEARN AND EAGER TO TEACH: SHIPBUILDERS COLLABORATE TO MEET KEY MILESTONES

At a build rate of two per year, the Virginia-Class Submarine Program requires constant production at Newport News Shipbuilding. This effort is vital for the Navy, but delays can impact its ambitious schedule. Recognizing this risk, the program's nuclear pipe welding team collaborated to improve performance.

Accurate nuclear pipe welding is critical to on-time construction. To ensure quality, welds undergo radiographic testing (RT), which requires extensive preparation to ensure shipbuilders' safety. Failed tests can mean weeks of rework, so the team turned to a homegrown source for help — its own shipbuilders.

The team prioritized sharing knowledge and lessons learned to ensure everyone had the tools to succeed, no matter their years of experience. As a result, it nearly doubled its pipe weld throughput from 2020 to 2021 while also reducing its RT reject rate. Working around the clock, the team produced high-quality and high-quantity results for an important submarine program.



Reginald Best, X18 Chandler Burris, X18 Joseph Grice, X18 Amanda Hall, X82 Adam Holbrooks, K46 Isaac Howell, X18 James Martin, K46 Corinthious Nathan Jr., X18

Louis Norwood Jr., X18 Matthew Peters, X18 Demetrius Pittman, X18 Thomas Rivera X18 Purcell Saylor, X18 Richard Sewalish Jr., X18 Sean Walters, X82 Charles Warner, X18

Jonathan Willard, X82 Nicholas Wobser, X18

Not Pictured Michael Brown, X82 Anthony Fisher, X18 James Williams Jr., X18



FIRST-TIME QUALITY SETS THE BAR FOR FUTURE SUBMARINE CONSTRUCTION

First-in-class ships inherently involve risk as shipbuilders adjust to new designs and processes, but this did not stop innovation and quality on *District of Columbia* (SSBN 826). One of the most important elements of a nuclear-powered ship is its primary shield tank, which houses the nuclear reactor. This tank is supported by lead boots that provide protection against radiation. Installing lead boots is a precise, high-temperature process with opportunity for error. This risk, coupled with the *Columbia* class' new design, presented an exceptional challenge for shipbuilders.

The team developed a new procedure to produce and install the various lead components for the submarine's boots. Using mock-ups and training, shipbuilders tested out their ideas to ensure they would work. Despite working on a new, significantly larger submarine, the team achieved 100% first-time quality and no delays to the production schedule. With this success, the group's methods will be applied to the *Virginia*-Class Submarine Program.



Zackary Boulanger, X43 Brandon Briggs, K46 Derrick Crews, E86 Ryan Hecker, X11 Merrill Jennings, K46 Timothy Manning, X62 Robert Ramsey, X36





KESSELRING TEAM INNOVATES TANK REPAIR WORK

When Newport News Shipbuilding was tasked with repairing a 40-year-old radiological tank at the Kenneth A. Kesselring site, the team knew planning and safety were key. Kesselring hosts nuclear training for Navy sailors, so it requires extensive facilities and infrastructure to support its operations. Repairing the site's tank meant high-risk growth work for NNS, so a cross-functional team came together to find a solution. Servicing a radiological tank of that age required significant engineering and preparation while ensuring the safety of all involved. The team created a large, full-scale mock-up evolution to map out the necessary steps and developed new decontamination methods and use of scaffolding to complete the work. As a result of the team's foresight and planning, the project was completed safely, under budget and 12 days ahead of schedule, earning praise from the Navy and cementing the method's promise for future work.



Curtis Ballard Jr., X09 Chrysany A. Collier, E81 Brandon Edwards, E91 Anthony Formica, E91 James Harper, E91 Sidney Hudson, X09 Travis Jackson, X09 Chris Lambrecht, E82 William Marshman, X09

Kevin J. Morgan, X09 Daniel Passamonte, E91 Edward Primeau, O96 Shawn Rollo, X09 Robert Scott, X09 Troy Toombs, X11 Charles Ward Jr., X09 Ian Webster, X09 Bradley Whittaker, X09

Not Pictured: Scott Bailey, XO9 Lester Blauvelt, XO9 Kelvin Evans, X11 Bryan Herrin, XO9 Steven Marquez Martinez, E81 Colin Tschantret, XO9

LEAN THINKING IMPROVES MACHINING AND OUTFITTING PERFORMANCE

With tolerances thin as one human hair, torpedo tubes are the most complex modules on *Virginia*-class submarines. Machining and outfitting these tubes requires delicate precision, and first-time quality is essential to keeping production on schedule. The tubes must be outfitted properly before piping and electrical components can be installed, so delays in the process can spark a domino effect in scheduling.

Recognizing this work's significance, the machining and outfitting crew participated in a lean training event and applied its principles to the machining, outfitting and testing of multiple *Virginia*-class bow module torpedoes. Taking lessons learned from heel-to-toe production, the crew developed a goal-focused plan to execute efficiently while maintaining quality. These efforts resulted in reducing the average torpedo outfitting time from nearly 11 months to just six months. Thanks to this improvement, other crews can begin their work sooner and get the submarines one step closer to delivery.

Keller Beach, X43 Qwalin Bridges, X43 Charles Butler, X43 Justin Cole, X43 Brian E. Dodge, X43 George Perry, K46 Robert M. Robertson, X43 Vernon Silver, K46

Not Pictured: Tony Wood, X43







REDEFINING DECKPLATE TRAINING THROUGH VIRTUAL REALITY

With thousands of new shipbuilders joining the workforce, impactful training is necessary to ensure employees are ready to perform safely and accurately. Newport News Shipbuilding has used classroom and on-the-job training in the past, but these traditional options are costly and limited.

Recognizing an opportunity for improvement, the Quality Inspection Department's facilitated learning team partnered with the IT Department's Dogfish Labs group on a new approach. Using virtual reality (VR) technology and headsets, the team developed and launched the application on a VR headset. The application is an enterprise-wide learning solution that creates lifelike simulations for employees to experience work in the shipyard without its safety risks. When shipbuilders wear the ObserVR's headset, they are transported to a virtual shipyard setting, customized through more than 11,000 configurations. This training provides a full-scale sensory experience and has improved employees' knowledge retention and competency by strengthening their mental muscle memory. By tapping into this new technology, the ObserVR team is paving the way for innovative training and better employee performance.





Becky Thompson, E59 H.D. Trulley, K46

Not Pictured: Jason Brindle, T53 Dustin Floyd, X67 Heather Mapp, X67 Nicholas Rapoza, X11

SHIPBUILDER-DESIGNED TOOL STREAMLINES PIPE SHOP PRODUCTION

When the Navy directed a technical change to *Enterprise's* (CVN 80) jet fuel system, a team from across the shipyard came together to develop a solution. The design change required eight miles of thicker, heavier pipe along with modifications to more than 10,000 weld joints, which meant an exponential increase in time, cost, and, more importantly, potential safety risks due to the additional crane lifts required.

Determined to find an efficient solution for this work, the Pipe Shop partnered with Carrier and Industrial Engineering to research new tooling, equipment, pipe and fittings. Over 18 months, the team developed a new process to handle and fabricate the heavy pipe required. Shipbuilders even designed and built two one-of-a-kind rigs, nicknamed Bob and Sharon, which eliminated much of the cumbersome, manual lifting of heavy fittings. This innovative, cross-functional team developed a solution that will yield benefits for current and follow-on *Ford*-class carriers through safe and efficient first-time quality work.

Ricky Ashworth, M30 David Dea, M30 Jacob Denson, O22 Tom Doberneck, E26 Terry Fail, X44 Rich Johns, K72 Kenny Quinn, M30 Christopher Skiba, E26 Christopher Smith, E26



Robert Teel, M30



Not Pictured: Herman Gill III, E26 Aaron Goetz, X42 Ronald Heath, E26 Kent Paumier, E26 Timothy Spikes, X42 Robert Tristani, X51 John Vandenberg, E26 Robert West, X43



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USS COLUMBUS (SSN 762) WORK PACKAGES REVOLUTIONIZE THE FLEET SUPPORT VALUE STREAM

Effective communication across shipbuilding teams is key to executing efficiently. The USS *Columbus* (SSN 762) team experienced this challenge first-hand when faced with unintegrated tools and a lack of consolidated information sharing across the value stream.

A team of shipbuilders evaluated business systems across the program and consolidated the data to create a system that provides a complete view of work required to accomplish the job. The team also reviewed about 10,000 inspection reports, assigned them to work packages, and incorporated a new dynamic drill-down tool that identifies outstanding work package items holding up jobs.

These tools have revolutionized the efficiency of the fleet support value stream by providing clearly defined requirements, highlighting areas of concern and providing unparalleled visibility and understanding of the complete scope of work. More importantly, they have resulted in a significant increase in ready-to-work job volume, removing obstacles for the construction and production teams on the job site.



Robert Corrigan, K03 Michael Dorsey, E25 David L. Goodman Jr., X35 Mary Harrow, O48 Frances Jarabak, X75 Clinton Klink, K48 Christopher Matthews, E03 Craig Messick, O64 Michael Peregoff, X64

Kenneth Rodney, O64 Gabre Rosa, X75 Brenda Viars, X75 Michael Westenberger, X35

Not Pictured: Nathan Gibson, T53 Jason Hanson, X55 Ryan Holloman, E25 Ed Hood, E25 Timothy Luce Jr., X35 David Saba, K03 Robert Spitler, X75 Christina Stimson, K15 Bruce Thomas, E14

WATERFRONT SUPPORT TEAM IMPROVES EFFICIENCY IN SUBMARINE CONSTRUCTION

Repetitive motion can have a negative impact on the body, but thanks to a new hydraulic jacking system, shipbuilders supporting submarine construction are avoiding injury and increasing efficiency. Historically, little blue cars and manual blocking have been used to lift submarine modules, but it is a time and labor intensive process requiring repetitive motions. In search of a better solution, Waterfront Support Services turned to the bridge construction industry for answers. The team researched the cube jack hydraulic system, commonly used in bridge construction and maintenance, and conducted a floor analysis to ensure it could support submarine construction. Unlike the little blue cars, the cube jack system allows for safer, more efficient incremental lifting and lowering of heavy loads. With the new system in place, shipbuilders avoid potential ergonomic injury and can lift a *Virginia*-class habitability deck in half the time required by the old process. The team's out-of-the-box thinking led to a new tool for the shipyard and a safer way of doing work.



Not Pictured: Mathew Martins, X36 Scott Satterfield, X36







SHIPBUILDERS INSPIRE A SAFETY IMPROVEMENT CULTURE THROUGH FIRE PREVENTION

John F. Kennedy's (CVN 79) safety champions are leading the way in fire prevention. In addition to daily management of the aircraft carrier's cleanliness zone management program, the team researched and implemented new improvements to fire safety, including clearance markings for firefighting equipment, fire lanes and pedestrian walkways, daily monitoring of fire zone bulkheads and safer material storage locations. A testament to continuous improvement, the team also completed audits of the ship's temporary firefighting equipment to find and correct safety gaps. Recent shipboard fires like aboard USS *Bonhomme Richard* and USS *Miami* have demonstrated just how important fire safety is. Applying lessons learned from these tragedies, CVN 79's safety champions embody a "never settle" attitude, instilling a ship-wide culture of accountability. As a result of its leadership and action, this team is modeling the way for others and inspiring greater ship cleanliness and fire safety across the shipyard.



Tashaunt Banks, X36 Quinn Meidel, X36 Jack Molloy, X01 Jacob Pepper, X36 Kent Price, X01 Kaitlin Troutner, X01



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