Fire Resistant Watertight Structural Doors

NSRP SDMT Virtual Meeting

October 29, 2020

Mike Poslusny

NSRP NATIONAL SHIPBUILDING RESEARCH PROGRAM

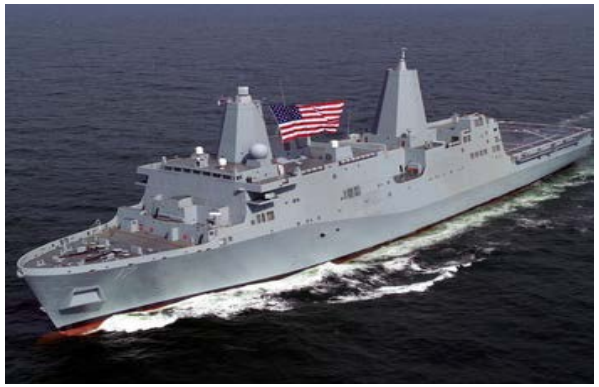
Ingalls Shipbuilding
A Division of Huntington Ingalls Industries

Agenda

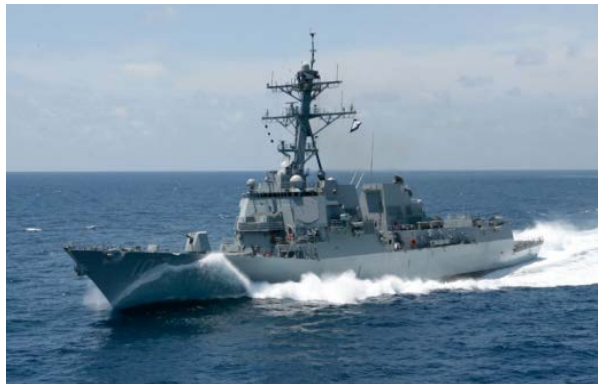
1. Overview of Ingalls Shipbuilding and Team Members
2. Project Background/Overview
3. Project Management
4. Phase I Description (Tasks 2 and 3)
5. Summary

Ingalls Shipbuilding

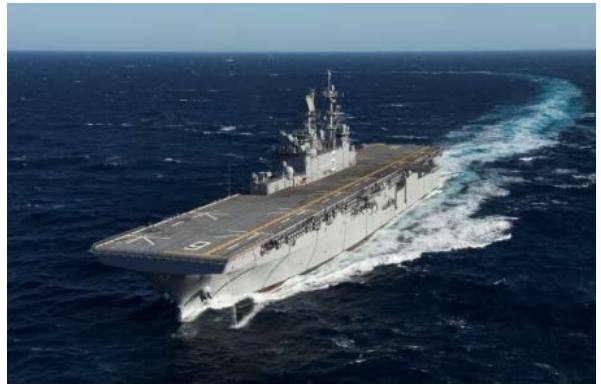
- Building four classes of ships simultaneously—10 ships currently under construction
- Sole builder of the *San Antonio*-class (LPD 17) amphibious transport docks and the *America*-class (LHA 6) amphibious assault ships
- One of two builders of DDG 51 *Arleigh Burke*-class destroyers
- Sole builder of the *Legend*-class National Security Cutters for the U.S. Coast Guard
- Largest private manufacturing employer in Mississippi – approximately 11,500 employees



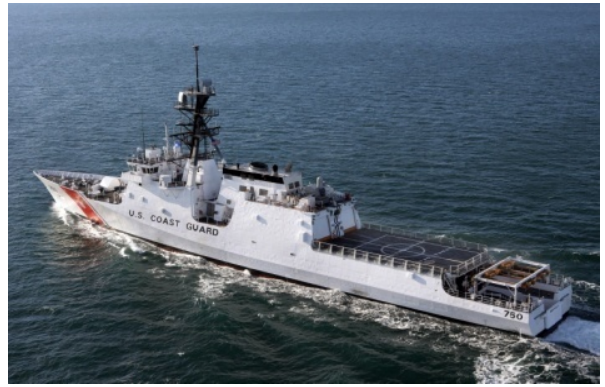
LPD 17 Class Amphibious Transport



DDG 51 Surface Combatants



LHA 6 Amphibious Assault Ship



USCG National Security Cutter

Fire Resistant Watertight Structural Doors

The Big Idea

- Structural doors aren't fire resistant, and fire resistant doors aren't structural (i.e., watertight)
- We need a door that is both fire resistant AND watertight

The Plan

- Begin with new family of Navy watertight doors from prior NSRP project
- Testing of various configurations of STI Marine Firestop materials
- Qualification Testing for Fire in Phase II

Timeline

- February 2020 – January 2022

A more practical and cost-effective solution

Team Members

Ingalls Shipbuilding

- Mike Poslusny, Kristi Carroll, Sean Murphy, Michael Thompson, John Walks, Parisa Ghandehari

STI Marine

- Terry Mannion, Julio Lopes

Southwest Research Institute

- Kyle Fernandez

NAVSEA/NSWC

- Usman Sorathia, NSWCCD Code 612
- Kurt Hartsough, NAVSEA Philadelphia Code 333

ATI

- Jim House, NSRP Project Manager

Newport News Shipbuilding

- Alicia D'Aurora Harmon, Program Technical Representative

Work Breakdown Structure

- Task 1: Project Initiation ✓
- Task 2: Validate Requirements with NAVSEA
- Task 3: Develop Door Test Plan

Phase I

- Task 4: Execute Door Testing
- Task 5: Compile Test Results and Pursue NAVSEA Approvals
- Task 6: Final Report and Final Project Workshop
- Task 7: Program Management and Technology Transfer (both phases)

Phase II

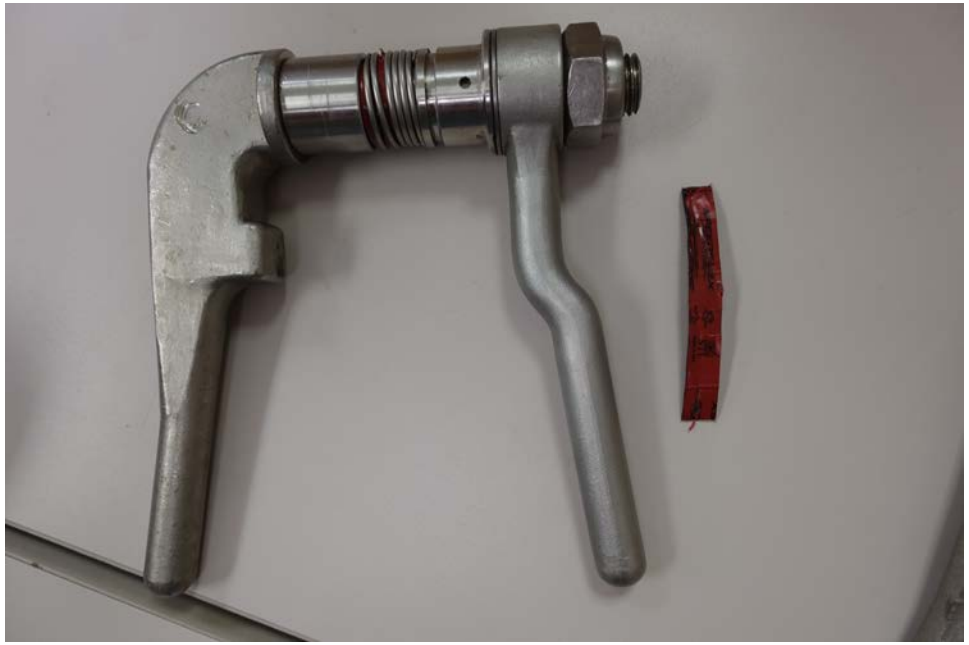
Task 2

Task 2: Validate Requirements with NAVSEA

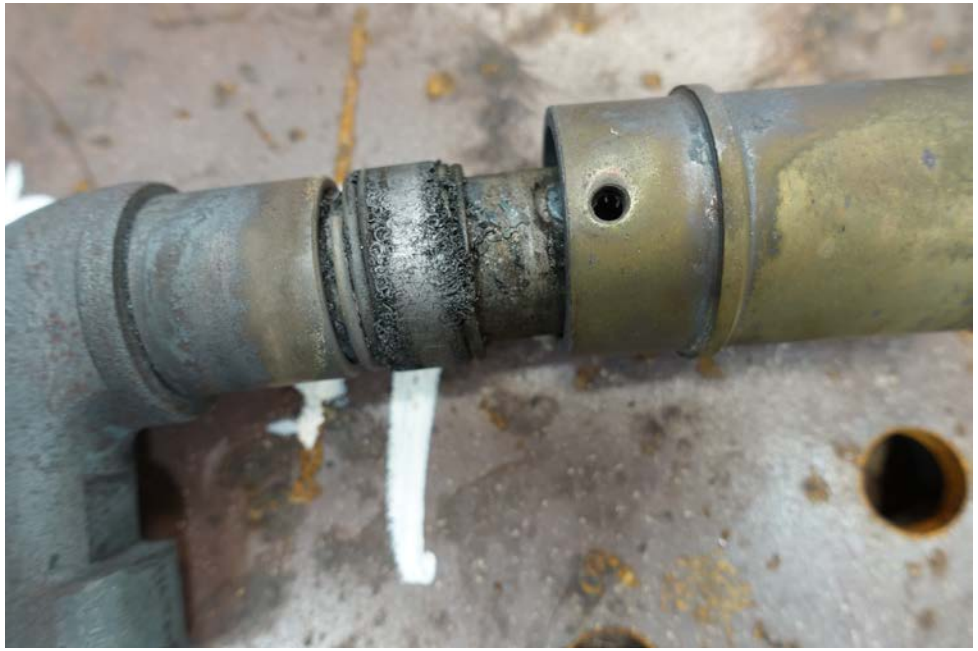
- MIL-STD-3020 and MIL-PRF-32478 interpretation ✓
- Tech Warrant Holder guidance ✓
- Research and develop fireproof materials and insulation
- Perform preliminary testing on fireproof designs

Task 2

Exploratory fire testing of materials at component level



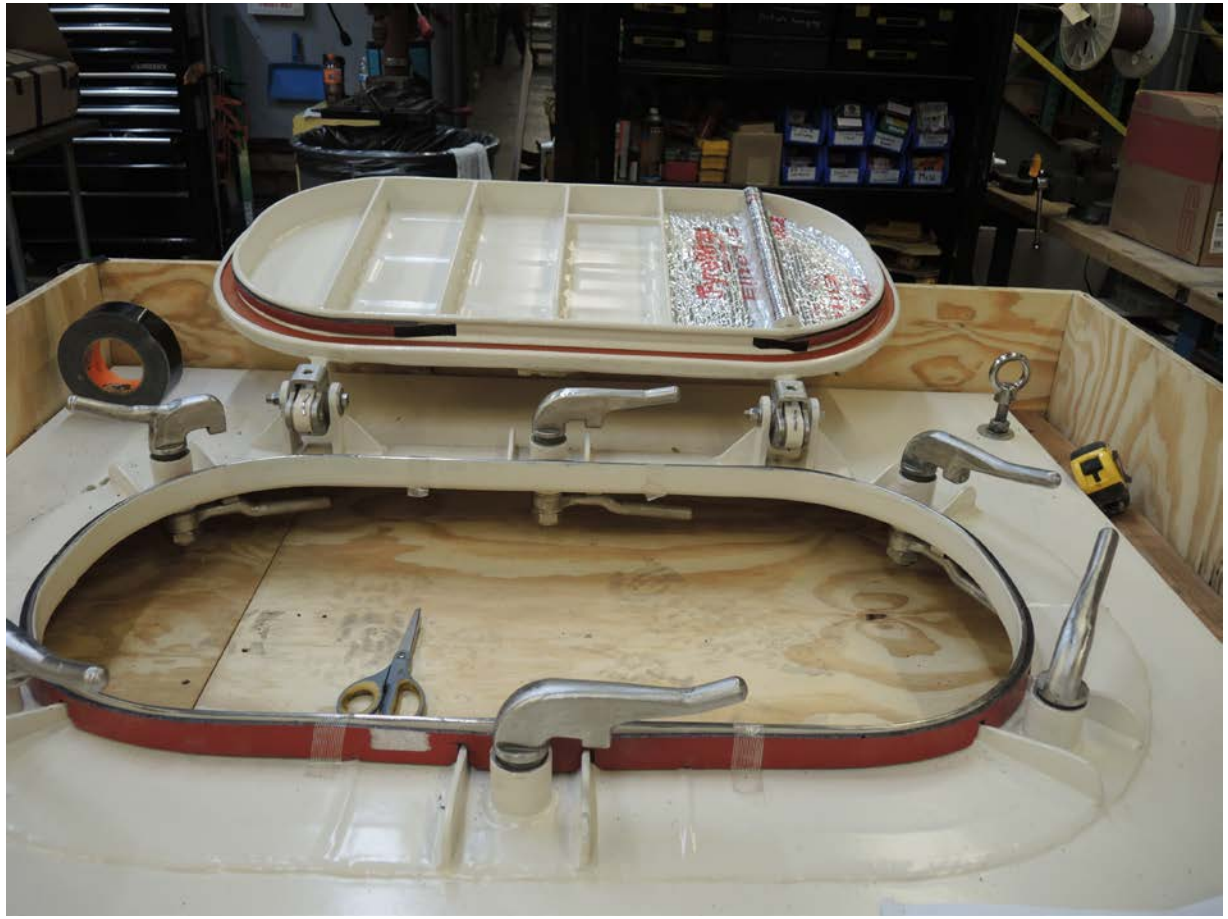
Before



After

Task 2

Preparation for exploratory fire testing of materials at door level at STI Marine



Task 3

Task 3: Develop Door Test Plan

- Develop test fixture design for 26”x66” and 30”x66” doors ✓
- Finalize door designs
- Develop MIL-STD-3020 test procedure (first draft) ✓
- Incorporate NAVSEA comments
- Obtain NAVSEA approval for fire testing

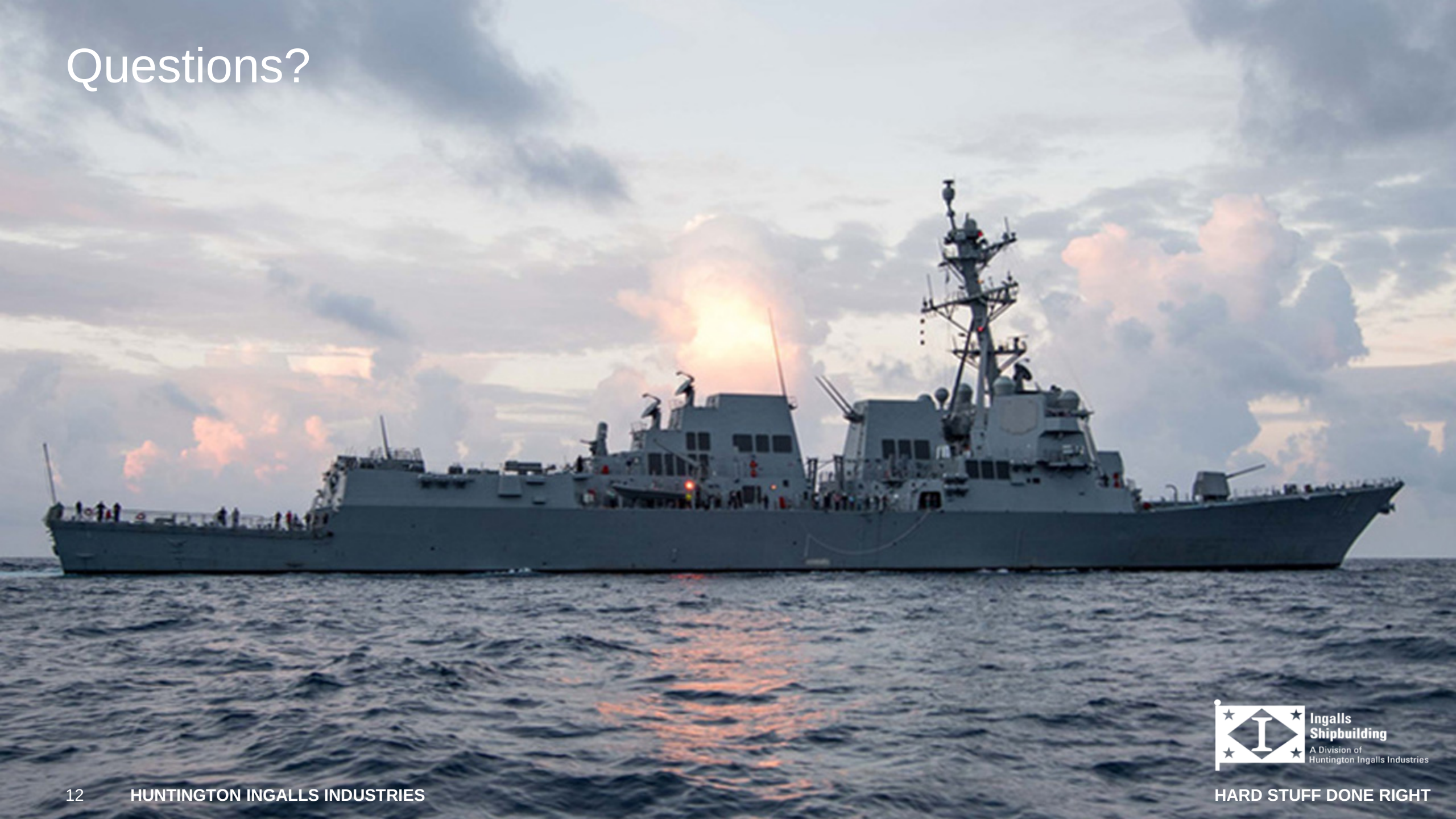
Summary

Project concept and plan is simple

Project team has the right players for success

Project team will use Phase I to perform exploratory testing and prepare for Phase II qualification testing

Questions?



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