SIB

GENERAL DYNAMICS
Electric Boat

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Letter to the Suppliers

As a supplier to Electric Boat, you cannot underestimate the crucial role you play in the overall success of the United States submarine program and the defense of our country. Each and every part you deliver to Electric Boat has the ability to impact the performance of the Navy and the safety of its submarine crews.

Delivering a quality part or component is the most integral step you can take to ensure this performance. The integrity of the product you deliver can literally mean the difference between a successful mission and an unexpected tragedy. The articles in this newsletter highlight two historical impacts of poor quality: The loss of the USS Thresher and the unplanned dry-docking of the USS North Dakota.

We ask that you read these articles and understand the great impact you have on the successful return of a submarine and the safety of the brave men and women aboard.

When you accepted the role as a supplier for the U.S Submarine Program, you entered into a sacred trust. With this comes the incredible responsibility of delivering quality parts that support a submarine with a nuclear reactor and over 100 crew members diving into an environment that otherwise could not sustain life. Maintaining that sacred trust means that the crew has absolute confidence in your products, which enable them to perform their mission and return home safely. For them to do their job, you need to do yours.

It is imperative that you always provide 100% spec compliant material. It is necessary that you read and fully understand the requirements, each and every time. In addition, we expect that you thoroughly distribute the requirements to your sub-tier suppliers. If there are any uncertainties during the manufacturing process, you must come to us with questions. We encourage you to share this bulletin with your employees, coworkers and sub-tier suppliers. Talk openly about the importance of quality and the criticality of the products you produce each day. Create a culture that encourages others to ask questions and if they "see something, say something." Quality is not a choice, but a requirement. There is no substitute for quality.

Ken Blomstedt

Vice President - Quality and Radiological Controls

What is SIB?

SIB is Electric Boat's new quarterly Supplier Information Bulletin. The purpose of this bulletin is to keep our suppliers up to date on what's going on at Electric Boat. Each quarter, we'll share important news, lessons learned, best practices, tips, and much more. Welcome aboard!

Have you visited our Supplier Website?

- Supplier Alerts
- Forms
- Purchase Order Info
- Shipping Information
- Standard Clauses

…and much more!

Access the website here:
http://gdeb.com/suppliers/

Tips

Submarine Industrial Base Council
Source: http://submarinesuppliers.org/

What is it?

The Submarine Industrial Base Council's mission is to educate policymakers and the public on the need to preserve the strength of the U.S. submarine force and promote the value of the submarine industrial base as a vital part of our national security structure.

How do I join?

The Submarine Industrial Base Council invites all submarine industry suppliers to become members. There is no cost to join. As a member of the SIBC, you will receive the monthly e-newsletter, SIBC Signals; periodic email alerts with submarine funding legislation updates and template materials to send to your members of Congress; and an invitation to attend "Submarine Supplier Days," the annual conference in Washington, D.C.

To join, visit their website at http://submarinesuppliers.org/ and click "Join."

LESSONS LEARNED FROM THE SHIPYARD

'Every day, we work to make sure that it does not happen again'

Dock workers and other officials set up the commissioning platform for the USS Thresher (SSN-593), shortly before it was officially entered into the Navy on Aug 3, 1961. Saturday marks the 50th anniversary of the loss of the Thresher.

By Jennifer McDermott The Day Staff Writer
Published April 07. 2013 by The Day

Before the Thresher - the most advanced submarine of its era - sank 50 years ago, 16 submarines were lost in accidents and collisions.

Mechanical systems failed, torpedoes malfunctioned and naval ships crashed, claiming an average of one sub every three years from 1915 to 1963.

But it was the April 10, 1963, sinking of the Thresher, the first in a new class of nuclear-powered submarines, and the loss of all 129 men on board that so rocked the Navy that its leaders resolved never to let it happen again.

"It served as an awakening to the Navy that we had a problem," Rear Adm. David M. Duryea, the deputy commander for undersea warfare, said in a recent interview. "If you look at the reaction to the sinking, within two months we realized we needed to do something different. Within two months we developed a program that became known as SUBSAFE, a program that instituted a fundamental change in how we did business."

The Navy has never lost a SUBSAFE-certified submarine [at sea[1]].

Quality assurance procedures were "inadequate" before the submarine safety standards were implemented, according to a statement from the Navy.

When the recently commissioned Thresher returned to the Portsmouth Naval Shipyard, where it was built in 1962, for an overhaul, there was a new ultrasonic method for inspecting pipe welds.

But this method was used only when there was enough time, according to the Navy, and mechanics conducted most of the inspections. Their supervisors checked their work. Unlike today, third-party inspectors were not used extensively.

The mission of SUBSAFE is to provide the "maximum reasonable assurance" that submarines will remain watertight and, in the event of flooding, will be able to surface.

The Navy has said a silver-brazed joint in a seawater pipe in the engine room on the Thresher (SSN 593) failed during deep-diving tests east of Cape Cod, and the seawater shorted out an electric panel that triggered the reactor to shut down. The submarine couldn't get to the surface because of a design flaw in the system that blows water out of the main ballast tanks to lighten the ship. With no propulsion, and with the added weight of the water, the ship sank below crush depth and imploded.

Sixteen officers, 96 enlisted men and 17 civilian technicians were on board.

It was the first time a nuclear submarine had been lost, and it remains the world's worst submarine disaster, in terms of lives lost.

In the aftermath, the Navy created the safety program and changed the design of its submarines. The flaw in the emergency main ballast tank blow system was fixed by removing strainers that had been placed on pipes to keep debris out of the tanks. Ice had formed on the strainers on the Thresher and had blocked high pressure air from getting into the tanks.

Vital electrical equipment was better protected from water, and flexible pipe connections were removed.

Today, all submarines are certified through SUBSAFE or they don't go to sea, Duryea said.

James M. Noonan, director of SUBSAFE and quality assurance at Electric Boat, said he is focused on the hull, the support structure and all systems that are integral to watertight integrity and recoverability. In shipyard vernacular, Noonan said, his job is to "keep water out of the people tank."

Each hull joint is welded by a trained, qualified welder, who has many years of experience and regular eye exams, he said. The joints are then examined using radiography. If the EB team concludes they are solid and if the Navy agrees, records - a lot of records - are maintained so they can be checked by outside auditors, he added.

The only way to be 100 percent certain the weld is good would be to cut the weld apart and look, Noonan said, but then the submarine would be destroyed.

Noonan talks to EB employees, particularly new hires, about the Thresher and tells them lives could be at stake if they don't do their work perfectly.

Noonan was in third grade in North Adams, Mass., when the Thresher sank. He remembers his teacher telling the class a submarine had been lost off the coast of Massachusetts. It was a watershed event, he said, and "as a people, we've learned our lesson."

"A U.S. nuclear submarine is the most complex machine built by humankind, and it's still one of the safest," he said. "And quite frankly, that's our challenge every day, too, to keep the record intact since the Thresher."

The USS Scorpion sank in 1968, but it was not certified through SUBSAFE. The Scorpion was built before the Thresher sank, and the design changes had not been incorporated.

The USS San Francisco was severely damaged in 2005 when it struck an undersea mountain. Duryea and Noonan both said SUBSAFE was critical to that submarine's safe return.

After so long without another loss, Duryea said, he worries people will become complacent, ignorant or arrogant. There constantly are new suppliers of submarine parts and new employees who have to learn the standards and the safety culture, he added.

Duryea said he doesn't predict any major changes to the program and, despite cuts to the defense budget, funding for it is not at risk. He said he couldn't say how much it costs to certify each submarine because the standards are maintained throughout a submarine's life.

"The Navy SUBSAFE community remembers the crew members and the shipyard workers who were on the Thresher," he said. "And every day, we work to make sure that it does not happen again. Those folks are in our memories every day."

1. Supplemented by Electric Boat for clarification

LESSONS LEARNED FROM THE SHIPYARD

EB delivers submarine North Dakota after delay

By Julia Bergman
Published September 3, 2014 by The Day

After a delay of several months because of component and design issues, the attack submarine North Dakota is now in the hands of the Navy.

On Friday, Electric Boat, which led the redesign of the submarine, delivered the Virginia -class North Dakota (SSN 784) to the Navy early and under budget by more than $30 million. The submarine received the highest-quality score to date, as measured by the Navy Board of Inspection and Survey, according to Kurt Hesch, vice president and Virginia program manager.

The submarine's commissioning, initially set for the end of May, is now scheduled for Oct. 25 at the Naval Submarine Base in Groton. Chief of Naval Operations Adm. Jonathan Greenert will serve as the keynote speaker. Once commissioned, the North Dakota will be the 11th member of the Virginia class of attack submarines.

The Navy postponed the commissioning due to issues related to vendor components and additional design and certification work required on the submarine's redesigned bow. As a result, the North Dakota was drydocked on April 21 to allow EB to inspect parts with suspected deficiencies, including stern planes and rudder rams; retractable bow plane cylinders; hydraulic accumulators; high pressure air charging manifolds; torpedo tube interlocks and shaft/link assemblies; weapons shipping and handling mechanisms; and other parts.

The name of the vendor is being withheld due to the ongoing investigation.

Naval Sea Systems Command and EB conducted an investigation of the submarine and concluded that it "was satisfactory for at-sea operations," according to a statement from Navy Capt. Darlene Grasdock, supervisor of shipbuilding in Groton.

The North Dakota was certified for sea trials on July 25.

"All inboard and outboard components whose failure might cause major mission impact, major injury, loss of ship or loss of life were inspected and all required repairs were completed," reads the statement from Grasdock.

"I can tell you we did the right thing," which was to make sure the North Dakota was prepared to go to sea, said Grasdock in a phone interview Tuesday.

This class of submarines "provides the Navy with the capabilities required to retain undersea dominance well into the 21st century," according to a news release from EB about the delivery of the North Dakota.

The North Dakota is the first submarine to have a redesigned bow with a new sonar array and two larger payload tubes instead of 12 individual, vertical-launch missile tubes.

The submarine will be able to launch Tomahawk cruise missiles, deliver Special Forces and provide surveillance of land and sea.

The Navy buys submarines in "blocks," and North Dakota is the first of the eight-ship group of Virginia-class submarines called Block III. Twenty percent of Block III submarines' design was changed from Block II submarines' design in order to save about $100 million per submarine.

"These ships embody a Navy and industry commitment to reduce costs without decreasing capabilities through an initiative comprising a multi-year procurement strategy, improvements in construction practices and the Design For Affordability (DFA) program," the EB release says.

BEST PRACTICES

Why is Verbatim Compliance So Important?

By Al Spadafora, Director—Radiological Services and Deneen Thaxton, Director—Quality Assurance

Building, testing, operating and maintaining a nuclear submarine, the most complex machine on the planet, requires strict compliance with procedures. Preparation of these procedures allows for deliberation and thorough consideration by a number of people involved in all facets of the job or task. It also provides standardization and a method to improve procedures by documenting lessons learned. When a procedure is not followed the cost can be far greater than time and money spent to re-perform the task. One incorrect weld, bolt or valve repair might be the difference when it counts most for the ship and its crew. So why do we have procedure compliance problems? Most people think they are helping and mean no harm. Some people do not understand the requirements and think its "good enough." Others think getting the work done faster is more important than 100% compliance. Some think they know what to do without instruction.

Source: Groton WIB Volume 2 Issue 2

What is Malpractice?

Any intentional or inexcusable deviation from established engineering, production, certification or inspection requirements.

How to Prevent Malpractice?

- Be sure you fully understand what procedures or instructions govern the work you are performing.
- Ask questions if you are unsure.
- Perform the work in full compliance with the written instructions, procedures and drawings. Shortcuts are unacceptable.

Examples of Malpractice

1. Issuing a procedure known to contain an unauthorized deviation from requirements.

2. Knowingly waiving a requirement without authority to do so.

3. Deliberately accepting unsatisfactory work.

4. Intentionally performing unacceptable work.

5. Failing to report unsatisfactory conditions in one's own work for resolution.

6. Verifying by signature that an action was taken knowing, in fact, the action was not taken or without performing the required checks to ensure the action was taken.

7. Verifying action based on hearsay when personal observation was required.

8. Tampering with calibrated instruments in order to avoid rejection of work.

9. Falsifying dates on records to comply with frequency or deadline requirements.

10. Falsifying data in order to have work accepted, thereby avoiding further required work or to cover up a deviation from a procedure.

11. Concealing information on malpractice known to have been committed by others.

Source: http://www.gdeb.com/suppliers/3_doing_business_with_eb/malpractice_prevention.html

SUPPLIER QUALITY NEWS

Critical Parts

Electric Boat is improving our oversight of critical parts. Critical parts are subject to enhanced material management, supplier quality and engineering oversight. The material is subject to in-process inspections throughout manufacturing. Inspections may include, but are not limited to, piece-part inspections, witnessing specific manufacturing operations, assembly, and testing. Electric Boat may perform destructive/nondestructive testing or re-inspection on a random sample of delivered products as an additional supplier process verification.

SUPPLIER NEWS

Meet the Directors

To support the growth of submarine material procurement activity, Electric Boat recently added a dedicated director for Supplier Quality and a second director for Material Acquisition. In this reorganization, Jim Cassidy retained responsibility for major component procurement, program management, part procurement data, and material acquisition policies, procedures, and compliance. Luke Georgian took over responsibility for the procurement of missile/payload tubes, build-to-print items, raw materials, and commodities, as well as inventory management, warehousing, and information/document management.

Jim Noonan – Director of Supplier Quality

Jim has extensive knowledge of supplier quality processes and past problem areas that serve him well in this role. Jim has 38 years of EB experience including 12 years as the manager of Supplier Quality and the last 18 years as Director of Quality Assurance and Special Emphasis Programs.

Jim Cassidy – Director of Subcontracts and Material Performance

Jim Cassidy has been working with Electric Boat suppliers in different roles over the past 24 years, including Component Engineering, Waterfront Engineering, Supplier Quality and Materials Management. He became director of Materials Management in 2014. Jim has a BSME from Johns Hopkins University and an MSME from Rensselaer Polytechnic Institute.

Luke Georgian – Director of General Purchasing

Luke Georgian has 14 years of experience at Electric Boat including Engineering, liaison between Electric Boat and Bath Iron Works, manager of Waterfront Mechanical Engineering, and manager of Strategic Sourcing. Luke has a BSME from Montana State University and MSME from Worcester Polytechnic Institute.

SUPPLIER NEWS

Visiting the King's Highway Facility

Suppliers require an escort throughout the duration of their visit, and are required to wear the visitor's badge that will be provided by the host employee. Contact your buyer for any questions prior to your visit.

Directions

From North: Take I-95 S , Take exit 86 from I-95 S, Go straight through the stop light to continue onto Kings Hwy, Destination will be on the right.

From South: Take I-95 N, Use the right 2 lanes to take exit 85 for US-1 N, Turn right onto Kings Hwy, Destination will be on the right.

Area Accommodations

In order to comply with Federal Travel Regulations (FAR 31.205-46, Section (a)(2)), Electric Boat (EB) has contracted rates with specific area hotels. Contact your EB buyer for a list of hotels in the Groton / New London, CT area that Electric Boat has established contracted room rates with.

In order to receive the contracted room rates, you must meet the following requirements:

- Be a current supplier / contractor of Electric Boat performing work at, or visiting an EB facility.
- Suppliers / Contractors must make their own reservations directly with the lodging facility.
- When scheduling on site services / visits that will require overnight accommodations, you must contact the preferred hotel, identify yourself as an Electric Boat supplier/ contractor, and provide the applicable Electric Boat purchase order number (to be provided by the hosting EB Buyer) for the selected hotel.
- Reservations should be made as early as possible to ensure rate and room availability. Other conditions may apply.

Contractors are reminded that Electric Boat will not reimburse your company for any dollar amount that exceeds the Federal Travel Regulations (FTR) per diem. To determine the latest per diem rates for Connecticut, please refer to the following URL address: www.gsa.gov

Source: http://www.gdeb.com/suppliers/8_visiting_eb_contractors/