

# USS Thresher (SSN-593) Arlington National Cemetery Commemorative Monument Proposal

*Submitted to Ms. Karen Durham-Aguilera  
Executive Director, Army National Military Cemeteries  
Arlington National Cemetery*



Proposed USS Thresher Memorial  
Arlington National Cemetery

*Submitted by  
USS Thresher Arlington National Cemetery Memorial Foundation  
July 10, 2018*

USS Thresher  
ANC Memorial  
Foundation



1465 Hooksett Road Unit 239, Hooksett, NH 03106 ♦ 603.785.6464 ♦ ThresherMemorial@gmail.com

July 10, 2018

Ms. Karen Durham-Aguilera  
Executive Director  
Army National Military Cemeteries  
Arlington National Cemetery  
Arlington, VA 22211-5003

Dear Ms. Karen Durham-Aguilera,

The USS Thresher Arlington National Cemetery Memorial Foundation respectfully submits the following proposal to erect a privately funded National commemorative monument in Arlington National Cemetery to honor the service, sacrifice and legacy of the 129 souls lost on USS Thresher (SSN -593) on 10 April 1963.

Our Foundation represents the family and former crew members of the men lost aboard USS Thresher, current and former Naval Sea Systems (NAVSEA) personnel, and thousands of U.S. Submarine Veterans who owe their lives to these men.

The proposed monument has been sized for placement along a walkway in a non-burial area to help preserve the limited space available for honoring individual veterans at their time of need. Funds have been raised to cover the long-term monument maintenance.

After detailed review, we ask that you approve and recommend to the Secretary of the Army, the Honorable Dr. Mark T. Esper, the installation of the USS Thresher commemorative monument in the most hallowed ground in the United States.

We look forward to working with you and your staff during the proposal review process and thank you for your consideration.

With respect and gratitude,

Kevin M. Galeaz  
President, USS Thresher ANC Memorial Foundation

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## Monument Purpose

To honor the service, sacrifice and legacy of the 129 souls lost on USS Thresher (SSN -593) on 10 April 1963.

## Detailed Justification

Subject: Justification for placing within Arlington National Cemetery a lasting monument to recognize the service, sacrifice and legacy of the 129 souls lost on USS Thresher (SSN -593) on 10 April 1963. The monument is requested to be placed along a walkway in a non-burial area of the cemetery.

USS Thresher, lead ship of a class of nuclear-powered attack submarines, was built at the Portsmouth Naval Shipyard, Kittery, Maine. Commissioned in August 1961, USS Thresher was the world's most technologically advanced nuclear-powered submarine of her day. She was designed to be our Nation's silent guardian by hunting down and destroying Soviet Ballistic Missile Submarines before they could unleash their nuclear weapons on key military installations and cities across our Nation. USS Thresher was 278' 6" in length, 31' 8" in beam, and displaced 3,700 tons on the surface, and 4,300 tons submerged. Her top speed was greater than 20 knots and her maximum operational depth greater than 400 feet. USS Thresher was manned by an operational crew of 12 officers and 96 enlisted men. Duty aboard USS Thresher was a coveted assignment. The Submariners who met the stringent selection criteria were among the best the elite US Navy Submarine Force had to offer. After commissioning, USS Thresher conducted lengthy trials in the western Atlantic and Caribbean areas in 1961 and 1962, providing a thorough evaluation of her many new technological features and weapons. After the completion of these test operations, Thresher returned to her builders for maintenance.

On April 10, 1963, USS Thresher departed from the Portsmouth Naval Shipyard to perform deep-diving tests accompanied by the submarine rescue ship USS Skylark (ASR-20). In addition to her 12 officers and 96 enlisted men, the submarine carried 4 additional staff officers and 17 civilian technicians to observe her performance during the deep-diving tests. Fifteen minutes after reaching her assigned test depth, the submarine communicated with Skylark by underwater telephone, apprising the submarine rescue ship of difficulties. Garbled transmissions indicated that--far below the surface--things were going wrong. Suddenly, listeners in Skylark heard a noise "like air rushing into an air tank"--then, silence. Repeated efforts to reestablish contact with Thresher failed.

A search group was immediately formed to locate the submarine. Rescue ship Recovery (ASR-43) subsequently recovered bits of debris, including gloves and bits of internal insulation. Photographs taken by bathyscaph Trieste proved that the submarine had broken up, taking all hands on board to their deaths in deep water, approximately 220 miles east of Boston.

The loss of THRESHER was the genesis of the SUBSAFE Program. In June 1963, in the aftermath of the loss of Thresher while investigations, design reviews and testimony to congress were in



progress, the SUBSAFE Program was created. The purpose of the SUBSAFE Program is to provide maximum reasonable assurance of watertight integrity and recovery capability of a Submarine. A culture of Safety is central to the entire Navy submarine community. This starts at the designers, and includes builders, operational crews as well as maintenance organizations. The SUBSAFE Program clearly defines non-negotiable requirements, requires annual training of personnel and then ensures compliance with reviews including audits and independent oversight. The annual training requirement includes review of past failures including the loss of Thresher. To submerge, a submarine must be SUBSAFE certified. This is a process, not just a final step. SUBSAFE certification covers design, installed material, fabrication processes and as well as comprehensive testing. In these areas, documentation must be exact and based on objective quality evidence. This means that records back to original material composition as well as detailed testing results must be reviewed and retained throughout the life of a submarine.

To many the detailed requirements, rigorous training, constant review and questioning attitude, as well as the meticulous record keeping may seem excessive, but the program is successful. In the 48 years before SUBSAFE there were 16 non-combat related submarine losses, an average of one every three years. Since inception of the SUBSAFE program only one submarine, USS Scorpion SSN 589 – has been lost, and it was not a SUBSAFE certified submarine. In the 50 years since the inception of the SUBSAFE program, there has not been a loss of a single SUBSAFE certified submarine. To maintain comprehensiveness and objectivity there is an independent oversight council, tasked with ensuring effectiveness and avoiding complacency within the SUBSAFE program. When analyzing the loss of both Space Shuttles, Challenger and Columbia, the SUBSAFE program was utilized as a safety standard; if a like process had been followed those tragedies might have been avoided.

The SUBSAFE Program is the legacy of those lost on USS Thresher – and it has made a lasting significant contribution to the Submarine Force, the United States Navy and to our Nation.

Those who sailed in Thresher were true pioneers in submarine technology and were lost while testing those advances that in many ways were essential in our nation prevailing in the Cold War. No bodies were ever recovered, and they remain entombed in the crushed hull. No cemetery holds remains of any of those lost and while there are local memorials to the Thresher, there is none at the national level. They came from across America to serve our nation, and their sacrifice, service and legacy was to our nation. It is appropriate for them to be recognized at our National Cemetery. Only at Arlington National Cemetery will they be honored with others of like sacrifice and legacy for future generations to understand, admire and emulate their unselfish service.

J. Clarke Orzalli, RADM USN (ret)

Chairman SUBSAFE Oversight Council 2010-2012

## USS Thresher (SSN-593) Commemorative Monument

### Proposed Design Concept



Proposed USS Thresher Memorial  
Arlington National Cemetery

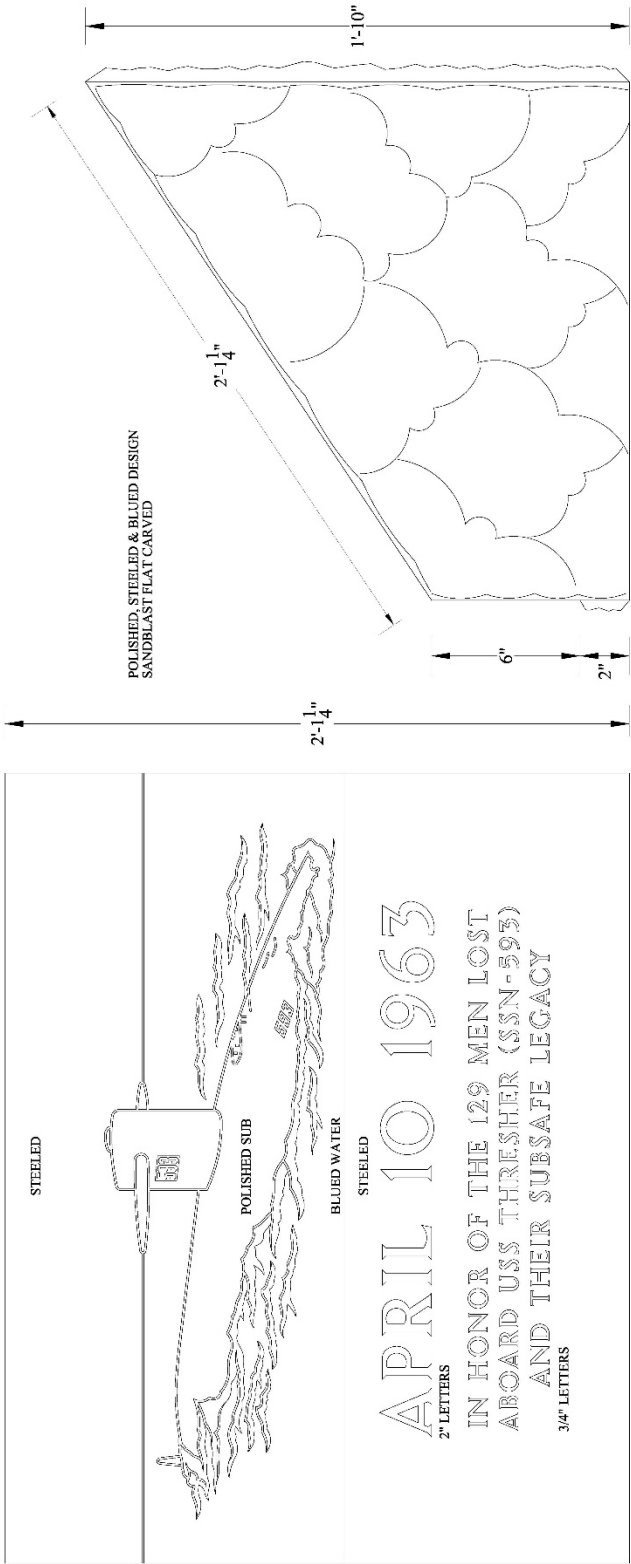
The proposed monument design possesses simple artistry and language to communicate the service, sacrifice and legacy of the 129 souls lost aboard USS Thresher (SSN-593).

Carved from Barre Granite quarried in Vermont, the monument dimensions are: 2'-8" face, 8" front nosing, 1'-9" depth, 1'-10" back, and a polished, 2'- 1 ¼" 34-degree slant face. A 4,000 psi-mix concrete footer of 3'-6" depth will support the monument to ensure long term stability.

The monument and footer are identical in dimensions and material used on the Vietnam Helicopter Pilot and Crewmember Monument dedicated on April 18, 2018 at Arlington National Cemetery.

The size and proposed location along a walkway in a non-burial area will preserve limited cemetery space available within ANC for future burials.

Architectural Drawings



1'-9"  
END VIEW

PLEASE INSPECT THIS DRAWING,  
IF APPROVED SIGN, OR MAKE THE  
NECESSARY CORRECTIONS

SIGNED

2'-8"  
DESIGN ON FACE

PROPOSED USS THRESHER MEMORIAL  
ARLINGTON NATIONAL CEMETERY  
ARLINGTON TREE MARKER 2'-8" X 1'-9" X 1'-10"  
POLISHED SLANT FACE, SMOOTH BOTTOM, BACK & SIDES ROCK PITCHED  
S/B CARVE & LETTER BEVELED FACE  
SELECT BARRE GRT.

1-17-2018

## Monument Costs

The monument construction, transport, placement and installation costs are estimated to be \$4,760.

Monument design and construction will be completed by Granite Industries of Vermont. The monument transport, concrete footer, placement and installation will be completed by Kline Memorials, Manassas, Virginia.

A breakdown of the cost estimates from Granite Industries of Vermont & Kline Memorials are as follows:

Item	Est. Cost
Monument design & construction	\$1,670.00
Monument transport, foundation stone, placement & installation	\$3,000.00
<b>Total</b>	<b>\$4,670.00</b>

## Monument Funding

The monument design, construction, placement, and all supporting activities for the installation will be paid for and sustained in perpetuity by funds that have been raised by the USS Thresher Arlington National Cemetery Memorial Foundation. The USS Thresher Arlington National Cemetery Memorial Foundation has been incorporated in the State of New Hampshire. We have been granted 501(c)(3) tax-exempt status by the IRS.

As of 7/10/2018, \$52,838 has been raised to cover all costs associated with the monument including perpetual sustainment to ensure that the monument does not become a burden to the United States taxpayers. Appendix A contains a list of donors (as of July 10, 2018), who have contributed to help realize a USS Thresher Commemorative Monument at Arlington National Cemetery to honor the service, sacrifice and legacy of the 129 souls lost aboard USS Thresher (SSN-593).

A self-sustaining USS Thresher ANC Memorial perpetual trust fund is being created with an initial investment of at least \$42,000 placed into a Certificate of Deposit (CD). A portion of the interest earned annually from the CD will be used to cover the annual New Hampshire Charitable Trust fee.

Total cash donations (Bank balance) to date: 7/6/2018	<b>\$24,923</b>
Total Flipcause online donations to date: 7/10/2018	<b>\$27,915</b>
Total donations to date: 7/10/2018	<b>\$52,838</b>
Estimated foundation incorporation & operating costs	<b>(\$4,000)</b>
Monument design, construction placement & installation	<b>(\$4,670)</b>
<b>Estimated Total Available Balance</b>	<b>\$44,168</b>

# Certification of Funds

## TD Bank Cash Donations



**TD Bank**  
**America's Most Convenient Bank®**  
1323 Hooksett Road  
Hooksett, NH 03106  
T 603 695 3300  
F 603 626 6672

[tdbank.com](http://tdbank.com)

July 6, 2018

To whom it may concern:

This letter is to state that USS THRESHER ARLINGTON NATIONAL CEMETERY MEMORIAL FOUNDATION (9246427606) has an open and active account with TD Bank, N.A. As of 07/06/18 the current balance in the account is \$24923.27. Please feel free to contact me with any additional questions.

Thank you,

A handwritten signature in cursive script that reads "Tamatha Laramie".

Tamatha Laramie

Store Manager, VP



## Flipcause Online Donations

The screenshot displays the Flipcause dashboard for account # 10000-3455. The left sidebar contains navigation links for Home, Campaigns, Add a Payment, and various operational and account management tools. The main content area is titled 'Funds' and includes tabs for Account Summary, Statements, Bank Accounts, and Account Records & Reports. The Account Summary section shows a Total Balance of \$27,915.10, a Pending Balance of \$0.00, and an Available Balance of \$27,915.10. Below this, there are buttons to Add Bank Account and Run a Report. The Pending Transactions section shows no transactions for the past 30 days. The Posted Transactions section shows a list of transactions for the past 30 days, including donations and processing fees.

Posted Date	Transaction ID	Description	Campaign ID	Amount
07/10/2018	T1813841	Harold_Maier_Donation	34629	\$25.00
07/10/2018	F1511001	Processing Fee_T1813841	34629	\$0.00
07/09/2018	T1805893	Kevin and Theresa_McCoy_Donation, Mailing List	34629	\$500.00
07/09/2018	F1510242	Processing Fee_T1805893	34629	\$0.00
07/09/2018	T1802583	Marie_Absmeier_Donation	34629	\$100.00
07/09/2018	F1509871	Processing Fee_T1802583	34629	\$0.00
07/07/2018	T1801387	Richard_Fyten_Donation, Mailing List	34629	\$25.00
07/07/2018	F1508956	Processing Fee_T1801387	34629	\$0.00

## Placement Date Verification

The loss of USS Thresher occurred over 55 years ago on April 10, 1963.

## Independent Study

An independent study on the availability and suitability of an alternative location for placement outside ANC was conducted in 2013 by Daniel Hutchinson, PhD. Assistant Professor of History Belmont Abbey College (Belmont, North Carolina). Dr. Hutchinson's independent study appears on the following 21 pages.

**Independent Study Concerning the Establishment of the *USS Thresher* Memorial in  
Arlington National Cemetery**

**March 1, 2013**

**Daniel Hutchinson, PhD.  
Assistant Professor of History  
Belmont Abbey College (Belmont, North Carolina)**

**Purpose of the Independent Study**

This independent study was commissioned in January 2013 by the USS Thresher Arlington National Cemetery Memorial Foundation. The mission of this foundation is “to erect a privately funded National Commemorative *USS Thresher* Memorial in Arlington National Cemetery that is designed to perpetuate the memories of the men lost aboard the *USS Thresher*, and to keeping the story of the *USS Thresher* alive, and in doing so, helping to minimize the likelihood of another similar tragedy from occurring.”<sup>1</sup>

Section 604 of “The Honoring America’s Veterans Act of 2012” (H.R. 1627) specifies that organizations sponsoring monuments at Arlington National Cemetery must solicit an independent study on the “availability and suitability of alternative locations for the proposed monument outside of Arlington National Cemetery.”<sup>2</sup> This independent study fulfills this requirement by examining alternative locations for the proposed *USS Thresher* Memorial, and assessing if these locations are suitable given the *USS Thresher*’s historic significance.

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<sup>1</sup> USS Thresher Arlington National Cemetery Memorial Foundation, “Our Mission.” <http://threshermemorial.org/our-mission.html>. Accessed on March 1, 2013.

<sup>2</sup> The Honoring America’s Veterans Act of 2012, H.R. 1627, Section 2409 (b) (E) (iii). 112<sup>th</sup> Congress (2012).

### **Historic Significance of the *USS Thresher***

The *USS Thresher* (SSN-593) was commissioned on August 3, 1961, as the lead ship in a new class of nuclear attack submarines designed to alter the balance of power of the Cold War. However, a tragic accident on April 9, 1963, resulted in the sinking of the *Thresher* and the loss of 129 American lives. From this tragedy was born a remarkable historic legacy. The *Thresher* disaster resulted in the creation of an influential safety program, SUBSAFE, which transformed the operation of the U.S. Navy. SUBSAFE has resulted in an exemplary safety record within the submarine forces that has protected countless American lives. In recent years SUBSAFE has been applied to other areas of the military and civilian worlds. Thus, the lives lost aboard the *Thresher* have resulted in a historic legacy that outlived the Cold War and continues to contribute to the national security of the United States.

The purpose of the *USS Thresher* and the ships of her class were to track and engage Soviet ballistic missile submarines, an existential threat to American security during the Cold War. Ballistic missile submarines possessed the ability to submerge and position themselves near strategically important coastal areas, and remain undetected for an extended period. At short notice these submarines could launch a weapons payload of ballistic missiles armed with nuclear warheads against nearby coastal targets. The proximity of the ballistic missile submarine and the speed of a missile launch ensured that targeted areas could neither organize an effective defense nor an evacuation. By 1961 the Soviet Navy possessed the world's largest fleet of ballistic missile submarines, providing the Soviet Union an ability to launch a devastating first strike against key military and civilian targets on both coasts of the United States.<sup>3</sup>

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<sup>3</sup> On the development and capability of the Soviet submarine fleet, see: Norman Polar and Jurrien Noot, *Submarines of the Russian and Soviet Navies, 1718-1990* (Naval Institute Press, 1991); and Laurence Sondhaus, *Navies in Modern World History* (Reaktion Books, 2004).



The *Thresher* class submarines were the U.S. Navy's response to this grave threat. The *Thresher* class was designed to hunt and eliminate Soviet ballistic missile submarines before they could launch their lethal payloads. *Thresher* class submarines possessed sophisticated technical features that earned it the sobriquet the "hunter killer." What particular abilities earned such a fearsome moniker? The *Thresher* was equipped with sensitive sonar that could detect the movement of even deeply submerged enemy submarines. It was armed with weapons systems capable of striking from long distances. The *Thresher* was capable of unprecedented dive depth, and was powered by engines capable of high underwater speed to quickly close on a target. Moreover, the *Thresher's* hull design made its approach largely undetectable by enemy sonar. Construction on the *USS Thresher*, the first of these "hunter killers," began on May 28, 1958, at the Portsmouth (New Hampshire) Naval Yard and was completed on July 9, 1960.<sup>4</sup>

Although the *USS Thresher* was considered the most advanced submarine of its day, the technical sophistication of the craft did not eliminate the possibility of human error in the ship's construction and operation. In fact, the *Thresher's* complex design provided greater opportunity for seemingly innocuous defects to contribute to catastrophic failure in the event of a crisis. An incident following one of the submarine's first training missions on November 2, 1961, illustrates this point. While at port in San Juan, Puerto Rico, the *Thresher's* crew followed standard procedure in shutting down the submarine's nuclear reactor and relied on diesel generators for ship power. However, a broken pump shaft in the diesel generator forced the *Thresher* to fall back on battery power to maintain ship systems and restart the nuclear reactor.

The batteries lacked sufficient capacity to achieve both equally vital tasks, and battery power

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<sup>4</sup> On notable technical features of the *Thresher* class, see: Norman Polar and Kenneth J. Moore, *Cold War Submarines: The Design and Construction of US and Soviet Submarines* (Potomac Books, 2004), 147-156; and Norman Friedman, *U.S. Submarines Since 1945: An Illustrated History* (Naval Institute Press, 1994), 141-152.

was soon depleted. Without power for ventilation the dissipating heat from the nuclear reactor soon raised the temperature inside the *Thresher* to approximately 140 degrees Fahrenheit. Only the timely arrival of another submarine, the *USS Cavella* (SS-224), provided the means for repowering the *Thresher*'s nuclear reactor and restoring ship systems to normal operation. While no serious injuries resulted from the incident, the *Thresher*'s power loss demonstrated how one defect in a complex system could lead to a cascading series of failures culminating in a catastrophic loss of control. Tragically, this conclusion was appreciated only in hindsight.<sup>5</sup>

From November 1960 to April 1963 the *USS Thresher* returned to service and continued training missions and port inspections to test the limits of the U.S. Navy's most advanced submarine. The last of these tests occurred in April 1963 in the aftermath of one of the most dangerous moments of the Cold War, the Cuban Missile Crisis. The Cold War's tensest standoff had occurred only six months previously, and the presence of America's submarine fleet in coordinating the naval "quarantine" of Cuba played an important role in successfully ending the crisis. Maintaining this crucial strategic advantage over a growing Soviet nuclear fleet was essential. Accordingly, the U.S. Navy ordered continued tests to quantify the capabilities of the *Thresher*.<sup>6</sup>

On April 9, 1963, the *Thresher* departed the Portsmouth Naval Yard for dive tests in waters two hundred miles off Cape Cod, Massachusetts, accompanied by the submarine rescue ship *Skylark* (ASR-20). During the dive tests the *Thresher* reported to the *Skylark* operational

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<sup>5</sup> Norman Polmar, *The Death of the USS Thresher: The Story Behind History's Deadliest Submarine Disaster* (Lyons Press, 2001), 14-17.

<sup>6</sup> On the role of submarine warfare on the Cuban Missile Crisis, see: Thomas Blanton, William Burr, and Svetlana Savranskaya, eds., *The Underwater Cuban Missile Crisis: Soviet Submarines and the Risk of Nuclear War*. National Security Archive Electronic Briefing Book No. 399 (October 24, 2012). <http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB399/> . Accessed on March 1, 2013.

difficulties and loss of navigational control. Communication was then abruptly lost. The *Thresher* quickly sank below its safe maximum depth and beyond the reach of the *Skylark*. The submarine's hull then collapsed under intense ocean pressure. All hands aboard the *Thresher*, 129 souls, were lost. The wreckage of the *Thresher* fell to the continental shelf, some 8,400 feet below the ocean surface.

For several days a tense nation hoped that the submarine might be rescued and her crew saved. When Navy vessels discovered the *Thresher*'s wreckage the country deeply mourned the loss of her crew. The 129 crew and civilians aboard the *Thresher* hailed from 31 states. The loss of these men was felt in communities across the United States. But the loss was most keenly felt in Portsmouth, New Hampshire, the *Thresher*'s home port. Many of these families of the crew and civilian staff aboard the *Thresher* lived in Portsmouth. These families experienced the loss of husbands, sons, and fathers. Particularly poignant is the loss experienced by Mrs. Neil D. Shafer of Groton, Connecticut. She lost two sons aboard the *Thresher*, Benjamin and John Schafer, who worked as electricians aboard the submarine. In recognition of this tragedy and to honor the losses of the families of the *Thresher*'s crew, President John Kennedy issued an executive order that American flags across the nation to be flown at half-staff from April 12-15, 1963.<sup>7</sup>

The specific causes for the loss of the *Thresher* remain a matter of conjecture. The U.S. Navy conducted a court of inquiry, taking over 1,700 pages of testimony and conducting extensive underwater analysis of the *Thresher*'s wreckage.<sup>8</sup> Congressional investigations soon

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<sup>7</sup> John F. Kennedy, "Executive Order 11104," April 12, 1963. Gerhard Peters and John T. Woolley, *The American Presidency Project* (University of California-Santa Barbara). <http://www.presidency.ucsb.edu/ws/index.php?pid=59043> Accessed March 1, 2013.

<sup>8</sup> U.S. Navy, *The Court of Inquiry into the loss of the U.S.S. Thresher: Findings of facts, opinions, and recommendations of the court of inquiry into the loss of the U.S.S. Thresher* (U.S. Department of Navy, 1963).

followed.<sup>9</sup> Based on these findings and the work of independent scholars, a confluence of two systems failures has been identified as the likely cause for the loss of the ship. The first possible failure was a faulty joint in the submarine's saltwater piping system. Under the pressure of the test dive, this joint ruptured and resulted in a burst pipe. This pipe quickly flooded the engine room with saltwater, shorted the electrical systems, and resulted in the shutdown of the nuclear reactor and loss of ship propulsion. Emergency procedures in such situations dictated blowing the main ballast tanks, allowing the submarine's buoyancy to force it to the surface. However, a second possible failure existed in the air system of the ballast tanks. Excessive moisture could have entered into the air system of the ballast tanks and frozen, restricting airflow in the ballast tanks and preventing the *Thresher* from surfacing. These two technical defects are believed to have caused a cascading series of ship failures that ultimately resulted in a catastrophic loss of control. The loss of the *Thresher*'s crew remains the greatest loss of life in the history of the U.S. Navy's submarine fleet.<sup>10</sup>

Thankfully, this loss of life was not in vain. The key to understanding the historical significance of the *USS Thresher* is the response of the U.S. Navy to this disaster. Investigators conducting the Navy Court of Inquiry and Congressional probes found a series of significant problems in the construction, design, and inspection process for the *Thresher*, particularly concerning risks of flooding within the ship. To address these defects and to ensure quality

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<sup>9</sup> U.S. Congress. House and Senate, *Loss of the U.S.S. Thresher*. Hearings before the Joint Committee on Atomic Energy, 88<sup>th</sup> Congress, 1<sup>st</sup> and 2<sup>nd</sup> session, 1963-1964.

<sup>10</sup> Some of the various assessments for the loss of the *Thresher* can be found in the Navy Court of Inquiry and in the Hearings before the Joint Committee on Atomic Energy. Additional assessments can be found in: Norman Polmar, *The Death of the USS Thresher*, 115-133; Philip Martin Callaghan, "Effects of the *USS Thresher* Disaster Upon Submarine Safety and Deep-Submergence Capabilities in the U.S. Navy," 10-19. M.A. Thesis, Virginia Polytechnic University, 1987; Nancy G. Leveson, *Engineering A Safer World: Systems Thinking Applied to Safety* (MIT Press, 2011), 446-448.

control in the construction of new submarines, on June 3, 1963, the U.S. Navy instituted the Submarine Safety Program, or SUBSAFE. SUBSAFE's core mission was tightly focused – to ensure with maximum reasonable assurance the watertight integrity of submarine hulls, and ensuring ship systems remained operable and recoverable in the event of ship flooding. Achieving these twin goals to such a high standard, however, required an extensive overhaul of existing procedures. Over one hundred individual benchmarks were adopted to ensure the quality of design, construction, testing, maintenance, and operation of the submarine fleet. A submarine would not be allowed to go into the field if it failed to meet any of these exacting benchmarks. This insistence on safety marked SUBSAFE's other major contribution, a series of sweeping changes in the managerial and safety culture of the U.S. Navy. Before the *Thresher* disaster, deviations to existing safety protocols were made on the basis of cost, time, convenience, operational status, and other factors not related to ship safety. In other words, safety sometimes became a secondary or even tertiary principle. As a top Navy official conceded in Congressional testimony, "We must in all honesty say...with respect to submarine design, we moved too fast and too far in areas of offensive and defensive capabilities. Submarine safety did not keep pace."<sup>11</sup>

SUBSAFE's mission demanded that safety become the first principle in all aspects of submarine design and operation. Over time SUBSAFE's insistence on safety became a cornerstone of the culture of the U.S. Navy's submarine fleet. The core components of the SUBSAFE program are work discipline, material control, documentation, compliance, and improvements based on lessons learned. These core principles were applied to all aspects of

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<sup>11</sup> Philip Martin Callaghan, "Effects of the USS Thresher Disaster Upon Submarine Safety and Deep-Submergence Capabilities in the U.S. Navy," 28.



submarine design, construction, and operation. Compliance with these principles is monitored through frequent audits and recertification required throughout the operating life of a submarine. If a submarine fails to meet any of these standards then it remains at port. While SUBSAFE's systemic quality control distinguishes it as one of the most successful safety programs in the U.S. military, what truly sets the program apart is the cultural impact of the program on the submarine fleet. Internal and external audits consistently laud the U.S. Navy for cultivating a safety culture embraced by military contractors, enlisted personnel, and command staff alike.<sup>12</sup>

SUBSAFE's success in preventing future submarine disasters is the true legacy of the *USS Thresher*. From 1963 to the present, no SUBSAFE-certified submarine has been lost at sea. SUBSAFE's systemic emphasis on safety in submarine design, construction, and operation is credited for this remarkable safety record. Only a single submarine has been lost since the *Thresher* disaster, the *USS Scorpion* (SSN-589) on May 22, 1968. However, the *Scorpion* was not SUBSAFE certified, due to a violation of the basic principles of the program to allow for submarine to reenter service at a moment of heightened tension during the Cold War. Moreover, while the cause of the *Scorpion*'s loss remains a matter of conjecture, analysts believe an explosion caused by a torpedo malfunction was the most likely reason for the submarine disaster. Many analysts believe that even SUBSAFE certification would not have prevented this outcome.<sup>13</sup> However, proof of SUBSAFE's effectiveness is not confined to the absence of

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<sup>12</sup> A more detailed analysis of the SUBSAFE program can be found in: Statement by Rear Admiral Paul E. Sullivan, U.S. Navy, to House Science Committee on the SUBSAFE Program," October 29, 2003. 108<sup>th</sup> Congress; and Nancy G. Leveson, *Engineering A Safer World: Systems Thinking Applied to Safety*, 448-461.

<sup>13</sup> On SUBSAFE and the loss of the *USS Scorpion*, see: Stephen Paul Johnson, *Silent Steel: The Mysterious Death of the Nuclear Attack Sub USS Scorpion* (Wiley Books, 2005). On SUBSAFE certification not preventing the loss of the *Scorpion*, see "Statement by Rear Admiral Paul E. Sullivan, U.S. Navy, to House Science Committee on the SUBSAFE Program."

submarine disasters since the loss of the *Thresher*. On January 8, 2005, the nuclear submarine *USS San Francisco* (SSN-711) collided with an undersea mountain in waters off Guam after a navigation error. The collision occurred at high speed and resulted in the death of one crewman and the injury of numerous others. Moreover, the *San Francisco* suffered critical damage to her outer hull and the forward ballast tanks. Compared to the *Thresher*, the *San Francisco* suffered far more extreme damage that could have easily resulted in the ship's loss. Thankfully, the *San Francisco*'s hull maintained its watertight integrity and its nuclear reactor remained online. Despite the chaos caused by the collision the crew's operational training enabled them to maintain control of the ship and bring her safely to the surface. While the numerous risks inherent to submarine warfare can never be completely eliminated, the case of the *USS San Francisco* demonstrates the success of the SUBSAFE program in minimizing the risk of catastrophic failure. Thus the legacy of SUBSAFE and the *USS Thresher* continues to play a pivotal role in the safety of American military personnel.<sup>14</sup>

In fact, the *Thresher*'s legacy via SUBSAFE has recently expanded beyond the U.S. submarine fleet. The National Aeronautics and Space Administration (NASA) have looked to SUBSAFE as a model for its own safety programs in the wake of disasters akin to the loss of the *USS Thresher*. On February 1, 2003, the crew of the space shuttle *Columbia* was lost when the craft was destroyed during atmospheric reentry. Like the *Thresher*, the space shuttle *Columbia* relied on a complex series of systems that could catastrophically fail when confronted with even minor defects in operation and design. The findings of the *Columbia* Accident Investigation Board credited such a minor defect as the probable cause for the loss of the *Columbia*. During

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<sup>14</sup> On the *USS San Francisco* collision, see the U.S. Navy investigation: "Command Investigation of the submerged grounding of *USS San Francisco* (SSN 711) approximately 360 NM southeast of Guam that occurred on 8 January 2005." February 27, 2005. [http://www.cpf.navy.mil/misc/foia/foia\\_rr.shtml](http://www.cpf.navy.mil/misc/foia/foia_rr.shtml). Accessed on March 1, 2013.

*Columbia*'s takeoff flying foam debris collided into the space shuttle. Subsequent analysis proposed that this collision damaged the shuttle's atmospheric heat shields, leaving the ship exposed to extreme heat during reentry. NASA staff knew and had previously observed these collisions before *Columbia*'s takeoff, but believed that such incidents posed minimal risks to overall mission safety. The *Columbia* Accident Investigation Board found parallels in this incident with previous NASA behaviors concerning the space shuttle *Challenger* disaster on January 28, 1986. During the *Challenger*'s takeoff, leaks occurred in O-rings responsible for transmitting high temperature gases. Such a leak proved responsible for an explosion in the ship's main booster rocket. As in the *Columbia* disaster, NASA officials discounted the likelihood of such defects in one component to overall mission safety. While investigators identified technical faults as the prime cause of both space shuttle disasters, they also found NASA's safety culture as partly responsible for these disasters. In ways reminiscent to the *Thresher* disaster, concerns besides safety had influenced space shuttle design, construction, and operations.<sup>15</sup> Accordingly, one of the key recommendations of the *Columbia* Accident Investigation Board included restructuring NASA programs in order to foster a culture of safety within the organization. Specifically, the *Columbia* Board recommended that NASA study the SUBSAFE program as a model for their reforms, noting the exemplary safety record within the U.S. submarine fleet since the *Thresher* disaster.<sup>16</sup> In fact, even before the *Columbia* disaster NASA officials were collaborating with the U.S. Navy to study SUBSAFE's successes and how

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<sup>15</sup> Columbia Accident Investigation Board, "Columbia Accident Investigation Board Report." August 2003, six volumes. [http://history.nasa.gov/columbia/CAIB\\_reportindex.html](http://history.nasa.gov/columbia/CAIB_reportindex.html). Accessed on March 1, 2013.

<sup>16</sup> Hearing Charter of the House Committee on Science, "NASA's Organization and Management Challenges in the Wake of the *Columbia* Disaster." October 29, 2003. 108<sup>th</sup> Congress. [http://history.nasa.gov/columbia/Troxell/Columbia%20Web%20Site/Documents/Congress/House/OCTOBE~1/hearing\\_charter.html](http://history.nasa.gov/columbia/Troxell/Columbia%20Web%20Site/Documents/Congress/House/OCTOBE~1/hearing_charter.html). Accessed on March 1, 2013.

it could be applied to the space shuttle program.<sup>17</sup> This collaboration intensified following the *Columbia* Board's findings. In their review of their safety programs, NASA officials have singled the *Thresher* disaster as an important precedent for reforms to their safety culture.<sup>18</sup>

What then is the historic significance of the *USS Thresher*? This submarine was designed as a technologically advanced means of defending the United States during the Cold War. While the 129 souls aboard the *Thresher* lost their lives in an accident and not a battle, their supreme sacrifice was not made in vain. The *Thresher* achieved its mission in protecting American lives. The lessons learned from the *Thresher* disaster led to improved safety standards within the U.S. Navy and the establishment of the SUBSAFE program. This program has and continues to safeguard the lives of the American submariners, and in the future will protect the lives of American astronauts and other military personnel. The loss of life prevented by the *Thresher's* sacrifice is the true cause of commemoration and memorial. Accordingly, this commemoration should occur in a manner commensurate with the historic significance of the *USS Thresher*.

### **Proposed Alternative Sites for the *USS Thresher* Memorial**

The *USS Thresher* Arlington National Cemetery Memorial Foundation believes that America's foremost military cemetery is the most appropriate venue to commemorate the *Thresher's* sacrifice and historic significance. However, capacity within this hallowed ground is limited. Congress passed "The Honoring America's Veterans Act of 2012" to ensure that

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<sup>17</sup> NASA/Navy Benchmarking Exchange, "Interim Report on Navy Submarine Program Safety Assurance." Vol. 1, December 20, 2002.  
[http://www.nasa.gov/pdf/45608main\\_NNBE\\_Progress\\_Report2\\_7-15-03.pdf](http://www.nasa.gov/pdf/45608main_NNBE_Progress_Report2_7-15-03.pdf). Accessed on March 1, 2013.

<sup>18</sup> Jim Lloyd, NASA Deputy Chief of Safety and Mission Assurance. "SUBSAFE – *USS Thresher*, SSN 593, Lesson Learned." Leadership ViTS Meeting, June 5, 2006.  
[nsc.nasa.gov/SFCS/SystemFailureCaseStudyFile/Download/86](http://nsc.nasa.gov/SFCS/SystemFailureCaseStudyFile/Download/86). Accessed on March 1, 2013.

remaining space within Arlington National Cemetery is dedicated for memorials that meet a certain standard of national and historic significance, and would be inappropriate in any other location. Congressional legislation mandates that sponsoring memorial foundations seeking approval for erecting a memorial within Arlington provide an independent study assessing potential alternative sites. Listed below are a selection of potential alternative sites and an analysis of their suitability.

#### 1. **Preexisting Memorials for the *USS Thresher***

**Suitability of Alternative Sites:** Thirteen individual memorials for the *USS Thresher* have been established across the United States since the ship's loss in 1963. The establishment of these various memorials reflects the fact that the servicemen and civilians aboard the *Thresher* hailed from 31 individual states. These memorials reflect the national impact of the *Thresher's* loss at the local level. For example, the *Thresher* Memorial in Portsmouth, New Hampshire, commemorates the important connection of the city's naval shipyard in the construction and staffing of the submarine. Fourteen of the seventeen civilians lost aboard the *Thresher* worked at the Portsmouth Naval Shipyard, and the families of many crewmen resided in the Portsmouth community. Yearly memorial ceremonies at Portsmouth mark the anniversary of the *Thresher* disaster. Similar monuments have been established in Missouri, California, South Carolina, Illinois, and Massachusetts. Fundraising efforts are currently underway to establish a 129-foot flagpole in honor of those aboard the *Thresher* in Kittery, Maine, although local controversy concerning the project has brought into question the feasibility of the memorial's completion.

Potentially, any of these thirteen preexisting memorials could serve as a national memorial site for the *USS Thresher*, particularly the *Thresher* Memorial in Portsmouth, New Hampshire.



However, while each of these memorials provides a moving commemoration for how the loss of the *Thresher* impacted their respective communities, these memorials fail to capture the national importance and historic significance of the *USS Thresher*. The servicemen and civilian personnel aboard the *Thresher* hailed from across the nation. Moreover, the historic legacy of the *Thresher* via SUBSAFE deserves national recognition for the many lives saved since 1963. The local nature of the preexisting *Thresher* memorials would prevent a truly national appreciation of the *Thresher*'s continuing contribution to national security. Accordingly, the *Thresher* memorial deserves a space within the nation's capital where national recognition might be properly paid.

2. **Cold War Submarine Memorial at Patriots Point Naval and Maritime Museum. Mount Pleasant, South Carolina.**

**Suitability of Alternative Site:** The Patriots Point Naval and Maritime Museum near Charleston, South Carolina, attracts approximately 270,000 visitors annually with a series of exhibitions about America's naval history. The museum's main exhibit features the *USS Yorktown* (CVS-10), one of the most important aircraft carriers serving in World War II. Also a part of the museum is the Cold War Submarine Memorial. This memorial honors American and British submariners with educational stations, a replica of a ballistic missile submarine, and the sail and rudder from the *USS Lewis and Clark* (SSN-644). Thematically this memorial appropriately fits the *Thresher*'s historic significance and would provide a venue for visitors to learn about the *Thresher*'s contribution to America's national security.

However, several considerations disqualify this site as an appropriate alternative site. While the Patriots Point Naval and Maritime Museum is an accomplished regional museum, it lacks the national setting commensurate with the *Thresher*'s sacrifice and historic legacy. Further, while

the Cold War Submarine Memorial is an excellent venue for educating visitors on the vital role played by submarines in protecting the United States, the elaborate educational exhibits would inevitably detract attention and focus away from a memorial that deserves singular attention. Finally, the museum is a private institution that must charge admission to visitors. Access to the *Thresher* memorial should be freely available to all who wish to commemorate the lives lost in 1963, and to celebrate the lives saved thanks to the *Thresher*'s historic legacy.

### **3. Near the Titanic Memorial, Washington D.C.**

**Suitability of Alternative Site:** Space near the preexisting memorial dedicated to the *RMS Titanic* in southwestern Washington D.C. is another possible alternative site for the *Thresher* national memorial. Like the *Thresher*, the *Titanic* disaster in 1912 represented one of the deadliest losses of life in maritime history. As with the *Thresher*, the loss of the *Titanic* resulted in important safety reforms aboard passenger ships that have saved many lives, an appropriate parallel to the impact of SUBSAFE on submarine safety. The location within the nation's capital also provides a venue appropriate to the *Thresher*'s national legacy.

However, several considerations restrict this location as a suitable alternative site. The *Titanic* national memorial commemorates the loss of a civilian vessel flying under a foreign flag. The *Thresher* national memorial will commemorate the loss of an American ship manned by American servicemen, and the legacy of this loss in preventing future maritime disasters. The time span separating 1912 from 1963 also marks a considerable historic incongruity that would make their pairing as inappropriate. Thus, significant divergences separate the *Titanic* and *Thresher* memorials, in terms of intent, audience, and respective historic significance. These divergences are significant enough to disqualify this space as a suitable alternative location for

the *Thresher* memorial. Moreover, the relatively obscure location of the *Titanic* memorial in southwest Washington D.C. would deny American citizens appropriate access to this important chapter in the nation's military history.

#### **4. Near the U.S. Navy-Merchant Marine Memorial, Washington D.C.**

**Suitability of Alternative Site:** Another possible alternative site is near the U.S. Navy-Merchant Marine Memorial. This memorial honors the memory of the American sailors and merchant marines that lost their lives during World War I. The memorial is located in Lady Bird Johnson Park (Columbia Island) near the George Washington Memorial Parkway. Like the proposed *Thresher* memorial, the U.S. Navy-Merchant Marine Memorial commemorates the sacrifices of American servicemen made while protecting their country. The location within the nation's capital also provides a venue appropriate to the *Thresher's* national legacy.

However, several considerations restrict this location as an appropriate alternative site. Significant incongruities between the memorials make this location unsuitable. The U.S. Navy-Merchant Marine Memorial is a general memorial that does not distinguish between individual vessels or lives lost during World War I. The *Thresher* memorial honors a specific vessel that made an important contribution to American military history. Moreover, the considerable historic differences between World War I and the Cold War would result in a confusing incongruity that would mar the purpose and design of the *Thresher* memorial. The location of the U.S. Navy-Merchant Marine Memorial would also be unsuitable. Located along the bustling George Washington Parkway and without adjacent parking lots, visitors to the *Thresher* memorial would face daunting challenges in actually observing the memorial.

## 5. Near the U.S. Navy Memorial, Washington D.C.

**Suitability of Alternative Site:** Another possible alternative site is near the U.S. Navy Memorial. The U.S. Navy Memorial is dedicated to all sailors, marines, coast guardsmen, and merchant marines that have lost their lives in service to the United States throughout the nation's history. The U.S. Navy Memorial is located in a plaza near the National Archives in downtown Washington D.C. Several considerations make this a strong alternative site. The Navy Memorial is located in a high-visibility area near a D.C. Metro stop and Pennsylvania Avenue. Surrounding the Navy Memorial is the Navy Heritage Center, an educational institute where visitors can learn about the U.S. Navy historic role in the nation's defense. The location of the Navy Memorial in the nation's capital would provide a venue that is appropriate to the *Thresher's* historic significance. The central location of the Navy Memorial in Washington D.C. would also enable easy access for visitors to learn about the enduring contribution of the *Thresher* to the safety of the U.S. Navy.

However, one significant factor disqualifies the Navy Memorial as an alternative site. Space within the Navy Memorial Plaza is very limited. The Plaza is already adorned with a series of fountains and statues. The addition of another memorial would detract from the aesthetic and functional effectiveness of both memorials. Accordingly, another venue possessing equivalent status in terms of location and historic significance is desirable as the suitable location for the *Thresher* memorial.

**Why the Lives Lost Aboard the *Thresher* Would be Honored Most Appropriately at the  
Arlington National Cemetery**

While a variety of alternative locations exist for the proposed *Thresher* memorial, only a single location is truly appropriate: Arlington National Cemetery. Arlington National Cemetery is singularly suited as a space fitting the *Thresher*'s unique historic legacy. Arlington serves as the nation's solemn space dedicated to the memory of those lives lost defending the United States. This hallowed ground would appropriately honor the 129 souls lost aboard the *Thresher* in a manner unequalled by any alternative site. Moreover, Arlington houses memorials with strikingly similar historic legacies to the *Thresher*, establishing precedence. The presence of the memorials dedicated to the crews of the *Challenger* and the *Columbia* disasters is another precedent, given their distinctive historic legacy is intertwined with the *Thresher*. Finally, the historic legacy of the *Thresher* meets the standards established by Congress in "The Honoring America's Veterans Act of 2012," particularly the provision that failing to establish a memorial at Arlington would "present a manifest injustice." The following assessments describe why Arlington National Cemetery is the only appropriate venue for the memorial for the *USS Thresher*.

**1. The *Thresher* Memorial and the Mission of Arlington National Cemetery**

Arlington National Cemetery's mission statement is to: "On behalf of the American people, lay to rest those who have served our nation with dignity and honor, treating their families with respect and compassion, and connecting guests to the rich tapestry of the cemetery's living history, while maintaining these hallowed grounds befitting the sacrifice of all those who rest

here in quiet repose.”<sup>19</sup> The proposed *Thresher* memorial fulfills this mission in several respects. The memory of the 129 lives lost in service to the United States would be most faithfully commemorated within the hallowed confines of Arlington National Cemetery. Moreover, a memorial within Arlington would provide the bereaved families of the *Thresher*’s crew a space to gather together and honor their collective loss. The *Thresher* memorial would also contribute to the cemetery’s own distinctive historical legacy. The service and historic legacy of the *Thresher* would form another strand in the “rich tapestry of the cemetery’s living history,” linking the 129 souls lost in 1963 with the lives of servicemen who have defended the United States throughout its history.

## **2. The *Thresher* Memorial’s Connection to the *Maine* and *Serpens* Memorials**

Thirty-two memorials like the proposed *Thresher* memorial have been dedicated in Arlington National Cemetery. Many of these memorials share the mission and historic legacy of the *USS Thresher*. In particular, the memorials dedicated to the *USS Maine* and the *USS Serpens* possess striking similarities to the *Thresher*. These two memorials are dedicated to the lives lost in naval disasters in 1898 and 1945. Like the *Thresher*, historians believe that both naval disasters were caused by accidents. The *Thresher* memorial would fittingly join these memorials to American seamen lost during periods of national conflict.

## **3. The *Thresher* Memorial’s Connection to the *Challenger* and *Columbia* Memorials**

The *Thresher* memorial could also credibly deserve a place alongside memorials dedicated to the space shuttles *Challenger* and *Columbia*. A historical connection links these seemingly

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<sup>19</sup> Arlington National Cemetery, “Our Mission and Vision.” <http://www.arlingtoncemetery.mil/AboutUs/MissionVision.aspx>. Accessed on March 1, 2013.

disparate tragedies. The *Thresher* disaster resulted in the development of SUBSAFE and a sterling safety record among the U.S. submarine fleet. Similar changes in safety culture within NASA have occurred in the aftermath of the *Challenger* and *Columbia* disasters. NASA's study and application of SUBSAFE for their future operations will hopefully result in a future free from similar tragedies. The historical connection between these incidents is another factor contributing to Arlington's status as the most appropriate venue for the *Thresher* memorial.

#### **4. Standards of The Honoring America's Veterans Act of 2012**

The last factor meriting consideration is that the *Thresher* memorial meets the standards set out in the "Honoring America's Veterans Act of 2012." This act prohibits the establishment of monuments or memorials in Arlington National Cemetery unless certain criteria are met. These criteria are described section 3C, in the following language:

- (i) [the subject of the memorial] has made **valuable contributions to the Armed Forces** that have been **ongoing and perpetual for longer than 25 years** and are expected to continue on indefinitely; and
- (ii) [the subject of the memorial] has provided service that is of such a character that the failure to place a monument to the group in Arlington National Cemetery would present **a manifest injustice.**

The *Thresher* memorial meets both criteria. The loss of the USS *Thresher* on April 9, 1963, occurred nearly fifty years ago, and the U.S. Navy initiated the SUBSAFE program on June 3, 1963. Since 1963 the lessons learned from the *Thresher* disaster have been applied to the American submarine fleet, saving countless lives. The USS *San Francisco*'s 2005 collision

provides dramatic evidence of the continued impact of SUBSAFE on the American military personnel. The recent application of SUBSAFE by NASA after the *Columbia* disaster provides further evidence of the enduring legacy of the *Thresher* on the nation's defense.

Commemorating the *Thresher* in Arlington National Cemetery also fulfills the second criteria of the "Honoring America's Veterans Act of 2012." The sacrifice of 129 lives aboard the *Thresher* in 1963 and the countless lives safeguarded by SUBSAFE in the decades afterwards demands national recognition. There exist few parallels to the *Thresher's* unique and ongoing contribution to American history. Perhaps the distinctive nature of the *Thresher's* legacy is worthy of commemoration in and of itself. But relegating the memory of the *Thresher* to an obscure memorial place and to the annals of history would be unworthy of the sacrifice and service made by the ship's crew. In fact, such an act would represent a manifest injustice demanding correction.

This assessment is shared by members of the United States Congress. On June 5, 2001, Congress passed a joint resolution honoring the *Thresher*, noting that the crew "demonstrated the 'last full measure of devotion' in service to this Nation, and this devotion characterizes the sacrifices of all submariners, past and present." Further, the Congressional resolution "urges the Secretary of the Army to erect a memorial in Arlington National Cemetery to the crew of the USS *Thresher*, and to all United States submariners who have lost their lives in the line of duty." This joint resolution is based upon the distinctive historic legacy of the *Thresher* and how Arlington National Cemetery is a uniquely appropriate space to honor its memory.<sup>20</sup>

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<sup>20</sup> Senate Concurrent Resolution 46, "Honoring the 129 sailors and civilians lost about the *USS Thresher*....". June 5, 2001. 107<sup>th</sup> Congress, 1<sup>st</sup> session. Library of Congress, <http://thomas.loc.gov/cgi-bin/query/z?c107:S.CON.RES.46>: Accessed March 1, 2013.



For these reasons Arlington National Cemetery represents the only appropriate site for the establishment of the *Thresher* Memorial. Arlington's role as the nation's hallowed memorial space provides the only location that properly honors the loss of the 129 men aboard the *Thresher*. The memorial's placement within Arlington also properly illustrates the important historical contribution of the *USS Thresher* to our nation's military. Finally, Arlington provides a national setting where future generations might properly understand and appreciate the distinctive legacy the *Thresher* has left behind.

## Appendix A: Donor List

### Benefactor (\$5000+)

Albert H. Konetzni, Jr., VADM USN Retired  
Carol Norton and James Abrams  
*In memory of Fred Philip Abrams, Civilian  
Inspector, PNS*

### Philanthropist (\$1000 to \$4999)

Hugh L. Bain & Christine M. Gauthier  
*In memory of Ronald E. Bain, EN2(SS)*  
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*In memory of Wayne Wilfred Lavoie, YN1(SS)*  
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The DiBella Family  
*In memory of Peter DiBella, SN*  
Kevin and Robin Galeaz  
Mark and Claire Guerette  
*In memory of Paul Alfred Guerette, Marine  
Engineering Technician, PNS*  
David Gunter  
*In memory of Aaron Jackie Gunter, QM1(SS)*  
Pat and Ned Kellehet  
*In memory of LTJG John Joseph Wiley*  
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Air Conditioning, PNS - Past Lodge Master*  
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USSVI Charitable Foundation  
Thomas Wiley  
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### Diamond (\$500 to \$999)

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*In memory of Donald E. Wise, MMCA(SS)*  
Philip Delpero  
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Christine Hughes  
Jack Hunter, LCDR USN Retired  
William Hussey  
*In memory of his lost Thresher shipmates*  
Susan Kaiser

Amy Lopez  
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Kevin McCoy, VADM USN Retired  
Kim Phillippi  
*In memory of James Frank Phillippi, SOS2(SS)*  
Portsmouth Submarine Memorial Association  
The Tidewater Association of Service  
Contractors  
USSVI Haddo Base  
USSVI Thresher Base  
Francis Wiley  
*In memory of LTJG John Joseph Wiley*  
James Woods  
*In memory of Francis Michael Cummings,  
SOS2(SS)*

### Platinum (\$250-\$499)

James Bryant  
Raymond Butler  
*In memory of his lost Thresher shipmates*  
Joseph Butler  
Joe Frederick  
*In memory of his lost Thresher shipmates*  
William Greene  
Edith Hunt  
*In memory of Paul Alfred Guerette, Marine  
Engineering Technician, PNS*  
Kittery Rotary After Hours Club  
Greg Luring  
Tim Noonis  
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Sheila Philip  
*In memory of Walter Jack Noonis, RMC(SS)*  
Sheila Philip  
*In memory of Walter Jack Noonis, RMC(SS)*  
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USSVI Requin Base  
USSVI Tullibee Base  
USSVI Twin Lakes Base  
USSVI USS Sailfish Base  
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Jordan Wiley  
*In memory of LTJG John Joseph Wiley*  
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Joseph Yurso  
Charles J. Zondarak Jr., CAPT USN Retired

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Anonymous  
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*In memory of Donald E. Wise, MMCA(SS)*  
Marie Absmeier  
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Sherman Alexander  
Art Allum  
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James Ballantine  
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Catherine Blake  
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Jim Bobbitt  
*In memory of Edgar Solon Bobbitt, EM2(SS)*  
Robert L Branch Jr  
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Sean and Beth Brennan  
*In memory of LTJG John Joseph Wiley*  
Rita Bryand  
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Christopher Carlyle  
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Richard Cecchetti  
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Willis G. Clifford  
Theresa Conley  
*In memory of Robert E. Charron, Electronic  
Engineer, PNS*  
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Nancy Couillard  
*In memory of Donald E. Wise, MMCA(SS)*

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*In memory of LTJG John Joseph Wiley*  
Tim Courtney  
*In memory of LTJG John Joseph Wiley*  
Paul Cummings  
*In memory of Francis Michael Cummings,  
SOS2(SS)*  
Beverly and John Paul Currier  
*In memory of Paul C. Currier Sr, Ship  
Progressman Machinist, PNS*  
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*In memory of Richard Desjardins, Supervisory  
Electrical Engineer, PNS*  
Richard DesJardins  
Susan DesJardins Burns  
*In memory of Richard Desjardins, Supervisory  
Electrical Engineer, PNS*  
Joe Donovan  
William (Bill) Eldredge  
*In memory of LTJG John Grafton*  
Ronald Estes  
*In memory of his lost Thresher shipmates*  
Sue Evans  
*In memory of Richard Desjardins, Supervisory  
Electrical Engineer, PNS*  
Roger Ferguson  
Michael and Georgette Fernald  
Larry Ferrell  
Robert and Mary Flannery  
William J. Forbes  
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Phillip Giambri  
Art Gilmore  
Stephen Hallquist  
*In memory of Samuel Joseph Dabruzzo, ETN2(SS)*  
Linda Hamel  
*On behalf of WWII subvet William C. Tebo*  
David and Maureen Harvey  
*In memory of his lost Thresher shipmates*  
Deb Henderson  
*In memory of Tilmon Arsenault, ENCA(SS)*  
Charles Honsberger  
Larry Iden  
Carol J. Jaquay and Hope E. Pena  
*In memory of Maurice F. Jaquay, Sonar Field  
Engineer, Raytheon*  
Larry Jordan  
*In memory of James Frank Phillippi, SOS2(SS)*  
John Kiser  
David Kleinberg  
Bill Klier  
*In memory of Bill Klier, RN1(SS)*

Fred and Cathy Lalley  
*In memory of Richard Desjardins, Supervisory  
Electrical Engineer, PNS*

Jeff Lalley  
*In memory of Richard Desjardins, Supervisory  
Electrical Engineer, PNS*

Lynne Lawrence  
*In memory of Richard Desjardins, Supervisory  
Electrical Engineer, PNS*

Charles P. Leonard  
*"In honor of my Shipmates & the Personnel of the  
Portsmouth Naval Shipyard who were onboard  
USS Thresher"*

Edward Lyons

Ed Martin  
*In memory of his lost Thresher shipmates*

Joe and Nancy Massaro  
*In memory of Paul Alfred Guerette, Marine  
Engineering Technician, PNS*

John McArdle

Scott McCord  
*In memory of Donald J. McCord, MM1(SS)*

Alfred Scott McLaren, CAPT USN (Ret.) Ph.D.  
*In memory of his lost shipmates*

Susan McLeman  
*In memory of Donald E. Wise, MMCA(SS)*

Raymond McPhillips

Philip Munvez

Carol Murphy  
*In memory of Maurice F. Jaquay, Sonar Field  
Engineer, Raytheon*

Tom & Jane Naleway

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Donna Pennel  
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Engineering Technician, PNS*

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John Shaw, CAPT USN Retired

Mary & Alan Sinnett  
*In memory of Alan Dennison Sinnett, FT2(SS)*

Martha Soucy  
*In memory of Richard Desjardins, Supervisory  
Electrical Engineer, PNS*

Linda Soucy  
*In memory of Donald E. Wise, MMCA(SS)*

Timothy W. Steele

Mary Stienel-Andriotakis  
*In memory of Robert E. Steinel, SN1(SS)*

Brian Stucker

William C. Tebo

Mike Trotto

USS Jack 2018 Reunion

USS Sea Owl Association  
*In memory of Edgar Solon Bobbitt EM2(SS)*

USS Sea Poacher Association  
*In memory of George Bracey, SD3(SS) and  
Elwood Forni, SOCA(SS)*

USSVI Carolina Piedmont Base

USSVI Central Florida Base

USSVI Central Texas Base

USSVI Razorback Base

USSVI Rhode Island Base

USSVI USS Maine Base

USSVI Wyoming Base

Elenor Van Pelt  
*In memory of Roger Van Pelt, IC1(SS)*

Peter Van Pelt  
*In memory of Roger Van Pelt, IC1(SS)*

Fernley Wagner, Jr.  
*In memory of his lost Thresher shipmates*

Stephen Walsh

Fred Ward

Daniel Wiley  
*In memory of LTJG John Joseph Wiley*

Jonathan Wiley  
*In memory of LTJG John Joseph Wiley*

John P. Williams  
*In memory of Andrew "Doc" Gallant Jr., HMC(SS)*

Marie Wise  
*In memory of Donald E. Wise, MMCA(SS)*

Frank Wise  
*In memory of Donald E. Wise, MMCA(SS)*

Michael Wise  
*In memory of Donald E. Wise, MMCA(SS)*

James Wise  
*In memory of Donald E. Wise, MMCA(SS)*

Dan Wrobel  
*In memory of Thomas William and Bill  
Vormbrock*

Gregory Young

**Silver (\$50 to \$99)**

Anonymous

Dave

Tom

Ron Anderson

*In memory of Roger Van Pelt, IC1(SS)*

Roy Bloch

Guy Bringley

David B Carlson

MaryEllen Ciampi

*In memory of Donald E. Wise, MMCA(SS)*

Dale and Karen Daggett

*In memory of Fred Philip Abrams, Civilian  
Inspector, PNS*

Carl Dahlman, CDR USN Retired

*In memory of Ronald Keiler, IC1(SS)*

Boyd Deckard

John Doherty

Martin Eastwood

Joann Fancher

*In memory of every hero*

Jeff Gagne

Roy Graves

Michael Hickory

John Hinzelman

Vernon C. Honsinger

John Jarrell

Tom Kelly

William Kinnes

Matt Lahourcade

Marc Lalley

*In memory of Richard Desjardins, Supervisory  
Electrical Engineer, PNS*

Kevin Leahy

John Maier

Walter MalonePeter W. Martin

Richard Masse

Gail Maynard

Joseph Morales

James Nault

Tim Oliver

Maureen ONeil

*In memory of Donald E. Wise, MMCA(SS)*

Alfred Page

Samuel Pott

*In memory of Paul Alfred Guerette, Marine  
Engineering Technician, PNS*

Peter Quirk

*In memory of Richard Desjardins, Supervisory  
Electrical Engineer, PNS*

James Ransom

Ronald H Reimann Sr

Chuck Scheys

*In memory of Robert E. Charron, Electronic  
Engineer, PNS*

Bob Smith

Paul Strauss

Douglas W. Stutzman

David Turner

David Van Pelt

*In memory of Roger Van Pelt, IC1(SS)*

Anne Van Pelt

*In memory of Roger Van Pelt, IC1(SS)*

George Van Teslaar

*In memory of James Frank Phillippi, SOS2(SS)*

Arnold VanderWoude

John Wall

Robert Way

K. Dean Willeford

*In memory of his lost shipmates*

Ken and Peg Wolcott

*In memory of Richard Desjardins, Supervisory  
Electrical Engineer, PNS*

**Bronze (\$5.93 to \$49)**

Anonymous

*In memory of LTJG John Joseph Wiley*

Anonymous

*In memory of Paul Alfred Guerette, Marine  
Engineering Technician, PNS*

Anonymous

Peter

Ronald Alexander

Thomas Armstrong

Louis Barbaria

Robert Bareiss

Christine Bauer

Harry Behret

*In memory of Aaron Jackie Gunter, QM1(SS)*

Richard Blatchford

Amanda Bock

*In memory of Paul Alfred Guerette, Marine  
Engineering Technician, PNS*

Alycya Boisvert

*In memory of Donald E. Wise, MMCA(SS)*

Edward Burdick

ICC(SS) Gregory C. Campbell USN (RET)

Jonathan Clark James Coan  
*In memory of SOCA (SS) Elwood Forni and in honor of ETC(SS) John W. Williams USN ret.*

James Coan

Heidi Cobleigh  
*In memory of Donald J. McCord, MM1(SS)*

John Cunnally - The International Submariners Association of the United States of America

Julie Dalton  
*In memory of Paul Alfred Guerette, Marine Engineering Technician, PNS*

Robert David

Anthony Esper  
*In memory of Paul Alfred Guerette, Marine Engineering Technician, PNS*

Mark Farrell

Anna Foley

Marcia Freeman  
*In memory of Roger Van Pelt, IC1(SS)*

Richard Fyten

James Gibson

Valerie Gruber  
*In memory of Roger Van Pelt, IC1(SS)*

Aaron Hallqui

Paul Hiser

Jimmy Howell

Scott Hughes

Bernard Jenkins

Edward Jones

Bayla Kallstrom

Thom Kelley

Tom LaPlant

Robin Albert Lehman  
*In memory of Paul Alfred Guerette, Marine Engineering Technician, PNS*

Arlene Lelos  
*In memory of Donald E. Wise, MMCA(SS)*

Harol Maier

Susan Martin  
*In memory of Paul Alfred Guerette, Marine Engineering Technician, PNS*

Michael Masishin

Larry Mayes

Jane Bailey McChesney  
*In memory of Richard Desjardins, Supervisory Electrical Engineer, PNS*

Claire Mcdonald

Rosemary McLaughlin  
*In memory of Paul Alfred Guerette, Marine Engineering Technician, PNS*

Michael McLean  
*In memory of my wife Betty Jeanne (Bj) McLean*

Jeff Mixon

Joseph Morales

Ellen O'Connor

Kaare Ogaard

Corinna Olson  
*In memory of Paul Alfred Guerette, Marine Engineering Technician, PNS*

Sarah Orzalli

Brenda Paquette

John Parker

William Pickering

Paul Piva  
*In memory of Donald E. Wise, MMCA(SS)*

Bob Powell

Wendell Scott Purrington  
*In memory of Paul Alfred Guerette, Marine Engineering Technician, PNS*

Joseph A. Puzio, Jr.

William J. Ramey

John Robert

Ellen Roche  
*In memory of my mother, Lillian Donovan, Donald Wise's Godmother.*

Samuel Rubin  
*In memory of Paul Alfred Guerette, Marine Engineering Technician, PNS*

Al Singleman

Laurie Smith  
*In memory of Richard Desjardins, Supervisory Electrical Engineer, PNS*

Christopher Smith

Herm Stolzenburg

Michael Thurston

Jim Tolsma

Bryan Tracy

Barr Trosper  
*In memory of his lost shipmates*

USS William H. Bates (SSN 680) Association

Mary Elizabeth Van Pelt  
*In memory of Roger Van Pelt, IC1(SS)*

Perry Wilford

Brad Williamson

Thomas Young

Nick Zuzich

## Appendix B: Congressional Letter

### **Congress of the United States** **Washington, DC 20515**

May 1, 2018

Ms. Karen Durham-Aguilera  
Executive Director  
Army National Military Cemeteries  
Arlington National Cemetery  
Arlington, VA 22211

Dear Ms. Durham-Aguilera,

This month marks the fifty-fifth anniversary of the loss of the Navy submarine USS *Thresher*, which sank during deep-diving tests off the coast of Massachusetts and took the lives of 129 crew and civilian shipyard personnel on April 10, 1963. Those who perished on the *Thresher* were some of the best and brightest in the U.S. Navy and included World War II and Korean War veterans, graduates of the U.S. Naval Academy, and participants in groundbreaking undersea Arctic missions. These patriots, who voluntarily placed themselves on the front lines of the Cold War, paid the ultimate price in service to our country.

The *Thresher* catastrophe was the first loss of a nuclear-powered submarine at sea and remains the greatest loss of life aboard a submarine. These sacrifices were not made in vain. Within two months of the sinking of *Thresher*, the Navy instituted the submarine safety program known as SUBSAFE. Whereas between 1915 and 1963, the Navy lost sixteen submarines for reasons unrelated to combat, since the creation of this rigorous program, not one SUBSAFE-certified submarine has been lost.

That means that for over fifty years, the rigorous standards and certifications implemented by the Navy in the wake of the *Thresher* tragedy have kept American submarines and their crews safe. The ripples of the SUBSAFE program even extend beyond the U.S. Navy. Following the loss of the Space Shuttle Columbia, NASA described SUBSAFE as "successful safety programs and practices that could be models for NASA." The story of *Thresher* is thus not one of loss, but one of security, perseverance, and safety for two generations of U.S. Navy submariners who followed in the footsteps of the crew of *Thresher*.

We believe it's time to recognize the sacrifice of the *Thresher* and advancements made within the U.S. Navy submarine fleet as a direct result from the lives lost. We believe it's time to honor the *Thresher* crew and shipyard personnel lost in 1963 with a memorial worthy of their legacy. We believe it's time to honor the memory of those lost and the price they paid for future generations of sailors and for the safety and security of our country with a memorial at Arlington National Cemetery.

We understand that the USS *Thresher* Arlington National Cemetery Memorial Project has submitted an application package for a modest memorial stone along a walkway at the cemetery. We wholeheartedly support this application and request that you favorably consider granting approval for such a memorial.

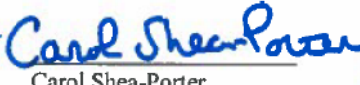



Based on our understanding of the memorial approval process at Arlington Cemetery, the casualty count of an event for which a memorial is being proposed is taken into account. In the historical narrative of American sacrifice for freedom and peace, the 129 lives lost on *Thresher* seems modest. In addition to those lives lost, we ask you to also consider the lives saved as a result of the catastrophe when deliberating on the memorial application. That is the true legacy of *Thresher*.

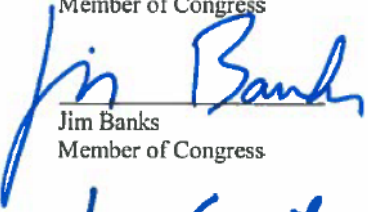
We appreciate your consideration of this request.

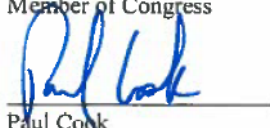
Sincerely,


  
Derek Kilmer  
Member of Congress

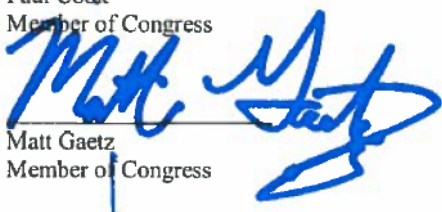
  
Carol Shea-Porter  
Member of Congress

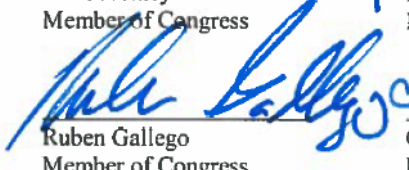
  
Scott Taylor  
Member of Congress

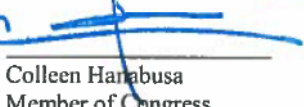
  
Jim Banks  
Member of Congress


  
Paul Cook  
Member of Congress


  
Joe Courtney  
Member of Congress

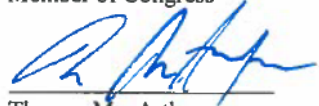
  
Matt Gaetz  
Member of Congress


  
Ruben Gallego  
Member of Congress


  
Colleen Hanabusa  
Member of Congress


  
Walter B. Jones  
Member of Congress

  
Rick Larsen  
Member of Congress

  
Thomas MacArthur  
Member of Congress

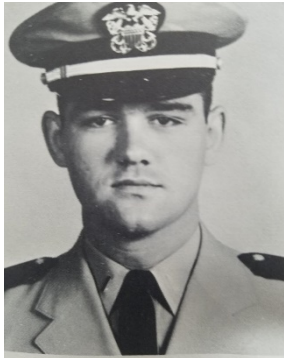
  
Chellie Pingree  
Member of Congress

  
Michael R. Turner  
Member of Congress

  
Robert J. Wittman  
Member of Congress

## Appendix C: USS Thresher Family Letters

### From the Family of LTJG John Joseph Wiley



The family of LtJG John Joseph Wiley strongly supports the proposal for a memorial to be placed at Arlington National Cemetery to honor the men and legacy of the USS *Thresher* lost at sea on April 10, 1963. We feel this is important because:

- The lessons learned through this tragedy continue to drive the protocol used for submarine safety programs.
- We must never forget the human cost in defense of our nation during any period of conflict, but especially the Cold War, a period of American military history which is often overlooked.

A memorial in the nation's foremost sacred national cemetery would honor their sacrifice for our country and emphasize the point that freedom is not free - in times of contentious peace or armed conflict.

The SUBSAFE program established after the loss of the USS *Thresher* is a dynamic program that has potentially saved countless submariners from a similar disastrous accident. It is our understanding that the men of the USS *Thresher* stayed at their assigned stations while descending, making reports on the situation and the submarine's condition even though knowing that they were doomed. They displayed an outstanding example of courage and commitment to ensure the challenges they encountered would not happen again.



The tragic death of LtJG John Joseph Wiley was mourned by his hometown of Altoona, PA in 1963 and his memory as an outstanding student-athlete continues 55 years later in a scholarship at his high school, Bishop Guilfoyle High School. Like his comrades aboard the submarine, he accepted the call President Kennedy gave to the nation during his inaugural address in 1961: "And so, my fellow Americans, ask not what your country can do for you -- ask what you can do for your country." Just months after that address, John accepted his diploma from President Kennedy at the U.S. Naval Academy, and ironically these two Navy men both died tragically in 1963. The memorial would not only honor the USS *Thresher* men, but also be a challenge to others to do their part in keeping our nation safe and free as

President Kennedy asked of all Americans. The impact upon our family due to the USS *Thresher's* tragic loss and John's commitment, is that we have since dedicated over 100 years of serving and defending our country as U.S. Army officers and as special agents in the Federal Law Enforcement Community. John's dedication continues to inspire the younger generations of our family to serve and defend our country.

It is our sincere hope that the Arlington National Cemetery Memorial Board approves this request and moves forward in selecting a site for the USS *Thresher* Memorial. The men of the USS *Thresher* qualify for the national recognition Arlington provides.

Sincerely,

The Wiley Family

## Letter from a Thresher Daughter

**Lorraine C. (Lori) Arsenault**

400 Main Street  
Gorham, ME 04038  
207-780-5142  
loriaam@gmail.com

Date: July 4, 2018

Ms. Karen Durham-Aguilera  
Executive Director  
Army National Military Cemeteries  
Arlington National Cemetery  
Arlington, VA 22211-5003

RE: USS Threshers Arlington National Cemetery Memorial Project

Dear Ms. Durham-Aguilera

I ask most sincerely that you approve and recommend to the Secretary of the Army, the Honorable Dr. Mark T. Esper, the installation of a privately funded commemorative monument to USS Thresher (SSN 593) in Arlington National Cemetery. Having this monument in the most hallowed ground in the United States would serve not only the families of the crew, representing not only what we and the nation lost, but more importantly, what we have gained--the hope that this need never happen again.

As the daughter of a crew member, I proudly support the mission of the USS Thresher Arlington National Cemetery Memorial Project. This monument will be designed to perpetuate and honor the memories of the 129 patriots who perished in the worst submarine accident in United States history 55 years ago during the height of the Cold War.

My father, Tilmon J. Arsenault, was one of the men lost on April 10, 1963 along with 128 other men. I was eight years old, and along with other Thresher dependents, would come to learn throughout my life that it was a significant life-changing event for people all around the world. In response to the tragedy, the United States Navy established SUBSAFE, the Submarine Safety and Quality Assurance program that helps keep our submarines safe to this day. My hope is that such a monument to honor those sacrificed will help to promote SUBSAFE practices that could be useful in other high-risk environments.

Very Respectfully,



Lorraine C. (Lori) Arsenault  
Gorham, Maine