

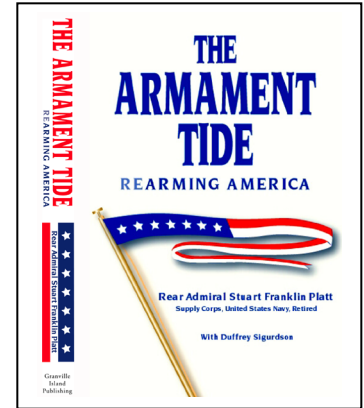
## Transformation of the OHIO Class Ballistic Missile Submarine

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Author of the recently released book  
“*The Armament Tide – ReArming America*”

*"Bless those who serve beneath the deep,  
Through lonely hours their vigil keep.  
May peace their mission ever be,  
Protect each one we ask of thee.  
Bless those at home who wait and pray,  
For their return by night or day."*

-Rev. Gale Williamson



**T**ransformation of our Military is a key to our future success on the battlefield. It is an urgent piece of business and time is not on our side. Transformation is not about new technologies and new methods, transformation as described by General Richard B. Myers, the Chairman of the Joint Chiefs of Staff, is a process and a mind-set. It means applying and adapting current capabilities to current scenarios. Transformation simply unifies each of the Services unique capabilities into a joint framework to meet mission objectives. I wholeheartedly support this effort and as a high-level procurement official in the Reagan administration, I submit that it is also sound business practice, which will help us out of the quagmire of the Planning-Programming-Budgeting System (PPBS). Instituted in the early 1960's by Secretary of Defense Robert McNamara and originally intended to analyze defense requirements systematically and produce a long-term, program-oriented Defense budget, the PPBS has since become a bureaucratic nightmare because of years of additional codification and departmental regulations for contractors and acquisition officials alike.

To implement this transformation we must be more than just willing to have change for the sake of change; we must understand what it is we are transforming and why, and it must pass the litmus test of providing additional tactical or practical ability on present and future battlefields.

Whatever the reason, however small or large the purchase, ALL procurement of transitional technology and indeed the entire budgetary expenditure must also meet the litmus test of good business practice. How do we get the most bangs for our bucks? This article is intended to study one such successful case, The Transformation of the OHIO Ballistic Missile Submarine.

**Prelude – The Cold War Warrior:** It is dark still in the Pacific Northwest when the lines are thrown over to the shore team who quickly coil them onto the dock, and the giant submarine eases away. At 560 ft. in length and displacing almost 19,000 tons it is a delicate maneuver and tugs are standing by, ready to give a gentle push to get her bow pointed out of the harbor. Once clear of the bright lights and the confines of Submarine Base Bangor, the sub will be on her own for three long months. Except for a general weekly briefing by the navigator, only a few of the men aboard will even know where they are going or where they have been, life on a ballistic missile submarine is one of secrecy and stealth. Wives, family, and friends have said good-bye the night before and all they know is that God willing, their men will return in the same fashion as they are departing, quietly and without acknowledgement.

As the submarine passes northward through the Hood Canal, accompanied by her three escorting tugs, the Ship's Captain (C.O.) and a small handful of men stand watch on the bridge high atop the sail of the boat. The Hood Canal is startlingly beautiful to them this morning, as it is on every morning of every departure they have made on this boat, but no day is as beautiful as the dawning hours of that day when they are returning home. Before

going below, descending the ladder into the submarine proper, the Skipper dwells briefly on the waters he is taking his men and his ship through. He takes one last look at the lightening sky to the east and he knows it will be one of the few glimpses of the real world he will have for the next 90 days.

He recalls every detail of the canal, both above and below the surface, they are waters he knows well and it is the features which lie below the surface that please him the most about this place. After all, he and his ship feel most at home in the depths and it is here on the surface that they are vulnerable. There is no enemy here to cause him alarm, but they are waiting for him out in the Pacific and they too know this route to the ocean.

Captain George Vancouver named the canal on his voyage of discovery in 1792 in honor of Lord Samuel Hood of the British Admiralty. The canal and all the magnificent landmass of the Pacific Northwest was formed in the last ice age 13000 years ago. A giant sheet of ice slowly retreated northward from here, its 5000 ft. thick mass carving vast valleys and channels and it is these very channels, now reaching 600 ft. below sea level that make it the perfect home for Submarine Group Nine.

As the boat passes beneath the Hood Canal Bridge, a family from Ohio, on vacation and up early to take advantage of the light traffic on the roads at that hour are startled to see the giant submarine appear out of the dawn. Little do they know that they are getting a rare glimpse of the most powerful weapon on earth, one that is named for their own land locked state, an OHIO Class Ballistic Missile Submarine. Nor are they aware that this submarine by itself represents the sixth most powerful nuclear arsenal in the world. It carries the answer to any nuclear attack on the United States. As powerful as the Submarine is it is only one part of the "triad" of our response to attack, the others being land and air based assets. Military strategists however, have long acknowledged that it is

the most “survivable” of that triad. You cannot strike what you cannot find! In the Cold War atmosphere of the times it is certain that Russian war planners did not sleep well, knowing these vessels were on patrol.

Although the family cannot make out the tiny figure in the distance, the C.O. salutes them with a quick wave of his hand and prepares himself for the days ahead. He is happy and content; he and his ship are ready. It is only a short journey now the open waters of the Pacific Ocean and once there, hatches are secured and the order to dive is given....

This scenario played out many years ago at the height of the cold war, and is still being played out today. The very presence of these vessels and their missiles contributed greatly to the end of that war, they fulfilled their mission and repaid their cost many times over. They will continue to do so well into the 21<sup>st</sup> century.

**Overture – The 21<sup>st</sup> Century Warrior:** During my career in the U.S. Navy I played a central role in the procurement of these incredible vessels. As a senior procurement Flag Officer I contracted on behalf of the people of the United States, more Nuclear Powered Submarines, and Nuclear Powered Aircraft Carriers than any person before or since. With that perspective, I have some thoughts I would like to pass on to the Secretary of Defense and those charged with carrying out defense procurement policy.

With the end of the Cold War many military planners and politicians felt that these Ballistic Missile Submarines were becoming redundant and would not find an effective role to justify their existence in the new world order. Others pointed out that although the need for a powerful and overwhelming nuclear deterrent was lessening, the vessels themselves were still a very capable and effective platform for other purposes. In planning sessions during the Clinton administrations Nuclear Posture Review in 1993-94,

the President approved recommendations to adjust the force structure of the “Trident” submarines downward to 14, with the four “redundant” OHIO Class (SSBN) boats being converted to other missions.

These submarines have now been reclassified as SSGN vessels, replacing the Trident missiles aboard the SSBN’s with VLS (vertical launch system) Tomahawk cruise missiles. They will also have the ability to carry Special Forces commandos and a small minisub, which is affixed to the bow of the submarine. Each of these conversions will cost in the neighborhood of \$400 million and will give force commanders an exceptional and effective platform which can not only provide overwhelming firepower but can also insert a commando team into almost any harbor or coastline in the world, undetected. These warships are an exemplary story of transformational thinking.

The four ships scheduled for conversion are the USS OHIO, USS MICHIGAN, USS FLORIDA, and the USS GEORGIA. These are the earliest boats of the OHIO class and although they are now well over 20 years of age, they are still expected to be in service well into the third decade of the 21<sup>st</sup> century. Remarkably, the 60,000 HP S8G nuclear reactors that power these vessels only need refueling once every nine to ten years!

In my recently published book “The Armament Tide – ReArming America” (Granville Island Press, 2002) I address the task of procuring our military systems based on sound planning by warfighters and strategists as well as sound business practices by the purchasing officers. Converting yesterday’s Cold War Warrior to the Warship of the Future is a further example of these principals. It allows us to strengthen our ability to project power from the sea to the fields of battle ashore and it does so at a reasonable cost. Each SSGN will be able to launch over 150 Tomahawk Cruise missiles and these missiles represent decisive firepower on the battlefield. A single platform, virtually

undetectable, which can provide enough firepower to dramatically change the course of a war anywhere in the world! Compare that firepower with any other platform, air, land or sea, in our arsenal and it is readily apparent that this is indeed a VERY GOOD bang for the buck ratio! A B-2 Bomber for example carries a payload of 40,000 lbs of mixed munitions and has a unit price of over \$1.2 billion; an already paid for SSBN on the other hand can be converted to carry 150 cruise missiles at a cost of \$400 million.

**Finale – More Where That Came From:** Strategists, procurement officials and the defense industry would do well to study this success story and continue to not only pursue new technologies but continue to find and exploit new uses for existing technologies and platforms. I strongly urge the Secretary of Defense Donald Rumsfeld to task his department to examine our current assets as well as those within the reserve fleet and indeed throughout our arsenal for potential conversion. The incoming Secretary of the Navy, replacing Gordon England who has taken a new posting as Under Secretary for Homeland Defense, should have as one of his first priorities the task of searching out more opportunities such as the well conceived and executed OHIO conversions.

Where these opportunities are not available, the Secretary must move quickly to utilize multiyear contracting to ensure economies of scale and to take advantage of lower interest rates available at this date. If we act now we will in one stroke restore significant purchasing power which will not only provide an offset to the greater bargaining power wielded by the Defense Industry giants, it will also allow us to take advantage of other transformation opportunities in a sound, business like manner.

The New Navy Secretary should be asked to take heed and control the growing number of TEAMING AGREEMENTS being formed by the Defense Industrial Base;

These TEAMING AGREEMENTS can only limit market efficiency and the Secretariat source selection authority.

It is not only the Navy who can benefit from transformation of current assets, but also our brethren in the Air Force and in the Army. Witness the continuing upgrade of the F/A-18 Hornet and the formidable B-52 bomber by the Air Force, and by the U.S. Army, the exploration of new munitions technologies adaptable to existing artillery systems. Even the venerable M-16 assault rifle has been transformed from the standard infantry weapon of the Vietnam era to a 21<sup>st</sup> century infantry weapon without parallel. To my experienced eye, this is not only transformation but also good business sense, and it is the magnificent OHIO Class Submarines, in their quiet, unobtrusive ways, which are leading the charge.

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