

Naval Surface Fire Support: A Solution at Hand

EWS 2003

Subject Area Strategic Issues

Naval Surface Fire Support: A Solution at Hand
CG6
FACAD: Major Schubert

Submitted by
Capt B E Mills
21 February 2003

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 2003		2. REPORT TYPE		3. DATES COVERED 00-00-2003 to 00-00-2003	
4. TITLE AND SUBTITLE Naval Surface Fire Support: A Solution at Hand				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Marine Corps War College,Marines Corps University,Marines Corps Combat Development Command,Quantico,VA,22134-5067				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 13	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

"The Navy has had no credible surface fire-support capability since it retired its last four Iowa class battleships in 1992 (Wiggins 1)." This statement, in a report to the Congressional Armed Services Committees in 1999, is echoed by military and congressional leaders alike. When the Marine Corps perfected amphibious operations, primarily amphibious assaults against hostile forces during World War II, the utilization of naval surface fire support (NSFS) was essential. Whether in preparation of the objective area or support of forces ashore, adequate NSFS was a significant factor in the planning and execution of past operations. Yet today, the Navy and Marine Corps no longer wield sufficient NSFS to support warfare in the littoral battlespace. While many NSFS programs have come and gone in attempts to meet Marine Corps NSFS requirements, the battleships, the answer to the problem, have been sitting idle along the coast of America. The Navy should re-activate Iowa class battleships to provide sufficient NSFS to support Marine Corps amphibious operations.

Amphibious Operations and Naval Surface Fire Support

Amphibious operations will always be critical to the United States. In fact, the Marine Corps' ability to come from the sea is essential to the United States military's force projection and operational flexibility. For example, the presence of a

formidable amphibious force poised off the coast of Kuwait in 1991 "fixed" as many as nine Iraqi divisions and greatly supported the war effort (Stewart 8). Without a credible amphibious force, many of these divisions would have been in place to oppose the attack by coalition land forces into Iraq and Kuwait. The mere presence of a capable amphibious force demonstrated the operational and strategic influence of the Marine Corps. Unfortunately, without adequate NSFS, the Marine Corps cannot pose the same threat today.

Technology is evolving and the face of warfare appears to be ever changing, but the Marine Corps still must conduct amphibious operations. This will be true for decades to come. Amphibious operations can be broken down into three phases: shaping the battlespace, forcible entry, and sustained/subsequent operations ashore (Hanlon Encl 1). Timely and relatively accurate NSFS is essential to all three phases. The Marine Corps' warfighting philosophy is built upon "maneuver" warfare and the premise of placing the enemy in a "no-win" situation through the use of combined arms. The classic example of maneuver warfare is suppressing the enemy with indirect-fire assets to allow an attacking force to close on the enemy. The goal of suppressive fire is not to destroy the enemy, but to fix the enemy. Destruction requires precision

fire. Precision fire is not necessary for maneuver, volume of fire is. The current Navy and Marine Corps plan is to employ a variety of naval guns, rockets, and missiles to support tactical commanders up to more than two hundred nautical miles (nm) from the shore.

The Requirements

The NSFS requirements of the Marine Corps have changed greatly. The improvements to helicopters and the expected deliveries of the advance amphibious armored vehicle (AAAV) and V-22 Osprey will give the Marine Corps the capability to push further and faster into the littorals than ever before. NSFS is necessary to provide support during the initial phases of amphibious operations to replace the lack of organic fires and to support further operations ashore (Hammond 2). NSFS provides responsive combat power to allow maneuver warfare. While the technology to move personnel and equipment ashore has been improving in the past decades, few advances have been made to improve NSFS at the same pace. These lackluster efforts have left the Marine Corps in a position to conduct amphibious operations with NSFS systems that do not meet basic requirements.

The Marine Corps has addressed its NSFS requirements to the Navy a number of times in the past decade. Most recently,

Lieutenant General Edward Hanlon Jr., Commanding Officer of Marine Corps Combat Development Command, noted these requirements in a letter to the Chief of Naval Operations. The range requirements are expressed as near-term (2004-05), mid-term (2006-09) and far-term (2010-19): 41-nm near-term, 63-nm mid-term, and 97-nm far-term (Encl 1).

Current Situation

The only current NSFS naval gun system employed by the Navy today is the Mark 45 5-inch gun. There are two versions in service. The first is the 54-caliber gun. These guns have a firing rate of twenty rounds per minute and can fire out to thirteen nautical miles. The second is the modified 62-caliber gun. This upgraded Mark 45 can fire out to twenty nautical miles (Jane's Naval 635).

Though 5-inch guns can be accurate enough to suppress targets, ships with 5-inch guns have a limited supply of ammunition that can quickly be depleted in a few dozen fire missions. Moreover, when 5-inch rounds do hit, they cannot provide the punch to intimidate the enemy and eliminate large bunkers and armored vehicles. In addition, the limited range of these guns, along with their ship's vulnerability to mines, does not allow for support more than a few nautical miles from the shoreline. It is easy to see that 5-inch guns are not, nor ever

have been, the answer.

Some may argue that the deficiencies of the 5-inch guns are offset by naval air. This is merely a mirage. The Navy wants to utilize a "strike" concept. It perceives that this style of warfare will reduce operating costs and the risks of casualties (Hammond 1). Thus, the relegation of F-14s and F/A-18s to closely support "maneuver" warfare is not appealing to naval commanders. This is one of the primary reasons why Marines fight as a Marine Air-Ground Task Force (MAGTF) and bring their own air assets to the fight. Regardless of aircraft availability, the ability of aircraft to equal or sustain the explosive payloads that can be delivered by naval guns is lacking (Ralphs, "Where are" 50). More importantly, air cannot operate in all-weather environments. Operations in Kosovo are just one recent example of bad weather hampering or negating air support (Ralphs, "Tactically" 1). Consequently, naval air cannot be the sole answer to fire support.

The Future

The Navy has two plans to meet the NSFS naval gun requirements. The first is the Extended Range Guided Munition (ERGM). This munition is planned to meet near-term and mid-term requirements. The ERGM will be fired from the Mark 45 5-

inch/62-caliber gun, have a maximum range of 63-nm and be accurate to within 1-20 meters. Unfortunately, there are a number of problems with the ERGM. First, the round's trajectory will send it to an altitude of 70,000 to 80,000 feet before descending to its target. This raises a substantial issue. Will the firing of ERGMs be placed on the air tasking order? Air commanders will certainly want something that will fly through their airspace to be planned, but how will a tactical commander know, seventy-two hours in advance, where he will need that critical fire support on the battlefield? The time of flight is the second problem. The time of flight for an ERGM to travel 63-nm is seven to eight minutes (Ralphs, "Where are" 48). This is not responsive fire support. The chance of hitting a mobile target within such a time frame is remote. Third, ship magazines will have a reduced number of possible fire missions. Destroyers will have the ability to provide no more than twenty-three minutes of sustained fire support. Fourth, the ERGM is susceptible to GPS jamming. Finally, the ERGM's ability to destroy or neutralize anything more than troop formations or light skinned vehicles is limited. The ERGM may be fully operational by 2005, but it is an inadequate response and misses the window for near-term requirements (Defense Daily International 2).

The second NSFS solution is the Advanced Gun System (AGS), which is intended to meet far-term requirements. The AGS will be a 155-millimeter gun with the capability to fire twelve rounds per minute to a range of 115-nm ("United Defense" 1). The plan is for two guns to be on a ship with a magazine capacity of 750 rounds per gun (Davis 3). This naval gun will pack the punch and meet the range that the Marine Corps requires. Unfortunately, this gun is scheduled to be on the DD(X) class destroyer. The earliest the AGS will be ready is 2012, and the initial DD(X) will not be available until 2015 at best (Erwin 4). The status of the ERGM and AGS programs are also both very shaky; neither has met timelines or test results thus far (Ralphs, "Tactically" 5-6). Most likely, the Navy's plans will not produce the ability to support Marine amphibious landings and operations ashore for well over a decade. However, there is a viable solution.

The Solution

There is one NSFS system that can be fully operational within two years and meet the Marine Corps' near-term, mid-term, and far-term requirements at that time. That system is the Iowa class battleship, the most formidable NSFS platform ever available to the United States. Battleships offer an intangible that ERGM rounds cannot match, a psychological impact on the

enemy. These massive ships can lob one-ton shells 24-nm with a time of flight of two minutes (Ralphs, "Where are" 50). The devastating effects of their ammunition can defeat twenty-seven feet of reinforced concrete, sixteen inches of armor plate, and convince any enemy to surrender (Morgan 6). Extended range munitions were already under development in the late 1980s and early 1990s. Rounds varying from 525 to 1,300 pounds could be delivered 52-nm with roughly 2 minutes for time of flight. Even more impressive, an 11-inch sabot round with a range of 115-nm and time of flight around 4 minutes was under development, in the early 1990s, by the Defense Advanced Research Projects Agency (Ralphs, "Where are" 52). These numbers and capabilities clearly demonstrate that the only adequate and reliable NSFS system available is the Iowa Class Battleship.

However, the Navy has been adamantly opposed to reactivating the battleships for two primary reasons: cost and manpower. It would cost over \$450 million to re-activate two battleships, the USS Wisconsin and USS Iowa. It would cost millions more to modernize these ships with new hardware (Wiggins 2). The timeline for re-activating a battleship and making it operational is eighteen to twenty-four months. Annual operating costs would be around \$75 million (Ralphs, "Where are" 52). Over the next ten years (Fiscal Year 2004-13), the bill for re-

activating two battleships and remaining operational may be \$2 billion. This sounds like a staggering amount, but compared to the \$4.5 billion that may be spent on the ERGM program in a twenty-year span, the battleships are fiscally possible (Ralphs, "Where are" 52).

The manpower issue need not be a limiting factor either. Approximately 1,500 sailors are necessary to man a battleship fully (Wiggins 2). Pulling 3,000 sailors from the current Navy force structure may be impossible, but two battleships could be manned with almost half as many sailors. Former U.S. Navy Secretary John Lehman has spelled out a possible solution:

"By manning only two of the four engine rooms, they still make 24 knots and save several hundred crew. With other sensible reductions made possible by newer technology they could be manned with fewer than 800. At whatever manning, there simply is no substitute for those 16-inch guns"

(Ralphs, "Tactically" 9).

The Navy may have unknowingly solved this manpower issue. They have plans to retire some ships and are asking for a 1,900-person reduction in personnel for 2004 (Maze 26). That proposed reduction can be used to source the personnel to operate two battleships again.

Conclusion

There has been no adequate NSFS available to the Marine Corps since the decommissioning of the battleships following the Gulf War. Over twelve years have elapsed and the Navy's plan has produced nothing that the Marine Corps can count on for amphibious operations. Time and money poorly spent may soon lead to lives lost in combat. The only sufficient NSFS proposed to the Marine Corps at this time are mere concepts. The ERGM program has repeatedly run into difficulties and its tactical employment raises questions that have not been answered. The AGS program is promising, but the ship program to which it is tied is as troubled as the ERGM program. Reactivation of two battleships can make the Marine Corps' requirements a reality in less than two years. The problem is clear and a solution is at hand. Bring back the battleships in order to provide the Marine Corps the naval surface fire support necessary to conduct successful amphibious operations.

WORKS CONSULTED

- Annati, Massimo. "Naval Guns—A Real Come-back." Naval Forces 2002. 12 Dec 2002
<<http://proquest.umi.com/pqdweb?TS=1039735229&RQT>>.
- Annati, Massimo. "Naval Guns Revisited." Military Technology Oct. 2002. 12 Dec. 2002
<<http://proquest.umi.com/pqdweb?TS=1039733250&RQT>>.
- Braybook, Roy and Terry Gander. "Far Reaching Propositions." Armada International Feb./Mar. 2002. 12 Dec 2002
<<http://proquest.umi.com/pqdweb?TS=1039735044&RQT>>.
- Callo, Joseph. "Fielding a Naval Surface Fire Support Missile." U.S. Naval Institute Proceedings Jul. 1999. 12 Dec 2002
<<http://web23.epnet.com/delivery.asp>>.
- Davis, Russell and Darien Kearns. "Advanced Gun System is 'On the Way'." United States Naval Institute. Proceedings Oct. 2002. 12 Dec. 2002
<<http://proquest.umi.com/pqdweb?TS=1039733522&RQT>>.
- Erwin, Sandra I. "Marines Clamor for Long-range Artillery at Sea." National Defense Jan. 2002. 12 Dec 2002
- Frazier, Michael M., Lieutenant Colonel, United States Marine Corps, NSFS Requirements Officer, Marine Corps Combat Development Command. Personal Interview Dec. 2002
<<http://proquest.umi.com/pqdweb?TS=1039735194&RQT>>.
- Hammond, James W., III. "Naval Surface Fires—'For Want of a Nail'." Marine Corps Gazette Jul. 2002. 12 Dec 2002
<<http://proquest.umi.com/pqdweb?TS=1039733927&RQT>>.
- Hanlon, Edward, Jr., Commanding General, Marine Corps Combat Development Command. Memo to the Chief of Naval Operations (N7). Subject: "Naval Surface Fire Support Requirement for Expeditionary Maneuver Warfare." 3900C428 19 Mar. 2002
- Jane's Naval Weapons Systems. Issue Thirty-four. 2001
- Jane's Fighting Ships. Ninety-fourth edition. 1991-92
- Jenkins, Harry, Major General, United States Marine Corps, Retired. Personal Interview 11 Jan. 2003

- Keeter, Hunter. "Navy's ERGM Program Component of 'Family' of Fire Support Technologies." Defense Daily International 1 Mar. 2002. 12 Dec. 2002
<<http://proquest.umi.com/pgdweb?TS=1039734722&RQT>>.
- Maze, Rick. "It's all in the balance." The Marine Corps Times 24 Mar. 2003: 26
- Morgan, Clarence T., Lieutenant Commander, United States Navy. "Naval Surface Fire Support: How Can We Get There From Here?" 1993. 12 Dec. 2002 <<http://www.globalsecurity.org/military/library/report/1993/MCT.htm>>.
- Morison, Samuel L. "Lack of Naval Surface Fire Support Capability Causes Undue Risk to U.S. Troops." Navy News and Undersea Technology 10 May 1999. 12 Dec 2002
<<http://www.usnfsa.com/articles/fsao/fsao21.htm>>.
- Philpott, Tom. "Where Are The Battleships?" U.S. Naval Institute Proceedings, Jun. 1999. 12 Dec. 2002
<<http://web23.epnet.com/delivery.asp>>.
- Polmar, Norman. "Battleships Are Back in Headlines." U.S. Naval Institute Proceedings, Mar. 1999. 12 Dec. 2002
<<http://web23.epnet.com/citation.asp>>.
- Ralphs, Tracy. "Tactically Responsive Firepower." Military Review Jul./Aug. 2001. 12 Dec. 2002
<<http://web23.epnet.com/delivery.asp>>.
- Ralphs, Tracy R. "Where Are The Battleships?" Armed Forces Journal International Apr. 1999: 46-52
- Stewart, Darrell L., Lieutenant Colonel, United States Marine Corps. "Amphibious Operations in Southwest Asia." Marine Corps Research Paper #92-0001 Jul. 1991
- "United Defense Awarded Contract for Advanced Gun System Development." Defense Daily 8 Oct. 2002. 12 Dec. 2002
<<http://proquest.umi.com/pgdweb?TS=1039733180&RQT>>.
- Wiggins, James F. "Defense Acquisitions - Evaluation of the Navy's 1999 Naval Surface Fire Support Assessment." FDCH Government Account Reports. 14 Sep. 1999. 12 Dec. 2002
<<http://web23.epnet.com/delivery.asp>>.