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THE FAST ATTACK SUBMARINE:
ITS ROLE IN THE OPERATIONAL THEATER
by
Commander John E. Cohoon, U. S. Navy

A paper submitted to the faculty of the Naval War College in partial satisfaction of the requirements of the Department of Operations curriculum.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

Signature: *John E. Cohoon*
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Chapter I

Introduction

Recent political and military changes in the global environment have caused a resultant change in the United States National Security Policy to meet the challenges of this new world order. This change has been a fundamental shift in the strategic arena to a reliance on engagement and international leadership based on strategic deterrence, forward presence, crisis response, and reconstitution. This new national strategy in turn affects the strategic planning of the military. The National Military Strategy implements the National Security Strategy through the principles of; readiness, collective security, arms control, maritime and aerospace superiority, strategic agility, power projection, technological superiority, and decisive force. Following these changes in the strategic environment a new focus on regional rather than global conflicts has arisen. The growing instability of the world's security climate has placed an emphasis on "crisis response" and "forward presence". This emphasis in turn places a renewed importance on power projection and the ability to support decisive military force when the national leadership determines it is necessary.

The smaller force levels and the need for rapid crisis response is easily translated into joint operations. As a result of this and the probability that the conflicts will most likely occur in the littoral areas of the world, the priorities of the Navy have shifted. The Naval Expeditionary Forces will respond

to crises as part of the joint operations for a unified commander. As the Navy and Marine Corps white paper of September 1992 states, "Naval Expeditionary Forces, shaped for joint operations, operating forward from the sea, tailored for national needs" will be the bottom line response. The new emphasis in operating "from the sea" will require Naval forces to develop expertise in areas that were not utilized during the cold war. The submarine force is one that will continue to provide the unified commander and joint commanders important capabilities in the new arena. They will be a player in the shaping of forces and will impact the operational planning for regional contingencies and theater operations.

As the United States withdraws from overseas bases the importance of the Naval Expeditionary Forces will increase proportionally. Forward presence provides a base for rapid response in a crisis situation. As the scenario develops in a region, most probably involving a littoral area, sustainment of forward forces as well as the initial response become paramount. This equates to sealift and sea lines of communication (SLOC's). All of these areas, forward presence, rapid and flexible response, and logistics or sustainment of forces become significant elements of the planning for regional contingencies at the operational level.

The focus is not on the tactical employment of submarines by the joint commander, but rather it is on the capabilities of the submarine and the role it will play in the operational planning,

employment of forces, and as a means of applying the principles of war at the operational level. To do this and to illustrate the interface that the fast attack submarine will become involved with, two areas must be understood:

1. The nature of the regional crisis and special considerations of operations in the littoral and,
2. The capabilities and limitations of the fast attack submarine.

It is only after obtaining a basic understanding of these areas that the role of the submarine in the operational level of planning and execution can be determined and discussed.

Chapter II

The Nature of the Crisis

As stated earlier, the new world order will shape future crises and they will become increasingly more regional in nature. These will be localized generally within a single Area of Responsibility (AOR) of a unified or specified commander. Therefore the theater commander-in-chief will be the logical tasking authority for developing contingency plans and responding to a crisis. The unified commander, or at least his staff, must now become knowledgeable in the capabilities and employment of many diverse multi-service forces. The limited resources available force him to become truly "joint" in the planning for contingencies and in the response to crises.

The probability of escalation to a global threat is low in a regional crisis as compared to the threat of the Soviet Union in the past. However, escalation is possible within the region concerned. There will be a high probability of involving a "third world" type nation with many conflict catalysts present such as starvation, poverty, disparity between the "haves" and the "have nots", disease and oppression. The military capabilities of these nations are limited as compared to the capabilities of the United States military services. The regional crisis will most likely involve low to mid intensity conflict. This includes insurgency, terrorism, and human rights violations that may escalate up through actual armed conflict

between military forces. The increased role of the media will place these conflicts on the "front page".

With the decrease in the ability to operate out of forward bases, the regional conflict will more often than not evolve around a littoral area. The littoral brings with it its own set of problems specific to fighting in this type of geography. The battlespace within the littoral is significantly more complex than the open ocean or the open desert. This region is frequently characterized by confined waterspace and airspace. This confined area becomes increasingly congested as the conflict progresses making the management of friendly forces and the identification of enemy forces extremely difficult. The water is shallow and shore missile batteries and land based aircraft pose a significant threat to the Joint Task Force. The advantage of high tech weaponry from advanced platforms can be overcome by sheer numbers of unsophisticated weapons from a third world nation. Battlespace superiority should not be assumed in the regional crisis or contingency. It does not evolve out of our open ocean supremacy, but it will take a concerted, organized plan of attack and economical use of forces available to achieve specific objectives. The operational commander must consider all of this in the employment of the forces he has available. All forces bring with them certain capabilities that if properly used will contribute to success in the regional conflict.

Operating in the littoral area is difficult and this is compounded by the requirement to use joint forces. The only way

for success in a regional crisis is to train for it using the forces that will be employed. The submarine force must be used in training and joint operations to fully realize its potential in enhancing and adding to the capabilities of the Joint Task Force.

Chapter III

Capabilities and Limitations

The traditional roles of the fast attack submarine are still viable in the "new world order" and will provide certain capabilities to the Joint Task Force Commander for use in the control of the battlespace. Care must be taken not to lose proficiency in these missions as new missions gain emphasis in regional contingencies. "Fixation on a specific scenario or current fad is always wasteful and sometimes dangerous"

The traditional roles referred to are anti-submarine warfare and anti-surface warfare. The Joint Task Force Commander might use a submarine for control of sea lines of communication. These traditional SLOC's become extremely important even in a regional conflict. The United States has fewer forward bases and therefore sustainment of forces in the littoral becomes even more dependent on these SLOC's. Most small "third world" nations do not have the ability to interdict these lines of communication in a major way, but without any protection the shipping is completely vulnerable to even a single small ship. One fast attack submarine can keep the SLOC open to allow for resupply and reinforcement of forward forces.

In deference to the traditional roles, the SSN is a flexible, multi-mission platform. As its capabilities become more well known to other arms of the Navy and other services its use by the Joint Task Force Commander will increase significantly. There is an inherent potential of the submarine

to become a force enhancement if employed properly by the Joint Task Force Commander.

The Joint Commander will find that the fast attack submarine is the platform of choice for certain operations in light of political over tones connected with his response. This will impact at the operational level in the planning and employment of forces for contingency operations. This theme will recur throughout as the capabilities of the fast attack submarine are discussed.

Historically, the submarine played a major role in the outcome of the war in the Pacific theater in World War II and was a significant factor in the Atlantic theater. The submarine of World War II was not an anti-submarine platform, but was a multi-mission platform. Although specifically designed to interdict shipping it was used in many roles. These included; surveillance, indication and warning, radar picket early warning, covert insertion and extraction of special forces, mining, and combat search and rescue.

In the Falklands War Great Britain used its submarines in many diverse roles. The H.M.S. Conqueror surveilled a beach landing site in South Georgia for a follow on invasion of that area by special forces.²

The British submarines, three in all, kept the Argentinean Navy from becoming a threat throughout the war by sinking the capital ship Belgrano.³ The submarines were used as early warning sensors for reporting of enemy air sorties toward the

Task Force and for providing locating data on the Argentinean Naval units early in the war. As a conventional deterrent they effectively kept the Argentinean Navy bottled up in port for the duration of the war.

In Desert storm submarines were used as strike platforms as well as surveillance and intelligence platforms. The USS Louisville and the USS Pittsburgh both launched a number of Tomahawk land attack missiles as part of the overall strike mission in combination with surface units and air units. These strikes targeted command and control nodes and air defense sites to open a corridor for the main invasion forces in the initial phase of the war.

The fast attack submarine is an extremely versatile platform. The numerous capabilities will be discussed while focusing on the way that the operational commander might use these capabilities in the planning for regional contingencies or in rapid crisis response. The submarine cannot fulfill all the needs of the commander, but they do compliment other assets available if utilized properly.

In the planning for regional contingencies the Unified Commander develops Essential Elements of Information (EEI's) or questions about the area of interest that must be answered prior to developing courses of action. Once the contingency plan is in use, preparation of the battlespace becomes the foremost issue. In crisis action planning the need for a rapid response places an even greater emphasis on good, real time intelligence. The fast

attack submarine's unique combination of stealth, endurance, and agility makes the submarine an exceptional maritime surveillance platform. The fast attack submarine has built into it a fully integrated intelligence gathering suite; visual, signals processing, communications intercept, as well as other types of signals gathering capabilities. The information can be transmitted real time to the operational commander for use in developing courses of action. This information is gathered unknowingly to the enemy so the need for air superiority or sea control is lessened. The discretion of submarine surveillance will be "particularly important in the dangerous early days of a crisis, when our objective is to contain the problem before it escalates."⁴ Submarine surveillance missions could include:

- localization of enemy units,
- information on enemy routine operations
- surveillance of coastal area
- determination of enemy forces
- intelligence of enemy air operations

Placing a submarine in the region early in a crisis provides the theater Commander-in-Chief (CINC) with a platform that can perform many missions from its covert posture.

A related capability is that of indication and warning. The submarine in advance of other forces can provide real time information on the posture of enemy forces. This differs from intelligence gathering in the strict sense because it is specifically designed to provide information on major enemy

offensive naval movements. Other incidental information would be debriefed upon return from the mission.

The fast attack submarine because of its ability to operate covertly close to shore is a viable platform for support of special warfare. All fast attack submarines have some capability of deploying special operations forces. This can be done while submerged in small numbers or an entire team can be deployed while surfaced. Some submarines have the capability of deploying swimmer delivery vehicles piloted by divers or Navy SEALs. The surveillance abilities of the submarine can be joined with the insertion and extraction capabilities to provide for a viable special operations team that can be supported while on shore by the submarine stationed off the coast. There are many tactical methods available to the submarine commander for deployment of special operations forces. The SSN has a very small radar cross section when surfaced and it is, for all practical purposes, invisible at night while on the surface. Most third world countries have very limited coastal radar surveillance and therefore the insertion of larger teams by surfacing is a practical scenario.

There are only two types of platforms capable of mining a harbor or choke point, aircraft and submarines. The fast attack submarine can sit submerged five miles off a harbor entrance and accurately plant a substantial mine field. The fact that this can be done covertly adds significantly to the psychological

impact of such an operation. It provides the theater CINC with many options in the planning of contingency operations.

The only platform capable of countering the diesel submarine threat in the littoral or shallow water is the fast attack submarine. In its traditional role of anti-submarine warfare it is capable against a quiet diesel submarine in shallow water. The proliferation of capable diesel submarines to other nations such as India's and Iran's soviet built Kilo class submarines and North Korea's Cosmos class submarines⁵ is a significant threat to the ability of the United States to operate in the littoral during a regional crisis. Many regions throughout the world have choke points that must be transited to conduct operations in that area. The straits of Hormuz is a classic example. If Iraq had even a single diesel submarine the difficulty of operations in the Persian Gulf would have increased tremendously. The diesel submarine poses a serious threat to these types of operations and deserves enough of a priority to warrant allocating forces to counter it.

Anti-surface warfare and over the horizon targeting are included in the fast attack submarine's repertoire of capabilities. These will play a role in the regional conflict in the requirement for local sea control. They may also come to be used in blockade and maritime interdiction.

Currently the most talked about capability of the fast attack submarine is its ability to launch a precision strike using land attack cruise missiles. The ability to launch against

a nation without any warning enhances the effect of the initial strike. The possibilities are endless in this arena and offer the operational commander many powerful options not previously available to him.

The fast attack submarine also brings with it the assets of sustained high speed, the ability to operate independently for relatively long periods of time (measured in months), and a weapons mix that has multi-mission capabilities. The basic characteristics of the submarine have been summarized by Admiral Bacon as "stealth, endurance, and agility."⁶ These characteristics in a single platform provide the basis in planning for the use of the fast attack submarine in the application of the principles of war.

The foregoing discussion on SSN capabilities approaches the tactical level, but the capabilities as well as the limitations must be understood by the Joint Task Force Commander to optimally plan for the employment of his forces.

Some of the fast attack submarine's capabilities in turn become limitations or liabilities which prevent the submarine from being the best platform of choice in many situations. The submarine's limitations include, but are not limited to; shallow water operations, physical platform size, risk of mines, command and control, and water space management. These limitations have operational as well as tactical implications and thus must be understood by the Joint Task Force Commander. Successful allocation of forces and employment of forces depend on this.

In order to operate safely in shallow water the modern fast attack submarine commander must have accurate charts. Chart accuracy for the open ocean is significantly better than the accuracy of the charts of coastal areas. This is a hold over from the fact that submarines and the rest of the blue water Navy did not routinely operate in the littoral in the past. While operating in the three dimensional space of submerged operations the submarine must maintain its depth and maneuverability. When in a coastal area or in shallow water the majority of operations are at periscope depth. To maintain station in the constrained areas the submarine sacrifices maneuverability and the ability to avoid shipping in these congested regions.

The fast attack submarine's physical size limits the number of extra personnel it can carry for extended periods. This impacts the size of the Special Operations Forces team that might be deployed from a submarine during certain conflicts. The physical size also limits the number of weapons the submarine can carry. This combined with the inability to reload at sea limits its usefulness if the initial weapons mix is incorrect for the desired mission.

In the world of water borne mines, the submarine is at a loss. It maintains an ability to place mines, but has virtually no mine countermeasure capability and limited mine detection capability. The Joint Task Force Commander will have to consider significant risk versus gain if employing a submarine in an area that is mined.

The fast attack submarine's ability to operate independently also translates into difficulties with command and control and water space management. In order for a submarine to maintain communications with the task force it must stay at periscope depth which sacrifices the submarine's agility. The submarine must be able to operate freely in its assigned area to be of optimum value to the Joint Task Force Commander. The question of water space management and who will maintain control of the fast attack submarine and assume responsibility for mutual interference takes on a new meaning when dealing with the constraints of shallow water and a specific geographically or operationally constrained region of operations. The issue of blue on blue engagements has been addressed in procedures, but thinking in the third dimension is foreign to most commanders and their staffs.

Chapter IV

Employment

With the understanding of the flow path from the National Security Strategy to the role Naval Expeditionary Forces will play in regional conflicts and crises "from the sea", the employment of the fast attack submarine at the operational level can be envisioned.

The unified commander in a strategic sense must provide the guidance in the form of his intent and concepts to the operational commander for planning. "As a result of the changes in the world, planning for operations at levels of violence below global war has become a more realistic approach."⁷ The operational commander must ask certain questions during the planning process which help him focus on the objectives and correctly employ the forces apportioned to him. These fundamental framing questions are:

1. What military conditions must be produced in the theater of war or operations to achieve the strategic goal?
2. What sequence of actions is most likely to produce that condition?
3. How should the resources of the force be applied to accomplish that sequence of actions?
4. What is the likely cost or risk to the Joint Force in performing that sequence of actions?

The types of forces and their corresponding capabilities play a major role in the ability of the commander to answer the

questions posed above during the planning process. Along with the types of forces available, the commander must apply his forces at all levels of violence from peacetime engagements to global war. The submarine is a uniquely flexible platform whose multi-mission capabilities enable it to be an element in almost all contingencies.

To force a satisfactory outcome in a regional crisis the careful sequencing of actions and assets is ultimately important. How to apply the resources through the principles of war to achieve the strategic goals is the crux of the problem facing the operational commander. For ease of this discussion, conflicts will be assumed to be regional in nature, within the littoral, and involving the employment of Naval forces.

During the early days of a crisis the initial response of the United States will become increasingly critical. In this scenario the submarine is a low risk, high gain weapons system. The fast attack submarine with its ability to transit at maximum speed indefinitely can be dispatched to the area of concern in the early stages of a conflict before a visible show of force is required or desired. Once on station the fast attack submarine leaves a multitude of options available to the Joint Task Force Commander.

The first is intelligence gathering and surveillance. With the ability to communicate and send back real time information the submarine could be used to obtain the answers to some of the essential elements of information (EEI's) that were posed during

the planning for crisis response. These EEI's are then used in determining courses of action, enemy capabilities, and in the employment of forces.

Use of special operations forces (SOF) in the early stages of a conflict is standard operating procedure. The special operations forces are placed in country as advisors or training teams, agents to apply force limited in scope, intelligence gathering forces, and as in place forces for preparation of the battlefield. The SSN/SOF team may be the weapon of choice for the operational commander.

With the diminishing requirements for nuclear missiles the possibility of using the Trident class submarine as part of the Joint Task Force is intriguing. The Trident is extremely large and without missiles on board a special operations force of up to two hundred personnel could be carried for an extended period. This is a sizeable force and if combined with a second Trident submarine a covert insertion of a powerful special operations force is possible. This is a new and innovative mission, but one that is completely plausible.

A single Trident submarine with its speed and endurance could carry troops anywhere in the world that a ship can operate without detection. The 688 class fast attack submarine could also be configured to do this. With its precision strike capability it could hit targets designated by the special operations forces that it covertly inserted earlier. This is a formidable force and the submarine is uniquely suited to this

type of operation. In fact, the SSN/SOF or SSBN/SOF team may become the key player in non-combatant evacuation operations with its ability to shuttle a significant number of personnel from an area inaccessible to other surface ships and aircraft.

At the operational level the low risk and high gain of such covert actions may be the single overriding factor. "There is a major political difference between sending in the Marine Corps and sending in the Army. Naval and Marine Forces are seen as transitory. They can be as easily withdrawn as they were committed...When you commit the Army, you commit the nation."⁸ This is also true in the application and commitment of special operations forces.

There is no military operation of any significance that does not have political consequences. Inevitably political considerations will affect both the conduct and objectives of contingency operations. When planning, executing, and reporting on contingency operations, commanders must be constantly aware of the political impact of their actions in the United States and around the world. More often than not, political considerations will weigh heavily in determining which regional crisis the U. S. responds to and the nature of the response.⁹

Against the threat that most regional powers can mount, a single submarine or at most two submarines should be able to exercise regional sea denial against naval forces in advance of the battle group. The submarine, once on station, offers the operational commander the ability to deter enemy offensive action by its presence. The next level of options on an escalating scale is also available to the Joint Task Force Commander with

the presence of a fast attack submarine. The ability to launch precision strikes or offensively mine an enemy harbor may be the key player in opening the way for larger, more visible force projection. The stealthy submarine used in a first strike role is the embodiment of the principle of surprise. As Sun Tzu said "...war is based on deception [surprise]. Move when it is advantageous and create changes in the situation."¹⁰ The initial strike could target command and control nodes and installations and forward air defense sites to provide for a clear corridor for the initial assault of the battle group. As a deterrent to a nation using a submarine as an initial response may make sense. Not being able to locate the threat may be enough to prevent the sortie of enemy naval forces or to prevent many small nations from escalating the conflict. Using the submarine as an initial responder to a crisis or conflict provides the Joint Task Force Commander with a flexible response while exercising economy of force. Economy of force can be looked at in two ways. First a single submarine can operate up to four months independently of a logistics trail. Secondly, the fast attack submarine economizes risk because it is small, invisible, and should not produce United States casualties.

Once the decision is made to respond with force a Joint Task Force which includes a battle group will, in all probability, be deployed to the region. The employment of forces must include a submarine in support of the battle group. "The ideal MAG (Marine Amphibious Group) would include a vertical launch 688 class SSN

to provide increased strike capability."¹¹ This may not be in the familiar direct support role, but can compliment or enhance many capabilities of the Task Force. The fast attack submarine can act independently or as an integrated component of the Joint Task Force. The submarine with its ability to remain on station unsupported can arrive before the battle group to counter any hostile diesel submarine threat and establish regional sea control. It could remain on station throughout to protect the sea lines of communication and provide intelligence, locating data for interdiction forces, early warning of enemy sorties, and even combat search and rescue in areas that are inaccessible to surface ships or aircraft. The fast attack submarine's ability to move from one area to another rapidly and unobserved make it a positive addition to the task group's ability to apply pressure at the enemy's weak points. The Joint Task Force Commander's correct use of the submarine with its agility will enhance the task force's ability to apply the principle of maneuver warfare. The fast attack submarine can also provide flexible application of combat power with its precision strike capability. The Joint Task Force Commander may elect to leave the submarine on station in the coastal region after the battle group begins its withdrawal from the area. In this capacity, the submarine can cover the disengagement of friendly forces while not requiring any logistical support.

Power projection is another vital maritime role in which the fast attack submarine will play a part. Currently fast attack

submarines deployed to the Mediterranean Sea carry a considerable portion of the Tomahawk strike assets for the European Command contingency plans.¹² There are "generally fourteen submarines deployed on any given day, carrying well over one hundred Tomahawk missiles. Their reach is 650 miles inland, covering 75 percent of the world's surface."¹³ Power projection by a platform such as a submarine is viable against a majority of the areas of concern throughout the world.

Chapter V

Conclusions

The fast attack submarine can fulfill many roles for the Joint Task Force Commander throughout the spectrum of conflict in the operational continuum. It will be a useful platform in the sequencing of actions in an effort to contain a conflict or as a means of special warfare support early in a crisis. Risk versus gain is extremely important in the early stages of a conflict. This not only refers to casualties, but to political risk. The Joint Task Force Commander must also have political savvy in this new arena of regional conflicts. The submarine with its built in covert operating agenda carries with it a low political risk. It can be present in area, but remain passive and unknown to the belligerent nation. Since this is the normal operating mode of the fast attack submarine it is also politically acceptable to the United States public and international opinion as well.

The following conclusions can be used in developing the roles and missions of the submarine force in the current global environment. One of the paramount roles of the fast attack submarine will be an increased use in special forces operations and conventional support of land forces. Flexible use of the Trident and 688 class submarines in innovative special operations forces missions should be examined. The capabilities of the world's quietest submarines are endless in this arena. Use of the submarine in this role will only be accomplished through increased joint training with Army and Marine ground forces.

Submarines will remain a key force in maintaining sea superiority, but unlike surface ships and aircraft, submarines are not especially useful in a visible show of force or "gunboat diplomacy".¹⁴ However, the role of submarines can be expanded in this area by port calls and creative deployment schedules. The nuclear powered submarine is a capital ship and its participation in combined operations and peacetime engagement will have a profound affect on the perceptions of other nations.

The fast attack submarine is not the "be all to end all", for the new direction of contingency operations. It has some limitations and is not suitable for all operations. It does bring with it certain capabilities and inherent characteristics that provide the operational commander new options in the sequencing of actions and in the application of the principles of economy of force, maneuver warfare, and surprise. The fast attack submarine provides these to the operational commander with little or no risk. As these capabilities become more well known to all services the submarine will be used more often as an addition to forces in joint operations within the new world order and in power projection from the sea.

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