

**Comments on James Service's Paper:  
Targeting Realities:  
Platforms, Weapons Systems and Capabilities**

By  
J. H. Doyle, Jr. \*

**Law of Naval Warfare as Applicable to  
Targeting Enemy Merchant Shipping**

Ladies and Gentlemen, it is indeed a great pleasure to be back at the Naval War College with this distinguished group of international lawyers, diplomats, historians, naval lawyers and line officers from the United States and Allied nations. This subject is complex but timely, and deserves the attention of all of us. The War College is to be commended for conducting this symposium on the Law of Naval Warfare related to targeting enemy merchant shipping.

I wish to commend Admiral Jim Service on a fine presentation. His decision matrix for the commanders on the scene is particularly helpful. I will build on his remarks and present other considerations which may be useful to international lawyers in formulating rules of conduct governing naval warfare. I will confine my remarks to the operational considerations in targeting enemy merchant shipping.

I certainly agree that future wars will be heavily influenced by modern technological advances in weaponry. Today, there is a booming international arms market in modern submarines, mines, long range reconnaissance and ASW aircraft, anti-ship cruise missiles, land based surface to air missiles, chemical weapons, coastal defense missiles, ballistic missiles, and, alarmingly, nuclear proliferation. When you consider that there are active ballistic missile programs in countries as diverse as Argentina, Iraq, India, China and Israel and that the warheads could be chemical, nuclear or conventional, at least some form of SDI does not sound unreasonable.

Forty countries in the Third World receive military hardware from other Third World export industries in addition to developed countries. There are 48 countries with anti-ship cruise missiles (2100 Harpoons, 2600 Exocets, 10,000 SS-N-2's). There are 19 countries with diesel attack submarines, 21 countries with naval mining capabilities and 10-16 countries with chemical warfare capabilities. There are increasing numbers of sophisticated submarines available to the Third World in the future, (examples: India and Brazil building SSN'S; the French *Rubis* - 3000 ton SSN; advanced air-independent propulsion schemes for diesel submarines - Swedish Stirling engine, West German fuel cell research,

Canadian low power nuclear reactor, Italian Toroidal). India has purchased 6 Soviet Kilo's and 2 West German Type 209 diesels.

Recall that a World War II vintage mine (100-125 kg whd) put the USS *Roberts* out of action. A hit on the side of the ship nearly broke it in half. Superb damage control by the crew saved the ship. However, mines did limited damage to oilers in the Persian Gulf.

Aerospatiale and MBB are working on a supersonic successor to the Exocet called ANS. It is stealthy (low radar cross-section), Mach 2+, 15G maneuver, dual mode (radar and IR) guidance, range 180 km, sea-skimmer (20 ft, off deck), ramjet and integral solid booster propulsion. A current sub-sonic Exocet in the Falklands sank HMS *Sheffield*, damaged HMS *Glamorgan* and sunk the merchant *Atlantic Conveyor* (2 Exocets). In the Persian Gulf, Exocets put the USS *Stark* out of action but did limited damage to large oilers; the oil kept flowing.

In Anti-Submarine Warfare, 2 ASW carriers, 15 frigates, 6 submarines of the Royal Navy plus various ASW aircraft expended over 200 weapons against only 1 Argentine submarine and a sea full of false contacts.

As the examples above indicate, the vulnerability of modern naval platforms even, or perhaps especially, in limited war situations will be a factor. A Commander must take into consideration the various threats to his own forces if he is tasked to destroy or interdict merchant ships, or to protect merchant ships as in the Persian Gulf situation. As Admiral Guilbault pointed out, the threat also involves the threat of detection from space or other active and passive means, including the visual sighting of a flaming datum.

Let us now look at a general war scenario - NATO versus Warsaw Pact. This situation is possible but gets more unlikely each day. The NATO maritime strategy is to take the war to the enemy. An early ASW campaign is contemplated. NATO naval forces would conduct offensive operations in Soviet sea denial zones (2000 km from the "homeland," usually) and impose a high attrition on Soviet naval forces, thereby neutralizing their military capabilities and assuring freedom of the seas to support U.S. and Allied operations and control the critical sea lines of communications that link the Allies with deployed forces.

Naval forces would support the land battle on the flanks. Amphibious forces might be landed. U.S. and Allied submarines, aircraft and surface ships will be far too busy with limited assets targeting enemy submarines, surface ships, airfields, C<sup>3</sup> sites, bases and facilities ashore to waste weapons and risk detection in targeting enemy merchant ships. At this stage, Warsaw Pact shipping has little military value considering their extensive and internal land lines of communication. A mining campaign in the Baltic and Black Seas and Arctic Ocean would be more to the point.

## 244 Targeting Enemy Merchant Shipping

In a general war, the Warsaw Pact has a similar problem. The first priority of their SSNs will probably be to protect their SSBNs in nuclear reserve. If any remain, they will attack ships of the Battle Group, amphibious forces or underway replenishment groups. Soviet Naval Air has a similar priority and has insufficient assets to risk higher casualties by attacking NATO merchant shipping in the Atlantic. If the situation became an attrition war against the sea lines of communications, similar to World War II, NATO would convoy its merchant ships and the Soviets would attempt to sink without warning. One might argue that the strict rules in the London Protocol of 1936 should apply to Allied merchant ships sailing independently in sanitized lanes. However, one would have to assume that the protocol would be violated or at best interpreted narrowly.

Let us turn to the case of a limited war. Here the situation changes drastically. The characteristics of a low level or regional conflict are different from a general war. For example:

- Usually the battle space and sea room are constrained.
- Forces are usually concentrated rather than dispersed.
- Forces operate near or over land and in shallow water, thus making the forces more vulnerable and degrading certain sensors and weapon systems.
- The visual and electronic environment is confused with a mixture of friendly, enemy and neutral ships and aircraft.
- There is a low tolerance for damage and personnel casualties, including hostages, at least in the U.S. Generally, the public's attention span and tolerance vis-a-vis uses of military force will be directly proportional to the loss of life in the action, factored by its duration.
- There are definite rules of engagement constraints on offensive and defensive actions. Admiral Crowe, the former Chairman of the Joint Chiefs of Staff, stated that one of his achievements during his tenure was to modify the rules of engagement so that U.S. forces in crisis situations could take defensive action without absorbing the first blow.
- The identification assessments are complex, e.g., the incident in the Persian Gulf when the USS *Vincennes* mistakenly identified a commercial aircraft as a military aircraft and shot it down with surface to air missiles.
- Friendly support and assistance are varied and unpredictable.
- The threat can be from land, boats, ships, submarines, mines, fighters, bombers, helicopters, swimmers and unmanned vehicles.

- There are political constraints on the use of force that may be far more stringent than the legal constraints in the Commander's Handbook on the Law of Naval Operations (NWP-9).
- There is a high incentive to keep the superpowers from direct confrontation or from taking one side or the other.
- Ground commitments will be less tolerable than naval commitments.

The above considerations apply generally in the case of regional conflicts. In the case of targeting enemy merchant ships, there are other problems. Ideally, one should have a global array of sensors, weapons and delivery systems plus an intelligence network including communication and signal intelligence that can sort out various merchant ships while still in port and then continuously track the particular ship all the way to its final destination. What is needed is a complete library of the electronic, acoustic and visual fingerprints of all merchant shipping; an identification and assessment of cargo as it is loaded; the probable shipping routes; a space surveillance system that can continuously track the merchant ship while at sea irrespective of whether or not the ship is emitting electronic signals; a command, control and communication system that can hand off the track to surface ships, aircraft and/or submarines that are positioned to target the previously identified enemy merchant ship; weapons that can be fired beyond the radar or visual horizon with the discrimination to hit the right merchant ship and with the accuracy and speed to compensate for the time late in firing at a moving target and the right warhead to accomplish the mission - (which is not necessarily to sink the enemy merchant ship). I would much rather have a low cost weapon that is designed to render the ship immobile - dead in the water - with damaged propellers or ship control capability - than have to clean up the oil spill from a 300,000 ton tanker. I doubt if the Coast Guard wants to clean it up either. In a limited war or crisis control situation, environmental considerations *are* going to be important factors.

No nation has the complete capability as I have just described. Some do worse than others. Iraq fired Exocets on large radar contacts hoping the ship was a tanker. We know that Iraq made at least one mistake in the *Stark* incident. Iran planted mines and harassed all merchant ships indiscriminately with missiles and small caliber ammunition fired from helicopters and small ships.

I would have to say that measured against the ideal merchant targeting system described above, U.S. capability is marginal at best. We have no comprehensive library of fingerprints. As yet, we do not have a space based radar satellite system for surveillance of the surface of oceans. We have space assets and sensors that are useful under various conditions, but the ability to keep a continuous track and sort all the friendly, enemy and neutral merchant ships that ply the oceans is limited. Our over the horizon targeting system for long range weapons like

## 246 Targeting Enemy Merchant Shipping

Harpoon and Tomahawk against moving targets leaves much to be desired in terms of hitting the right target on time in a confused environment of friendly, enemy and neutral merchant ships. Our ships, submarines and aircraft are designed primarily for attacking enemy warships, submarines, aircraft and striking targets ashore. Our weapons are optimized for those missions, not for use against merchant ships. We have no low cost weapon in numbers for disabling a merchant ship. This is not to say that we don't have weapons to use, but a Tomahawk cruise missile at \$1.2 million a copy and in short supply would not be the weapon of choice against a merchant ship.

What I am really saying is that targeting enemy ships in a limited war is a tough job. Because of the difficulty in detecting, tracking, and identifying targets in broad ocean areas, the operational commander is forced to search in confined littoral areas, probably near the destination of the particular merchant ship. Then he must use ships and aircraft on scene to locate, track, visually identify and then assess the character of the particular merchant ship. I recall in 1974 during the Cyprus Crisis, I was a Battle Group commander aboard the carrier *Forrestal* with accompanying cruisers and destroyers and submarines. I was ordered to take a position well south of Cyprus just to make sure the Soviets understood that they were not to get involved in the conflict between Greece and Turkey with their Mediterranean Squadron. I was also tasked to maintain continuous surveillance in the Mediterranean between Greece and Cyprus and make reports on all ships in the area, particularly Greek warships. We flew the airwing round the clock starting at dawn trying to keep an updated surface picture. It was a back-breaking operation and we were only partially successful. We could at least sort out merchant ships from Greek warships but as far as sorting out various merchant ships one from the other, that was another problem. There were just too many of all types of ships at sea.

Now the situation has improved. We have better intelligence, sensors, surveillance aircraft and space assets, but it is still a tremendous challenge.

There is technology available to fill in the gaps in an optimum enemy merchant ship surveillance, tracking and targeting system. For example: an active space based surveillance system, imaging radar, infrared techniques, and other technical approaches would help in establishing a coherent surface picture. The Global Positioning System (GPS) will help. I am sure that Admiral Guibault could devise a space and C<sup>3</sup> tracking and handoff system that could do the job if we gave him the money to do it. I think we should press on with developing the new technology. Limited conflicts and regional crises put a higher premium on intelligence, surveillance, identification, and accurate assessments. In our planning we often assume that limited war is a lesser included offense of general war and that ships, aircraft, sensors and weapon systems designed for general war are automatically suitable in low intensity conflicts. That is often not the case

and we need to look more closely at our limited war capabilities and make improvements.

Thus far, I have assumed that in a limited war the U.S. Navy would be tasked to sink enemy merchant ships. This is possible, but unlikely in my judgment. If we are so tasked, we would probably be politically constrained to visit and search procedures to accurately determine the character, destination and cargo of the ship, before taking further action. This means close surveillance by ships and aircraft, using visual means to establish identities. I believe it would be counter-productive to embark on a campaign of sinking enemy merchant ships at sea in a limited war when there are much more lucrative and politically important fixed targets ashore that could contribute to the limited objective at hand. The Libyan strike is a good example.

I think it more likely that the U.S. Navy will be in the role of protecting merchant shipping and assuring freedom of the seas for world commerce. A disruption in world shipping will have a rippling effect in the interrelated world economies that probably cannot be tolerated for long by either the developed or developing countries. In this situation, the incentive will be to confine the conflict geographically, limit the participants, persuade the maritime nations and "superpowers" to cooperate in keeping the sea lines of communication open, and encourage, cajole or threaten the belligerents to negotiate. The U.S. Navy may be tasked to convoy merchant ships, provide for their protection against a variety of threats, sort out neutral merchant ships from belligerents, and use force, as necessary, to contribute to political objectives.

However, whether we end up protecting merchant shipping or targeting them, the requirement for a global surveillance, sorting-out, tracking, hand-off, targeting and suitable engagement system for merchant shipping is still valid. We need to develop a coherent surface picture for the oceans of the world. In any event, the regional crisis and limited war situation need a fresh approach. While the general roles and missions of the U.S. Navy may remain the same, the methods of implementation may be significantly changed. Commanders will not have a free hand in carrying out their mission. The Rules of Engagement (ROE) will be dictated by the National Command Authority and blessed by the State Department. The political constraints may be far more stringent than any legal restraints in NWP-9. Minimizing loss of life, both military and civilian, and damage to property or the environment will be important factors. Weapon systems and sensors may have to be tailored to be more useful in limited wars and crisis control. The Navy may have to adjust to new missions such as assisting in drug enforcement and the like. There is a continuing and vital role for the U.S. Navy, but the Navy must be flexible enough and have the capability to adapt to changing conditions.

Although the policy and ROE constraints in a given limited conflict scenario might be quite stringent, naval commanders must find flexibility in the laws of

## 248 Targeting Enemy Merchant Shipping

naval warfare to target enemy merchant ships if the need arises. This may require a reassessment or fresh interpretation of the London Protocol of 1936.

Finally, a note of caution in all that I have said about limited conflicts and regional crisis. First, the Navy must retain its capability to fight a general war if necessary. Second, while a limited conflict might necessitate new ways of implementation and a certain tailoring of sensors and weapons, it by no means follows that the aircraft, surface ships and submarines can be less capable and sophisticated. The opposite is more likely the case.

\*Consultant, Applied Physics Laboratory, John Hopkins University. Former Professor of Law, George Washington University, Washington, D.C. Vice Admiral, U.S Navy (Ret.).