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SALVAGE DOCTRINE FOR MILITARY OPERATIONS OTHER THAN WAR

by

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

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.

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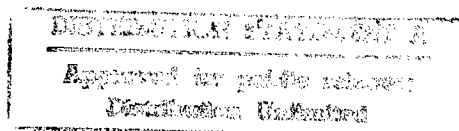
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Abstract of

SALVAGE DOCTRINE FOR MILITARY OPERATIONS OTHER THAN WAR

Given that Military Operations Other Than War (MOOTW) continue to dominate the present day mission, will existing salvage doctrine support the joint military task force in humanitarian assistance and disaster response operations?

The salvors of the U.S. Navy have conducted joint operations in support of and as members of Joint Task Forces both abroad and in the United States. Where does the Joint Force Commander turn for guidance and direction in the employment of salvage forces? Have we learned from the hard-won lessons of the past or are we destined to repeat our mistakes in the future?

A review of Joint and U.S. Navy operational doctrine publications reveals a paucity of up-to-date information; military leadership will be hard pressed to cull useful data to afford the necessary rapid, timely, and effective response. Study of recent joint operations indicates that we repeatedly commit the same errors in planning and execution.

The U.S. Navy must develop a sound salvage policy for the joint force environment. To do so will require development of joint doctrine for salvage and demands a review of existing doctrine to remedy deficiencies. In the interim, joint forces need to work within the guidelines of the doctrine which does exist. Salvage requirements must be considered in the deliberate planning process in order to preclude crisis planning as has occurred in the recent past. Salvors have a responsibility to ensure that this vital service to U.S. forces does not continue to be considered only as an afterthought.

Introduction.

“Naval forces operating under the direction of the National Command Authorities and unified commanders...plan and conduct disaster relief, humanitarian assistance, and civil support operations.”¹

Most salvage force analysis is of a single mission or operation, reflecting the need and desire to obtain lessons learned in order not to repeat the mistakes of the past operation.

Some studies have examined the force structure, determining the number of ships in the fleet, personnel required, and the minimum number of teams necessary to meet a hypothetical challenge.

The focus of this study is on readiness at the operational level for Military Operations Other Than War (MOOTW). Is the salvage force prepared to assist the operational commander in time of crisis and disaster? A review of past and present doctrine will determine the degree to which our present forces are able to respond to emergent missions. Studies of past operations will prove that these missions succeeded *in spite of* the lack of detailed doctrinal guidance available, without detailed pre-planning and concomitant inefficient execution.

Crisis response and humanitarian assistance are the types of missions likely to be assigned to the salvage force during MOOTW. This paper will examine several operations in which our salvage community has quite often played a key role, and determine if the lessons of the past have been heeded in the present day.

¹ U.S. Navy Dept., Naval Warfare, NDP-1 (Washington: 1994), 22.

MOOTW.

“Extensive salvage operations were carried out in the Marianas Islands during the period of November 1962 through July 1963 as a result of damages caused by Typhoons Karen and Olive.”²

Joint MOOTW involve strategic, operational, and tactical considerations and usually involve multi-agency efforts between government and nongovernment agencies employed in a complementary fashion.³ These operations are conducted “within the continuum of forward presence operations in peace, crisis, and the transition to conflict.”⁴ The need for salvage assets can be expected to be heightened during operations in most third world littoral areas. The limited and mostly inadequate port facilities will increase the probability of accidents enroute and while alongside and make the maintenance of even substandard port facilities vital to the success of the operation.

Present day political and defense responsibilities place key emphasis on MOOTW; in the period August 1947 through March 1995 United States forces were involved in 126 joint operations towards these ends, the vast majority of which took place in the seven years between March 1988 and March 1995.⁵ The pace of operations is likely to continue to accelerate.

² U.S. Navy Dept., Harbor Clearance Operations in Guam Following Typhoons Karen and Olive, NAVSHIPS 250-638-5 (Washington: 1964), vii.

³ Joint Chiefs, Doctrine for Joint Operations, Joint Pub. 3-0 (Washington: 1995), V-1.

⁴ Center for Naval Analyses, Prolegomenon to Any Future Naval OOTW Doctrine, Vol. 1, CRM 95-205 (Alexandria, VA: 1996), 4.

⁵ Institute for Defense Analyses, Alternative Multinational Force Capabilities for Operations Other Than War, Vol. II (Alexandria, VA: 1995), Table D-2.

MOOTW contribute to realization of national security objectives by supporting deterrence and crisis response options. Planning for these missions is similar to warfighting planning in that operations may proceed along unfamiliar, unanticipated paths or in unexpected directions.

Mission.

“The mission of Navy SHIP SALVAGE is to provide assistance and ship salvage services to combatant and logistic forces of the Armed Services of the United States and her allies in all types of naval and maritime operations, and to fulfill the legislated responsibilities of the Secretary of the Navy to provide salvage facilities for public and private vessels of the United States.”⁶

There are no clear definitions as to what sorts of operations salvage forces can expect to be assigned during MOOTW. Various sources of doctrine provide conflicting and vague notions of what constitutes these operations; this “fog of doctrine” delineates numerous unrelated sorts of operations under the overall guise of MOOTW. Tasks might range from harbor clearance to cargo handling, where they are mentioned at all.

By definition, MOOTW encompass operations to assist, deter and respond to foreign governments, and include operations to aid, protect, and control civilians and civilian populations, both abroad and in the United States. In contrast with combat operations, the mechanics of the salvage effort during humanitarian relief operations are similar in nature whether performed in Dade County, Florida or Port Au Prince, Haiti.

These varied operations may include non-combatant evacuation, peace-keeping and peace-making tasks, foreign internal defense, and many pseudo-combat efforts. MOOTW in

⁶ U.S. Navy Dept., Salvage 2010, Navy Force Level Requirements for Salvage Ships (Washington: 1991), 1.

which salvage forces are most likely to play a role include: at-sea search and rescue, disaster and humanitarian relief, and support for foreign militaries.

Expected mission tasks for the salvage force during MOOTW include firefighting, dewatering, towing, debeaching, underwater ship repair, harbor clearance, environmental management, ocean search and recovery, and emergency offload of materiel. Again, unlike combatant forces, salvage forces provide a multitude of similar services during combat or peacetime.⁷

A superior example of a domestic crisis response operation can be found in the joint force deployed to recover the wreck of Air Florida Flight 90 from the Potomac River in January, 1982. A joint service recovery team consisting of elements from the U.S. Navy, Army and Coast Guard assisted the Washington D.C. Metropolitan Police in recovering human remains and salvaging the aircraft, in order to ascertain the cause of the tragedy. This unique operation was conducted in the extremes of winter weather and under the highest degree of public scrutiny. The ad-hoc organization of local and federal agencies completed the mission successfully though the tasking was well outside the usual realm of daily operations for the various agencies.

Salvage operations contributing to forward presence through assistance to a foreign government was demonstrated most effectively during Suez Canal clearance operations in 1974. A multinational coalition of salvage forces, commercial interests and warfighting units were tasked to remove shipwrecks, sweep the canal of mines, and remove dangerous unexploded ordnance from navigable areas and anchorages in order to allow dredging.

⁷ Ibid., 8.

British, French, Egyptian, and U.S. forces, under the leadership of Commander Task Force Sixty Five, RADM Brian McCauley, USN, worked in concert to open the canal to shipping. This operation exemplified the principles of MOOTW as delineated in the Doctrine for Joint Operations in the following way:

- There was clear objective.
- Unity of effort existed with U.S. forces in overall command.
- Security and restraint while working in hostile territory was endemic.
- Perseverance and legitimacy by staying until the job was done.

Another key task, environmental management will grow to be a vital role for salvage forces in future operations. Capt. C. A. Bartholomew, USN, discussed the profound effect concern for the environment would have on salvage doctrine and operations: "...more and more the hazards of pollution...were coming to the attention of both a public feeling increasing anxiety about damage to the environment and their legislators."⁸ At this point, the United States has not yet taken best advantage of the possibility to develop salvage policies and/or programs to counter this threat (perhaps as an element of a national pollution control strategy, for example.)⁹

⁸ CAPT C. A. Bartholomew, USN, Mud, Muscles, and Miracles, Marine Salvage in the United States Navy (Washington: U.S. Navy Dept., 1990), 323.

⁹ Committee on the National Salvage Posture, Marine Salvage in the United States (Washington: National Academy Press, 1982), 5. It is interesting to note that a salvage scenario studied in table E-1 of this document posed the problem of a tanker vessel, adrift from an open ocean mooring in waters south of Oahu, stranding on the shore. In 1989, seven years after publication, M/V Exxon Houston tested the hypothesis. Commercial assets were unavailable to respond to the distress call. It was only through the efforts of Combat Support Squadron 5 (USS Salvor, USS Safeguard, USS Conserver, USS Reclaimer, and Mobile Diving and Salvage Unit 1), working in concert with the U.S. Coast Guard and extremely limited commercial assets, that the coastline of Oahu was spared a disastrous oil spill.

There is considerable disagreement as to whether oil spill/hazardous waste clean-up, recovery and salvage should even be considered MOOTW.¹⁰ Regardless of this dissent, the U.S. Navy, under SUPSALV cognizance, as directed by the National Command Authority and in support of the U.S. Coast Guard, is responsible for domestic oil spill response and other activities attendant to disastrous oil spills, such as firefighting, lightering, towing and salvage, and hazardous material disposal.¹¹

Doctrine.

“Operational commanders should understand Naval OOTW doctrine so they can use a consistent, understandable approach to these operations.”¹²

Presently little is written about Navy firefighting, salvage or related missions, especially above the techniques and procedures level. It is interesting to note that the Naval Supplement to the DOD Dictionary of Military Terms, NWP 1-02, the *standard Navy reference on naval terminology*, lists no terms relating to salvage. This apparent lack of concern is reflected in Joint and U.S. Navy publication's inadequate and confusing comment on the subject.

The Navy Capabilities and Mobilization Plan (NCMP) is the Navy document supporting the Joint Chiefs of Staff (JCS) Joint Strategic Capabilities Plan (JSCP). This doctrine provides perhaps the greatest definition ^{of} for the need for salvage assets. The NCMP identifies, for planning purposes, availability of Navy combat support forces for use by the

¹⁰ Most notably in the Center for Naval Analyses' Prolegomenon To Any Future Naval OOTW Doctrine, where it is stated, “Although the requirement to perform these activities is ongoing, it is more obvious when there are not distractions caused by the contingencies of war.” The conclusion is that such operations, while important, do not strictly fall into the category of Naval OOTW for which operational level doctrine is desired, since they would not normally be of concern to Operational level commanders; some would disagree.

¹¹ Center for Naval Analyses, Fighting Oil Spills at Sea and Forest Fires at Home: Incorporating Naval Operations Responding to Environmental Disasters into Doctrine, CRM 94-156 (Alexandria, VA: 1996), 20.

¹² Center for Naval Analyses, Prolegomenon to Any Future Naval OOTW Doctrine, 34.

Navy Component Commander (i.e., Fleet Commanders in Chief (FLTCINCs)) in support of unified commanders.¹³ The NCMP reiterates the importance of planning for rescue, salvage, and towing operations and also assigns responsibility: “[Navy Component Commanders] need to identify and in close coordination and conjunction with the shore establishment, source...towing and salvage requirements.”¹⁴

Joint doctrine is of little aid to the Operational Commander; there is only vague reference to “maintenance and salvage” in Joint Pub. 4-0, Doctrine for Logistic Support of Joint Operations.¹⁵ The CINC is tasked with coordination of the maintenance and salvage function. Given that the U.S. Army, Navy, and Coast Guard all have inherent salvage capabilities, if this policy refers to salvage in our context it exacerbates duplication of effort and hinders joint cooperation in salvage missions.

This lack of assignment of responsibility is even more apparent in Joint Pub. 5-00.2, Joint Task Force Planning Guidance and Procedures, where salvage operations are relegated to an individual service vice J-4 responsibility. The J-4 is only tasked to ensure economy of resources via inter-service and host-nation coordination for support and use of assets.¹⁶

Unfortunately the key U.S. Navy doctrinal publication for logistics, Naval Logistics (NDP 4) also fails to recognize the necessity for salvage forces. In no place in the discussion

¹³ U.S. Navy Dept., Navy Capabilities and Mobilization Plan, OPNAVINST S3061.1D (Washington: 1993), 1-1.

¹⁴ *Ibid.*, B-21.

¹⁵ Salvage in the context of the publication most likely using Webster's definition as “property saved from destruction : something extracted as valuable or useful.” It is impossible to determine the exact meaning as “salvage” is excluded from the glossary. Also of interest is the fact that the the Defense Dept. Dictionary of Military and Associated Terms also pays short notice to salvage by omitting many of the possible missions and other operations that salvors may attempt.

¹⁶ Joint Chiefs, Joint Task Force Planning Guidance and Procedures, Joint Pub. 5-00.2 (Washington: 1991), E-2.

of the six functional areas of logistics (Supply, Transportation, Health Services, Maintenance, Engineering, and Other Services) does it provide guidance or designate responsibility for employment of salvage forces.

Command and control of salvage forces is under the overall aegis of the Force Salvage Commander (FSC) according to the U.S. Navy Surface Ship Survivability Manual, (NWP 62-1 (Rev. D)). This is similar in concept and execution to that of the anti-air warfare commander or surface action group commander. The position has been left vacant in recent operations¹⁷ or assigned to personnel with no salvage experience and/or knowledge.¹⁸

The Naval Coastal Warfare Doctrine (NWP 39 (Rev. A)) muddies the picture even further by assigning diving and salvage forces to the Harbor Defense Commander (HDC), who, when designated, is the operational subordinate of the Naval Coastal Warfare Commander (NCWC), under the direction of the Naval Component Commander (NCC). NWP 39 does provide up-to-date descriptions of the type of missions contemplated for the salvage force and a comprehensive source listing of the forces available. Unfortunately the command and control schematic is at odds with the aforementioned NWP 62-1, the question remains: to whom does the FSC report?

One can look to joint planning documents for this information but it won't be found. In the Joint Operation Planning and Execution System (JOPES), reference to salvage requirements can be found in sub-paragraph (3)a.(3)(f) of Appendix 13 to Annex C of the main document. This hidden gem is in the dusty corner of the section on explosive ordnance

¹⁷ U.S. Dept. of Defense, "Lessons Learned, JTF Andrew," Joint Universal Lessons Learned Database, July 1993.

¹⁸ U.S. Navy Dept., Operation Desert Shield/Desert Storm Salvage Report, Vol. 1, T0800-AE-RPT010/SUPSALV (Washington: 1991), 7-2.

disposal--the operational commander is not going to look there for information.¹⁹ The appropriate place to reference salvage in JOPES is Annex D, Logistics, since salvage is a logistics function.²⁰ Without hard-copy OORDER planning, it will be impossible to ensure the presence and integration of salvage assets as operational contributors to Joint Force missions.

Finally, there is no publication which comprehensively delineates the capabilities of the various services with respect to salvage operations. Such a document would enhance the ability of the operational commander to respond to salvage missions. It was considered of vital enough concern to elicit this lesson learned from JTF Andrew:

“8. RECOMMENDED ACTION: Further capabilities information needs to be communicated by the Navy to those Army commands that will lead disaster response roles (CINCFOR and the CONUSAs).”²¹

It was known following Desert Shield/Desert Storm that salvage was poorly represented in Navy doctrinal publications: “Navy planning publications...designed to address the Navy responsibility to provide service component support to CINC operational planning are inadequate....”²² Unfortunately, this remains the status quo.

¹⁹ LCDR David Balk, USN, interviewed by John Allen in the Operation Desert Shield/Desert Storm Salvage Report, Vol. 2, “There is a general lack of awareness [at Fleet levels] that these activities [salvage] include more than EOD.”

²⁰ Salvage is mentioned in Annex D, para. 4.a.1(c), but under Webster’s “other” definition, previously discussed (see note 15); once again no glossary definition for “salvage”.

²¹ U.S. Dept. of Defense. “Lessons Learned, JTF Andrew.”

²² CDR Kemp Skudin, USN, “Salvage Support for the Operational Commander - What He Needs and May Not Get.” Unpublished Research Paper, U.S. Naval War College, Newport, RI: 1992, ii.

Operational planning.

*"Lessons Learned: There should be deliberate planning to ensure the presence and integration of salvage assets in the naval force composition as operational contributors to the Fleet combat effort."*²³

The Salvage Facilities Furnished by Navy Act of 4 May 1948 designates the U.S. Navy as the government's agent for salvage.²⁴ The Committee on the National Salvage Posture noted that a single casualty of national interest could cause the current level of salvage capability to be sharply questioned;²⁵ indeed, the crash of TWA Flight 800 in waters south of Long Island elicited harsh media criticism of the Navy's (and others') response.²⁶

Historically salvage forces fall under the umbrella of the Logistics Force Commander for administrative and operational control. During World War II, Service Squadron Ten was tasked to provide logistic support, including salvage, to forces on the island-hopping campaign towards Tokyo. "The composition of vessels...under the operational administration of the Service Squadron will include...salvage tugs, ...salvage barges, ...salvage vessels...."²⁷ The actual composition of the squadron included 4 AT Oceangoing

²³ U.S. Navy Dept., Operation Desert Shield/Desert Storm Salvage Report, Vol. 1, 7-3.

²⁴ U.S. Laws, Statutes, etc., "Salvage Facilities," U.S. Code, Title 10--Armed Forces, 1988 ed. (Washington: U.S. Govt. Print. Off., 1989), sec. 7361-7367.

²⁵ Committee on the National Salvage Posture, Marine Salvage in the United States, 2.

²⁶ Two of the Navy's four remaining active salvage ships (USS Grasp and USS Grapple) were involved in this mission, along with numerous combatant and contract ships, personnel, and equipment. Even the availability of these two ships was in question, Grasp had just returned from a Mediterranean deployment two days before she was underway again for recovery operations. While Grapple and Grasp were on station, there was no active U.S. Navy salvage vessel (ARS) available anywhere else in the Atlantic; of the two ARS extant (USS Safeguard and USS Salvor), one was in Hawaii and one was deployed to the Western Pacific at the time.

²⁷ RADM Worrall Reed Carter, USN, Beans, Bullets and Black Oil: the Story of Fleet Logistics Afloat in the Pacific during World War II (Washington: 1953), 95.

tugs, 4 YT Harbor tugs, 4 ATR Rescue tugs, 2 ARS Salvage ships, and 1 Salvage barge in addition to a large inventory of other combat logistics assets.²⁸

Currently no single organization can claim the salvage forces, hence planning is sporadic and incomplete where it exists at all. Mobile Diving and Salvage Units are under the cognizance of Explosive Ordnance Disposal (EOD) groups, ships in the Pacific are owned by a surface group and those in the Atlantic by a logistics group. Military Sealift Command vessels are within another entirely separate chain of command. This lack of unity in command yields difficulty in sourcing assets.

The disconnect in identifying the source of salvage force assistance recurred as recently as JTF Andrew, civil support operations in Dade County, Florida following Hurricane Andrew's destructive visit. In A Program Guide to the U.S. Navy-Marine Corps Team, USS Opportune is lauded for harbor clearance and navigational aid relocation efforts.²⁹ What isn't mentioned is the difficulties experienced by the JTF Commander in identifying and requesting Opportune's assistance.

“5. OBSERVATION: Navy shipboard capability was not requested by the Joint Task Force. The effective use of these forces in the response to Hurricane Andrew came about (only) through the effective project identification and scoping (sic) by the Navy Task Force Leadership.”

“The Army staff and decision making leadership were not familiar with the capabilities the Navy could provide.”³⁰

²⁸ Ibid., 105.

²⁹ U.S. Navy Dept., Force 2001: A Program Guide To The U.S. Navy-Marine Corps Team (Washington: 1993), 15.

³⁰ U.S. Dept. of Defense. “Lessons Learned, JTF Andrew.”

“When the salvage fleet cannot respond to a salvage call in a timely fashion, the standard approach is to contract for services. SUPSALV tries to give the Fleet first right of refusal, and the Fleet usually refuses.”³¹ Generally this is due to a lack of knowledge, at the Fleet level, of salvage force capabilities. Numerous researchers previous to this effort have recommended that salvors be placed on operational staffs in order to ensure representation in the planning phase; specifically, that operationally trained salvage specialists be assigned to positions where they can be active participants in deliberate planning. This has not been accomplished. As of December 1996, Special Operations Officers are assigned to only two CINC and three Fleet staffs, and then predominantly in ordnance billets.³²

This lack of recognition for the necessity of identifying salvage forces and assigning responsibility for their employment has had serious consequences in the recent past. During Operation Desert Storm, salvage force commanders experienced nearly insurmountable difficulties scheduling vital salvage gear aboard military flights into theater as early in the operation as August 1990. “[T]here was no salvage officer in the operations and planning section of the COMUSNAVCENT staff, nothing was programmed to be sent by TPFDD (Time Phased Force and Deployment Data),”³³ hence there was no room aboard the aircraft.³⁴

During Desert Shield/Desert Storm the Army had assets the Navy was unaware of until late in the operation. CDR Kemp Skudin, in his critique of the operation, was emphatic

³¹ U.S. Navy Dept., Operation Desert Shield/Desert Storm Salvage Report, Vol. 2, T0800-AE-RPT020/SUPSALV (Washington: 1991), 14.

³² Telephone conversation with LCDR G. Wyndhorst, PERS-416, Washington, 18 December 96.

³³ Skudin, 3.

³⁴ An interesting question also arose at the time as to payment for services rendered. TRANSCOM does not ship materiel for free; who was to pay for the shipment of tons of gear?

in recommending coordination between U.S. Army Transportation forces, U.S. Navy Seabees, and afloat salvage forces.³⁵

One of the key reasons for this lack of coordination was the lack of representation on COMUSNAVCENT staff; there was no FSC. Without a presence on the staff, there was no mention of the necessity for salvage forces in the Operation Plans (OPLANs). In fact, the Concept of Operations for salvage (CONOPs) was not completed until January 1991. There would have been no reason for NAVCENT to consider the necessity for deployment of salvage forces. "In USNAVCENT's priority of concerns, salvage was somewhere towards the bottom."³⁶

USNAVCENT was counting on the presence of SMIT commercial salvage tugs to get the job done, if necessary. Was this a prudent idea? Salvage assistance is available to Joint Task Force (JTF) commanders from one of these six sources of salvage expertise, in concert with assets available from the other services:³⁷

1. Fleet salvage ships and tugs.
2. Air mobile salvage teams embarked on major combatants or auxiliaries.
3. Navy platforms of opportunity.
4. The Emergency Ship Salvage Material system.
5. SUPSALV technical expertise.
6. *Commercial salvage assets under contract to area commanders or the Supervisor of Salvage (SUPSALV).*

Commercial assets are the least likely to be available, and the near total absence of commercial salvage ships makes this alternative impossible to achieve.³⁸ A study by

³⁵ Skudin, 25.

³⁶ U.S. Navy Dept., Operation Desert Shield/Desert Storm Salvage Report, Vol. 1, 7-2.

³⁷ Dept. of the Navy, Surface Ship Survivability, NWP 62-1 (Rev. D) (Washington: 1993), 9-12.

³⁸ Committee on the National Salvage Posture, Marine Salvage in the United States, 45, notes that in 1981 the only fully equipped, dedicated salvage ships in the eastern region were the U.S. Navy salvage vessels. Although there is a proliferation of oil field supply type vessels today (essentially heavy tugs), these vessels lack the dedicated facilities, personnel, and equipment of active Navy salvage ships.

SUPSALV concluded that by the year 2010 the ability of the commercial salvage industry to augment U.S. Navy salvage forces will decrease significantly, unless there is a reversal of the trend of the last twenty years.³⁹

Insurance costs may be prohibitive to the extent that they preclude deployment of a vessel. During Operation Desert Shield/Desert Storm, insurance underwriters charged additional premium for the high risk area at a rate equal to 25% of the ship's value per week, (an annual rate of 1,300%, or 26,000 times the pre-conflict rate for the area.)⁴⁰ Although governmental agencies will write risk insurance for vessels operated in the vital national interests of the U.S., this insurance is only available during time of war and may be unavailable during MOOTW.

In the early days of salvage, with an inadequate salvage organization, operations were conducted by ad hoc organizations with little experience or equipment; this nearly always resulted in excess blood, time, and treasure expended.⁴¹ This methodology in operationally planning for salvage is totally ineffective. History tells us that operational doctrine must be continuously modified to meet the changing situation; concepts and doctrine must be able to meet new sorts of challenges and the restraints that govern possible responses.

In 1991, a working group recommended that the Chief of Naval Operations develop and formally promulgate a Fleet Salvage and Survivability Doctrine for salvage forces to ensure that salvage is addressed in CONOPs, OPORDs, and OPLANs; this has yet to be

³⁹ U.S. Navy Dept., Salvage 2010. Navy Force Level Requirements for Salvage Ships, 22.

⁴⁰ U.S. Navy Dept., Operation Desert Shield/Desert Storm Salvage Report, Vol. 1, 2-2.

⁴¹ Loss of the armored cruiser USS Milwaukee in December 1916 while participating in the retraction of Submarine H-3 is an early example. Not only was the attempt unsuccessful, but Milwaukee herself stranded in the retraction attempt and was a total loss.

accomplished.⁴² This doctrine will prove especially vital in MOOTW since the military's presence and its ability to operate in crisis environments and under extreme conditions may give it the *de facto lead in operations* normally governed by other agencies.

Conclusions/Recommendations

*"If the Gulf War salvage experience can be summed up into one all-encompassing lesson learned, it is that salvage must be integrated into mobilization planning and execution and included in the deliberate planning for crisis response...."*⁴³

The U.S. Navy, as the government's agent for salvage, needs to develop a sound salvage policy that takes into consideration the joint force environment. The alternative of assigning salvage responsibilities to the commercial sector and eliminating the Navy's salvage capability is not realistic.

A joint publication relating to salvage needs to be developed under the Joint Logistics (4-0) hierarchy.⁴⁴ This publication should provide guidance, policy, and doctrine on the organization, coordination, planning, and command and control of salvage operations and must place special emphasis on day-to-day peacetime operations and responsibilities assignable as MOOTW. It should also specify the characteristics and capabilities of the equipment and services available to the Joint Force Commander as well as provide information on the organization and units from all the military services that are capable of supporting such efforts. At a minimum, existing doctrine must be updated to include salvage and related functions as mission-essential tasks.

⁴² U.S. Navy Dept., Salvage 2010, Navy Force Level Requirements for Salvage Ships, 31.

⁴³ U.S. Navy Dept., Operation Desert Shield/Desert Storm Salvage Report, Vol. 1, i.

⁴⁴ If there is a Joint Tactics, Techniques, and Procedures for use of Intermodal Containers in Joint Operations (Pub 4-01.7)...

A Force Salvage Commander (FSC) is vital and, when assigned, needs control of joint assets in order to efficiently deploy equipment, personnel and materiel where needed.

The ability to provide rapid and effective response requires an operational doctrine that places salvage resources where they can be most effective and that will assign the appropriate resources to the mission, i.e. "Git thar fustest with the mostest"--bedrock advice for operational commanders.

Salvage, especially the deployment of forces and equipment, needs to be integrated and considered in the joint force's deliberate planning process for MOOTW. During time of crisis there will be little time for planning and consideration, and unless we improve our performance by getting the word out, salvage will remain an unplanned, ill defined function with no responsible ownership or proponent.

Bibliography

Bartholomew, CAPT C.A., USN. Mud, Muscle, and Miracles, Marine Salvage in the United States Navy. Washington: U.S. Navy Dept., 1990.

Carter, RADM Worrall Reed, USN. Beans, Bullets, and Black Oil: the Story of Fleet Logistics Afloat in the Pacific During World War II. Washington: U.S. Navy Dept., 1953.

Center for Naval Analyses. Guidelines for the World's Maritime Forces in Conducting Multinational Operations: An Analytical Framework. CRM 95-119. Alexandria, VA: 1996.

_____. Prolegomenon to Any Future Naval OOTW Doctrine. Vol. 1: Discussion. CRM 95-205. Alexandria, VA: 1996.

_____. Prolegomenon to Any Future Naval OOTW Doctrine. Vol. 2: Appendices. CRM 95-206. Alexandria, VA: 1996.

_____. Fighting Oil Spills at Sea and Forest Fires at Home: Incorporating Naval Operations Responding to Environmental Disasters into Doctrine, CRM 94-156. Alexandria, VA: 1996.

Committee on the National Salvage Posture. Marine Salvage in The United States. Washington: National Academy Press, 1982.

Evans, CAPT James M., USN. "U.S. Navy Special Operations Community--Diving and Salvage Functional Area." Unpublished Research Paper, Industrial College of the Armed Forces, National Defense University, Fort McNair, Washington: 1993.

Institute for Defense Analyses. Alternative Multinational Force capabilities for Operations Other Than War. Vol. II. Alexandria, VA: 1995..

Joint Chiefs. Compendium of Joint Publications. Joint Pub. 1-01.1. Washington: 1995.

_____. Dept. of Defense Dictionary of Military and Associated Terms. Joint Pub. 1-02. Washington: 1994.

_____. Doctrine for Joint Operations. Joint Pub. 3-0. Washington: 1995.

_____. Joint Doctrine for Military Operations Other Than War. Joint Pub. 3-07. Washington: 1995.

- _____. Joint Operation Planning and Execution System. CJCSM 3122.03.
Washington: 1996.
- _____. Joint Task Force Planning Guidance and Procedures. Joint Pub. 5-00.2.
Washington: 1991.
- Laws, Statutes, etc.. U.S. Code, Title 10--Armed Forces. 1988 ed.. Washington:
U.S. Govt. Print. Off., 1989.
- Skudin, CDR Kemp L., USN. "Salvage Support for the Operational Commander - What
He Needs and May Not Get." Unpublished Research Paper, U.S. Naval War
College, Newport, RI: 1992.
- U.S. Defense Dept.. "Lessons Learned, JTF Andrew." Joint Universal Lessons Learned
Database. Washington: 1993.
- U.S. Navy Dept.. A Short History of the Navy Salvage Service. NAVSHIPS 250-694-1.
New York, NY: 1948.
- _____. Force 2001: A Program Guide to the U.S. Navy-Marine Corps Team.
Washington: 1993.
- _____. Harbor Clearance Operations in Guam Following Typhoons Karen and
Olive. NAVSHIPS 250-638-5. Washington: 1964.
- _____. Naval Coastal Warfare Doctrine. NWP 39, Rev. A. Washington: 1994.
- _____. Naval Logistics. NDP 4. Washington: 1995.
- _____. Naval Operational Planning. NWP 11. Washington: 1991.
- _____. Naval Supplement to the Dept. of Defense Dictionary of Military and
Associated Terms. NWP 1-02 (formerly NWP 3). Washington: 1995.
- _____. Naval Warfare. NDP 1. Washington: 1994.
- _____. Navy Capabilities and Mobilization Plan. OPNAVINST S3061.1D.
Washington: 1993.
- _____. Operation Desert Shield/Desert Storm Salvage Report, Vol. 1. T0800-AE-
RPT010/SUPSALV. Washington: Naval Sea Systems Command, 1991.
- _____. Operation Desert Shield/Desert Storm Salvage Report, Vol. 2. T0800-AE-
RPT020/SUPSALV. Washington: Naval Sea Systems Command, 1991.

_____. Salvage 2010, Navy Force Level Requirements for Salvage Ships.
Washington: Naval Sea Systems Command, 1991.

_____. Suez Canal Salvage Operations in 1974. Washington: Supervisor of
Salvage, 1975.

_____. Surface Ship Survivability. NWP 62-1 (Rev. D). Washington: 1993.