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Amphibious Warfare Ships For the 21st Century

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AMPHIBIOUS WARFARE SHIPS IN THE 21ST CENTURY

by Captain R.R. Hanke, U.S. Navy

ABSTRACT

This paper discusses the amphibious warfare ships of the United States Navy. The buildup of the Department of Defense has been driven by victory in the Cold War and defeat in the battle of the budget. For the first time this century Americans have the chance to reshape the military forces that were previously focused on the Soviet Union. At the same time, the new democracies seem to have created a world that is less stable than the superpower struggle of the twentieth century.

The 1992 election has accelerated the calls to use the peace dividend to solve the economy's woes. The United States finds itself a debtor nation with little flexibility to fund an endless demand for dollars. Voters want jobs for Americans and they want to feel more secure about their future.

DOD is under public pressure to continue cutting defense spending now that the communist military threat has disappeared. This buildup will dramatically change the composition of military forces. Services must change their methods of defending budget shares or face a return to the hollow military of the 1970's. This paper demonstrates the need to have amphibious forces deployed in the 21st century.

This is not a defense of a shipbuilding program or the United States Marine Corps. It is a case for the expenditure of scarce public dollars to facilitate the peace that America is today enjoying. It is a realization that the fleet that was built to stand up to the Soviet Navy will have to change to support national security strategies of the next century.

A brief survey of the employment of amphibious forces during recent years suggests the wide spectrum of capabilities that this force possesses. The amphibious ships that are in the fleet of the United States Navy are the product of decades of development. Several new classes of ships are coming into service. They promise increased capabilities to fleet commanders. Finally, some suggestions for the architecture of the next generation of amphibious ships is recommended.

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ABSTRACT

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AMPHIBIOUS WARFARE SHIPS FOR THE 21ST CENTURY

The decade of the 90's may have just begun, but world events have taken place that were unthinkable just a short time ago. At the moment, communism appears a defeated or at least fallen empire and democracy and free markets seem to be blooming around the world. Closer to home, America seems to be turning inward and pressing Washington for protection of jobs and industries. Japan bashing is a presidential election year sport. Washington's business as usual approach to budgets is under attack. The security strategy that the Bush administration advocates is providing politicians fertile ground for the presidential elections of 1992.

The Defense Department invested billions of dollars in a force to win the cold war. I believe that adapting its anti-Soviet capability to meet today's threats will require significant yearly expenditures. Strategic nuclear forces will need funding to maintain and deactivate warheads and missiles. SDI research will build a shield for the United States against the proliferation of ballistic missiles. The conventional forces that were designed to meet the Soviet land offensive will need to adapt to a world where threats are not as clear the Red Army.

Because of these changes in international politics and the crisis in the U.S. economy, the missions for the

military and in particular the Navy's amphibious ships will continue to change as we approach the 21st century. The bipolar world of the cold war provided a focus for all Navy planners. The enemy was known and his capabilities were on display around the world.

This research paper will probe the changes that are dominating our world today and their implications for naval force structures and missions. This will not be a defense for a ship construction program or an effort to save the Marine Corps from the Army. The 1992/93 Defense hearings before the House Armed Services Committee (February, 1991) provided a glimpse of the new force structure that the Bush administration is developing. A brief description of this new force will be presented later in this paper.

This paper will also describe the integration of the amphibious ships currently in the inventory into this structure which will be the fleet at the turn of the century. Finally, design possibilities for ships to sail through the 21st century will be presented. Amphibious ships (gators) have a proud history of fighting alongside the Marine Corps and landing the landing force. This warfare mission will continue to evolve and grow in importance in the 21st century.

AMERICA'S DEFENSE

The United States is not able to conduct business as usual. Annual federal deficits have created a national debt

that requires larger and larger portions of the revenues collected to service it. The result is a reduction in policy options and budget flexibility. The United States government has less to spend on new programs. It is imperative that military planners participate in budget debates and avoid the trap of supporting service positions adopted to insure traditional budget shares. Hopefully this paper will encourage others to analyze long supported missions and provide rationale for their integration into a national defense strategy instead of clinging to traditional missions. America has an opportunity to truly reform DOD.

The United States will need to make major decisions on how much of the federal budget is to be devoted to defense. During hearings on the 1992/93 Defense budget, the Bush Administration indicated that intelligence estimates that we would have two years warning of a major war. Implicit in this new approach is a capability to retool for wartime production of heavy arms in the assumed two years of warning. I do not believe that America can afford to do this with our ship construction programs to support naval force structure and sealift requirements. Reconstitution of warships and sealift ships would take a lot longer than two years. The Wasp class amphibious assault ships take nearly four years to build in the modern Ingalls shipbuilding facility. A graduated industrial mobilization strategy must be developed as an integral part of this new look. Investing in the research and development of weapons systems

without similar planning for the industrial base to produce the systems is a waste and a strategy for defeat. This is not a DOD-only task.

If the Department of Defense refuses to present new and realistic plans for force structures to Congress, the cuts will be made anyway and catch-up will be the name of the planning game. Strategies will be limited by the forces the legislature allows the DOD to keep. The debate must be about goals, objectives and missions. If this debate is over force levels, we may well back into a strategy that will not serve the national interest of the United States in the 21st century.

Defense dollars seem ripe for the picking and many politicians have plans to spend the peace dividend. National security demands on the budget must be loud and clear. Military force will be an option that decisionmakers will require for the multipolar world of the 21st century. Amphibious forces will be in greater demand than ever.

THE THREAT HAS CHANGED

Underlying the re-examination of the United States' role in the world and its search for a national security strategy are the monumental changes in the international security environment during the past few years. Virtually all assessments of the risk of war today emphasize the reduced threat of conflict in Europe. How long would it take the Soviets to rebuild their armies and position them

to worry us? According to James Tritton, the answer now accepted by Defense planners is at least two years. DOD planners now assume that a land-oriented strategic operation cannot be mounted without the intelligence community being able to obtain indicators two years in advance.

Reconstitution of cold war type forces is driven by this warning estimate. I believe that history has shown that America doesn't take action based upon indications of a crisis. Unless we are attacked, we will most likely delay reconstituting heavy forces. Our government is not structured for early and timely decisionmaking. We cannot return to the hollow military of the 1970's. Capabilities must be maintained for nasty little "come as you are" wars.

Until now, the unstated relationship of the threat to programmed forces was that forces would meet the challenges of the most demanding threat--the USSR--and the assumption was that they would be capable of meeting lesser threats and contingencies. Forces are to be acquired to meet the challenges of the more likely, less-demanding, threats. Nevertheless, the United States must maintain forces capable of thwarting the more unlikely, but demanding threat posed by a former superpower (ex-Soviet Union) that may decide to rearm. European history, since the rise of Napoleon, is a series of wars that were fought to defeat a nation seeking world domination. I do not see the multipolar world as being more stable. Peace is a very fragile state of being.

THE NEW FORCES

The amount of resources devoted to defense in the last decade is decreasing. Present forces deemed not necessary will be disbanded, not put into the reserves, since there is at least two years to reconstitute the heavy forces. How much risk is involved in the deactivation of 500,000 active duty personnel is the key question. Few in Washington are pausing to assess this risk.

The new force structure, or the base force, as General Powell calls it, is to be organized into four major components: strategic nuclear offensive and defensive, Atlantic, Pacific, and a contingency response force. What goes into these forces will shape Defense planning for the new world order of the 21st century. I will focus on the contingency response force which is truly a new look.

The contingency response force will apparently be shaped by the need to provide overseas presence and a response to regional crises, not a quick return to Europe. This force is described as: first, Army light and airborne divisions; second, two Marine Expeditionary Brigades; third, special operations forces; and fourth, selected Air Force units. These first tier ground forces will fly to the crisis.

A second tier of forces would buttress the above initial force. First, the carrier forces and second, the amphibious forces would provide responses that did not fly to the crisis. The implication is that the carrier forces will not be forward deployed as in the past and the Navy

will not have its current number of carriers. The Marines' emphasis on maneuver warfighting doctrine and the reduction of amphibious lift requirements to 2.5 MEB's allows the Navy's planned force of amphibious ships to meet requirements. Fewer Marines are afloat and they have less heavy equipment with them.

The third tier of the contingency force would be heavier forces with the logistics for extended operations. The Gulf War demonstrated the need for sealift investments to expedite this third tier's arrival on station in time to support the lighter forces. Foreign flag ships were available to the United States for two reasons. First, there is an excess capacity of shipping in the world. More importantly, the coalition formed in the United Nations was willing to support United States military action. Both of these conditions were necessary to lift our 500,000 plus force to the Gulf. The tanks and heavy equipment that were drawn from MPS in the Indian Ocean and Army armor units in Europe sailed to the Gulf. With the projected cutback in forward deployed forces, we must invest in both sealift and MPS or else the third tier will remain at home in the States.

THE ROLE OF AMPHIBIOUS FORCES

IN THE 21st CENTURY

I believe the 21st century will present multiple crises for which amphibious ships are ideally suited. The

Amphibious Ready Group (ARG) is a squadron of ships, aircraft group and embarked Marines that are forward deployed to respond to the fleet commander's tasking. ARG military force and non-combat capabilities are available to stabilize situations where United States interests are in danger. The new democracies of the world will need time to grow and cannot survive without a strong and responsive ally. The extensive air and sea transportation capabilities of the ARG are available to help governments and peoples facing natural and man-made crises. Airlifting supplies and personnel when transportation infrastructure is in ruins expedites recovery and limits suffering. The medical facilities of an ARG can provide state of the art disaster relief and forwarding of casualties to the DOD medical system. Sensor and communications systems of amphibious ships provide our national decisionmakers with real time situation reports. CNN and other international media do provide reports, but cannot provide the dialogue essential to crisis management. Two way communication is required when national security is at stake.

This multiple crisis environment demands that each amphibious ship be capable of independent action. During the Gulf War, an ARG was committed to providing relief and security for the Kurds who left Iraq. The long term missions like Provide Comfort which commit an ARG cannot tie a fleet commander's hands. The gators must be capable of responding to terrorist acts or instabilities in other

locations. Amphibious ships must have combat systems that are linked by satellite to commanders. Each ship in the ARG must be able to operate independently to support fleet tasking. The Marines afloat are organized to provide a wide spectrum of combat capabilities. The ships must be multi-mission capable to support the Marines. Amphibious warfare has long emphasized operations with the other armed forces. Gators are joint operations experts.

JOINT OPERATIONS

Today the ARG relies upon the carrier battle group for its tactical air power. Additional tactical air support is provided by air force and army aviation units. Outside the center stage that the media focuses upon, the joint services are busy operating together. During a 1989 6th Fleet exercise that I participated in, a Navy F-14 took photos of our assault objective. The pictures were processed on the carrier and delivered by S-3 air drop. B-52 strikes were called in to soften up the beaches. The Wasp is now able to obtain this information via secure communications link from the carrier.

The drug interdiction mission is another joint mission that is providing the gators with a new challenge. Amphibious ships are deployed from the Atlantic and Pacific coasts to counter seaborne drug traffic. The joint task force uses high tech systems to intercept drug runners. The gator ships are a vital part of this joint force. Aircraft

from all services use their aviation facilities and rely upon their support to conduct missions. Embarked Coast Guard detachments are used to board and search intercepted vessels. The endurance of gators and designed multi-mission capability of these ships are unique parts of the counter narcotics policy of this nation. Port visits in Central and South America show the flag and establish contacts with governments that have received little attention from the United States during the cold war. This presence in the western hemisphere will fight more than drug traffic. Free trade and democracy will continue to grow if we pay attention to and actively participate in affairs of our neighbors to the south. Less publicized missions are often the key to influence and friendships with smaller nation states.

The revolution in Haiti this past year saw amphibious ships rescuing boat people. Gators were sortied from Norfolk, Virginia to provide services at the naval base in Guantanamo Bay, Cuba. Well decks were converted to shelters that provided fresh water, electricity, hot food, sanitary service, and even clean beds for hundreds who were stranded in their attempt to flee the violence at home in Haiti. Amphibious ships are cities at sea that bring help, health and comfort to any disaster or crisis. The devastation of hurricanes and typhoons is often countered by gators moving everything from telephone poles to baby food to aid victims of these natural disasters. The embarked sailors

and marines make the very best impression on these victims that the United States government cares about them. National decisionmakers will continue to use the amphibious forces for many peacetime missions. Desert Storm saw the largest amphibious force in decades assembled, trained and deployed for combat.

DESERT STORM

The Marine force afloat in the Gulf was successful in decoying several divisions. This force also participated in tactical air operations against shore and afloat targets. It helped to enforce the shipping embargo on Iraq. Mine hunting and mine destruction were a daily routine. Navy and Marine helicopters were the eyes of this anti-mine effort. During Desert Shield, two gators (USS Guam and USS Trenton) were sent south to Somalia to rescue U.S. citizens besieged in our embassy.

This operation involved the use of large Marine helicopters that refueled inflight from a C-130 Marine tanker that was ashore. The CH-53E helicopters landed on the embassy grounds just as the rebels were coming over the wall. Embarked Marines secured the area until daylight. Shorter range CH-46E helicopters were launched the next day from the amphibious ships and evacuated hundreds of diplomatic personnel. The acquisition of the MV-22 Osprey will provide a faster and longer range aircraft than the helicopter to conduct such rescues. Operating in darkness

with the use of night vision devices makes these Marines invaluable to any fleet commander. The building block approach used to create MAGTF's permits this kind of division of assembled forces without the loss of mission capability or flexibility. The two ship force was dispatched by the joint commander to Somalia and returned for Desert Storm. The range and endurance of these amphibious ships permitted operations that were responsive and uncomplicated by logistics.

During the crisis in the Gulf, the employment of a MEU off the west coast of Africa for nearly a year demonstrated the real staying power of amphibious squadrons. Their ability to sustain themselves and remain engaged permitted the diplomatic resolution of a violent revolution and minimized casualties on all sides. The continuing loss of overseas bases will place a premium on this capability to respond quickly and remain on station for extended periods. Equipment now being introduced into the fleet will improve amphibious forces.

AMPHIBIOUS FORCES TODAY

The ships of the U.S. Navy's amphibious forces are in the midst of introducing the most capable ships ever acquired. They are replacing gators that have reached the end of their service lives. The cost of maintenance beyond this life grows enormously as basic ship hull structure has rusted or worn to the point that it must be replaced. The

typical warship lasts thirty or more years before it is retired from service. Modernization is an ongoing process for any warship. The sensor and weapons systems are updated throughout the ship's service life. It is important to realize that the warship is never turned off. A ship is alive and the lights are on for those thirty plus years it is in fleet service.

Much like carrier battle groups, amphibious ships are organized and deployed as groups of ships. Current deployment doctrine places one carrier group in the Atlantic, a second in the Pacific and a third in the Gulf. Amphibious Ready Groups (ARG's) are composed of ships to support the Marine Expeditionary Units (MEU's) and are deployed in the same theaters as the carriers for six month deployments from homeports in the United States. The carrier battle group and the amphibious ready group routinely transit to and from the United States and conduct joint exercises while deployed overseas. The three deployed groups of carriers and gators are maintained on station without overseas homeports and are always ready to respond to national tasking. Three general types of ships make up the amphibious ships of today's Navy.

Each ARG is built around an air capable assault ship that looks a lot like a carrier without an angled flight deck. They serve as the flagship for both the Navy and Marine commanders of the ARG. The five Tarawa class general purpose amphibious assault ships (LHA) and five WASP class

multi-purpose amphibious assault ships (LHD) have a well deck which can be flooded to support boat or hovercraft operations. Their large well deck, flight deck and state of the art command and control systems make them the most capable and versatile gator flagships.

Dock landing ships are the second type of amphibious ship. These ships can load and launch small boats in an internal wet well which serves as a sheltered marina for over the beach or open ocean boat operations. The Whidbey Island class (LSD-41) is the first to use diesel propulsion and be capable of operating four hovercraft (LCAC's) from its well. It has the largest flight deck of any dock landing ship the Navy has ever built. Only the LSD-41 class will continue into the 21st century.

The tank landing ships (LST) are the third type of amphibious ship. They are the only gator ships that actually put their bows on the beach so troops and vehicles can move ashore. A stern gate is used for the launching of swimming tracked assault vehicles (AVT's) to move infantry safely ashore. A single spot helo deck rounds out the LST's transportation capabilities.

Additional bulk transport and small boat capability is provided by the amphibious transport ships (LKA's). Only two of this class are in operation. The Navy is building a cargo variant of the LSD-41 class to meet this requirement in the 21st century. The embarked Marine Expeditionary Unit (MEU) brings thirty to sixty days of material support when

it deploys as an ARG. This ever changing support package requires a flexible and modern afloat storage facility. All gators have extensive assault support systems to locate and move Marines and material ashore. All amphibious ships are air capable.

Senior naval planners recognize that decreasing defense budgets will limit funding of new gator classes. The LX class of ship is in the design stage today. It will replace the LST class early in the 21st century. It is doubtful that the LX will be a landing ship. More likely it will be a well deck type of ship with limited aviation capabilities.

MAGTF

The combat power of amphibious ships resides in the Marine Air Ground Task Force (MAGTF). The MAGTF is the basic building block of the USMC afloat expeditionary forces. A command element, ground combat element, air combat element and combat service support element form the MAGTF organization. Marine Expeditionary Units (MEU's) are battalion sized MAGTF's; MEB's are brigade sized; Marine Expeditionary Forces (MEF's) are the largest expeditionary units.

MEU mission capabilities provide the fleet commander with a wide range of options: crisis response, presence, alliance support, disaster relief, stability operations, security assistance, counternarcotics operations, and humanitarian assistance. These options are exercised in

training before deployment with all the armed services and recently have been in constant demand in the three deployed areas.

FUTURE GATOR FORCES

The air cushion landing craft (LCAC) is capable of moving a dozen vehicles at over forty knots onto and over the beach. Their ability to launch far out of sight of land and fly over obstacles opens much of the world's coastlines to amphibious forces. This speed and range greatly complicates the defender's problem of where to concentrate his forces. MV-22 tiltrotor and AV-8B Harrier aircraft will further speed up the problem and spread out the opposing force. These high speed assault forces are not dreams; they are available today. The decision to buy Osprey and continue to modernize the assault forces must not fall victim to our building down.

A more difficult problem faces those planning for naval forces in the 21st century. Today's Navy is a complex collection of unique ships and numerous classes of specialized ships. The architecture of the fleet in the 21st century must be clearly articulated.

In the January, 1992 edition of the Naval Institute Proceedings, Commander Bosworth, U.S. Navy, presents a next generation of fleet architecture. Before World War II, our naval fleet was based upon the battleship. The defeat of battleships by attacking aircraft and the successes of

carrier task forces focused the U.S. Navy on the aircraft carrier. Today's nuclear powered Nimitz class carrier is the mainstay of our fleet. An affordability crisis and an increasingly uncertain and multipolar world suggest a review of our naval battle-force architecture. The United States has interests around the world. How will a force of less than fourteen carrier battle groups meet these requirements? Since the 1960's, numerous advocates for vertical takeoff and landing (VTOL) aircraft have made their case for an alternative to the carrier. The Wasp class has a secondary sea-control mission and embarks an air combat element with an expanded AV-8B complement. The 21st century fleet that Commander Bosworth envisions has three types of ships for the surface force of the future.

The first would be large deck nuclear aircraft carriers similar to the 90,000 ton Nimitz class. The second type would be a family of Carrier Dock, Multimission (CDM) ships. The third class would be a scout-fighter, a guided missile destroyer, displacing 6000 tons and capable of refueling and rearming VTOL aircraft.

The CDM ship class would become the most numerous type of warship and most versatile type ever built. There would be specialized variants on the common theme. A common hull structure would be tailored to serve as a platform for the entire spectrum of surface ship missions. They would displace about 35,000 tons which is less than the Wasp class LHD. CDM's would employ low observable technology, support

aviation, surface and limited subsurface deployable vehicles. A ski jump would expand VTOL to include short takeoff aircraft with heavier loads. ASW, AEW and tanker aircraft would be added to the Marine aircraft embarked in today's amphibious ships. A well deck would ensure hovercraft and small boat operations. A hospital and medical facility with 400-600 beds would provide support like the LHD. The engineering plant of a CDM should be diesel driven making use of commercial subsystems. This would achieve fuel economy and reduce personnel and maintenance costs.

This new look would cross numerous union lines. The advocates of anti-air, anti-surface, and anti-submarine warfare will be uneasy with a proposal to reduce the fleet to three types of ships. Many senior Navy and Marine officers recognize that we do need to rethink our division of labor and restructure our fleet. CDM's would be the most versatile and numerous ships in the Navy. The CDM's would become the airfields of the fleet with as many as 100 of them in the fleet by 2050. This architecture is for a complete replacement of the many classes of ships that now make up the surface fleet. It stresses the importance of aviation to support fleet operations and the necessity to have more than a dozen carriers to provide aviation afloat.

This fleet of ships would use a common combat system that communicated by digital links. This linking would consolidate sensor data and support tactical decisionmaking.

National commanders could look over the afloat commander's shoulder. Crisis management would be based upon real time data and everyone could communicate his intentions more clearly. Risks and costs of alternative courses of action could be better evaluated. The collection of sensor and combat systems data would facilitate reconstruction of events and provide lessons learned to all decisionmakers.

Reducing the number of different classes to only three would do wonders for the maintenance and logistical support of the fleet. Standard systems could use spare parts in inventory rather than the almost custom made approach now used to replace or repair ships systems. Commercial shipbuilders would more likely compete for the construction and repair of standardized CDM's. The entire American shipbuilding industry would be revitalized by a program to construct 100 CDM's in the first half of the 21st century.

This is indeed a new look for the fleet. The reduction of the carrier force below the current level of 15 demands a bold move. Gators would do well to get on board with the CDM and have an amphibious assault version to follow the Wasp class. A single ship class of 35,000 tons would reduce much of the combat cargo problems faced by today's gators. Today, Marine and Navy planners must grapple with fitting the MEU into amphibious ships of eight different classes of ships. CDM would better support the changes in MEU logistics requirements for amphibious operations in the 21st century.

The addition of aircraft to provide long range sensor and weapons capabilities would greatly improve amphibious ships in the 21st century. The proliferation of cruise and ballistic missile technology threatens the very survival of all warships. An airborne early warning platform is needed to increase the response time available to counter these more sophisticated threats. Today's amphibious ships have short range sensors and anti-missile defense systems. Tomorrow's gators will not survive with this limited sensor and defensive suite.

CONCLUSION

Some readers will be disappointed that I have not advocated a high technology ship for amphibious warfare in the 21st century. The weapons and sensor systems of next century's warships will be high tech. The amphibious ship must be economical to build and operate. It will be the mobile base that transports American forces over the world's oceans. Forward presence of the U.S. Navy in our multi-lateral political environment will continue to be an option of choice for our decisionmakers.

The Navy is on the brink of a dramatic change in fleet composition. The victories in the Gulf and cold war this past year have presented force planners with a chance to focus beyond the immediate horizon. Amphibious forces can and will be needed to respond to national tasking. I have presented a possible strategy to reshape the gators of the 21st century. Let's get moving!

Works Cited

Commander Michael L. Bosworth, U.S.Navy. Fleet Versatility by Distributed Aviation. Naval Institute Proceedings, Annapolis, MD. January 1992.

President George Bush. "Remarks by the President to the Aspen Institute Symposium," Office of the Press Secretary(Aspen, Colorado), The White House, 2 August 1990.

Cheney, Dick. Military Forces in Transition. Washington: GPO, 1991.

Statement of the Secretary of Defense Dick Cheney before the House Armed Services Committee, in connection with the FY 1992-93 Budget for the Department of Defense, 7 February 1991.

"An Interview with Admiral William Crowe, USN (Ret.) by Fred H. Rainbow and Fred L. Schultz." Naval Institute Proceedings, Annapolis, MD. January 1992.

Dorsey, Jack. Navy is looking at options to reduce Med Deployment. The Virginian-Pilot, 29 November 1991.

Freidman, Norman. Desert Victory: The War for Kuwait. Naval Institute Press, Annapolis, MD. July 1991.

"Remarks by Rear Admiral Andrew A. Granuzzo, U.S.Navy, Commander Amphibious Group 2, to Captain R.R. Hanke". 31 December 1991.

BGEN M.T. Hopgood, Jr, U.S.Marine Corps. Experience Handle With Care. Naval Institute Proceedings, Annapolis, MD October 1991.

Statement by Admiral F.B. Kelso, II, U.S.Navy, Chief of Naval Operations, before the House Armed Services Committee on the Posture and Fiscal Year 1992/1993 Budget of the U.S.Navy, 21 February 1991.

Rear Admiral J.B. LaPlante, U.S.Navy, Commander Task Force 156/Commander Amphibious Group Two during Desert Shield/Desert Storm. Letter to the editors. Naval Institute Proceedings, Annapolis, MD. January 1992.

Remarks by Vice Admiral Anthony A. Less, U.S.Navy, Commander Naval Air Forces Atlantic, at the VX-1 change of command ceremony, Patuxent River, MD. 15 November 1991.

General Carl Mundy, U.S.Marine Corps, Commandant's service brief to ICAF class of 1992, Washington, DC 4 December 1991.

"Remarks by Vice Admiral Paul A. Reason, U.S.Navy, Commander Surface Warfare Forces Atlantic, to Captain R.R. Hanke". August 1991.

Major Charles R. Smith III, U.S. Marine Corps. The Case for the AV-8B Plus. Naval Institute Proceedings, Annapolis, MD. October 1991.

Tritten, Commander James J. What If It's Peace? Naval Institute Proceedings October 1991. Annapolis, MD

Turver, Scott. Tomorrow's Fleet. Naval Institute Proceedings, Annapolis, MD. July 1991.

Weeks, Stan. Crafting a New Maritime Strategy. Naval Institute Proceedings, Annapolis, MD. January 1992.