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In order to maximize the benefits of the Sea Basing concept, sea-based forces must have air command and control agencies which are organized, trained and equipped to seamlessly project power from the sea-base to the objective. Current amphibious air command and control doctrine and organization, which is predicated on the cumbersome process of phasing control from sea-based to land-based agencies, does not fully support the Sea Basing concept.

This paper advocates the development of a single, fully-integrated Navy and Marine air command and control system, which is primarily sea-based and has the capability to effectively provide services throughout the battlespace, both over-land and over-water. This integrated system must be fully compatible with Joint aviation command and control systems and have the ability to maximize the operational flexibility and freedom of action envisioned in the Sea Basing concept.

Successes encountered in the integration of Navy and Marine air command and control systems should serve as the model for the development of a Joint air command and control system, which would allow a Joint Force to

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STOP THE PHASING: A SINGLE INTEGRATED NAVY AND MARINE AIR COMMAND AND CONTROL SYSTEM FOR SEA-BASED OPERATIONS

by

Michael E. Hague
Major USMC

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

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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9 February 2004

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Faculty Advisor
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Abstract of

STOP THE PHASING: A SINGLE INTEGRATED NAVY AND MARINE AIR COMMAND AND CONTROL SYSTEM FOR SEA- BASED OPERATIONS

In order to maximize the benefits of the Sea Basing concept, sea-based forces must have air command and control agencies which are organized, trained and equipped to seamlessly project power from the sea-base to the objective. Current amphibious air command and control doctrine and organization, which is predicated on the cumbersome process of phasing control from sea-based to land-based agencies, does not fully support the Sea Basing concept.

This paper advocates the development of a single, fully-integrated Navy and Marine air command and control system, which is primarily sea-based and has the capability to effectively provide services throughout the battlespace, both over-land and over-water. This integrated system must be fully compatible with Joint aviation command and control systems and have the ability to maximize the operational flexibility and freedom of action envisioned in the Sea Basing concept.

Successes encountered in the integration of Navy and Marine air command and control systems should serve as the model for the development of a Joint air command and control system, which would allow a Joint Force to effectively operate from the sea-base. The Sea Basing concept, as currently envisioned, provides an unprecedented level of operational flexibility to the Joint Force Commander, and a fully integrated Joint air command and control system will be critical to enabling this flexibility.

INTRODUCTION

> ***We need to change not only the capabilities at our disposal, but also how we think about war. All the high-tech weapons in the world will not transform the U.S. armed forces unless we also transform the way we think, the way we train, the way we exercise and the way we fight.***
>
> Secretary of Defense Donald Rumsfeld,
> National Defense University, 31 Jan 02

In order to meet the challenges of the 21st century, the Navy and Marine Corps, in the capstone documents *Sea Power 21* and *Expeditionary Maneuver Warfare*, have put forth a vision for future naval operations in which advances in technology, coupled with innovative operating concepts are harnessed to provide an unprecedented level of offensive firepower, defensive assurance, and operational independence to the Joint Force Commander.[1] Integral to both these visions is the concept of Sea Basing. Sea Basing is more than just a family of platforms afloat, it is a system of systems which will network platforms and promote interoperability among Joint forces in order to project power from the sea to the land.[2] The ability to effectively command and control aviation and missile defense operations in a sea-based environment is critical to the projection of power from the sea-base to objectives over land. In order to maximize the benefits of the Sea Basing concept, the sea-based forces must have air command and control agencies which are organized, trained and equipped to seamlessly project power from the sea-base to the objective, eliminating the current cumbersome process of building up forces ashore in order to phase control from sea-based agencies to land-based agencies. The Navy and Marine Corps team, working through agencies such as the Navy Warfare Development Command and Marine Corps Combat Development Command, should lead the way in the development of a fully

[1] Vern Clark, "Projecting Decisive Joint Capabilities", Naval Institute Proceedings, October 2002, http://www.usni.org/Proceedings/Articles02/PROcno10.htm/ [18 November 2003]

integrated air command and control system which is primarily sea-based, functions throughout the battlespace, and is capable of seamlessly moving nodes and elements ashore as required. This model must be fully compatible with Joint aviation command and control systems and should provide the basis for developing concepts which would enable the effective command and control of Army, Air Force, and Special Operations aviation assets which may use the sea-base. Although not addressed in this paper, the issue of integrating command and control of Coalition partner aviation assets will become increasingly important as the Sea Basing concept matures.

In developing a concept for a sea-based air command and control system, relevant to the Joint Force Commander, this paper will do three things. First, drawing upon Navy and Marine Corps concept documents, as well as the report of the Defense Science Board Task Force on Sea Basing, we will focus on what the Sea Basing concept entails and what capabilities an air command and control system would need to maximize the benefits of the Sea Basing concept. Second, we will look at the current organization and doctrine of both Navy and Marine air command and control systems, and how these systems should be changed to maximize the benefits of the Sea Basing concept. Finally, using the Navy and Marine model as an example, we will address the implications of these changes on the Joint Force as a whole. This paper will focus primarily on doctrinal and organizational issues, and limit its emphasis on equipment issues, as it is felt that doctrinal and organizational issues are more readily affected by the Joint Force Commander.

SEA BASING AND RELATED CONCEPTS

[2] Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, Defense Science Board Task Force on Sea Basing, (Washington, DC: 2003), viii.

The Sea Basing concept envisions an alternative to Cold War planning constructs which were based on large, forward-deployed land formations and access to secure fixed airbases and port facilities. These constructs have been seriously challenged by the realities of today's post Cold War World. Today, a significant majority of the Armed Forces of the United States are based in the Continental United States, and access to foreign airfields and port facilities in the event of a crisis is becoming more tenuous. One need only look at the recent inability of the United States to conduct operations from Turkey in support of Operation Iraqi Freedom, despite the promise of 26 billion dollars in aid and loan guarantees,[3] to see how political constraints are significantly affecting our theater access strategies. Moreover, the mere presence of US facilities overseas, particularly in the Middle East, is increasingly being pointed to by extremist groups as a sign of US imperialism. Large, static land bases offer ideal targets, against which extremist groups can launch terrorist attacks. Additionally, the increasing proliferation of precision cruise and ballistic missiles, capable of carrying weapons of mass destruction, increases the vulnerability of land bases to conventional attack.[4] Sea Basing provides an alternative to counter an adversary's anti-access strategies. By utilizing the sea as a maneuver space, the mobile sea-base enables greater freedom of action and reduced vulnerability, as compared to a large, fixed military presence ashore. Additionally, floating sea-bases offer sovereign territory from which to project offensive and defensive firepower, thereby minimizing the political constraints and costs associated with land bases.

The Sea Basing concept, however, entails more than just a flotilla of ships. The Sea Basing concept envisions a system of systems, composed of an integrated network of operational concepts, ships, landing forces and aircraft, offensive and defensive weapons, command and

[3] Christian Lowe, "Pentagon Report Backs Corps' Sea-Basing Plan", Marine Corps Times, 1 December 2003, http://ebird.afis.osd.mil/ebfiles/s20031202237599.html, [2 December 2003].

control systems, and integrated logistics.[5] In this conceptual framework, the sea-base functions not only as a base of operations, but also as a command center, a logistics node and a transportation hub.[6] General Michael Hagee, the current Commandant of the Marine Corps, further described the Sea Basing concept as an aggregation of capabilities at sea, consisting of four pillars. The first pillar is an integrated, networked command and control capability, the second is an over-arching defensive capability, the third is a system of offensive capabilities and the fourth is an integrated set of logistic capabilities.[7]

In order to maximize the benefits envisioned in the Sea Basing concept, sea-based air command and control agencies should remain at sea, to the maximum extent possible, thereby limiting the size of their footprint ashore. By remaining afloat, these agencies will reduce the logistics and force protection requirements ashore while improving the overall agility and flexibility of the force, thereby enabling freedom of action for the Joint Force Commander.[8] However, there may be times when mission demands dictate that certain nodes or elements of the air command and control system will need to move ashore as the operation progresses. The concept publication, *MAGTF Aviation and Operational Maneuver from the Sea*, states, "Some tactical situations may require the ACE [Aviation Combat Element] Commander to move a portion of his functions ashore. The extent of such displacements will depend upon the mission, the location of the preponderance of ACE assets, and the requirements of the MAGTF [Marine Air Ground Task Force] Commander."[9] Additionally, *MAGTF Aviation and Operational Maneuver from the Sea*, states, "The ACE will not "*phase ashore*" [emphasis in original] in the

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[4] Defense Science Board Task Force on Sea Basing, vii.
[5] Ibid, v.
[6] Defense Science Board Task Force on Sea Basing, vii..
[7] Michael W. Hagee, "Toward a New Concept of Sea Basing", an address at the U.S. Naval Institute 129th Annual Meeting & 13th Annapolis Seminar, Annapolis, Maryland, 2 April 2003, *Naval Institute Proceedings*, https://nwcportal.nwc.navy.mil/nwdc/sea_basing/ [8 January 2004]
[8] Department of the Navy, Enhanced Networked Seabasing, (Washington, DC: 2003), 7.

traditional sense, but operate within a continuum comprised of both seabased and shore positions."[10] Thus, a sea-based air command and control system must have the capability to seamlessly transition these nodes and elements ashore, as required, and return them to the sea-base when no longer needed ashore, in order to effectively operate in this continuum.

The success of the FORCEnet concept will be critical to the ability of a sea-based air command and control system to seamlessly operate in the sea-air-land continuum. FORCEnet is a concept espoused in *Sea Power 21*, which envisions a "fully integrated and networked joint command, control, communications, computers, intelligence, surveillance, and reconnaissance (JC4ISR)" system.[11] The FORCEnet concept envisions the migration of current stove-piped Navy and Marine Corps command and control applications into a single integrated, network-centric Naval command and control system.[12] This system will link sensors, shooters, and command and control nodes in order to coordinate the actions of widely dispersed forces and enable the effective projection of power throughout the battlespace. Additionally, the FORCEnet concept envisions a system which is fully integrated into the Joint command and control architecture, facilitating joint operations across the full spectrum of military contingencies.[13] Sea-based air command and control agencies must possess equipment fully compatible with the FORCEnet concept in order to leverage these benefits.

FORCEnet, as part of the overall Sea-Basing concept, will enable the envisioned combination of various Naval Groups into an integrated, sea-based, fighting force, capable of conducting operations in large-scale conflicts or high-threat scenarios. This force, known as the Expeditionary Strike Force, will combine the amphibious capabilities of an Expeditionary Strike

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[9] U.S. Marine Corps, MAGTF Aviation and Operational Maneuver from the Sea, (Washington, DC: 1999), 6.
[10] MAGTF Aviation and Operational Maneuver from the Sea, 7.
[11] Department of the Navy, Naval Operating Concept for Joint Operations, (Washington, DC: 2003), 6.
[12] Enhanced Networked Seabasing, 9.

Group with the offensive firepower of a Carrier Strike Group, protected by the surface to air missiles capabilities of an *Aegis*-based Surface Action Group and logistically sustained by Combat Logistic Force and Maritime Prepositioning Force ships.[14] These disparate forces will work together as a single coherent force by using the joint inter-operable, network centric C4ISR systems espoused by FORCEnet. An effective air command and control system for the sea-based Expeditionary Strike Force must not only possess common equipment compatible with the FORCEnet concept, but also must be organized and doctrinally trained to operate as a single coherent force.

Effective implementation of the Sea Basing concept will facilitate the accomplishment of the Marine Corps future operating concepts, Operational Maneuver from the Sea (OMFTS) and Ship to Objective Maneuver (STOM). OMFTS entails the use of the sea as a maneuver space to keep an adversary off-balance and enable the Amphibious Force to quickly strike the enemy where he is least prepared. STOM envisions combat forces maneuvering directly from their ships to seize objectives located deep inland, without pausing at the shoreline.[15] STOM is accomplished without seizing a beachhead as a logistics lodgment or conducting an operational pause to organize combat units into a fighting formation.[16] Both OMFTS and STOM seek to eliminate the traditional amphibious window of vulnerability caused by the need to conduct an operational pause at the beach in order to phase control ashore and build up logistical capability for the subsequent attack on objectives located deep inland. Both OMFTS and STOM require an air command and control system which can effectively operate from the sea-base. The

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[13] Ibid, 3.
[14] U. S. Marine Corps, Expeditionary Maneuver Warfare: Marine Corps Capstone Concept, Washington, DC: 10 November 2001, 7.
[15] "Ship to Objective Maneuver Concept of Operations", STOM CONOPS, 12 Feb 03, www.mccdc.usmc.mil, [17 December 2003].
[16] Ibid.

traditional concept of phasing control ashore from sea-based agencies to shore agencies is antithetical to the OMFTS and STOM concepts.

CURRENT NAVY/MARINE AIR COMMAND AND CONTROL

Current air command and control doctrine in an amphibious operation is based on the concept of phasing control ashore. The following paragraphs are offered to highlight how complicated this process can be. Joint Publication 3-02, Joint Doctrine for Amphibious Operations states, "During amphibious operations, the Navy TACC [Tactical Air Control Center] coordinates the types of airspace control measures and controls all air operations within the operational area until a land-based air control agency is established ashore."[17] Current doctrine further states, for an amphibious operation the Navy TACC will typically be located onboard the amphibious flagship and in addition to controlling air operations, the Navy TACC will be responsible for the initial coordination of fires in support of the landing force, until a suitable land based fire support coordination center can be established ashore.[18] The Marine equivalent to the Navy TACC is known as the Marine Tactical Air Command Center (TACC). The term "command," vice "control," is used to denote the fact that the Marine TACC serves as the command center for the Marine Air Ground Task Force's (MAGTF) Aviation Combat Element (ACE) commander and his staff. Current doctrine envisions the Marine TACC being incrementally phased ashore. Initially, a Marine Tactical Air Direction Center (TADC) would be established ashore. The Marine TADC would be subordinate to the Navy TACC and be responsible for air operations in the landward sector of the operations area. As additional elements of the ACE were phased ashore the Marine TADC would be built up to the full operational capability of a Marine TACC. At this point, a determination could be made to shift

[17] Joint Chiefs of Staff, Joint Doctrine for Amphibious Operations, Joint Pub 3-02 (Washington, DC: 19 September 2001), III-4.

airspace management functions ashore. Once this shift occurred the Marine TADC would be renamed the Marine TACC, and the Navy TACC would be renamed as a Navy TADC subordinate to the Marine TACC.[19]

In a similar manner, the control of aircraft conducting close air support and assault support operations for the landing force would phase from the Air Support Control Section, located within the Navy TACC, to the Marine Direct Air Support Center (DASC), once it was established ashore. The DASC normally co-locates with the senior Fire Support Coordination Center of the MAGTF Ground Combat Element. As such, in traditional operations, the DASC is normally the first element of the Marine Air Command and Control System to establish itself ashore.[20] Typically, the DASC would be established ashore prior to the Marine TADC or TACC. In this case, the operation of the DASC would be supervised by the Navy TACC, until either a Marine TADC or TACC was established ashore. Once a Marine TADC or TACC was established ashore, supervision of DASC operations would be passed from the Navy TACC afloat to the Marine TADC or TACC established ashore.[21]

Additional agencies and units within the Marine Air Control Group that by current doctrine could be established ashore as landing force operations progressed include the Tactical Air Operations Center (TAOC), Air Traffic Control Detachments, Low Altitude Air Defense (LAAD) units, an Unmanned Aerial Vehicle (UAV) Squadron, and elements from the Marine Wing Communications Squadron (MWCS). The TAOC is primarily responsible for providing command and control of air and missile defense operations, and plays an over-land role analogous to the Navy Air Defense Commander's over-water role. The Air Traffic Control

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[18] Ibid, III-3.
[19] Joint Doctrine for Amphibious Operations, III-5.
[20] Ibid, III-6.
[21] Ibid.

Detachments provide air traffic control services at expeditionary airfields and forward operating bases established ashore. Low Altitude Air Defense units currently provide short range air defense of critical assets using the Stinger missile system and, in the near-future, will have additional capability against cruise missiles with the fielding of the Complimentary Low Altitude Weapons System. The UAV squadron provides reconnaissance, surveillance and target acquisition services to land based forces, and elements from the Marine Wing Communications Squadron provide the communications connectivity needed to link the various agencies within the Marine Air Control Group. In a Sea Basing scenario the majority of the functions currently performed by these shore based agencies will be conducted by sea- based platforms.

Current joint amphibious doctrine does not fully support the Sea Basing concept because it is predicated upon the cumbersome process of phasing control from afloat air command and control agencies to landing force air command and control agencies once they are established ashore. In order to maximize the force protection and freedom of action capabilities inherent in the Sea Basing concept, the majority of landing force air command and control agencies should never have to establish themselves ashore. Additionally, the process of phasing control from one agency to another is not a seamless process. Phasing control from one agency to another inhibits operational tempo, creates friction within the air command and control system and provides a vulnerable seam for an adroit enemy to exploit. Therefore, in order to fully exploit all the capabilities envisioned in the Sea Basing concept, current doctrine should be upgraded to facilitate seamless air command and control operations throughout the littoral environment.

PROPOSED CONCEPT FOR AN INTEGRATED NAVY/MARINE SEA-BASED AIR COMMAND AND CONTROL SYSTEM

Rather than operate as two separate air command and control systems, Navy and Marine air command and control agencies should be integrated into a single Naval air command and control system in support of the Sea Basing concept. The Navy TACC and Marine TACC should be merged into a single entity, responsible for the overall coordination of air operations throughout the battlespace. This combined Naval (Navy and Marine) TACC would serve as the operational command post for the Aviation Combat Element Commander and an integrated Navy and Marine battlestaff. From this facility they would plan, supervise, coordinate and execute all current and future air operations of the Amphibious Force. The Amphibious Force being defined as an amphibious task force and a landing force together with supporting forces trained, organized, and equipped for amphibious operations.[22] With the enhanced communications and data connectivity envisioned in the Sea Basing concept, this agency would primarily remain afloat aboard the sea-base. In the event of sustained operations ashore, elements from this agency should have the capability to transition ashore, as the situation dictates.

The afloat control of close air support and assault support operations for the landing force, which currently rests with the Air Support Control Section of the Navy TACC should rest with an afloat Fires and Mobility Support Center (FMSC). As envisioned in the final report of the OMFTS Working Group, at the Marine Air Ground Task Force level, the FMSC would consolidate the functions of the senior Fire Support Coordination Center (FSCC), the Direct Air Support Center (DASC), and the Tactical Logistics/Combat Service Support Operations Center (TACLOG/CSSOC).[23] Taking this concept one step further, at the Expeditionary Strike Group Level, the FMSC would consolidate the functions of not only the Marine FSCC, DASC, and CSSOC, but also the Navy Supporting Arms Coordination Center, and the Air Support Control

[22] CMC, Naval Command Relations, ALMAR 006/01, (Washington, DC: 23 February 2001), http://www.usmc.mil/almars/almar2000.nsf/, 11 January 2004.

Section of the Navy TACC. As required by landing forces operations, subordinate air support control elements could be transitioned ashore to serve as an extension or liaison element of the DASC cell within the afloat FMSC.

With the increased capabilities envisioned in the Sea Basing concept, the over- land air and missile defensive functions, currently performed by the TAOC, could be fulfilled by the *Aegis* Cruiser/Destroyer acting as the Expeditionary Strike Group Air Defense Commander (ADC). In the event of insufficient overland radar coveage, a scaled down, highly mobile version of the current TAOC could be transitioned ashore to act as a landward extension of the sea-based Air Defense Commander. Additionally, elements of the LAAD Battalion, although land based, could primarily receive cueing and weapons control information from the sea-based ADC, via the network-centric FORCEnet communications architecture.

UAV operations would initially be conducted from the sea base, along with most other aviation operations. These operations would be fully linked with the network centric force envisioned in the FORCEnet Concept. As UAV capabilities increase, particularly range and loiter capabilities, there would be less incentive to position these assets ashore. The Naval air command and control system would need to insure responsive UAV support to the Amphibious Force as a whole, whether operating from the sea-base or from a land-base.

Communication connectivity requirements for the Marine Wing Communications Squadron would be largely replaced by ship-board systems operating within the FORCEnet construct. The primary connectivity challenges would be between shored based elements and the parent sea-based agency.

EXPEDITIONARY STRIKE FORCE OPERATIONS

[23] U.S. Marine Corps, OMFTS Working Group Final Report, n.p., n.d., II-6.

The above framework would provide the back-bone structure for the air command and control system within an Expeditionary Strike Group (ESG) and should have the capability to integrate into the Navy Composite Warfare Commander (CWC) Concept. This capability would enable the seamless formation of an Expeditionary Strike Force, which is the sea-based combination of an ESG with a Carrier Strike Group (CSG). Under the current CWC Concept, the senior naval commander would be designated as the Officer-in Tactical Command (OTC), responsible for overall mission accomplishment, allocation of resources and force protection for assigned forces.[24] In the case of an Expeditionary Strike Force, the OTC would most likely be the Expeditionary Strike Force Commander. The OTC may, in turn, delegate authority for specific naval warfare tasks to a subordinate warfare commander, who would be responsible for directing the actions of assigned forces in order to accomplish that functional mission.[25] Under the current CWC concept there are primarily five different subordinate warfare commanders whose functions could be combined as the situation dictates. These subordinate warfare commanders include an Undersea Warfare Commander, a Surface Warfare Commander, a Strike Warfare Commander, a Command and Control Warfare Commander and an Air Defense Commander.[26]

In order to support the seamless integration of an ESG with a CSG, an additional subordinate warfare commander should be created. This subordinate commander would be designated the Amphibious Warfare Commander and he would be responsible for the direction of forces tasked with the conduct of amphibious operations. The Expeditionary Strike Group

[24] Air Land Sea Application Center, Multiservice Procedures for Integrated Combat Airspace Command and Control, FM 3-100.2, MCRP 3-25D, NTTP 3-52.1(A), AFTTP(I) 3-2.16 (June 2000), B-3.
[25] Multiservice Procedures for Integrated Combat Airspace Command and Control, B-3.
[26] Ibid, B-5.

Commander, due to his focus on amphibious operations, would most likely be tasked to fulfill the role of the Expeditionary Strike Force's Amphibious Warfare Commander.

The proposed air command and control system previously mentioned would be critical to the ability of the Amphibious Warfare Commander to successfully integrate his forces into the overall Expeditionary Strike Force CWC concept. The Naval TACC of the ESG would need to work closely with the Expeditionary Strike Force's Strike Warfare Commander in order to coordinate and synchronize the efforts of both ESG and CSG aviation assets and fires to insure the effective support of landing force operations. Air and missile defensive assets of both the ESG and the CSG, to include possible ground based assets, would need to be coordinated through a single Air Defense Commander within the Expeditionary Strike Force. Finally, Naval TACC and MWCS planners within the ESG would need to coordinate closely with the Expeditionary Strike Force's Command and Control Warfare Commander in order to insure the electromagnetic spectrum needs of the landing force were adequately met.

JOINT FORCE CONSIDERATIONS

The Sea Basing concept affords the Joint Force Commander an early entry capability which provides an optimal means to quickly command, employ, support and sustain joint advanced force operations.[27] In this role, the sea-based air command and control system must have the capability to assume the roles and functions of a Joint Force Air Component Commander (JFACC). The sea-based air command and control system must have the capability to plan, disseminate and monitor the execution of a Joint Air Tasking Order and Air Control Plan throughout the Joint Operating Area. Depending on the scope of the campaign, the JFACC functions may remain at the sea-base or they may be transitioned to a shore based JFACC facility

as the necessary area and infrastructure is secured ashore. Methods similar to those mentioned above for the integration of the Navy and Marine air command and control systems provide an initial basis for examining how to integrate Joint air command and control systems in a sea-based environment.

In those joint operations in which a Joint Force Air Component Commander (JFACC) is established ashore, a fully integrated Navy and Marine, Naval and Amphibious Liaison Element (NALE) will be critical to the success of the sea-based force. The NALE will need to work closely with the planners in the Naval TACC in order to insure the landing force concept of operations and scheme of maneuver is fully supported by and integrated with the JFACC. Additionally, the Naval air command and control system must be able to demonstrate the capability to seamlessly control air operations both over water and over land, in order for the JFACC to delegate necessary sector airspace control functions to the Expeditionary Strike Group/Force. The delegation of airspace control authority is critical to the sea-based forces ability to fully exploit the sea as a maneuver space and conduct the STOM operations envisioned in the Sea Basing concept.

The integration of Joint air command and control systems in a sea-based environment takes on additional importance when one looks at the Sea Basing concept as more than just a Navy and Marine Corps concept. The Defense Science Board Task Force report on Sea Basing states:

> "History suggests that sea basing has never been exclusively limited to Navy and Marine operations. The Air Force and particularly the Army must participate in the development and use of this joint military operational capability which lies at the intersection of traditional special operations forces, Marine and Army operations. Sea basing represents a crucial option for future warfare by all the Services and an important element in the transition between early entry and follow-on operations."[28]

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[27] Naval Operating Concept for Joint Operations, 5.
[28] Defense Science Board Task Force on Sea Basing, v.

Additionally, a recent report on the 34th Annual IFPA/ Fletcher School Conference entitled, *Security Planning & Military Transformation After Iraqi Freedom*, stated: "All military speakers from all the services espoused the need for a new Joint & Expeditionary Mindset---*and every service endorsed the Sea-Basing concept and claimed a future role for itself.*"[29] The fact that this conference was attended by the Chairman of the Joint Chiefs of Staff, the Chief of Naval Operations, Commandant of the Marine Corps, Chief of Staff of the Army, and the Air Force Operations Deputy offers further validity to this statement.[30]

The challenge will be how to successfully integrate the air command and control systems of Army, Air Force, and Special Operations Forces utilizing the sea-base. The integration of Navy and Marine air command and control systems into a single system, as proposed above, can serve as a starting point on how to integrate the full spectrum of Joint air command and control systems.

CONCLUSION

In order to fully exploit the benefits to be gained from the Sea Basing concept, old ideas of phasing air command and control from sea-based to shore-based agencies must be changed. This paper advocates the development of a single, fully-integrated Navy and Marine air command and control system, which is primarily sea-based and has the capability to effectively provide services throughout the battlespace, both over-land and over-water. The development of an air command and control system which can seamlessly operate throughout the sea-land continuum is critical for the sea-based force to maximize its ability to use the sea as a maneuver

[29] Lennox, Dyer COL. lennoxd@nwc.navy.mil "Security Planning and Military Transformation" [E-mail to Naval War College Marine Students] 12 January 2004
[30] Ibid

space, and to conduct ship to objective maneuvers. Successes encountered in the integration of Navy and Marine air command and control systems should serve as the model for the development of a Joint air command and control system, which would allow a Joint Force to effectively operate from the sea-base. The Sea Basing concept, as currently envisioned, provides an unprecedented level of operational flexibility to the Joint Force Commander, and a fully integrated Joint air command and control system will be critical to enabling this flexibility.

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