



# AHS INTERNATIONAL

*The Vertical Flight Society*

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August 25, 2008

The Honorable John P. Murtha,  
Chairman; and  
The Honorable C.W. Bill Young,  
Ranking Member  
Defense Subcommittee  
Committee on Appropriations  
House of Representatives  
Washington, D.C. 20515

The Honorable Ike Skelton  
Chairman; and  
The Honorable Duncan Hunter  
Ranking Member  
House Committee on Armed Services  
Washington, D.C. 20515-6035

## **FY08-31 PA Omnibus Reprogramming Request** **Denial of PE 0603901A Aviation Advanced Development**

Dear Sirs:

I am writing to request reconsideration of your respective committees' denial of the Army's request to reprogram \$11 million in FY08 funding for "advanced aviation development." This funding was to be the Army's contribution to a joint R&D program for Joint Heavy Lift (JHL) risk reduction efforts and the completion of a multiservice Joint Future Theater Lift Analysis of Alternatives (AOA). JHL is the pre-Milestone A Vertical Take-off and Landing (VTOL) candidate concept for the newly named JFIL Initial Capabilities Document (ICD) that is working its way through the joint coordination process. Joint service funding of \$10.6 million (SOCOM \$3 million; ONR \$2.6 million; and DARPA \$5 million) has already been used to initiate the integrated efforts, inclusive of 11 contractual instruments. The Army's FY08 funding is essential to the whole effort, which was predicated on cost sharing among the Services. Its denial jeopardizes the entire partnership.

More specifically, the funding was to provide the Army's share for the definition and technical risk reduction of candidate aircraft systems for JHL. For FY09, the Army plans to reprogram \$11.5 million to complete this initiative. This includes investigation of critical technical areas inclusive of advanced rotor and propulsion systems, cargo handling systems, shipboard compatibility, and operational suitability

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characteristics. Funds will provide for continuation of requirements definition and their translation into technical specifications.

The joint service combined FY08 and FY09 funding totals approximately \$40 million. Funding sources include SOCOM (\$3 million); DARPA (\$10 million); Army (\$22.5 million); and ONR (\$3.5 - \$5.0 million). This funds 13 major efforts, which span 18 to 24 months, as follows:

- CDA Contract Extensions: \$16 million
- Variable Diameter Tiltrotor (VDTR) Investigation: \$3.0 million
- Cargo Handling BAA: \$4.0 million
- JHL Engine Specification: \$1 million
- Tiltrotor Test Rig: \$5.0 million
- AOA/EOA: \$1.75 million
- Requirements Analysis: \$3.0 million
- Downwash/Outwash Investigation: \$0.50 million
- Shipboard Compatibility Study: \$0.40 million
- Autorotation Study: \$0.40 million
- Crashworthiness Standards: \$0.10 million
- V-22 Acoustic flight test: \$0.05 million
- Technical Leadership, MPS Definition and Analytic Support: \$4.5 million

All of these efforts with the exception of the acoustic mapping of the V-22 are now underway. The top five efforts include 11 contracts which will have to be slowed, stopped or terminated due to the denial of the Army's requested reprogramming. The JHL Concept Design & Analysis contract extensions are with Bell-Boeing, Sikorsky, and Karem Aircraft/Lockheed Martin. All contract efforts are slated to be completed within 18 months.

NASA is an active partner, in addition to the extensive joint DoD cooperation. NASA provides technical support to the aircraft design and assessment efforts and has also provided significant funding for the wind tunnel test rig. In fact, the rotorcraft and advanced aircraft design technology communities within the Army, Navy, Air Force, DARPA, SOCOM, OSD and NASA are all active contributors to this excellent collaborative venture. This is a particularly good example of joint and interagency cooperation, which Congress has encouraged for years, and the funding denial will clearly send the wrong message to the community.

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In response to the concern that the requirement for reprogramming these funds is "not urgent, compelling, emergent or emergency in nature," I wish to note the following points made in a letter to the Chairman of the Joint Chiefs of Staff dated August 15, 2007 signed by General Richard A. Cody, then Army Vice Chief of Staff:

1. Over the past seven years, the Army has devoted considerable effort to the examination of concepts and capabilities associated with the need for advanced theater airlift. The service has looked at how these concepts will enable vertical maneuver and air sustainment of the joint force over theater distances, within a distributed battlefield framework, in an access challenged environment.
2. Since 2005, under the auspices of the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics, and the oversight of a joint Flag Officer Steering Committee, the Army has led a Joint Integrated Process Team in the development of a Joint Heavy Lift Initial Capabilities Document that will be ready for JROC review in November 2008).
3. Simultaneously the Army Science Board and Defense Science Board have completed multiple studies since 2003 which strongly advocate the development of heavy-lift, vertical take-off and landing capability for theater maneuver and distribution functions, from land and sea.
4. As a result of these comprehensive efforts, the Army has concluded that the development of a JHL capability is both technically feasible and cost-competitive with other more traditional alternatives that have been examined. More important, the analysis clearly demonstrates that JHL offers such significant operational benefits to future joint force commanders, across the entire range of military operations, that it should be viewed as a national program for development. In addition to realizing revolutionary advances in theater airlift for the future joint force, a JHL program will also revitalize the US aviation technical base. (Emphasis added.)

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5. The Army advocates the immediate initiation of a Joint Technical Demonstration (JTD) for JHL, to begin in FY08. To demonstrate the strength of its commitment, the Army is willing to lead an initial 2-year risk reduction effort that establishes the foundation for the main elements of the JTD. The Army recommends the formation of a Joint Program Office in 2009 to direct the 5-year JTD from 2010 to 2014. Given this JTD timeline and potential subsequent program development initiative, the Army assesses that the initiation of a JHL JTD will not undermine any existing acquisition program.

In effect, the denial of the Army's FY08 reprogramming request will delay the completion of any analysis of alternatives relating to JHL and will delay the JHL Joint Technical Demonstration indefinitely at a time when national security demands the development of a JHL capability to fight 21<sup>st</sup> century wars in austere environments lacking aviation infrastructure.

As Admiral Stavridis, USN, Commander, US Southern Command, appropriately notes in his letter dated July 24, 2008, "Heavy lift requirements will continue to exist at US South Command across a variety of mission areas into the foreseeable future. These missions include Humanitarian Assistance and Disaster Relief (HADR), assistance to counter-narcotics detection and monitoring (D&M) operations, partner-nation exercise support, and Non-Combat Evacuation Operations. US Southern Command lift requirements often involve operations at remote, damaged or under-developed airport facilities. The capability to conduct vertical heavy lift in these types of mission sets, including the option for sea-basing, would increase our mission flexibility and provide an enhancing capability beyond currently fielded aircraft."

General Conant, USMC, Commander, Marine Corps Development Command, makes an important point in his letter dated June 22, 2007: "This effort is fundamental to the development of a robust Joint Seabasing component. . . . The advanced technologies being investigated and developed to support the proposed JHL solutions can be leveraged to benefit numerous legacy rotorcraft platforms. Areas such as advanced rotor blade design and optimization, engine performance enhancement for multiple altitudes, and advances in flight control computer logic have tremendous potential for improvements in current rotorcraft platforms and development of future air vehicles."

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Finally, we have the statement of General Bryan D. Brown, USA, Commander US Special Operations Command, in a memorandum dated September 11, 2006: "We have stretched current vertical lift technology as far as possible with our fleet of vertical lift aircraft in United States Special Operations Command. We are asking our aircrews to execute extraordinary tasks that potential technology can make safer and more effective. Our currently fielded aircraft do not meet our speed and lift capability requirements of the future. Our requirement to be in the right place, at the right time, with the right people and equipment, demands that we have a future aircraft that has the flexibility to get there fast, carrying substantial loads, while having the capability of landing and take-off from unimproved locations." (Emphasis added.) His support for JHL was reaffirmed by his successor, Admiral Eric T. Olson, who committed USSOCOM's financial support for the FY08/FY09 work.

I have attached (a) a copy of General Cody's letter referred to above; (b) Under Secretary of Defense Michael A. Wynne's memorandum dated January 18, 2005 to the Secretaries of the Military Departments, the Chairman of the Joint Chiefs of Staff, and the Director, Program Analysis and Evaluation; (c) Admiral J. Stavridis's letter to the Vice Chairman of the Joint Chiefs of Staff dated July 24, 2008; (d) Admiral Eric T. Olson's memorandum to the Chairman of the Joint Chiefs of Staff dated December 14, 2007; (e) the memorandum of Dr. Anthony J. Tether, Director, DARPA, dated July 30, 2007, to the Chairman of the Joint Chiefs of Staff; (f) the letter of Brigadier General T. L. Conant, USMC, Commander, USMC Combat Development Command, dated June 22, 2007; (g) the letter of General Bryan D. Brown, Commander, US SOCOM, to the Vice Chairman, Joint Chiefs of Staff; and (h) the letter of General Norton A. Schwartz, USAF, Commander, United States Transportation Command, to the Vice Chairman of the Joint Chiefs of Staff, dated August 16, 2006.

The lessons of the wars in Afghanistan and Iraq have taught us that vertical lift is a vital component for the success of 21<sup>st</sup> century war efforts to defend national and homeland security. Secretary Robert M. Gates has acknowledged this on multiple occasions and directed all of the services to consider unconventional, asymmetric wars in austere locations lacking infrastructure in all future acquisition and procurement efforts.

August 25, 2008

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For the foregoing reasons, I would appreciate your reconsideration of the Army's request and your agreement to allow the Army to reprogram these much needed FY08 funds for aviation RDT&E.

Very respectfully,

A handwritten signature in black ink that reads "M.E. Rhett Flater". The signature is written in a cursive style with a large, looped initial "M".

M.E. Rhett Flater  
Executive Director

Attachments: As noted

cc: House Armed Services Committee, All Members  
House Appropriations Committee, Defense Subcommittee, All Members  
The Honorable Preston M. (Pete) Geren, Secretary, US Army  
General George W. Casey, Chief of Staff, US Army  
The Honorable Tina W. Jonas, Under Secretary of Defense, Controller



## DEPARTMENT OF THE ARMY

Office of the Vice Chief of Staff  
201 Army Pentagon  
Washington, DC 20310-0201

AUG 15 2007

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Joint Heavy Lift Technology Demonstration and Joint Initial Capabilities Document

1. Over the past seven years, the Army has devoted considerable effort to the examination of concepts and capabilities associated with the need for advanced theater airlift. We have looked at how these concepts will enable vertical maneuver and air sustainment of the joint force over theater distances, within a distributed battlefield framework, in an access challenged environment. Since 2005, under the overarching auspices of Office of the Under Secretary of Defense for Acquisition, Technology and Logistics, and the oversight of a joint Flag Officer Steering Committee, the Army has led a Joint Integrated Process Team in the development of a Joint Heavy Lift (JHL) Initial Capabilities Document that will be ready for JROC review in November 2007. Simultaneously, the Army Science Board and Defense Science Board have completed multiple studies since 2003 which strongly advocate the development of heavy-lift, vertical take-off and landing capability for theater maneuver and distribution functions, from land and sea.
2. As a result of these comprehensive efforts, the Army has concluded that the development of JHL capability is both technically feasible and cost-competitive with other more traditional alternatives that have been examined. More importantly, the body of analysis clearly demonstrates that JHL offers such significant operational benefits to future joint force commanders, across the entire range of military operations, that it should be viewed as a National Program for development. In addition to realizing revolutionary advances in theater airlift for the future joint force, a JHL program will also revitalize the US aviation technical base.
3. The Army strongly advocates the immediate initiation of a Joint Technology Demonstration (JTD) for JHL, to begin in FY08. To demonstrate the strength of our commitment, the Army is willing to lead an initial 2-year risk reduction effort that establishes the foundation for the main elements of the JTD. Securing financial support from Joint Services is essential to the success of this risk reduction effort. The Army also recommends the formation of a Joint Program Office in 2009 to direct the 5-year JTD from 2010-2014. Given this JTD timeline and potential subsequent program development timeline, we assess that the initiation of a JHL JTD will not undermine any existing acquisition program.

**SUBJECT:** Joint Heavy Lift Technology Demonstration and Joint Initial Capabilities Document

4. As a National Program that serves all Services and elements of the Joint Force, JHL must be "born joint." No single Service can or should carry the full burden of JHL development. The lead for the JHL may eventually reside with the US Air Force. Request your active support for the JHL JTD for the following:

a. Formal discussions in a JROC Executive Session within the next couple of months.

b. Expedite the JHL ICD through the JROC in sufficient time to inform Service POM builds for the 10-14 POM and to a Milestone A decision.


c. Joint Service support for funding the Risk Reduction effort in FY08-09.

5. In support of those discussions, my team of experts from the Army Staff, U.S. Army Training and Doctrine Command, and Army Science Board and Technical community is available to brief you and/or your principal senior staff on the JHL, including conceptual underpinnings, technical and financial feasibility, and the initial planning for the JTD.

6. In support of this request, enclosed are several slides that depict the JHL in more detail for your review.

Encl

*VR*

  
RICHARD A. CODY  
General, United States Army  
Vice Chief of Staff

**DISTRIBUTION:**

CHAIRMAN, JOINT CHIEFS OF STAFF  
VICE CHAIRMAN, JOINT CHIEFS OF STAFF  
VICE CHIEF OF STAFF OF THE AIR FORCE  
VICE CHIEF OF NAVAL OPERATIONS  
ASSISTANT COMMANDANT OF THE MARINE CORPS  
UNDERSECRETARY OF DEFENSE, ACQUISITION, TECHNOLOGY  
AND LOGISTICS  
COMMANDER, UNITED STATES TRANSPORTATION COMMAND  
COMMANDER, UNITED STATES SPECIAL OPERATIONS COMMAND  
COMMANDER, AIR MOBILITY COMMAND  
DEPUTY CHIEF OF STAFF, J4, JOINT CHIEFS OF STAFF  
DEPUTY CHIEF OF STAFF, J8, JOINT CHIEFS OF STAFF  
DIRECTOR, DEFENSE ADVANCED RESEARCH PROJECTS AGENCY  
COMMANDER, UNITED STATES STRATEGIC COMMAND



ACQUISITION,  
TECHNOLOGY  
AND LOGISTICS

THE UNDER SECRETARY OF DEFENSE  
3010 DEFENSE PENTAGON  
WASHINGTON, D.C. 20301-3010

JAN 18 2005

MEMORANDUM FOR THE SECRETARIES OF THE MILITARY DEPARTMENTS  
CHAIRMAN OF THE JOINT CHIEFS OF STAFF  
DIRECTOR, PROGRAM ANALYSIS AND EVALUATION

SUBJECT: Joint Advanced Rotorcraft Technology for Heavy Lift

In a recent meeting with the Director, Defense Systems, a Joint Process Action Team proposed a concept refinement phase to define operational expectations for Joint Heavy Lift. They outlined a Joint management approach that would allow the Services to participate. I ask that the Army, supported by the other Services and OSD staff, refine the details of the management approach, to include staffing, organizational involvement, and interfaces with emerging concepts of interest. The Army shall obtain appropriate written agreements from the participants. The Director, Defense Research and Engineering (D,DR&E), and the Director, Defense Advanced Research and Projects Agency (DARPA), should actively participate in the effort.

The Army identified \$20M in FY05 through FY07 for a proposed \$30 million effort. The effort should begin with the funding available, including an early refinement of the estimate for the balance of funding required and the benefits that would accrue from additional funding.

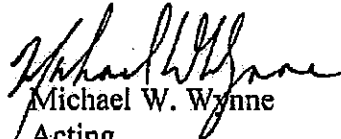
I would like to review the plan for the concept refinement phase. Collaborative planning and modeling and simulation are tools that could provide insights into how to address emerging joint concepts that depend on a heavy lift capability. Use of a system of systems engineering approach could ensure that heavy lift is properly linked to associated programs. Because the exploratory aspects of this concept refinement phase are very important, Director, Defense Systems and the Army-led, Joint team shall advise me of progress as the concept refinement proceeds. I will expect the first update in March 2005.

Additionally, the Joint team shall review the adequacy of the baseline technology needed to support a Joint Heavy Lift program, identify areas of concern and risks that might warrant additional initiatives, and recommend alternatives to correct deficiencies. DDR&E and DARPA should review and provide advice on the science and technology challenges and approaches attendant to heavy lift.

  
Preparational  
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To initiate the Joint Capabilities Integration and Development System process, the Director, Defense Systems will submit the draft Joint Heavy Lift Initial Capabilities Document (ICD) for Joint Staff consideration.

Finally, the Joint Vertical Aircraft Task Force (JVATF) will continue to focus acquisition and technology efforts on manned, vertical aviation. I repeat my prior request that each of the Services support the JVATF with a representative.

  
Michael W. Wynne  
Acting

Predecisional  
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REPLY TO THE  
ATTENTION OF

DEPARTMENT OF DEFENSE  
UNITED STATES SOUTHERN COMMAND  
OFFICE OF THE COMMANDER  
3511 NW 91ST AVENUE  
MIAMI, FL 33172-1217

July 24, 2008

Commander

Gen James E. Carwright  
Vice Chairman of the Joint Chiefs of Staff  
9999 Joint Staff Pentagon  
Washington, D.C. 20318-9999

Dear General Cartwright:

*Vice*

On 18 July 2008, I received a briefing from LTG (Ret) Woodmansee of the Army Science Board on the Joint Heavy Lift (JHL) concept, including the proposal for a funded Advanced Technology Demonstration. I was impressed by the body of research that supports the potential capabilities that a fully matured technology would bring. I applauded the team's innovative approach and revolutionary concept, and am excited about its prospects for fulfilling our mission requirements. I believe the concept merits further consideration and evaluation of the feasibility and affordability during a comprehensive Analysis of Alternatives.

Heavy lift requirements will continue to exist at US Southern Command across a variety of mission areas into the foreseeable future. These missions include Humanitarian Assistance and Disaster Relief (HADR), assistance to counter-narcotics detection and monitoring (D&M) operations, partner-nation exercise support, and Non-Combat Evacuation Operations. US Southern Command lift requirements often involve operations at remote, damaged or under-developed airport facilities. The capability to conduct vertical heavy lift in these types of mission sets, including the option for sea-basing, would increase our mission flexibility and provide an enhancing capability beyond currently fielded aircraft.

My point of contact for this issue are CDR Kevin Quarderer, SOUTHCOM Innovation, 305-437-3476, DSN 567, or by e-mail: [Kevin.Quarderer@hq.southcom.mil](mailto:Kevin.Quarderer@hq.southcom.mil).

Sincerely,

J. STAVRIDIS  
Admiral, U.S. Navy

*Some  
very  
innovative  
ideas...*



**UNITED STATES SPECIAL OPERATIONS COMMAND**

OFFICE OF THE COMMANDER  
7701 TAMPA POINT BOULEVARD  
MACDILL AIR FORCE BASE, FLORIDA 33621-5323

DEC 14 2007

**MEMORANDUM FOR CHAIRMAN OF THE JOINT CHIEFS OF STAFF, 9999 JOINT STAFF PENTAGON, WASHINGTON, DC 20318-9999**


**SUBJECT: Joint Heavy Lift**

1. On 6 November 2007, I met with the Joint Heavy Lift (JHL) team to review the conceptual underpinnings, technical status, joint support and progress towards establishing an Advanced Technology Demonstration (ATD). I was impressed with the definition and depth of analysis that has occurred during the Concept Refinement activity and am pleased with the team's commitment to pursuing a truly joint requirements set and solution.

2. I affirm United States Special Operations Command (USSOCOM) support for JHL as a candidate solution to future joint force needs for theater maneuver, distributed sustainment, seabase connection, and other Service and SOF selective missions. I support advancing JHL to a competitive technology demonstration. It must be a near full-scale demonstration not only to address the technical challenges inherent at that scale, but to evaluate the operational suitability issues that will be key to effectively using this aircraft as we envision.

3. I committed to a "fair share" financial contribution to the 08/09 Risk Reduction effort, and intend to stay fully engaged to ensure USSOCOM requirements are included. I join the Army, Marine Corps, Defense Advanced Research Projects Agency, United States Transportation Command, and my predecessor in urging that the Joint Staff and OSD support the JHL Initial Capabilities Document currently in joint staffing and actively pursue transformational innovation for our next transport aircraft using a joint technology office to lead the advanced development effort.

4. My staff and I stand ready to assist in this important venture for the future. My point of contact for this issue is Colonel Gary Morrison, Director, SORR J8-R. He can be reached at DSN 299-2203, or by email: [morrisg@socom.mil](mailto:morrisg@socom.mil).

  
ERIC T. OLSON  
Admiral, U.S. Navy  
Commander



**Proven • Vigilant • Prepared**  
in the past      today      for the future

SOCC

SUBJECT: Joint Heavy Lift

CF:

VICE CHAIRMAN, JOINT CHIEFS OF STAFF

VICE CHIEF OF STAFF OF THE ARMY

VICE CHIEF OF STAFF OF THE AIR FORCE

VICE CHIEF OF NAVAL OPERATIONS

ASSISTANT COMMANDANT OF THE MARINE CORPS

UNDER/SECRETARY OF DEFENSE, ACQUISITION, TECHNOLOGY, & LOGISTICS

COMMANDER, UNITED STATES TRANSPORTATION COMMAND

COMMANDER, AIR MOBILITY COMMAND

DEPUTY CHIEF OF STAFF, J4, JOINT CHIEFS OF STAFF

DEPUTY CHIEF OF STAFF, J8, JOINT CHIEFS OF STAFF

DIRECTOR, DEFENSE ADVANCED RESEARCH PROJECTS AGENCY



**DEFENSE ADVANCED RESEARCH PROJECTS AGENCY  
3701 NORTH FAIRFAX DRIVE  
ARLINGTON, VA 22203-1714**

**JUL 30 2007**

**MEMORANDUM FOR CHAIRMAN, JOINT CHIEFS OF STAFF  
UNDER SECRETARY OF DEFENSE FOR ACQUISITION,  
TECHNOLOGY AND LOGISTICS  
VICE CHAIRMAN, JOINT CHIEFS OF STAFF  
COMMANDER, UNITED STATES TRANSPORTATION  
COMMAND  
COMMANDER, UNITED STATES SPECIAL OPERATIONS  
COMMAND  
DIRECTOR, DEFENSE RESEARCH AND ENGINEERING  
VICE CHIEF OF STAFF OF THE ARMY  
VICE CHIEF OF STAFF OF THE AIR FORCE  
VICE CHIEF OF NAVAL OPERATIONS  
ASSISTANT COMMANDANT OF THE MARINE CORPS  
COMMANDER, AIR MOBILITY COMMAND  
DEPUTY CHIEF OF STAFF, J4, JOINT CHIEFS OF STAFF  
DEPUTY CHIEF OF STAFF, J8, JOINT CHIEFS OF STAFF**

**SUBJECT: Joint Heavy Lift (JHL) Capability for the Future Joint Force**

On July 27, 2007, I received an information briefing on JHL from Lieutenant General Mark Curran, Director of the Army Capabilities Integration Center, U.S. Army TRADOC. The purpose of this memorandum is to inform you of the Defense Advanced Research Projects Agency's (DARPA) support for JHL capability and my recommendation that DoD work together to initiate a joint technology demonstration (JTD) to establish the foundation for a full development program. My staff has been directed to work with the Army to set the conditions for JTD through the execution of specific S&T risk reduction activities over the next 2 years, and I have programmed significant DARPA resources in FY08 and FY09.

The concept of an advanced theater airlift platform capable of vertical take-off and landing, with large payloads (20-35T), over theater distances (1,000+ NM), with speed has been talked about for some time. The operational significance of such a capability for maneuver and theater distribution is manifestly clear. Work over the past 2 years demonstrates that JHL is technically feasible. Our own work at DARPA supports that conclusion.

My personal view is that the initiation of a JHL developmental program is overdue. I thought this when I was on the Army Science Board nearly 10 years ago and endorse the Army's current concept for a JTD as the best pathway toward making JHL a reality for the future joint force.

A handwritten signature in black ink that reads "Tony". The signature is written in a cursive, slightly slanted style.

Anthony J. Tether  
Director



UNITED STATES MARINE CORPS  
MARINE CORPS COMBAT DEVELOPMENT COMMAND  
QUANTICO, VIRGINIA 22134-5001

IN REPLY REFER TO  
3170  
C 10

JUN 22 2007

From: Director, Combat Development Directorate  
To: Deputy Director, Operational Capability Requirements Joint  
Integration, USAF  
Via: (1) Deputy Director G8, Joint and Futures, USA  
(2) Associate Director, Assessment Division, (N81D) USN  
Subj: LETTER OF INTEREST IN CONTINUATION OF THE JOINT HEAVY LIFT  
(JHL) CONCEPT REFINEMENT AND SOLUTION DEVELOPMENT  
Ref: (a) JHL Functional Area Analysis  
(b) JHL Functional Needs Analysis (Draft)  
(c) USA and USMC Memorandum of Agreement on Joint  
Requirements for Coordination for Manned Aviation,  
Unmanned Aviation and Aviation Munitions, 1 April 2007

1. Over the past two years the Marine Corps has participated in the development process for the Capabilities Based Analysis, references (a) and (b), that will eventually support the JHL Initial Capability Document. This effort is fundamental to the development of a robust Joint Seabasing component. There is detailed analysis supporting the movement of troops and assault equipment throughout the battle space. However, an in-depth look at the sustainment of these forces and the Seabase as a whole is required. Heavy lifters such as JHL will be a critical piece to that sustainment.

2. The advanced technologies being investigated and developed to support the proposed JHL solutions can be leveraged to benefit numerous legacy rotorcraft platforms. Areas such as advanced rotor blade design and optimization, engine performance enhancement for multiple altitudes, and advances in flight control computer logic have tremendous potential for improvements in current rotorcraft platforms and development of future air vehicles.

3. Continued scientific research and technological challenges like those necessary for the JHL must be pursued in order to continue to improve the capabilities of vertical lift technologies. In accordance with reference (c) the Marine Corps Capabilities Development Directorate (CDD) is interested in seeing the developments of this area and will continue to monitor

Subj: LETTER OF INTEREST IN CONTINUATION OF THE JOINT HEAVY LIFT  
(JHL) CONCEPT REFINEMENT AND SOLUTION DEVELOPMENT

progress as the JHL concept brings about scientific advancements  
and continues to show promise for future operational capability.

4. Points of contact at CDD are Maj Michael Gogolin at (703) 784-  
6203 and Maj Daniel McMichael at (703) 784-6205.



T. L. CONANT  
BGEN USMC

Copy to:  
TRADOC US Army  
DARPA  
ONR




**UNITED STATES SPECIAL OPERATIONS COMMAND**  
**OFFICE OF THE COMMANDER**  
7701 TAMPA POINT BOULEVARD  
MACDILL AIR FORCE BASE, FLORIDA 33621-5323

SEP 11 2006

MEMORANDUM FOR VICE CHAIRMAN OF THE JOINT CHIEFS OF STAFF, 9999  
JOINT STAFF PENTAGON, WASHINGTON, DC 20318-9999

SUBJECT: Joint Heavy Lift

1. LTG (Ret) Woodmansee recently gave me a briefing outlining the findings from the Army Science Board's "Future Force Aerial Systems Capabilities" study. The study found increased opportunity to greatly enhance vertical lift aircraft capabilities in the near future.
2. We have stretched current vertical lift technology as far as possible with our fleet of vertical lift aircraft in United States Special Operations Command (USSOCOM). We are asking our aircrews to execute extraordinary tasks that potential technology can make safer and more effective. Our currently fielded aircraft do not meet our speed and lift capability requirements of the future. Our requirement to be in the right place, at the right time, with the right people and equipment, demands that we have a future aircraft that has the flexibility to get there fast, carrying substantial loads, while having the capability of landing and take-off from unimproved locations. My headquarters is engaged and has active members in the JHL Program Organization as Executive Steering Group, Flag Officer Steering Group, and Integrated Product Team members. I intend to stay fully engaged throughout the Concept Refinement Phase and continue during the JROC/JCIDS process to ensure USSOCOM requirements are included during the analysis and streamlined into consideration in design.
3. An Advance Concept Technology Demonstration would be important to the joint community in achieving this vital mobility capability.
4. My point of contact for this issue is Colonel Gary Morrison, Director, SORR-J8-R. He can be reached at DSN 299-2203, or by e-mail: [morrisg@socom.mil](mailto:morrisg@socom.mil).

  
BRYAN D. BROWN  
General, U.S. Army  
Commander

CF:  
USD (AT&L)  
VCSA  
VCNO  
VCSAFAMC/CC



**UNITED STATES TRANSPORTATION COMMAND**

608 SCOTT DRIVE  
SCOTT AIR FORCE BASE, ILLINOIS 62225-4357

16 August 2006

*Vice Chairman*

**MEMORANDUM FOR VICE CHAIRMAN OF THE JOINT CHIEFS OF STAFF**

**FROM: TCCC**

**SUBJECT: Joint Heavy Lift (JHL)**

1. On 28 July 2006, LTG (Ret) Woodmansee provided a very informative briefing on the findings from the Army Science Board's "Future Force Aerial Systems Capabilities" study. The study identified the opportunity for significant performance improvements in vertical takeoff and landing rotorcraft including the capability to accomplish "vertical-mounted maneuver." This information will be briefed to Mr. Krieg in September, and I wanted to share my thoughts with you.

2. Before we commit to a specific capability or platform, we need a JROC/JCIDS-validated assessment of vertical maneuver in support of theater operational maneuver and distribution, the role as a seabasing connector, and its potential as an Advanced Mobility Capability (AMC-X) solution. Until we have more fidelity in the composition of our future force, we need to explore a wide variety of options. One of those options revolves around vertical maneuver and sustainment. There is wisdom in this concept and, as an institution, we need to explore the art of the possible and determine the feasibility of all related intra-theater lift options.

3. An ACTD-like technology demonstration could prove instrumental in understanding the full potential of current and future technologies like those assessed in the Army Science Board's study.

4. My point of contact for this issue is Major Glen Lehman, TCJ5/4-AM. He can be reached at DSN 779-4583, or by e-mail at: [glen.lehman@ustranscom.mil](mailto:glen.lehman@ustranscom.mil).

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Army Science Board Briefing 28 July 2006

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