DEPARTMENT OF THE ARMY
ENGINEER RESEARCH AND DEVELOPMENT CENTER, CORPS OF ENGINEERS
INFORMATION TECHNOLOGY LABORATORY
WATERWAYS EXPERIMENT STATION, 3909 HALLS FERRY ROAD
VICKSBURG, MISSISSIPPI 39180-6199

REPLY TO ATTENTION OF

CEERD-IZP 4 March 2015

MEMORANDUM FOR HIGH PERFORMANCE COMPUTING ADVISORY PANEL

SUBJECT: Selection of FY 2015 HPCMP Applications Software Initiative Projects

1. The HPCMP has created the HPCMP Applications Software Initiative (HASI) to address the RDT&E community's continuing need for modern application software that incorporates the latest understanding of physical phenomena, and which executes effectively and efficiently on next-generation high-performance computers. HASI projects are a key component of our overall approach to software, and will help ensure continued effective use of HPC capabilities to address current and emerging DOD challenges.

2. Based on the recommendation of my staff and the evaluation criteria specified in the "Call for FY 2015 HPCMP Applications Software Initiative Project Full Proposals," I have selected the 14 HASI projects listed in the attachment.

3. These 14 projects were selected from a set of 24 excellent proposals in response to the call. The proposals were subjected to extensive peer review by a technical review panel composed of technical experts within and outside of the Department of Defense, and examined closely by the Services/Agencies and the Office of the Secretary of Defense for mission impact. We will begin execution of the 14 HASI projects on or about 1 April 2015, and require periodic status reports from each. In addition, we plan a HASI Kick-off Meeting at the ERDC facility in Vicksburg on 12-14 May 2015.

4. Please join me in congratulating the leaders of these new HASI projects. My point-of-contact for this activity is Dr. Larry Davis, HPCMP Senior Scientist. He may be contacted by phone at 703-812-4422, or via e-mail at larry.davis@hpc.mil.

Encl

/signed/
DAVID A HORNER, PhD
Director
DOD High Performance Computing
Modernization Program

Attachment 1
List of HASI Projects

1. Achieving Scalability for the MICHELLE Charged-particle Beam Optics Code on Heterogeneous HPC Architectures, John Petillo, Navy
2. Direct-energy High Performance Computing Applications Software Initiative Proposal, Nathaniel Lockwood, Air Force
3. Efficient Predictions of Structure and Spectra for Nanomaterials Using ACES III and IV, Rod Bartlett, Air Force
4. Enabling Exascale Calculations for Electronic Theory, Mark Gordon, Air Force
5. FEMAP: Complex Multiphysics on Future Exascale Systems, Joseph Baum, DTRA
6. High-performance Bioinformatics Workflow for Integrative "-omics" Data Analytics, Judson Hervey, Navy
7. Higher-order Computational Methods for Penetrating Weapons Effect Modeling, Kent Danielson, Army
8. Multiphysics Simulations of Multi-component, Off-design Aircraft Engine Operation Using Dynamic Hybrid RANS/LES, Parthiv Shah, Air Force
9. Optimizing Global and Regional Earth Prediction, Timothy Whitcomb, Navy
10. Quantifying Uncertainty in the Battlespace Environment, Jim Hansen, Navy
11. Refactoring Advanced CFD Applications to Accelerate Optimally on Next-Generation DOD HPCMP Hardware, Donald Kenzakowski, DTRA
12. Software Capabilities to Simulate Non-impact, Blast-induced Traumatic Brain Injury, Jacques Reifman, Army
13. SPACE - a Scalable Physics-based Advanced Computational Engineering Platform for Liquid Rocket Combustion Simulations, Venkateswaran Sankaran, Air Force
14. The Integration of ERDC Geotechnical and Structural Laboratory Geomaterial Models Into a Modern Eulerian-Lagrangian Coupled Solver for Use in Blast-load and Impact Calculations, Ramon Moral, Army