



Department of Energy
Office of Science
Washington, DC 20585

March 10, 2006

Dr. Jill P. Dahlburg, Chair
Naval Research Laboratory
Code 1001
4555 Overlook Avenue
Washington, DC 20375

Dear Dr. Dahlburg:

I am requesting that the Advanced Scientific Computing Advisory Committee (ASCAC) convene a sub-panel to examine the role and efficiency of networking and networking research within the Office of Science (SC).

BACKGROUND

The roles of collection, storage and communication of experimental data, international in scope, have become increasingly paramount to the science missions across all of the program offices of SC. Over the next decade a number of large experimental instruments will come online that will significantly increase the demands on networking and communication. For example, SC will have a major role in operating experiments at the Large Hadron Collider (LHC) at CERN. In addition to these experimental programs, SC plans to begin operation of simulation facilities that will generate enormous amounts of data. Taken together, the amount of data is expected to exceed hundreds of petabytes. Within the Office of Advanced Scientific Computing Research (ASCR), the organization of the Energy Sciences Network (ESnet) and networking research is changing to meet these expected needs.

CHARGE

The sub-panel should weigh and review the organization, performance, expansion, and effectiveness of the current operations of ESnet. The sub-panel should consider the proposed evolution of ESnet, its appropriateness and comprehensiveness in addressing the data communication needs of SC that will enable scientists nationwide to extend the frontiers of science. Furthermore, the sub-panel needs to make suggestions and recommendations on the appropriateness and comprehensiveness of the networking research programs within ASCR with a view towards meeting the long-term networking needs of SC.

I would like a report on the findings and recommendations at the November 2007 ASCAC meeting. I appreciate ASCAC's willingness to undertake this important activity.

Sincerely,

Raymond L. Orbach
Director

