

U.S. Department of Energy



Office of Science

Advanced Scientific Computing Research Program

Committee of Visitors (COV)

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October 28, 2008



INCITE COV

Recommendations and ASCR's Response

Advanced Scientific Computing Research Program

Recommendation 1:

The selection processes for leadership class and DOE capability class computing should be separated. A significant portion, but less than half, of INCITE computational resources should be allocated to high-end DOE capability-class computing using a similar INCITE-type process.

Response: This recommendation seems to have been inspired by the recent shortfall of resources at NERSC (e.g. that demand increased significantly faster than supply). We intend to increase the pace of upgrades at NERSC and to provide even more computational resources to the Office of Science computational efforts by allocating older, but still scientifically useful, leadership resources through the NERSC allocation process.



INCITE COV

Recommendation 2a-c

Advanced Scientific Computing Research Program

Recommendation 2:

- a) INCITE awards should be fewer in number and larger in size with the expectation of demonstrated concurrency across a very large number of cores.

Response: We concur that 55 projects is too many INCITE projects and over the next two years will work to re-balance the INCITE portfolio.

- b) To allow for projects deemed important but not ready, some resources could be reserved for development.

Response: Projects that are deemed important but not ready are referred to the SciDAC Outreach Center and may be given access for scaling efforts from the facility director reserve.

- c) Renewal should meet an achievement threshold below which projects are rejected, or referred to additional technical support on smaller platforms to make way for more promising new projects.

Response: We concur with this recommendation and will also develop criteria for renewals that will be implemented with the calendar year 2009 INCITE allocations. This criteria will be available on the INCITE website and included in the notification of multi-year 2009 INCITE awards.



INCITE COV Recommendation 3

Advanced Scientific Computing Research Program

Recommendation 3:

INCITE should continue to provide robust expert assistance to the science teams performing leadership class computing.

Response: We concur with this recommendation.



INCITE COV

Recommendation 4a-b

Advanced Scientific Computing Research Program

Recommendation 4. Review Process:

- a) The selection process should be made as transparent and as uniform across disciplines as is practical. Selection criteria should be formulated and published. These should include scientific promise and importance, appropriateness of the computational technique, and potential impact on overall technological capability.

Response: We concur with this recommendation and will put the information on the next year's INCITE proposal website (hpc.science.doe.gov).

- b) When this has been accomplished, consideration should be given to increasing the frequency of INCITE calls for proposals or at least staggering the annual call with other relevant calls such as ERCAP.

Response: Rather than increasing the frequency of INCITE calls, we will further stagger the INCITE and NERSC annual calls. As a result, the 2010 INCITE Call for Proposals will open in mid-April, 2009 and close in mid-July, 2009.



INCITE COV

Recommendation 4c

Advanced Scientific Computing Research Program

- c) The computational readiness review process should adopt a more descriptive outcome, for example an overall grade (0-5) could be used for computational readiness. The readiness review would also benefit from a more systematic process such as a panel review performed by a group of computational experts from all the leadership class facilities, as well as from high-end computing experts outside DOE.

Response: We are implementing an overall grading scheme for the computational readiness review with a scale from not ready (1) to ready (5). The computational readiness review already includes a panel review. The panel is composed of computational experts from DOE's leadership computing facilities as well as NERSC. We will explore the option of adding outside computational experts to this panel.



INCITE COV

Recommendation 4d

- d) An appeals process for allocation decisions should be implemented.

Response: We will develop and implement an appeals process. The SC Director's reserve will be used for this process.



New Charge

COV for Computer Science

“I would like the Committee to consider and provide an evaluation of the following :

1. For both the DOE laboratory projects and the university projects, assess the efficacy and quality of the processes used to:
 - (a) solicit, review, recommend, and document proposal actions and
 - (b) monitor active projects and programs.

2. Within the boundaries defined by DOE missions and available funding, comment on how the award process has affected:
 - (a) the breadth and depth of portfolio elements, and
 - (b) the national and international standing of the program with regard to other computer science research programs that are also focused on the demands of high performance scientific computing and analysis of petascale datasets.”

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Computer Science COV

Draft report due to ASCAC at August,
2009 meeting