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United States Government
Department of Energy

memorandum

DATE: April 1, 2005

REPLY TO
ATTN OF: SC-12

SUBJECT: INDEPENDENT PROJECT REVIEW FOR THE LINAC COHERENT LIGHT SOURCE (LCLS) PROJECT

TO: Daniel R. Lehman, Director, SC-81

I would like to request that you organize and lead an Office of Science (SC) semi-annual status review of the Linac Coherent Light Source (LCLS) project at the Stanford Linear Accelerator Center (SLAC) during May 10-12, 2005. The purpose of this review is to evaluate progress in all aspects of the project: technical, conventional facilities, cost, schedule, management, and environment, safety and health (ES&H).

The LCLS project is in the process of starting Title II design activities and placing long-lead procurements. These long-lead items include the 135 MeV injector linac, undulator modules and their associated magnetic measurement system, and main linac magnets and RF systems. Actual construction start is scheduled for March 2006.

In addition to the LCLS construction project, SLAC is preparing to initiate a Major Item of Equipment (MIE) project called the Photon Instrumentation for X-ray Experiments at LCLS (PIXEL). It will provide the LCLS facility with additional experimental instrumentation once the LCLS is completed. The committee should also evaluate SLAC's preparations to start conceptual design of this MIE project later in FY 2005.

In carrying out its charge, the review committee should respond to the following questions:

1. Are the project's cost, schedule, and technical baselines consistent with those in the FY 2006 LCLS Construction Project Data Sheet and the current DOE-approved LCLS Project Execution Plan (e.g., Total Project Cost of $379 million and CD-4 in March 2009), and is there adequate progress to meet the baseline objectives? Is the information in the DOE Project Assessment Reporting System consistent with physical progress?

2. Are the designs of the technical systems sufficiently mature to support the long-lead procurements planned in FY2005? Will the procurement plans support the project schedule requirements?

3. Is there adequate contingency (cost and schedule) to address the risks inherent in the remaining work and is it being properly managed? Is the contingency supported by and consistent with an appropriate project-wide risk analysis?

4. Is the project being managed (i.e., properly organized, adequately staffed) as needed to proceed with construction? Is there adequate support from SLAC in all necessary areas (e.g., procurement, human resources)?

5. Is SLAC adequately prepared (e.g., organized and staffed) to start conceptual design of the PIXEL MIE project?

6. Are ES&H aspects being properly addressed given the project's current stage of development?

7. Has the project responded appropriately to recommendations from prior DOE/SC reviews?

Jeff Hoy, the LCLS Program Manager, will work closely with you as necessary to plan and carry out this review. I would appreciate receiving your committee's report within 60 days of the review's conclusion.

Patricia M. Dehmer
Associate Director of Science
for the Office of Basic Energy Sciences

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