Dr. Burton Richter  
Director  
Stanford Linear Accelerator Center  
Stanford University  
Stanford, California 94309

Dear Dr. Richter:

I am writing to confirm the arrangements worked out by our respective staffs for the Department of Energy on-site review of the Next Linear Collider (NLC) R&D program at Stanford Linear Accelerator Center (SLAC). The review is scheduled for May 24-28, 1999, and will be chaired by Daniel R. Lehman, Director, Construction Management Support Division; Office of Laboratory Operations and Environment, Safety, and Health, Office of Science.

The purpose of the review is to examine the technical activities, the development of cost estimating and scheduling processes, and the management structure in place to carry out the technical R&D and preparation of a Conceptual Design Report (CDR) for the NLC. Formal approval to proceed with the CDR is pending. A more detailed description of the questions to be addressed by the review committee in making these assessments is provided in the enclosed charge. Members of our two staffs are in the process of completing the final arrangements and tentative agenda, which will be provided to you shortly.

It is my understanding that relevant background material will be sent by SLAC directly to the Committee members. We would appreciate Committee members being provided with copies of all presentation material at the beginning of the review. If you or your staff have any questions, please do not hesitate to call David F. Sutter at (301) 903-5228 or Daniel R. Lehman at (301) 903-4840.

Sincerely,

[Signature]

John R. O’Fallon  
Director  
Division of High Energy Physics

Enclosure  
Charge to Committee  
List of participants
Charge to the Review Committee

NLC R&D Review at

SLAC

May 24-28, 1999

The Next Linear Collider (NLC) R&D program and other activities related to developing the foundation for a possible construction project have reached the stage where an extensive review of the progress and status is necessary. In particular, the recent subpanel of the High Energy Physics Advisory Panel chaired by Professor F. Gilman has recommended that SLAC and its collaborators proceed to develop a conceptual design and prepare a Conceptual Design Report (CDR). To do this requires that two formalities be accomplished. The approval by the Department of Energy (DOE) of a Critical Decision One (CD-1), the first step in the Energy System Acquisition Advisory Board (ESAAB) process that is used to control all phases of large construction projects within DOE, and inclusion of an item for the funding of conceptual design work in the President's Congressional Budget Request for FY 2001. The present review is an essential prerequisite to these two important actions.

The review is to address (1) the continuing R&D program that has established the technical basis for future construction of an NLC, (2) the cost estimating and scheduling processes now being developed for use in the CDR preparation and beyond, and (3) the organizational structure that is in place to manage both the R&D program and the activities to be accomplished in preparing the CDR. The R&D program has developed the initial concept of the facility, its technical scope and a “rough cut” at cost and schedule. Recently, considerable effort has been directed at planning how to carry out a detailed conceptual design, staffing to manage the activity, and developing the tools and methods needed to do the costing and scheduling. The NLC management structure that has directed the R&D program as it has progressed from the generic toward the facility-specific is evolving toward more structured, project-oriented activities and procedures. Construction of an NLC will be an international undertaking, and consistent with that intent, the R&D program has been carried out as an international collaboration, progressing from the informal to formal. That international character will now continue to evolve in management of a conceptual design and preparation of the CDR.

The review committee is asked to examine the status and progress of the NLC activities described above and to provide comments on their effectiveness in moving the project to and through the conceptual design phase. In addition, the Committee is asked to address the following questions.

1. Evaluate the readiness of the NLC collaboration to carry out the conceptual design phase of the project taking into consideration the technical status, planning, and management tools.

2. Are the cost and schedule proposed for carrying out the accelerator R&D, engineering design, planning and management of the conceptual design phase adequate to meet the stated goals of the NLC collaboration?
3. Is the management organization proposed for guiding the NLC through the conceptual design phase appropriate for accomplishing this more structured task and at the same time continuing to oversee an effective R&D program that is to be the foundation of both the conceptual design and the eventual construction of the facility?

4. The technical, cost and schedule studies for the NLC are based on a reference model of the project that extends from R&D through completion, called by SLAC the NLC Conceptual Design-I, or NLC CD-I. Is this description of the project complete in its content? Do the preliminary costs and schedules appear to be appropriate starting points from which to begin a detailed conceptual design that will precisely define the technical scope, cost, schedule and management of the NLC as a proposed construction project?

Dr. John R. O’Fallon, the convener of this review, has asked that a completed review report be provided to him by July 27, 1999. This will be a challenging task, and the efforts and willingness of the members of the review committee to undertake it are greatly appreciated.