



Department of Energy

Washington, DC 20585

June 5, 1998

Professor Konrad Gelbke
Chairman
DOE/NSF Nuclear Science Advisory Committee
Michigan State University
East Lansing, MI 48824

Dear Professor Gelbke:

In 1996 the DOE/NSF Nuclear Science Advisory Committee (NSAC) submitted a Long Range Plan (LRP) for nuclear science research in the nation. The scientific opportunities identified and priorities recommended in this plan provide important guidance for taking our programs into the next century. An important aspect of the plan is the coordination of the DOE and NSF programs which recognizes the important stewardship roles which both agencies play in university-based research and DOE's lead role in building and operating forefront national facilities for users. DOE, in this latter role, is presently faced with making long term programmatic decisions, particularly regarding facility operations, which affect the scientific programs of both agencies.

This letter requests that NSAC reexamine and evaluate the scientific opportunities identified in the area of "To the Quark Structure of Matter" of the 1996 LRP, and make recommendations of priorities consistent with projected resources available to the DOE Medium Energy program.

Recent Nuclear Physics budgets in DOE have not attained the levels assumed in establishing the FY 1996 LRP. The DOE Nuclear Physics Program office has distributed resources between the major subprograms in order to reflect the priorities expressed in the LRP. These budget levels have introduced pressures within all the subprograms, but the priorities in the other subfields are relatively clear and include the development of RHIC, ISOL and SNO.

In the Medium Energy program significant changes have occurred and new opportunities have emerged since the writing of the LRP. In the FY 1999 DOE Nuclear Physics Congressional Budget Request, support is provided for TJNAF at the NSAC recommended level, for Bates to develop BLAST, for a wide ranges of



experiments at various stages of implementation at a number of facilities world-wide (e.g., AGS, DESY, FNAL, LANSCE, LEGS, SLAC, TRIUMF, Palo Verde, etc.) and for an on-going level of research, including university scientists and students. It is a world-class, forefront program with great promise. However, the 1999 Congressional Budget Request does not include support for a number of other opportunities which have been identified.

These considerations require updated scientific guidance on the options available in the DOE Medium Energy program. The evaluations and recommendations of this review are expected to provide a scientific basis for programmatic decisions, on both facility and research support needs in the next few years (FY 1999-2004). In the report of your examination of the facilities and research activities supported by DOE's Medium Energy subprogram, please respond to the following questions:

What is the optimum mix of facilities and research support needed to address the scientific priorities within the context of the FY 1999 Congressional Budget Request (\$116.9 million, including Capital Equipment) with constant dollars into the out years?

What scientific opportunities could be addressed with a program funded at a FY 1999 constant level of effort into the out years?

What important scientific opportunities could be addressed with additional funds beyond constant level of effort beginning in FY 2000?

We request that a written report responsive to this charge be provided by October 1, 1998.

Sincerely,



Robert A. Eisenstein
Assistant Director
Mathematical and Physical Science
National Science Foundation



Martha A. Krebs
Director
Office of Energy Research
U.S. Department of Energy