

U.S. Department of Energy and the National Science Foundation



April 5, 2012

Dr. Donald Geesaman Chair DOE/NSF Nuclear Science Advisory Committee Argonne National Laboratory 9800 South Cass Avenue, Argonne, Illinois 60439

Dear Dr. Geesaman:

In 2007 the Department of Energy (DOE)/National Science Foundation (NSF) Nuclear Science Advisory Committee (NSAC) completed work on a Long Range Plan for nuclear science for the decade. This plan provided a roadmap for the development of new and existing facilities to maintain U.S. leadership in nuclear science, including completion of the 12 GeV CEBAF Upgrade at Jefferson Lab, and construction of the Facility for Rare Isotope Beams (FRIB). The plan also recommended a targeted program of experiments on fundamental symmetries and a luminosity upgrade to determine the properties of a new state of matter discovered at the Relativistic Heavy Ion Collider. The NSAC identified the need to maintain funding above the FY 2007 constant-effort level to effectively utilize the nuclear science program's facilities, mount strong university and theory programs, and develop new research capabilities.

DOE and NSF are making significant progress toward achieving the vision of the 2007 Long Range Plan for Nuclear Science. However, DOE and NSF now seek your advice to continue the vision in the Plan so that the recommendations can move forward in light of projected constrained budgets.

We seek advice from NSAC on implementing the priorities and recommendations of the 2007 Long Range Plan in light of projected budgetary constraints and for guidance on developing a plan to implement the highest priority science in the context of likely available funding and world-wide capabilities. We request that NSAC examine the existing research capabilities and scientific efforts, assess their role and potential for scientific advancements, and advise the two agencies regarding the time and resources needed to achieve the planned programs. Your report should describe how to optimize the overall nuclear science program over the next five years (FY 2014-2018), under at least the following funding scenarios for the nuclear science budgets at the two agencies: (1) flat funding at the FY 2013 request level, and (2) modest increases over the next five years.

Based on the priorities and opportunities identified and recommended in the 2007 Long Range Plan, the report should discuss what scientific opportunities will be addressed, and what existing and future facilities and instrumentation capabilities would be needed by the Federal nuclear science program to mount a productive, forefront program for each of the funding scenarios.

NSAC should submit the report by January 2013. We are aware that this is a difficult task. However, the involvement and input of the research community is essential to inform the Department's decisions regarding the strategy for implementing a world-leading U.S. Nuclear Physics program in times of fiscal constraint.

Sincerely,

W. F. Brinkman

Director

Office of Science

Edward Seidel Assistant Director

Directorate for Mathematical and Physical Sciences