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February 1, 2013

Dr. William F. Brinkman
Director, Office of Science
U. S. Department of Energy
1000 Independence Avenue
Washington, D.C. 20583

Dr. F. Fleming Crim
Assistant Director
Directorate of Mathematical and Physical Sciences
National Science Foundation
4201 Wilson Boulevard
Arlington, VA 22230

Dear Drs. Brinkman and Crim:

In a letter from your offices dated April 5, 2012, NSAC was asked to provide advice on implementing the priorities and recommendations of the 2007 NSAC Long Range Plan in light of 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. You asked how to optimize the overall nuclear science program over the next five years (FY2014-2018) under at least two funding scenarios: 1) flat funding at the FY2013 request, and 2) modest increases over the next five years. While the charge focuses on research funded by the DOE's Office of Science, the NSF research program, as well as international efforts, needs to be taken into account.

NSAC formed a sub-committee chaired by Prof. Robert Tribble of Texas A&M University to prepare a response to the charge. This subcommittee presented its report to NSAC at a meeting on January 28, 2013. While the consideration of declining budgets is painful, and, as the report documents, would lead to substantial damage to the U.S. nuclear physics effort, NSAC accepts the report. A copy of the report is enclosed with this letter.

A modest growth budget is considered that, while below the optimum funding level recommended by the Long Range Plan, would not force a major loss in present or future scientific capabilities, or the ability to train a highly skilled work force. The Subcommittee was unanimous in endorsing the modest growth budget scenario as the minimum level of support that is needed to maintain a viable long term U.S. Nuclear Science program that encompasses the vision of the LRP. This is NSAC's unanimous recommendation.

In the subcommittee's assessment, the no growth scenarios require the program to shrink by closing one of its two existing large facilities or by abandoning construction of a new accelerator to produce a state-of-the-art rare isotope facility. This comes at a time when countries such as China, France, Germany, India, Japan, Russia, and South Korea are making large investments in nuclear science research. It is clear that leadership will shift away from the U.S., and the ability to train the next generation U.S. nuclear science work force will erode if any one of the three options must be implemented. The resulting losses would likely be permanent ones for the nation. Existing 3rd party agreements, some international, some domestic, would have to be abandoned. NSAC recognizes that the subcommittee expressed only a slight preference among alternatives, and unanimously concurs that each of these alternative paths presents a grave danger to the future health of nuclear science.

Sincerely yours,

A handwritten signature in blue ink that reads 'Donald F. Geesaman'.

Donald F. Geesaman
Chair, NSAC