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

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Dear Professors Beier and Meyers:

We would like to thank you and the Neutrino Scientific Assessment Group (NuSAG) for your timely and thoughtful responses to the initial questions that were posed to you, concerning neutrinoless double beta decay, reactor experiments and accelerator-based experiments to determine fundamental neutrino properties. They have already been very useful and will help us put together a strong US program in neutrino physics.

We would now like your group to address the APS Study's recommendation for a next-generation neutrino beam and detector configurations. Assuming a megawatt class proton accelerator as a neutrino source, please answer the following questions for accelerator-detector configurations including those needed for a multi-phase off-axis program and a very-long-baseline broad-band program. This assessment will be used as one of the key elements to guide the direction and timeline of such a possible next generation neutrino beam facility.

In your assessment, NuSAG should look at the scientific potential of the facility, the timeliness of its scientific output, and its place in the broad international context. Specifically:

- **Scientific potential:** What are the important physics questions that can be addressed at the envisioned neutrino beam facility?

- **Associated detector options:** What are the associated detector options which might be needed to fully realize the envisioned physics potentials? What are the rough cost ranges for these detector options?

- **Optimal timeline:** What would be the optimal construction and operation timeline for each accelerator-detector configuration, taking the international context into account?

- **Other scientific considerations:** What other scientific considerations, such as results from other neutrino experiments, will be important in order to optimally determine the design parameters? What would be additional important physics questions that can be addressed in the same detector(s)?

The DOE and the NSF would like a preliminary draft of your report by June 2006, with a final version by August 2006.

Thank you in advance for your dedication to addressing these important and challenging questions.

Sincerely,

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