

## 5th Meeting of the NSLS-II Accelerator Systems Advisory Committee Meeting

March 26-27, 2009  
Brookhaven National Laboratory

### Charge

The NSLS-II project accomplished a number of major milestones since the last ASAC meeting in July 2008. After a series of very successful CD-3 reviews in the fall of 2008, DOE granted CD-3 Approval, Approve Start of Construction, on January 9, 2009. Over the last three months, the Ring Building contract was awarded, site clearing activities were completed, and other preparatory construction activities have started. With the start of the Ring Building construction, a number of design activities for the Accelerator Systems that require strong coordination with the design of the building, such as the accelerator and transfer-line lattices, the layout of electronic rack systems, cable trays, penetrations of the building walls for cables waveguides and cryogenic supply lines, have been finalized.

With designs becoming finalized, and significant progress being made in prototyping and testing of the major subsystems, the ramp-up of equipment procurement is now a focus of the project. A number of major procurements, including the vacuum system, the turn-key linac, and storage ring magnets (prototypes have been built by industry and mostly met the demanding NSLS-II requirements), will be executed in the near future.

Therefore, at this meeting, the Committee is asked to focus on reviewing recent progress in major subsystems with near-future procurement activities as well as some of the subsystems which were not extensively covered in previous meetings.

Specifically, the Committee is asked to:

- Review the results on dynamic aperture studies, including the effect of insertion devices, and provide assessment on proposed improvement for the non-linear and chromatic correction system
- Review the progress on design of the injector system and comment on procurement plans for major components in the near future
- Review the results from the Storage Ring magnet prototype program with respect to readiness to start the production within the next few months
- Review the progress of the vacuum system and in particular assess the shielded bellow design and mitigation of beam heating issues of the vacuum system
- Review the superconducting cavity designs and procurement strategies for the RF systems

- Review the development of the control system with particular attention to the definition of interfaces between controls and technical subsystems.
- Review the major procurement plans and comment on procurement strategies and assumptions made for the procurement schedule.

The Committee's assessments on these topics will provide valuable input as the project enters the construction phase of the NSLS-II accelerator complex. The committee is kindly requested to formulate its responses in a written report which is expected to be received by April 30, 2009.