

**NSLS-II Experimental Tools (NEXT) Project
Monthly Report – January 2012**

DATE: submitted on February 16, 2012

1. Project Schedule

CD-0 (Mission Need):	Planned: 3Q10	Actual: May 27, 2010
CD-1 (Alternative Selection):	Planned: 4Q11	Actual: Dec. 19, 2011
CD-2 (Performance Baseline):	Planned: 3Q12	Tentative*: 1Q13
CD-3 (Start Construction):	Planned: 2Q13	Tentative*: 4Q13
Early Project Completion:	Planned: 4Q15	Tentative*: 4Q16
CD-4 (Project Completion):	Planned: 3Q16	Tentative*: 3Q17

*Pending re-planning to accommodate new funding profile

Short term schedule

• DOE CD-1 review	Planned: Aug. 30–Sept. 1	Actual: Aug. 31–Sept. 1
• CD-1 approval	Planned: Oct. 2011	Actual: Dec. 19, 2011
• ALD's CD-2 (PDR) review	Planned: Jul 17-19, 2012	Previous*: Apr 4-5, 2012
• DOE CD-2 review	Planned: Sep 11-13, 2012	Previous*: Jun 5-7, 2012

*Rescheduled to allow time for re-planning baseline

2. Technical Objectives: 6 beamlines installed and commissioned without X-ray beam

Planned NEXT beamlines

ESM -- Electron Spectro-Microscopy
 FXI -- Full-field X-ray Imaging
 ISS -- Inner Shell Spectroscopy
 ISR -- Integrated In-Situ & Resonant X-Ray Studies
 SIX -- Soft Inelastic X-ray Scattering
 SMI -- Soft Matter Interfaces

3. Assumed Funding Profile

(\$M)	FY11	FY12	FY13	FY14	FY15	FY16	Total (\$M)
OPC (CDR)	\$3						\$3
TEC (Design)		\$3	\$2				\$5
TEC (Fabrication)		\$9	\$10	\$25.9	\$21.6	\$15.5	\$82
Total Project Cost (\$M)	\$3	\$12	\$12	\$25.9	\$21.6	\$15.5	\$90

4. Progress:

- Preliminary design effort continues, including preparation of the required documents for CD-2.
- The resource loaded schedule is being revised based on the latest funding profile guidance.
- Staffing
 - Scientific staff: 5 of the 6 permanent beamline Level 2 Manager positions have been filled (ESM, FXI, ISR, ISS, and SMI) and are in place. An offer has been made for the 6th beamline Level 2 manager position (SIX).

- Engineering staff: Three mechanical engineering positions have been filled, two with start dates in February 2012 and the third will start in April. Mechanical engineering for a fourth beamline is being accomplished via an MOU for the services of an experienced mechanical engineer in BNL's Condensed Matter Physics and Materials Science Department.

5. Issues and Risks:

- The expected delay in project completion resulting from the latest funding profile guidance is likely to increase the cost of the currently planned scope.
- MOUs between the Photon Sciences directorate and identified partner user institutions need to be finalized prior to CD-2.

6. Action Items and Decisions:

- Update resource loaded schedule based on latest funding profile guidance, with a goal of completing the CD-2 baseline cost and schedule plan by the end of March 2012.
- Staffing
 - Fill the single remaining Level 2 Manager position as soon as possible, with a goal of filling it by February 2012.
 - Fill the remaining 2 mechanical engineering positions as soon as possible, with a goal of filling them by the end of the 3rd quarter of FY12.
 - Post the 6 beamline scientist positions in March 2012.
- Generate and sign MOUs between the Photon Sciences directorate and identified Partner User institutions prior to CD-2. MOUs are anticipated with the following institutions:
 - BNL Center for Functional Nanomaterials (CFN), regarding equipment and operational support of the AP-SPEM and XPEEM endstations at ESM
 - University of Missouri Kansas City, regarding equipment and operational support of the spin- and angle-resolved photoemission endstation at ESM
 - Boston University and University of Vermont, regarding equipment and operational support of the in-situ surface and thin-film growth endstation at ISR
 - BNL Condensed Matter Physics and Materials Science Department (CMPMSD), regarding equipment and associated labor for endstations at SMI, SIX, and ESM