

BMM Beamline Final Design Review - 8 February 2017

Background

The NSLS-II Partner Beamline portfolio provides a vehicle for institutions and consortia to contribute to the buildout of beamlines at NSLS-II. The objective is to increase the strength and diversity of the scientific community served by NSLS-II while also supporting the vibrant user community formerly hosted by NSLS. The current activities within the portfolio will provide NSLS-II with a number of additional bending magnet, three pole wiggler, and Insertion Device beamlines, including their respective sources and front ends, while allowing the Partner organizations to play a significant role in their operation and in guiding their scientific development.

These beamlines are managed and financed in large part by the Partners. NSLS-II provides additional management oversight and assistance, and undertakes defined parts of the project on behalf of the Partner. NSLS-II also provides some financing for specific activities that the facility regards as its fundamental responsibility. The Partner beamlines are an important contribution to NSLS-II, providing unique capabilities that complement those provided by other beamlines, adding significant capacity, and/or serving to transition some specific segments of the NSLS user community and their scientific programs to NSLS-II.

The Partner for the BMM beamline is National Institute of Standards and Technology (NIST). NIST is currently in the process of establishing an NSLS-II spectroscopy suite of two state-of-the-art high throughput beamlines SST 1&2 for Soft and Tender X-ray Spectroscopy and Microscopy (100 eV to 7.5 keV canted sources) and BMM for Hard X-ray Absorption Spectroscopy and Diffraction (4.5 keV to 22 keV three pole wiggler source). Taken together, the NIST NSLS-II Spectroscopy Beamline Suite will be capable of measuring the electronic, chemical, and structural properties of almost any material, often at the nanoscale.

Charge to the Review Committee

The purpose of this review is to assess the technical, cost, schedule, management, and ES&H aspects of the BMM Beamline. The Final Design Report is expected to provide sufficient technical depth and detail to demonstrate that the performance expectations outlined in the Beamline Development Proposal will be met. The review will also assess the progress of the BMM Beamline Project against the planned schedule and budget, and identify any major outstanding risks that must be addressed.

The specific elements of the charge are as follows:

1. Final Design: Are the final designs technically sound and likely to meet the identified performance requirements for carrying out the scientific mission of the beamline? Given the current state of progress, is there adequate supporting documentation to complete the beamline construction and the Instrument Readiness Review? Have recommendations from previous reviews been incorporated?
2. Project Scope: Is the project's remaining scope sufficiently well-defined to support the outstanding cost and schedule estimates and allow the beamline to be completed to plan?
3. Cost and Schedule: Is the project tracking the cost and schedule estimates? Is it clear what remaining activities are to be provided and paid for by the Partner group and by NSLS-II? Do these estimates include adequate contingency (cost or scope)?
4. Risks: Are the risks (technical, cost, and schedule) understood and are appropriate steps being taken to manage and mitigate these risks?
5. Management: Is there a credible plan to manage the project? Is the project team organized and staffed adequately to carry out the project? Are the roles of the Partner and NSLS-II staff sufficiently well defined?
6. Are ES&H aspects being properly addressed given the project's current stage of development?

A review report is requested to be sent to the NSLS-II Deputy Director for Construction within one month of the review.