

INSTRUMENT READINESS REVIEW (IRR)

FOR

SIX (2-ID) BEAMLINE, FRONT END AND INSERTION DEVICE

TAILORED REVIEW PLAN



OCTOBER 5, 2016

NSLSII-2ID-PLN-003

PREPARED BY

BROOKHAVEN NATIONAL LABORATORY
P.O. Box 5000
UPTON, NY 11973-5000

MANAGED BY

BROOKHAVEN SCIENCE ASSOCIATES

FOR THE

U.S. DEPARTMENT OF ENERGY
OFFICE OF SCIENCE BASIC ENERGY SCIENCE

UNDER CONTRACT DE-SC0012704

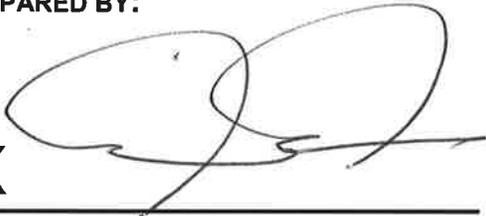
**Instrument Readiness Review (IRR)
for
SIX (2-ID) Beamline, Front End and Insertion Device**

Tailored Review Plan

OCTOBER 5, 2016

PREPARED BY:

X



Andrew Ackerman
Instrument Readiness Review Coordinator

APPROVED BY:

X



John Hill
NSLS-II Director

By approving this plan I acknowledge the requirements set forth herein and agree with its implementation.

REVISION HISTORY

REVISION	DESCRIPTION	LIST OF REVIEWERS	DATE
1	First Issue	M Bebon, S. Hulbert, I Jarrige, J, Keister R. Lee, S. McSweeney P. Zschack	05OCT2016

TABLE OF CONTENTS

ACRONYMS	V
1.0 INTRODUCTION	1
2.0 REVIEW PROCESS TAILORING AUTHORITY	1
3.0 TAILORED REVIEW READINESS PROCESS	1
4.0 SCHEDULE	2
5.0 REVIEW TEAM CHARGE	3

ACRONYMS

ARR	Accelerator Readiness Review
EPS	Equipment Protection System
IRP	Instrument Readiness Plan
IRR	Instrument Readiness Review
NEXT	NSLS-II Experimental Tools
NSLS-II	National Synchrotron Light Source II
PPS	Personnel Protection System
SIX	Soft Inelastic X-ray Scattering

1.0 INTRODUCTION

Processes for performing Accelerator Readiness Reviews (ARRs) and Instrument Readiness Reviews (IRRs) have been established and exercised for transitioning the NSLS-II from construction and installation to readiness for Routine Operation for the accelerators and for commissioning of the beamlines. These processes include the NSLS-II procedure for performing IRRs (PS-C-ESH-PRC-001) and the Accelerator Safety Subject Area requirements for Accelerator Readiness Reviews. The purpose of this document is to outline the processes needed to manage the IRR for the 2-ID Beamline, Front End and Insertion Device (Soft Inelastic X-ray Scattering [SIX]).

2.0 REVIEW PROCESS TAILORING AUTHORITY

The *NSLS-II Process Description: Review Process for Facility Additions and Modifications* (PS-C-CMD-PLN-001) provides the basis for tailoring the review process for an NSLS-II facility addition or modification project and identifies the NSLS-II Director as the approval authority. The process description allows the Cognizant Scientist or Engineer, or the Project Manager, to propose a tailored review process to the NSLS-II Director for approval. Once approved, the tailored review process is documented and used for the project or the remaining activities under the project.

3.0 TAILORED REVIEW READINESS PROCESS

As described in the *NSLS-II Process Description: Review Process for Facility Additions and Modifications* this Tailored Review Plan has been prepared for determination of NSLS-II readiness for the 2-ID (SIX) Beamline, Front End and Insertion Device.

The IRR for SIX will be managed in three phases to optimize work within the NSLS-II synchrotron operating and the NEXT beamline project schedule:

- Phase 1: Front End and Insertion Device Readiness Review
- Phase 2: Beamline Systems Readiness Review
- Phase 3: Instrument Readiness Review

Two IRPs will be developed to define the detailed scopes for each of the review phases and to document the readiness criteria for the start of technical commissioning. One IRP will be developed for the Front End and Insertion Device review and another for the second two phases of the SIX Beamline readiness review process.

4.0 SCHEDULE

4.1 Front End and Insertion Device Readiness Review (Phase 1)

The first phase will include all readiness criteria needed for independent commissioning of the SIX Front End and Insertion Device. Early review of the Front End and Insertion Device will allow for commissioning of these systems while beamline readiness preparation continues.

At the completion of this phase of the IRR, a request for authorization to proceed with technical commissioning of the Cell 02 Front End and Insertion Device will be submitted in accordance with NSLS-II policy and procedure.

4.2 Systems Readiness Review (Phase 2)

The second phase will be a "Systems Readiness Review," with a limited scope established at least two weeks prior to the IRR meeting, as defined in the IRP. It is expected that a substantial amount of work will be completed and that the majority of the SIX IRP readiness criteria will be satisfied during this phase.

The Systems Readiness Review will include planning, design, and installation of all beamline systems on the experimental floor side of the accelerator enclosure sawtooth with the following exceptions:

- The beamline PPS
- The front end EPS

Completion of this phase of the IRR will not result in a request for authorization to operate with the photon beam. The purpose of this phase is to provide early input from the review committee to allow time for resolution of any findings, which can be resolved in parallel with the remaining beamline component installation and preparation for Phase 3. A preliminary report will be generated to identify pre-start findings.

4.3 Instrument Readiness Review (Phase 3)

The final Instrument Readiness Review will include planning, design, installation and personnel readiness for all remaining systems/readiness criteria needed to begin commissioning of the SIX instrument from the source to the endstation.

At the completion of this phase of the IRR and closure of any pre-start findings (from Phase 2 and Phase 3), a request for authorization to proceed with technical commissioning will be submitted in accordance with NSLS-II policy and procedure.

5.0 REVIEW TEAM CHARGE

A single review team will be charged to complete all three review phases. The full team will participate in the Front End and Insertion Device and Systems Review phases and will be asked to investigate and comment on all systems declared ready.

A subset of the review team will be asked to return for the final instrument readiness review. That group will be charged to investigate and comment on only those systems not included in the in the first two reviews, and on final personnel readiness for commissioning. The committee subset will include the team leader along with members assigned to verifying readiness of the EPS and PPS systems and personnel qualification.

[If you have any questions or feedback regarding this document, please click this link.](#)