

# **INSTRUMENT READINESS REVIEW (IRR)**

**FOR**

## **SMI (12-ID) BEAMLINE**

## **TAILORED REVIEW PLAN**



**OCTOBER 5, 2016**

**NSLSII-12ID-PLN-003**

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

UNDER CONTRACT DE-SC0012704

**Instrument Readiness Review (IRR)  
for  
SMI (12-ID) Beamline  
Tailored Review Plan**

OCTOBER 5, 2016

**PREPARED BY:**

X 

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Andrew Ackerman  
Instrument Readiness Review Coordinator

**APPROVED BY:**

X 

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John Hill  
NSLS-II Director

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

**REVISION HISTORY**

<b>REVISION</b>	<b>DESCRIPTION</b>	<b>LIST OF REVIEWERS</b>	<b>DATE</b>
1	First Issue	M Bebon, E. DiMasi, S. Hulbert, J. Keister R. Lee, S. McSweeney P. Zschack	05OCT2016

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**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
SAXS	Small Angle X-ray Scattering
SMI	Soft Matter Interface

## 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 12-ID beamline (Soft Matter Interfaces [SMI]).

## 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 12-ID (SMI) beamline.

The IRR for SMI will be managed in two phases to optimize work within the NSLS-II synchrotron operating and the NEXT beamline project schedules. The first 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 most of the SMI IRP readiness criteria will be satisfied during this first phase. Completing this Systems Review will allow early identification of issues that can be resolved in parallel with the remaining beamline installation items and with preparation for the second review phase, which will include all remaining readiness criteria required to begin technical commissioning of SMI from the source to the endstation.

A single IRP will be developed to define the scope for both review phases and to document the readiness criteria for the start of technical commissioning. A detailed scope for each phase will be documented in the IRP.

## **4.0 SCHEDULE**

### **4.1 Systems Readiness Review (Phase 1)**

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
- The SAXS Sub-Assembly in the experimental end-station 12-ID-C

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. A preliminary report will be generated to identify pre-start findings.

### **4.2 Instrument Readiness Review (Phase 2)**

The final Instrument Readiness Review will include planning, design, installation and personnel readiness for all systems needed to begin commissioning of the SMI instrument. The SAXS Sub-Assembly in 12-ID-C is excluded from the phase 2 IRR scope and readiness will be managed through the NSLS-II Experiment Safety Review program at a later date.

At the completion of this phase of the IRR and closure of any pre-start findings (from Phase 1 and Phase 2), 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 both review phases. The full team will participate in the Systems Review phase 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 review. That group will be charged to investigate and comment on only those systems not included in the Phase 1 Systems Review 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.](#)