



SNS-OPM 2.B-10  
Unreviewed Safety Issue Process

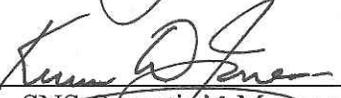
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Approved:  4/28/16  
ISD Division Director Date

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SNS Operations Manager Date

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[SNS-OPM Editor](#)

**SNS-OPM 2.B-10**  
**Unreviewed Safety Issue Process**

**1. Purpose**

- 1.1 The Un-reviewed Safety Issue (USI) process allows for the evaluation of accelerator activities that have the potential to significantly impact safety. This procedure provides instructions for determining if:
  - 1.1.1 a proposed activity (i.e. a change, modification or experiment) involves an Unreviewed Safety Issue (USI), or
  - 1.1.2 a previously unevaluated hazard discovered in an ongoing operation involves a USI.
- 1.2 This procedure provides instruction for how to proceed when a USI is determined to exist.
- 1.3 The instructions of this procedure comply with USI requirements in DOE Order 420.2C and the ORNL SBMS Subject Area “Accelerator Safety.”

**2. Responsibilities**

- 2.1 The SNS Operations Manager is responsible for implementation of the USI Process at SNS.
- 2.2 Line management is responsible for determining situations when a USI Evaluation is to be conducted.

**3. Prerequisites**

- 3.1 Qualified preparers and qualified reviewers will receive training on the USI Process. The SNS Operations Manager may designate individuals to serve as qualified preparers and reviewers based on their knowledge and experience in lieu of training on the USI Process.

**4. Precautions**

- 4.1 In accordance with DOE 420.2C, activities involving an identified USI must not commence before DOE has provided written approval.

## 5. Procedure

- 5.1 A USI Evaluation should be conducted where there is a reasonable chance that a proposed activity or a previously unevaluated hazard discovered in an ongoing operation could:
- 5.1.1 Affect the probability or consequence of an accident or equipment malfunction from that evaluated in the FSAD.
  - 5.1.2 Introduce an accident or malfunction of a different type than any evaluated in the FSAD.
- 5.2 The following items are some examples of situations that typically require a USI Evaluation:
- Replacement or modification of components of Credited Engineered controls that are not replacement-in-kind.
  - Changes to systems or administrative programs (e.g., policies and procedures) described in the SAD.
  - New or previously unrecognized hazards not evaluated in the SAD and not fully addressed in an applicable SBMS subject area.
  - Reorganization affecting group/divisional responsibilities addressed in the SAD.
  - Significant modifications of structures, systems or components that are described in the FSAD.
  - Change to permanent shielding or a change in temporary shielding beyond those addressed in the FSAD (see FSAD for Proton Facilities, Section 4.2.1.2 Moveable Shielding) or in SNS shielding configuration control procedures (see OPM Section 2.H-7, Radiation Shielding and Barriers).
- 5.3 The USI Evaluation must be prepared by a qualified preparer that possesses in-depth knowledge of the system(s)/components/processes involved and the applicable portions of the FSAD and ASE; and understands the USI Process. Those who may serve as qualified preparers include:
- Systems Engineers, Lead Engineers
  - Team Leaders
  - Group Leaders
  - SNS Safety Specialist
  - Other individuals as specified by the SNS Operations Manager or the ISDD Division Director

- 5.4 The USI Evaluation must be reviewed by a qualified reviewer that possess a broad understanding of the system(s)/components/processes involved and the applicable portions of the FSAD and ASE; and understands the USI Process. The following individuals may serve as qualified reviewers:
- Mechanical Systems and Operations Group Leader
  - Accelerator Operations Group Leader
  - Neutron Source and Instrument Design Group Leader
  - Accelerator and Target Operations Manager
  - Maintenance Integration Manager
  - SNS Safety Specialist
  - Other individuals as specified by the SNS Operations Manager or the ISDD Division Director.
- 5.5 The SNS Operations Manager normally serves as the USI Evaluation approver. Other individuals that may also serve as approvers include:
- ISDD Division Director
  - Directorate Operations Manager
  - SNS Safety Specialist
  - Other individuals as specified by the SNS Operations Manager.
- 5.6 A qualified preparer prepares the USI Evaluation by completing the form attached (SNS-OPM-ATT 2.B-10.a). The form serves as a template requiring the following information:
- 5.6.1 A complete description of the proposed change/modification/experiment or the discovered situation in an ongoing operation.
- 5.6.2 Identification and listing of the relevant SAD Sections (FSAD for Neutron Facilities and/or FSAD for Proton Facilities, as appropriate).
- 5.6.3 Identification and listing of any affected sections of the ASE.
- 5.6.4 USI Evaluation Criteria – six key questions that must be answered to determine if an Unreviewed Safety Issue exists. Sufficient support rationale is required to support the answers to the six key questions.
- 5.6.5 USI Determination – if the answer to any of the six questions is “Yes” then a USI is determined to exist. If the answer to all of the six questions is “No” a USI does not exist.
- 5.6.6 The analysis presented in the form is reviewed by a qualified reviewer and is approved at the appropriate level. In addition to the qualified reviewer, others may review the form.
- 5.7 The SNS Operations Manager (or designee) should approve the USI Evaluation Form.
- 5.8 The approved USI Evaluation Form is to be forwarded to the SNS Safety Specialist.

- 5.9 If a USI is determined not to exist, the proposed change may be implemented with appropriate internal review (i.e. DOE approval not required) as determined by the SNS Operations Manager.
- 5.10 If a USI is determined to exist for a proposed change/modification/experiment, the SNS Operations Manager shall:
  - 5.10.1 Assure that the proposed activity is not implemented without prior written approval from the DOE project manager for SNS.
  - 5.10.2 Determine if the proposed activity should be pursued or postponed.
  - 5.10.3 If it is desired to pursue approval for the proposed activity, the SNS Operations Manager should submit the proposed activity to the DOE Project Manager for SNS and work to obtain DOE written approval for the proposed activity.
- 5.11 If a discovered condition in ongoing operations is determined to constitute a USI, operations with the discovered condition shall be suspended and the SNS Operations Manager shall initiate any necessary controls to assure protection of workers, the public and the environment. If the discovered condition cannot be eliminated, safety analysis and review shall be completed and written DOE approval secured before operations with the discovered condition recommence.
- 5.12 If the proposed activity will require a change to the ASE, prior DOE approval of the ASE revision is required.
- 5.13 If a discovered condition is determined to violate the ASE, the activity must be terminated immediately and the activity must not recommence before DOE has been notified (refer to OPM 2.B-0, SNS Accelerator Safety Envelope, and 2.D-1.4, SNS Occurrence Reporting Procedure, for further guidance).

## **6. Documentation**

- 6.1 The SNS Operations Manager will maintain approved USID forms as controlled records (filed in ProjectWise) so they can be subsequently incorporated into the next SAD revision as appropriate.
- 6.2 A USID is considered as part of the safety assessment until such time it is incorporated into the SAD as appropriate.

## 7. References

- 7.1 ORNL SBMS subject area for Accelerator Safety  
[https://sbms.ornl.gov/sbms/sbmsearch/subjarea/Accel/Accel\\_sa.cfm](https://sbms.ornl.gov/sbms/sbmsearch/subjarea/Accel/Accel_sa.cfm)
- 7.2 SNS Operations Procedures Manual (SNS-OPM)  
[http://ns-staff.ornl.gov/operations/SNS-OPM\\_Folder\\_Tree/](http://ns-staff.ornl.gov/operations/SNS-OPM_Folder_Tree/)
- 7.3 SNS Final Safety Assessment Document for Proton Facilities (SNS Document No. 102030103-ES0018)  
<http://ns-staff.ornl.gov/esh/safdoc/docs/FSAD-PF-102030103-ES0018-R02.pdf>
- 7.4 SNS Final Safety Assessment Document for Neutron Facilities (SNS Document No. 102030102-ES0016)  
<http://ns-staff.ornl.gov/esh/safdoc/docs/FSAD-NF-102030102-ES0016-R03.pdf>
- 7.5 SNS ASE (SNS Document No. 102030103-ES0016)  
<http://ns-staff.ornl.gov/operations/SNS-OPM/SNS-ASE.pdf>
- 7.6 DOE Order 420.2C “Safety of Accelerator Facilities”  
<https://www.directives.doe.gov/directives/0420.2-BOrder-c/view>

## 8. Attachments

- 8.1 SNS-OPM-ATT 2.B-10.a. “Unreviewed Safety Issue Evaluation (USI Evaluation) Form”  
<http://ns-staff.ornl.gov/operations/SNS-OPM/02-B-10-a.pdf>

## 9. Revision History

- Rev. 03.1 April 28, 2016 – Triennial Review. Updated signature page to reflect job title changes. Updated links in **Sections 7.3, 7.4, and 7.5**. Added **Section 9, Revision History**
  - SNS-OPM-ATT 2.B-10.a Rev. 03.1 April 28, 2016 – Triennial review. Updated signature page to reflect job title changes.