



# Radiation Safety

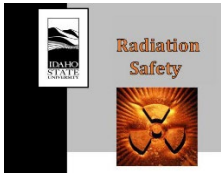


## **RADIATION PROCEDURES MANUAL** **Procedure Cover Sheet**

Procedure Title: Procedure for Developing Radiation Safety Procedures  
Procedure Number: RS-27 Rev.1  
Effective Date: 02/29/2024

Approved By: Radiation Safety Committee

Date: 02/02/2024

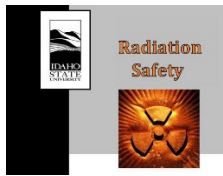


Procedure #: RS-27 Rev.1  
Procedure Title: Procedure for Developing  
Radiation Safety Procedures  
Approval Date: 02/02/2024  
Effective Date: 02/29/2024

---

### Revision History

Revision Number	Author Name	Date	Approved by/date
RS 27.0	Mason Jaussi	10/13/21	RSC-11/08/21, ReSC- 12/02/21
RS 27.0	Mason Jaussi	01/31/22	RSC-11/08/21
RS 27.1	Miranda Kriner	12/06/23	RSC-02/02/24

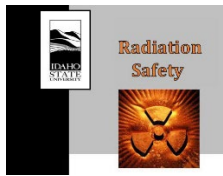


Procedure #: RS-27 Rev.1  
Procedure Title: Procedure for Developing  
Radiation Safety Procedures  
Approval Date: 02/02/2024  
Effective Date: 02/29/2024

---

## Table of Contents

<b>1.</b>	<b>INTRODUCTION</b> .....	4
<b>2.</b>	<b>PURPOSE</b> .....	4
<b>3.</b>	<b>SCOPE</b> .....	4
<b>4.</b>	<b>ROLES AND RESPONSIBILITIES</b> .....	4
<b>5.</b>	<b>ACRONYMS/DEFINITIONS</b> .....	5
<b>6.</b>	<b>REQUIRED MATERIAL(S)</b> .....	5
<b>7.</b>	<b>REQUIRED TRAINING(S)</b> .....	5
<b>8.</b>	<b>PROCEDURE</b> .....	5
8.1.	Procedure Sections.....	5
8.1.1.	Procedure Identifier .....	5
8.1.2.	Cover Page.....	5
8.1.3.	Revision History .....	6
8.1.4.	Table of Contents.....	6
8.1.5.	Header and Footer.....	6
8.2.	Procedure Content.....	6
8.2.1.	Introduction.....	6
8.2.2.	Purpose.....	6
8.2.3.	Scope.....	6
8.2.4.	Roles and Responsibilities .....	7
8.2.5.	Acronyms/Definitions.....	7
8.2.6.	Required Material(s) .....	7
8.2.7.	Required Training(s).....	7
8.2.8.	Procedure .....	7
8.2.9.	List of Forms.....	7
8.2.10.	References.....	7
8.2.11.	Change History .....	7
8.2.12.	Appendices.....	7
8.3.	Revising Procedures.....	7
8.3.1.	Format Changes .....	7
8.3.2.	Formal Revision.....	8
<b>9.</b>	<b>PROCEDURE REVIEW</b> .....	8
9.1.	Initial Review.....	8
9.2.	Committee Approval.....	8
9.3.	Biennial Review.....	9
<b>10.</b>	<b>RECORD KEEPING</b> .....	9
<b>11.</b>	<b>POSTING OF CURRENT PROCEDURES</b> .....	9
<b>12.</b>	<b>LIST OF FORMS</b> .....	9
<b>13.</b>	<b>REFERENCES</b> .....	9
<b>14.</b>	<b>CHANGE HISTORY</b> .....	10
<b>15.</b>	<b>APPENDICES</b> .....	10
	APPENDIX I - FORMAT GUIDE .....	11



Procedure #: RS-27 Rev.1  
Procedure Title: Procedure for Developing  
Radiation Safety Procedures  
Approval Date: 02/02/2024  
Effective Date: 02/29/2024

---

## 1. INTRODUCTION

The ISU Radiation Safety program implements formal written procedures to ensure functions and operations are performed in a safe and consistent manner. This procedure provides the template for Radiation Safety procedures created by Authorized Users and the Radiation Safety Department. This procedure will be implemented for the next biennial review cycle of current procedures or within two years of the effective date of this procedure. If only formatting changes are made, the procedure will not be routed to the safety committees for review.

## 2. PURPOSE

The purpose of this procedure is to ensure radiation safety related procedures created by authorized users and the Radiation Safety Department are consistent, approved by appropriate safety committees, and reviewed on a biennial cycle.

## 3. SCOPE

This procedure specifies instructions for developing a Radiation Safety procedure. Authorized users must develop new procedures for radioactive material handling operations not covered under existing procedures. Users performing operations covered under RS-19, Sealed Source Safety and RS-29, General Radioactive Material Handling do not need to create new procedures.

This procedure also applies to all procedures associated with operations under the reactor license (R-110) and the special nuclear material license (SNM-1373).

## 4. ROLES AND RESPONSIBILITIES

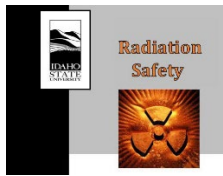
Authorized Users have the responsibility of developing and maintaining radiation safety related procedures in accordance with this procedure.

Radiation Safety Department Staff have the responsibility of developing Radiation Safety Department Procedures in accordance with this procedure.

Authorized users and the Radiation Safety Department will review their radiation safety procedures on a biennial cycle to ensure they are updated as necessary.

Radiation Safety Officer has the responsibility of reviewing newly created Radiation Safety procedures to ensure they are consistent with the requirements in this procedure.

The Radiation Safety Committee reviews all new and revised radiation safety procedures from authorized users and the Radiation Safety Department that are applicable to the Broad Scope and Isotope Production licenses.



Procedure #: RS-27 Rev.1  
Procedure Title: Procedure for Developing  
Radiation Safety Procedures  
Approval Date: 02/02/2024  
Effective Date: 02/29/2024

---

The Reactor Safety Committee reviews all new and revised procedures that are applicable to the Reactor and Special Nuclear Material licenses.

## 5. ACRONYMS/DEFINITIONS

ReSC: Reactor Safety Committee  
ReSCC: Reactor Safety Committee Chair  
RS: Radiation Safety  
RSC: Radiation Safety Committee  
RSCC: Radiation Safety Committee Chair  
RSO: Radiation Safety Officer

## 6. REQUIRED MATERIAL(S)

None.

## 7. REQUIRED TRAINING(S)

Personnel who prepare radiation safety procedures shall read and implement this procedure. After reading the procedure, personnel training will be recorded in the learning management system (proposed for future implementation).

## 8. PROCEDURE

The following sections provide instructions for preparing a procedure and list required sections. If a section does not apply, keep the section but indicate none or not applicable (e.g. references or forms).

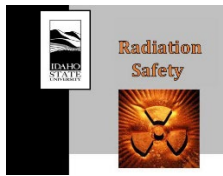
### 8.1. Procedure Sections

#### 8.1.1. Procedure Identifier

Authorized User procedures are identified by a unique two or three-letter abbreviation unique to the user, followed by a type designation if necessary (e.g. RS for radiation safety, or 123 for permit number), followed by a sequential number e.g., IAC-123-01. Radiation safety department procedures are identified by RS followed by a sequential number e.g., RS-27.

#### 8.1.2. Cover Page

The Cover page is the first page of the procedure and follows the same format as the cover page of this procedure, which includes an approved branding symbol for the sponsoring organization and the procedure information. The procedure information



Procedure #: RS-27 Rev.1  
Procedure Title: Procedure for Developing  
Radiation Safety Procedures  
Approval Date: 02/02/2024  
Effective Date: 02/29/2024

---

includes the Procedure Title, Procedure & Revision Number, Effective Date, and Approval Date from RSC or ReSC (or both, if applicable). The Effective Date will normally be 30 days after the approval date to allow time for training.

#### 8.1.3. Revision History

The Revision History table is the second page of the procedure. The table will list the Revision Number, Revisors Name, Revision Date, Approved By (Committee), and Approval Date. The biennial renewal will be based on either the effective date or the last revision date, whichever is more recent.

#### 8.1.4. Table of Contents

The Table of Contents starts on the third page of the procedure and should include all major Sections and Subsections and can be carried out to the third level (e.g., 6.1.1).

#### 8.1.5. Header and Footer

The Header consists of the branding symbol aligned to the left and the procedure information aligned to the right. A section bar is included below the Effective Date as a break between the Header and the page content. The Header is not shown on the cover page i.e., the box for Header option, Different First Page, is checked in Microsoft Word. The footer consists of a right aligned page number that is also not shown on the cover page. Refer to the Headers and Footers on this document for examples on content and format.

### 8.2. Procedure Content

The following sections are required for all radiation safety related procedures.

#### 8.2.1. Introduction

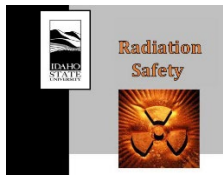
The Introduction section starts at the beginning of the next page, following the Table of Contents. The Introduction provides a brief background and justification for the creation of the procedure.

#### 8.2.2. Purpose

This section should identify the specific purpose and intent of the procedure.

#### 8.2.3. Scope

The Scope section identifies to whom the procedure applies with the inclusion of any caveats necessary to accurately define the scope of the procedure.



Procedure #: RS-27 Rev.1  
Procedure Title: Procedure for Developing  
Radiation Safety Procedures  
Approval Date: 02/02/2024  
Effective Date: 02/29/2024

---

#### 8.2.4. Roles and Responsibilities

This section specifies the roles and responsibilities of each group identified in the Scope section.

#### 8.2.5. Acronyms/Definitions

This section should define any acronyms or ambiguous terms used in the procedure that may aid in reader understanding.

#### 8.2.6. Required Material(s)

This section identifies the materials required to complete the procedure, if any.

#### 8.2.7. Required Training(s)

This section identifies the training required to perform the procedure, if any.

#### 8.2.8. Procedure

This section is the bulk of the document and includes all sub-sections and steps necessary to complete the purpose of the procedure. The level of detail should be kept consistent to the level of understanding for whom the procedure applies. The procedure should be written broad enough to allow for limited flexibility where appropriate; avoid including overly specific details unless absolutely necessary.

#### 8.2.9. List of Forms

This section identifies all forms associated with the procedure, if any.

#### 8.2.10. References

The references section lists any applicable references used to create or support the procedure. Applicable references may include standards, regulations, regulatory guidance documents, user manuals, etc.

#### 8.2.11. Change History

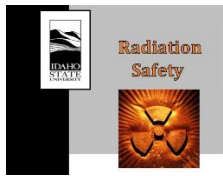
The author will give a brief summary of the content changes for the applicable revision. It is not necessary to discuss format changes.

#### 8.2.12. Appendices

The Appendices are included if it is necessary to further justify methodology detailed within the procedure. The appendices can include detailed calculations, technical evaluations, further instructions, certificates, drawings, etc.

### 8.3. Revising Procedures

#### 8.3.1. Format Changes



Procedure #: RS-27 Rev.1  
Procedure Title: Procedure for Developing  
Radiation Safety Procedures  
Approval Date: 02/02/2024  
Effective Date: 02/29/2024

---

For format changes that do not change the content of the procedure, the author will make necessary changes and save the procedure in the records section of BOX. This may include reformatting procedures to meet this procedure as long as operational and safety instructions are not changed.

#### 8.3.2. Formal Revision

If it is necessary to change the content of the procedure, the author will create a new revision with the next sequential revision number and make appropriate changes. Once approved the dates in the header and Revision History table must be updated prior to reposting the procedure.

## 9. PROCEDURE REVIEW

### 9.1. Initial Review

Initial review of procedures related to the broad scope and production licenses is performed by the RSO or person designated by the RSO. This review will ensure procedure content meets the requirements of this procedure and the ISU Radiation Safety Manual. The RSO will send comments/changes to the Authorized User. Once all changes are made, the RSO will forward the procedure to the Radiation Safety Committee for final review and approval.

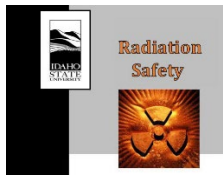
Initial review of procedures related to the reactor and special nuclear material licenses is performed by the Reactor Administrator and the RSO or persons designated by them. This review will ensure procedure content meets the requirements of this procedure, the ISU Radiation Safety Manual, and the reactor and/or SNM licenses. The Reactor Administrator will send comments/changes to the procedure developer. Once all changes are made the Reactor Administrator will forward the procedure to the Reactor Safety Committee for final review and approval.

### 9.2. Committee Approval

For procedures related to the broad scope and production licenses, the RSO or designee or Radiation Safety Committee Chair (RSCC), will prepare the RSC approval checklist. The RSCC will submit the procedure and RSC approval checklist to the RSC for review and approval.

For procedures related to the reactor and special nuclear material license, the Reactor Administrator or Reactor supervisor will submit the procedure to the Reactor Safety Committee Chair (ReSCC). If necessary, the Reactor Administrator or the RSO will complete an evaluation under 10 CFR 50.59 for the reactor or 10 CFR 70.72 for the sub-critical assembly. The ReSCC will submit the procedure and if necessary the





Procedure #: RS-27 Rev.1  
Procedure Title: Procedure for Developing  
Radiation Safety Procedures  
Approval Date: 02/02/2024  
Effective Date: 02/29/2024

---

regulatory evaluation to the ReSC for review and approval.

### 9.3. Biennial Review

The procedure author (Revisors name in the Revision History table) or designated author will review the procedure within two years of the effective date typically about three months before the two-year date. The biennial renewal will be based on either the effective date or the last revision date, whichever is more recent.

If no changes are necessary, the author will add and complete a new row in the Revision History table (with the same Revision Number as specified in Section 8.3.1) and repost the procedure as specified in Section 10.

If content changes are necessary, the author will add and complete a new row in the Revision History table (increasing the Revision Number by one as specified in Section 8.3.2) and initiate the review process specified in Section 9.1. Once approved repost the new revision of the procedure as specified in Section 10.

## 10. RECORD KEEPING

All radiation safety related procedures are to be saved on BOX under the appropriate Authorized User's folder created in Records > Procedures and Program Documents. Each procedure will have a folder under the Authorized User where all revisions to the that procedure are stored in separate sub-folders. A final (approved and signed) .pdf file and a final .doc or .docx procedure file must be in each revision sub-folder.

## 11. POSTING OF CURRENT PROCEDURES

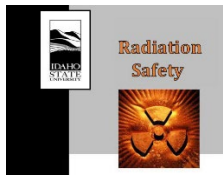
The Authorized User is also required to maintain the most current revision of their procedure(s) on their home institutions website.

## 12. LIST OF FORMS

RSC Approval Checklist.

## 13. REFERENCES

None.



Procedure #:	RS-27 Rev.1
Procedure Title:	Procedure for Developing Radiation Safety Procedures
Approval Date:	02/02/2024
Effective Date:	02/29/2024

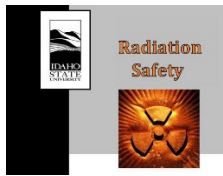
---

## **14. CHANGE HISTORY**

Revision 1 – Added Section 8.1.3 and Section 8.2.5 to reflect new procedure aspects/sections. Updated Sections that were modified with the addition of the new sections, e.g. Section 9.3. Minor clarification throughout the document.

## **15. APPENDICES**

APPENDIX I - Format Guide



Procedure #: RS-27 Rev.1  
Procedure Title: Procedure for Developing Radiation Safety Procedures  
Approval Date: 02/02/2024  
Effective Date: 02/29/2024

---

## APPENDIX I - FORMAT GUIDE

This guide provides the suggested format criteria to enhance the readability and appearance of the procedure.

### Fonts and Sizing

The procedure should be typed in Times New Roman with Level 1 titles in size 14 and bolded, Level 2 Sections in size 14 not bolded, and Level 3 sections in size 12 as shown below:

Level 1	:	<b>6. PROCEDURE</b>
Level 2	:	6.1. Format
Level 3 and text	:	6.1.1. Fonts and Sizing

### Paragraphs and Spacing

Section header paragraphs and spacing should be formatted as follows:

Section	Left Indentation	Special-Hanging By:	Spacing (before/after)
Level 1	0"	0.25"	12/6
Level 2	0"	0.6"	12/6
Level 3	0"	0.8"	12/6

Section text is aligned to the section header on the next line (e.g., Level 2 text aligned left by 0.6"). The spacing and indentation may be adjusted so long as the document is readable, consistent, and appears professional.