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SMD Operations Procedures Manual

1.2 PROCEDURES

Text Pages 1 through 6
Attachment(s) 1,2,3,4,5

Hand Processed Changes

<u>HPC No.</u>	<u>Date</u>	<u>Page No.</u>	<u>Initials</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Revision No. 01

Approved: Signature on File _____
SMD Division Head Date

Preparer(s): H. Hocker

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1.0 SMD Operating Procedures

Procedures shall be issued in one of two formats:

- Permanent Procedures - The SMD OPM is available in read-only format via the SMD Home Page <http://www.bnl.gov/magnets>. An authorized hard copy, which is valid for five days, can be printed for use in the field.
- Temporary Procedures - Temporary Procedures are used when there is an immediate need to issue formal written instructions to authorized operations personnel.

SMD Operating Procedures are written by Cognizant Engineers, Scientists, Operating personnel, or any persons knowledgeable in the subject area. Procedures supplied by the manufacturer can be used in section 5.0 on Attachment 5. Procedures are divided into two categories, A and B. Authorization for the classification of procedures rests with the Division Head.

2.0 Authority

For the purposes of this procedure, “Division Head” shall be interpreted in all instances to indicate the Division Head of SMD, or his designee.

3.0 Procedure Effective Life

- Permanent Procedures - Permanent procedures shall remain effective until cancelled. Procedures which have not been revised for any other reason within a 3 year time period shall be reviewed and revised as necessary to ensure that the document remains accurate and complete. This review along with any necessary changes will be documented by an overall revision to the procedure as noted in section 6B.
- Temporary Procedures - Temporary Procedures shall remain effective until the expiration date included on the document.

4.0 Procedure Categories

Category A Procedure

Procedures are classified as Category A where deviation from literal compliance could cause death, severe injury, severe occupational illness, system loss, a significant environmental impact, physical damage greater than \$10,000 or program loss greater than one week.

Literal compliance with the intent, as well as with the means to meet that intent, is required. Deviations from literal compliance with the means to meet the intent of Category A Procedures

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require Division Head Authorization and, where appropriate, concurrence of the cognizant Safety Representative.

Problems or inconsistencies with implementation of Category A procedures shall be reported to the appropriate supervisor. The supervisor shall seek prompt resolution with the cognizant engineer and shall appropriately change the procedure prior to continuing.

Category B Procedures

All procedures not classified as Category A are classified as Category B Procedures. Category B procedures are to be used when there is a possibility of causing minor injury, minor occupational illness, minor equipment damage, an insignificant environmental impact, or minor program impact.

Compliance with the intent of the procedure is required. Deviations from the means to meet the intent of a Category B Procedure require the exercise of discretionary judgment in the interest of achieving a specified program or research objective. Such deviation from the means to meet this interest requires supervisor authorization. Precautions and Prerequisites shall be complied with literally.

Problems and inconsistencies with implementation of Category B procedures are to be reported to the appropriate supervisor. The supervisor should seek prompt resolution with the cognizant engineer and should appropriately change the procedure prior to continuing.

5.0 Temporary Procedure Review and Approval Process

The Division Head will authorize the need and duration for a Temporary Procedure and establish who is responsible for reviewing and approving the procedure. Additionally, the Division Head will be responsible for determining training requirements for the procedure. Temporary Procedures shall use the cover sheet shown in Attachment 3 and the Procedure Review Track Sheet (attachment 1).

The Approved copy of the temporary procedure is retained by the Division Secretary. Online versions will not be used. Copies of the procedure will be issued to the appropriate Cognizant Supervisor(s) on yellow colored paper.

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6.0 Permanent Procedure Review and Approval Process

A Initial Release

After preparation of a draft, the procedure writer shall forward it for a technical review. The preparer should request from the Cognizant Section Head the assignment of an individual(s) to perform a technical review.

The technical reviewer is responsible for ensuring field validation, calculations and technical requirements of the procedure. The technical review shall be documented. If the procedure is not technically correct, the reviewer shall record the comments and forward the comments to the preparer. The preparer shall resolve the comments, revise the procedure accordingly and return the revision to the technical reviewer. The Division Head shall decide any conflict between technical reviewer and procedure author.

When the procedure is determined to be technically correct, a Procedure Review Track Sheet (attachment 1) is signed by the technical reviewer and added by the preparer to the Document. The package is then forwarded to the Division Head who will determine the need for a review committee. This would be in addition to the standard OPM signoffs.

Each person or committee that reviews and/or comments on the procedure will sign off the track sheet associated with the document and attach their comments to or on the draft copy.

No procedure shall be active until all comments have been addressed.

After review, a hard copy of the procedure is signed by the Division Head and the document is placed online. The hard copy, along with all review documentation, is to be filed by the Division Secretary for archival purposes.

B Revisions

Revisions to the document shall be performed for the following conditions:

- A change to an existing procedure.
- A change of intent to the procedure.
- Revisions that change levels, limits or calculations used in a procedure.
- Changes to Subject Areas in SBMS, as appropriate.

Changes to the procedure shall be initiated by updating a copy of the procedure with the proposed changes. Changes to the procedure are denoted by a vertical bar in the right margin adjacent to the edited word(s)/sentences(s). These bars will denote changes for the current revision only.

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A technical review of the revision(s) shall be performed as noted in section A. When the revision(s) are determined to be technically correct, a Procedure Review Track Sheet is signed by the technical reviewer and forwarded to the Division Head. The determination of signature requirements will be the same as 6.0A.

After approval, the revision(s) will be incorporated into the procedure by the Division Secretary and the revision number will be updated. The vertical bars denoting changes shall be retained in the updated copy that is to be placed online. They shall remain until the next revision is made to the document. A hard copy of the revised procedure is then signed by the Division Head and the document is placed online. The hard copy, along with all review documentation, is to be filed by the Division Secretary for archival purposes

7.0 Hand Processed Changes to Permanent Procedures

When schedule or logistical requirements mandate an immediate change to a procedure, the Hand Processed Change (HPC) procedure shall be used. Hand Processed Changes shall not be made to Temporary Procedures.

When an HPC becomes necessary, the initiator of the change will hand mark-up a copy of the document. This mark-up will incorporate the proposed change(s) into the body of the document along with logging the change into the HPC section of the document cover sheet. The initiator will then review the change with the Division Head. The Division Head will have sole authority to approve the HPC. Upon his approval, the Division Head will initial the HPC log on the cover next to the initiator initials. The Division Head will be solely responsible to indicate any additional training required due to the HPC.

After the change is approved, a copy of the mark-up is retained by the initiator for use. The original is sent to the Division Secretary who will incorporate the changes into the body of the document along with adding the HPC information to the cover page. The changes shall be indicated using the vertical bars described in section 6.0B. The revision number is not changed at this time. The document is then placed online, and the hand mark-up is filed by the Division Secretary for archival purposes.

At the time of the next Permanent Revision, all hand processed log information is removed from the cover page along with the vertical bars denoting the Hand Processed Changes.

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8.0 Procedure Format

All operating Temporary and Permanent procedures, except Chapters 1 and 2, of this Manual shall have the format given in Attachment 5.

9.0 Additional Guidance

SBMS Subject Area, Internal Controlled Documents. Note that the Subject Area provides additional information beyond Attachment 5.

10.0 Attachments

1. SMD OPM Procedure Review Track Sheet
2. Procedure Reading Acknowledgement Sheet
3. Temporary Procedure Cover Sheet
4. Permanent Procedure Cover Sheet
5. Example Procedure Format and Content

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Attachment 1
SMD OPM Procedure Review Track Sheet

	<input type="checkbox"/> SMD-OPM # _____ <input type="checkbox"/> SMD-TP # _____ REVISION # _____ CATEGORY: <input type="checkbox"/> A <input type="checkbox"/> B	Superconducting Magnet Division Procedure Review Track Sheet
Reason for Review: <input type="checkbox"/> Revised Procedure <input type="checkbox"/> New Procedure <input type="checkbox"/> Procedure Is 3 Years Old		
Expiration Date (If Procedure Is Temporary): _____		
Preparer(s): _____ Date: _____ Title: _____		
Committee Reviewer Review:	QAR /ES&H Reviewer Signoff	
<input type="checkbox"/> Cryogenic Safety <input type="checkbox"/> Other _____	QAR Print Name: Signature: _____ Date: _____	
Committee Reviewer Signoff	ES&H Print Name:	
Committee Chairman /Designate	Signature: _____ Date: _____	
Training Requirements:		
Print Name:		
Signature: _____ Date: _____		
Training Coord. Print Name:		
Technical Reviewer Signoff		
Signature: _____ Date: _____		
Print Name:		
Signature: _____ Date: _____		
Procedure Cover Page To Be Signed By		
SMD Division Head		
Comments:		

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Attachment 2

Procedure Reading Acknowledgment Form

Procedure No. _____ Temporary Permanent

Title: _____

Revision:

Name: _____

Life No: _____

Date: _____

Signature:

Please fill out the above to indicate that you have read and understood the procedure. Return completed form to the SMD Training Coordinator

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Attachment 3

Example of Temporary Procedure Cover Sheet

SMD Operations Procedures Manual	
Number and Title of Procedure	
Temporary Procedure	
Approved:	
_____	_____
SMD Division Head	Date
Expiration Date:	Revision
Preparer(s):	Issue Date
SMD-OPM Number	
Category (A or B)	

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Attachment 5

Example Procedure Format and Content

Section Numbering, Section Content and Heading and Footers should follow this example

8.15.4 (Title of Procedure)

1.0 Purpose and Scope

Concisely state your goal in writing the procedure.

Concisely state the scope of the procedure: areas and activities that are addressed and, if necessary for clarity, areas and activities that are not addressed.

2.0 Responsibilities

Indicate the persons responsible to perform the procedure and indicate if they are to complete any documentation.

3.0 Prerequisites

State the requirements to be met before performing the main actions of the procedure. Address the following areas, as applicable:

- A. Special training and qualifications
- B. Required reading.
- C. Approvals and notifications.
- D. Other documents required to perform the main actions (drawings, vendor manuals, other procedures).
- E. Special tools, equipment, parts, supplies.
 - Do not specify ordinary craft tools.

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(Attachment 5 cont'd)

- For measurement and test equipment, specify the manufacturer and model number, OR specify the range and accuracy required.
- Identify calibrated equipment needed.

4.0 Precautions

The directives in this section should apply to potential hazards that exist during performance of the entire procedure, or at more than one point in the procedure. If no such hazards exist, write "None."

Alert the user to the measures to be taken to protect against injury to personnel, equipment damage, product damage, and off-normal conditions. Include limits of operation as identified in vendor manuals or design documents, if applicable.

Indicate the possible consequences of ignoring a precaution.

Write precautions as statements rather than action steps.

Example:

Wear safety glasses when performing this procedure.

should be:

Eye injury is possible if safety glasses are not worn.

5.0 Procedure

This section contains the sequential activities to be performed to accomplish the principal tasks and sub-tasks of the procedure. The level of detail should be based on the skill, background, and training of the intended user.

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Warnings and Cautions

Warnings alert users to potential hazards to personnel. Cautions alert users to potential hazards to products or equipment. Notes call attention to important supplemental information.

Warnings and cautions attract attention to information that is essential to safe performance; they usually consist of the conditions, design limitations, practices, and procedures to be complied with to avoid loss of life, personal injury, health hazards, or damage to equipment. An industry study of significant events attributed one-fourth of all human performance events to a failure to provide proper warnings and cautions.

1. Review potential hazards with facility technical specialists to determine warnings or cautions that need to be included.
2. Determine those parts of the procedure where the addition of information is necessary.
3. Review each action step and list the potential hazards in warning or caution format.
4. Position warnings and cautions so they are complete on one page and appear immediately before and on the same page as the action step(s) to which they apply.
5. Place warnings ahead of cautions whenever more than one type is used at the same point in a procedure.
6. Do not include action steps in warnings and cautions.

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7. Write warnings and cautions as short, concise statements. Write warnings and cautions as statements rather than as commands to distinguish them from action steps (for example, "Touching this wire will electrocute you!"). Do not embed an action step in a warning format (for example, do not rewrite the instruction "Shut the valve," as "The valve should be shut").
8. Ensure that cautions and warnings provide (a) a description of the hazardous condition, (b) the consequences of failing to heed the warning or caution, and (c) critical time considerations.
9. Present the text of warnings and cautions using appropriate techniques to ensure visual identification. (Do not use all capital letters to distinguish warnings and cautions because they are hard for users to read.)
10. Include only one topic in each warning or caution.
11. Number each warning or caution when more than one exists in the same location in a section or subsection (see example below).
12. If the danger is present during the entire procedures, place the warning or caution in the precautions and limitations section.
13. Repeat the information in precautions as separate cautions or warnings within the body of the procedure as it applies to individual action steps.

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14. Avoid overusing warnings and cautions.

Example - Numbered Cautions

CAUTION 1

Operating the generator system at speeds less than 700 rpm for longer than 10 minutes with the exciter regulator in operation may cause damage to the exciter regulator field.

CAUTION 2

In the event of a power failure, emergency equipment will start and overload the diesel if the diesel is isolated on the emergency bus during testing.

Notes

Notes call attention to important supplemental information. The information can be a reminder of preparatory information needed to perform the activities of a procedure or action step.

1. Use notes to present information that assists the user in making decisions or improving task performance.
2. Position notes so they are complete on one page and appear immediately before and on the same page as the action step(s) to which they apply.
3. Place warnings and cautions ahead of notes whenever more than one type is used at the same point in a procedure.

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4. Do not include action steps in notes. Embedded actions should be removed from the note and written as action steps.

5. Number the notes if more than one note is entered at the same location in a section or subsection.

Example - Numbered Notes

NOTE 1 *The following action step closes generator breaker G-1 and starts diesel DL-I.*

NOTE 2 *The following action step requires a time measurement starting at the initiation signal.*

6. Write notes as short, concise statements. Write notes as statements rather than as commands to distinguish them from action steps (for example, "The following action step starts a timed duration.")

7. Use appropriate emphasis techniques (for example, *italics*) to distinguish notes from cautions or warnings.

8. Include only one topic in each note.

9. Avoid overusing notes.

Use action statements for procedure steps with the verb as the first word, for example:

5.7 Observe 10 volts \pm 20% on the meter face.

5.8 Record steps 5.5, 5.6 and 5.7 on Form 90-3.

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Use the following number format and indentation for related and subordinate steps:

5.1 ...

5.1.1 ...

A ...

6.0 Documentation

List the forms, documents or specific log books to be completed and the person responsible to complete them.

7.0 References

List those source documents used in preparation of the procedure and documents referenced in the text.

8.0 Attachments

List those items attached to the procedure which aid in the completion of the procedure and require information or data input (e.g., forms). Procedure requirements shall not be included in attachments. Attachments shall be sequentially numbered or lettered in the order in which the attachments appear in the procedure. If there are no attachments, indicate "None" below the attachment heading.

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