

ACCELERATOR DIVISION ES&H PROCEDURE

ADSP-10-0002

SAFETY SYSTEM INTERLOCK BYPASS PROCEDURE

RESPONSIBLE DEPARTMENT AD / ES&H

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REVIEW AND CONCURRENCE RECORD

REVIEWED BY *JL* DATE 5-9-13
AD/ES&H Department Head

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1.0 PURPOSE AND SCOPE

1.1 The purpose of this procedure is to establish and define the Fermilab Accelerator Division requirements concerning the bypassing of radiation and / or electrical interlocks for critical device or power supply testing.

1.2 The provisions of this procedure apply to each occurrence of bypassing radiation and / or electrical interlocks.

2.0 RESPONSIBILITIES

2.1 ESH&Q SECTION SENIOR RADIATION SAFETY OFFICER

The ESH&Q Section SRSO is responsible for final approval of critical device jumper requests that will reduce the level of safety to the area being protected.

2.2 ACCELERATOR DIVISION HEAD

The Accelerator Division Head is responsible for:

- a. Reviewing safety precautions for critical device jumper requests;
- b. Recommending critical device jumper request approval to the ESH&Q Section SRSO for requests that will reduce the level of safety for the area being protected;
- c. Approving critical device jumper requests that will not reduce the level of safety for the area being protected; and
- d. Approving this procedure.

2.3 AD ES&H DEPARTMENT HEAD

The AD ES&H Department Head is responsible for:

- a. Reviewing safety precautions for power supply and critical device jumper requests;
- b. Recommending critical device jumper request approval to the AD Head; and
- c. Approving power supply jumper requests.

2.4 AD ES&H DEPARTMENT INTERLOCK ENGINEER

The AD ES&H Department Interlock Engineer is responsible for:

- a. Preparing this procedure;
- b. Issuing critical device and power supply jumper request forms; and
- c. Coordinating interlock bypassing of approved critical device or power supply jumper requests.

2.5 REQUESTOR

The requestor is responsible for:

- a. Completing a jumper request form for each power supply or critical device to be jumpered;
- b. Submitting the request to the AD ES&H Department Head;
- c. Maintaining control of the critical device or power supply while the interlocks are bypassed to prevent unintentional powering; and
- d. Assisting in testing of bypassed interlocks upon completion of work.

3.0 INSTRUCTIONS

3.1 PREPARATION OF CRITICAL DEVICE OR POWER SUPPLY JUMPER REQUEST FORMS

3.1.1 The requestor shall obtain a critical device or power supply jumper request form from the Interlock Engineer or designee. These forms are color coded to identify the original. Critical device jumper request forms are yellow and power supply jumper request forms are pink in color.

3.1.2 The requestor shall complete the Requisitioner portion of the form. The information needed is the date the jumper is desired, the critical device or power supply ACNET database name, the supply location, and the load location.

3.1.3 The requestor should consider the safety precautions to be used while the critical device or power supply is energized with the safety interlocks bypassed. Typical but not inclusive safety precautions are:

- a. Guards located by the energized load;
- b. Disconnected loads;
- c. Isolated load barriers; or
- d. Specifically approved written procedures for performing the required work.

3.2 REVIEW AND APPROVAL OF CRITICAL DEVICE JUMPER REQUESTS

3.2.1 The requestor shall submit the jumper request to the AD ES&H Department Head for review and concurrence of safety precautions.

3.2.2 The AD ES&H Department Head will complete the AD/ES&H Department section of the form and determine if the ESH&Q Section SRSO will need to approve the request.

3.2.3 The requestor and AD ES&H Department Head will submit the form to the AD Head for approval if ESH&Q Section SRSO approval is not required; or to the AD Head for concurrence and then to the ESH&Q Section SRSO for approval.

3.3 REVIEW AND APPROVAL OF POWER SUPPLY JUMPER REQUESTS

3.3.1 The requestor shall submit the jumper request to the AD ES&H Department Head for review of safety precautions and approval.

- 3.4 CRITICAL DEVICE AND POWER SUPPLY LOTO
- 3.4.1 Upon approval of the jumper request, the requestor shall take positive control of the critical device or power supply by performing LOTO. The requestor shall maintain LOTO or the required safety precautions listed on the jumper request form at all times while the supply interlocks are bypassed.
- 3.5 INTERLOCK BYPASSING
- 3.5.1 After the requestor has performed LOTO on the critical device or power supply, the Interlock Engineer will assign a technician to bypass the interlocks.
- 3.5.2 The interlock group technician shall fill out the interlock group section on the form and make an entry in the MCR Hot Item Log informing the Operations Department of the work in progress.
- 3.5.3 The interlock technician shall document the bypass on the Interlock Group Information Board in the interlock group area to preclude the possibility of the bypass remaining.
- 3.5.4 Upon completion of work on the device, the requestor shall inform the Interlock Engineer the bypass may be removed. An interlock technician will remove the bypass and make another entry in the MCR Hot Item Log that the bypass has been removed and the device needs to be tested. The technician shall also remove the entry from the interlock group information board.
- 3.6 CRITICAL DEVICE OR POWER SUPPLY TESTING
- 3.6.1 The requestor will be informed when the bypass has been removed and testing can be completed.
- 3.6.2 Testing may be completed by the requestor or a member of his / her department and either an interlock group technician or a member of the Operations Department to insure the critical device or power supply in again controlled by the safety system.
- 3.6.3 The individuals testing the device shall perform testing as defined in the Safety Officer section of the jumper request form and fill in the tester section of the form.
- 3.6.4 Upon completion of successful testing, inform the MCR crew chief that all work on the device is done and all entries pertaining to the jumper request may be removed from the MCR Hot Item Log.
- 3.6.5 In the event that device testing fails to perform as required, the tester shall lock off the critical device or power supply and contact an interlock group technician for repair and retest.
- 3.6.6 The completed form shall be given to the Interlock Engineer to be filed.
- 4.0 EXTRA DIVISIONAL DISTRIBUTION
- None.