

ACCELERATOR DIVISION ES&H PROCEDURE

ADSP-05-1216

MiniBoone MI12A and MI12B  
480 Volt LOCKOUT/TAGOUT PROCEDURE

RESPONSIBLE DEPARTMENT E&SH

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REVISION NO. 2 REVISION ISSUE DATE 1-17-12

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## 1.0 **PURPOSE AND SCOPE**

The purpose of this Accelerator Division Safety Procedure (ADSP) is to outline and detail the conduct of LOCKOUT/TAGOUT (LOTO) for Group Lockout of the MiniBoone MI12A and MI12B devices.

## 2.0 **PERFORMANCE OF MAINTENANCE ACTIVITIES**

During maintenance/repair activities of the MiniBoone MI12A and MI12B devices, the 480 Volt circuit breaker needs to be locked out. The positive control point for Lockout/Tagout is at the MI12 service building.

## 3.0 **THE NECESSITY OF WRITTEN LOTO PROCEDURE**

The reason for this written LOTO procedure is due to the necessity to lock out an energy source in an area in which access is restricted to authorized personnel only. The MiniBoone MI12A and MI12B devices are fed from panel SWBD-MI12A Circuit #3.

## 4.0 **RESPONSIBILITIES**

### 4.1 **OPERATIONS DEPARTMENT HEAD**

The Operations Department Head shall develop and maintain a list of Lead Authorized Personnel and coordinate their training.

In addition, the Operations Department Head will ensure that the Lead Authorized Personnel implementing this procedure utilize an appropriate lockout form which is developed and maintained by the Operations and ES&H Departments and approved by the AD Senior Safety Officer prior to use.

### 4.2 **LEAD AUTHORIZED PERSONNEL**

The role of the Lead Authorized Person is to properly Lockout/Tagout the breaker which de-energizes the 480 volt circuit power. The completion of the Lockout/Tagout is to be documented using a lockout form developed and maintained by the Operations and ES&H Departments and approved by the AD Senior Safety Officer. The Lead Authorized Person shall carry the approved lockout form and each applicable step shall be checked off as they are performed. A copy of the completed form shall be placed in the Main Control Room (MCR) e-log. Completed original forms shall be maintained for one calendar year.

The Lead Authorized Personnel shall be from the Accelerator Operations Department who are authorized in writing by the Operations Department Head.

Authorized employees, who have the necessary knowledge and current training for General Lockout/Tagout, shall conduct lockout of the Group Lock Box.

5.0 THE STEPS OF LOCKOUT/TAGOUT PRIOR TO MAINTENANCE ACTIVITY

Upon desiring to perform LOTO on the MiniBoone MI12A and MI12B devices, the MCR Crew Chief shall designate a Lead Authorized Person from a list of such named personnel maintained by the Operations Department Head.

5.1 **Prepare:** The Lead Authorized Person shall review this written procedure if necessary and obtain a copy of the approved lockout form. (Copies will be kept in a lockout binder on the Duty Assistant's desk.)

5.2 **Notify:** Notification shall be given to personnel deemed appropriate by the MCR Crew Chief.

5.3 **Shut Down:** The Lead Authorized Person shall check that the MiniBoone MI12A and MI12B devices are off. At the MI12 Service Building lock out the breaker for the power supplies by performing the following:

- a. Check that each of the three volt meters on DHP-MI12A read 277 volts.
- b. Operation of the breaker in this step is an NFPA 70E Class 0 activity requiring safety glasses, leather gloves, hearing protection, non-melting or untreated natural fiber long sleeve shirt and long pants. Open breaker SWBD-MI12A Circuit #3.
- c. Lock the breaker in the open position with the MiniBoone MCR LOTO Lock.

5.4 **Verify:** The Lead Authorized Person shall verify that all three volt meters on DHP-MI12A read zero volts. The Lead Authorized Person shall indicate on the approved lockout form the accomplishment of this step.

5.5 **Lock and Tag Out:** Return to the Main Control Room and place the MiniBoone MCR LOTO key in the MiniBoone Job Lockbox. The Lead Authorized Person shall attach a **BT-5** padlock (MCR Crew Chief lock) to the lockout box. A copy of the completed lockout form shall be entered into the MCR e-log.

## 6.0 SPECIAL REQUIREMENTS FOR SHIFT/PERSONNEL CHANGE

If the maintenance continues beyond a shift, the next MCR Crew Chief assumes the responsibility and authority of the off-going MCR Crew Chief for this group lockout.

## 7.0 THE STEPS FOR RETURN TO SERVICE

The MCR Crew Chief or Lead Authorized Person must coordinate the following steps prior to returning the equipment to service after service or maintenance activity

7.1 **Check Equipment:** Check the MCR lockbox and ensure that all personnel have removed their locks and tags.

7.2 **Check Work Area:** Check that MI12A and MI12B enclosures are secure and all keys have been returned.

7.3 **Notify:** The MCR Crew Chief or Lead Authorized Person shall notify appropriate personnel that they are ready to reenergize.

7.4 **Remove Padlocks and Tags and Reenergize:** The MCR Crew Chief or Lead Authorized Person shall remove the Crew Chief locks and tags from the group lockboxes. The Lead Authorized Person will unlock and close breaker SWBD-MI12A Circuit #3. Operation of the breaker in this step is an NFPA 70E Class 0 activity requiring safety glasses, leather gloves, hearing protection, non-melting or untreated natural fiber long sleeve shirt and long pants. Upon arrival at the MI12 service building, the Lead Authorized Person shall unlock and close breaker SWBD-MI12A Circuit #3.

This completes the requirements for returning the equipment to service.

## 8.0 PROCEDURE TRAINING REQUIREMENTS

Initial training shall be coordinated by the Operations Department Head. The time interval for re-qualification will be every year in accordance with Laboratory procedures.

## 9.0 DISTRIBUTION

An electronic controlled copy of this procedure is maintained on the ESH Department website at:  
<http://www-bdnew.fnal.gov/esh/adsp/index.html>