

ACCELERATOR DIVISION DEPARTMENTAL PROCEDURE

ACCELERATION OPERATIONS DEPARTMENT

ADDP-OP-0005

BEAM-ON ACCIDENT IN ACCELERATOR ENCLSOURES
EMERGENCY RESPONSE PROCEDURE
MCR

PREPARED BY Joe Compton DATE 4/17/2023
Joe Compton
AD Operations Department

APPROVED BY Todd Sullivan DATE 04/17/2023
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AD Operations Department Head

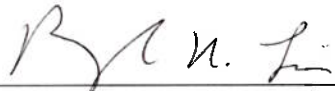
REVISION NO. 1.0

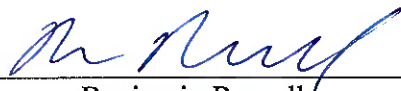
REVISION ISSUE DATE 4/17/2023

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REVIEW AND CONCURRENCE RECORD

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Author	Description of Change	Revision Date
Joe Compton	Rephrased sections 3.1.2 and 3.1.9 Adjusted flow chart to reflect changes above	4/17/23
Joe Compton	Minor grammar changes. Added section 3.1.9 Added the link in the Distribution section. Added the name of the attachment in the note in section 3.1.9 and the table of contents.	5/16/22
Walter Kissel	Updated required procedure format. Added flow chart.	3/25/21

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ATTACHMENT 1: BEAM-ON EXPOSURE EMERGENCY RESPONSE.....1

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1.0 PURPOSE AND SCOPE

The purpose of this Accelerator Division Departmental Procedure (ADDP) is to establish and define Fermilab Accelerator Division Operations Department Main Control Room (MCR) response to a Beam-On Emergency in accelerator enclosures.

2.0 RESPONSIBILITIES

2.1 Crew chief or designee shall initiate response by following included instructions.

2.2 Operators in the MCR shall follow the following included instructions.

3.0 INSTRUCTIONS

3.1 Incoming report of person possibly exposed to beam.

3.1.1 Crew Chief or designee shall turn off the Master Beam Switch and FAST Beam Switch immediately.

3.1.2 **If the person is still in the enclosure and it can be determined which enclosure they are in, disable the Electrical Safety System (ESS) by turning the enclosure keys for that enclosure to de-energize ESS and turn off supplies as quickly as possible.**

Do not alter machine configuration except as necessary to safely egress exposed person from tunnel.

3.1.3 **Notify the Security Operation Center (x3131) of possible beam on exposure.**

3.1.4 Remove and maintain control of the following keys:

- a. HEP key
- b. NTF Beam Permit key
- c. FAST key

3.1.5 Disable the Linac critical devices and critical device controller.

3.1.6 Attempt to identify the person affected. If the person is still in the enclosure, encourage the person to leave enclosure by most direct route via the paging system in the MCR or telephone, if possible.

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- 3.1.7 Dispatch two operators to assist exposed person until the Fermilab Fire Department (FFD) arrives.
- 3.1.8 Perform the following:
- a. Initiate D1 save.
 - b. Copy and print all windows on all displays on all consoles in the MCR
 - c. Print D106 MISC <16, 17, 18, 19, 20>
 - d. Enter into the MCR Elog the following:
 - i. Document machine conditions and performance during the time.
 - ii. Location of the beam-on incident (area, enclosure, beam line, location in the enclosure).
 - iii. Beginning and end of exposure times.
 - iv. Beam transport settings.
 - v. Beam energy and intensity.
 - vi. Loss monitor readings and/or area radiation detector readings during the time of exposure.
 - e. Write down a description of the incident to the best available knowledge.
- 3.1.9 Ensure the following people have been informed: **Area RSO, Area DSO, AD Beams Division Head, PPD Division Head (if in PPD area), Machine Department Head, Machine Coordinator, AD Operations Department Head, and the Run Coordinator.**
- Note: Attachment 1: Beam-on Exposure Emergency Response flow chart listing the steps of this procedure is attached to this procedure.
- 3.1.10 Beam operations (including FAST beam) shall not be resumed until permission is received from the Laboratory Director.

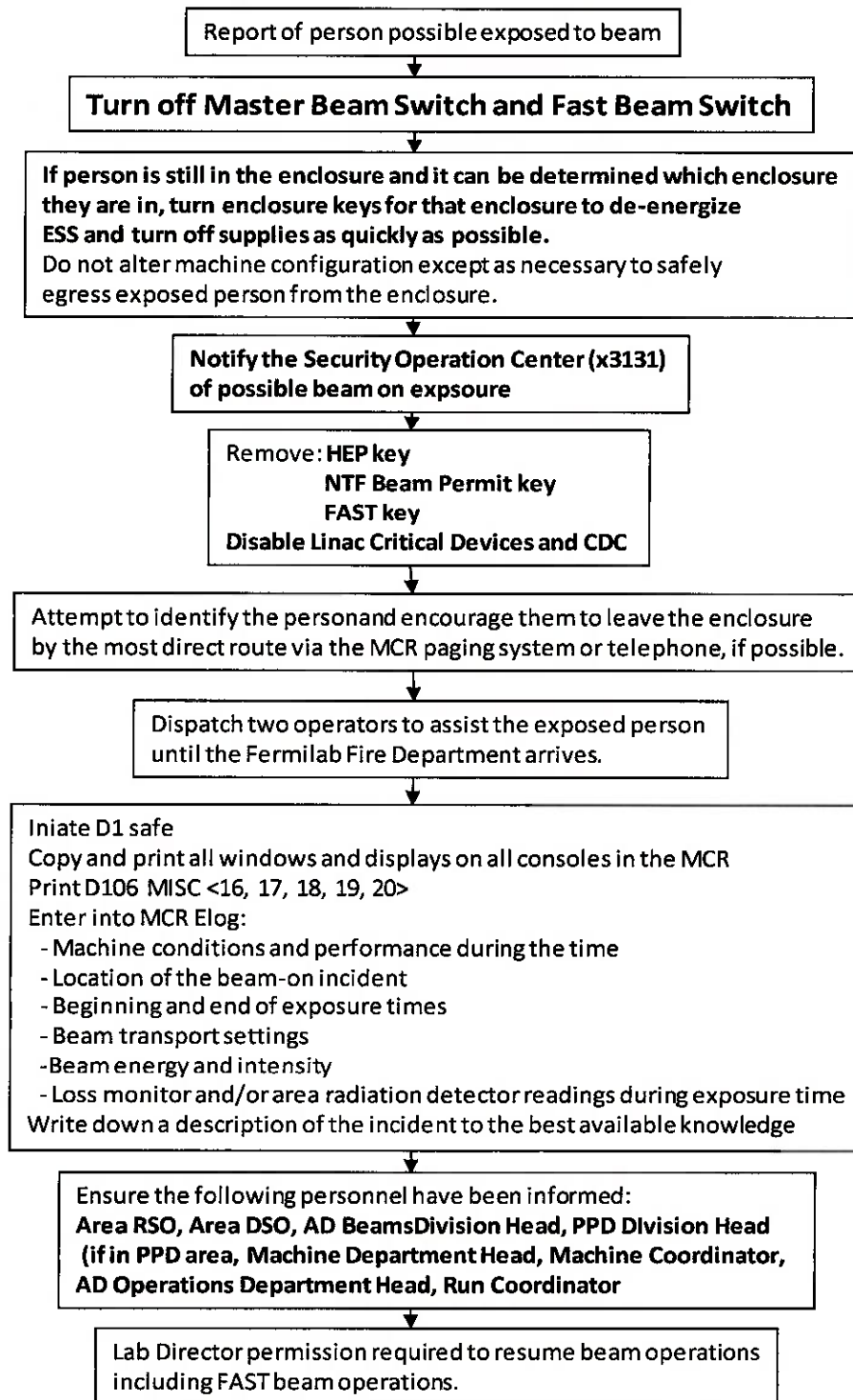
4.0 DISTRIBUTION

- 4.1 An electronic controlled copy of this procedure is maintained on the AD Operations website at: <https://operations.fnal.gov/ops/addp.html>.

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Beam-On Exposure Emergency Response



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