

2.1

**CDF SEARCH AND SECURE**

Hand-Processed Changes

HPC Number	Date	Type	Section Number	Initials
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
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8.	_____	_____	_____	_____
9.	_____	_____	_____	_____

Types of HPC Changes.

1. Editorial
2. Procedural

Approvals

\_\_\_\_\_  
(Research Division Head)

\_\_\_\_\_  
Date

## 2.1 CDF SEARCH AND SECURE

### 1 Purpose

The **PRIMARY OBJECTIVE** of searching and securing is to assure the collision hall is clear of people before beam and power supplies are enabled.

The **SECONDARY OBJECTIVE** of searching and securing is to inspect the collision hall, interlocks, and the accelerator hardware to insure its readiness for beam.

### 2 Prerequisites

- 2.1 Operations must account for all keys, including white Supervised Access Keys and green Controlled Access Keys, before a Search and Secure can be performed.
- 2.2 A minimum of 4 persons are required to perform a Search and Secure:
  - one RD/OD Operator acting as Team Leader
  - one RD/OD Operator acting as Solenoid Operator
  - one RD/CDF Operations Manager
  - one RD/CDF Gas Tech or person authorized by RD/CDF Operations Manager
- 2.3 Each person performing the specific duties listed above on Search and Secure must be trained on this procedure.
- 2.4 Each person on Search and Secure must have Controlled Access Training.
- 2.5 Each person on Search and Secure must have a Dual Function Gas Monitor.

### 3 Procedure

- 3.1 The Search and Secure Team Leader gets the lower level "Access Cabinet" key and the CDF Ops key for Muon Walls and access under detector.
- 3.2 Obtain a current map to show the proper route and location of reset boxes. Search and secure maps are created by the RD/RSO.
- 3.3 The Team Leader issues flashlights, as needed.
- 3.4 The Team Leader controls the Controlled Access Key Tree, checking out a Controlled Access Key to each member of the Search and Secure Team in addition to the green Reset Key for himself.

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**WARNING:** Two people must watch the 50 ton door opening, one from each side, while a third uses a Controlled Access Key to activate the door controls and close the door.

**CAUTION:** Remove any debris from the tracks before closing the 50 ton door.

3.6 Close the 50 ton shield door.

3.7 The team enters the Collision Hall through the Controlled Access Door and locks the Controlled Access Door behind them.

**NOTE:** If personnel are found in the Collision Hall, abort the Search and Secure, and notify the RD/RSO.

3.8 Search and secure the Collision Hall using the Search and Secure Maps.

- a) Perform a rigorous search, assuring all potential hiding places are checked and all people have exited the hall.
- b) If ladders or lifts are near cable trays, magnets or other equipment, be sure to check the tops of these areas carefully.
- c) If one or more "Rad Dummies" are found, finish securing the hall, remove the Dummy, and contact the RD/RSO and Accelerator Main Control Room to report where each Dummy was found and its name.
- d) Verify that all walls, fences, and Rad gates are intact and effectively deter access to area.

3.8.1 Check the Ops Locks on the hatches for access under the Central detector and the Muon Walls.

a) If the Ops locks for the hatches under the Central Detector are not in place, the Team Leader and the Operations Manager must enter the area from opposite hatches, search the area to ensure no one is present, and lock the hatches on Ops locks.

b) If a Muon Wall is "IN" and the Ops lock not in place, abort the Search and Secure until CDF Operations Manager gets approval from CDF Department Head. If a Muon Wall is "OUT", the Team Leader must search the area between the Muon Wall and the Central Detector.

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- 3.8.3 The Gas Tech and the Solenoid Operator are stationed under the catwalk hatches to keep the area secure, as detailed on Search and Secure Map #1.
- 3.8.4 The Team Leader and the Operations Manager proceed to SouthEast corner of Collision Hall and begin the search as detailed on Search and Secure Map #1, resetting Interlock Box #1 and #2.
- 3.8.5 The Operations Manager and the Gas Tech are stationed under the catwalk hatches to keep the area secure, as detailed on Search and Secure Map #2.
- 3.8.6 The Team Leader and the Solenoid Operator access catwalk on East side, search the catwalk and the top of the detector as detailed on Search and Secure Map #2, and exit the West side.
- 3.8.7 The Gas Tech and the Solenoid Operator are stationed under the catwalk hatches to keep the area secure, as detailed on Search and Secure Map #2.
- 3.8.8 The Team Leader and the Operations Manager search the West forward calorimeter-toroid area and alcove as detailed on Search and Secure Map #2, and reset Interlock Boxes #3 and #4.
- 3.8.9 The entire team moves to the Controlled Access Door and the Team Leader resets Interlock Box #5.
- 3.9 The team makes a Controlled Access Exit from the Collision Hall.
- 3.10 Verify that the siren sounds and "Enclosure Interlocked" lights are on. If the siren does not sound or if the interlock system doesn't seem intact, contact RSO and Main Control Room before enabling beam. Interlock lights that are out must be reported to the RSO and the Main Control Room.

## 4 References

## 5 Supporting Documentation

- 5.1 CDF Collision Hall Search and Secure Maps 1 and 2

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### 6 Procedure Training

6.1 The RD/OD Operators and the RD/CDF Gas Techs must be trained in this procedure by the RD/CDF Operations Manager.

a) The training must be documented on a standard Fermilab Training Form and the Training Expiration date should be referenced to the end of a Collider Run rather than a specific date.

b) The completed training forms will be kept in the CDF Department Office.

c) New RD/CDF Operations Managers will be trained on this procedure as part of the Operations Manager Training Program.

d) Training must include a walkthrough of the procedure in the Collision Hall with the CDF Collision Hall Search and Secure Maps in hand.