

**UNREVIEWED SAFETY ISSUE DETERMINATION (USID) FORM**

Title of USID: Reconfigure MTA Experimental Hall for Irradiation Test Area (ITA)

Description of Proposed Activity: Reconfigure MTA Hall for operation as the Irradiation Test Area (ITA), which includes: removal of several hazards associated with MTA, reconfiguration of the downstream end of the beamline to deliver protons and H-, increasing hourly particle rate, and addition of a test cave area with additional shielding. ITA will be a users facility, with the purpose of irradiation materials for experimenters.

Does the proposed activity or discovered condition affect information in the Fermilab SAD regarding safety analyses, administrative controls, or credited controls? If so specify the relevant sections. Yes - SAD Section 2 Chapter 2 "MuCool Test Area" will need to be updated for the reconfiguration and new use.

Does the proposed activity or discovered condition affect any of the requirements in the Fermilab ASE? If so specify the relevant sections. Sections of the ASE may require modification upon completion of the Shielding Assessment and update of the SAD Chapter.

**USI Determination Criteria:**

- Yes  No Could the change significantly increase the probability of occurrence of an accident previously evaluated in the SAD?
- Yes  No Could the change significantly increase the consequence of an accident previously evaluated in the SAD?
- Yes  No Could the change significantly increase the probability of occurrence of a malfunction of equipment important to safety previously evaluated in the SAD?
- Yes  No Could the change significantly increase the consequence of a malfunction of equipment important to safety previously evaluated in the SAD?
- Yes  No Could the change create the possibility of a different type of accident than previously evaluated in the SAD that would have a potentially significant safety consequence?
- Yes  No Could the change increase the possibility of a different type of malfunction of equipment important to safety than any previously evaluated in the SAD?

Justification: (use attachment if necessary) The intent of ITA is to irradiate materials for experimenters. This requires changes to the beamline to send more H- ions and protons per hour. A shielding assessment is being performed for this new setup, and additional shielding has been added to the experimental cave area. Also, several hazards that were associated with MTA are no longer needed for ITA, so have been removed.

**USI Determination:** A USI is determined to exist if the answer to any of the 6 questions above is "Yes". If the answer to all 6 questions is "No", then no USI exists.

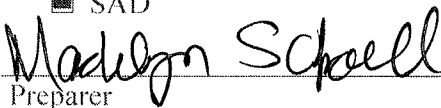
- No Proposed activity may be implemented following the applicable FESHM or FRCM chapter requirements.
- Yes Director's approval is required prior to implementation.

**For a positive USI Determination, does the ASE require changes?**

- No Proposed activity may be implemented following the applicable FESHM or FRCM chapter requirements. Attach a copy of this USI Determination after Director's approval to the applicable SAD Chapter.
- Yes DOE-FSO Manager's approval is required prior to operation.

**Check documents requiring creation or modification**

- PHAR/PHAD  Shielding Assessment
- SAD  ASE

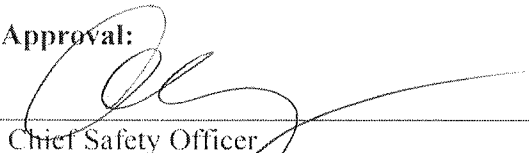
  
Preparer

12/2/2019  
Date

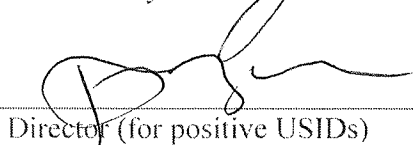
  
Senior Radiation Safety Officer

12/2/2019  
Date

**Approval:**

  
Chief Safety Officer

12/3/19  
Date

  
Director (for positive USIDs)

12/2/19  
Date

**Note:** Contact your Division Safety Officer with any questions regarding this form.