

## INTERNAL ASSESSMENT REPORT

---

### Assessment Activity Information

Start Date	End Date	Area Assessed
10/6/2020	12/21/2020	AD

### Assessment Team

Participant's Name	Role <sup>1</sup> (L, A, M, O)	Fermi ID#
Eric McHugh	L	13747N

<sup>1</sup> Role on assessment team: L=Lead A=Assessor M= Mentor O=Observer

### Interviewees

Name	Title
Elias Lopez	AD Tech
William Diamond	AD Supervisor
Dan Vrbos	AD Supervisor
Jason Kubinski	AD Supervisor

### Assessment Type

- |  |   |
|--|---|
| <input type="checkbox"/> QA Assessment<br><input checked="" type="checkbox"/> Line Organization Self-assessment<br><input type="checkbox"/> Management System Assessment | <input type="checkbox"/> Tripartite Assessment<br><input type="checkbox"/> Triennial Assessment<br><input type="checkbox"/> FESHCom Assessment<br><input type="checkbox"/> Other: |
|--|---|

# INTERNAL ASSESSMENT REPORT

---

## Report

**Title** Accelerator Division Cryogenic Handling Assessment

**Scope** Accelerator Division technical groups

**Criteria** Personnel who utilize cryogenic fluids

**Interviews (if applicable)** Interview questions were developed and distributed via email. Respondents answered the questions. Personnel listed above as participants were the interviewees.

### **Report**

Background – Cryogenic operations were previously located in the Accelerator Division. Cryogenic Ops was then separated out of the AD and placed into TD, now APS-TD. An event that occurred at the LUX experiment in South Dakota sparked the interest in conducting this review of current cryogenic operations in the Accelerator Division. The incident at LUX consisted of a graduate student filling a cryogenic dewar/apparatus with cryogenic liquid. The cryogenic liquid spilled down the glove of the student and entered a hole in the glove leading to cryo burns. The scope of this assessment was in response to that incident and wanted to ensure our cryogenic liquid handlers were trained and had the appropriate equipment and new where to get replacements if there was any damage upon inspection.

Interviews (via email) were conducted with a large sample of the personnel who would most likely handle cryogenics on a periodic basis. The findings of the interviews highlighted that most of the cryogenic work was transferred with the cryogenic operations to TD. There is minor, periodic work in AD, but it is few and far between. The interviewees all were current in their Cryogenic Handling Training FN000115/CR/01.

Interviewees were asked these questions:

1. How do you typically use cryogenics? How often do you use cryogenics for each activity?
2. What work plans, HA's do you have in place for that work? What PPE do you wear?
3. What is the condition of your PPE? Do you know where do get replacements if needed?

## INTERNAL ASSESSMENT REPORT

---

All respondents are all trained in Cryogenic Handling. The Cryogenic Handling Training is a one-time only course. In general, the amount of cryogenic work has transferred to the APS-TD division. The respondents said that they occasionally filled cold traps mostly or utilized the gas side of the cryogenic dewars for weld purging gas. Personnel interviewed indicated that they had the appropriate cryogenic PPE and verified that the PPE was in good condition. Respondents who typically use cryogenics for filling cold traps relied upon the training for the basic task of cold trap filling and utilized the PPE detailed in the training. This will be an opportunity for improvement to document the work and PPE for the work, though the Training works well for detailing the PPE for a typical task such as this, the filling of hand-held dewars.

### Results

(Describe items found and categorize according to definitions below.)

#### Item Types

Non-conformance - The nonfulfillment of a specified requirement. This is limited to substantive issues that are worthy of being addressed. Word them as **statements of fact** rather than instructions.

Management Concern - An issue that management has identified as a concern requiring action to be taken to mitigate associated risk.

Recommendation - A suggestion or proposal from a Reviewer for the best course of action to take on the identified topic. *This term is typically reserved for DOE or Project Reviewers.*

Opportunity for Improvement - Suggestion on how to improve the identified topic.

Best Practice - A positive example of a work process or innovative approach with the potential to be the basis for significant operational improvements or cost savings.

Lesson Learned - A best practice that is captured and shared to promote repeat application, or an adverse work practice or experience that is captured and shared to prevent recurrence.

#### Description of Items found

Non-Conformance – None found

Management Concern – None found

Recommendation – Create SOP or work plan around dewar handling, cryo handling detailing the prescribed PPE.

Opportunity for Improvement – None found

Best Practice – Supervisors are well-aware of the PPE and training requirements for cryogenic fluid handling.

Lessons Learned – A lesson learned that was captured from an event where a technician submerged a cryo glove was incorporated into the training. The is LL was verified that it was in the current training. No lessons learned were gathered from this assessment.

# INTERNAL ASSESSMENT REPORT

---

## Documents Reviewed

(List procedures, manuals, forms, etc. reviewed.)

### Distribution

Management of Assessed Area

Assessment Team

Interviewees

Quality Section Liaison

Other Stakeholders