

INTERNAL ASSESSMENT REPORT

Assessment Activity Information

Start Date	End Date	Area Assessed
3/10/2020	5/15/2020	Lab-wide compliance to 10 CFR 835

Assessment Team

Name	Role ¹ (L, A, O)	Fermi ID#
Joe Compton	A	13467N
Dee Hahn	A	7152N
Rachel Madiar	O	34113V
Duane Newhart	A	11580N
Wayne Schmitt	L	10038N

¹ Role on assessment team: L=Lead, A=Assessor, O=Observer

Interviewees

Name	Title
Maddie Schoell	ES&H Section RPO Department Head
Michael Vincent	Fermilab Dosimetry Program Manager

Assessment Type

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

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Report

Title

Partial internal triennial assessment of Fermilab's compliance to 10 CFR 835 (Code of Federal Regulations, Title 10, Chapter III, Part 835), *Occupational Radiation Protection*.

Scope

Fermilab Radiation Protection Program (RPP) implementation

Criteria

10 CFR 835 Subparts E, I, J, and N

Interviews (if applicable)

Subject-matter expert interviews were conducted as necessary via Zoom between 3/21/2020 and 4/29/2020. In addition, various requests were conducted via email to obtain additional information or for clarification.

Report (Summarize what took place. How was the assessment performed? Where were items found?)

The provisions of 10 CFR 835 Subparts E, I, J, and N were assessed by comparing each citation to policies and activities at Fermilab. In general, policy implementation statements are found in the Fermilab Environment, Safety, and Health Manual (FESHM) and the Fermilab Radiological Control Manual (FRCM). Also, various relevant supporting documents, such as procedures, forms, and records were reviewed for completeness and accuracy.

Items

Subpart E – *Monitoring of Individuals and Areas*:

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- §835.402(c) states, “For the purpose of monitoring individual exposures to internal radiation, internal dosimetry programs (including routine bioassay programs) shall be conducted...”

Internal radiation exposures at Fermilab are not anticipated to be received by occupational workers, exposed minors, or members of the public. Fermilab does not currently have an in-house internal dosimetry program but has a purchase agreement with Argonne National Laboratory (ANL) for bioassay and whole-body counting services.

However, if the contracted services are not available from ANL, such as is the case currently due to DOE laboratory closures in response to the COVID-19 pandemic, then Fermilab becomes unable to have bioassay samples counted in a timely manner.

Subpart I – *Reports to Individuals:*

No items were found after review of this subpart.

Subpart J – *Radiation Safety Training*

- §835.901(d)(2) states, “When an escort is used in lieu of training in accordance with paragraph (a) or (b) of this section, the escort shall ensure that all escorted individuals comply with the documented radiation protection program.”

Radiological Worker (FN000470/CR/01) training does not include an element notifying the trained worker that they may be called-on to act as an escort. Therefore, they may be unaware of their responsibilities.

Subpart N – *Emergency Exposure Situations*

- §835.1301(c) states, “When the conditions under which a dose was received in excess of the limits specified in §835.202, except those received in accordance with §835.204, have been eliminated, operating management shall notify the Head of the responsible DOE field organization.”

No policy implementation statement in FRCM was found to address this citation.

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- §835.1301(d) states, “Operations which have been suspended as a result of a dose in excess of the limits specified in §835.202, except those received in accordance with §835.204, may be resumed only with the approval of DOE.”

No policy implementation statement in FRCM was found to address this citation.

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 for the best course of action to take on the identified topic.

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

Recommendation #1: As a fall-back position, investigate alternative methods for obtaining bioassay services commercially to address §835.402(c).

Recommendation #2: Add an item to Radiological Worker (FN000470/CR/01) training that clearly states expectations of trained workers when escorting an untrained individual(s) within a radiological area to address §835.901(d)(2).

Recommendation #3: Add an item to FRCM Article 922 concerning Fermi Site Office (FSO) notification to address §835.1301(c).

Recommendation #4: Add an item to FRCM Article 922 concerning DOE approval to address §835.1301(d).

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Documents Reviewed

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

The following documents were reviewed in the course of performing this assessment:

Fermilab Radiation Protection Program (RPP), October 2018
Fermilab Environment, Safety, and Health Manual (FESHM) Chapters 3010, 3030, 4010
Fermilab Radiological Control Manual (FRCM) – Chapters 2, 3, 4, 5, 6, 7, 9, 11
RP Form 3 - *Exposure Investigation Report*
RP Form 20 – *Record of Radioactive Material Receipts and Shipments*
RP Note 7 – *Fermilab Internal Dosimetry Technical Basis Document*
RP Note 152 - *Assessment of Ingestion and Inhalation of Tritiated Water Produced by NuMI Operations*
ESHQS-RPE-001 – *ES&H RPE Routine Monitoring Programs*
General Employee Radiation Training
Radiological Worker – Classroom
Radiological Worker – Practical Factors
Fire Department SOP FD-EO-305, *Radiation Incident*
Fermilab Emergency Preparedness Plan

Distribution

Management of Assessed Area
Assessment Team
Interviewees
Quality Section Liaison
Other Stakeholders