



Department of Energy

Fermi Site Office
Post Office Box 2000
Batavia, Illinois 60510

November 27, 2019

Ms. Amber Kenney
Chief Safety Officer
Fermilab
P.O. Box 500
Batavia, IL 60510

Dear Ms. Kenney:

SUBJECT: COMPLETION OF U.S. DEPARTMENT OF ENERGY (DOE) FERMI SITE OFFICE (FSO) EFFECTIVENESS REVIEW OF U.S. DEPARTMENT OF ENERGY (DOE) OFFICE OF ENTERPRISE ASSESSMENT (EA) CONSTRUCTION SAFETY PROGRAM ASSIST VISIT PERFORMED IN DECEMBER 2015

The DOE FSO effectiveness review was performed by Thomas Featsent and John Scott, both of the DOE, Office of Science, FSO during the fourth quarter, Calendar Year (CY) 2019 in accordance with FSO Standard Operating Procedure (SOP) 2.3, "Conducting Assessments of Lab Programs". The purpose of the review was to determine if corrective actions implemented by the Laboratory effectively addressed the fourteen recommendations from the subject review.

As a result of this effectiveness review, no additional findings or opportunities for improvement were identified. The Laboratory has effectively addressed the recommendations identified in the 2015 DOE EA report.

Please extend our appreciation to members of your staff for their timely response in providing necessary documents and availability for interviews.

Sincerely,

A handwritten signature in blue ink, appearing to read "M. Weis".

Michael J. Weis
Site Manager

**Fermi Site Office Effectiveness Review
of
Fermi National Accelerator Laboratory's
Corrective Action Plan**

In the fall of 2015, the U.S. Department of Energy (DOE) Office of Enterprise Assessment (EA) performed a "Construction Safety Special Review at the Fermi National Accelerator Laboratory (Fermilab) at the request of Fermilab Director. The Director asked EA to conduct a special review to gain an independent perspective on the status of the current Fermilab construction safety program with a focus on the flow down of contractual requirements to all tiers of construction contractors. As a follow-on to this assessment the DOE-Fermi Site Office (FSO) identified the need to perform an effectiveness review of Fermilab's proposed corrective actions.

INTRODUCTION

As part of the FSO's Oversight Program, an effectiveness review of Fermilab's Corrective Action Plan (CAP) in response to the DOE-EA December 2015 special review of Fermilab's construction safety program. The effectiveness review was conducted in the fourth quarter, Calendar Year (CY) 2019. The DOE-FSO effectiveness review was performed by Thomas Featsent and John Scott, both of the DOE, Office of Science, FSO.

The FSO Oversight Program is one of the means that provides oversight of the effectiveness of Fermilab operational programs. This review was performed in accordance with FSO Standard Operating Procedure (SOP) 2.3, "Conducting Assessments of Lab Programs". The results of this review are identified as Findings, Opportunities for Improvement, and Noteworthy Practices.

DISCUSSION OF RESULTS

At the request of Fermilab, DOE EA conducted a special review of the construction safety program. The primary areas of concentration, contract requirements flow down to all tiers of construction contractors and field implementation of the current program. The EA team conducted several observations of various on-site project activities and reviewed contracting and requirements flow down focused on effectiveness of the flow down of applicable DOE orders; the requirements of the Fermilab Contract; Fermilab and construction contractor Environment, Safety, and Health (ES&H) procedures; and Fermilab contracts with the construction contractors. Although, Fermilab has the fundamental elements of an effective construction safety program, the program could be further improved by addressing the gaps identified in the (EA) construction safety program assist visit report (12/2015).

On September 19, 2019, Fermi Site Office (FSO) announced the commencement of an effectiveness review of the Laboratory's proposed corrective actions to address the recommendations identified in the December 2015 DOE EA Construction Safety Program Assist Visit Report. Documents were gathered and reviewed as well as in-person interviews that were applicable and supported the laboratory's implementation of EA's recommendations.

As noted in Fermilab memorandum from Martha Michaels, "EA Review of Construction Safety, Next Steps (11/16/2015)":

Prior to the EA final report, the Laboratory's Chief Safety Officer issued a memorandum dated November 16, 2015, establishing a task force to address the contractual flow down safety requirements. This task force comprised representatives from Legal, Procurement, and ESH&Q Section, Safety and Construction. The Task Force was assigned to generate an action plan with corrective actions to address the recommendations resulting from the DOE-EA Review. Below is a crosswalk of the proposed corrective actions to address those recommendations:

- 1. Subcontracts for construction should be revised to ensure ES&H requirements in 10 CFR 851 and DOE prime contract (ISM core functions and DOE Directives) with Fermilab are clearly included in the construction subcontract so subcontractors fully understand what DOE and Fermilab expect during contract execution. (EA Recommendations: 1, 2, 3, 4, 5, 6, 13, 14)*
- 2. Hazard analysis need to be better tailored to the work scope and training shall be verified. (EA Recommendations: 7, 10)*
- 3. Mechanism for assessing occupational worker exposures should be developed and implemented. (EA Recommendations: 8, 9)*
- 4. Consider augmenting the existing pre-job daily briefing format by including opportunities for greater worker involvement. (EA Recommendations: 11, 12)*

Fermilab combined and aligned EA's fourteen provided recommendations into the above four mentioned corrective actions.

Once a timeframe was established and issues were categorized, Fermilab's task force addressed the items in three phases: 1) create a new ES&H requirements, 2) completely revise FESHM Chapter 7010, and 3) compare/contrast industry standardization of documentation for conciseness and reduce redundancy with revised FESHM 7010.

The three mentioned phases were satisfied by publishing and implementing technical specification Section 013100, FESHM Chapter 7010 (1/19) and Subcontract Samples: #647832 (10/2018) and #660558 (9/2019), as well as personal interviews. It was concluded that Fermilab implemented EA's recommendations.

FINDINGS AND NOTEWORTHY PRACTICES

As a result of this effectiveness review, no additional findings or opportunities for improvement were identified. The Laboratory has effectively addressed the recommendations identified in the 2015 DOE EA report. In addition to revamping identified portions of the construction safety program, Fermilab has instituted construction tracking/trending data improvements through the use of Predictive Solutions Software. This software provides an effective platform for tracking and analyzing oversight data and is utilized to communicate oversight data to Fermilab management and staff.

APPLICABLE STANDARDS AND INTERNAL FERMILAB POLICIES, PROGRAMS, AND SYSTEMS

- U.S. DEPARTMENT OF ENERGY (DOE) OFFICE OF ENTERPRISE ASSESSMENT (EA) CONSTRUCTION SAFETY PROGRAM ASSIST VISIT REPORT, dated 12/2015.
- iTrack Document, "Results for Reviews #44046 (11/01/2015)"
- Fermi National Accelerator Laboratory (Fermilab) Construction Safety Program Report (11/27/2017)
- Fermilab memorandum from Martha Michaels, "EA of Construction Safety, Next Steps (11/16/2015)"
- Technical Specification Section 013100 – Environmental, Safety and Health Requirements (9/2018)
- FESHM Chapter 7010: Construction ES&H Program (1/2019)
- Subcontract Samples: #647832 (10/2018) and #660558 (9/2019)

