

December 19, 2011

Mr. Michael J. Weis
Site Manager
Fermi Site Office
U. S. Department of Energy
P. O. Box 2000
Batavia, Illinois 60510-5011

Dear Mr. Weis:

SUBJECT: Interim Response to DOE 2011 Fermilab Materials and Radiological Clearance Operations Technical Assist Visit

References: 1. Letter, Michael J. Weis to Bruce L. Chrisman, same subject, August 26, 2011
2. Memorandum for the Secretary, Clearance for Recycle of Scrap Metal and Materials from Radiological Areas, EXEC-2011-009585, August 25, 2011

Members of the Fermilab staff, in coordination with members of your staff, have reviewed the observations and recommendations from the subject assist visit presented in Reference 1 to plan a course of action designed to improve radiological clearance operations with respect to the suspension of metals recycling established by the Secretary of Energy in July 13, 2000.

Since the issue of Reference 1, your office has also provided Fermilab with Reference 2. Reference 2 was approved by the Secretary of Energy on September 28, 2011. This reference documented a decision to pursue the preparation of a National Environmental Policy Act (NEPA) document prior to release of materials encumbered by the suspension of July 2000. The action embodied in Reference 2 thus precludes, for a time period of unknown duration, prompt relief from the provisions of the suspension.

Nonetheless, the assist visit and its report is regarded as of significant value in that it suggests programmatic improvements that will improve our radiation protection program in general and standardize our material management procedures in particular. The net result should be to reduce the amount of materials encumbered by the suspension in the future.

The details of our response are stated in the attachment. We anticipate further discussion of these plans with members of your staff and your written response to our proposed actions. Most of these actions are being managed by the Radiation Safety

Subcommittee of the Fermilab ES&H Committee. B. Short of your staff is a permanent observer member and D. Parzyck has attended several recent meetings. Questions and comments should be addressed to D. Cossairt (X3465) as Chair of that Subcommittee.

Sincerely,



Bruce L. Chrisman
Chief Operating Officer

Attachments

cc: G. Bock
D. Carlson
D. Cossairt
N. Grossman
S. Henderson
Y.-K. Kim
E. Mieland
P. Oddone

ESH File: Release of Surplus and Scrap
ESH Docdb#: 1648

Fermilab Interim Response to DOE 2011 Fermilab Materials and Radiological Clearance Operations Technical Assist Visit

To clarify the context the specific observations of Reference 1 are repeated along with the formal recommendations. Below each recommendation, planned or completed Fermilab actions are described.

Observation 1: Moratorium and Suspension policies as implemented would benefit from clarification by DOE Headquarters.

Recommendation 1: Fermilab should review and revise applicable plans and procedures to implement policy clarifications, such as reduction of the number and size of radiological areas and resume material clearance operations consistent with the observations and recommendations found in this report.

Discussion: At the time of the suspension it was unclear if one could repost radiological areas to reflect current conditions. Both the verbal discussions during the review itself and the final report make it clear that one can do such reposting consistent with requirements of the DOE-approved Radiation Protection Program for 10 CFR 835 and the Fermilab Radiological Control Manual (FRCM).

Corrective Action: Subsequent to DOE-FSO approval, Division/Section/Centers would be permitted to posting areas in accordance with their current conditions in accordance with the DOE-approved Radiation Protection Program for 10 CFR 835 and the FRCM.

Observation 2: Site implementation of Suspension guidance is applied in a very conservative manner. Procedures used to implement the suspension and moratorium policies include Radiological Materials Areas (RMA) although RMA is not a 10CFR835 defined radiological area.

Recommendation 2a: The Railhead Procedure should be corrected to eliminate an RMA from being designated as a 10CFR835 defined Radiological Area.

Discussion: As part of "due diligence" at the time of the suspension, Fermilab in accordance with discussion with FSO, included materials originating from radioactive materials areas as being subject to the suspension. It is clear that radioactive materials areas are not radiological areas as defined by 10 CFR 835. Thus materials originating from radioactive materials areas should not have been subject to the suspension. While many such materials in the past were unnecessarily encumbered under the July 2000 suspension, it has been determined by Fermilab that material storage records are generally insufficient to segregate those items that originated from radioactive materials areas that were not also radiological areas. These materials therefore remain subject to the suspension and will be stored accordingly.

Corrective Action: Upon approval of these actions by DOE-FSO, items subsequently being removed from radioactive materials areas will no longer be subject to the provisions of the suspension but will remain subject to the materials survey and release provisions of the FRCM.

Recommendation 2b: The site should enforce segregation of Group 1 (materials not encumbered by the Suspension of 2000) and Group 2 materials (materials encumbered by the Suspension) to reduce the risk of comingling of suspect radiological contaminated material with uncontaminated items obtained from non-process areas of the laboratory.

Discussion: This recommendation is directed towards the arrangement of the Fermilab Railhead.

Corrective Action: A Revised Railhead Procedure is being written that will include provisions to address this recommendation. Better definition of the boundaries of the storage of these materials is included in this document.

Observation 3: Documentation of truck monitor use for radiological and materials release processes could be improved.

Recommendation 3: Fermilab should consider applying additional rigor and formality to the use of the truck monitor to evaluate loads of materials leaving the site.

Corrective Action: Revised procedures for truck monitor have been developed and will be incorporated into the Railhead Procedure document.

Observation 4: *Fermilab Radiological Control Manual (FRCM) requirements, as reviewed, for the release of material are not being consistently implemented across Divisions.*

Recommendation 4: Review and revise site and divisional procedures for materials release to ensure consistency and to meet performance mandates as required within the Secretarial policy.

Discussion: Upon further review, it has been found subsequent to the receipt of Reference 1, this recommendation is based upon information that is not factually correct. Accelerator Division (AD) has a specific procedure for removing items from 10 CFR 835 radiological areas into controlled areas while the Particle Physics Division (PPD) does not. AD needs this procedure while PPD does not in view of the fact that AD has a much larger number of radiological areas. The AD procedure does not provide for complete release, contrary to the perception of the review team. All of Fermilab uses the lab-wide release criteria of FRCM Chapter 4 to survey items for radioactivity, achieving the necessary consistency. The factual error was not identified during the factual accuracy review. No further action is needed here.

Observation 5: *Material Movement Release form and relevant information could be improved.*

Recommendation 5: Develop a single Material Movement Request form that includes all relevant information to strengthen and formalize the radiological and materials release process to include all material movement documentation.

Discussion: The review team found that two different MMR forms were being used. One was being used labwide and the other was an upgraded version used internally within Business Services Section for other purposes.

Corrective Action: A single MMR form has already been instituted. The version used internally within the Business Services Section for other purposes has been renamed as the Scrap Shipment Request Form to remove the point of confusion identified in the review. The old MMR forms are no longer accepted by the Business Services Section. Individuals trained in Material Move Request surveys will be supplied updated information on the use of the new forms.

Observation 6: *Return of radiation survey instruments due for calibration needs to be improved to ensure that instruments that are out-of-calibration are not available for use in the field.*

Recommendation 6: Fermilab management should support a more robust notification and return policy of radiological instruments to ensure that out-of-calibration instruments are not available for use in the field for radiological and materials clearance purposes.

Corrective Action: In response to this review more robust measures have been taken to assure the return of instruments. As a result performance in this area is much improved.

General Corrective Action: Once DOE-FSO approval of these actions is granted, additional instructions will be provided to the Fermilab staff before initiating any change in procedures with respect to the release of materials originating from radioactive materials areas.