



Department of Energy

Fermi Site Office
Post Office Box 2000
Batavia, Illinois 60510

JUL 15 2014

Ms. Martha E. Michels
Assistant Director for ESH&Q
Fermilab
P.O. Box 500
Batavia, IL 60510

Dear Ms. Michels:

SUBJECT: NATIONAL ENVIRONMENTAL POLICY ACT DETERMINATION AT FERMI
NATIONAL ACCELERATOR LABORATORY – ACCELERATOR DIVISION
CRYOGENIC DEPARTMENT ENGINEERING OFFICE AND MESON WEST 9
WORK ACTIVITY

Reference: Letter, from M. Michels to M. Weis, dated July 9, 2014, Subject: National
Environmental Policy Act Environmental Evaluation Notification Form for the
Accelerator Division Cryogenic Department Engineering Office and Meson West
9 Work Activity

I have reviewed the National Environmental Policy Act (NEPA) Environmental Evaluation
Notification Form (EENF) for the Accelerator Division Cryogenic Department Engineering Office
and Meson West 9 Work Activity. Based on the information provided in the EENF, I have
approved the following categorical exclusion (CX):

<u>Project Name</u>	<u>Approved</u>	<u>CX</u>
Accelerator Division Cryogenic Department Engineering Office and Meson West 9 Work Activity	7/10/2014	B3.6

I am returning a signed copy of the EENF for your records. No further NEPA review is required.
This project falls under categorical exclusions provided in 10 *CFR* 1021, as amended in
November 2011.

Sincerely,

Michael J. Weis
Site Manager

Enclosure:
As Stated

cc: N. Lockyer, w/o encl.
T. Meyer, w/o encl.
A. Kenney, w/o encl.
T. Dykhuis, w/encl.

FERMILAB ENVIRONMENTAL EVALUATION NOTIFICATION FORM (EENF) for documenting compliance with the National Environmental Policy Act (NEPA), DOE NEPA Implementing Regulations, and the DOE NEPA Compliance Program of DOE Order 451.1B

Project/Activity Title: Accelerator Division (AD) Cryogenic Department Engineering Office and Meson West (MW9) Lab Work Activity
ES&H Tracking Number: 01124

I hereby verify, via my signature, the accuracy of information in the area of my contribution for this document and that every effort would be made throughout this action to comply with the commitments made in this document and to pursue cost-effective pollution prevention opportunities. Pollution prevention (source reduction and other practices that eliminate or reduce the creation of pollutants) is recognized as a good business practice which would enhance site operations thereby enabling Fermilab to accomplish its mission, achieve environmental compliance, reduce risks to health and the environment, and prevent or minimize future Department of Energy (DOE) legacy wastes.

Fermilab Action Owner: Jay Theilacker (X3238)

Signature and Date _____

Jay Theilacker 7/7/14

Fermilab ES&H Officer: Sylvia Wilson (X4489)

Signature and Date _____

Sylvia Wilson 7/7/14

- Evaluation of a new and different activity
 Reevaluation/update of an ongoing or previous activity

I. Description of the Proposed Action and Need

Purpose and Need:

The purpose of the Fermilab Cryogenic Department is for the design, operation and maintenance of cryogenic systems that are installed as a part of the accelerators and transport beamlines. Cryogenic systems are needed for cooling magnets and providing the necessary support and operation of beamlines. In addition, the department is responsible for the design, operation and maintenance of various peripheral cryogenic systems in support of cryogenic or accelerator Research and Development.

Proposed Action:

The office area is devoted to cryogenic engineering analysis, cryogenic mechanical design, electrical engineering design and controls design for current and new cryogenic projects.

The lab area supports the following:

- Compressor and expander maintenance that involves maintaining and servicing Mycom screw compressors and wet and dry helium expansion engines. This includes minor service to complete break-down and overhauls.
- Cryogenic component construction services that involve the fabrication and service of cryogenic components for experimental and test areas. This includes minor modifications and complete fabrication from drawings.
- Electrical and electronic assembly that involves the fabrication and maintenance of electronic controls to support cryogenic refrigeration systems.

These activities require the support of welding, brazing, soldering, rigging, painting and cleaning services.

Alternatives Considered:

Fermilab has 40 years of experience and expertise in cryogenic systems and it would be cost prohibitive to do this type of work in private industry. The 'no action' alternative would not fulfill the stated purpose and need.

II. Description of the Affected Environment

See section VI of this EENF.

III. Potential Environmental Effects (If the answer to the questions below is “yes”, provide comments for each checked item and where clarification is necessary.)

A. Sensitive Resources: Would the proposed action result in changes and/or disturbances to any of the following resources?

- Threatened or endangered species
- Other protected species
- Wetland/Floodplains
- Archaeological or historical resources
- Non-attainment areas

B. Regulated Substances/Activities: Would the proposed action involve any of the following regulated substances or activities?

- Clearing or Excavation
- Demolition or decommissioning
- Asbestos removal
- PCBs
- Chemical use or storage
- Pesticides
- Air emissions
- Liquid effluents
- Underground storage tanks
- Hazardous or other regulated waste (including radioactive or mixed)
- Radioactive exposures or radioactive emissions
- Radioactivation of soil or groundwater

C. Other Relevant Disclosures: Would the proposed action involve any of the following actions/disclosures?

- Threatened violation of ES&H permit requirements
- Siting/construction/major modification of waste recovery or TSD facilities
- Disturbance of pre-existing contamination
- New or modified permits
- Public controversy
- Action/involvement of another federal agency
- Public utilities/services
- Depletion of a non-renewable resource

IV. Comments on checked items in section III.

Chemical Use or Storage

Flammable solvents i.e., ethanol, isopropanol, acetone are used to clean stainless steel components and equipment. Flammable cabinets are used to store flammable solvents, paints, lubricants and oils. Mild corrosives are used for brazing and cleaning components. Corrosives are stored inside of a corrosive cabinet.

Air Emissions

MW9 has two parts washer machines that are both used for cleaning compressor and vacuum parts and equipment. One of the machines used is a water based solvent and the tank capacity is 30 gallons. This tank is used for cleaning smaller parts and components, and is maintained through the Environment Safety, Health and Quality (ESH&Q) Section. There is not any air pollutant associated with it. The other part washer machine contains a petroleum based solvent and the tank capacity would be 75 gallons. It is used to clean larger parts and is maintained and managed through the ESH&Q Section. Fermilab has a service agreement with Safety Kleen to maintain and service this tank and volatile organic compounds (VOCs) are negligible.

The following is maintained properly and exhaust and ventilation surveys are conducted annually:

- A paint spray booth is used to paint compressor parts and components. Approximately four 12 ounce cans of spray paint are used weekly.
- A welding station with welding hood is used for brazing metals.
- A sandblaster glove box is used to prepare compressor water cooling components for painting and reconditioning. It is also used to remove paint from parts that would be welded.

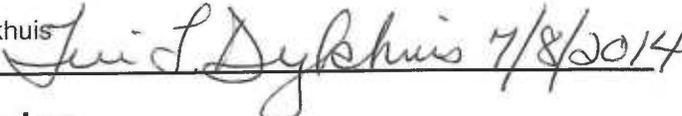
Hazardous or other Regulated Waste

All regulated waste is managed and coordinated through the ESH&Q Section's Hazard Control Technology Team for proper disposal. Satellite accumulation areas - i.e., flammable cabinets, corrosive cabinet and an outdoor storage shed - is used to store regulated waste. The outdoor storage shed is approximately 6 feet by 6 feet and typically stores a 55 gallon drum of used oil and a container for used oil filters.

V. NEPA Recommendation

Fermilab staff has reevaluated the ongoing activity in this proposed action and believe a Categorical Exclusion is appropriate. It is believed that the proposed action meets the description found in DOE's NEPA Implementation Procedures, 10 CFR 1021, Subpart D, Appendix B3.6 - *Small-scale research and development, laboratory operations, and pilot projects* - which states:

B3.6 "Siting, construction, modification, operation and decommissioning of facilities for small-scale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); and small-scale pilot projects (generally less than 2 years) frequently conducted to verify a concept before demonstration actions provided that construction or modification would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible). Not included in this category are demonstration actions, meaning actions that are undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial deployment."

Fermilab NEPA Program Manager: Teri L. Dykhuis
Signature and Date  7/8/2014

VI. DOE/FSO NEPA Coordinator Review

Concurrence with the recommendation for determination:

Fermi Site Office (FSO) Manager: Michael J. Weis
Signature and Date  7/15/2014

FSO NEPA Coordinator: Rick Hersemann
Signature and Date  7/10/2014

VII. Attachment – Map of Accelerator Division (AD) Cryogenic Department Engineering Office and Meson West Lab (MW9)

