FEB 14 2014

Ms. Victoria A. White
Chief Operating Officer
Fermilab
P.O. Box 500
Batavia, IL 60510

Dear Ms. White:

SUBJECT: NATIONAL ENVIRONMENTAL POLICY ACT DETERMINATION AT FERMI NATIONAL ACCELERATOR LABORATORY – LAB 3

Reference: Letter, from V. White to M. Weis, dated January 30, 2014, Subject: National Environmental Policy Act Environmental Evaluation Notification Form for Lab 3

I have reviewed the National Environmental Policy Act (NEPA) Environmental Evaluation Notification Form (EENF) for Lab 3. Based on the information provided in the EENF, I have approved the following categorical exclusion (CX):

Project Name	Approved	CX
Lab 3	2/10/2014	B1.15, 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,

— 5 —

Michael J. Weis
Site Manager

Enclosure:
As Stated

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

bc: J. Scott, w/o encl.
R. Hersemann, 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: Lab 3
ES&H Tracking Number: 01119

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: David Butler (X3370)
Signature and Date David Butler 2/6/2014

Fermilab ES&H Officer: Angela Aparicio (X3701)
Signature and Date Angela Aparicio 2/6/14

I. Description of the Proposed Action and Need

Purpose and Need:
The Laboratory 3 facility would be used for research and development (R&D) of carbon fiber structures for various experiments, such as the Jefferson Lab Silicon Vertex Tracker Project and the Compact Muon Solenoid Pixel Detector Upgrade. It would also contain clean room space used for dark energy experiment research and development (R&D); cosmic experiments-such as the Dark Energy Camera; medical device R&D-such as the Northern Illinois University Proton Computed Tomography Scanner. Currently, the Muon Gyromagnetic Ratio Measurement Experiment and the Muon to Electron Conversion Experiment are setting up at this location.

The facility is needed to study and produce carbon fiber structures that can be used in numerous particle physics applications and space to build various experiments such as mentioned previous. The facility would provide design flexibility, quality and low cost that cannot be achieved through private industry production. Clean room space is a necessity for sensitive instrument experiment R&D.

Proposed Action:
The existing Laboratory 3 (see Section VII for attached map) is located in the Village and used for the fabrication of carbon fibers and as R&D and assembly space for dark matter and other experiments. The building would be equipped with a large walk-in oven, smaller oven, and autoclave; the carbon fibers would be cured in the ovens or autoclave. All volatiles would go through the vacuum pumps, which would be vented outside the building to the atmosphere. Vacuum pump filters would be disposed of through the general waste stream. A maximum of 10 pounds of carbon fiber resin would be used per year. A humidor room would be used for the layup of carbon fibers and would be used for electrostatic-sensitive devices.

Cleanroom A would host dark matter projects and within this cleanroom, alcohols would be used for cleaning detector components and some adhesives, glues and epoxies would be used as well.

Cleanroom B would contain a Coordinate Measuring Machine (CMM) for measuring detector components; the room would be used for assembly of detector components.

The cosmic ray room would contain a large shielding device for doing cosmic particle testing of straw chambers. The proposed Long Baseline Neutrino Experiment would be preparing a straw tracker module in this room, and plans to use a radioactive source; there is a source box in this room.

Alternatives Considered:
Research and development of particle physics carbon fiber structures by private industry would not be cost or time effective for the experiments. Oftentimes there are no drawings that exist to provide to private companies. Doing this work on-site allows for changes on the fly.

II. Description of the Affected Environment

See Section IV for details.

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
Small amounts of epoxies and alcohols are used for cleaning and gluing detector components. Lead shielding may be used on occasion.

Air Emissions
There is a potential for a small amount of volatiles from the carbon fibers cured in the ovens or autoclave, but less than 10 pounds of carbon fiber resin would be used each year, meeting air permitting exemption 35 IAC 201.146(jjj)(1)(A). The ovens and autoclave each have vacuum pumps which would filter the air before it is vented out of the building. Some bench top soldering may occur in the building, which meets the air permit exemption under 35 IAC 201.146(y).

Hazardous or Other Regulated Waste
All hazardous waste (e.g. solvent wipes, expired epoxies) would be managed through the hazardous waste program - waste pickup and disposal would be coordinated through the ESH&Q's Hazard Control Technology Team (HCTT).

Radioactive exposures or radioactive emissions
Radioactive sources are used on occasion for testing detector components. All source use is coordinated through ESH&Q following Fermilab Radiological Control Manual practices.

V. NEPA Recommendation

Fermilab staff has reviewed 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 B1.15 and B1.31 and B3.6 which states:

B1.15 "Siting, construction or modification, and operation of support buildings and support structures (including, but not limited to, trailers and prefabricated and modular buildings) within or contiguous to an already developed area (where active utilities and currently used roads are readily accessible). Covered support buildings and structures include, but are not limited to, those for office purposes; parking; cafeteria services; education and training; visitor reception; computer and data processing services; health services or recreation activities; routine maintenance activities; storage of supplies and equipment for administrative services and routine maintenance activities; security (such as security posts); fire protection; small-scale fabrication (such as machine shop activities), assembly, and testing of non-nuclear equipment or components; and similar support purposes, but exclude facilities for nuclear weapons activities and waste storage activities, such as activities covered in B1.10, B1.29, B1.35, B2.6, B6.2, B6.4, B6.5, B6.6, and B6.10 of this appendix."

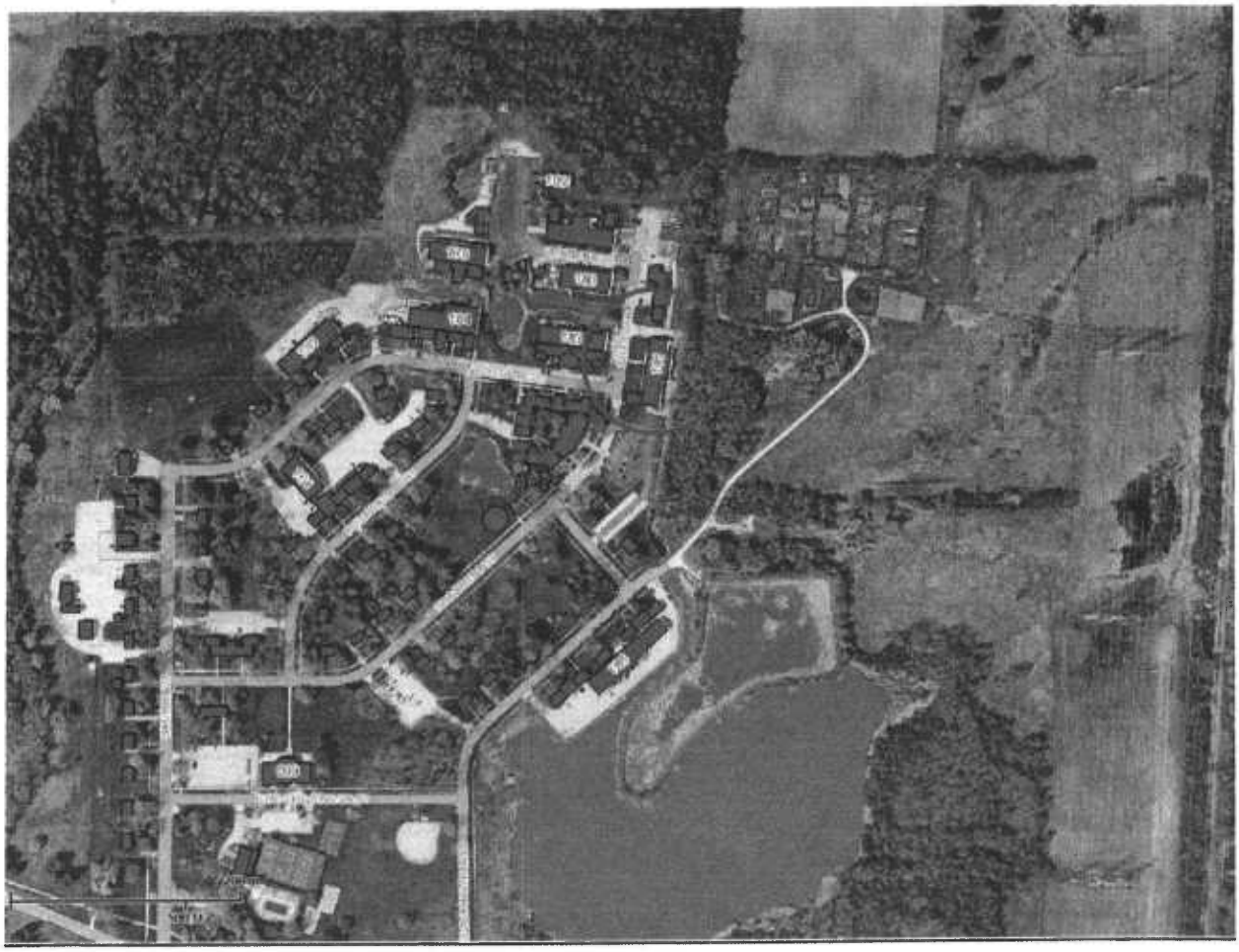
B3.6 "Siting, construction, modification, operation and decommissioning of facilities for small-scale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); and small-scale pilot projects (generally less than 2 years) frequently 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 Teri L. Dykhuis 2/6/2014

VI. DOE/FSO NEPA Coordinator Review

Concurrence with the recommendation for determination:

Fermi Site Office (FSO) Manager: Michael J. Weis
Signature and Date 2/13/2014

FSO NEPA Coordinator: Rick Hersemann
Signature and Date Rick Hersemann 2/10/2014

VII. Attachment – Map of the Fermilab Village indicating location of Lab 3