Department of Energy
Fermi Site Office
Post Office Box 2000
Batavia, Illinois 60510

NOV 19 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 – UTILITY UPGRADE PROJECT

Reference: Letter, from M. Michels to M. Weis, dated November 18, 2014, Subject: National Environmental Policy Act Environmental Evaluation Notification Form for the Utility Upgrade Project

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

Project Name	Approved	CX
Utility Upgrade Project	11/18/2014	B1.15, B1.16, B1.17, B1.18 B2.5, B4.11, B5.4

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.
J. Lykken, 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: Utility Upgrade Project
ES&H Tracking Number: 01130

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: Jonathan Hunt (X4312)
Signature and Date 11/18/14

Fermilab ES&H Officer: Kate Pripusich-Sienkiewicz (X4313)
Signature and Date 11/18/14

I. Description of the Proposed Action and Need

Purpose and Need:
The purpose of the proposed action/project is to install new Industrial Cooling Water (ICW) and Electrical Power utility systems. This is needed because most of the ICW and Electrical Power systems were constructed in the 1970s and the system components are reaching the end of their useful life. These systems would provide a dependable utility infrastructure from which science can be accomplished and make the necessary re-investment that would support current and future laboratory needs.

Proposed Action:
The action would consist of the following:

ICW
This work would include installation of a new ICW backbone piping system from Casey's Pond to the Main Injector area (see Section VII); new lateral connections, fire hydrants, and new shutoff valve installations. It would also include upgrades to Casey's Pond pump house, which includes installation of a new diesel generator; installation of two new secondary pump houses, dredging of Casey's Pond; and mitigation of potential flooding issues in and around the Casey's Pond pump house area, which includes construction of a dam. Lastly, included in the scope are ICW make-up water improvements that would automatically transfer stored water into the ICW system.

Electrical Power
This work would replace the Master Substation building, including replacing all oil switches, the 345 kV oil circuit breaker, all feeder cables over 25 years old, and end of life unit substations. Lastly included in the scope are various modifications to the substation yard areas.

Additional Information:
There would need to be shut downs associated with Electrical Power and ICW systems in order to tie in the new systems once installation is complete. The project would consist of installation of approximately 28,000 linear feet of ICW pipe; 100,000 linear feet of feeder cable; replacement of five (5) oil switches; replacement of three (3) unit substations; and a new 3800 square foot Master Substation building. The total volume of excavated material to be stockpiled is approximately 30,000 cubic yards and it would primarily be used as backfill.

The action would also include installation of a deep well at Casey's Pond at an approximately depth of 1,435 feet to the Eau Claire Formation, or 20 feet below the sandstone formation. As part of the two secondary pump houses, dredging operations may occur. In addition to Casey's Pond, Swan Lake and Andy's Pond would be dredged to provide greater storage capacity. Total dredged spoils would be approximately 35,000 cubic yards. Lastly, a control structure/dam may be constructed along Kress Creek as part of the flood mitigation scope of work.

Alternatives Considered:
Costs of unscheduled repairs to the current system continue to increase, which redirects resources from other areas that are important to laboratory operations, leaving other infrastructure at risk.

The only viable alternative is to take 'no action', which would not meet the purpose and need as stated.

II. Description of the Affected Environment

The potential affects to the environment are described generally in the 'Proposed Action' and more specifically in Section III.

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.

Clearing and/or Excavation and Demolition and Decommissioning
Excavation would occur for installation of ICW piping; removal of the existing Master Substation Building; and construction of new substation building. The estimated affected area is approximately 8 acres. The total volume of excavated material to be stockpiled is approximately 30,000 cubic yards. Soil erosion control measures, such as silt fences; ditch checks; and outlet protections would be used.

The action may also include a deep well at Casey's Pond at an approximate depth of 1,435 feet to the Eau Claire Formation or 20 feet below the sandstone formation. Additionally, as part of the two secondary pump houses, dredging operations may occur. In addition to Casey's Pond, Swan Lake and Andy's Pond would be dredged to provide greater storage capacity; total dredged spoils would be approximately 35,000 cubic yards.

Asbestos Removal
There is a possibility of encountering existing transit pipe used for the ICW system. In this case, the pipe would be bagged, abandoned in place, and properly disposed. There may also be some asbestos material inside the existing Master Substation; testing would be completed prior to any demolition and material would be properly disposed.

Polychlorinated biphenyls (PCBs)
PCBs are not expected in the area of the project. If indicators of possible PCB contamination were found during the action, such as a pungent smell or large area of soil discoloration, a sample would be taken and sent out for analysis. If PCBs, in concentrations above clean-up levels, were discovered the area would be decontaminated and the waste soils disposed of as Toxic Substance Control Act waste as appropriate.

Liquid Effluents
Proper sealing techniques would be used during drilling and installation of the potential proposed deep well at Casey's Pond.

New or modified permits and Wetlands/Floodplain
A National Pollutant Discharge Elimination System permit would be required for storm water discharge and a Storm Water Pollution Prevention Plan would be included in the final design drawings.

Construction of the Casey's Pond deep well would follow Fermilab procedures and permits would be obtained as necessary.

For dredging, it would be ensured that soil erosion control measures are consistent with Fermilab procedures and that permits would be obtained as necessary. Soil and water testing of the ponds would be conducted.

Additionally, the action may include installation of a control structure/dam in Kress Creek, approximately half way between Power Line Road and Town Road. The control structure would not be designed to impound water continuously but rather would be a flood control device, working similar to the "dam" in the Main Injector. Since Kress Creek is likely considered navigable waters, permits may be needed from the Corps of Engineers (if wetlands are identified, then there would be multiple COE permits).

V. NEPA Recommendation

Fermilab staff has evaluated the 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, follows.

B1.15 Support Buildings
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.

B1.16 Asbestos Removal
Removal of asbestos-containing materials from buildings in accordance with applicable requirements (such as 40 CFR part 61, "National Emission Standards for Hazardous Air Pollutants"; 40 CFR par 763, "Asbestos"; 29 CFR part 1910, subpart I, "Personal Protective Equipment"; and 20 CFR part 1926, "Safety and Health Regulations for Construction"; and appropriate state and local requirements, including certification of removal contractors and technicians).

B1.17 Polychlorinated biphenyl removal
Removal of polychlorinated biphenyl (PCB)-containing items (including, but not limited to, transformers and capacitors), PCB-containing oils flushed from transformers, PCB-flushing solutions, and PCB-containing spill materials from buildings or other aboveground locations in accordance with applicable requirements (such as 40 CFR part 761).

B1.18 Water supply wells
Siting, construction, and operation of additional water supply wells (or replacement wells) within an existing well field, or modification of an existing water supply well to restore production, provided that there would be no drawdown other than in the immediate vicinity of the pumping well, and the covered actions would not have the potential to cause significant long-term decline of the water table, and would not have the potential to cause signfificant degradation of the aquifer from the new or replacement well.

B2.5 Facility safety and environmental improvements
Safety and environmental improvements of a facility (including, but not limited to, replacement and upgrade of facility components) that do not result in a significant change in the expected useful life, design capacity, or function of the facility and during which operations may be suspended and then resumed. Improvements include, but are not limited to, replacement/upgrade of control valves, in-core monitoring devices, facility air filtration systems, or substation transformers or capacitors; addition of structural bracing to meet earthquake standards and/or sustain high wind loading; and replacement of aboveground or belowground tanks and related piping, provided that there is no evidence of leakage, based on testing in accordance with applicable requirements (such as 40 CFR part 265, "Interim status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities" and 40 CFR part 280, "Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks"). These actions do not include rebuilding or modifying substantial portions of a facility (such as replacing a reactor vessel).

B4.11 Electrical power substations and interconnection facilities
Construction or modification of electric power substations or interconnection facilities (including, but not limited to, switching stations and support facilities).

B5.4 Repair or replacement of pipelines
Repair, replacement, upgrading, rebuilding, or minor relocation of pipelines within existing rights-of-way, provided that the actions are in accordance with applicable requirements (such as Army Corps of Engineers permits under section 404 of the Clean Water Act). Pipelines may convey materials including, but not limited to, air, brine, carbon dioxide, geothermal system fluids, hydrogen gas, natural gas, oil, produced water, steam, and water.

Fermilab NEPA Program Manager: Teri L. Dykhuis
Signature and Date Teri L. Dykhuis 11/18/2014

VI. DOE/FSO NEPA Coordinator Review

Concurrence with the recommendation for determination:

Fermi Site Office (FSO) Manager: Michael J. Weis
Signature and Date 11/18/2014

FSO NEPA Coordinator: Rick Hersemann
Signature and Date Rick Hersemann 11/18/2014

VII. Appendix – Diagram Indicating Action Location