



Department of Energy

Fermi Site Office
Post Office Box 2000
Batavia, Illinois 60510

JUL 28 2015

Ms. Martha E. Michels
Chief Safety Officer
Fermilab
P.O. Box 500
Batavia, IL 60510

Dear Ms. Michels:

SUBJECT: NATIONAL ENVIRONMENTAL POLICY ACT DETERMINATION AT FERMI NATIONAL ACCELERATOR LABORATORY – MESON HILL WELL SEALING AND ABANDONMENT

Reference: Letter, from M. Michels to R. Hersemann, dated July 21, 2015, Subject: National Environmental Policy Act Environmental Evaluation Notification Form for the Meson Hill Well Sealing and Abandonment

The Fermi Site Office (FSO) has reviewed the National Environmental Policy Act (NEPA) Environmental Evaluation Notification Form (EENF) for the Meson Hill Well Sealing and Abandonment. Based on the information provided in the EENF, the following categorical exclusion (CX) is approved:

<u>Project Name</u>	<u>Approved</u>	<u>CX</u>
Meson Hill Well Sealing and Abandonment	7/24/2015	B3.1

Enclosed is 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: Meson Hill Well Sealing and Abandonment
ES&H Tracking Number: 01134

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: Chris Greer (X4847)
Signature and Date

 7/29/15

I. Description of the Proposed Action and Need

Purpose and Need:

The purpose of the sealing and abandonment of the eight groundwater monitoring wells at the Meson Hill Landfill (Solid Waste Management Unit [SWMU] 13) is to render them incapable of transmitting groundwater to/between aquifer zones and to remove their surface obstructions for future land use. The need for the sealing and abandonment is to fulfill the directive of the Illinois Environmental Protection Agency to cease groundwater monitoring at Meson Hill and remove the requirements from the Fermilab Resource Conservation and Recovery Act (RCRA) Permit.

Proposed Action:

This proposed action would consist of the work to seal and abandon eight groundwater monitoring wells per the Illinois Environmental Protection Agency well construction category I-A method requirements in their April 7, 2015 letter. The well risers and surface constructions (concrete pads and casings) would be removed to a depth of two feet below ground surface. Neat cement slurry would be pumped into the wells from the bottom up with a tremie pipe until the well is filled with pure slurry, fully displacing any formation water and watery slurry mix from the well. Remaining surface excavations (each less than 10 square feet) would be backfilled with clean dirt fill, level to the surrounding ground surface. Subcontractors would transport the waste concrete and metal risers and casings to a dumpster provided at Site 40 by the Fermilab Environment Safety Health and Quality (ESHQ) Waste Technology Team.

Alternatives Considered:

The only alternative is to leave the wells as is but this 'no action' alternative would not meet the purpose and need. In addition, this action must be carried out in order for the monitoring requirement to be removed from the facility RCRA permit.

II. Description of the Affected Environment

This proposed action would seal and abandon all of the eight groundwater monitoring wells at the Meson Hill Landfill. Additional environmental effects are highlighted 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 Excavation

At each of the eight well locations, an excavation of less than 10 square feet area by 2 feet deep would be left once the concrete pad and well riser and casing is removed. Each well excavation would be backfilled with clean fill dirt, level with ground surface.

Chemical Use or Storage

Meson Hill Landfill was originally constructed as an above ground shielding hill then was used as an above ground "landfill" mound for soil and construction debris. The wells are located on level ground surrounding the hill, not on the landfill hill itself. Seven of the eight wells are located within the SWMU boundaries.

Air Emissions

A bobcat and drill rill would be utilized for well casing demolition and well sealing.

Hazardous or other regulated waste

Eight five-foot long sections of two-inch diameter stainless steel well risers and eight five-foot long steel protective casings would be removed from the well sites, in addition to the concrete pads that held the well casings in place. All concrete and metal risers and casings would be placed in a dumpster provided

at Site 40 by the ESHQ Waste Technology Team.

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, Appendix B3.1 and as follows.

B3.1 Site characterization and environmental monitoring

Site characterization and environmental monitoring (including, but not limited to, siting, construction, modification, operation, and dismantlement and removal or otherwise proper closure (such as of a well) of characterization and monitoring devices, and siting, construction, and associated operation of a small-scale laboratory building or renovation of a room in an existing building for sample analysis). Such activities would be designed in conformance with applicable requirements and use best management practices to limit the potential effects of any resultant ground disturbance. Covered activities include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. (This class of actions excludes activities in aquatic environments. See B3.16 of this appendix for such activities.) Specific activities include, but are not limited to:

- (a) Geological, geophysical (such as gravity, magnetic, electrical, seismic, radar, and temperature gradient), geochemical, and engineering surveys and mapping, and the establishment of survey marks. Seismic techniques would not include large-scale reflection or refraction testing;
- (b) Installation and operation of field instruments (such as stream-gauging stations or flow-measuring devices, telemetry systems, geochemical monitoring tools, and geophysical exploration tools);
- (c) Drilling of wells for sampling or monitoring of groundwater or the vadose (unsaturated) zone, well logging, and installation of water-level recording devices in wells;
- (d) Aquifer and underground reservoir response testing;
- (e) Installation and operation of ambient air monitoring equipment;
- (f) Sampling and characterization of water, soil, rock, or contaminants (such as drilling using truck- or mobile-scale equipment, and modification, use, and plugging of boreholes);
- (g) Sampling and characterization of water effluents, air emissions, or solid waste streams;
- (h) Installation and operation of meteorological towers and associated activities (such as assessment of potential wind energy resources);
- (i) Sampling of flora or fauna; and
- (j) Archeological, historic, and cultural resource identification in compliance with 36 CFR part 800 and 43 CFR part 7.

Fermilab NEPA Program Manager: Teri L. Dykhuis

Signature and Date

Teri L. Dykhuis 7/21/2015

VI. DOE/Fermi Site Office (FSO) NEPA Review

Based upon my review of information conveyed to me and in my possession concerning the proposed action, as NEPA Compliance Officer (as authorized under DOE Order 451.1A), I have determined that the proposed action fits within the specified class of actions, the other regulatory requirements set forth above are met, and the proposed action is hereby categorically excluded from further NEPA review.

FSO NEPA Compliance Officer: Rick Hersemann

Signature and Date

Rick Hersemann 7/24/2015

**VII. Appendix – Diagram
Location of Meson Hill Wells**



Figure 1
Meson Hill Aerial View
Google Earth, 2010

Fermilab