



Department of Energy
Carlsbad Field Office
P. O. Box 3090
Carlsbad, New Mexico 88221
MAY 02 2016

Mr. John Kieling, Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 E. Rodeo Park Dr. Bldg. 1
Santa Fe, New Mexico 87505-6303

Subject: Submittal of New Mexico Registered Professional Engineer Certification of Modification to the Underground Ventilation System

Reference: DOE Letter CBFO:EPD:GTB:MN:14-2600:UFC 5486.00 from Mr. J. R. Franco and Mr. R. L. McQuinn to Mr. John Kieling, dated August 26 2014, subject: Notification of Planned Physical Alteration to the Permitted Facility, Hazardous Waste Facility Permit Number: NM4890139088-TSDF

Dear Mr. Kieling:

The purpose of this letter is to transmit a New Mexico registered Professional Engineer (PE) certification that the Waste Isolation Pilot Plant (WIPP) facility has been modified in compliance with the Hazardous Waste Facility Permit by completing a modification to the Underground Ventilation System (UVS) referred to as the Interim Ventilation System (IVS). The IVS consists of two skid-mounted filtration fans and high efficiency particulate air filter assemblies.

In the above referenced letter, the Hazardous Waste Bureau was notified of planned changes to support the addition of the IVS. We have enclosed a letter from a New Mexico registered PE certifying that the facility has been modified to incorporate these changes to the UVS. The enclosed PE certification letter, along with our signatures below, constitute compliance with WIPP Hazardous Waste Facility Permit, Part 1, *General Permit Conditions*, Section 1.7.11.2.i.

We certify under penalty of law that this document and all attachments were prepared under our direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on our inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of our knowledge and belief, true, accurate and complete. We are aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

If you have any questions, please contact Mr. George T. Basabilvazo at (575) 234-7488.

Sincerely,

Original Signatures on File

Todd Shrader, Manager
Carlsbad Field Office

Philip J. Breidenbach, Project Manager
Nuclear Waste Partnership LLC

Enclosure

cc: w/enclosure
K. Roberts, NMED *ED
R. Maestas, NMED ED
C. Smith, NMED ED
CBFO M&RC
*ED denotes electronic distribution

CBFO:EPD:TS:MT:16-1526:UFC 5486.00

April 21, 2016

Mr. Michael Furner
Construction Manager
Nuclear Waste Partnership, LLC
P.O. Box 2078
Carlsbad, NM 88220

Subject: MODIFICATION OF UNDERGROUND VENTILATION SYSTEM

Dear Mr. Furner:

1. Introduction

1.1 This letter is the New Mexico professional engineer's determination required by Permit Part 1, Section 1.7.11.2.i. that the modifications to the facility system known as the Underground Ventilation System (UVS) were designed, constructed and functionally tested in a manner such that it can be operated in compliance with the conditions of the Waste Isolation Pilot Plant Hazardous Waste Facility Permit (Permit) revised January 16, 2016. The modification to the UVS is an additional fan and filter system referred to as the Interim Ventilation System (IVS).

1.2 The following documents were reviewed:

- A. Waste Isolation Pilot Plant Hazardous Waste Facility Permit, Permit Number: NM4890139088-TSDF, dated Jan 16, 2016
- B. Letter to Mr. John Kieling, Chief, Hazardous Waste Bureau, New Mexico Environment Department, Notice of Planned Facility Alteration, dated Aug 26, 2014.
- C. Letter to Mr. John Kieling, Chief, Hazardous Waste Bureau, New Mexico Environment Department, Notice of Class 1 Permit Modifications, dated Feb 17, 2016.
- D. Applicable System Design Documents

a. Engineering Drawings

41-Z-117-W1	HVAC Legend
41-Z-117-W2	General Arrangement
41-Z-117-W3	Duct Sections
41-Z-117-W4	Duct Connection Details
41-Z-117-W5	Demolition Drawing
41-Z-117-W10	V&ID Legend
41-Z-117-W11	V&ID HEPA 01
41-Z-117-W12	V&ID HEPA 02
41-Z-117-W11 *	V&ID HEPA 01 As-built
41-Z-117-W12 *	V&ID HEPA 02 As-built

41-Z-117-W21	Foundation Plan
41-Z-117-W22	General Notes
41-Z-117-W23	Foundation Sections
41-Z-117-W25	Sub-plan Sections
41-Z-117-W26	Cable Tray Foundation Plan
41-Z-117-W32	Grading Plan
41-Z-117-W36	Electrical One-Line
41-Z-117-W37	Electrical UPS One-Line
41-Z-117-W40	Instrumentation Plan - Ducts
41-Z-117-W42	Grounding Plan
41-Z-117-W43	Grounding Details
41-Z-117-W44	Electrical Temporary One-Line
41-Z-117-W45	Electrical Temporary Equipment Plan
41-Z-117-W50	Temporary Wiring Diagram 1 Field
41-Z-117-W51	Temporary Wiring Diagram 2 Field
41-Z-117-W52	Temporary Wiring Diagram 3 Field
41-Z-117-W53	Temporary Wiring Diagram 4 JB's, FAP
41-Z-117-W54	Temporary Wiring Diagram 5 PLC
41-Z-117-W55	Temporary Wiring Diagram 6 PLC
41-Z-117-W56	Temporary Wiring Diagram 7 VFD
41-Z-117-W58	Fan Schematic Diagram
41-Z-117-W59	Dampers Schematic Diagram
41-Z-117-W64	E-house Wiring Diagram
41-Z-117-W66	Panel Schedules
41-Z-117-W67	Field Wiring Diagram 1
41-Z-117-W68	Field Wiring Diagram 2
41-Z-117-W69	Field Wiring Diagram 3
41-Z-117-W70	Field Wiring Diagram 4 JB's, FAP
41-Z-117-W71	413-CP-321-01 Wiring Diagram 1
41-Z-117-W72	413-CP-321-01 Wiring Diagram 2
41-Z-117-W73	413-CP-321-02 Wiring Diagram 1
41-Z-117-W74	413-CP-321-02 Wiring Diagram 2
41-Z-117-W75	Wiring Diagram VFD
41-Z-117-W76	Electrical Underground Details
41-Z-117-W77	Transformer Conduit Layout
41-Z-117-W78	VU01-JBX-0005 Motor Sensors Field
41-Z-117-W79	VU01-JBX-0006 Motor Sensors Field
41-Z-117-W80	Instrumentation Plan
41-Z-117-W81	Cable Tray Transits
41-Z-117-W82	Instrument Power Diagrams
41-Z-117-W86	Cable Tray Plan
41-Z-117-W87	VU01-JBX-0005 Motor Sensors
41-Z-117-W88	VU01-JBX-0006 Motor Sensors
41-Z-122-W1	Logic Interlocks Diagram
41-Z-122-W2	Logic State Transition Diagram
41-Z-122-W3	Instrument Details
41-Z-122-W4	Temporary Loop Diagrams
41-Z-122-W5	Temporary Loop Diagrams
41-Z-122-W6	Temporary Loop Diagrams
41-Z-122-W7	Temporary Loop Diagrams
41-Z-122-W8	Temporary Loop Diagrams
41-Z-122-W9	Temporary Loop Diagrams

41-Z-122-W10	Loop Diagrams
41-Z-122-W11	Loop Diagrams
41-Z-122-W12	Loop Diagrams
41-Z-122-W13	Loop Diagrams
41-Z-122-W14	Loop Diagrams
41-Z-122-W15	Loop Diagrams
41-Z-122-W16	Loop Diagrams
41-Z-122-W17	Loop Diagrams
41-Z-122-W18	Loop Diagrams
41-Z-122-W19	Loop Diagrams

** Indicates redlined, as-built drawing*

- b. Factory and Functional Testing Results
- c. Specifications

1.3 In addition to the document reviews, a site visit was conducted April 5-7, 2016 to inspect the constructed IVS system.

2. Identification of the Process and Facilities Being Confirmed as Compliant

2.1 The systems, structures, and components being confirmed as compliant are the modifications to the Underground Ventilation System known as the Interim Ventilation System (IVS). These modifications are required in order to provide increased filtered airflow to the underground portion of the site. The IVS is comprised of two filter banks, two fans, and associated ductwork, control and power equipment as shown on the drawings.

3. General Description of Confirmation Process

- 3.1 The construction and functional testing of the IVS was performed using the appropriate WIPP procedures and processes. The design and installation was performed by a New Mexico licensed installation contractor. Applicable documentation, work packages and test results are maintained according to WIPP procedures.
- 3.2 Design: The design of the Work was performed by a State of New Mexico National Institute for Certification in Engineering Technologies Level III Technician and reviewed and approved. The design documentation included the appropriate hydraulic calculations to validate Standard compliance. Appropriate Quality Assurance documentation reviews were completed.
- 3.3 Construction: Materials used in construction received the proper quality assurance identification and receipt inspection through the site-established procurement process. Appropriate material controls were provided through the site Quality Assurance and Warehouse inventory control procedures.
- 3.4 Functional Testing: The completed installation was tested to assure proper system integrity and operation, and test reports were provided for review. The actual test was not witnessed

directly by the New Mexico Professional Engineer. However, the test results were reviewed as a function of the engineering evaluation.

- 3.5 As-built documentation: The installation was reviewed and compared with the design documents.

4. System Inspection

- 4.1 Physical inspection of the installed system included verification of ductwork, supports, filter bank installation, electrical installations including motors, instrument installation, and identification of system components (tagging).

- 4.2 Compliance

The modified system is in compliance with current electrical, building, structural, and DOE standards.

Some design documents have not been updated at the time of this writing. NWP provided redline markups to show the as-built conditions of the system. The markups were field verified against the actual installed system. Configuration control requires that upon completion of startup the drawings are updated to accurately reflect the as-built conditions, and are maintained at the WIPP facility.

5. Statement of Confirmation

I confirm under penalty of law that this statement of confirmation was prepared under my supervision for NWP LLC. Based on my personal observations, as well as discussion with, and inquiries of those persons directly involved, the information in this certification is, to the best of my knowledge and belief, true, accurate, and complete. I therefore certify that the modification to the Underground Ventilation System was constructed in compliance with the Permit.

Very truly yours,



Thomas R. Gilmartin, P.E.
Principal Engineer
RJR Engineering, P.C.
New Mexico Certificate No. 23144, Expires 2016-12-31

