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NMED
Hazardous Waste Bureau

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

Subject: Completion of planned physical alteration to the Permitted Facility,
Hazardous Waste Facility Permit, No: NM4890139088 – TSDF

Reference: DOE Memorandum CBFO:OESH:GTB:ANC;13-0741:UFC:5400.00, from
Mr. Jose R. Franco and Mr. M. F. Sharif to John E. Kieling, dated June 17,
2013, subject: Notification of Planned Physical Alteration to the Permitted
Facility, Hazardous Waste Facility Permit, No: NM4890139088-TSDF

Dear Mr. Kieling:

The purpose of this letter is to transmit to your office the New Mexico Registered Professional Engineer (PE) statement certifying that the facility has been modified in compliance with the Waste Isolation Pilot Plant Hazardous Waste Facility Permit (Permit).

In a letter dated June 17, 2013, the Hazardous Waste Bureau was informed of the plans to modify the facility. The alterations were to include:

1. Rerouting the 3-inch fire water main pipe closer to the roof to provide more clearance for the contact-handled Bay Cranes;
2. Run new cross-mains north-south from the 3-inch fire water main above each TRUDOCK;
3. Add new branch lines east-west from the fire water cross-mains to each sprinkler head location;
4. Install equivalent pendant sprinkler heads instead of the original upright ones over each TRUDOCK; and,
5. Measure for Occupational Safety and Health Administration clearance and verify the National Fire Protection Association 13 compliance by hydro testing of the modified sprinkler system.

This notice of planned physical alteration to the Permitted Facility was made in accordance with Permit Condition Part 1, Section 1.7.11.1. These alterations are now completed. In accordance with Hazardous Waste Facility Permit Part 1, Section 1.7.11.2.i., we have enclosed a statement by a New Mexico Registered PE, that the facility has been modified in accordance with the Permit.

CBFO:OESH:GTB:ANC:13-0768:UFC 5486.00

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Mr. John E. Kieling

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We certify under penalty of law that this document and all attachments were prepared under our direction or supervision in accordance with 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 fine and imprisonment for knowing violations.

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

Sincerely,


for Jose R. Franco, Manager
Carlsbad Field Office


for M. F. Sharif, Project Manager
Nuclear Waste Partnership LLC

Enclosure

cc: w/enclosure

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Mr. T. P. Chambers
IWHE Manager
Nuclear Waste Partnership LLC
P.O. Box 2078
Carlsbad, NM 88220

September 4, 2013

Subject: MODIFICATION OF WASTE HANDLING BUILDING FIRE SUPPRESSION SYSTEM

Dear Mr. Chambers:

1. Introduction

- 1.1 This letter is the New Mexico professional engineer's determination required by Permit Part 1, 1.7.11.2.i. that the modifications to the Waste Handling Building fire suppression system (Work) 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 March 13, 2013.
- 1.2 The following documents were reviewed:
 - A. Waste Isolation Pilot Plant Hazardous Waste Facility Permit, Permit Number: NM4890139088-TSDF, revised March 13, 2013
 - B. National Fire Protection Association (NFPA) Standard 13, "Standard for the Installation of Sprinkler Systems" (2013 edition) (NFPA 13)
 - C. OSHA 1910.179 Overhead and Gantry Cranes (OSHA)
 - D. Applicable System Design Documents
 - a. NWP/WTS Drawing 41-S-003-W2 Revision R, Waste Handling Building 411 Fire Protection Sprinkler System P & ID
 - b. NWP Drawing 41-Z-111-W of the CH bay sprinkler piping modification
 - c. Original Fire Engineering Company, Inc. as-built drawing for job 97-604
 - d. Original Fire Engineering Company, Inc. hydraulic calculations

- e. Water pressure and flow data from fire hydrant No. 13, which is about 150 feet from the primary riser (411-V-002). An alternate riser (411-V-011) is an additional 100 feet away
 - f. NWP Work Order 1210854M for the CH bay sprinkler modification and Work Order 1213152C for optional flow obstruction testing
 - g. NWP hazard identification summary for Work Order 1210854M
 - h. Western States Fire Protection Company fire sprinkler (modification) plan
 - i. Western States Fire Protection Company hydraulic calculations
 - j. Western States Fire Protection Company materials list
 - k. WP 09-PC3041 Revision 8 NWP Procedure for Approval/Variation Request Processing
- 1.3 In addition to the document reviews, a site visit was conducted on September 4, 2013 to inspect the constructed works. This included witnessing the hydraulic pressure test of the modified system and checking the connections for leaks at system pressure.
- 1.4 The modified fire sprinkler system was documented by hydraulic calculation to comply with flow requirements for the modified area.
- 1.5 The modified fire sprinkler system was documented by hydraulic calculation to comply with flow requirements for the hydraulically most remote area.
- 1.6 The supports for the modified sprinkler system were documented by component calculation and drawing to comply with Standard requirements.
- 1.7 Crane clearances required per OSHA (1910.179(b)(6)(i)) were verified and recorded. This documentation was reviewed under Work Order 1210854M.

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 contact handled (CH) bay fire sprinkler piping. These modifications are required in order to provide OSHA-required clearances between the crane and other objects. The replacement includes tying into the existing supply main east and west of the CH bay, replacing existing 3-inch and a portion of the 2-1/2 inch main piping with new 3-inch piping and rerouting piping to new sprinklers in the CH bay that are in the same locations as the old sprinklers.
- 2.2 Two process requirements were established for the modification. The first was that the proposed modification would provide the required water flow for the Occupancy Classification of Ordinary Hazard (Group 2) per NFPA 13 to maintain the original design basis in the area of modification. This requirement establishes a minimum flow for a specified coverage area. The second requirement was that the sprinkler system with the modification would still be able to provide the required water flow for the hydraulically most remote area in the building as determined in the original system design.

- 2.3 One of the most significant factors in sprinkler piping system integrity is the physical supporting of the system. This requirement includes demonstrating that the system has been supported in accordance with NFPA 13.

3. General Description of Confirmation Process

- 3.1 The construction and functional testing of the Work was performed using the appropriate Waste Isolation Pilot Plant 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 A review and assessment of each specific criterion was performed with a knowledgeable individual cognizant of the item, its configuration, and the required performance. The applicable criterion is NFPA 13.
- 3.3 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 NFPA 13 compliance. Appropriate Quality Assurance documentation reviews were completed.
- 3.4 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. The Work was installed per plans with appropriate controls through the established WIPP work control process via Work Order 1210854M.
- 3.5 Functional Testing: The completed installation was tested to assure proper system integrity and operation. The system was hydrostatically tested and the OSHA crane clearance distance was verified.
- 3.6 As-built documentation: The installation was reviewed and compared with the design standards. The Work was documented using WP09-CN3007.

4. System Inspection

- 4.1 The following tests were performed:
- Physical inspection of the installed system
 - Hydrostatic testing of the new piping
 - Inspection of connections to existing piping
 - Test of the water flow alarm at the fire alarm control panel

4.2 Compliance

The modified sprinkler system complies with the requirements of Permit Part 2, Section 2.10.1.4., *Water for Fire Control*, which states: "The Permittees shall have water at adequate volume and pressure to supply water-hose streams, foam-producing equipment, automatic sprinklers, or water-spray systems, as required by 20.4.1.500 NMAC (incorporating 40 CFR§264.32(d))."

5. Statement of Confirmation

I confirm under penalty of law that this statement of confirmation was prepared under my supervision for Nuclear Waste Partnership 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 CH bay, fire sprinkler system was constructed in compliance with the Permit.

Very truly yours,

PARSONS BRINCKERHOFF



Kenneth J. Harris, P.E.
Senior Supervising Engineer
New Mexico Certificate No. 21801 Expires 31 December 2014

