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NEW MEXICO
ENVIRONMENT DEPARTMENT

*Ground Water Quality Bureau*

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EP2013-5103

**CERTIFIED MAIL – RETURN RECEIPT REQUESTED**

May 2, 2013

Ms. Alison Dorries, LANS-EP-RS
Los Alamos National Secuirty, LLC
P.O. Box 1663 MS K404
Los Alamos, NM 87545

Mr. Gene Turner, DOE/AIP/POC
U.S. Department of Energy
Los Alamos Site Office, MS A316
528 35th Street
Los Alamos, NM 87545

U1301153

RE: Temporary Permission to Discharge, Treated Well Development and Pump Test Ground Water Discharge at Regional Monitoring Well R-42, DP-1793 (AI:856, PRD20130003)

Dear Mr. Turner and Ms. Dorries:

The New Mexico Environment Department (NMED) has reviewed your request for temporary permission, dated February 28, 2013 (copy enclosed) to discharge no more than 4,800,000 gallons of treated industrial wastewater generated from a proposed regional monitoring well R-42 pump test and dye tracer study. Ground water in the area of R-42 has been determined to contain chromium at levels that exceed the Water Quality Control Commissions (WQCCs) standard. The water generated during the pump test is to be stored in above ground tanks (frac tanks) and treated to remove chromium using an ion exchange treatment system. Treated water will be temporarily stored in two 160,000 gallon synthetically lined lagoons and then land applied on approximately 77 acres of roadways and six acres of open areas in the vicinity of regional monitoring well R-42. The proposed discharge is located in Mortandad Canyon, approximately three miles southeast of Los Alamos in Section 24, Township 19N, Range 06E, within the boundaries of Los Alamos National Laboratory, Los Alamos County.

Temporary permission to discharge is hereby granted, for a duration not to exceed 120 days from the date discharge commences, pursuant to Subsection B of 20.6.2.3106 NMAC of the New Mexico WQCC Regulations. This approval is contingent on your discharging and reporting as described in your February 28, 2013 request and upon the following conditions:

1. NMED shall be notified within 5 business days of the date discharge commences.
2. The two 160,000 gallon synthetically lined treated water storage lagoons shall be constructed in accordance with the plans and specifications submitted by LANL to NMED on March 15, 2013.
3. LANL shall implement measures to restrict access of unauthorized personnel and wildlife to the two 160,000 gallon synthetically lined lagoons.
4. Both synthetically lined lagoons shall maintain no less than two-foot freeboard at all times.
5. Water generated from the pump testing of monitoring well R-42 shall be contained and treated to a chromium concentration equal to or less than 0.05 mg/L prior to discharge.
6. Land application of water derived from monitoring well R-42 shall not exceed a nitrate-nitrogen concentration greater than 10 mg/L.
7. The total volume of treated water discharged shall be recorded and submitted to NMED with the final project report.
8. Land application of the treated water shall not occur in a watercourse or result in run-off to a watercourse.
9. Land application of the treated water shall not result in ponding.
10. Land application shall be conducted in a manner that minimizes potential impacts to ground water quality and maximizes evaporation.
11. Treatment of contaminated water and land application of the treated water is restricted to daylight hours and a maximum of 10 hours per day.
12. Land application of the treated water must be supervised at all times.
13. Land application of the treated water is prohibited while precipitation is occurring or during times when the ground is saturated or frozen to the extent that land applied water cannot be absorbed.
14. During treatment, LANL shall collect a daily grab sample of the treated water at a point prior to being discharged to the synthetically lined lagoons and analyze the sample for nitrate-nitrogen ($NO_3$-N). All sample collection, preservation and analysis shall conform to the methods identified in Subsection B of 20.6.2.3107 NMAC of the WQCC Regulations. All analytical results shall be submitted to NMED with the final project report.
15. During treatment, LANL shall collect successive composite samples of the treated water and analyze the samples for chromium. Each composite sample shall consist of aliquot samples taken at a point prior to being discharged to the synthetically lined lagoons. Aliquots shall be taken in intervals approximately three hours apart until the storage lagoon is full (while still maintaining the required two-foot of freeboard). All sample collection, preservation and analysis shall conform to the methods identified in Subsection B of 20.6.2.3107 NMAC of the WQCC Regulations. All analytical results shall be submitted to NMED with the final project report.
16. Discharges from the lagoons to the land application areas shall only commence following confirmation that the treated water analytical results for nitrate-nitrogen and chromium concentrations do not exceed 9.0 mg/L and 0.045 mg/L respectively (90% of the applicable WQCC Standards for ground water).
17. Should the analytical results for a sample indicate nitrate-nitrogen or chromium at a concentration greater than 9.0 mg/L or 0.045 mg/L respectively, treated water shall not be land applied. LANL shall notify NMED of analytical results which exceed 9.0 mg/l Nitrate-nitrogen and 0.045 mg/L chromium and shall propose corrective actions to NMED to remedy

the situation. Following NMED's approval for the implementation of corrective actions discharge may resume.

18. Following final cessation of discharge, the treatment system and synthetically lined storage lagoons shall be properly disposed of in accordance with all local, state and federal laws and regulations. A summary describing final disposition of treatment units and temporary lined lagoons shall be submitted to NMED in the final project report.
19. A final project report shall be submitted to NMED within 30 days of the final cessation of discharge. The report shall provide the total volume of treated water discharged and the analytical results of the nitrate-nitrogen and chromium analyses for the project, and identify the locations that received the treated water.

This temporary permission does not relieve you of the responsibility to comply with any other applicable federal, state, and/or local laws and regulations, such as zoning requirements and nuisance ordinances. Also, this approval does not relieve you of liability should your operation result in actual pollution of surface or ground waters.

If you have any questions, please contact Jennifer Fullam of the Ground Water Pollution Prevention Section at 505-827-2909.

Sincerely,

FOR Jerry Schoeppner, Chief
Ground Water Quality Bureau

JS:JF

Enc: Request for Temporary Permission dated February 28, 2013

cc: Robert Italiano, District Manager, NMED District II
NMED Santa Fe Field Office
County File
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Erin Trujillo, NMED SWQB
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