State of New Mexico
ENVIRONMENT DEPARTMENT

Office of the Secretary

SUSANA MARTINEZ
Governor

JOHN A. SANCHEZ
Lieutenant Governor

Harold Runnels Building
1190 Saint Francis Drive, PO Box 5469
Santa Fe, NM 87502-5469
Telephone (505) 827-2855 Fax (505) 827-1628
www.env.nm.gov

BUTCH TONGATE
Cabinet Secretary

J. C. BORREGO
Deputy Secretary

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

November 21, 2017

Doug Hintze, Manager
U.S. Department of Energy
EM-Los Alamos Field Office
LANL MS-M984
P.O. Box 1663
Los Alamos, NM 87545-1663

Bruce Robinson
Program Director
Environmental Remediation Associate
Los Alamos National Laboratory
P.O. Box 1663, MS M991
Los Alamos, NM 87545

U1701746

RE: PATH FORWARD IN RESPONSE TO NMED'S SEPTEMBER 1, 2017 NOTIFICATION TO TEMPORARILY LIMIT INJECTION INTO CrIN-1 AND CrIN-6, DISCHARGE PERMIT DP-1835
EPA ID#NM0890010515
HWB-LANL-MISC

Dear Messrs. Hintze and Robinson:

The New Mexico Environment Department ("NMED") has received the United States Department of Energy ("DOE") and the Los Alamos National Security L.L.C.'s ("LANS") (collectively, the "Permittees") correspondence titled *Path Forward in Response to NMED's September 1, 2017 Notification to Temporarily Limit Injection into CrIN-1 and CrIN-6, Discharge Permit DP-1835* ("Response") dated October 19, 2017 and referenced by LA-UR-17-28466. The Permittees' Response addresses the injection of treated water into the regional aquifer as part of the Permittees' planned functional and operational test of the interim measure ("IM") well system. NMED has reviewed the Permittees' Response and provides the following for clarification and contextual purposes, in relation to the IM for the chromium plume, and also provides the Permittees direction specific to the Permittees' planned operational testing and associated 10-day (maximum) injection at CrIN-6.

The NMED Ground Water Quality Bureau ("GWQB") Discharge Permit 1835 ("DP-1835") allows for the discharge of pumped and treated water into the regional aquifer through up to six Class V Underground Injection Control ("UIC") wells at Los Alamos National Laboratory ("LANL") in support of the IM for the chromium plume. The IM is addressed in the 2016 Compliance Order on Consent ("Consent Order") between DOE and NMED that is implemented and enforced by NMED's Hazardous Waste Bureau ("HWB"). The Permittees' submitted an *Interim Measures Work Plan for Chromium Plume Control* ("IM Work Plan") to NMED's HWB on May 26, 2015. NMED approved the IM Work Plan on October 15, 2015. The Permittees submitted the *Drilling Work Plan for Groundwater Injection Well CrIN-6* ("CrIN-6 Drilling Work Plan") on December 13, 2016. The CrIN-6 Drilling Work Plan was approved by NMED on January 4, 2017. The installation of CrIN-6 was completed in July 2017. At the conclusion of aquifer testing at CrIN-6, chromium concentrations ranged from 250 to 270 ppb.

On September 28, 2017, the Permittees met with GWQB and HWB staff to present their proposed operational-test work plan consisting of four test activities including one 5-day pumping test at CrIN-6 and three extraction, treat and re-injection scenarios. The three test-activity scenarios include extraction at the three CrEX wells with concurrent injection at select CrIN wells. NMED concurs with the Permittees proposed plan with the exception of injection at CrIN-6. Given the uncertainties in the vertical and horizontal extent of chromium contamination associated with CrIN-6 and the lack of adequate knowledge concerning the groundwater-flow regime surrounding and downgradient of CrIN-6, postponing operational injection testing at CrIN-6 is the most responsible path forward. The Permittees should submit an updated model as well as submit the following information: 1) all numerical modeling input parameters, including uncertainties and technical defensibility, along with modeling results (i.e., predictions), that reflect new data inputs, including data inputs from CrIN-1 and CrIN-6, through July 2017; 2) model-based particle tracking analyses and results specific to short-duration hydraulic flooding at CrIN-6; and 3) capture-zone delineations for CrIN-6 by **March 30, 2018**. More robust characterization of the plume and the associated hydrology in the area around CrIN-6 along with updated modeling predictions, particle tracking, etc., will provide NMED and the Permittees a better understanding of what effect operational-test injection at CrIN-6 will have on the plume.

NMED approves the following test activities:

1. Conduct a five to seven-day pumping test at CrIN-6 with treatment of contaminated groundwater;

2. Pumping at CrEX (extraction) wells 1, 2 and 3, treatment of pumped groundwater, and re-injection at CrIN (injection) wells 1, 3, and 5 for up to 10 days;

3. Pumping at two or three CrEX wells (1, 2 and 3), treatment of pumped groundwater, and re-injection at CrIN wells 2 and 4 for up to 10 days; and

4. Pumping at two or three CrEX wells (1, 2 and 3), treatment of pumped groundwater, and re-injection at CrIN wells 4 and 5, for 5 to 10 days.

The Permittees must submit a schedule for operational testing to NMED by November 20, 2017. The schedule can be submitted through written correspondence and or via E-mail.

Additionally, NMED agrees with the Permittees that IM actions specific to injection at CrIN-3, CrIN-4 and CrIN-5 near the facility boundary with the Pueblo de San Ildefonso should be restored or re-initiated as soon as possible so that IM plume-control performance requirements can be monitored and assessed accordingly.

If you have any questions regarding this correspondence, please contact John Kieling, HWB Chief, at 505-476-6035.

Sincerely,

JCBr

Juan Carlos Borrego
Deputy Secretary
Acting Resource Protection Division Director

cc: J. Kieling, NMED HWB
N. Dhawan, NMED HWB
M. Dale, NMED HWB
B. Yurdin, NMED WPD
M. Hunter, NMED GWQB
S. Pullen, NMED GWQB
S. Lucas Kamat, NMED DOE OB
S. Yanicak, NMED DOE OB, MS M894
L. King, EPA 6MM-RC
R. Martinez, Pueblo de San Ildefonso
D. Chavarria, Santa Clara Pueblo
C. Rodriguez, DOE-EM-LA, MS A216
J. Buckley, LANL, ADESH-EPC-CP, MS K490
K. Ellers, LANL, ADEM, MS M992
S. Swickley, LANL, ADEM ER, MS M992

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