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# Los Alamos National Laboratory

*Environment, Safety, and Health Division*

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Date: March 18, 1999  
Refer to: ESH-DO:99-48

NPDES 79-50

Mr. Samuel Coleman, P. E., Director  
Compliance Assurance and Enforcement Division (6-EN)  
U. S. Environmental Protection Agency  
1445 Ross Avenue  
Dallas, Texas 75202-2733

**SUBJECT: NOTICE OF PLANNED CHANGE AT NPDES OUTFALL 051,  
NPDES PERMIT NO. NM0028355**

Dear Mr. Coleman:

The National Pollutant Discharge Elimination System (NPDES) Permit No. NM0028355 for Los Alamos National Laboratory requires the permittee to notify the U. S. Environmental Protection Agency (EPA) regarding any physical alterations or additions to the permitted facility that could significantly change the nature or increase the quantity of pollutants discharged. In accordance with Part III.D.1.a. of the NPDES Permit issued to the Laboratory on August 1, 1994, I am providing this notification regarding the installation of planned upgrades and changes in the waste streams contributing to the effluent flow at the Technical Area 50, Radioactive Liquid Wastewater Treatment Facility (TA-50 RLWTF).

In order to meet the Department of Energy's Derived Concentration Guidelines (DOE DCGs) concerning radioactive constituents established by DOE Order 5400.5 and to meet ground water discharge requirements for nitrate established by the New Mexico Water Quality Control Commission (NMWQCC) Regulations, the TA-50 RLWTF is upgrading its current treatment processes. Upgrades include tubular ultrafiltration followed by reverse osmosis (RO). These upgrades will enable the TA-50 RLWTF to meet the DOE DCGs. The treatment process upgrades have been installed and tested on non-radioactive water and are expected to begin operation with radioactive water in March, 1999. The above mentioned TA-50 RLWTF upgrades were included in the Laboratory's NPDES Permit Re-Application submitted on May 4, 1998, and in a Notice of Changed Condition letter to the EPA dated February 14, 1997.

Compliance at the TA-50 RLWTF outfall with the NMWQCC ground water standard for nitrate will be attained by March 21, 1999, by generator restrictions on nitrogen containing wastes and by a chemical denitrification treatment process. The Laboratory has selected mechanical evaporation as the long-term process for the removal of essentially all the salts and contaminants in the reverse osmosis reject stream. It is the Laboratory's goal to have a mechanical evaporator operational within 18 months. The mechanical evaporator also will support the Laboratory's goal of zero liquid discharge of effluent from the TA-50 RLWTF.

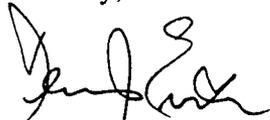


To ensure compliance with the NMWQCC ground water standard for nitrate, the Laboratory will implement a short-term operational plan until the mechanical evaporator becomes operational. The short-term operational plan involves the temporary storage of this liquid. Temporary storage of the acid and caustic process streams from TA-55 is also an integral part of the interim operational plan.

The Laboratory is planning to pretreat small quantities of highly concentrated nitrate waste streams using a non-thermal chemical denitrification process that converts nitrate to nitrogen gas. The chemical denitrification process will treat approximately 120 gallons per month of nitrogenous chemical waste and discharge the treated wastewater to the headworks of the TA-50 RLWTF (See Attachment). A description of the treatment process is enclosed for your review. Please note, the treatment process description is proprietary material and should be handled as "Official Use Only" information. The Laboratory expects the chemical denitrification process to be operational by late March or early April, 1999. The Laboratory is providing this notice because the chemical denitrification process was not included in the Laboratory's Permit Re-Application dated May 4, 1998. The upgrades to the TA 50 RLWTF will significantly improve effluent discharged at Outfall 051.

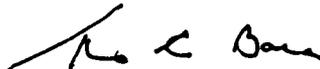
Please contact Mike Saladen of the Laboratory's Water Quality and Hydrology Group at (505) 665-6085 if you have any questions or need additional information.

Sincerely,



Dennis J. Erickson  
Division Director  
Environment, Safety, and Health Division

Sincerely,



Thomas E. Baca  
Division Director  
Environmental Management Division

DJE:TEB:MS/em

Enclosures: a/s

Attachments: a/s

Cy: E. Spencer, USEPA, Region VI, Dallas, Texas, w/att.  
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Cy (continued):

S. Hanson, EM-RLW, w/att., MS E518  
P. Worland, EM-RLW, w/att., MS E518  
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I. Triay, CST-7, w/att., MS J514  
R. Michelotti, CST-7, w/att., MS H514  
J. Dziewinski, CST-7, w/att., MS J514  
S. Rae, (ESH-18/WQ&H:99-0036), ESH-18, w/att., MS K497  
M. Saladen, ESH-18, w/att., w/enc., MS K497  
B. Beers, ESH-18, w/att., w/enc., MS K497  
T. Sandoval, ESH-18, w/att., MS K497  
H. Decker, ESH-18, w/att., MS K497  
N. Williams, ESH-18, w/att., MS K497  
A. Puglisi, ESH-19, w/att., MS K490  
D. Post, NMT-DO, w/att., MS G745  
D. Woitte, LC-GEN, w/att., MS A187  
CIC-10, w/att., MS A150  
ESH-DO File, w/att., MS K491  
WQ&H File, w/att., MS K497

Figure 1.0

ATTACHMENT

