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Water Quality & RCRA Group (ENV-RCRA)*
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Date: April 20, 2009
Refer To: ENV-RCRA-09-068
LA-UR: 09-02488

Mr. Gerald Knutson
Ground Water Pollution Prevention Section
Ground Water Quality Bureau
New Mexico Environment Department
1190 St. Francis Drive
P.O. Box 26110
Santa Fe, New Mexico 87502



SUBJECT: REQUEST FOR ADDITIONAL INFORMATION, DP-857, LOS ALAMOS NATIONAL LABORATORY, TA-46 SWWS PLANT

Dear Mr. Knutson:

During our April 3, 2009, telephone conversation you requested additional information for discharge permit DP-857 for Los Alamos National Laboratory's (the Laboratory) TA-46 Sanitary Wastewater Systems (SWWS) Plant. You indicated that additional information was needed in order for the NMED to complete its technical evaluation of the Laboratory's August 27, 2002, renewal request for discharge permit DP-857 (RRES-WQH-02-328). Specifically, you requested information on the sources of non-domestic wastewater discharged to the TA-46 SWWS Plant.

Enclosure 1, *2004 NPDES PERMIT RE-APPLICATION OUTFALL FACT SHEET*, and Enclosure 2, *EPA Form 2C for NPDES Outfall 13S*, were submitted to the Environmental Protection Agency (EPA), Region 6, on July 30, 2004, as supporting documentation for the Laboratory's NPDES outfall permit re-application. These two enclosures contain information relevant to your request regarding the sources of non-domestic wastewater discharged to the TA-46 SWWS Plant.

Please contact me at (505) 667-7969 if you have any questions regarding this information.

Sincerely,

Bob Beers
Water Quality & RCRA Group



BB/lm

Enclosures: a/s

Cy: William Olson, NMED/GWB, Santa Fe, NM
Robert George, NMED/GWPPS, Santa Fe, NM
Glenn Saums, NMED/SWQB, Santa Fe, NM
James Bearzi, NMED/HWB, Santa Fe, NM
Steve Yanicak, LASO-GOV, J993
Gene Turner, LASO-EO, A316
Michael B. Mallory, PADOPS, A102
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ENCLOSURE 1

2004 NPDES PERMIT RE-APPLICATION OUTFALL FACT SHEET

OUTFALL #	OUTFALL LOCATION (TA-Bldg.)	OUTFALL CATEGORY	RECEIVING STREAM
13S	TA-46-347	13S	Sandía Canyon and/or Canada del Buey

Source of Discharge

Influent to the Sanitary Wastewater Systems (SWWS) facility is typical of influent contributed to a Publicly Owned Treatment Works (POTW) operated by a municipality. The influent is primarily derived from sanitary waste sources (toilets, lavatories, and showers), but also contains contributions from food preparation facilities, mechanical repair shops, photographic darkrooms, environmental restoration waste, and various other industrial and research type activities. In an effort to reduce and/or eliminate contributions of industrial and chemical waste into the sanitary systems, the Laboratory implemented and completed the Waste Stream Characterization Program (WSC). This effort was initiated to determine which facilities contributed influent to the SWWS plant and assure that measures are in place to eliminate discharge of incompatible materials. In concert with inspections, warning signs have been installed on drains and the Laboratory has established Waste Acceptance Criteria (WAC) to further restrict such wastes from being discharged to the sanitary sewer.

This outfall discharges treated sanitary wastewater, cooling water, and process water and storm water collected from locations Laboratory-wide. A list of buildings discharging to the SWWS facility was provided to the EPA and NMED in the Notice of Changed Condition letter of April 21, 1997 (ESH/WQ&H: 97-0120).

Water Treatment Process

Based on current operations the following treatment codes for the SWWS plant are:

- 1-M grit removal, 1-T screening, 2-F dechlorination (not currently in use), 2-H disinfection (other) (MIOX), 3-A activated sludge, 3-D nitrification/denitrification, 4-C reuse/recycle of treated effluent, 5-H drying beds, and 5-Q Landfill.

The following treatment chemicals may be used at the SWWS Plant as needed:

Soda Ash

Polymer 1120

MIOX Combined Anolyte and Catholyte Solutions

Equivalent treatment chemicals from various manufacturers may be used in the future if necessary.

Potential Pollutants

The influent is primarily derived from sanitary waste sources (toilets, lavatories, and showers), but also contains contributions from food preparation facilities, mechanical repair shops, photographic darkrooms, various other industrial and research type activities and treatment chemicals constitute the majority of the pollutant load of the

discharge and are listed in the corresponding Form 2C of this application. De-minimus flows from floor drains are also possible. Pollutants listed on the MSDS sheets include:

Soda Ash – No hazardous components.

Polymer 1120 – No hazardous components.

MIOX Combined Anolyte and Catholyte Solutions – $\text{Cl}_2/\text{HOCl}/\text{OCl}^-$ Chlorine gas/Hypochlorous acid/Hypochlorite Ion (as Cl_2 equivalent), H_2 Hydrogen Gas dissolved in solution, NaOH Sodium Hydroxide (pH < 12.0).

Discharge Rate and Frequency

- Discharge flow rates from November 1, 1997 to December 31, 2003 were used for the permit Reapplication. Discharge from the outfall is a continuous flow.
- The design capacity of the SWWS facility is 690,000 gallons per day (gpd).
- The long term average discharge rate is 298,000 gpd.

Sampling and Analysis for Re-application

- Composite samples were obtained for the Permit Re-application from this outfall on March 30 through March 31, 2004.

Analytical Results Provided

- In addition to results provided in the Form 2C Application, a copy of the NPDES Discharge Monitoring Reports (DMR's) summary from November 1, 1997 to December 31, 2003 is provided with this application.
- MSDS sheets for treatment chemicals are provided with the Form 2C

Additional Information

- Latitude = $35^{\circ} 51' 08''$
- Longitude = $106^{\circ} 16' 33''$
- Treated effluent is used in several cooling towers as a water conservation and waste minimization project.
- Analytical data for the receiving stream (Sandia Canyon and Cañada del Buey) can be found in the Laboratory's Environment Surveillance Reports.
- Copies of the Notice of Changed Conditions for MIOX treatment and the TA-46 Effluent Reuse System are included as an appendix with this Permit Re-application.
- Copies of Notice of Changed Condition were submitted to EPA and NMED for the MIOX treatment and TA-46 Effluent Reuse System.

