

201: TA 50



Los Alamos

NATIONAL LABORATORY

*Los Alamos National Laboratory
Los Alamos, New Mexico 87545*

Date: January 31, 2002
In Reply Refer To: ESH-18/WQ&H:02-025
Mail Stop: K497
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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

FEB 6 2002

**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 Section III.D.1.a. of the NPDES Permit issued to the Laboratory on February 1, 2001, we are providing this notification regarding the installation of the perchlorate treatment upgrade at the Technical Area 50, Radioactive Liquid Wastewater Treatment Facility (TA-50 RLWTF).

Pilot testing of ion exchange resins at the TA-50 RLWTF has demonstrated that perchlorate can be removed from effluent to below 4 parts per billion (ppb) on a bench-scale. The use of a full-scale ion exchange treatment process should substantially reduce perchlorate concentrations in the plant effluent.

A strong base anion exchange resin, Sybron Inc. SR-7, is proposed for use. This resin has proven capability to remove the perchlorate in the effluent for more than 15,000 bed volumes. Installation of a perchlorate removal process using 54 cubic feet of SR-7 ion exchange resin will remove perchlorate from 23 million liters of effluent. This is approximately equal to one year of radioactive liquid waste effluent from the facility. All tubular ultra-filter effluent will be treated by the ion exchange process to remove perchlorate. Effluent from the ion exchange process will then be discharged to the environment via NPDES Outfall 051 or will be sent for further processing by reverse osmosis (See Enclosure 1).

Six ion exchange vessels in a parallel flow arrangement are proposed. Each vessel will treat 11.7 gallons per minute. Total flow through the columns, therefore, will be 70 gallons per minute. Resin vessels showing breakthrough of perchlorate will be removed from service and replaced with a new vessel with fresh resin. Ion exchange resin with chemically attached perchlorate ions will be incinerated off-site. It is expected that the treatment upgrade to the TA-50 RLWTF will significantly improve effluent discharged at NPDES Outfall 051. Estimated completion date for this project is March 31, 2002.

January 31, 2002

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,

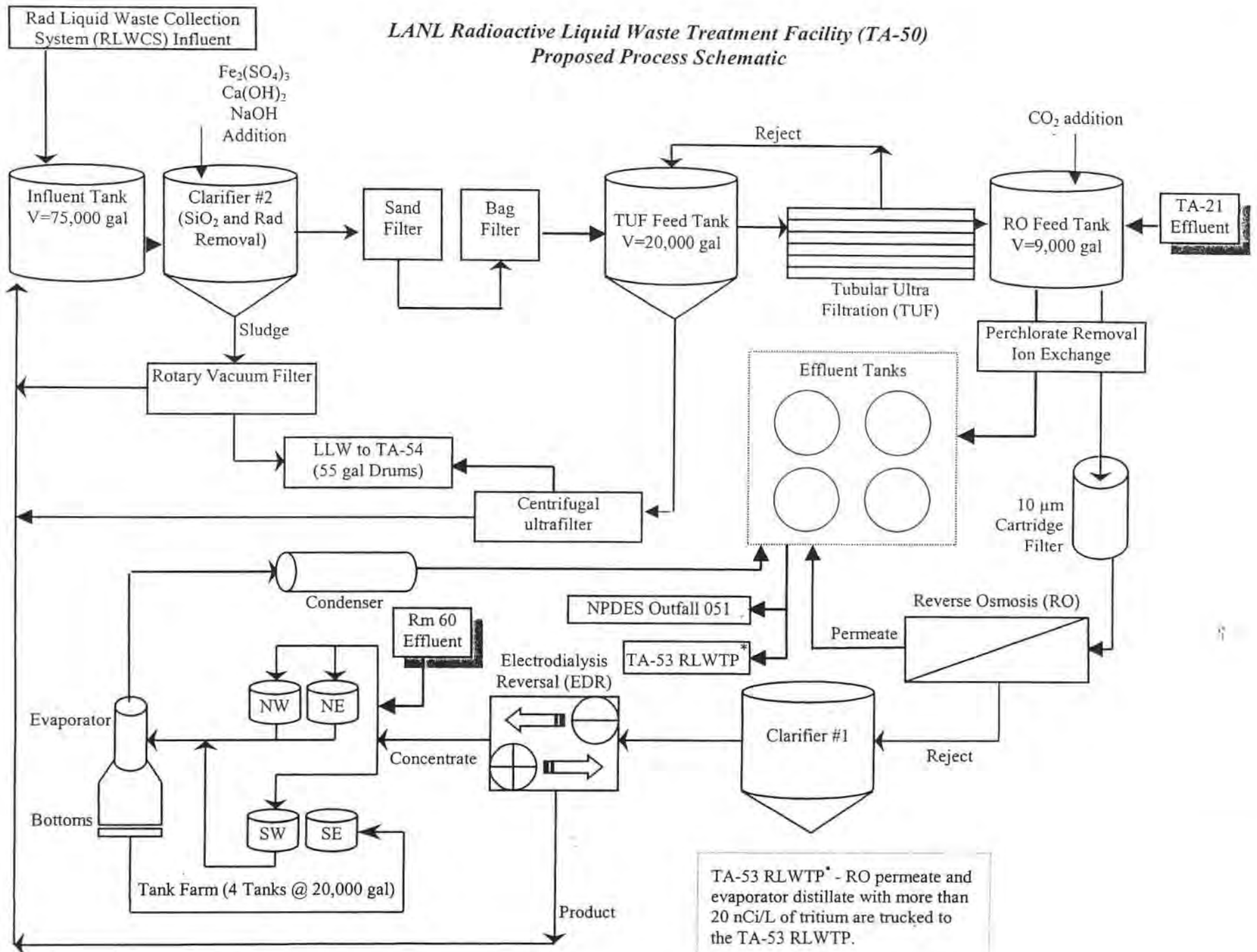


Steven Rae
Water Quality and Hydrology Group

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WQ&H File, w/enc., MS K497
IM-5, w/enc., MS A150

**LANL Radioactive Liquid Waste Treatment Facility (TA-50)
Proposed Process Schematic**



TA-53 RLWTP* - RO permeate and evaporator distillate with more than 20 nCi/L of tritium are trucked to the TA-53 RLWTP.