APPENDIX K

LA-UR-11-01005, Radioactive Liquid Waste Treatment Facility Annual Report for 2009 (February 2011)

Table 2-2
TA50 Low-level RLW Flow Summary During 2009

Date	Influent (Liters)	No. of Discharges	Discharged (Liters)
Jan-09	365,691	4	299,300
Feb-09	285,860	4	301,100
Mar-09	419,858	7	524,300
Apr-09	456,239	5	372,400
May-09	368,572	5	377,400
Jun-09	383,284	5	343,900
Jul-09	485,445	6	440,500
Aug-09	363,910	6	453,300
Sep-09	364,317	6	458,000
Oct-09	313,725	4	303,500
Nov-09	389,370	3	226,900
Dec-09	348,117	4	301,300
Total	4,544,388	59	4,401,900

2.2 Effluent Quality: Low-level RLW

Three agencies monitor the quality of treated waters discharged from the TA50 RLWTF into Mortandad Canyon. The United States Department of Energy (DOE) regulates discharges of radioactive materials via Order 5400.5, "Radiation Protection of the Public and the Environment" (DOE, 01/17/93). The United States Environmental Protection Agency (USEPA) regulates 18 parameters via NPDES permit number NM0028355 (EPA, 06/08/07). LANL also has voluntary commitments (a) to the New Mexico Environment Department (NMED) to meet groundwater standards for fluoride, nitrate-nitrogen and total dissolved solids, (b) to the NMED to meet a proposed discharge standard for perchlorates, and (c) to the DOE to limit tritium to the drinking water standard.

During calendar year 2009, TA50 RLWTF effluent:

- met all DOE standards set forth in Order 5400.5 for radiological discharges;
- met all NPDES discharge standards except for one analysis for pH.
- met all voluntary standards exept for one weekly measurement for nitrate.

DOE: Effluent radiological quality during 2009 is illustrated in Figure 2-1, a plot of sum-of-ratios for each month. The average sum-of-ratios for the year was 0.24, or approximately one-fourth of the DOE discharge standard. RLWTF effluent has been compliant with the standard for 118 of the past 120 consecutive months[1].

[1] The monthly sum-of-ratios for discharge of radionuclides was 1.28 in January 2002 and 1.19 in February 2002, versus the DOE Guideline of 1.0.