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Los Alamos
NATIONAL LABORATORY

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

Date: July 3, 1997
In Reply Refer To: ESH-18/WQ&H:97-0190
Mail Stop: K497
Telephone: (505) 665-1859

TA 50

Mr. Sam 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 CHANGED CONDITIONS AT NPDES OUTFALL 051

Dear Mr. Coleman:

On May 21, 1997, and May 28, 1997, Mike Saladen of the Laboratory's Water Quality and Hydrology Group (ESH-18) discussed the following information with Everett Spencer and Fred Humke, of your staff. Mr. Saladen was advised to submit this notification of changed condition since these types of operations were not specified in the Laboratory's NPDES Permit Re-Application, dated August 31, 1990.

In accordance with Part III, Section III.D.1.a of the National Pollutant Discharge Elimination System (NPDES) Permit issued to the Los Alamos National Laboratory (Laboratory) on August 1, 1994, I am providing this notification of change in the waste streams contributing to the effluent discharged at outfalls authorized under NPDES Permit No. NM0028355.

In support of the Laboratory's NPDES Permit Re-Application, the Laboratory submitted an NPDES Application Form 2C on August 31, 1990, for the TA-50 Radioactive Liquid Waste Treatment Plant (RLWTP). In the transmittal letter, it was noted that the information used in preparation of the 1990 NPDES Permit Re-Application was collected at Laboratory outfalls over an 18 month period and represented the best available information to the Laboratory at the time. However, since that time, additional waste streams have been identified. The NPDES Re-Application did not identify liquid waste streams derived from Environmental Restoration (ER) Project activities which are disposed into the TA-50 RLWTP. Most of the ER wastewater is derived from activities (e.g. decontamination of field equipment, well purging, etc.) at Potential Release Sites around the Laboratory. A summary of the ER Project activities, waste streams, estimated volumes and potential contaminants of concern that may be disposed at TA-50 RLWTP are included in Attachment 1. Locations of Potential Release Sites that may produce wastewater for disposal at TA-50 RLWTP are identified in Attachments 2 and 3.

Attachment 1 also lists other waste streams flowing to the TA-50 RLWTP which were not identified in the Laboratory's original re-application. These include wastewater originating from the decontamination of Personal Protective Equipment (PPE), containment vessels, and materials used for shielding purposes. The Laboratory has also identified trace amounts of accelerator produced isotopes discharging to the TA-50 RLWTP during its annual RLWTP Collection System Survey. These are reported on Attachment 4.

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The treatment technologies currently used at TA-50 RLWTP include primary neutralization, chemical flocculation, precipitate settling, filtration, sludge de-watering and/or solidification via cementation. The solidified waste is transferred from TA-50 to TA-54, Area G, for storage and disposal. Treated effluent from the TA-50 RLWTP is discharged into Mortandad Canyon at NPDES Outfall 051. There are 20,885 gallons of effluent per each effluent tank batch discharged. Typically, the TA-50 RLWTP discharges 0 to 2 tanks of treated effluent on a run day resulting in daily volumes of 0 gallons per day (gpd) to 41,770 gpd. The TA-50 RLWTP runs 4 to 6 days per week. During a typical week the TA-50 RLWTP discharges between 2 and 8 tanks of treated effluent. The large variability in the discharge quantities is due to fluctuations in influent flow. Based on these figures, it is estimated that the TA-50 RLWTP will discharge between 104 and 416 times during the year, or between 2.17 million gallons per year (MGY) and 8.69 MGY. During 1996, the ER effluent derived waste and wastewater from decontamination activities discharged approximately 40, 000 gallons into the TA-50 RLWTP. The Laboratory anticipates fluctuations in influent at the TA-50 RLWTP based on ER clean up schedules. Operational samples are collected prior to each batch discharge to ensure compliance with the Laboratory's NPDES Permit limits.

Additionally, an integral part of the TA-50 RLWTP's operation is the Laboratory's program for administratively controlling influent quality. Each group or division that generates radioactive liquid waste is represented by a Waste Management Coordinator (WMC), the primary contact between generators and RLWTP personnel. A waste profile form is completed for all waste streams discharged to the TA-50 RLWTP. Potential contaminants of concerns from ER sites are also identified in the Resource Conservation and Recovery Act Facility Investigation (RFI) documents prepared by the Laboratory's Environmental Restoration (ER) Group. Analytical data is available upon request. The WMC must ensure that:

(1) Waste streams not identified and listed under the Laboratory's NPDES permit are not discharged into the TA-50 RLWTP collection system.

(2) Operating personnel are familiar with pertinent administrative requirements, and waste management regulations.

(3) The wastewater does not exceed the recommended limits set forth in the TA-50 RLWTP's Waste Acceptance Criteria (WAC). A Waste Profile Form must be provided for any ER effluent derived waste that discharges to the TA-50 RLWTP.

(4) Listed hazardous waste are not discharged into the RLWTP collection system.

(5) The TA-50 RLWTP is notified immediately of unusual or accidental discharges that may violate waste management regulations.

(6) The TA-50 RLWTP is contacted to coordinate waste that does not meet the requirements for disposal into the collection system.

Based on the information provided above, it is not expected that the waste streams derived from ER or decontamination activities has significantly changed the nature or increased the quantity of pollutants discharged at Outfall 051 in the future. Planned upgrades to the treatment units present at the TA-50 RLWTP will help ensure that no degradation of effluent quality is experienced at NPDES Outfall 051. In fact, it is expected that these upgrades will result in an overall improvement in the quality of effluent discharged at this outfall, especially with respect to radionuclides, fluoride, and nitrates.

Should you have any questions regarding this notification, please contact Mike Saladen at (505) 665-6085 or me at (505) 665-1859.

Sincerely,

for

Steven R. Rae
Group Leader
Water Quality and Hydrology Group

SR:MS/rj

Cy: E. Spencer, EPA, Region VI, Dallas, Texas
F. Humke, EPA, Region VI, Dallas, Texas
J. Douherty, EPA Region VI, Dallas, Texas
M. Saladen, ESH-18, MS K497
B. Edeskuty, ESH-18, MS K497
B. Beers, ESH-18, MS K497
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T. Grieggs, ESH-19, MS K498
D. Moss, EM/RLW, MS E518
S. Hansen, EM/RLW, MS E518
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D. McInroy, EM-ER, MS M992
Y. Jansen, EM-ER, MS M992
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M. Leavitt, NMED/GWB, Santa Fe, New Mexico
WQ&H File, MS K497
CIC-10, MS A150

Attachment 1

Function	Operations Controlling Flow	Waste Streams	Types of Contaminants	Volume	Comments
Respiratory, Protective Equipment	TA-50, Building 1, Room 41	Radioactive Materials Respirators used on Asbestos Jobs Respirators used on Tritium Jobs Respirators used on Beryllium Jobs Respirators used on Lead/Paint Jobs Wash Water	All types Mainly Pu, U, Am. Asbestos Tritium Beryllium Lead Detergents.	~22,500 gallons/yr	Respirators used by the Lab Hazmat Team and other certified respirator users for chemical protection are also processed by CST-7 Decontamination Operations Group.
Radiation, Detection Instruments	TA-50, Building 1, Rm. 49	Radioactive Materials Nitric Acid Hydrochloric Acid Wash Water	All types. Mainly Pu. Detergents.	~200 gallons/yr	
ER Drilling Equipment (Augers, Cores, Etc.)	PRS Sites. See Attachments 2 and 3	Radioactive Materials Water Water mixed with contaminated soil	All types. Mainly Pu, Cs, U, AM. Detergents, Degreaser, Grease/Oil. VOCS, SVOCS Metals.	~800 gallons/yr.	
DX Confinement Chambers	TA-50, Building 1, Rm. 34B	Radioactive Materials Lead Beryllium Water	D38	~110 gallons/yr.	
Lead Bricks/Pieces	TA-50, Building 185, Decon Trailer	Radioactive Materials Metals Wash Water	All types. Mainly Pu. CS, U, Am. Lead	~2,500 gallons/yr.	
Lab Equipment	TA-50, Building 1, Room 35	Radioactive Materials	All types. Mainly Pu.	~20 gallons/yr.	

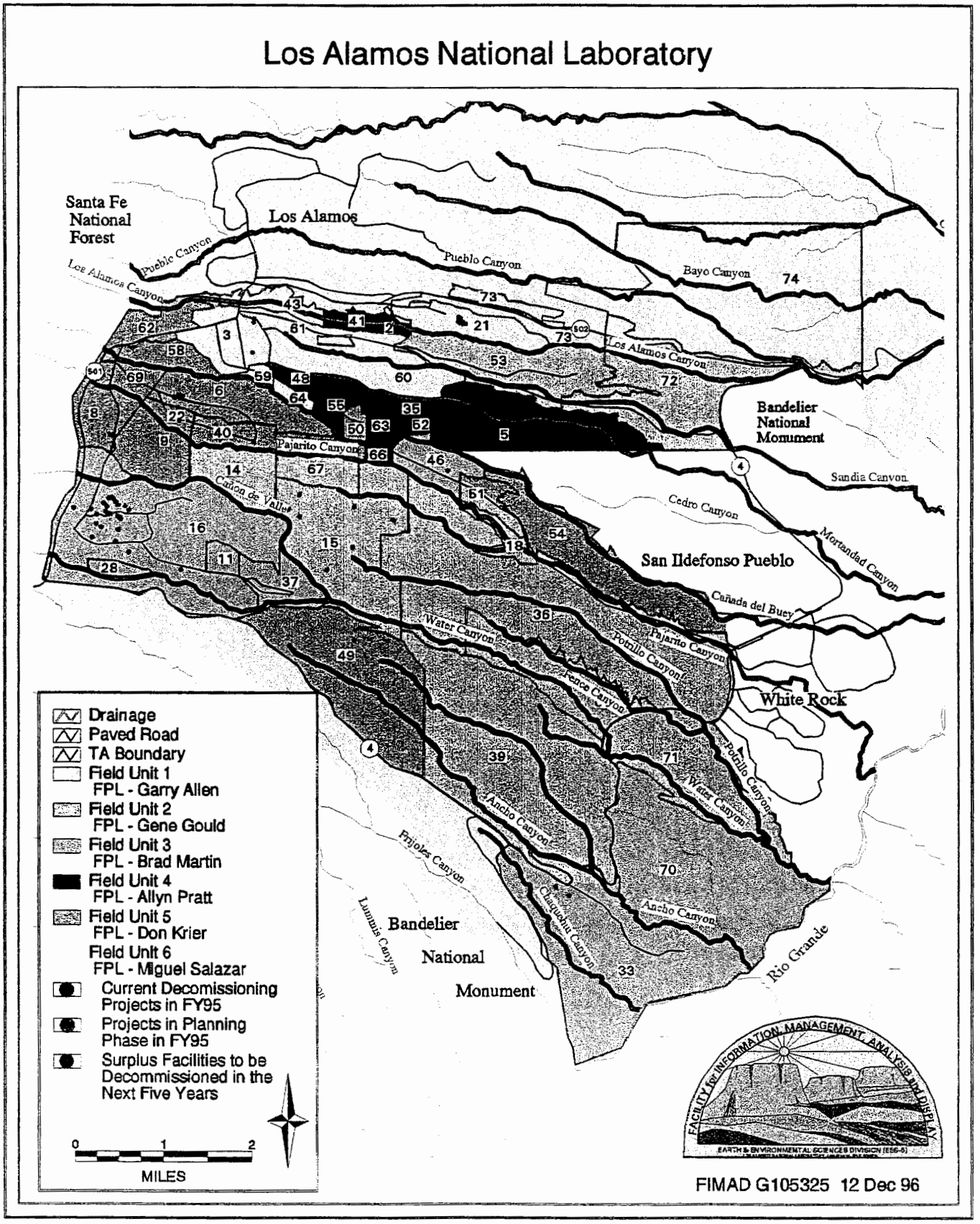
Function	Operations Controlling Flow	Waste Streams	Types of Contaminants	Volume	Comments
Pumps	TA-50, Building 1, Room 34B	Water	Detergents.		
Precious Metals (Platinum Gold, Rhodium, Silver)	TA-50, Building 1, Room 35	Radioactive Materials Hydrochloric Acid Water	All types. Mainly Pu.	~30 gallons/yr.	
Miscellaneous Tools	TA-50, Building 1, Room 35 and various PRS Sites (See Attachments 2 and 3).	Radioactive Materials	All types. Mainly Pu, Cs, U, Am.	~150 gallons/yr.	
Hand Tools	TA-50, Building 1, Room 35, D + D activities, and PRS sites (Attachments 2 and 3).	Water/Soil	Detergents. Possible low concentrations of VOCs, SVOCs, Radioactivity		
Heavy Equip. (Power Tools, Vehicles, Lowboys, Backhoes)	TA-50 Building 1, Room 34B	Radioactive Materials Contaminated Soil Wash Water	All types. Mainly Pu, Cs, U, Am. Possible low concentrations of VOCS, SVOCS, Metals, Radioactivity. Detergents, Grease, Soil.	~700 gallons/yr.	

Attachment 2

Los Alamos National Laboratory
Environmental Restoration Sites

Field Unit Number (Field Unit Leader)	Operable Units	Technical Areas
1 (Gary Allen)	1071	0, 19, 26, 73, 74
	1078	1
	1079	10, 31, 32, 45
	1106	21
	1114	3, 30, 59, 60, 61, 64
	1136	43
2 (Gene Gould)	1085	12, 14, 67
	1086	15
	1093	18, 27, 65
	1100	20, 53, 72
	1130	36, 68, 71
	1132	39
3 (Brad Martin)	1082	11, 13, 16, 24, 25, 28, 37
	1122	33, 70
	1140	46
4 (Allyn Pratt)	1049	Canyons
	1098	2, 41
	1129	4, 5, 35, 42, 48, 52, 55, 63, 66
5 (Don Krier)	1111	6, 7, 22, 40, 58, 62
	1144	49
	1147	50
	1148	51, 54
	1154	57
	1157	8, 9, 23, 69

Note: See attached map of LANL Environmental Restoration Sites.


Los Alamos National Laboratory
Santa Fe National Forest
Los Alamos
Pueblo Canyon
Los Alamos Canyon
Bayo Canyon
Bandelier National Monument
Pajarito Canyon
Sandia Canyon
Cedro Canyon
Mortandad Canyon
San Ildefonso Pueblo
Cañada del Buey
Water Canyon
Potrillo Canyon
Fence Canyon
White Rock
Ancho Canyon
Frijoles Canyon
Chaquehui Canyon
Bandelier National Monument
Rio Grande
Drainage
Paved Road
TA Boundary
Field Unit 1 FPL - Garry Allen
Field Unit 2 FPL - Gene Gould
Field Unit 3 FPL - Brad Martin
Field Unit 4 FPL - Allyn Pratt
Field Unit 5 FPL - Don Krier
Field Unit 6 FPL - Miguel Salazar
Current Decomissioning Projects in FY95
Projects in Planning Phase in FY95
Surplus Facilities to be Decommissioned in the Next Five Years
0 1 2
MILES
FACILITY for INFORMATION MANAGEMENT ANALYSIS and DISPLAY
EARTH & ENVIRONMENTAL SCIENCES DIVISION (ESS-5)
FIMAD G105325 12 Dec 96

Attachment 4

TA-48 Building 1
RC-1 and Hot Cell Wing
Accelerator Produced Isotopes

Radionuclide	Min	Max	Unit
GRBETA	0.000E+00	5.000E-07	CIL
GAMMA	0.000E+00	5.000E-07	CIL
CS134	0.000E+00	2.000E-09	CIL
CS137	0.000E+00	3.000E-09	CIL
I133	0.000E+00	1.000E-08	CIL
NB95	0.000E+00	1.000E-07	CIL
SR90	0.000E+00	1.000E-09	CIL
ZR95	0.000E+00	1.000E-07	CIL
AS74	0.000E+00	4.000E-08	CIL
BE7	0.000E+00	1.000E-06	CIL
CO56	0.000E+00	1.000E-08	CIL
CO57	0.000E+00	1.000E-07	CIL
CO58	0.000E+00	4.000E-08	CIL
CO60	0.000E+00	5.000E-09	CIL
CR51	0.000E+00	1.000E-07	CIL
EU152	0.000E+00	2.000E-08	CIL
MN52	0.000E+00	2.000E-08	CIL
MN54	0.000E+00	5.000E-08	CIL
RB83	0.000E+00	2.000E-08	CIL
RB84	0.000E+00	1.000E-08	CIL
SE75	0.000E+00	2.000E-08	CIL
SR82	0.000E+00	1.000E-07	CIL
SR85	0.000E+00	7.000E-08	CIL
V48	0.000E+00	2.000E-08	CIL
Y88	0.000E+00	3.000E-08	CIL
ZN65	0.000E+00	9.000E-09	CIL
ZR88	0.000E+00	3.000E-08	CIL
BI207	0.000E+00	1.000E-07	CIL
AS73	0.000E+00	2.000E-08	CIL
NA22	0.000E+00	3.000E-08	CIL
NA24	0.000E+00	3.000E-08	CIL
TI44	0.000E+00	1.000E-08	CIL
FE59	0.000E+00	1.000E-08	CIL
GE68	0.000E+00	4.000E-08	CIL
TC95M	0.000E+00	3.000E-08	CIL
AG110M	0.000E+00	1.000E-08	CIL
CD113M	0.000E+00	4.000E-08	CIL
CD109	0.000E+00	4.000E-08	CIL
CD115M	0.000E+00	4.000E-08	CIL
SN113	0.000E+00	4.000E-08	CIL
SC46	0.000E+00	2.000E-08	CIL
GA68	0.000E+00	4.000E-08	CIL