



COPY



GROUND WATER

OCT 18 2018

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*Date: **OCT 18 2018**
Symbol: EPC-DO-18-375
LA-UR: 18-29673
Locates Action No.: U1801172*

ESHID-603295

Ms. Michelle Hunter, Chief
Ground Water Quality Bureau
New Mexico Environment Department
Harold Runnels Building, Room N2261
1190 St. Francis Drive
P.O. Box 26110
Santa Fe, NM 87502

Subject: DP-1132, Condition No. 4, Quarterly Monitoring Report, Third Quarter 2018

Dear Ms. Hunter:

On August 29, 2018, the New Mexico Environment Department (NMED) issued Discharge Permit DP-1132 to the U.S. Department of Energy and Los Alamos National Security, LLC (DOE/LANS) for discharges of treated effluent from the TA-50 Radioactive Liquid Waste Treatment Facility (RLWTF). Pursuant to permit Condition No. 4, *Monitoring Reports*, DOE/LANS is required to submit a quarterly monitoring report by November 1, 2018, for the period August 29, 2018, to September 30, 2018. The following Discharge Permit DP-1132 conditions require submittal of information in the quarterly monitoring reports:

- #10: Settled Solids; Settled Solids Removal
- #13: Maintenance and Repair
- #25: Influent Volumes RLW
- #26: Influent Volumes TRU
- #27: Discharge Volumes
- #29: Effluent Sampling
- #36: Ground Water Monitoring



Detailed information on each of these conditions is presented below.

Condition No. 10: Settled Solids; Settled Solids Removal

The Permittees shall inspect and measure the thickness of the settled solids in the SET on an annual basis.

The Solar Evaporation Tank (SET) is not yet in service. No treated effluent was discharged to the SET during the monitoring period.

Condition No. 13: Maintenance and Repair

The Permittees shall submit to NMED a summary and description of the maintenance and repair activities performed on the Facility as part of the quarterly monitoring reports.

Enclosure 1 provides a summary of the maintenance and repair activities conducted at the TA-50 RLWTF during the monitoring period.

Condition No. 25: Influent Volumes RLW

The Permittees shall measure the volume of all RLW influent waste water being conveyed to the Facility on a daily basis using the flow meter required to be installed pursuant to this Discharge Permit.

Enclosure 2 provides the daily volume of RLW influent wastewater received by the RLWTF during the monitoring period.

Condition No. 26: Influent Volumes TRU

The Permittees shall measure the daily volume of TRU influent waste water being conveyed to the Facility using electronic sensors which measure tank levels in both the acid waste and caustic waste influent tanks.

No TRU influent wastewater was received by the RLWTF during the monitoring period.

Condition No. 27: Discharge Volumes

The Permittees shall measure and record the volume of treated waste water discharged to the SET, MES and Outfall 051 on a daily basis.

- Enclosure 2 provides the daily volume of treated effluent discharged to the MES during the monitoring period.
 - No treated effluent was discharged to the SET during the monitoring period.
 - No treated effluent was discharged to NPDES Outfall 051 during the monitoring period.
-

Condition No. 29: Effluent Sampling

The Permittees shall sample and analyze effluent waste streams discharged to Outfall 051, the SET, and the MES.

- *Treated effluent samples shall be collected once per calendar month for any month in which a discharge occurs to Outfall 051.*
 - No effluent was discharged to Outfall 051 during the monitoring period.
- *Treated effluent samples shall be collected once per calendar month for any month in which a discharge occurs to the MES or SET. The Permittees shall collect a grab sample of treated effluent which shall be analyzed for TKN, NO₃-N, TDS, Cl, F and perchlorate.*
 - No treated effluent was discharged to the SET during the monitoring period.
 - Treated effluent discharged to the MES was sampled on September 24, 2018, for TKN, NO₃+NO₂-N, TDS, Cl, F and perchlorate. Sample results were not available in time for this monitoring report and will be submitted to NMED in the February 1, 2019, monitoring report.
- *The Permittees shall collect and analyze effluent samples once per quarter for any quarterly period in which a discharge occurs to the MES or SET. The Permittees shall collect a grab sample of treated effluent which shall be analyzed for all water contaminants listed in 20.6.2.3103 NMAC and all toxic pollutants as defined in 20.6.2.7.WW NMAC.*
 - Sampling of treated effluent for the quarterly parameters (3130 contaminants and toxic pollutants) was postponed from September 24, 2018, until October 3, 2018, due to the disruption caused by Hurricane Florence (GEL Laboratories, LLC is located in Charleston, SC). The delay in sampling was communicated to NMED Ground Water Quality Bureau in a September 20, 2018, email). Sample results were not available in time for this monitoring report and will be submitted to NMED in the February 1, 2019, monitoring report.

Condition No. 36: Ground Water Monitoring-Quarterly

The Permittees shall collect ground water samples from the following ground water monitoring wells on a quarterly basis and analyze the samples for TKN, NO₃-N, TDS, Cl, F and perchlorate.

- *Replacement Alluvial Wells #1 and #2.*
 - A work plan for the installation of two replacement monitoring wells will be submitted to NMED by November 27, 2018. Following NMED approval of the plan, the replacement alluvial wells will be installed. Sampling at replacement wells #1 and #2 will begin following well installation.

➤ MCOI-6.

- Table 1 provides the analytical results from sampling perched/intermediate groundwater monitoring well MCOI-6 during the third quarter of 2018.

Table 1. Analytical Results from Monitoring Well MCOI-6, 3rd Quarter 2018.

Location ID	Sample Date	Parameter Name	Report Result	Report Units	Lab Qualifier	Detected	Filtered	Lab Method	Field Sample ID
MCOI-6	07-11-2018	Ammonia as Nitrogen	0.0791	mg/L		N	Y	EPA:350.1	CAMO-18-159789
MCOI-6	07-11-2018	Chloride	55.3	mg/L		Y	Y	EPA:300.0	CAMO-18-159789
MCOI-6	07-11-2018	Fluoride	0.606	mg/L		Y	Y	EPA:300.0	CAMO-18-159789
MCOI-6	07-11-2018	Nitrate-Nitrite as Nitrogen	10.1	mg/L		Y	Y	EPA:353.2	CAMO-18-159789
MCOI-6	07-11-2018	Perchlorate	103	ug/L		Y	Y	SW-846:6850	CAMO-18-159789
MCOI-6	07-11-2018	Total Dissolved Solids	361	mg/L		Y	Y	EPA:160.1	CAMO-18-159789
MCOI-6	07-11-2018	Total Kjeldahl Nitrogen	0.511	mg/L		Y	N	EPA:351.2	CAMO-18-159790

Condition No. 36: Ground Water Monitoring-Annual

The Permittees shall collect ground water samples from the following ground water monitoring wells on an annual basis and analyze the samples for all water contaminants listed in 20.6.2.3103 NMAC and all toxic pollutants listed in 20.6.2.7.WW.

➤ Replacement Alluvial Well #1 and #2.

- Sampling at the replacement alluvial wells #1 and #2 will begin following installation.

➤ MCOI-6, R-46, R-60, R-1, and R-14.

- Sampling at MCOI-6, R-46, R-60, R-1, and R-14 is scheduled for the fourth quarter of 2018.

Please contact Karen E. Armijo by telephone at (505) 665-7314 or by email at Karen.Armijo@nnsa.doe.gov, or Robert S. Beers by telephone at (505) 667-7969 or by email at bbeers@lanl.gov if you have questions regarding this quarterly monitoring report.

Sincerely,



Taunia S. Van Valkenburg
Group Leader

Sincerely,



Karen E. Armijo
Permitting and Compliance Program Manager

TVV/KEA/MTS/RSB:jdm

Enclosure(s): 1) RLWTF Maintenance Report, Third Quarter 2018
2) RLWTF Daily Influent and Effluent Flows, Third Quarter 2018

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ENCLOSURE 1

RLWTF Maintenance Report,
Third Quarter 2018

EPC-DO: 18-375

LA-UR-18-29673

Date: OCT 18 2018

**DP-1132 Report: Third Quarter 2018
RLWTF Maintenance**

Structures	Description	Built	PM	CM	SR	Total
Building 1	Original treatment bldg.	1963	14	4	1	19
Building 2	Original influent storage bldg.	1963	1	0	0	1
Building 66	TRU influent storage	1982	1	0	0	1
Building 248	Low-level bottoms storage	1996	2	0	0	2
Building 250	Low-level influent storage	2009	5	0	0	5
Building 257	Mechanical evaporator	2010	0	0	0	0
TA52	Solar evaporation	2011	3	0	0	3
Totals			26	4	1	31

Task Types: PM-preventive maintenance CM-corrective maintenance SR-service request

Acronyms used in Maintenance reports:

BHW boiler, hot water
 FAR filter, air replaceable
 FEXT fire extinguisher
 HEPA high-efficiency particulate air
 HUE heater unit, electric
 LTE lights, emergency
 LTET lights, emergency, tritium
 LTNT lights, non-tritium
 PV pump, vacuum
 RCA radiological control area
 SPH sprinkler pipe, dry
 SPW sprinkler pipe, wet

**DP-1132 Report: Third Quarter 2018
RLWTF Maintenance**

TA-50-0001 Work Completion Report (08/29/2018-09/30/2018)

Unit	Work Order	Task	Task Type	Task Title
500001	00570856	01	CM	500001 PERFORM SPOT RELAMP & BALLAST REPLACEMENT IN NON RCAS
500001	00585350	01	PM	50-1 ELECTRICAL EQUIPMENT 5YR PM GROUP 2
500001	00594341	01	PM	500001 HUE 1YR PM
500001	00609085	01	SR	500001 REMOVE WATER DIVERTER IN ROOM 30
500001	00609091	01	CM	500001 RE-GLUE BASEBOARD IN ROOMS 130 & 131B
500001	00609107	01	CM	500001 ROTATE THE SAFETY SHOWER AND PAINT FLOOR AREA (KEEP C
500001	00610414	01	PM	500001 FAR 3MO PM (9 EA)
500001	00612612	01	PM	500001 BHW 1YR PM, INSPECTION & MAINTENANCE
500001	00614941	01	PM	500001 SPW/SPH 1 YR FIRE SUPPRESSION SYSTEMS PM
500001	00614979	01	PM	50-1 PH ANALYZER 2MO CALIBRATION 2 EA
500001	00614985	01	PM	500001 LTE 1MO PM
500001	00614991	01	PM	500001 FEXT 1MO PM
500001	00615009	01	PM	500001 BHW 1MO PM (2 EA)
500001	00615014	01	PM	500001 PERFORM WEEKLY EYEWASH/ SAFETY SHOWER TESTING
500001	00615040	01	PM	500001 LTET 1MO PM
500001	00616028	01	PM	500001 (2 YR) CHEMICAL SKID ASSY, PRV AND PUMP PM (6 EA)
500001	00616095	01	CM	500001 REPAIR CRANE CM-010
500001	00616652	01	PM	500001-60/60A LT 1YR PM LEVEL INSTRUMENT CALIBRATION (22 EA)
500001	00623440	01	PM	500001 PV-007 3 MO PM, (MECHANICAL)

Task Types: PM-preventive maintenance CM-corrective maintenance SR-service request

**DP-1132 Report: Third Quarter 2018
RLWTF Maintenance**

TA-50-0002 Work Completion Report (08/29/2018-09/30/2018)

Unit	Work Order	Task	Task Type	Task Title
500002	00614943	01	PM	500002 HUE 1YR PM

TA-50-0066 Work Completion Report (08/29/2018-09/30/2018)

Unit	Work Order	Task	Task Type	Task Title
500066	00588219	01	PM	500066 3YR TANK HEPA FILTER REPLACEMENT PM

TA-50-0248 Work Completion Report (08/29/2018-09/30/2018)

Unit	Work Order	Task	Task Type	Task Title
500248	00614972	01	PM	500248 PUMPS 3MO PM (2 EA.)
500248	00616661	01	PM	500248 HUE 1YR PM

TA-50-0250 Work Completion Report (08/29/2018-09/30/2018)

Unit	Work Order	Task	Task Type	Task Title
500250	00614925	01	PM	50-250 1YR SPW SYSTEM PM
500250	00614984	01	PM	500250 FEXT 1MO PM
500250	00615031	01	PM	500250 LTE 1MO PM
500250	00615037	01	PM	500250 LTNT 1MO PM
500250	00615039	01	PM	500250 LTET 1MO PM

TA-50-0257 Work Completion Report (08/29/2018-09/30/2018)

Unit	Work Order	Task	Task Type	Task Title
*** NO DATA TO REPORT FOR LISTED PERIOD.				

TA-52-SET Work Completion Report (08/29/2018-09/30/2018)

Unit	Work Order	Task	Task Type	Task Title
520182	00615010	01	PM	TA52-182 MONTHLY EMERGENCY LIGHTS PM
520182	00615012	01	PM	TA52-182 MONTHLY NON TRITIUM LIGHTS PM
520182	00615013	01	PM	TA52-182 FEXT 1MO PM

Task Types: PM-preventive maintenance CM-corrective maintenance SR-service request

ENCLOSURE 2

RLWTF Daily Influent and Effluent Flows,
Third Quarter 2018

EPC-DO: 18-375

LA-UR-18-29673

Date: OCT 18 2018

**DP-1132 Report: Third Quarter 2018
RLWTF Daily Influent and Effluent**

Date	Low-level Influent	Effluent MES	Effluent Outfall	Effluent SET	Transuranic Influent
Totals, 2018-Q3	279,945	233,598	0	0	0
Sub-total, Aug	19,009	39,771	0	0	0
Sub-total, Sep	260,936	193,828	0	0	0

All flows are in Liters.

1-Aug					
2-Aug					
3-Aug					
4-Aug					
5-Aug					
6-Aug					
7-Aug					
8-Aug					
9-Aug					
10-Aug					
11-Aug					
12-Aug					
13-Aug					
14-Aug					
15-Aug					
16-Aug					
17-Aug					
18-Aug					
19-Aug					
20-Aug					
21-Aug					
22-Aug					
23-Aug					
24-Aug					
25-Aug					
26-Aug					
27-Aug					
28-Aug					
29-Aug	6,992	15,350	0	0	0
30-Aug	6,202	15,232	0	0	0
31-Aug	5,815	9,188	0	0	0

**DP-1132 Report: Third Quarter 2018
RLWTF Daily Influent and Effluent**

Date	Low-level Influent	Effluent MES	Effluent Outfall	Effluent SET	Transuranic Influent
1-Sep	5,022	0	0	0	0
2-Sep	5,691	0	0	0	0
3-Sep	6,001	0	0	0	0
4-Sep	5,655	0	0	0	0
5-Sep	6,880	0	0	0	0
6-Sep	6,276	0	0	0	0
7-Sep	9,296	0	0	0	0
8-Sep	6,276	0	0	0	0
9-Sep	6,247	0	0	0	0
10-Sep	9,740	0	0	0	0
11-Sep	10,638	6,098	0	0	0
12-Sep	10,633	14,424	0	0	0
13-Sep	6,433	14,861	0	0	0
14-Sep	13,826	14,800	0	0	0
15-Sep	6,362	14,920	0	0	0
16-Sep	6,636	14,920	0	0	0
17-Sep	7,208	14,811	0	0	0
18-Sep	7,329	14,828	0	0	0
19-Sep	8,997	7,018	0	0	0
20-Sep	15,795	0	0	0	0
21-Sep	6,243	0	0	0	0
22-Sep	6,194	0	0	0	0
23-Sep	5,587	4,766	0	0	0
24-Sep	5,587	13,934	0	0	0
25-Sep	12,406	14,610	0	0	0
26-Sep	7,893	14,675	0	0	0
27-Sep	11,698	9,433	0	0	0
28-Sep	15,849	0	0	0	0
29-Sep	13,967	5,144	0	0	0
30-Sep	14,571	14,585	0	0	0