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Date: AUG 1 3 2013
Symbol: ENV-DO-13-0115
LAUR: 13-26245

Ms. Diane Smith
U. S. Environmental Protection Agency
Permit Processing Team (6W-NP)
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Dear Ms. Smith:

SUBJECT: LOS ALAMOS NATIONAL LABORATORY, NPDES PERMIT NO. NM0028355, COMMENTS ON DRAFT NPDES PERMIT ISSUED JUNE 29, 2013

Enclosed are comments submitted by the U. S. Department of Energy (DOE) and the Los Alamos National Security, LLC (LANS) regarding the new draft National Pollutant Discharge Elimination System (NPDES) Permit for the wastewater treatment facilities at the Los Alamos National Laboratory. DOE/LANS wish to acknowledge the efforts of the EPA Region 6 staff, especially Isaac Chen, who prepared the new draft permit and documentation package.

Please enter this letter and the enclosed comments into the record of proceedings for NPDES Permit No. NM0028355. DOE/LANS respectively requests that EPA consider these comments and include the proposed revisions into the final permit. Please be assured that DOE/LANS are fully committed to comply with all requirements set forth in the final NPDES Permit.

Please contact Marc Bailey of the Laboratory's Environmental Compliance Programs (ENV-CP) by telephone at (505) 665-8135 or Gene Turner at (505) 667-5794 of the DOE Los Alamos Field Office if you have questions regarding these enclosed comments or if additional information would be helpful.

Sincerely,

Alison M. Dorries
Division Leader
Environmental Protection Division
Los Alamos National Security, LLC

Sincerely,

Gene E. Turner
Environmental Permitting Manager
Environmental Projects Office
Los Alamos Field Office
Department of Energy

EXHIBIT A

AMD:GET:MS/lm

Enclosures: 1. Comments on draft NPDES Permit No. NM0028355 issued on June 29, 2013

Cy: James Hogan, NMED/SWQB, Santa Fe, NM, w/enc.
Steven M. Yanicak, NMED/DOE/OB, w/enc., (E-File)
Gene E. Turner, NA-OO-LA, w/enc., (E-File)
Carl A. Beard, PADOPS, w/o enc., A102
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General Comments:

1. The Department of Energy and Los Alamos National Security, LLC (DOE/LANS) support the EPA's proposed limitations on the use of the PCB congener method for reporting purposes only and not for enforcement purposes.

   The draft permit properly excludes use of EPA Method 1668 for compliance purposes: it is not a 40 CFR Part 136-approved method. EPA issued a proposal (FR Vol. 75, No. 222, November 18, 2010) to incorporate the method into 40 CFR Part 136 and accepted comments addressing the validity of the method. EPA received comments from 35 respondents; only five (three states, one laboratory, and one laboratory organization) supported inclusion into Part 136. On May 18, 2012 EPA withdrew the proposed incorporation of the method (FR Vol. 77 No. 97, May 18, 2012).

   Moreover, LANL is the only known facility in New Mexico where the congener method is being used to determine compliance with an NPDES permit limit. The proposal to use Method 1668 for monitoring and reporting only is consistent with all other New Mexico NPDES permits that specify use of the method.

   As EPA notes, the NMED Surface Water Quality Bureau stated in a December 20, 2012 letter that "the State will condition the permit certification to require the use of Method 1668, most recent version thereof, with appropriate method specific MQLs, for purpose of PCB monitoring." DOE/LANS are submitting comments in opposition to the SWQB's proposed certification condition.

2. DOE/LANS request inclusion of schedules for compliance in the final permit, if necessary to address requirements incorporated into the final permit.

   EPA and NMED have allowed, on a case-by-case basis, the inclusion of a schedule of compliance in NPDES permits issued to an existing facility (40 CFR 122.47 and 20.6.4.12.G NMAC, respectively). The schedule of compliance provides the permittee with adequate time to make necessary modifications to treatment systems and/or operations at the facility to comply with permit limits. DOE/LANS do not request a compliance schedule for specific requirements in the draft permit but will need to evaluate if compliance schedules are necessary to address any new or revised permit requirements incorporated into the final NPDES permit issued by EPA.

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Additionally, DOE/LANS request an opportunity to review and respond to requirements specified in the New Mexico 401 certification, and public comments or concerns submitted to EPA during the comment period prior to issuance of the final permit.

3. DOE/LANS request elimination of the requirements related to selenium at Outfalls 03A027, 03A048, and 03A199 because there is no reasonable potential (RP) for selenium water quality standard exceedances.

   The fact sheet for the draft permit indicates an RP for selenium water quality standard exceedances at Outfalls 03A027, 03A048 and 03A199. The appearance of selenium in samples taken at LANL cooling towers is a false positive caused by bromine analytical interference. These cooling towers routinely use bromine as a biocide.

   It has been well established that when using EPA Method 200.8 (ICP-MS) for selenium analyses and bromine is present in the waste stream, there will be a positive interference and selenium will appear to be present in the sample. DOE/LANS documented this occurrence in comments submitted to EPA in 2006 on the current permit. As a result, the DOE/LANS used SW 846 Method 7742 (included in Section G. Test Methods in Part II of the current permit) for selenium monitoring and reporting purposes during the existing permit monitoring period. However, during sampling, analyses and reporting for DOE/LANS's NPDES Reapplication Project (Summer/Fall 2011), some selenium results were reported on the EPA's application Form 2C using EPA Method 200.8. These results indicated the presence of selenium, but they are false positives due to the presence of bromine. Upon discovery of the false positives, split samples from Summer/Fall 2011 were sent to the analytical laboratory for selenium re-analysis using SW 846 7742. The split sample results confirm that selenium is not present in the samples (see Table 1). More recent sample results are also included in Table 1. Tables 3, 4, and 5 apply the data analyzed by SW 846 Method 7742 in the recalculation of the RP for selenium for Outfalls 03A027 (Table 3), 03A048 (Table 4), and 03A199 (Table 5). Based on the RP recalculations, there is no reasonable potential for selenium water quality standard exceedances at these outfalls. Therefore, DOE/LANS requests that the selenium requirements for these outfalls be deleted from the permit.

4. For the sake of clarity regarding electronic reporting requirements, DOE/LANS request that EPA delete Part I.B. Reporting of Monitoring Results (Major Discharges) from the draft permit, and retain only Part III.D.4 Discharge Monitoring Reports and Other Reports of this permit until the proposed NPDES Electronic Reporting Rule (FR/Vol. 78, No.146/July 30, 2013) is promulgated.

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Page 23 of Part I. B Reporting of Monitoring Results (Major Discharges) states, in part: "Monitoring information **shall be submitted electronically** [emphasis added] as specified in Part III.D.4 of this permit…". On the other hand, Part III.D.4 Discharge Monitoring Reports and Other Reports states, in part: "Monitoring results must be reported to EPA on **either the electronic or paper** [emphasis added] Discharge Monitoring Report (DMR) approved formats. Monitoring results **can be** [emphasis added] submitted in lieu of the paper DMR Form… " These potentially conflicting provisions, if retained in the final permit, would leave it unclear as to whether and which monitoring results must be submitted electronically.

Additionally, on July 30, 2013 EPA the proposed "NPDES Electronic Reporting Rule" that would require electronic reporting for current paper-based NPDES Reports. Comments on this proposed rule must be received by October 28, 2013. It is not clear how the final version of this rule, if promulgated would affect the current draft permit requirements.

Deletion of Part I. B Reporting of Monitoring Results (Major Discharges) would allow DOE/LANS the option of reporting electronically or with paper until promulgation of the new rule provides clarity on EPA electronic reporting requirements.

5. DOE/LANS request reduction in sampling frequencies at Outfalls 051 and 03A160 to once-per-week based on low discharge volumes and frequencies, and NMIP guidelines.

Page 35, Table 10: Recommended Monitoring Frequencies for Industrial Wastewater Permits, of the EPA Region 6's "Procedures for Implementing National Pollutant Discharge Elimination System Permits in New Mexico – NMIP" recommends sampling frequencies for conventional pollutants, nonconventional pollutants, metals and toxics at industrial sites, like Los Alamos National Laboratory. In particular, Table 10 in the NMIP recommends a sampling frequency of three per week for outfalls that discharge once per day, and recommends once per week sampling for outfalls (other than pH) that discharge once per week or less.

The Laboratory's TA-50 Radioactive Waste Treatment Facility (RLWTF) has not discharged since November 2010 as a result of using the mechanical evaporator. Additionally, RLWTF has constructed two Zero Liquid Discharge (ZLD) tanks that can passively evaporate treated effluent. The ZLD tanks are currently being processed for permitting under the NMED's Ground Water Discharge Permit program and are not currently in operation. Based on discharge records prior to November 2010, and with options of using the existing mechanical evaporator or new ZLD evaporation tanks, RLWTF would discharge to Outfall 051 only once or twice per week if evaporation is not an option.

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The cooling tower at TA-35 Building 124 (Outfall 03A160) discharges treated and untreated cooling water blow-down on an intermittent basis, based on the programmatic needs at the TA-35 National High Magnetic Field Laboratory (NHMFL). The TA-35 NHMFL cooling tower discharged an average of 6 times per month, with an average of 2700 gallons per discharge based on the flows recorded during the last year (July 2012 – June 2013). A typical discharge lasts only about 2-7 hours.

Sample frequencies of once-per-week are (1) adequate to demonstrate compliance with effluent limits and protection of human health and the environment at Outfalls 051 and 03A160, (2) more stringent than current permit requirements, and (3) consistent with NMIP guidelines.

6. DOE/LANS request the deletion of the WET monitoring and reporting requirements for Outfalls 001, 03A027, 03A160, and 03A199 based on past WET testing results.

   The draft permit properly deletes Whole Effluent Toxicity (WET) monitoring and reporting requirements for Outfalls 03A048, 03A113, 03A160, and 03A181. All four outfalls passed the required WET tests during the monitoring periods of the existing permit. WET monitoring and reporting requirements remain in the draft permit for Outfalls 001, 03A027, 03A160 and 03A199. The EPA Reasonable Potential (RP) Analyzer spreadsheets for Outfalls 001, 03A027, 03A160, and 03A199 indicate that an RP exists for these four outfalls, however, these four outfalls also passed the required WET tests during the monitoring periods of the existing permit, which demonstrated that treated discharges showed no observed lethal effect concentration in 100% effluent.

7. DOE/LANS request that the EPA notification and reporting requirements on Page 1 of Part II.B of the draft NPDES permit be consistent with the New Mexico Water Quality Control Commission regulations. DOE/LANS recommends 24-hour notification and a **7-day** reporting requirements for overflows be incorporated into Part II.B <u>24-HOUR ORAL REPORTING</u> section.

   20.6.2.1203 NMAC requires submission of the same information regarding spills and overflows, a 24-hour oral notification requirement, and 7-day and 15-day written reports. As currently stated in the draft NPDES permit, EPA is generating an additional report (5-day) with the same information and no additional value.

8. DOE/LANS request EPA refrain from adding any new effluent limits into the final permit for Outfalls 05A055 and 051 at this time. Establishing new effluent limits prior to evaluating

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new data would be premature and not be representative of existing conditions and treatment at the facilities, and effluent quality discharged to the environment.

The TA-50 Radioactive Liquid Waste Treatment Facility (RLWTF) has not discharged to Outfall 051 since November 2010. Additionally, the TA-16 High Explosives Wastewater Treatment Facility (HEWTF) has not discharged to Outfall 05A055 since November 2007. As a result, DOE/LANS were unable to collect samples for Form 2C constituents at the time the permit re-application was submitted. In fact sheets of the permit re-application, DOE/LANS committed to collecting grab samples for the Form 2C constituents when the RLWTF and HEWTF discharge through the respective outfalls. DOE/LANS will submit these data to EPA and NMED on the Form 2C permit application, upon receipt of the data. These new data can be used to evaluate a reasonable potential for water quality standard exceedances. Page 3 of Part II.E. Reopener Clause, allows EPA to reopen and modify the permit during the life of the permit, in accordance with provisions in 40 CFR 122.62.

DOE/LANS request the opportunity to provide EPA with new data for Outfalls 051 and 05A055, if discharges through these outfalls are initiated during the life of the new permit. These data would be used by EPA to evaluate the reasonable potential of water quality standard exceedances, and to establish potential new effluent limits at the respective outfalls based on current treatment technology at the time of discharge.

Outfall Specific Comments:

Outfall 001:

1. DOE/LANS support that lack of aluminum monitoring and reporting requirements and notes that the "no RP" conclusion was based on proper sampling methods.

   Page 1 of Part I.A Effluent Limitations and Monitoring Requirements of the draft permit does not require aluminum monitoring and reporting at Outfall 001 because there is not a reasonable potential for a water quality standard exceedance. 20.6.4.900(I) (1) and (2) NMAC states that total recoverable aluminum criteria is based on samples that are filtered to minimize mineral phases. NMED SWQB (2013 Draft Assessment Protocol) concluded that a filter of 10µm pore size minimizes mineral-phase aluminum without restricting amorphous or colloidal phases. However, if turbidity of a sample is less than 30 NTU, no filtration is needed to minimize mineral phases. Samples with greater than 30 NTU must be filtered with 10µm disposable in-line capsule filter prior to analysis (SWQB Assessment Protocol – Public

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Draft 3/20/13). Turbidity at Outfall 001 is not greater than 30 NTU; therefore proper sampling methods were used.

2. Page 2 of Part I.A Effluent Limitations and Monitoring Requirements of the draft permit requires Whole Effluent Toxicity (WET) monitoring and reporting. DOE/LANS request the deletion of the WET monitoring and reporting requirements for Outfall 001 based on past WET testing results (no lethal effects to test species at or below the critical dilution of 100%). See General Comment #6.

3. Page 1 of Part I, top of page, should read OUTFALL 001 (TA-3-22).

Outfall 13S:

1. DOE/LANS request the Latitude/Longitude modification be incorporated into the permit to identify the change in sampling location. Page 3 of Part I of the draft permit identifies the discharge location for Outfall 13S at Latitude $35^{0}51'08''$N, Longitude $106^{0}16'33''$W. As stated in the 2012 NPDES permit re-application, the discharge location/sampling location for Outfall 13S is Latitude $35^{0}51'08''$N, Longitude $106^{0}16'29''$W. This is the location where Outfall 13S discharges into Canada del Buey.

2. Page 3 of Part I, top of page, should read: OUTFALL 13S - Sanitary Waste Water System (TA-46-347).

3. Public comments at the EPA Public Meeting on July 30, 2013 requested further information about composting activities at LANL. On August 15, 2012 the DOE/LANS notified EPA Region VI of its intent to compost and land apply biosolids at the Laboratory for beneficial use. The compost operation would take place at the Laboratory's TA-46 Sanitary Waste Water System (SWWS) Facility. Prior to initiating operations, the facility must register with the NMED's Solid Waste Bureau and provide a Notice of Intent to NMED's Ground Water Quality Bureau. The NOI and registration were submitted to NMED on July 31, 2012 and August 1, 2012 respectively. On December 21, 2012 DOE/LANS received a response from NMED suggesting the proposed land application would be surface disposal and not land application for beneficial use. LANS have consulted with NMED and intend to clarify and re-submit the NOI.

   Upon approval of the composting operation and land application method by NMED, Part IV-Element 1 of the draft NPDES permit sets out requirements and conditions for preparation and reuse of biosolids (compost). The requirements are based on 40 CFR Part 503

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regulations – Standards for the Use or Disposal of Sewage Sludge. The conditions in Part IV of the draft NPDES permit include: ceiling concentrations for metals and PCBs; monitoring and testing requirements; pathogen control; vector attraction reduction; general conditions; management practices; and, notification requirements. The draft permit and existing state and federal requirements adequately protect human health and the environment. Therefore no additional monitoring and reporting should be required.

Outfall 051:

1. Public comments brought up at the EPA Public Meeting on July 30, 2013 requested further information regarding prior WET testing at RLWTF and recommended that this information be incorporated into the fact sheet for Outfall 051. DOE/LANS do not oppose this information being provided in the fact sheet and/or response to comments. Detailed information regarding prior WET testing and DOE/LANS's related corrective actions can be found in the quarterly compliance reports submitted to EPA from 2007 – 2013.

2. Page 5 of Part I, top of page, should read: OUTFALL 051 – Radioactive Liquid Waste Treatment Facility (TA-50-1).

3. DOE/LANS request the flow monitoring requirements be changed from continuous/record to an estimate/once-per-day basis. Page 5 of Part I.A Effluent Limitations and Monitoring Requirements, of the draft permit requires the flow frequency be monitored continuously/record. RLWTF has not discharged since November 2010. If discharges to the Outfall 051 resume, it is estimated that RLWTF would only discharge intermittently under batch treatment and release. Flow is currently measured and reported based on tank volume discharge.

4. DOE/LANS request that the definition of "estimate" for Outfall 03A022 be incorporated into the draft permit for Outfall 051. Page 6 of Part I.A. bottom of page, should read: Flow Measurements, "Estimate" flow measurements shall not be subject to the accuracy provisions established at Part III.C.6. The daily flow value may be estimated using best engineering judgment.

5. DOE/LANS request the sampling frequencies for copper, zinc and hardness be changed to once-per-week. Page 5 of Part I.A Effluent Limitations and Monitoring Requirements monitoring frequencies for copper and zinc have increased from once-per-month to three times per week. DOE/LANS request reduction in sampling frequencies for these constituents to once-per-week at Outfall 051 based on the NMIP. See General Comment #5.

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6. DOE/LANS request that the required 3-hr. composite WET test be replaced with a grab sample requirement. Page 6 of Part I.A Effluent Limitations and Monitoring Requirements of the draft permit requires a 3-hr. composite sample be collected for the WET testing purposes. Typical flow durations for discharges from RLWTF through Outfall 051 only last approximately 1-1.5 hours. The NMIP sample type for once-per-week discharges at industrial outfalls is generally by grab and is appropriate here.

Outfall 05A055:

1. DOE/LANS request that the new permit retain "Estimate" for the flow monitoring requirement at Outfall 05A055. Page 7 of Part I.A Effluent Limitations and Monitoring Requirements of the draft permit requirements for flow monitoring changed from "Estimate" (in the current permit) to "Record". The current permit defines "Estimate" as flow values that are be estimated using best engineering judgment. Outfall 05A055 has not discharged since November 2007. Typical discharges prior to November 2007 were low in volume and short in duration.

Outfall 03A022:

1. Page 9 of Part I authorizes Outfall 03A022 to discharge storm water and roof drain water to Mortandad Canyon. DOE/LANS request that the permit also incorporate once through cooling into the discharge description (for emergency use only) at the top of page 9 of Part I, as stated on page 11 of the fact sheet. Page 9 of Part I, top of page, should read: "During the period beginning the effective date of the permit and lasting through the expiration date of the permit (unless otherwise noted), the permittee is authorized to discharge storm water, **once through cooling (for emergency use only),** and roof drain water to Mortandad Canyon, in segment 20.6.4.128 of the Rio Grande Basin. (Cooling tower blowdown is not authorized for discharge at this outfall.)."

2. DOE/LANS request the outfall be renamed "04A022". Historically, non-contact cooling water was categorized by the 04A designation. Outfall category 03A of the current permit is for treated cooling tower water discharges. The outfall description for 03A022 specifically states "Cooling tower blowdown is not authorized for discharge at this outfall." Therefore, the change of outfall name to 04A022 is more appropriate.

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Outfall 03A027:

1. EPA's RP calculation sheet documents an RP for selenium, but monitoring/reporting requirements and effluent limits are not incorporated into the draft permit. False positives for selenium at this cooling tower were caused by bromine analytical interference when using EPA Method 200.8. DOE/LANS request EPA not incorporate monitoring and reporting requirements or effluent limits in the permit for selenium at Outfall 03A027. See General Comment #3.

2. DOE/LANS request the deletion of the WET monitoring and reporting requirements for Outfall 03A027 based on past WET testing results (no lethal effects to test species at or below the critical dilution of 100%). See General Comment #6.

3. Page 15 of Part I Outfall description at top of page should delete the reference to cooling tower TA3-285. Cooling tower TA3-285 has been inoperable for years and was demolished in 2012.

4. DOE/LANS request the sample frequency for E Coli be changed to two-per-month, as indicated in the fact sheet. Page 15 of Part I.A of the draft permit specifies an E. Coli monitoring frequency of two-per-week. However, page 11 (3rd paragraph) of the fact sheet states: "E. coli - Monitoring requirements and effluent limitations apply at Outfalls 001, 13S, or 03A027 where final treated sanitary wastewater actually discharges. The monitoring frequency is 2-per-month based on the frequency recommended in the NMIP for a municipal facility with activated sludge technology and a design flow of 0.1 < 0.5 MGD."

Outfall 03A048:

1. Page 17 of Part I.A Effluent Limitations and Monitoring Requirements of the draft permit require selenium monitoring of three-per-week, with a monthly average and daily maximum effluent limits of 5.0 mg/l. DOE/LANS request the monitoring/reporting requirements and the effluent limits for selenium be deleted based on false positive results using Method 200.8. See General Comment #3.

Outfall 03A160:

1. DOE/LANS request deletion of cyanide requirements at Outfall 03A160. Page 19 of Part 1 Effluent Limitations and Monitoring Requirements of the draft permit requires three-per-week monitoring and reporting, and contains a permit limit of 5.2 mg/l for cyanide. Cyanide

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is not used in operations of the cooling tower. The cyanide levels may have been a result of impacts from flying ash during the Las Conchas fire being deposited in the cooling tower. The cooling tower was off-line for an extended period of time during the fire and ash may have deposited in the cooling tower basin. The sample submitted for the re-application was collected shortly after the fire (July 18, 2011). Additional cyanide samples recently collected at 03A160 do not confirm the result from the July 18, 2011 sample. Table 2 contains the data collected after the permit application was submitted. When applying guidelines in the NMIP for additional samples, the geometric mean of the samples demonstrates that cyanide RP does not exist (see Table 6). In the alternative, if EPA retains cyanide requirements, DOE/LANS request a reduction in sampling frequency to once-per-week at Outfall 03A160.

2. Page 19 of Part I.A Effluent Limitations and Monitoring Requirements of the draft permit requires a monitoring frequency for copper at three times per week. DOE/LANS request a reduction in sampling frequency to once-per-week at Outfall 03A160 based on NMIP. See General Comment #5.

3. Page 19 of Part I.A Effluent Limitations and Monitoring Requirements requires WET monitoring at Outfall 03A160. DOE/LANS request the deletion of the WET monitoring and reporting requirements for Outfall 03A160 based on past WET testing results (no lethal effects to test species at or below the critical dilution of 100%). See General Comment #6.

Outfall 03A199:

1. EPA's Fact Sheet and RP calculation sheets documents an RP for selenium at Outfall 03A199, but monitoring/reporting requirements and effluent limits are not incorporated into the draft permit. False positives for selenium at this cooling tower were caused by bromine analytical interference. DOE/LANS request EPA not incorporate monitoring and reporting requirements or effluent limits in the permit for selenium at Outfall 03A199. See General Comment #3 Tables 1 and 5.

2. EPA's Fact Sheet and RP calculation sheets documents an RP for cyanide at Outfall 03A199 but monitoring/reporting requirements and effluent limits are not incorporated into the draft permit. The cyanide result in EPA's RP calculation sheet is documented at 13.6 µg/l. However, the NPDES Re-applications Form 2C documents a non-detect analytical result for cyanide (< 1.5 µg/l). DOE/LANS request that EPA not include monitoring and reporting requirements or permit requirements for cyanide because no reasonable potential exists (see Table 2 and 5).

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3. EPA's RP calculation sheet documents a reasonable potential for copper at Outfall 03A199, but monitoring/reporting requirements and effluent limits are not incorporated into the draft permit. Based on the copper result of 13.2 µg/l and a hardness of 122 mg/l in the permit re-application Form 2C, the potential effluent limit should be 26.7 µg/l.

4. DOE/LANS request the deletion of the WET monitoring and reporting requirements for Outfall 03A199 based on past WET testing results (no lethal effects to test species at or below the critical dilution of 100%). See General Comment #6.

TABLE 1

Selenium Data
Outfalls 03A027, 03A048, 03A113, and 03A199

Outfall	Field Sample ID	Chain Of Custody No.	Date Sampled	Parameter Name	Result	Report Units	Lab Qualifier	Detected	Analytical Method	Lab
03A027*	NPDES03A027-11-13855	12-358	11/16/2011	selenium	11.8	ug/L		Y	EPA:200.8	GEL
	NPDES03A027-11-13855	12-356	11/16/2011	selenium	1.02	ug/L	N	Y	SW-846:7742M	SwRI
03A048*	NPDES03A048-11-13856	433119	8/8/2011	selenium	2.8	ug/L	J	Y	EPA:200.8	GEL
	NPDES03A048-11-13856	458320	8/8/2011	selenium	0.922	ug/L	B	Y	SW-846:7742	SwRI
03A048*	NP048-13-38787	2013-1107	7/10/2013	selenium	5.95	ug/L		y	200.8	GEL
	NP048-13-38787	2013-1109	7/10/2013	selenium	1.00	ug/L		y	SW-846:7742	SwRI
03A048*	NP048-13-39240	2013-1231	7/18/2013	selenium	10.5	ug/L		y	200.8	GEL
	NP048-13-39241	2013-1232	7/18/2013	selenium	0.841	ug/L	B	Y	SW-846:7742	SwRI
03A048*	NP048-13-39242	2013-1295	7/22/2013	selenium	4.88	ug/L	J	Y	200.8	GEL
	NP048-13-39243	2013-1301	7/22/2013	selenium	0.88	ug/L	B	Y	SW-846:7742	SwRI
03A048*	NP048-13-39249	2013-1327	7/24/2013	selenium	< 1.50	ug/L	U	N	200.8	GEL
	NP048-13-39244	2013-1328	7/24/2013	selenium	0.83	ug/L		Y	SW-846:7742	SwRI
03A048*	NP048-13-39245	2013-1381	7/29/2013	selenium	15.10	ug/L		Y	200.8	GEL
	NP048-13-39248	2013-1382	7/29/2013	selenium	1.01	ug/L		Y	SW-846:7742	SwRI
03A048*	NP048-13-39246	2013-1440	7/31/2013	selenium	9.64	ug/L		Y	200.8	GEL
	NP048-13-39247	2013-1441	7/31/2013	selenium	0.81	ug/L		Y	SW-846:7742	SwRI
03A113*	NPDES03A113-11-13857	543422	8/31/2011	selenium	< 1.5**	ug/L	U	N	EPA:200.8	GEL
	NPDES03A113-11-13857	544153	8/31/2011	selenium	0.473	ug/L	B	Y	SW-846:7742	SwRI
03A199*	NPDES03A199-11-13860	543422	8/31/2011	selenium	5.2	ug/L		Y	EPA:200.8	GEL
	NPDES03A199-11-13860	544153	8/31/2011	selenium	0.856	ug/L	B	Y	SW-846:7742	SwRI
03A199*	NP199-13-39283	2013-1234	7/18/2013	selenium	5.01	ug/L		y	EPA:200.8	GEL
	NP199-13-39288	2013-1235	7/18/2013	selenium	0.856	ug/L	B	Y	SW-846:7742	SwRI
03A199*	NP199-13-39284	2013-1295	7/22/2013	selenium	2.82	ug/L	J	Y	EPA:200.8	GEL
	NP199-13-39289	2013-1301	7/22/2013	selenium	0.745	ug/L	B	Y	SW-846:7742	SwRI
03A199*	NP199-13-39286	2013-1381	7/29/2013	selenium	3.07	ug/L	J	Y	EPA:200.8	GEL
	NP199-13-39291	2013-1382	7/29/2013	selenium	0.732	ug/L	B	Y	SW-846:7742	SwRI
03A199*	NP199-13-39287	2013-1440	7/31/2013	selenium	1.97	ug/L	J	Y	EPA:200.8	GEL
	NP199-13-392292	2013-1441	7/31/2013	selenium	0.754	ug/L	B		SW-846:7742	SwRI

* Bromine used at Outalls 03A027, 03A048, 03A113, 03A199

** No RP- Recalculation unecessary

#.# Reported on Form 2C-positive interference

#.## Use to recalculate RP

TABLE 2

Cyanide Data
Outfalls 03A160 and 03A199

Outfall	Field Sample ID	Chain Of Custody No.	Date Sampled	Parameter Name	Report Result	Screening Value (per NMIP)	Report Units	Lab Qualifier	Detected	Analytical Method	Lab
03A160	NPDES03A160-11-13858	349844	7/18/2011	Cyanide (Total)	0.0136	0.0136	mg/L		Y	EPA:335.4	GEL
03A160	NP160-13-39230	2013-1231	7/18/2013	Cyanide	< 0.00167	0.000835	mg/L	U	N	335.4	GEL
03A160	NP160-13-39231	2013-1295	7/22/2013	Cyanide	< 0.00167	0.000835	mg/L	U	N	335.4	GEL
03A160	NP160-13-39232	2013-1327	7/24/2013	Cyanide	< 0.00167	0.000835	mg/L	U	N	335.4	GEL
03A160	NP160-13-39233	2013-1381	7/29/2013	Cyanide	0.00234	0.00234	mg/L	J	Y	335.4	GEL
03A160	NP160-13-39234	2013-1440	7/31/2013	Cyanide	< 0.00167	0.000835	mg/L	U	N	335.4	GEL
				Geometric Mean*:		0.00157852	mg/L				

Outfall	Field Sample ID	Chain Of Custody No.	Date Sampled	Parameter Name	Report Result	Report Units	Lab Qualifier	Detected	Analytical Method	Lab
03A199	NPDES03A199-11-13860	543422	8/31/2011	Cyanide (Total)	< 0.0015**	mg/L	U	N	EPA:335.4	GEL
03A199	NP199-13-39283	2013-1234	7/18/2013	Cyanide	ND	ug/L	U	N	335.4	GEL
03A199	NP199-13-39284	2013-1295	7/22/2013	Cyanide	ND	ug/L	U	N	335.4	GEL
03A199	NP199-13-39285	2013-1327	7/24/2013	Cyanide	ND	ug/L	U	N	335.4	GEL
03A199	NP199-13-39286	2013-1381	7/29/2013	Cyanide	ND	ug/L	U	N	335.4	GEL
03A199	NP199-13-39287	2013-1440	7/31/2013	Cyanide	ND	ug/L	U	N	335.4	GEL

#.### Reported on Form 2C

* Geometric mean used in RP calculation in Table 6

** RP calculation for 03A199 has 13.6 ug/L entered for CN result which is the value used in the 03A160 RP calculation

TABLE 3

Outfall 03A027
Original EPA Region 6 RP Spreadsheet Using 11.8 ug/L Selenium

17	A–G		H	J	K–P
18	Permittee		LANL		
19	NPDES Permit No.		NM0028355		
20	Outfall No.(s)		03A027		
21	Plant Effluent Flow (MGD)		0.105		For industrial and federal facility, use the highest monthly average flow
22	Plant Effluent Flow (cfs)		0.16275		for the past 24 months. For POTWs, use the design flow.
23					
24	RECEIVING STREAM		DATA INPUT		
25					
26	Receiving Stream Name		Sandia Canton		
27	Basin Name		Rio Grande		
28	Waterbody Segment Code No.		20.6.4.126		
29	Is a publicly owned lake or reservoir (enter "1" if it's a lake, "0" if not)		0		
30	Are acute aquatic life criteria considered (1= |(MUST enter "1" for 2005 Stand		1		
31	Are chronic aquatic life criteria considered (1= yes, 0=no)		1		
32	Are domestic water supply criteria considered (1= yes, 0=no)		0		
33	Are irrigation water supply criteria considered (1= yes, 0=no)		0		
34	Livestock watering and wildlife habitat criteria applied to all streams				
35					
36	USGS Flow Station		USGS		
37	WQ Monitoring Station No.		SJR		
38	Receiving Stream TSS (mg/l)		1.0833		Outfall 001's TSS
39	Receiving Stream Hardness (mg/l as $CaCO_3$)	RANGE: 0 - 400	78.8		Outfall 001's Hardness
40	Receiving Stream Critical Low Flow (4Q3) (cfs)		0.55		Outfall 001's Long-term flow
41	Receiving Stream Harmonic Mean Flow (cfs)		0.55		Enter harmonic mean or modified harmonic mean flow data
42	Avg. Water Temperature (C)		17.1		
43	pH (Avg)		8.5		
44	Fraction of stream allowed for mixing (F)		1		Enter 1, if stream morphology data is not available or for intermittent streams.
45	Fraction of Critical Low Flow		0.55		

RP Spreadsheet Using 1.02 ug/L Value for Selenium (Method 7742). No RP for Selenium.

139						Instream Waste Concentration				Livestock&	Acute	Chronic	Human	Need		RP 1.02: Ambient	RP 1.02: Effluent
140				Ambient	Effluent	Acute	Domestic	Chronic	Human	Domestic	Irrigation	Wildlife	Aquatic	Aquatic		Ambient	Effluent
141	POLLUTANTS			Conc	Conc.	Aquatic	Supply	Aquatic	Health	Criteria	Criteria	Criteria	Criteria	Criteria		Conc	Conc.
142		CAS No.	MQL	Ca (ug/l)	Ce (ug/l)	2.13*Ce	Cd,dom (ug	Cd (ug/l)	Cd,hh (ug/l	ug/l	ug/l	ug/l	ug/l	ug/l		Ca (ug/l)	Ce (ug/l)
143	Mercury, dissolved	7439-97-6	0.005			0	0	0	0	1E+100	1E+100	1E+100	1.4	0.77			
144	Mercury, total	7439-97-6	0.005			0	0	0	0	2	1E+100	0.77	1E+100	1E+100			
145	Molybdenum, dissolved	7439-98-7				0	0	0	0	1E+100	1000	1E+100	1E+100	1E+100			
146	Molybdenum, total recc	7439-98-7				0	0	0	0	1E+100	1E+100	1E+100	7920	1895			
147	Nickel, dissolved (P)	7440-02-0	0.5		0.72985	1.554588	0.354976	0.354976	0.354976	700	1E+100	1E+100	382.7593	42.51274			0.729853
148	Selenium, dissolved (P	7782-49-2	5		11.8	25.134	5.739121	5.739121	5.739121	50	130	50	1E+100	1E+100			1.02
149	Selenium, dis (SO4 >500 mg/l)		5			0	0	0	0	50	250	50	1E+100	1E+100			
150	Selenium, total recover	7782-49-2	5		11.8	25.134	5.739121	5.739121	5.739121	1E+100	1E+100	5	20	5			1.02
151	Silver, dissolved	7440-22-4	0.5		0	0	0	0	0	1E+100	1E+100	1E+100	2.135224	1E+100			0
152	Thallium, dissolved (P)	7440-28-0	0.5			0	0	0	0	2	1E+100	1E+100	1E+100	1E+100			
153	Zinc, dissolved	7440-66-6	20		1.62255	3.456022	0.789151	0.789151	0.789151	10500	2000	25000	128.834	97.60976			1.622546
154	Cyanide, total recovera	57-12-5	10			0	0	0	0	200	1E+100	5.2	22	5.2			
155	Dioxin	1764-01-6	0.00001			0	0	0	0	3.00E-05	1E+100	1E+100	1E+100	1E+100			

277							Livestock	Acute	Chronic	Human	Daily	Monthly	Daily Max	Mon. Avg		RP 1.02: Daily Max	RP 1.02: Mon. Avg
278	POLLUTANTS	CAS No.	STORET		Domestic	Irrigation	or Wildlife	Aquatic	Aquatic	Health	Max Conc	Avg Conc	Total	Total		Total	Total
279					Limits	Limits	Limits	Limits	Limits	Limits	ug/l	ug/l	ug/l	ug/l		ug/l	ug/l
295	METALS AND CYANIDE, as Total																
296	Antimony, Total (P)	7440-36-0	01097		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A
297	Arsenic, Total (P)	7440-38-2	1002		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A
298	Beryllium, Total	7440-41-7	01012		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A
299	Cadmium, Total	7440-43-9	01027		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A
300	Chromium (III), dissolv	16065-83-1	01033		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A
301	Chromium (VI), dissolv	18540-29-9	01034		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A
302	Chromium, Total	7440-47-3	01034		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A
303	Copper, Total	7440-50-8	01042		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A
304	Lead, Total	7439-92-1	01051		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A
305	Manganese, dissovled	7439-96-5	01056		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A
306	Mercury, Total	7439-97-6	71900		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A
307	Mercury, Total	7439-97-6	71900		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A
308	Molybdenum, dissolved	7439-98-7	1060		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A
309	Molybdenum, total recc	7439-98-7	01062		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A
310	Nickel, Total (P)	7440-02-0	01067		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A
311	Selenium, Total (P)	7782-49-2	01147		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A
312	Selenium, Total (SO4 >500 mg/l)		01147		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A
313	Selenium, Total recove	7782-49-2	01147		N/A	N/A	21.89708	20	21.89708	N/A	20	13.33333	20	13.33333		N/A	N/A
314	Silver, Total	7440-22-4	01077		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A
315	Thallium, Total (P)	7440-28-0	01059		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A
316	Zinc, Total	7440-66-6	1092		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A
317	Cyanide, total recovera	57-12-5	00720		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A

Note: No limits in draft permit for selenium

Recommend no permit limit for selenium.

TABLE 4

Outfall 03A048
Original EPA Region 6 Spreadsheet using 2.8 ug/L Selenium Value

17	A	B	C	D	E	F	G	I	J	K	L	M	N	O	P	
18	Permittee							LANL								
19	NPDES Permit No.							NM0028355								
20	Outfall No.(s)							03A048								
21	Plant Effluent Flow (MGD)							0.104			For industrial and federal facility, use the highest monthly average flow					
22	Plant Effluent Flow (cfs)							0.1612			for the past 24 months. For POTWs, use the design flow.					
23																
24	RECEIVING STREAM							DATA INPUT								
25																
26	Receiving Stream Name							Los Alamos Canyon								
27	Basin Name							Rio Grande								
28	Waterbody Segment Code No.							20.6.4.128								
29	Is a publicly owned lake or reservoir (enter "1" if it's a lake, "0" if not)							0								
30	Are acute aquatic life criteria considered (1= (MUST enter "1" for 2005 Standa							1								
31	Are chronic aquatic life criteria considered (1= yes, 0=no)							0								
32	Are domestic water supply criteria considered (1= yes, 0=no)							0								
33	Are irrigation water supply criteria considered (1= yes, 0=no)							0								
34	Livestock watering and wildlife habitat criteria applied to all streams															
35																
36	USGS Flow Station							USGS								
37	WQ Monitoring Station No.							SJR								
38	Receiving Stream TSS (mg/l)							1		For intermittent stream, enter effluent TSS						
39	Receiving Stream Hardness (mg/l as CaCOs)					RANGE: 0 - 400		179		For intermittant stream, enter effluent Hardness (If no data, 20 mg/l is used)						
40	Receiving Stream Critical Low Flow (4Q3) (cfs)							0		Enter "0" for intermittent stream and lake.						
41	Receiving Stream Harmonic Mean Flow (cfs)							0.00155		Enter harmonic mean or modified harmonic mean flow data						
42	Avg. Water Temperature (C)							20.3								
43	pH (Avg)							8.4								
44	Fraction of stream allowed for mixing (F)							1		Enter 1, if stream morphology data is not available or for intermittent streams.						
45	Fraction of Critical Low Flow							0								
139							Instream Waste Concentration				Livestock&	Acute	Chronic	Human	Need	
140					Ambient	Effluent	Acute	Domestic	Chronic	Human	Domestic	Irrigation	Wildlife	Aquatic	Aquatic	
141	POLLUTANTS				Conc	Conc.	Aquatic	Supply	Aquatic	Health	Criteria	Criteria	Criteria	Criteria	Criteria	
142			CAS No.	MQL	Ca (ug/l)	Ce (ug/l)	2.13*Ce	d,dom (ug/	Cd (ug/l)	Cd,hh (ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
143	Mercury, dissolved		7439-97-6	0.005			0	0	0	0	1E+100	1E+100	1E+100	1.4	0.77	
144	Mercury, total		7439-97-6	0.005			0	0	0	0	2	1E+100	0.77	1E+100	1E+100	
145	Molybdenum, dissolv		7439-98-7				0	0	0	0	1E+100	1000	1E+100	1E+100	1E+100	
146	Molybdenum, total re		7439-98-7				0	0	0	0	1E+100	1E+100	1E+100	7920	1895	
147	Nickel, dissolved (P)		7440-02-0	0.5		0.604027	1.286577	1.286577	1.286577	1.274324	700	1E+100	1E+100	766.2637	85.10824	
148	Selenium, dissolved (		7782-49-2	5		2.8	5.964	5.964	5.964	5.9072	50	130	50	1E+100	1E+100	
149	Selenium, dis (SO4 >500 mg/l)			5			0	0	0	0	50	250	50	1E+100	1E+100	
150	Selenium, total recov		7782-49-2	5		2.8	5.964	5.964	5.964	5.9072	1E+100	1E+100	5	20	5	
151	Silver, dissolved		7440-22-4	0.5		0	0	0	0	0	1E+100	1E+100	1E+100	8.756398	1E+100	
152	Thalllium, dissolved (		7440-28-0	0.5			0	0	0	0	2	1E+100	1E+100	1E+100	1E+100	
153	Zinc, dissolved		7440-66-6	20		0	0	0	0	0	10500	2000	25000	271.6904	205.8552	
154	Cyanide, total recove		57-12-5	10			0	0	0	0	200	1E+100	5.2	22	5.2	
155	Dioxin		1764-01-6	0.00001			0	0	0	0	3.00E-05	1E+100	1E+100	1E+100	1E+100	
277								Livestock	Acute	Chronic	Human	Daily	Monthly	Daily Max	Mon. Avg	
278	POLLUTANTS		CAS No.	STORET		Domestic	Irrigation	or Wildlife	Aquatic	Aquatic	Health	Max Conc	Avg Conc	Total	Total	
279						Limits	Limits	Limits	Limits	Limits	Limits	ug/l	ug/l	ug/l	ug/l	
295	METALS AND CYANIDE, as Total															
296	Antimony, Total (P)		7440-36-0	01097		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
297	Arsenic, Total (P)		7440-38-2	1002		N/A	N/A	N/A	N/A	N/A	9.086538	9.086538	9	13.44608	13.32	
298	Beryllium, Total		7440-41-7	01012		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
299	Cadmium, Total		7440-43-9	01027		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
300	Chromium (III), dissol		16065-83-1	01033		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
301	Chromium (VI), disso		18540-29-9	01034		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
302	Chromium, Total		7440-47-3	01034		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
303	Copper, Total		7440-50-8	01042		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
304	Lead, Total		7439-92-1	01051		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
305	Manganese, dissovle		7439-96-5	01056		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
306	Mercury, Total		7439-97-6	71900		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
307	Mercury, Total		7439-97-6	71900		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
308	Molybdenum, dissolv		7439-98-7	1060		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
309	Molybdenum, total re		7439-98-7	01062		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
310	Nickel, Total (P)		7440-02-0	01067		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
311	Selenium, Total (P)		7782-49-2	01147		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
312	Selenium, Total (SO4 >500 mg/l			01147		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
313	Selenium, Total recov		7782-49-2	01147		N/A	N/A	5	N/A	N/A	N/A	5	5	5	5	
314	Silver, Total		7440-22-4	01077		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
315	Thalllium, Total (P)		7440-28-0	01059		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
316	Zinc, Total		7440-66-6	1092		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
317	Cyanide, total recove		57-12-5	00720		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

RP Spreadsheet Using 0.922 ug/L Value for Selenium (Method 7742). No RP for Selenium.

Ambient	Effluent
Conc	Conc.
Ca (ug/l)	Ce (ug/l)
	0.60403
	0.922
	0.922
	0
	0
Daily Max	Mon. Avg
Total	Total
ug/l	ug/l
N/A	N/A
13.4481	13.32
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

Recommend no permit limit for selenium

TABLE 5

Outfall 03A199 Ephemeral
Original EPA Region 6 RP Spreadsheet Using 5.2 ug/L Seleium and 13.6 ug/L Cyanide Values

Permittee	LANL	
NPDES Permit No.	NM0028355	
Outfall No.(s)	03A199	
Plant Effluent Flow (MGD)	0.0395	For industrial and federal facility, use the highest monthly average flow
Plant Effluent Flow (cfs)	0.061225	for the past 24 months. For POTWs, use the design flow.
RECEIVING STREAM	DATA INPUT	
Receiving Stream Name	Sandia Canyon	
Basin Name	Rio Grande	
Waterbody Segment Code No.	20 6 4 128	
Is a publicly owned lake or reservoir (enter "1" if it's a lake, "0" if not)	0	
Are acute aquatic life criteria considered (1= (MUST enter "1" for 2005 Sta	1	
Are chronic aquatic life criteria considered (1= yes, 0=no)	1	
Are domestic water supply criteria considered (1= yes, 0=no)	0	
Are irrigation water supply criteria considered (1= yes, 0=no)	0	
Livestock watering and wildlife habitat criteria applied to all streams		
USGS Flow Station	USGS	
WQ Monitoring Station No.	SJR	
Receiving Stream TSS (mg/l)	4.3	Outfall 001's TSS
Receiving Stream Hardness (mg/l as CaCOs) RANGE: 0 - 400	122	Outfall 001's Hardness
Receiving Stream Critical Low Flow (4Q3) (cfs)	0	Outfall 001's Long-term flow
Receiving Stream Harmonic Mean Flow (cfs)	0.00155	Enter harmonic mean or modified harmonic mean flow data
Avg. Water Temperature (C)	21.4	
pH (Avg)	8.2	
Fraction of stream allowed for mixing (F)	1	Enter 1, if stream morphology data is not available or for intermittent streams.
Fraction of Critical Low Flow	0	

						Instream Waste Concentration								
POLLUTANTS	CAS No.	MQL	Ambien Conc Ca (ug/	Effluent Conc. Ce (ug/l)	Acute Aquatic 2.13*Ce	Domestic Supply Cd,dom (ug/	Chronic Aquatic Cd (ug/l)	Human Health Cd,hh (ug/l	Livestock& Domestic Criteria ug/l	Acute Irrigation Criteria ug/l	Chronic Wildlife Criteria ug/l	Human Aquatic Criteria ug/l	Need Aquatic Criteria ug/l
Mercury, dissolved	7439-97-6	0.005			0	0	0	0	1E+100	1E+100	1E+100	1.4	0.77
Mercury, total	7439-97-6	0.005		0.01	0.0213	0.0213	0.0213	0.020774	2	1E+100	0.77	1E+100	1E+100
Molybdenum, dissolved	7439-98-7			2.8	5.964	5.964	5.964	5.816741	1E+100	1000	1E+100	1E+100	1E+100
Molybdenum, total reco	7439-98-7			2.8	5.964	5.964	5.964	5.816741	1E+100	1E+100	1E+100	7920	1895
Nickel, dissolved (P)	7440-02-0	0.5		0.380712	0.810916	0.810916	0.810916	0.790894	700	1E+100	1E+100	554.0195	61.53446
Selenium, dissolved (P	7782-49-2	5			0	0	0	0	50	130	50	1E+100	1E+100
Selenium, dis (SO4 >500 mg/l)		5			0	0	0	0	50	250	50	1E+100	1E+100
Selenium, total recover	7782-49-2	5		5.2	11.076	11.076	11.076	10.80252	1E+100	1E+100	5	20	5
Silver, dissolved	7440-22-4	0.5		0.060833	0.129575	0.129575	0.129575	0.126376	1E+100	1E+100	1E+100	4.528529	1E+100
Thalllium, dissolved (P	7440-28-0	0.5			0	0	0	0	2	1E+100	1E+100	1E+100	1E+100
Zinc, dissolved	7440-66-6	20		1.464477	3.119336	3.119336	3.119336	3.042316	10500	2000	25000	191.7191	145.2584
Cyanide, total recovera	57-12-5	10		13.6	28.968	28.968	28.968	28.25274	200	1E+100	5.2	22	5.2
Dioxin	1764-01-6	1E-05			0	0	0	0	3.00E-05	1E+100	1E+100	1E+100	1E+100

POLLUTANTS	CAS No.	STORET	Domestic Limits	Irrigation Limits	Livestock or Wildlife Limits	Acute Aquatic Limits	Chronic Aquatic Limits	Human Health Limits	Daily Max Cond ug/l	Monthly Avg Conc ug/l	Daily Max Total ug/l	Mon. Avg Total ug/l
METALS AND CYANIDE, as Total												
Antimony, Total (P)	7440-36-0	01097	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arsenic, Total (P)	7440-38-2	1002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Beryllium, Total	7440-41-7	01012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cadmium, Total	7440-43-9	01027	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium (III), dissolv	16065-83-1	01033	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium (VI), dissolv	18540-29-9	01034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium, Total	7440-47-3	01034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Copper, Total	7440-50-8	01042	N/A	N/A	N/A	N/A	N/A	10.81443	N/A	10.81443	10.81443	28.74432	28.74432
Lead, Total	7439-92-1	01051	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Manganese, dissovled	7439-96-5	01056	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mercury, Total	7439-97-6	71900	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mercury, Total	7439-97-6	71900	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Molybdenum, dissolved	7439-98-7	1060	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Molybdenum, total reco	7439-98-7	01062	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nickel, Total (P)	7440-02-0	01067	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium, Total (P)	7782-49-2	01147	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium, Total (SO4 >500 mg/l)		01147	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Selenium, Total recove	7782-49-2	01147	N/A	N/A	5	N/A	5	N/A	5	5	5	5
Silver, Total	7440-22-4	01077	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Thalllium, Total (P)	7440-28-0	01059	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Zinc, Total	7440-66-6	1092	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cyanide, total recovera	57-12-5	00720	N/A	N/A	5.2	22	5.2	N/A	5.2	5.2	5.2	5.2

Note: No limits in draft permit for copper, selenium, cyanide

RP Spreadsheet Using 0.856 ug/L Value for Selenium (Method 7742) and 0.0 ug/L value for Cyanide (as reported in reapplication). No RP for Selenium. No RP for Cyanide.

Ambient Conc Ca (ug/l)	Effluent Conc. Ce (ug/l)	Daily Max Total ug/l	Mon. Avg Total ug/l
	0.01	N/A	N/A
	2.8	N/A	N/A
	2.8	N/A	N/A
	0.380712	N/A	N/A
		N/A	N/A
		N/A	N/A
	0.856	N/A	N/A
	0.060833	N/A	N/A
		N/A	N/A
	1.484477	26.74432	26.74432
	0	N/A	N/A
		N/A	N/A

Recommend no permit limits for selenium and cyanide

TABLE 6

Outfall 03A160
Original EPA Region 6 Spreadsheet Using 13.6 ug/L Cyanide Value

#	Item	Value	Note
18	Permittee	LANL	
19	NPDES Permit No.	NM0028355	
20	Outfall No.(s)	03A160	
21	Plant Effluent Flow (MGD)	0.002	For industrial and federal facility, use the highest monthly average flow
22	Plant Effluent Flow (cfs)	0.0031	for the past 24 months. For POTWs, use the design flow.
23			
24	RECEIVING STREAM	DATA INPUT	
25			
26	Receiving Stream Name	Ten Site Canyon	
27	Basin Name	Rio Grande	
28	Waterbody Segment Code No.	20.6.4.128	
29	Is a publicly owned lake or reservoir (enter "1" if it's a lake, "0" if not)	0	
30	Are acute aquatic life criteria considered (1=(MUST enter "1" for 2005 Standa	1	
31	Are chronic aquatic life criteria considered (1= yes, 0=no)	0	
32	Are domestic water supply criteria considered (1= yes, 0=no)	0	
33	Are irrigation water supply criteria considered (1= yes, 0=no)	0	
34	Livestock watering and wildlife habitat criteria applied to all streams		
35			
36	USGS Flow Station	USGS	
37	WQ Monitoring Station No.	SJR	
38	Receiving Stream TSS (mg/l)	1	For intermittent stream, enter effluent TSS
39	Receiving Stream Hardness (mg/l as CaCOs) RANGE: 0 - 400	118	For intermittent stream, enter effluent Hardness (If no data, 20 mg/l is used)
40	Receiving Stream Critical Low Flow (4Q3) (cfs)	0	Enter "0" for intermittent stream and lake.
41	Receiving Stream Harmonic Mean Flow (cfs)	0.00155	Enter harmonic mean or modified harmonic mean flow data
42	Avg. Water Temperature (C)		
43	pH (Avg)	8.7	
44	Fraction of stream allowed for mixing (F)	1	Enter 1, if stream morphology data is not available or for intermittent streams.
45	Fraction of Critical Low Flow	0	

RP Spreadsheet Using 1.579 ug/L Value for Cyanide (Mgeometric Mean per NMIP). No RP for Cyanide.

#	POLLUTANTS	CAS No.	MQL	Ambient Conc Ca (ug/l)	Effluent Conc. Ce (ug/l)	Instream Waste Concentration: Acute Aquatic 2.13*Ce	Domestic Supply d,dom (ug/	Chronic Aquatic Cd (ug/l)	Human Health Cd,hh (ug/l	Livestock& Domestic Criteria ug/l	Acute Irrigation Criteria ug/l	Chronic Wildlife Criteria ug/l	Human Aquatic Criteria ug/l	Need Aquatic Criteria ug/l	RP: Ambient Conc Ca (ug/l)	RP: Effluent Conc. Ce (ug/l)
143	Mercury, dissolved	7439-97-6	0.005			0	0	0	0	1E+100	1E+100	1E+100	1.4	0.77		
144	Mercury, total	7439-97-6	0.005		0.0042	0.008946	0.008946	0.008946	0.005964	2	1E+100	0.77	1E+100	1E+100		0.0042
145	Molybdenum, dissolve	7439-98-7				0	0	0	0	1E+100	1000	1E+100	1E+100	1E+100		
146	Molybdenum, total rec	7439-98-7				0	0	0	0	1E+100	1E+100	1E+100	7920	1895		
147	Nickel, dissolved (P)	7440-02-0	0.5		0.90604	1.929866	1.929866	1.929866	1.286577	700	1E+100	1E+100	538.6129	59.82327		0.90604
148	Selenium, dissolved (	7782-49-2	5			0	0	0	0	50	130	50	1E+100	1E+100		
149	Selenium, dis (SO4 >500 mg/l)		5			0	0	0	0	50	250	50	1E+100	1E+100		
150	Selenium, total recove	7782-49-2	5			0	0	0	0	1E+100	1E+100	5	20	5		
151	Silver, dissolved	7440-22-4	0.5			0	0	0	0	1E+100	1E+100	1E+100	4.276174	1E+100		
152	Thallium, dissolved (l	7440-28-0	0.5			0	0	0	0	2	1E+100	1E+100	1E+100	1E+100		
153	Zinc, dissolved	7440-66-6	20		1.955556	4.165333	4.165333	4.165333	2.776889	10500	2000	25000	185.9941	140.9205		1.955556
154	Cyanide, total recover	57-12-5	10		13.6	28.968	28.968	28.968	19.312	200	1E+100	5.2	22	5.2		1.579
155	Dioxin	1764-01-6	0.00001			0	0	0	0	3.00E-05	1E+100	1E+100	1E+100	1E+100		

#	POLLUTANTS	CAS No.	STORET	Domestic Limits	Irrigation Limits	Livestock or Wildlife Limits	Acute Aquatic Limits	Chronic Aquatic Limits	Human Health Limits	Daily Max Conc ug/l	Monthly Avg Conc ug/l	Daily Max Total ug/l	Mon. Avg Total ug/l	RP: Daily Max Total ug/l	RP: Mon. Avg Total ug/l
295	**METALS AND CYANIDE, as Total**														
296	Antimony, Total (P)	7440-38-0	01097	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
297	Arsenic, Total (P)	7440-38-2	1002	N/A	N/A	N/A	N/A	N/A	13.5	13.5	9	19.98	13.32	19.98	13.32
298	Beryllium, Total	7440-41-7	01012	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
299	Cadmium, Total	7440-43-9	01027	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
300	Chromium (III), dissol	16065-83-1	01033	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
301	Chromium (VI), dissol	18540-29-9	01034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
302	Chromium, Total	7440-47-3	01034	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
303	Copper, Total	7440-50-8	01042	N/A	N/A	N/A	15.70717	N/A	N/A	15.70717	10.47144	32.04262	21.36175	32.04262	21.36175
304	Lead, Total	7439-92-1	01051	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
305	Manganese, dissovled	7439-96-5	01056	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
306	Mercury, Total	7439-97-6	71900	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
307	Mercury, Total	7439-97-6	71900	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
308	Molybdenum, dissolve	7439-98-7	1060	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
309	Molybdenum, total rec	7439-98-7	01062	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
310	Nickel, Total (P)	7440-02-0	01067	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
311	Selenium, Total (P)	7782-49-2	01147	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
312	Selenium, Total (SO4 >500 mg/l)		01147	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
313	Selenium, Total recov	7782-49-2	01147	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
314	Silver, Total	7440-22-4	01077	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
315	Thallium, Total (P)	7440-28-0	01059	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
316	Zinc, Total	7440-66-6	1092	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
317	Cyanide, total recover	57-12-5	00720	N/A	N/A	5.2	22	N/A	N/A	5.2	5.2	5.2	5.2	N/A	N/A

Recommend no permit limit for cyanide