EXHIBIT
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE
DALLAS, TEXAS 75202-2733

AUG 12 2014

CERTIFIED MAIL: RETURN RECEIPT REQUESTED (7010 2780 0002 4354 5701)

Mr. Alison M. Dorries
U.S. DOE Los Alamos Site Office
3747 West Jemez Road
Los Alamos, NM 87544

Re: NPDES Permit No. NM0028355
Final Permit Decision

Dear Mr. Dorries:

This package constitutes EPA's final permit decision for the above referenced facility. Enclosed are the responses to comments received during the public comment period and the final permit. According to EPA regulations at 40 CFR124.19, within 30 days after a final permit decision has been issued, any person who filed comments on that draft permit or participated in the public hearing may petition the Environmental Appeals Board to review any condition of the permit decision.

Should you have any questions regarding the final permit, please feel free to contact Isaac Chen of the NPDES Permits Branch at the above address or VOICE:214-665-7364, FAX:214-665-2191, or EMAIL:chen.isaac@epa.gov. Should you have any questions regarding compliance with the conditions of this permit, please contact the Water Enforcement Branch at the above address or VOICE:214-665-6468.

Sincerely yours,

William K. Honker, P.E.
Director
Water Quality Protection Division

Enclosures

cc (w/enclosures): New Mexico Environment Department

NPDES PERMIT NO. NM0028355
RESPONSE TO COMMENTS

RECEIVED ON THE SUBJECT DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT IN ACCORDANCE WITH REGULATIONS LISTED AT 40CFR124.17

APPLICANT:

Los Alamos National Security, LLC
Los Alamos National Laboratory
PO Box 1663, K491
Los Alamos, New Mexico 87544

AND

U.S. Department of Energy
Los Alamos Area Office, A316
3747 West Jemez Road
Los Alamos, NM 87544

ISSUING OFFICE: U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

PREPARED BY: Isaac Chen
Environmental Engineer
Permits & Technical Section (6WQ-PP)
NPDES Permits Branch
Water Quality Protection Division
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PERMIT ACTION: Final permit decision and response to comments received on the draft reissued NPDES permit publicly noticed on June 29, 2013.

DATE PREPARED: August 4, 2014

Unless otherwise stated, citations to 40CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations, revised as of April 1, 2014.

SIGNIFICANT CHANGES FROM DRAFT PERMIT

There are significant changes from the draft reissued permit publicly noticed on June 29, 2013. All minor changes and their rationale for changes can be found in the following response to conditions of certification or response to comments.

A. Method 1668C for PCBs is added to the final permit in accordance with the State conditions of certification;

B. Effluent limitations and monitoring requirements for impaired parameters in discharges to impaired waters are added to the final permit in accordance with the State conditions of certification; and

C. 6T3 temperature limitation is added to Outfall 001 in accordance with the State conditions of certification.

State Certification

State certification letter from Mr. James Hogan (NMED) to Mr. William Honker (EPA), dated September 19, 2013, conditionally certifies that the discharge will comply with the applicable provisions of the Clean Water Act and with appropriate requirements of State law. NMED also includes comments in the certification letter.

Note: Inclusion of permit requirements to comply with conditions of certification are required by 40 CFR § 124.55(a)(2). Challenges to conditions of certification must be made through NMED. In any case, if conditions are based on procedures or guidelines, rather than state regulations or statutes, EPA would treat those conditions as recommendations or comments, and would respond accordingly. If any condition will result in less stringent permit conditions, then EPA would treat those conditions as a statement of the extent to which the permit could be made less stringent (see 40 CFR §124.53(e)(3)).

Comments Received From Other Entities

Letter from Ms. Kathleen Sanchez (TEWA Women United) to Ms. Diane Smith (EPA) via e-mail dated August 12, 2013.

Letter from Ms. Paula Garcia (New Mexico Acequia Association) to Ms. Diane Smith (EPA) via e-mail dated August 12, 2013.

Letter from Mses. Rachel Conn, Joni Arends, and Marian Naranjo (Communities For Clean Water) to Ms. Diane Smith (EPA) via e-mail dated August 13, 2013.

Letter from Ms. Becky Rafter (Georgia Women's Action for New Directions) to Ms. Diane Smith (EPA) via e-mail dated August 13, 2013.

Letter from Ms. Sheri Kotowski (The Carnelian Center) to Ms. Diane Smith (EPA) via e-mail dated August 13, 2013.

Letter from Messrs. Alison M. Dorries and Gene E. Turner (Los Alamos National Laboratory-LANL) to Ms. Diane Smith (EPA) via email dated August 13, 2013.

Individuals who sent comments via email are (in the order of last name): Ms. Diana Baker, Ms. Bobbe Besold, Ms. Jon Block, Mr. John Boomer, Ms. Jeanne Green, Mr. Don Hide, Ms. Marilyn Hoff, Ms. Dominique Mazeaud, Ms. Shannon Romeling, Ms. Ramona Ruark, Ms. Deborah Schreifels, and Ms. Jacqueline Wasilewski.

EPA's Responses to NMED's Conditions of Certification

Condition #1 (PCB Monitoring and Effluent Limitations): NMED conditioned that "USEPA must revise the draft permit to include a monitoring and compliance maximum discharge limit for Polychlorinated Biphenyls (PCBs) of 0.00064 micrograms per liter (µg/l). The State will require that monitoring and reporting of PCBs be performed in accordance with USEPA published Method 1668C or later revisions. Pursuant to 20.6.4.14.A (3) NMAC, Method 1668C is a State approved method for testing surface wastewater discharges. Additionally, Method 1668C has a Minimum Quantification Level (MQL) set at or below the applicable and limiting State WQS found in 20.6.4.900.J (2) NMAC. Further supporting this requirement is that Method 1668C is the only known and least restrictive and readily available laboratory wastewater sampling method that can reasonably assure that the proposed discharges do not exceed the WQS limits of 20.6.4.900.J (2) NMAC. As a valid state law condition and limitation pursuant to Section 401 (d) (33 U.S.C. §1341 (d)) and 40 C.F.R. 124.53(e)(3), and in accord with 20.6.2.2001.B NMAC, USEPA must include this requirement in the final permit. 33 U.S.C. 1341 (a); 40 C.F.R. §124.53 (a). USEPA will need to determine how footnotes or other language in the Final Permit should best be changed to meet this condition...."

Response: As required by the conditions of certification, the final permit includes daily maximum limit of 0.00064 µg/l of PCBs and NMED suggested footnote languages including the Minimum Qualification Level (MQL) for Method 1668 in the certification. When EPA proposed the draft permit, all footnotes related to PCB limitations and monitoring requirements were under the basis that analytical results from the Method 1668 are not for compliance purposes. EPA considers all NMED suggested permit language regarding PCBs that are incorporated into the final permit, including footnotes and MQL, to be integral to complying with NMED's condition of certification.

Condition #2 (Outfalls 001, 027 & 199, Discharges to Impaired Receiving Waters in 20.6.4.126 NMAC): NMED issued the following conditions:
(Condition #2a) For Outfalls 001, 027 and 199, Part I.A of the Final Permit must control aluminum and copper pollutants by the use of effluent limitations based on the most limiting applicable State WQS numeric criteria for the receiving stream in Segment 20.6.4.126 NMAC." NMED provided the following criteria

	Calculated Chronic Aquatic Life Criteria
Total Recoverable Aluminum	988.9 µg/L (0.9889 mg/L)
Dissolved Copper	7.3 µg/L (0.0073 mg/L)

Response: As required by the conditions of certification, EPA adds NMED provided numeric criteria for total recoverable aluminum and dissolved copper as daily maximum effluent limitations for Outfalls 001, 03A027 and 03A199.

EPA establishes a 3-year compliance schedule. This compliance schedule applies to all effluent limitations established based on NMED conditions of certification unless a more stringent limitation was already established in the expired permit.

(Condition #2b) For Outfall 199, Part I.A of the Final Permit must control mercury by the use of effluent limitations based on the most limiting applicable State WQS numeric criteria for the receiving stream in Segment 20.6.4.126 NMAC. NMED provided the following criteria

Pollutant	Designated Use	Numeric Criteria
Total Mercury	Wildlife Habitat	0.77 µg/L
Dissolved Mercury	Chronic Aquatic Life	0.77 µg/L

Response: As required by the conditions of certification, EPA adds NMED provided numeric criteria for total mercury and dissolved mercury as daily maximum effluent limitations for Outfall 03A199 (Note: the permittee needs to report both total and dissolved values). EPA establishes a 3-year compliance schedule as discussed above.

(Condition #2c) For Outfalls 001, 027 and 199, there were no effluent concentration data for adjusted gross alpha in the application. For pollutants that are Probable Causes of Impairment for which there are no effluent characteristic data, NMED requires confirmation of effluent characteristics, at least one time effluent characteristic monitoring and reporting as soon as practicable....

Response: As required by the conditions of certification, EPA adds monitoring and reporting requirements for adjusted gross alpha for Outfall 001, 03A027 and 03A199.

Because NMED did not specify the sample type and monitoring frequency, a grab sample and a minimum frequency of 1/year as required by the federal regulation are established for aluminum, copper and mercury. Monitoring frequency of once per permit term and grab sample are established for adjusted gross alpha. The general reopener clause in Part II.E. covers the reopener clause requirement.

Condition #3 (Outfalls 13S, 055, 051, 022, 181, 048, 113 & 160, Discharges to Impaired Receiving Waters in 20.6.4.128 NMAC): NMED issued following conditions:
(Condition #3a) For Outfalls 181, 113 and 048, Part I.A of the Final Permit must control copper pollutants by the use of effluent limitations based on the most limiting applicable State WQS numeric criteria for the receiving stream in Segment 20.6.4.128 NMAC. NMED provided the following criteria

Outfall #	Acute Dissolved Copper Aquatic Life Numeric Criteria
181	0.0115 mg/l (11.5 µg/l)
048	0.0233 mg/l (23.3 µg/l)
113	0.0218 mg/l (21.8 µg/l)

Response: As required by the conditions of certification, EPA adds NMED provided numeric criteria for dissolved copper as daily maximum limit to Outfalls 03A181, 03A048 and 03A113, respectively. A 3-year compliance schedule is established as discussed above.

(Condition #3b) NMED required mercury limitations to be established for Outfall 048 and stated that "For discharges that contribute to a currently listed impairment, a mercury WQBEL is required by 40 CFR 122.44(d)(1)(ii) and (iii) and State WQS 20.6.4.8.A.5 and 6 NMAC (Implementation Plan) consistent with the WQMP to ensure that NPDES permits are protective of State WQS. The following are the applicable numeric criteria in State WQS 20.6.4.900.H(7) for limited aquatic life and 20.6.4.900 NMAC:

Pollutant	Designated Use	Numeric Criteria
Total Mercury	Wildlife Habitat	0.77 µg/L
Dissolved Mercury	Acute Aquatic Life	1.4 µg/L

Response: As required by the conditions of certification, EPA adds NMED provided numeric criteria for total mercury and dissolved mercury as daily maximum limits to Outfall 03A048, respectively. A 3-year compliance schedule is established as discussed above.

(Condition #3c) For Outfalls 13S, 181, 113, 048 and 160, the Final Permit must control aluminum by the use of effluent limitations based on the applicable State WQS numeric criteria for the receiving stream in Segment 20.6.4.128 NMAC. Total recoverable aluminum WQBELs at least as protective of applicable State WQS are required by 40 CFR 122.44(d)(1)(ii) and (iii) and State WQS 20.6.4.8.A.5 and 6 NMAC and is consistent with the State WQMP. The acute aquatic life criteria apply to the receiving waters (State WQS 20.6.4.900.H(7) NMAC for Limited Aquatic Life) of Outfalls 13S, 181, 113, 048 and 160. Hardness-dependent Acute Aquatic Life numeric criteria for total recoverable aluminum can be calculated for this permit action as described in State WQS 20.6.4.900 NMAC using the outfall effluent total hardness as CaCO3 in the application consistent with the USEPA reasonable potential analysis in the Fact Sheet. However, for CWA purposes, USEPA did not approve hardness-based equations for aluminum in waters with pH below 6.5 su in State WQS 20.6.4.900 NMAC. The pH limitations in the Draft Permit for receiving waters in Segment 20.6.4.128 NMAC are in a range between 6.0 to 9.0 standard unit consistent with the state WQMP. USEPA must incorporate an aluminum effluent limitation that is at least as stringent as state WQS. Requirement for aluminum effluent limitations more stringent than State WQS is not a condition of this certification.

Response: As required by the conditions of certification, EPA adds total recoverable aluminum limits to the following outfalls based on calculated acute aquatic life criteria:

Outfall #	13S	181	113	048	160
Al Limit (mg/l)	3.514	2.724	6.904	7.592	4.290

It is not clear whether NMED has determined the impairment is based on new WQS for total recoverable aluminum or is based on the previous dissolved aluminum WQS. NMED did not provide specific aluminum limits for pH range of 6.0 – 6.5, and stated that "Requirement for aluminum effluent limitations more stringent than State WQS is not a condition of this certification," EPA establishes one outfall-specific total recoverable aluminum limitation for each outfall in accordance with State conditions of certification. A 3-year compliance schedule is established as discussed above.

(Condition #3d) For Outfalls 051, 055 and 022 and to determine effluent characteristics, at least one time representative effluent characteristic analysis monitoring and reporting as soon as practicable for total recoverable aluminum for Outfalls 051, 055 and 022 and copper for Outfall 022 with a reopener clause condition is required in the Final Permit.

Response: As required by the conditions of certification, EPA adds a monitoring requirement for total recoverable aluminum for Outfalls 051, 055 and 022 and a monitoring requirement for dissolved copper for Outfall 022 at a frequency of once per permit term in the final permit.

(Condition #3e) For Outfalls 13S, 051, 055, 022, 181, 113, 048 & 160 and to determine effluent characteristics, at least one time representative effluent characteristic analysis monitoring and reporting

as soon as practicable for adjusted gross alpha with a reopener clause condition is required in the Final Permit.

Response: As required by the conditions of certification, EPA adds a monitoring requirement for adjusted gross alpha for Outfalls 13S, 051, 055, 022, 181, 113, 048 & 160 at a frequency of once per permit term in the final permit.

Because NMED did not specify the sample type and monitoring frequency, grab sample type with the minimum frequency of 1/year as required by the federal regulation are established for parameters with limits. Monitoring frequency of once per permit term and grab sample are established for monitoring only parameters. The general reopener clause in Part II.E. covers the reopener clause requirement.

Condition #4 (Outfall 001, 6T3 Temperature Limitation with Schedule of Compliance) NMED conditioned that "The following additional limitations, measurement frequency and sample type must be incorporated into the Final Permit:

Pollutant	Limitation	Measurement Frequency	Sample Type
Temperature	6T3 Temperature of 20°C (68°F) shall not be exceeded for six or more consecutive hours in a 24-hour period on more than three consecutive days.	While discharging, measurement of temperature must be at a frequency not to exceed 1/hr. [NMED clarified that it should read as "… at a frequency not less than 1/hour."]	Grab [NMED clarified that continuous record could be used.]

NMED recognizes that new or updated temperature monitoring instrumentation and/or procedures and operational changes may be needed to meet the 6T3 temperature limitations for discharges from Outfall 001 to the effluent-dominated receiving stream. Therefore, USEPA may choose to include a compliance schedule in the Final Permit to require compliance at the earliest practicable time.

Response: As required by the conditions of certification, EPA adds the condition provided by the NMED to the final permit. But, because NMED has not developed an implementation procedure to implement 6T3 Temperature WQS through the NPDES permit, and also because the permittee is working with NMED to conduct a site-specific designated use study and the study requires 2-3 summer time sampling events and may result in change of designated use for aquatic life, EPA establishes a "one-day before the permit expiration date" compliance schedule.

Condition #5 (Outfall 022, Effluent Monitoring and Limitations, Total Residual Chlorine) NMED conditioned that "If USEPA authorizes the discharge of once through cooling potable water in this permit action, then Part I.A of the Final Permit for Outfall 022 must also control TRC by the use of effluent limitations based on the most limiting applicable State WQS numeric criteria in 20.6.4.900 NMAC for the receiving stream in Segment 20.6.4.128 NMAC when Outfall 022 discharges once through cooling potable water. The following are the applicable and limiting numeric criteria in State WQS 20.6.4.900 NMAC:

	Wildlife Habitat	Acute Aquatic Life	
Total Residual Chlorine	11 µg/L	19 µg/L	"

Condition #9 (Additional Effluent Characteristic Analysis Monitoring for Chromium) NMED conditioned that "For Outfalls 027, 048 and 160, the Final Permit must include at least one time representative effluent characteristic analysis monitoring for chromium VI and reporting as soon as practicable...."

Response: As required by the conditions of certification, EPA has added a monitoring requirement for chromium VI at Outfalls 03A027, 03A048 and 03A160 in the final permit.

Condition #10 (Add Effluent Limitations if Reasonable Potential to Exceed State WQS, Additional Data submitted by Permittee) NMED conditioned that "USEPA reasonable potential analysis in the Fact Sheet indicated that for Outfall 027, effluent concentrations for total recoverable selenium had a reasonable potential to exceed State WQS, but those pollutants did not have effluent limitations in the Draft Permit. For Outfall 048, arsenic and total recoverable selenium had a reasonable potential to exceed State WQS, but those pollutants did not have effluent limitations in the Draft Permit. In addition to the monitoring and limitations in Part 1.A, or as required as a condition of certification, the Final Permit must control all pollutants that have a reasonable potential to exceed State WQS by the use of effluent limitations based on the most limiting applicable State WQS numeric criteria for the applicable receiving stream, in this case Segment 20.6.4.126 or Segment 20.6.4.128 NMAC, as appropriate."

Response: Additional effluent data and information provided by the permittee have demonstrated no RP for total recoverable selenium at Outfall 03A027. The draft permit had already included effluent limitations for total arsenic and total recoverable selenium at Outfall 03A048, which are retained in the final permit. No additional effluent limitations are required in the final permit.

EPA's Response to NMED's Comments

NMED Comment #1 (Monitoring Frequency): NMED requested USEPA to require a monitoring frequency for Outfall 051 of no less than once per year for PCBs, cadmium, mercury, nickel, and selenium. NMED requested that any case by case reasons for reducing the frequency found in NMIP Table 10 be documented in the Response to Comments for the Final Permit.

Response: Monitoring of those pollutants mentioned above is to collect data for future RP analysis and the frequency can be as few as once per permit term as described in NMED's Condition #6 for effluent characteristic analysis. The monitoring frequency suggested in NMIP Table 10 only apply to effluent limit monitoring. No change is made.

NMED Comment #2 (Outfalls 027 and 199, Rerun Reasonable Potential to Downstream Water, if needed include Limitations): NMED commented that NMED supports USEPA conducting a reasonable potential analysis for discharges from Outfall 199 that will reach a downstream water in Segment 20.6.4.126 NMAC. The reasonable potential analyses for Outfalls 027 and 199 should have also included effluent characteristics of Outfall 001 as ambient stream concentrations. NMED requested USEPA to re-run the analysis with the additional data. If pollutants have a reasonable potential to exceed state WQS, then any additional WQBELs would need to be incorporated into the Final Permit.

Response: EPA appreciates the comment and will discuss with NMED in more detail whether or not effluent characteristics of Outfall 001 can be used as ambient stream concentrations for RP analysis during the next permit renewal process.

Response: EPA did not propose to regulate TRC for the discharge of once through cooling potable water because such a discharge, if occurs, would be an emergency discharge for safety reason during unexpected electrical outage period. The permittee informed EPA that such discharges rarely happened and lasted only few minutes each time. Because the wildlife habitat WQS is more stringent than acute aquatic life WQS required by NMED in the condition of certification, EPA adds the TRC effluent limitation of 11 µg/l to the final permit.

Condition #6 (Outfalls 051, 055 and 022, Effluent Characteristic Analysis Monitoring and Reporting) NMED conditioned that "For Outfalls 051, 055 and 022, the Final Permit must include at least one time representative effluent characteristic monitoring and reporting as soon as practicable with a reopener clause condition to ensure that Permittee activities authorized in the NPDES permit are protective of applicable State WQS 20.6.4.128 and 20.6.4.900 NMAC consistent with CWA Section 401(d). USEPA must require effluent characteristic analysis monitoring, and may choose to require all required pollutants on NPDES Application Form 2C or the list of pollutants used to determine reasonable potential." NMED also stated that "Consistent with the NMIP for non-perennial waters, the following pollutants, if there are no effluent limitations in the Final Permit, must be analyzed and reported (note "(D)" means dissolved) when a discharge from Outfalls 051, 055 and/or 022 occurs:
Antimony (D), Zinc (D), Dieldrin, Arsenic (D), Aldrin, 2,3,7,8-TCDD dioxin, Nickel (D), Benzo (a) pyrene, Hexachlorobenzene, Selenium (D), Chlordane, PCBs, 4,4' -DDT and derivatives, Tetrachloroethylene, Thallium (D)."

Response: As required by the conditions of certification, the final permit includes one-time effluent characteristic analysis monitoring and reporting requirements when discharges occur. The general reopener clause in Part II.E. covers the reopener clause requirement.

Condition #7 (Outfall 051, Effluent Limitations, Hardness-Based Metals, Lead) NMED conditioned that "The total lead limitations in the Draft Permit would exceed the calculated applicable dissolved lead Acute Aquatic Life State WQS numeric criteria in 20.6.4.900 NMAC at the total hardness required in the Draft Permit (50 mg/L or greater). Dissolved hardness to total hardness is assumed to be a 1:1 ratio consistent with USEPA reasonable potential analyses in the Fact Sheet. Using a dissolved hardness as CaCO3 of 50 mg/L, the dissolved lead Acute Aquatic Life numeric criteria presented in the table in State WQS 20.6.4.900(I)(3) NMAC is 0.030 mg/L (30 µg/L). USEPA must change lead limitations (calculated total lead and/or dissolved lead) that are at least as stringent as applicable and limiting State WQS numeric criteria for dissolved lead."

Response: As required by the conditions of certification, EPA recalculates the effluent limitations based on the WQS of 0.030 mg/l dissolved lead, and establishes total lead daily maximum of 0.115 mg/l and monthly average of 0.076 mg/l at Outfall 051.

Condition #8 (Outfall 051, Effluent Limitations, Hardness-Based Metals, Chromium) NMED conditioned that "For Outfall 051, the Final Permit must include at least one time representative effluent characteristic analysis monitoring when Outfall 051 discharges for both chromium III and chromium VI and reporting as soon as practicable…."

Response: As required by the conditions of certification, EPA has added a monitoring requirement for chromium III and chromium VI at Outfall 051 in the final permit.

NMED Comment #3 (Reopener Clause): NMED suggested additional language to be included in the reopener clause.

Response: EPA may, but is not obligated to, reopen the permit for modification when new information becomes available in accordance with 40 CFR Part 122.62. Because the clause "new information" is broad enough to include almost any new information which may affect the permit conditions, it is not necessary to develop a permit-specific reopener clause. Also, the permit is designed to regulate the permittee, not the regulatory agency, and EPA also has the authority based on the federal regulations, not based on the permit languages, to modify the permit, if necessary. No change is made.

NMED Comment #4 (LANL Comments): NMED listed a summary of permittee's requests for changes in the final permit and requested that USEPA provide the final calculations used to determine effluent limitations in the Final Permit in their Response to Comments. NMED will review any changes between the Draft Permit and the Final Permit to determine if modifications (revision or addition) to this State conditional certification are warranted consistent with 40 CFR 124.53 and State WQS.

Response: The permit writer has contacted NMED staff to discuss whether or not NMED has identified any specific conflicts to the original State conditional certification. NMED has not identified any conflicts. EPA is not seeking re-certification prior to issuance of the final permit.

EPA's Responses to Individual Citizens and Citizens Groups (Citizens) Comments

Because most of comments from individuals and citizens groups addressed the same issues, EPA's responses to those comments are consolidated by issue, whenever appropriate.

Comment #1: Citizens commented that the NPDES permit allows for more than 1 million gallons of effluent to be discharged from industrial facilities into the canyons that flow to the Rio Grande every day.

Response: The above statement made by commenters is only partially correct. This permit renewal action does allow treated discharges from Los Alamos National Laboratory into canyons and those canyons are connected to the Rio Grande. However, those permitted discharges typically soak into the floor of the canyons and may reach the Rio Grande only due to direct response to precipitation events providing sufficient additional flow. EPA has no information how frequently and how much pollutants loads may actually reach all the way to the Rio Grande. Because discharges are to either ephemeral or intermittent streams, effluent limitations established for those discharges are based on water quality criteria without applying any dilution (criteria at the end-of-pipe). Therefore, those effluent limitations are much more stringent than if discharges are directly to the Rio Grande.

Comment #2: Citizens commented that to ensure that New Mexico surface water quality standards and EPA's anti-backsliding provision are met, EPA must require method 1668 for PCB monitoring and compliance purposes.

Response: The current human-health-based effluent limitations and analytical method for polychlorinated biphenyls (PCBs) were incorporated into the expired permit in 2007, as the result of the previous condition of State certification. In the current draft permit, EPA proposed: 1) to establish a new PCB limitation based on a default modified harmonic mean flow, and 2) to require Method 1668 for monitoring purposes only, and 3) to allow the 0.2 µg/l minimum quantification level (MQL) for

compliance purposes. All of these changes are either permitted under the backsliding, or not in the scope of the anti-backsliding provision. The rationale for those changes are:

1) To establish a new PCB limitation based on a default modified harmonic mean flow: The NM Water Quality Standards (NMWQS), section 20.6.4.11.B.(1) states "For human health-organism only criteria, the critical low flow is the harmonic mean flow; .... For ephemeral waters the calculation shall be based upon the nonzero flow intervals and modified by including a factor to adjust for the proportion of intervals with zero flow." The PCB limitation established in the expired permit was based on "zero" harmonic mean flow which was in conflict with the NMWQS because NMWQS requires to use non-zero daily flow to calculate the harmonic mean flow. The newly proposed PCB limitation is based on a "non-zero" harmonic mean flow and therefore it results in a slightly less stringent effluent limitation. Although the proposed limitation is less stringent than the previous limitation, the change is allowed by the anti-backsliding policy because the previous limitation was in error.

2) To require Method 1668 for monitoring purposes only: The Clean Water Act (CWA), section 402(o) addresses the anti-backsliding prohibition, and it specifically prohibits less stringent effluent limitations with a provision of exceptions, but does not address the analytical method. In the fact sheet of the draft permit, EPA explained that Method 1668 (or PCB congener method) is not an EPA approved 40 CFR part 136 method. In the Federal Register Vol. 77, No. 97 (May 18, 2012), in EPA's final rule for "Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act; Analysis and Sampling Procedures;" EPA stated "EPA is still evaluating the large number of public comments and intends to make a determination on the approval of this method at a later date." EPA also listed criticisms of the inter-laboratory study which include: (1) EPA did not produce documentation supporting changes to the method approved by EPA for the interlaboratory study, (2) the raw data for wastewater and biosolids was poor and is not fit for use in a comprehensive interlaboratory study, (3) EPA cited certain guidelines such as ASTM but deviated from those guidelines (e.g., used only one Youden pair per matrix), (4) the peer reviewers' qualifications were questioned, (5) the addendum and the pooled MDLs/MLs were not subjected to peer review, (6) MDL/ML are flawed, the process to calculate MDLs/MLs for congeners that co-elute was flawed, the MDL/ML ignored the ubiquitous problem of background contamination, and (7) the validation study did not include all matrices in the method (soil and sediment excluded). In addition, some commenters also suggested that EPA should first promulgate new detection and quantitation procedures. Further, commenters raised questions about possible adverse effects of this new method on compliance monitoring as well as concerns about data reporting and costs."

Method 608 or 625 (or PCB Aroclor method) is an approved 40 CFR part 136 method. Regulations at 40 CFR 122.44(i)(1)(iv) require use of an approved method for compliance purposes, but allows the permitting authority to specific a non-approved test method where there is no approved method. Since Method 608 or 625 are approved test methods that could be used for compliance purposes, EPA proposed, with the concurrence of LANL, to use the unapproved Method 1668 for reporting purposes to gather data at lower detection levels.

3) To allow the 0.2 µg/l minimum quantification level (MQL) for compliance purposes: EPA has developed MQLs to monitor compliance for permit limits below analytical values. The 0.2 MQL for PCB's reporting and compliance purposes is based on EPA approved analytical method for PCBs. Because Method 1668 for PCBs has not been approved, the MDL/ML for Method 1668 which were criticized by industry could not be used for compliance purposes. The permittee provided EPA with congener-based MQLs in accordance with the previous permit condition. But before Method 1668 and

its MDL/ML are approved by EPA, EPA may not use the permittee developed congener-based MQLs for compliance purposes. Once EPA has the approved congener method and MQLs, EPA will apply the approved method and MQLs to all dischargers.

However, Clean Water Act §401 allows states to require more stringent requirements as a condition for certification of the permit and regulations at 40 CFR 124.55(a)(2) requires the EPA to include requirements specified in a state certification under 40 CFR 124.53(e). Because New Mexico Environment Department (NMED) requires Method 1668 and congener-based MQLs to be used for compliance purposes as conditions of State certification, EPA incorporate those conditions into the final permit.

Comment #3: Citizens commented that effluent limits (or at the very least monitoring and reporting requirements) for impaired parameters should be required at outfalls into Montandad Canyon and Canada del Buey.

Response: In order to collect more data for further evaluations, EPA adds quarterly monitoring requirements for aluminum, copper and adjusted gross alpha at Outfalls 03A022, 03A181, and 051when discharges occur; and quarterly monitoring requirements for aluminum, adjusted gross alpha and PCBs at Outfall 013 if a discharge occurs.

Comment #4: Citizens commented that due to the drastically changed landscape due to large scale fires and drought, EPA must conduct updated Endangered Species Act (ESA) consultation with the US Fish and Wildlife Service (FWS) on southwestern willow flycatcher, black-footed ferret and Mexican spotted owl.

Response: EPA made the determination of "no effect" upon the 2000 consultation baseline. Although the wild land fire may change the environmental baseline, this permitting action will not result in fire or drought. As stated in the fact sheet and cited by the commenter, the Fish and Wildlife Service (FWS) found that the re-issuance of the NPDES permit would have "no effect" on the Mexican spotted owl and "may affect, not likely to adversely affect" the southwestern willow flycatcher. The FWS did not find that the black-footed ferret was present in the permit action area. EPA retained the "no effect" determination for Mexican spotted owl and black-footed ferret. In terms of effects on southwestern willow flycatcher, LANL has provided a statement "The only area of habitat that we currently manage as Southwestern Willow Flycatcher habitat is the wetlands complex on the north side of Pajarito Road just east of TA-18. We have been surveying the area since the mid-90s and have never had any nest, but we occasionally do have migrant Willow Flycatchers come through. Since none of them have stayed and nested we cannot say that they were the endangered southwestern subspecies." Furthermore, there is no NPDES outfall discharging to Pajarito Canyon where the habitat is located. Based on the information available, since the southwestern willow flycatcher has not been observed staying or nesting in LANL and no NPDES outfall discharge is to the habitat area, EPA has determined that this permitting action has also no effect on southwestern willow flycatcher. Therefore, EPA has determined that the reissuance of this permit will have no effects on any of those species.

Comment #5: Citizens commented that the final permit must do more to protect intermittent streams at LANL by applying the chronic life criteria to intermittent streams when calculating effluent limits.

Response: The NMWQS defines the reaches and designated uses of intermittent streams within the LANL. Both ephemeral and intermittent streams within LANL are categorized as 20.6.4.128 Rio Grande

Basin and the designated uses for those streams are livestock watering, wildlife habitat, limited aquatic life and secondary contact. The NMWQS, section 20.6.4.900.H(7) states "Limited Aquatic Life: The acute aquatic life criteria of Subsections I and J of this section apply to this subcategory. Chronic aquatic life criteria do not apply unless adopted on a segment-specific basis. Human health-organism only criteria apply only for persistent pollutants unless adopted on a segment-specific basis." NPDES permits are written to protect designated uses the State has assigned and do not circumvent the State's authority and the water quality standards process by assuming other uses apply. Citizens may continue to pursue NMED for changes of designated uses for intermittent streams within the LANL.

Comment #6: Commenters requested that EPA include additional language in the fact sheet about the following issues:

a. For Outfall 05A055, please include additional language in the Fact Sheet, as explained at the public meeting, about why permit limits for TNT at LANL are based on those for the Pantex plant.

Response: When state water quality standard or federal effluent limitation guidelines are not available to address the discharge from a particular process, EPA may establish monitoring requirements or effluent limitations based on best professional judgment (BPJ) per 40 CFR §122.44 (a). To adopt a limit from NPDES permit for another similar process is one of the approaches used by EPA to establish a BPJ-based limit. No change to the final permit is required in response to this comment.

b. For Outfall 13S, please include additional language in the Fact Sheet, as explained at the public meeting, about how the SERF treatment process removes PCBs and silica.

Response: Comment noted for the record. The SERF treatment process includes precipitation, flocculation, microfiltration and reverse osmosis. Through these processes, SERF reduces PCBs and silica.

c. V.7. Sewage Sludge Management. We learned at the public meeting that the Permittees plan to utilize state regulations for using sewage sludge as compost, possibly for reclamation sites (in order to provide nitrogen to the soils). The Permittees are working with NMED and the Solid Waste Bureau and the Ground Water Quality Bureau for registration and permitting. Please include language in the Fact Sheet, similar to that provided for the Section 401 certification process, that explains the public comment process for each and how a member of the public may sign-up for the Facility Mailing List for each bureau.

Response: Citizens need to contact NMED for information on how to participate in this State process.

d. VI. CWA 303(d) Impaired Water. Please include language in the Fact Sheet that NMED reviews the data for the Integrated Report and that the final report is submitted to EPA every two years. The next report is due to EPA in April 2014.

Response: Comment noted for the record. No change to the final permit required in response to this comment.

f. IX. Historical and Archeological Preservation Considerations. Please correct "mining" to "nuclear weapons research and development facility."

Response: Comment noted for the record. No change to the final permit required in response to this comment.

Please note: Written documents and/or information provided during the public comment period have been included in the permit's administrative records.

Comment #7: Citizens requested that EPA investigate why LANL and Los Alamos County are not subject to the Multi-sector General Permit 4 (MS-4) for their stormwater discharges into the canyons that flow to the Rio Grande.

Response: The EPA interprets this comment to refer to permitting of municipal separate storm sewer systems (MS4s) rather than the Multi-sector General Permit for storm water associated with industrial activity. MS4 permits are required for MS4s located within Urbanized Areas designated by the Bureau of the Census or where there has been a designation by the permitting authority. Los Alamos is not in a Urbanized Area and no separate designation has been made, so the MS4s in the Los Alamos area are not currently required to have MS4 permits. Discharges of storm water associated with industrial activity require NPDES permits other than MS4. LANL has an individual permit (NM0028355) covering industrial storm water.

EPA's Responses to LANL's Comments

General Comment #1: LANL commented that it supports the EPA's proposed limitations on the use of the PCB congener method for reporting purposes only and not for enforcement purposes. 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.

Response: Comment noted.

General Comment #2: LANL requested inclusion of schedules for compliance in the final permit, if necessary to address requirements incorporated into the final permit. LANL did 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.

Response: Compliance schedules have been provided for those effluent limitations added to the final permit due to State conditions of certification - if allowed by the State certification.

General Comment #3: LANL requested elimination of the requirements related to selenium at Outfalls 03A027, 03A048, and 03A199 because there was no reasonable potential (RP) for selenium water quality standard exceedances. LANL explained that the appearance of selenium in samples taken at cooling towers was 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. LANL documented this occurrence in comments submitted to EPA in 2006 on the current permit. As a result, the LANL 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 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 were 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 confirmed that selenium was not present in the samples. More recent sample results were also included.

Response: Sample results submitted by LANL indicate that results from EPA Method 200.8 have demonstrated RP and results from SW 846 7742 have demonstrated no RP. When EPA recalculated the RP based on the average value of all selenium data, the instream waste concentration (IWC) at Outfall 03A027 is 3.11 µg/l, at Outfall 03A048 is 8.62 µg/l, and at Outfall 03A199 is 0.47 µg/l, respectively. The most stringent applicable stream standard for total selenium is 5.0 µg/l. Therefore, EPA determines that there is no reasonable potential for selenium water quality standard exceedances at Outfalls 03A027 and 03A199. Effluent limitation remains for Outfall 03A048. Because EPA did not propose selenium limitations at Outfalls 03A027 and 03A199, no change is necessary.

General Comment #4: LANL requested 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.

Response: Request is denied. Part I.B. Reporting of Monitoring Results applies to all dischargers. EPA intent was to require LANL to start using electronic reporting system (NetDMR) prior to the promulgation of EPA's NPDES Electronic Reporting Rule. Because LANL is not ready yet, EPA modifies the final language from "Monitoring information shall be submitted electronically as specified in Part III.D.4 of this permit...." to "Monitoring information shall be submitted as specified in Part III.D.4 of this permit...."

General Comment #5: LANL requested reduction in sampling frequencies at Outfalls 051 and 03A160 to once-per-week based on low discharge volumes and frequencies, and NMIP guidelines.

Response: EPA determines not to reduce the monitoring frequency for these two outfalls based on the following reasons: 1) discharges at Outfall 03A160 have potential to occur daily even though the discharge volume may be low; and 2) the permit allows LANL to adjust effluent hardness value so the discharge, if occurs, at Outfall 051 may comply with hardness dependent metal limitation and toxicity test; therefore, EPA considers that Outfall 051 may have potential to discharge more frequently. This decision will not cause additional monitoring burden at Outfall 051 when evaporators are used and no discharge occurs.

General Comment #6: LANL requested the deletion of the WET monitoring and reporting requirements for Outfalls 001, 03A027, 03A160, and 03A199 based on past WET testing results.

Response: The draft permit does not require WET tests at Outfall 03A160 and 03A199 because previous WET test results have demonstrated that discharges from these outfalls have met "effluent characterization single WET sample event" (Ec) requirement. Discharges at Outfall 001 are considered from a power utility, therefore, Ec does not apply to Outfall 001. Although Outfall 03A027 could be considered for Ec, the increase of discharge flow made the previous WET test result non-representative. Therefore, WET testing requirement for Outfall 03A027 is required. No change is made to the final permit.

General Comment #7: LANL requested that the EPA change notification and reporting requirements for spills and overflows on Page 1 of Part II.B of the draft NPDES permit from a 24-hour oral and 5-day written report to a 24-hour oral and a 7-day written report, so it will be consistent with the New Mexico Water Quality Control Commission regulations.

Response: Pursuant to 40 CFR §122.41(l)(6), under the provision of 24-hour reporting requirements for noncompliance which may endanger health or the environment, an oral reporting within 24 hours, followed by a written submission within 5 days of the time the permittee becomes aware of the circumstance shall be provided to the agency. The State's 7-day written reporting requirements are not consistent with federal requirements. No change is made to the final permit.

General Comment #8: LANL requested EPA refrain from adding any new effluent limits into the final permit for Outfalls 05A055 (no discharge since November 2007) and 051 (no discharge since November 2010) at this time. Establishing new effluent limits prior to evaluating new data would be premature and not be representative of existing conditions and treatment at the facilities, and effluent quality discharged to the environment. LANL requested 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.

Response: It seems that LANL included this as a comment to NMED's conditions of certification. EPA must issue the permit with conditions as required by the State conditions in accordance with 40 CFR §124.55. If that is the case, LANL may appeal such permit conditions to the State. (Please see EPA's responses to State Conditions #3, #6, #7, and #8.)

Outfall 001 Specific Comments

Comment #1: LANL supported the lack of aluminum monitoring and reporting requirements and notes that the "no RP" conclusion was based on proper sampling methods.

Response: Comment noted.

Comment #2: LANL requested 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%).

Response: The discharge at Outfall 001 is categorized as minor industrial, therefore, chronic WET tests with a frequency of once per 5-years are required.

Comment #3: LANL requested to add Technical Area code (TA-3-22) to the description of Outfall 001.

Response: Technical Area code has been added as requested.

Outfall 13S Specific Comments

Comment #1: LANL requested the Latitude/Longitude modification be incorporated into the permit to identify the change in sampling location. The discharge location/sampling location for Outfall 13S is Latitude 35°51'08"N, Longitude 106°16'29"W. This is the location where Outfall 13S discharges into Canada del Buey.

Response: Change is made accordingly.

Comment #2: LANL requested to add TA-46-347 to the description of Outfall 13S.

Response: TA-46-347 has been added to Outfall 13S.

Comment #3: LANL provided the following statement and comment in response to a citizen's question about sanitary sludge compositing activities at LANL .

> "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 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."

Response: Statement and comment are noted.

Outfall 051 Specific Comments

Comment #1: LANL commented that 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. LANL does not oppose this

information being provided in the fact sheet and/or response to comments. Detailed information regarding prior WET testing and LANL's related corrective actions can be found in the quarterly compliance reports submitted to EPA from 2007 – 2013.

Response: Comment noted.

Comment #2: LANL requested to add TA-50-1 to Outfall 051.

Response: TA-50-1 has been added to description of Outfall 051.

Comment #3: LANL requested the flow monitoring requirements be changed from continuous/record to an estimate/once-per-day basis. 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.

Response: Because RLWTF would only discharge intermittently under batch treatment if discharges resume, continuous/record monitoring is not necessary and daily estimate flow based on tank volume shall serve the purposes. Changes have been made accordingly to the final permit.

Comment #4: LANL requested that the definition of "estimate" for Outfall 03A022 be incorporated into the permit for Outfall 051. "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.

Response: Note for "estimate" flow measurements has been added to the final permit.

Comment #5: LANL requested the sampling frequencies for copper, zinc and hardness be changed to once-per-week based on the NMIP. See General Comment #5.

Response: EPA determines to keep the 3/week frequency in case discharges at Outfall 051 occur more frequently. LANL is required to take one sample per day and up to three samples per week if discharges occur three or more days per calendar week.

Comment #6: LANL requested that the required 3-hr. composite WET test be replaced with a grab sample requirement. 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.

Response: The definition of "3-hour composite sample" given at Part II, section C.3. of the permit states "The term "3-hour composite sample" means a sample consisting of a minimum of one (1) aliquot of effluent collected at a one-hour interval over a period of up to 3 hour discharge." If only one or two samples could be collected, the operator may use whatever has been collected for composite and/or analysis. No change is made.

Outfall 05A055 Specific Comments

Comment #1: LANL requested that the new permit retain "Estimate" for the flow monitoring requirement at Outfall 05A055. 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.

Response: Because no loading limitations are established at Outfall 05A055 and no discharge has been made since 2007, the term "estimate" flow is retained from the expired permit. EPA may reconsider the monitoring type if LANL resumes the discharge at Outfall 05A055.

Outfall 03A022 Specific Comments

Comment #1: LANL requested that the permit also incorporate once through cooling into the discharge description for emergency use only.

Response: Discharges of once-through cooling water for emergency only is added to the description of discharge in the final permit.

Comment #2: LANL requested 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.

Response: Outfall 04A022 is assigned to this outfall.

Outfall 03A027 Specific Comments

Comment #1: LANL commented that EPA's RP calculation sheet documents an RP for selenium, but monitoring/reporting requirements and effluent limits are not incorporated into the draft permit. LANL requested EPA not incorporate monitoring and reporting requirements or effluent limits in the permit for selenium at Outfall 03A027 due to analytical interference when using EPA Method 200.8. See General Comment #3.

Response: See EPA's response to LANL's General Comment #3.

Comment #2: LANL requested 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.

Response: See EPA's response to LANL's General Comment #6.

Comment #3: LANL commented that Outfall 03A027 description should delete the reference to cooling tower TA3-285. Cooling tower TA3-285 has been inoperable for years and was demolished in 2012.

Response: TA3-285 has been deleted from the outfall description.

Comment #4: LANL requested 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. 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.

Response: Monitoring frequency for E. coli has been changed to 2/month.

Outfall 03A048 Specific Comments

Comment #1: LANL requested 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.

Response: EPA recalculated the RP based on all effluent data available provided with LANL's comments and found RP for Outfall 03A048. See EPA's response to LANL's General Comment #3.

Outfall 03A160 Specific Comments

Comment #1: LANL requested deletion of cyanide requirements at Outfall 03A160. Cyanide 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. Additional cyanide samples recently collected at 03A160 do not confirm the result from the July 18, 2011 sample. In the alternative, if EPA retains cyanide requirements, LANL requested a reduction in sampling frequency from three-per-week to once-per-week at Outfall 03A160.

Response: Because cyanide concentrations in five additional samples taken during the comment period are all below the most stringent cyanide standard and below EPA's MQL, the average value of all data have demonstrated no RP, and cyanide is not used in operations, EPA determines to delete the effluent limitation for cyanide. But, because samples still showed trace amounts of cyanide, a monthly monitoring requirement is established to collect more data for future evaluation.

Comment #2: LANL requested a reduction in sampling frequency for copper from three-per-week to once-per-week at Outfall 03A160 based on NMIP. See General Comment #5.

Response: See EPA's response to LANL's General Comment #5.

Comment #3: LANL requested 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.

Response: See EPA's response to LANL's General Comment #6.

Outfall 03A199 Specific Comments

Comment #1: LANL commented that 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. LANL requested EPA not incorporate monitoring and reporting requirements or effluent limits in the permit for selenium at Outfall 03A199. See General Comment #3.

Response: See EPA's response to General Comment #3.

Comment #2: LANL commented that 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). LANL requested that EPA not include monitoring and reporting requirements or permit requirements for cyanide because no reasonable potential exists.

Response: The cyanide value used in RP screening was an error. Because there is no RP, effluent limitations and monitoring requirements for cyanide are not established in the permit.

Comment #3: LANL commented that 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 reapplication Form 2C, the potential effluent limit should be 26.7 µg/l.

Response: RP analysis indicated that the discharge at Outfall 03A199 has a RP to exceed the acute aquatic life standard in the perennial portion of Sandia Canyon in Waterbody Segment No. 20.6.4.126. The stream hardness of 78.8 mg/l in that water segment was used to calculate the effluent limitations. No change is made.

Comment #4: LANL requested 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.

Response: See EPA's response to LANL's General Comment #6.

Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

NPDES Permit No. **NM0028355**

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. 1251 et. seq; the "Act"),

Los Alamos National Security, LLC
Management Contractor for Operations
Los Alamos, New Mexico 87544

and

U.S. Department of Energy
Los Alamos Area Office
Los Alamos, New Mexico 87544

are authorized to discharge from a facility located at Los Alamos,

to receiving waters named: Perennial portion of Sandia Canyon in Waterbody Segment No. 20.6.4.126, and Mortandad Canyon, Canada del Buey, Los Alamos Canyon, ephemeral portion of Sandia Canyon, Ten Site Canyon, and Canon de Valle, in Waterbody Segment No. 20.6.4.128 of the Rio Grande Basin,

in accordance with this cover page and the effluent limitations, monitoring requirements, and other conditions set forth in Parts I [Requirements for NPDES Permits], II [Other Conditions], III [Standard Conditions for NPDES Permits], and IV [Sewage Sludge Requirements] hereof.

This permit supersedes and replaces NPDES Permit No. NM0028355 issued on June 8, 2007.

This permit shall become effective on October 1, 2014

This permit and the authorization to discharge shall expire at midnight, September 30, 2019

Issued on August 12, 2014

William K. Honker, P.E.
Director
Water Quality Protection Division (6WQ)

Prepared by

Isaac Chen
Environmental Engineer
NPDES Permits Branch (6WQ-P)

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PART I - REQUIREMENTS FOR NPDES PERMITS

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

OUTFALL 001

Discharge Type: Continuous
Latitude 35°52'26"N, Longitude 106°19'09"W (TA-3-22)

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 Power Plant waste water from cooling towers, boiler blowdown drains, demineralizer backwash, R/O reject, floor and sink drains, and treated sanitary re-use to Sandia Canyon, and the discharge creates a perennial portion of Sandia Canyon, Segment Number 20.6.4.126 of the Rio Grande Basin.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
	CONCENTRATION (mg/L, unless stated)		LOADING (Lbs/day, unless stated)		FREQUENCY	SAMPLE TYPE
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM		
Flow (MGD)	***	***	Report	Report	Continuous	Record
TSS	30	100	Report	Report	1/Month	24-hr Composite
E. Coli (#/100 ml) (*1)	126	410	***	***	2/Month	Grab
Total Residual Chlorine	***	0.011 (*2)	***	***	1/Week	Grab
Total Recoverable Aluminum	***	0.9889 (*3)	***	***	1/Year	Grab
Dissolved Copper	***	0.0073 (*3)	***	***	1/Year	Grab
Adjusted Gross Alpha	Report	Report	***	***	1/Term	Grab
6T3 Temperature (°C)	(*4)	(*4)	***	***	1/Hour	Grab (or Continuous Record)
Total PCB (µg/l) (*5)	0.00064	0.00064	Report	Report	1/Year	24-hr Composite
pH (Standard Unit)	Range from 6.6 to 8.8		***	***	1/Week	Grab

EFFLUENT CHARACTERISTICS	DISCHARGE MONITORING		MONITORING REQUIREMENTS	
WHOLE EFFLUENT TOXICITY TESTING (*6) (7-day Static Renewal)	MONTHLY AVG MINIMUM	7-DAY MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Ceriodaphnia dubia	Report	Report	1/5 Years	24-Hr Composite
Pimephales promelas	Report	Report	1/5 Years	24-Hr Composite

SAMPLING LOCATION(S)

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): following final treatment and prior to or at the point of discharge from Outfall 001.

NO DISCHARGE REPORTING

If there is no discharge event at this outfall during the sampling month, place an "X" in the NO DISCHARGE box in the Discharge Monitoring Report.

FLOATING SOLIDS, OIL AND GREASE

There shall be no discharge of oils, scum, grease and other floating materials that would cause the formation of a visible sheen or visible deposits on the bottom or shoreline, or would damage or impair the normal growth, function or reproduction of human, animal, plant or aquatic life.

FOOTNOTES

*1 Logarithmic mean. Effluent limitations and monitoring requirements only apply when effluent from Outfall 13S is rerouted and discharged at Outfall 001.

*2 Effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes.

*3 Effluent limitations take effective on the date of three years from the effective date of the permit.

*4 6T3 Temperature of 20° C (68° F) shall not be exceeded for six or more consecutive hours in a 24-hour period on more than three consecutive days. The effluent limitation 6T3 = 20° C takes effective on the date one-day before the permit expiration date.

*5 EPA published congener Method 1668 Revision and detection limits shall be used. [The permittee is allowed to develop an effluent specific MDL in accordance with Appendix B of 40 CFR Part 136 (instructions in Part II.A of this permit).] Human health-based limitations.

*6 Critical dilution 100%, and the dilution series are 32%, 42%, 56%, 75%, 100%. See Part II, Section G. Whole Effluent Toxicity (7-Day Chronic Testing).

OUTFALL 13S

Discharge Type: Continuous
Latitude 35°51'08"N, Longitude 106°16'29"W (TA-46-347)

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 treated sanitary waste water to Sandia Canyon in Segment Numbers 20.6.4.126 via outfalls utilizing treated effluent as specified in Outfall 001 and Category 03A, or to Canada del Buey in Segment Numbers 20.6.128 of the Rio Grande Basin.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
	CONCENTRATION (mg/L, unless stated)		LOADING (Lbs/day, unless stated)		FREQUENCY	SAMPLE TYPE
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM		
Flow (MGD)	***	***	Report	Report	Continuous	Record
BOD	30	45	73	109	1/Month	24-hr Composite
TSS	30	45	73	109	1/Month	24-hr Composite
E. Coli (#/100 ml) (*1)	548	2507	***	***	2/Month	Grab
Total Residual Chlorine	***	0.011 (*2)	***	***	1/Week	Grab
Total PCB (µg/l) (*3,*4)	0.00064	0.000642	Report	Report	1/Year	24-hr Composite
Total Recoverable Aluminum	***	3.514 (*5)	***	***	1/Year	Grab
Adjusted Gross Alpha	Report	Report	***	***	1/Term	Grab
pH (Standard Unit)	Range from 6.0 to 9.0		***	***	1/Week	Grab

EFFLUENT CHARACTERISTICS	DISCHARGE MONITORING		MONITORING REQUIREMENTS	
WHOLE EFFLUENT TOXICITY TESTING (*6)	MONTHLY AVG MINIMUM	48-HOUR MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE

(48-hr Static Renewal) Daphnia pulex	Report	Report	1/ 2-Years	24-Hr Composite

FOOTNOTES

*1 Logarithmic mean. If the wastewater is discharge at other outfall, it shall comply with effluent limitations and monitoring requirements for E. coli as established for Outfall 13S.

*2 The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes.

*3 If the wastewater is discharge at other outfall, it shall comply with effluent limitations and monitoring requirements for PCBs as established for Outfall 13S. EPA published congener Method 1668 Revision and detection limits shall be used for reporting purposes. The permittee is allowed to develop an effluent specific MDL in accordance with Appendix B of 40 CFR Part 136 (instructions in Part II.A of this permit).

*4 Human health-based limitation.

*5 Effluent limitations take effective on the date of three years from the effective date of the permit.

*6 1st sample in the 1st year of the permit and 2nd sample in the 3rd year of the permit. The WET test should occur between November 1 and March 31. If discharges are not expected to occur during this sampling period, the test should be taken as soon as possible. Critical dilution 100%, and the dilution series are 32%, 42%, 56%, 75%, 100%.
See Part II, Section H. Whole Effluent Toxicity (48-Hr Acute Testing).

SAMPLING LOCATION(S)

Samples taken in compliance with the monitoring requirements shall be taken at the following location(s): at the flow measuring device in Canada del Buey only when a discharge occurs at the outfall.

NO DISCHARGE REPORTING

If there is no discharge event at this outfall during the sampling month, place an "X" in the NO DISCHARGE box in the Discharge Monitoring Report.

FLOATING SOLIDS, OIL AND GREASE

There shall be no discharge of oils, scum, grease and other floating materials that would cause the formation of a visible sheen or visible deposits on the bottom or shoreline, or would damage or impair the normal growth, function or reproduction of human, animal, plant or aquatic life.

OUTFALL 051 - Radioactive Liquid Waste Treatment Facility

Discharge Type: Intermittent
Latitude 35°51'54"N, Longitude 106°17'52"W (TA-50-1)

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 treated radioactive liquid waste to Mortandad Canyon in segment number 20.6.4.128 of the Rio Grande Basin.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
	CONCENTRATION (mg/L, unless stated)		LOADING (Lbs/day, unless stated)		FREQUENCY	SAMPLE TYPE
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM		
Flow (MGD)	***	***	Report	Report	1/Day	Estimate (*5)
COD	125	125	***	***	1/Month	Grab
TSS	30	45	73	109	1/Month	Grab
Total Toxic Organics (*1)	1.0	1.0	***	***	1/Month	Grab
Ra 226+228 (pCi/l)	30	30	***	***	1/Week	Grab
Total Chromium	1.34	2.68	***	***	1/Week	Grab
Total Lead	0.076	0.115	***	***	1/Week	Grab
Total Copper	0.014	0.014	***	***	3/Week	Grab
Total Zinc	0.191	0.191	***	***	3/Week	Grab
Total Hardness	Greater than or equal to 50 mg/l				3/Week	Grab
Total Residual Chlorine	***	0.011 (*2)	***	***	1/Week	Grab
Total Cadmium	Report	Report	***	***	2/Term (*3)	Grab
Total Mercury	Report	Report	***	***	2/Term (*3)	Grab
Total Nickel	Report	Report	***	***	2/Term (*3)	Grab
Total Selenium	Report	Report	***	***	2/Term (*3)	Grab

Perchlorate	Report	Report	***	***	1/Week	Grab
Total PCB (µg/l)	Report	Report	***	***	2/Term (*3)	Grab
Total Recoverable Aluminum	Report	Report	***	***	1/Term	Grab
Adjusted Gross Alpha	Report	Report	***	***	1/Term	Grab
Chromium III	Report	Report	***	***	1/Term	Grab
Chromium VI	Report	Report	***	***	1/Term	Grab
pH (Standard Unit)	Range from 6.0 to 9.0		***	***	1/Week	Grab

EFFLUENT CHARACTERISTICS	DISCHARGE MONITORING		MONITORING REQUIREMENTS	
Whole Effluent Lethality (PCS 22414) (48-Hr NOEC) (*4)	MONTHLY AVG MINIMUM	7-DAY MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Daphnia pulex	100%	100%	1/3 Months	3-Hr Composite

FOOTNOTES

*1 The limits and monitoring for Total Toxic Organics do not include 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD), Pesticides, or Polychlorinated biphenyls.

*2 The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes.

*3 At least two samples from different discharge events shall be taken during the term of the permit if discharges occur. EPA published congener Method 1668 Revision and detection limits shall be used for reporting purposes. The permittee is allowed to develop an effluent specific MDL in accordance with Appendix B of 40 CFR Part 136 (instructions in Part II.A of this permit).

*4 Monitoring and reporting requirements begin on the effective date of this permit. 100% limitation becomes effective on March 1, 2016. Critical dilution 100%, and the dilution series are 32%, 42%, 56%, 75%, 100%. Also see Part II, Section I. Whole Effluent Toxicity (48-Hour Acute Limits).

*5 "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.

SAMPLING LOCATION(S)

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): following the final treatment and prior to or at the point of discharge from TA-50-1 treatment plant.

NO DISCHARGE REPORTING

If there is no discharge event at this outfall during the sampling month, place an "X" in the NO DISCHARGE box in the Discharge Monitoring Report.

FLOATING SOLIDS, OIL AND GREASE

There shall be no discharge of oils, scum, grease and other floating materials that would cause the formation of a visible sheen or visible deposits on the bottom or shoreline, or would damage or impair the normal growth, function or reproduction of human, animal, plant or aquatic life.

OUTFALL 05A055 - High Explosives Waste Water Treatment Plant

Discharge Type: Intermittent
Latitude 35°50'49"N, Longitude 106°19'51"W (TA-16-1508)

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 treated waste water from the high explosives waste water treatment facility to a tributary to Canon de Valle in segment number 20.6.4.128 of the Rio Grande Basin

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
	CONCENTRATION (mg/L, unless stated)		LOADING (Lbs/day, unless stated)		FREQUENCY	SAMPLE TYPE
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM		
Flow (MGD)	***	***	Report	Report	1/Day	Estimate (*4)
COD	125	125	***	***	1/Quarter	Grab
TSS	30	45	***	***	1/Quarter	Grab
Total Toxic Organics (*1)	1.0	1.0	***	***	1/Quarter	Grab
Oil and Grease	15	15	***	***	1/Quarter	Grab
Trinitrotoluene	0.02	Report	***	***	1/Quarter	Grab
Total RDX	0.20	0.66	***	***	2/Month (*2)	Grab
Perchlorate	Report	Report	***	***	1/Year	Grab
Total Recoverable Aluminum	Report	Report	***	***	1/Term	Grab
Adjusted Gross Alpha	Report	Report	***	***	1/Term	Grab
pH (Standard Unit)	Range from 6.0 to 9.0		***	***	1/Week	Grab

EFFLUENT CHARACTERISTICS	DISCHARGE MONITORING		MONITORING REQUIREMENTS	
WHOLE EFFLUENT TOXICITY TESTING (*3) (48-Hour Static Renewal)	MONTHLY AVG MINIMUM	7-DAY MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Daphnia pulex	Report	Report	1/5 Years	3-Hr Composite

FOOTNOTES

*1 The limits and monitoring for Total Toxic Organics do not include 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD), Pesticides, or Polychlorinated biphenyls.

*2 One sample should be taken before the 15th of the month and another taken after the 15th of the month.

*3 The WET test should occur during the period of November 1 to March 31 after the effective date of the permit. If no discharge is expected during this period, testing should be taken as soon as possible. Critical dilution 100%, and the dilution series are 32%, 42%, 56%, 75%, 100%. See Part II, Section H. Whole Effluent Toxicity (48-Hour Acute Testing).

*4 "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.

SAMPLING LOCATION(S)

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): following final treatment and prior to or at the point of discharge.

NO DISCHARGE REPORTING

If there is no discharge event at this outfall during the sampling month, place an "X" in the NO DISCHARGE box in the Discharge Monitoring Report.

FLOATING SOLIDS, OIL AND GREASE

There shall be no discharge of oils, scum, grease and other floating materials that would cause the formation of a visible sheen or visible deposits on the bottom or shoreline, or would damage or impair the normal growth, function or reproduction of human, animal, plant or aquatic life.

OUTFALL 04A022

Discharge Type: Intermittent
Outfall 03A022: Latitude 35°52'14"N, Longitude 106°19'01"W (TA3-2274)

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, roof drain water, and once-through cooling water for emergency use only to Mortandad Canyon, in segment number 20.6.4.128 of the Rio Grande Basin. (Cooling tower blowdown is not authorized for discharge at this outfall.)

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
	CONCENTRATION (mg/L, unless stated)		LOADING (Lbs/day, unless stated)		FREQUENCY	SAMPLE TYPE
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM		
Flow (MGD)	***	***	Report	Report	1/Day	Record
TSS	30	100	***	***	1/Quarter	Grab
Total Residual Chlorine	***	0.011	***	***	1/Week (*1)	Grab
Total Recoverable Aluminum	Report	Report	***	***	1/Term	Grab
Dissolved Copper	Report	Report	***	***	1/Term	Grab
Adjusted Gross Alpha	Report	Report	***	***	1/Term	Grab
pH (Standard Unit)	Range from 6.0 to 9.0		***	***	1/Week	Grab

Note (*1) When discharge of once-through cooling water for emergency purposes only.

SAMPLING LOCATION(S)
Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): following final treatment and prior to or at the point of discharge.

NO DISCHARGE REPORTING

If there is no discharge event at this outfall during the sampling month, place an "X" in the NO DISCHARGE box in the Discharge Monitoring Report.

FLOATING SOLIDS, OIL AND GREASE

There shall be no discharge of oils, scum, grease and other floating materials that would cause the formation of a visible sheen or visible deposits on the bottom or shoreline, or would damage or impair the normal growth, function or reproduction of human, animal, plant or aquatic life.

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.

OUTFALL 03A181

Discharge Type: Intermittent
Outfall 03A181: Latitude 35°51'50.8"N, Longitude 106°18'05"W (TA55-6)

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, cooling tower blowdown and other wastewater to Mortandad Canyon, in segment number 20.6.4.128 of the Rio Grande Basin.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
	CONCENTRATION (mg/L, unless stated)		LOADING (Lbs/day, unless stated)		FREQUENCY	SAMPLE TYPE
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM		
Flow (MGD)	***	***	Report	Report	1/Day	Estimate
TSS	30	100	***	***	1/Quarter	Grab
Total Phosphorus	20	40	***	***	1/Quarter	Grab
Total Residual Chlorine (*1)	***	0.011	***	***	1/Week	Grab
Dissolved Copper	***	0.0115 (*2)	***	***	1/Year	Grab
Total Recoverable Aluminum	***	2.724 (*2)	***	***	1/Year	Grab
Adjusted Gross Alpha	Report	Report	***	***	1/Term	Grab
pH (Standard Unit)	Range from 6.0 to 9.0		***	***	1/Week	Grab

FOOTNOTES

*1 Effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes.
*2 Effluent limitations take effective on the date of three years from the effective date of the permit.

SAMPLING LOCATION(S)

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): following final treatment and prior to or at the point of discharge.

NO DISCHARGE REPORTING

If there is no discharge event at this outfall during the sampling month, place an "X" in the NO DISCHARGE box in the Discharge Monitoring Report.

FLOATING SOLIDS, OIL AND GREASE

There shall be no discharge of oils, scum, grease and other floating materials that would cause the formation of a visible sheen or visible deposits on the bottom or shoreline, or would damage or impair the normal growth, function or reproduction of human, animal, plant or aquatic life.

OUTFALL 03A113

Discharge Type: Intermittent
Outfall 03A113: Latitude 35°52'03"N, Longitude 106°15'43"W (TA-53-293, 294, 952, 1032, & 1038)

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 cooling tower blowdown and other wastewater to Sandia Canyon, in segment number 20.6.4.128 of the Rio Grande Basin.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
	CONCENTRATION (mg/L, unless stated)		LOADING (Lbs/day, unless stated)		FREQUENCY	SAMPLE TYPE
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM		
Flow (MGD)	***	***	Report	Report	1/Day	Record
TSS	30	100	***	***	1/Quarter	Grab
Total Residual Chlorine (*1)	***	0.011	***	***	1/Week	Grab
Total Phosphorus	20	40	***	***	1/Quarter	Grab
Dissolved Copper	***	0.0218 (*2)	***	***	1/Year	Grab
Total Recoverable Aluminum	***	6.904 (*2)	***	***	1/Year	Grab
Adjusted Gross Alpha	Report	Report	***	***	1/Term	Grab
pH (Standard Unit)	Range from 6.0 to 9.0		***	***	1/Week	Grab

FOOTNOTES

*1 Effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes.
*2 Effluent limitations take effective on the date of three years from the effective date of the permit.

SAMPLING LOCATION(S)

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): following final treatment and prior to or at the point of discharge.

NO DISCHARGE REPORTING

If there is no discharge event at this outfall during the sampling month, place an "X" in the NO DISCHARGE box in the Discharge Monitoring Report.

FLOATING SOLIDS, OIL AND GREASE

There shall be no discharge of oils, scum, grease and other floating materials that would cause the formation of a visible sheen or visible deposits on the bottom or shoreline, or would damage or impair the normal growth, function or reproduction of human, animal, plant or aquatic life.

OUTFALLS 03A027

Discharge Type: Intermittent
Outfall 03A027: Latitude 35°52'26"N, Longitude 106°19'08"W (TA3-2327)

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 cooling tower blowdown and other wastewater to Sandia Canyon, in segment number 20.6.4.126 of the Rio Grande Basin.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
	CONCENTRATION (mg/L, unless stated)		LOADING (Lbs/day, unless stated)		FREQUENCY	SAMPLE TYPE
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM		
Flow (MGD)	***	***	Report	Report	1/Day	Record
TSS	30	100	***	***	1/Quarter	Grab
Total Residual Chlorine (*1)	***	0.011	***	***	1/Week	Grab
Total Phosphorus	20	40	***	***	1/Quarter	Grab
E. Coli (#/100 ml) (*2)	548	2507	***	***	2/Month	Grab
Total Recoverable Aluminum	***	0.9889 (*3)	***	***	1/Year	Grab
Dissolved Copper	***	0.0073 (*3)	***	***	1/Year	Grab
Adjusted Gross Alpha	Report	Report	***	***	1/Term	Grab
Chromium VI	Report	Report	***	***	1/Term	Grab
pH (Standard Unit)	Range from 6.6 to 8.8		***	***	1/Week	Grab

EFFLUENT CHARACTERISTICS	DISCHARGE MONITORING		MONITORING REQUIREMENTS	
Whole Effluent Toxicity Testing (7-day Static Renewal) (*4)	MONTHLY AVG MINIMUM	7-DAY MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE

Ceriodaphnia dubia	Report	Report	1/5 Years	24-Hr Composite
Pimephales promelas	Report	Report	1/5 Years	24-Hr Composite

FOOTNOTES

*1 Effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes.

*2 Logarithmic mean. Effluent limitations and monitoring requirements only apply at Outfall when effluent from Outfall 13S is rerouted and discharged at the Outfall. Total PCB effluent limitations established at Outfall 13S applies when effluent from Outfall 13S is rerouted and discharged at Outfall 03A027.

*3 Effluent limitations take effective on the date of three years from the effective date of the permit.

*4 Critical dilution of 23% (with a dilution series of 10%, 13%, 17%, 23%, and 31%) applies to Outfall 03A027. Also see Part II. Section G. Whole Effluent Toxicity (7-Day Chronic Testing). The WET test should occur during the first period of November 1 to March 31 after the effective date of the permit. If no discharge occurs during this period, the test should occur as soon as possible.

SAMPLING LOCATION(S)

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): following final treatment and prior to or at the point of discharge.

NO DISCHARGE REPORTING

If there is no discharge event at this outfall during the sampling month, place an "X" in the NO DISCHARGE box in the Discharge Monitoring Report.

FLOATING SOLIDS, OIL AND GREASE

There shall be no discharge of oils, scum, grease and other floating materials that would cause the formation of a visible sheen or visible deposits on the bottom or shoreline, or would damage or impair the normal growth, function or reproduction of human, animal, plant or aquatic life.

OUTFALLS 03A048

Discharge Type: Intermittent
03A048: Latitude 35°52'11"N, Longitude 106°15'45"W (TA-53-964 & 979)

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 cooling tower blowdown and other wastewater to Los Alamos Canyon, in segment number 20.6.4.128 of the Rio Grande Basin.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
	CONCENTRATION (mg/L, unless stated)		LOADING (Lbs/day, unless stated)		FREQUENCY	SAMPLE TYPE
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM		
Flow (MGD)	***	***	Report	Report	1/Day	Record
TSS	30	100	***	***	1/Quarter	Grab
Total Phosphorus	20	40	***	***	1/Quarter	Grab
Total Residual Chlorine (*1)	***	0.011	***	***	1/Week	Grab
Total Arsenic	0.013	0.013	***	***	1/Year	Grab
Total Selenium (µg/l)	5.0	5.0	***	***	3/Week	Grab
Dissolved Copper	***	0.0233 (*2)	***	***	1/Year	Grab
Total Mercury (µg/l)	***	0.77 (*2)	***	***	1/Year	Grab
Dissolved Mercury (µg/l)	***	1.4 (*2)	***	***	1/Year	Grab
Total Recoverable Aluminum	***	7.592 (*2)	***	***	1/Year	Grab
Adjusted Gross Alpha	Report	Report	***	***	1/Term	Grab
Chromium VI	Report	Report	***	***	1/Term	Grab
pH (Standard Unit)	Range from 6.0 to 9.0		***	***	1/Week	Grab

FOOTNOTES

*1 Effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes.
*2 Effluent limitations take effective on the date of three years from the effective date of the permit.

SAMPLING LOCATION(S)

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): following final treatment and prior to or at the point of discharge.

NO DISCHARGE REPORTING

If there is no discharge event at this outfall during the sampling month, place an "X" in the NO DISCHARGE box located in the upper right corner of the preprinted Discharge Monitoring Report.

FLOATING SOLIDS, OIL AND GREASE

There shall be no discharge of oils, scum, grease and other floating materials that would cause the formation of a visible sheen or visible deposits on the bottom or shoreline, or would damage or impair the normal growth, function or reproduction of human, animal, plant or aquatic life.

OUTFALL 03A160

Discharge Type: Intermittent
Outfall 03A160: Latitude 35°51'47"N, Longitude 106°17'49"W (TA35-124)

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 cooling tower blowdown and other wastewater to Ten Site Canyon, in segment number 20.6.4.128 of the Rio Grande Basin.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
	CONCENTRATION (mg/L, unless stated)		LOADING (Lbs/day, unless stated)		FREQUENCY	SAMPLE TYPE
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM		
Flow (MGD)	***	***	Report	Report	1/Day	Record
TSS	30	100	***	***	1/Quarter	Grab
Total Phosphorus	20	40	***	***	1/Quarter	Grab
Total Residual Chlorine (*1)	***	0.011	***	***	1/Week	Grab
Total Arsenic	0.013	0.018	***	***	1/Year	Grab
Total Copper	0.021	0.032	***	***	3/Week	Grab
Total Cyanide (µg/l)	Report	Report	***	***	1/Month	Grab
Total Recoverable Aluminum	***	4.290 (*2)	***	***	1/Year	Grab
Adjusted Gross Alpha	Report	Report	***	***	1/Term	Grab
Chromium VI	Report	Report	***	***	1/Term	Grab
pH (Standard Unit)	Range from 6.0 to 9.0		***	***	1/Week	Grab

FOOTNOTES

*1 Effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes.
*2 Effluent limitations take effective on the date of three years from the effective date of the permit.

SAMPLING LOCATION(S)

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): following final treatment and prior to or at the point of discharge.

NO DISCHARGE REPORTING

If there is no discharge event at this outfall during the sampling month, place an "X" in the NO DISCHARGE box located in the upper right corner of the preprinted Discharge Monitoring Report.

FLOATING SOLIDS, OIL AND GREASE

There shall be no discharge of oils, scum, grease and other floating materials that would cause the formation of a visible sheen or visible deposits on the bottom or shoreline, or would damage or impair the normal growth, function or reproduction of human, animal, plant or aquatic life.

OUTFALL 03A199

Outfall 03A199: Latitude 35°52'33"N, Longitude 106°19'19"W (TA3-1837)

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 cooling tower blowdown and other wastewater to Sandia Canyon, in segment number 20.6.4.126 of the Rio Grande Basin.

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
	CONCENTRATION (mg/L, unless stated)		LOADING (Lbs/day, unless stated)		FREQUENCY	SAMPLE TYPE
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM		
Flow (MGD)	***	***	Report	Report	1/Day	Record
TSS	30	100	***	***	1/Quarter	Grab
Total Residual Chlorine (*1)	***	0.011	***	***	1/Week	Grab
Total Phosphorus	20	40	***	***	1/Quarter	Grab
Total Recoverable Aluminum	***	0.9889 (*2)	***	***	1/Year	Grab
Dissolved Copper	***	0.0073 (*2)	***	***	1/Year	Grab
Adjusted Gross Alpha	Report	Report	***	***	1/Term	Grab
Total Mercury	***	0.77 µg/l (*2)	***	***	1/Year	Grab
Dissolved Mercury	***	0.77 µg/l (*2)	***	***	1/Year	Grab
pH (Standard Unit)	Range from 6.6 to 8.8		***	***	1/Week	Grab

FOOTNOTES

*1 Effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes.

*2 Effluent limitations take effective on the date of three years from the effective date of the permit.

SAMPLING LOCATION(S)

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): following final treatment and prior to or at the point of discharge.

NO DISCHARGE REPORTING

If there is no discharge event at this outfall during the sampling month, place an "X" in the NO DISCHARGE box in the Discharge Monitoring Report.

FLOATING SOLIDS, OIL AND GREASE

There shall be no discharge of oils, scum, grease and other floating materials that would cause the formation of a visible sheen or visible deposits on the bottom or shoreline, or would damage or impair the normal growth, function or reproduction of human, animal, plant or aquatic life.

B. COMPLIANCE SCHEDULES

All effluent limitations with a compliance schedule established in Part I., section A. above, must comply with the following reporting requirements and compliance schedules:

1. Provide semi-annual progress reports by August 31 for the period of January – June, and by February 28 for the period of July – December;

2. Identify sources or causes of exceedance of permit limitations by six months from the effective date of the permit;

3. Identify corrective measures or study plan by one year from the effective date of the permit;

4. Comply with the final effluent limitations by the date specified in Part I. section A. of the permit.

C. REPORTING OF MONITORING RESULTS (MAJOR DISCHARGERS)

Monitoring information shall be submitted as specified in Part III.D.4 of this permit and shall be submitted monthly.

1. Reporting periods shall end on the last day of the month.

2. The permittee is required to submit regular monthly reports as described above no later than the 28th day of the month following each reporting period.

The permittee shall report all overflows with the Discharge Monitoring Report submittal. These reports shall be summarized and reported in tabular format. The summaries shall include: the date, time, duration, location, estimated volume, and cause of the overflow; observed environmental impacts from the overflow; actions taken to address the overflow; and ultimate discharge location if not contained (e.g., storm sewer system, ditch, tributary). Any noncompliance which may endanger health or the environment shall be made to the EPA at the following e-mail address: R6_NPDES_Reporting@epa.gov, as soon as possible, but within 24-hours from the time the permittee becomes aware of the circumstance. This language supersedes that contained in Part III.D.7 of the Permit. Additionally, oral notification shall also be to the New Mexico Environment Department at (505) 827-0187 as soon as possible, but within 24 hours from the time the permittee becomes aware of the

circumstance. A written report of overflows which endanger health or the environment shall be provided to EPA and the New Mexico Environment Department, within 5 days of the time the permittee becomes aware of the circumstance.

D. APPLICATION

A complete copy of application with original officer signature for permit renewal shall be sent to EPA and either a paper copy or an electronic copy shall be sent to New Mexico Environment Department (NMED) at the mailing address listed in Part III of this permit.

E. EFFLUENT CHARACTERISTIC ANALYSIS (Outfalls 051, 05A055 and 04A022)

During the term of this permit, if a discharge occurs at Outfall 051, Outfall 05A055 or Outfall 04A022, at the minimum of an one-time discharge effluent grab sample shall be taken for effluent characteristic analysis from the associated outfall as soon as practical. Effluent sample(s) shall be analyzed for pollutants listed in the New Mexico Water Quality Standards, 20.6.4 NMAC, section 900.J(2) Table of Numeric Criteria, which have at least one of the following criteria: irrigation, livestock watering, wildlife habitat, acute/chronic aquatic life, or persistent human health-organism only (HH-OO) criteria. The permittee shall report analytical results to EPA within 30 days when full results become available.

PART II - OTHER CONDITIONS

A. MINIMUM QUANTIFICATION LEVEL (MQL)

If any individual analytical test result is less than the minimum quantification level listed in the Appendix A to this permit, a value of zero (0) may be used for that individual result for the Discharge Monitoring Report (DMR) calculations and reporting requirements.

The permittee may develop an effluent specific method detection limit (MDL) in accordance with Appendix B to 40CFR136. For any pollutant for which the permittee determines an effluent specific MDL, the permittee shall send to the EPA Region 6 NPDES Permits Branch (6WQ-P) a report containing QA/QC documentation, analytical results, and calculations necessary to demonstrate that the effluent specific MDL was correctly calculated. An effluent specific minimum quantification level (MQL) shall be determined in accordance with the following calculation:

$$MQL = 3.3 \times MDL$$

Upon written approval by the EPA Region 6 NPDES Permits Branch (6WQ-P), the effluent specific MQL may be utilized by the permittee for all future Discharge Monitoring Report (DMR) reporting requirements.

B. 24-HOUR ORAL REPORTING

Under the provisions of Part III.D.7.b.(3) of this permit, violations of daily maximum limitations for the following pollutants shall be reported to EPA at the following e-mail address: R6_NPDES_Reporting@epa.gov and orally to the New Mexico Environment Department at (505) 827-0187, within 24 hours from the time the permittee becomes aware of the violation followed by a written report in five days.

Arsenic, Copper, Selenium, Zinc, Cyanide, TRC, and PCBs.

The permittee shall report all overflows with the Discharge Monitoring Report submittal. These reports shall be summarized and reported in tabular format. The summaries shall include: the date, time, duration, location, estimated volume, and cause of the overflow; observed environmental impacts from the overflow; actions taken to address the overflow; and ultimate discharge location if not contained (e.g., storm sewer system, ditch, tributary). Any noncompliance which may endanger health or the environment shall be made to the EPA at the following e-mail address: R6_NPDES_Reporting@epa.gov, as soon as possible, but within 24-hours from the time the permittee becomes aware of the circumstance. This language supersedes that contained in Part III.D.7 of the Permit. Additionally, oral notification shall also be to the New Mexico Environment Department at (505) 827-0187 as soon as possible, but within 24 hours from the time the permittee becomes aware of the circumstance. A written report of overflows which endanger health or the environment shall be provided to EPA and the New Mexico Environment Department, within 5 days of the time the permittee becomes aware of the circumstance."

C. COMPOSITE SAMPLING

1. STANDARD PROVISIONS

Unless otherwise specified in this permit, the term "24-hour composite sample" means a sample consisting of a minimum of three (3) aliquots of effluent collected at regular intervals over a normal 24-hour operating period and combined in proportion to flow or a sample continuously collected in proportion to flow over a normal 24-hour operating period.

2. VOLATILE COMPOUNDS

For the "24-hour composite" sampling of volatile compounds using EPA Methods 601, 602, 603, 624, 1624, or any other 40 CFR 136 method approved after the effective date of the permit, the permittee shall manually collect four (4) aliquots (grab samples) in clean zero head-space containers at regular intervals during the actual hours of discharge during the 24-hour sampling period using sample collection, preservation, and handling techniques specified in the test method. These aliquots must be combined in the laboratory to represent the composite sample of the discharge. One of the following alternative methods shall be used to composite these aliquots.

a. Each aliquot is poured into a syringe. The plunger is added, and the volume in the syringe is adjusted to 1-1/4 ml. Each aliquot (1-1/4 ml.) is injected into the purging chamber of the purge and trap system. After four (4) injections (total 5 ml.), the chamber is purged. Only one analysis or run is required since the aliquots are combined prior to analysis.

b. Chill the four (4) aliquots to 4 Degrees Centigrade. These aliquots must be of equal volume. Carefully pour the contents of each of the four aliquots into a 250-500 ml. flask which is chilled in a wet ice bath. Stir the mixture gently with a clean glass rod while in the ice bath. Carefully fill two (2) or more clean 40 ml. zero head-space vials from the flask and dispose of the remainder of the mixture. Analyze one of the aliquots to determine the concentration of the composite sample. The remaining aliquot(s) are replicate composite samples that can be analyzed if desired or necessary.

c. Alternative sample compositing methods may be used following written approval by EPA Region 6.

The individual samples resulting from application of these compositing methods shall be analyzed following the procedures specified for the selected test method. The resulting analysis shall be reported as the daily composite concentration.

As an option to the above compositing methods, the permittee may manually collect four (4) aliquots (grab samples) in clean zero head-space containers at regular intervals during the actual hours of discharge during the 24-hour sampling period using sample collection, preservation, and handling techniques specified in the test method. A separate analysis shall be conducted for each discrete grab sample following the approved test methods. The determination of daily composite concentration shall be the arithmetic average (weighted by flow) of all grab samples collected during the 24-hour sampling period.

3. 3-HOUR COMPOSITE SAMPLE

The term "3-hour composite sample" means a sample consisting of a minimum of one (1) aliquot of effluent collected at a one-hour interval over a period of up to 3 hour discharge.

D. CO-PERMITTEES

The Los Alamos National Security (LANS) and the U.S. Department of Energy (DOE) are co-permittees for the Los Alamos National Laboratory (LANL) NPDES permit. EPA may take enforcement actions as appropriate against either LANS or DOE or both.

E. REOPENER CLAUSE

The permit may be reopened and modified during the life of the permit, in accordance with provisions in 40 CFR 122.62.

The permit may also be reopened and modified if the U.S. Fish and Wildlife Service determines that more stringent permit conditions are necessary to protect federally listed endangered species.

F. TEST METHODS

The following methods may be used for analysis under this permit:

Methods Listed in 40 CFR 136.3

EPA Methods 1668A or later revision.

EPA Methods 904.0 and 903.1

Nitroaromatics and Nitramines by High Performance Liquids Chromatography: SW846 Method 8330 or 8330A.

Microwave Digestion: SW846 Method 3015

SW 846 Method 7742

Hot Plate Digestion: EPA Method 200.2

G. WHOLE EFFLUENT TOXICITY TESTING (7-DAY CHRONIC NOEC FRESHWATER)

It is unlawful and a violation of this permit for a permittee or his designated agent, to manipulate test samples in any manner, to delay sample shipment, or to terminate or to cause to terminate a toxicity test. Once initiated, all toxicity tests must be completed unless specific authority has been granted by EPA Region 6 or the State NPDES permitting authority.

1. SCOPE AND METHODOLOGY

a. The permittee shall test the effluent for toxicity in accordance with the provisions in this section.

APPLICABLE TO FINAL OUTFALL(S): See Part I

REPORTED ON DMR AS FINAL OUTFALL: See Part I

CRITICAL DILUTION (%): Outfall 03A027 - 23%
Other Outfalls - 100%

EFFLUENT DILUTION SERIES (%):
Outfall 03A027 - 10%, 13%, 17%, 23%, 31%
Other Outfalls - 32%, 42%, 56%, 75%, 100%

COMPOSITE SAMPLE TYPE: Defined at PART I

TEST SPECIES/METHODS: 40 CFR Part 136

Ceriodaphnia dubia chronic static renewal survival and reproduction test, Method 1002.0, EPA-821-R-02-013, or the most recent update thereof. This test should be terminated when 60% of the surviving females in the control produce three broods or at the end of eight days, whichever comes first.

Pimephales promelas (Fathead minnow) chronic static renewal 7-day larval survival and growth test, Method 1000.0, EPA-821-R-02-013, or the most recent update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

b. The NOEC (No Observed Lethal Effect Concentration) is herein defined as the greatest effluent dilution at and below which toxicity that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Chronic lethal test failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution. Chronic sub-lethal test failure is defined as a demonstration of a statistically significant sub-lethal effect (i.e., growth or reproduction) at test completion to a test species at or below the critical dilution.

c. This permit may be reopened to require whole effluent toxicity limits, chemical specific effluent limits, additional testing, and/or other appropriate

actions to address toxicity.

2. PERSISTENT LETHAL and/or SUB-LETHAL EFFECTS

The requirements of this subsection apply only when a toxicity test demonstrates significant lethal and/or sub-lethal effects at or below the critical dilution. The purpose of additional tests (also referred to as 'retests' or confirmation tests) is to determine the duration of a toxic event. A test that meets all test acceptability criteria and demonstrates significant toxic effects does not need additional confirmation. Such testing cannot confirm or disprove a previous test result.

If any valid test demonstrates significant lethal or sub-lethal effects to a test species at or below the critical dilution, the frequency of testing for that species is automatically increased to once per quarter for the life of the permit.

a. Part I Testing Frequency Other Than Monthly

i. The permittee shall conduct a total of three (3) additional tests for any species that demonstrates significant toxic effects at or below the critical dilution. The additional tests shall be conducted monthly during the next three consecutive months. If testing on a quarterly basis, the permittee may substitute one of the additional tests in lieu of one routine toxicity test. A full report shall be prepared for each test required by this section in accordance with procedures outlined in Item 4 of this section and submitted with the period discharge monitoring report (DMR) to the permitting authority for review.

ii. IF LETHAL EFFECTS HAVE BEEN DEMONSTRATED If any of the additional tests demonstrates significant lethal effects at or below the critical dilution, the permittee shall initiate Toxicity Reduction Evaluation (TRE) requirements as specified in Item 5 of this section. The permittee shall notify EPA in writing within 5 days of the failure of any retest, and the TRE initiation date will be the test completion date of the first failed retest. A TRE may be also be required due to a demonstration of intermittent lethal effects at or below the critical dilution, or for failure to perform the required retests.

iii. IF ONLY SUB-LETHAL EFFECTS HAVE BEEN DEMONSTRATED If any two of the three additional tests demonstrates significant sub-lethal effects at 75% effluent or lower, the permittee shall initiate the Sub-Lethal Toxicity Reduction Evaluation (TRE_{SL}) requirements as specified in Item 5 of this section. The permittee shall notify EPA in writing within 5 days of

the failure of any retest, and the Sub-Lethal Effects TRE initiation date will be the test completion date of the first failed retest. A TRE may be also be required for failure to perform the required retests.

iv. The provisions of Item 2.a.i. are suspended upon submittal of the TRE Action Plan.

b. Part I Testing Frequency of Monthly

The permittee shall initiate the Toxicity Reduction Evaluation (TRE) requirements as specified in Item 5 of this section when any two of three consecutive monthly toxicity tests exhibit significant lethal effects at or below the critical dilution. A TRE may also be required due to a demonstration of intermittent lethal and/or sub-lethal effects at or below the critical dilution, or for failure to perform the required retests.

3. REQUIRED TOXICITY TESTING CONDITIONS

a. Test Acceptance

The permittee shall repeat a test, including the control and all effluent dilutions, if the procedures and quality assurance requirements defined in the test methods or in this permit are not satisfied, including the following additional criteria:

i. The toxicity test control (0% effluent) must have survival equal to or greater than 80%.

ii. The mean number of *Ceriodaphnia dubia* neonates produced per surviving female in the control (0% effluent) must be 15 or more.

iii. 60% of the surviving control females must produce three broods.

iv. The mean dry weight of surviving Fathead minnow larvae at the end of the 7 days in the control (0% effluent) must be 0.25 mg per larva or greater.

v. The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for: the young of surviving females in the *Ceriodaphnia dubia* reproduction test; the growth and survival endpoints of the Fathead minnow test.

vi. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal or nonlethal

effects are exhibited for: the young of surviving females in the *Ceriodaphnia dubia* reproduction test; the growth and survival endpoints of the Fathead minnow test.

vii. A Percent Minimum Significant Difference (PMSD) range of 13 - 47 for *Ceriodaphnia dubia* reproduction;

viii. A PMSD range of 12 - 30 for Fathead minnow growth.

Test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%. A repeat test shall be conducted within the required reporting period of any test determined to be invalid.

b. Statistical Interpretation

i. For the *Ceriodaphnia dubia* survival test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be Fisher's Exact Test as described in EPA/821/R-02-013 or the most recent update thereof.

ii. For the *Ceriodaphnia dubia* reproduction test and the Fathead minnow larval survival and growth test, the statistical analyses used to determine if there is a significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect Concentration (NOEC) as described in EPA/821/R-02-013 or the most recent update thereof.

iii. If the conditions of Test Acceptability are met in Item 3.a above and the percent survival of the test organism is equal to or greater than 80% in the critical dilution concentration and all lower dilution concentrations, the test shall be considered to be a passing test, and the permittee shall report a survival NOEC of not less than the critical dilution for the DMR reporting requirements found in Item 4 below.

c. Dilution Water

i. Dilution water used in the toxicity tests will be receiving water collected as close to the point of discharge as possible but unaffected by the discharge. The permittee shall substitute synthetic dilution water of similar pH, hardness, and alkalinity to the closest downstream perennial water for;

(A) toxicity tests conducted on effluent discharges to receiving

water classified as intermittent streams; and

(B) toxicity tests conducted on effluent discharges where no receiving water is available due to zero flow conditions.

ii. If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Item 3.a), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:

(A) a synthetic dilution water control which fulfills the test acceptance requirements of Item 3.a was run concurrently with the receiving water control;

(B) the test indicating receiving water toxicity has been carried out to completion (i.e., 7 days);

(C) the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item 4 below; and

(D) the synthetic dilution water shall have a pH, hardness, and alkalinity similar to that of the receiving water or closest downstream perennial water not adversely affected by the discharge, provided the magnitude of these parameters will not cause toxicity in the synthetic dilution water.

d. Samples and Composites

i. The permittee shall collect a minimum of three flow-weighted composite samples from the outfall(s) listed at Item 1.a above.

ii. The permittee shall collect second and third composite samples for use during 24-hour renewals of each dilution concentration for each test. The permittee must collect the composite samples such that the effluent samples are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on an intermittent basis.

iii. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 72 hours. The permittee must have initiated the toxicity test within 36 hours after the collection of the last portion of the first composite

sample. Samples shall be chilled to 6 degrees Centigrade during collection, shipping, and/or storage.

iv. If the flow from the outfall(s) being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions and the sample holding time are waived during that sampling period. However, the permittee must collect an effluent composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item 4 of this section.

v. MULTIPLE OUTFALLS: If the provisions of this section are applicable to multiple outfalls, the permittee shall combine the composite effluent samples in proportion to the average flow from the outfalls listed in item 1.a. above for the day the sample was collected. The permittee shall perform the toxicity test on the flow-weighted composite of the outfall samples.

4. REPORTING

a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this section in accordance with the Report Preparation Section of EPA/821/R-02-013, or the most current publication, for every valid or invalid toxicity test initiated whether carried to completion or not. The permittee shall retain each full report pursuant to the provisions of PART III.C.3 of this permit. The permittee shall submit full reports upon the specific request of the Agency. For any test which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for agency review.

b. A valid test for each species must be reported on the DMR during each reporting period specified in PART I of this permit unless the permittee is performing a TRE which may increase the frequency of testing and reporting. Only ONE set of biomonitoring data for each species is to be recorded on the DMR for each reporting period. The data submitted should reflect the LOWEST lethal and sub-lethal effects results for each species during the reporting period. All invalid tests, repeat tests (for invalid tests), and retests (for tests previously failed) performed during the reporting

period must be attached to the DMR for EPA review.

c. The permittee shall submit the results of each valid toxicity test on the subsequent monthly DMR for that reporting period in accordance with PART III.D.4 of this permit, as follows below. Submit retest information clearly marked as such with the following month's DMR. Only results of valid tests are to be reported on the DMR.

i. *Pimephales promelas* (Fathead Minnow)

If the No Observed Effect Concentration (NOEC) for survival is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TLP6C

Report the NOEC value for survival, Parameter No. TOP6C

Report the Lowest Observed Effect Concentration (LOEC) value for survival, Parameter No. TXP6C

Report the NOEC value for growth, Parameter No. TPP6C

Report the LOEC value for growth, Parameter No. TYP6C

If the No Observed Effect Concentration (NOEC) for growth is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TGP6C

Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQP6C

ii. *Ceriodaphnia dubia*

(A) If the NOEC for survival is less than the critical dilution, enter a '1'; otherwise, enter a '0'_ for Parameter No. TLP3B

(B) Report the NOEC value for survival, Parameter No. TOP3B

(C) Report the LOEC value for survival, Parameter No. TXP3B

(D) Report the NOEC value for reproduction, Parameter No. TPP3B

(E) Report the LOEC value for reproduction, Parameter No. TYP3B

(F) If the No Observed Effect Concentration (NOEC) for reproduction is less than the critical dilution, enter a '1'; otherwise, enter a '0' for Parameter No. TGP3B

(G) Report the higher (critical dilution or control) Coefficient of Variation, Parameter No. TQP3B

d. Enter the following codes on the DMR for retests only:

For retest number 1, Parameter 22415, enter a '1' if the NOEC for survival and/or sub-lethal effects is less than the critical dilution; otherwise, enter a '0'

For retest number 2, Parameter 22416, enter a '1' if the NOEC for survival and/or sub-lethal effects is less than the critical dilution; otherwise, enter a '0'

For retest number 3, Parameter 51443, enter a '1' if the NOEC for survival and/or sub-lethal effects is less than the critical dilution; otherwise, enter a '0'

5. TOXICITY REDUCTION EVALUATIONS (TREs)

TREs for lethal and sub-lethal effects are performed in a very similar manner. EPA Region 6 is currently addressing TREs as follows: a sub-lethal TRE (TRE_{SL}) is triggered based on three sub-lethal test failures while a lethal effects TRE (TRE_L) is triggered based on only two test failures for lethality. In addition, EPA Region 6 will consider the magnitude of toxicity and use flexibility when considering a TRE_{SL} where there are no effects at effluent dilutions of less than 76% effluent.

a. Within ninety (90) days of confirming persistent toxicity, the permittee shall submit a Toxicity Reduction Evaluation (TRE) Action Plan and Schedule for conducting a TRE. The TRE Action Plan shall specify the approach and methodology to be used in performing the TRE. A Toxicity Reduction Evaluation is an investigation intended to determine those actions necessary to achieve compliance with water quality-based effluent limits by reducing an effluent's toxicity to an acceptable level. A TRE is defined as a step-wise process which combines toxicity testing and analyses of the physical and chemical characteristics of a toxic effluent to identify the constituents causing effluent toxicity and/or treatment methods which will reduce the effluent toxicity. The goal of the TRE is to maximally reduce the toxic effects of effluent at the critical dilution and includes the following:

i. Specific Activities. The plan shall detail the specific approach the permittee intends to utilize in conducting the TRE. The approach may include toxicity characterizations, identifications and confirmation activities, source evaluation, treatability studies, or alternative approaches. When the permittee conducts Toxicity Characterization Procedures the permittee shall perform multiple characterizations and follow the procedures specified in the documents 'Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures' (EPA-600/6-91/003) and 'Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I' (EPA-600/6-91/005F), or alternate procedures. When the permittee conducts Toxicity Identification Evaluations and Confirmations, the permittee shall perform multiple identifications and follow the methods specified in the documents 'Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity' (EPA/600/R-92/080) and 'Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity' (EPA/600/R-92/081), as appropriate.

The documents referenced above may be obtained through the National Technical Information Service (NTIS) by phone at (703) 487-4650, or by writing:

U.S. Department of Commerce
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

ii. Sampling Plan (e.g., locations, methods, holding times, chain of custody, preservation, etc.). The effluent sample volume collected for all tests shall be adequate to perform the toxicity test, toxicity characterization, identification and confirmation procedures, and conduct chemical specific analyses when a probable toxicant has been identified;

Where the permittee has identified or suspects specific pollutant(s) and/or source(s) of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical specific analyses for the identified and/or suspected pollutant(s) and/or source(s) of effluent toxicity. Where lethality was demonstrated within 48 hours of test initiation, each composite sample shall be analyzed independently.

Otherwise the permittee may substitute a composite sample, comprised of equal portions of the individual composite samples, for the chemical specific analysis;

iii. Quality Assurance Plan (e.g., QA/QC implementation, corrective actions, etc.); and

iv. Project Organization (e.g., project staff, project manager, consulting services, etc.).

A. The permittee shall initiate the TRE Action Plan within thirty (30) days of plan and schedule submittal. The permittee shall assume all risks for failure to achieve the required toxicity reduction.

B. The permittee shall submit a quarterly TRE Activities Report, with the Discharge Monitoring Report in the months of January, April, July and October, containing information on toxicity reduction evaluation activities including:

any data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;

any studies/evaluations and results on the treatability of the facility's effluent toxicity; and

any data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant lethality at the critical dilution.

A copy of the TRE Activities Report shall also be submitted to the state agency.

d. The permittee shall submit a Final Report on Toxicity Reduction Evaluation Activities no later than twenty-eight (28) months from confirming lethality in the retests, which provides information pertaining to the specific control mechanism selected that will, when implemented, result in reduction of effluent toxicity to no significant lethality at the critical dilution. The report will also provide a specific corrective action schedule for implementing the selected control mechanism.

A copy of the Final Report on Toxicity Reduction Evaluation Activities

shall also be submitted to the state agency.

e. Quarterly testing during the TRE is a minimum monitoring requirement. EPA recommends that permittees required to perform a TRE not rely on quarterly testing alone to ensure success in the TRE, and that additional screening tests be performed to capture toxic samples for identification of toxicants. Failure to identify the specific chemical compound causing toxicity test failure will normally result in a permit limit for whole effluent toxicity limits per federal regulations at 40 CFR 122.44(d)(1)(v).

6. MONITORING FREQUENCY REDUCTION

a. The permittee may apply for a testing frequency reduction upon the successful completion of the first four consecutive quarters of testing for one or both test species, with no lethal or sub-lethal effects demonstrated at or below the critical dilution. If granted, the monitoring frequency for that test species may be reduced to not less than once per year for the less sensitive species (usually the Fathead minnow) and not less than twice per year for the more sensitive test species (usually the *Ceriodaphnia dubia*).

b. CERTIFICATION - The permittee must certify in writing that no test failures have occurred and that all tests meet all test acceptability criteria in item 3.a. above. In addition the permittee must provide a list with each test performed including test initiation date, species, NOECs for lethal and sub-lethal effects and the maximum coefficient of variation for the controls. Upon review and acceptance of this information the agency will issue a letter of confirmation of the monitoring frequency reduction. A copy of the letter will be forwarded to the agency's Permit Compliance System section to update the permit reporting requirements.

c. SUB-LETHAL OR SURVIVAL FAILURES - If any test fails the survival or sub-lethal endpoint at any time during the life of this permit, three monthly retests are required and the monitoring frequency for the affected test species shall be increased to once per quarter until the permit is re-issued. Monthly retesting is not required if the permittee is performing a TRE.

Any monitoring frequency reduction granted applies only until the expiration date of this permit, at which time the monitoring frequency for both test species reverts to once per quarter until the permit is re-issued.

H. WHOLE EFFLUENT TOXICITY TESTING (48-HOUR ACUTE NOEC FRESHWATER)

It is unlawful and a violation of this permit for a permittee or his designated agent, to manipulate test samples in any manner, to delay sample shipment, or to terminate or to cause to terminate a toxicity test. Once initiated, all toxicity tests must be completed unless specific authority has been granted by EPA Region 6 or the State NPDES permitting authority.

1. SCOPE AND METHODOLOGY

a. The permittee shall test the effluent for toxicity in accordance with the provisions in this section.

APPLICABLE TO FINAL OUTFALL(S): 13S

REPORTED ON DMR AS FINAL OUTFALL: 13S

CRITICAL DILUTION (%): 100%

EFFLUENT DILUTION SERIES (%): 32%, 42%, 56%, 75%, 100%

COMPOSITE SAMPLE TYPE: Defined at PART I

TEST SPECIES/METHODS: 40 CFR Part 136

Daphnia pulex acute static renewal 48-hour definitive toxicity test using EPA-821-R-02-012, or the latest update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

b. The NOEC (No Observed Lethal Effect Concentration) is defined as the greatest effluent dilution at and below which lethality that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Acute test failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution.

c. This permit may be reopened to require whole effluent toxicity limits, chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.

2. PERSISTENT LETHALITY

The requirements of this subsection apply only when a toxicity test demonstrates significant lethal effects at or below the critical dilution. Significant lethal effects are herein defined as a statistically significant difference at the 95% confidence

level between the survival of the appropriate test organism in a specified effluent dilution and the control (0% effluent). The purpose of additional tests (also referred to as 'retests' or confirmation tests) is to determine the duration of a toxic event. A test that meets all test acceptability criteria and demonstrates significant toxic effects does not need additional confirmation.
Such testing cannot confirm or disprove a previous test result.

If any valid test demonstrates significant lethal effects to a test species at or below the critical dilution, the frequency of testing for this species is automatically increased to once per quarter with no option for frequency reduction.

a. Part I Testing Frequency Other Than Monthly

i. The permittee shall conduct a total of three (3) additional tests for any species that demonstrates significant lethal effects at or below the critical dilution. The additional tests shall be conducted monthly during the next three consecutive months. If testing on a quarterly basis, the permittee may substitute one of the additional tests in lieu of one routine toxicity test. A full report shall be prepared for each test required by this section in accordance with procedures outlined in Item 4 of this section and submitted with the period discharge monitoring report (DMR) to the permitting authority for review.

ii. If any of the additional tests demonstrates significant lethal effects at or below the critical dilution, the permittee shall initiate Toxicity Reduction Evaluation (TRE) requirements as specified in Item 5 of this section. The permittee shall notify EPA in writing within 5 days of the failure of any retest, and the TRE initiation date will be the test completion date of the first failed retest. A TRE may be also be required due to a demonstration of intermittent lethal effects at or below the critical dilution, or for failure to perform the required retests.

iii. The provisions of Item 2.a are suspended upon submittal of the TRE Action Plan.

b. Part I Testing Frequency of Monthly

The permittee shall initiate the Toxicity Reduction Evaluation (TRE) requirements as specified in Item 5 of this section when any two of three consecutive monthly toxicity tests exhibit significant lethal effects at or below the critical dilution. A TRE may also be required due to a demonstration of intermittent lethal effects at or below the critical dilution, or for failure to perform the required retests.

3. REQUIRED TOXICITY TESTING CONDITIONS

a. Test Acceptance

The permittee shall repeat a test, including the control and all effluent dilutions, if the procedures and quality assurance requirements defined in the test methods or in this permit are not satisfied, including the following additional criteria:

i. Each toxicity test control (0% effluent) must have a survival equal to or greater than 90%.

ii. The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent) for: Daphnia pulex survival test.

iii. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal effects are exhibited for: Daphnia pulex survival test.

Test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%. A repeat test shall be conducted within the required reporting period of any test determined to be invalid.

b. Statistical Interpretation

For the Daphnia pulex survival test, the statistical analyses used to determine if there is a statistically significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect Concentration (NOEC) as described in EPA-821-R-02-012 or the most recent update thereof.

If the conditions of Test Acceptability are met in Item 3.a above and the percent survival of the test organism is equal to or greater than 90% in the critical dilution concentration and all lower dilution concentrations, the test shall be considered to be a passing test, and the permittee shall report an NOEC of not less than the critical dilution for the DMR reporting requirements found in Item 4 below.

c. Dilution Water

i. Dilution water used in the toxicity tests will be receiving water collected as close to the point of discharge as possible but unaffected

by the discharge. The permittee shall substitute synthetic dilution water of similar pH, hardness, and alkalinity to the closest downstream perennial water for;

(A) toxicity tests conducted on effluent discharges to receiving water classified as intermittent streams; and

(B) toxicity tests conducted on effluent discharges where no receiving water is available due to zero flow conditions.

ii. If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Item 3.a), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:

(A) a synthetic dilution water control which fulfills the test acceptance requirements of Item 3.a was run concurrently with the receiving water control;

(B) the test indicating receiving water toxicity has been carried out to completion (i.e., 48 hours);

(C) the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item 4 below; and

(D) the synthetic dilution water shall have a pH, hardness, and alkalinity similar to that of the receiving water or closest downstream perennial water not adversely affected by the discharge, provided the magnitude of these parameters will not cause toxicity in the synthetic dilution water.

d. Samples and Composites

i. The permittee shall collect two flow-weighted composite samples from the outfall(s) listed at Item 1.a above.

ii. The permittee shall collect a second composite sample for use during the 24-hour renewal of each dilution concentration for both tests. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 36 hours. The permittee must have initiated the toxicity test within 36 hours after the collection of the last portion of the first composite

sample. Samples shall be chilled to 6 degrees Centigrade during collection, shipping, and/or storage.

iii. The permittee must collect the composite samples such that the effluent samples are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on an intermittent basis.

iv. If the flow from the outfall(s) being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions and the sample holding time are waived during that sampling period. However, the permittee must collect an effluent composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item 4 of this section.

4. REPORTING

a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this Part in accordance with the Report Preparation Section of EPA-821-R-02-012, for every valid or invalid toxicity test initiated, whether carried to completion or not. The permittee shall retain each full report pursuant to the provisions of PART III.C.3 of this permit. The permittee shall submit full reports upon the specific request of the Agency. For any test which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for agency review.

b. A valid test for each species must be reported on the DMR during each reporting period specified in PART I of this permit unless the permittee is performing a TRE which may increase the frequency of testing and reporting. Only ONE set of biomonitoring data for each species is to be recorded on the DMR for each reporting period. The data submitted should reflect the LOWEST Survival results for each species during the reporting period. All invalid tests, repeat tests (for invalid tests), and retests (for tests previously failed) performed during the reporting period must be attached to the DMR for EPA review.

c. The permittee shall report the following results of each valid toxicity test on the subsequent monthly DMR for that reporting period in accordance with

PART III.D.4 of this permit. Submit retest information clearly marked as such with the following month's DMR. Only results of valid tests are to be reported on the DMR.

i. Daphnia pulex

(A) If the NOEC for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TEM3D

(B) Report the NOEC value for survival, Parameter No. TOM3D.

(C) Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQM3D.

d. Enter the following codes on the DMR for retests only:

i. For retest number 1, Parameter 22415, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

ii. For retest number 2, Parameter 22416, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

5. TOXICITY REDUCTION EVALUATION (TRE)

a. Within ninety (90) days of confirming lethality in the retests, the permittee shall submit a Toxicity Reduction Evaluation (TRE) Action Plan and Schedule for conducting a TRE. The TRE Action Plan shall specify the approach and methodology to be used in performing the TRE. A Toxicity Reduction Evaluation is an investigation intended to determine those actions necessary to achieve compliance with water quality-based effluent limits by reducing an effluent's toxicity to an acceptable level. A TRE is defined as a step-wise process which combines toxicity testing and analyses of the physical and chemical characteristics of a toxic effluent to identify the constituents causing effluent toxicity and/or treatment methods which will reduce the effluent toxicity. The TRE Action Plan shall lead to the successful elimination of effluent toxicity at the critical dilution and include the following:

i. Specific Activities. The plan shall detail the specific approach the permittee intends to utilize in conducting the TRE. The approach may include toxicity characterizations, identifications and confirmation activities, source evaluation, treatability studies, or alternative approaches. When the permittee conducts Toxicity

Characterization Procedures the permittee shall perform multiple characterizations and follow the procedures specified in the documents "Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures" (EPA-600/6-91/003) or alternate procedures. When the permittee conducts Toxicity Identification Evaluations and Confirmations, the permittee shall perform multiple identifications and follow the methods specified in the documents "Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/080) and "Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600-/R-92/081), as appropriate.

The documents referenced above may be obtained through the National Technical Information Service (NTIS) by phone at (703) 487-4650, or by writing:

U.S. Department of Commerce
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

ii. Sampling Plan (e.g., locations, methods, holding times, chain of custody, preservation, etc.). The effluent sample volume collected for all tests shall be adequate to perform the toxicity test, toxicity characterization, identification and confirmation procedures, and conduct chemical specific analyses when a probable toxicant has been identified;

Where the permittee has identified or suspects specific pollutant(s) and/or source(s) of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical specific analyses for the identified and/or suspected pollutant(s) and/or source(s) of effluent toxicity. Where lethality was demonstrated within 24 hours of test initiation, each composite sample shall be analyzed independently. Otherwise the permittee may substitute a composite sample, comprised of equal portions of the individual composite samples, for the chemical specific analysis;

iii. Quality Assurance Plan (e.g., QA/QC implementation, corrective actions, etc.); and

iv. Project Organization (e.g., project staff, project manager, consulting services, etc.).

b. The permittee shall initiate the TRE Action Plan within thirty (30) days of plan and schedule submittal. The permittee shall assume all risks for failure to achieve the required toxicity reduction.

c. The permittee shall submit a quarterly TRE Activities Report, with the Discharge Monitoring Report in the months of January, April, July and October, containing information on toxicity reduction evaluation activities including:

i. any data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;

ii. any studies/evaluations and results on the treatability of the facility's effluent toxicity; and

iii. any data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant lethality at the critical dilution.

A copy of the TRE Activities Report shall also be submitted to the state agency.

d. The permittee shall submit a Final Report on Toxicity Reduction Evaluation Activities no later than twenty-eight (28) months from confirming lethality in the retests, which provides information pertaining to the specific control mechanism selected that will, when implemented, result in reduction of effluent toxicity to no significant lethality at the critical dilution. The report will also provide a specific corrective action schedule for implementing the selected control mechanism.

A copy of the Final Report on Toxicity Reduction Evaluation Activities shall also be submitted to the state agency.

e. Quarterly testing during the TRE is a minimum monitoring requirement. EPA recommends that permittees required to perform a TRE not rely on quarterly testing alone to ensure success in the TRE, and that additional screening tests be performed to capture toxic samples for identification of toxicants. Failure to identify the specific chemical compound causing toxicity test failure will normally result in a permit limit for whole effluent toxicity limits per federal regulations at 40 CFR 122.44(d)(1)(v).

I. WHOLE EFFLUENT TOXICITY LIMITS (48-HOUR ACUTE NOEC FRESHWATER)

It is unlawful and a violation of this permit for a permittee or his designated agent, to manipulate test samples in any manner, to delay sample shipment, or to terminate or to cause to terminate a toxicity test. Once initiated, all toxicity tests must be completed unless specific authority has been granted by EPA Region 6 or the State NPDES permitting authority.

1. SCOPE AND METHODOLOGY

a. The permittee shall test the effluent for toxicity in accordance with the provisions in this section.

APPLICABLE TO FINAL OUTFALL(S): 051

REPORTED ON DMR AS FINAL OUTFALL: 051

CRITICAL DILUTION (%): 100%

EFFLUENT DILUTION SERIES (%): 32%, 42%, 56%, 75%, 100%

COMPOSITE SAMPLE TYPE: Defined at PART I

TEST SPECIES/METHODS: 40 CFR Part 136

Daphnia pulex acute static renewal 48-hour definitive toxicity test using EPA-821-R-02-012, or the latest update thereof. A minimum of five (5) replicates with eight (8) organisms per replicate must be used in the control and in each effluent dilution of this test.

b. The NOEC (No Observed Lethal Effect Concentration) is defined as the greatest effluent dilution at and below which lethality that is statistically different from the control (0% effluent) at the 95% confidence level does not occur. Acute test failure is defined as a demonstration of a statistically significant lethal effect at test completion to a test species at or below the critical dilution.

c. This permit may be reopened to require whole effluent toxicity limits, chemical specific effluent limits, additional testing, and/or other appropriate actions to address toxicity.

d. Test failure is defined as a demonstration of statistically significant lethal effects to a test species at or below the effluent critical dilution.

e. This permit does not establish requirements to automatically increase the WET testing frequency after a test failure, or to begin a toxicity reduction evaluation (TRE) in the event of multiple test failures. However, upon failure of any WET test,

the permittee must report the test results to NMED, Surface Water Quality Bureau, in writing, within 5 business days of notification the test failure. NMED will review the test results and determine the appropriate action necessary, if any.

2. REQUIRED TOXICITY TESTING CONDITIONS

a. Test Acceptance

The permittee shall repeat a test, including the control and all effluent dilutions, if the procedures and quality assurance requirements defined in the test methods or in this permit are not satisfied, including the following additional criteria:

i. Each toxicity test control (0% effluent) must have a survival equal to or greater than 90%.

ii. The percent coefficient of variation between replicates shall be 40% or less in the control (0% effluent).

iii. The percent coefficient of variation between replicates shall be 40% or less in the critical dilution, unless significant lethal effects are exhibited.

Test failure may not be construed or reported as invalid due to a coefficient of variation value of greater than 40%. A repeat test shall be conducted within the required reporting period of any test determined to be invalid.

b. Statistical Interpretation

The statistical analyses used to determine if there is a statistically significant difference between the control and the critical dilution shall be in accordance with the methods for determining the No Observed Effect Concentration (NOEC) as described in EPA-821-R-02-012 or the most recent update thereof.

If the conditions of Test Acceptability are met in Item 2.a above and the percent survival of the test organism is equal to or greater than 90% in the critical dilution concentration and all lower dilution concentrations, the test shall be considered to be a passing test, and the permittee shall report an NOEC of not less than the critical dilution for the reporting requirements found in Item 3 below.

c. Dilution Water

i. Dilution water used in the toxicity tests will be receiving water collected as close to the point of discharge as possible but unaffected by the discharge. The permittee shall substitute synthetic dilution water of similar pH, hardness, and alkalinity to the closest downstream perennial water for;

(A) toxicity tests conducted on effluent discharges to receiving water classified as intermittent streams; and

(B) toxicity tests conducted on effluent discharges where no receiving water is available due to zero flow conditions.

ii. If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Item 3.a), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:

(A) a synthetic dilution water control which fulfills the test acceptance requirements of Item 3.a was run concurrently with the receiving water control;

(B) the test indicating receiving water toxicity has been carried out to completion (i.e., 48 hours);

(C) the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item 4 below; and

(D) the synthetic dilution water shall have a pH, hardness, and alkalinity similar to that of the receiving water or closest downstream perennial water not adversely affected by the discharge, provided the magnitude of these parameters will not cause toxicity in the synthetic dilution water.

d. Samples and Composites

i. The permittee shall collect two flow-weighted composite samples from the outfall(s) listed at Item 1.a above.

ii. The permittee shall collect a second composite sample for use during the 24-hour renewal of each dilution concentration for the tests. The permittee must collect the composite samples so that the maximum holding time for any effluent sample shall not exceed 36 hours. The permittee must have initiated the toxicity test within 36 hours after the collection of the last portion of the first composite sample. Samples shall be chilled to 6 degrees Centigrade during collection, shipping, and/or storage.

iii. The permittee must collect the composite samples such that the effluent samples are representative of any periodic episode of chlorination, biocide usage or other potentially toxic substance discharged on an intermittent basis.

iv. If the flow from the outfall(s) being tested ceases during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum number of effluent portions and the sample holding time are waived during that sampling period. However, the permittee must

collect an effluent composite sample volume during the period of discharge that is sufficient to complete the required toxicity tests with daily renewal of effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days. The effluent composite sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item 3 of this section.

3. REPORTING

a. The permittee shall prepare a full report of the results of all tests conducted pursuant to this Part in accordance with the Report Preparation Section of EPA-821-R-02-012, for every valid or invalid toxicity test initiated, whether carried to completion or not. The permittee shall retain each full report pursuant to the provisions of PART III.C.3 of this permit. The permittee shall submit full reports upon the specific request of the Agency. For any test which fails, is considered invalid or which is terminated early for any reason, the full report must be submitted for agency review.

b. A valid test for each species must be reported during each reporting period specified in PART I of this permit unless the permittee is performing a TRE which may increase the frequency of testing and reporting. Only ONE set of biomonitoring data for each species is to be recorded for each reporting period. The data submitted should reflect the LOWEST Survival results for each species during the reporting period. All invalid tests, repeat tests (for invalid tests), and retests (for tests previously failed) performed during the reporting period must be attached for EPA review.

c. The permittee shall report the following results of each valid toxicity test. Submit retest information, if required, clearly marked as such. Only results of valid tests are to be reported.

i. Daphnia pulex

(A) If the NOEC for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TEM3D.

(B) Report the NOEC value for survival, Parameter No. TOM3D.

(C) Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQM3D.

d. If retests are required by NMED, enter the following codes:

i. For retest number 1, Parameter 22415, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

ii. For retest number 2, Parameter 22416, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

APPENDIX A of PART II

The following Minimum Quantification Levels (MQL's) are to be used for reporting pollutant data for NPDES permit applications and/or compliance reporting.

POLLUTANTS	MQL µg/l	POLLUTANTS	MQL µg/l
METALS, RADIOACTIVITY, CYANIDE and CHLORINE			
Aluminum	2.5	Molybdenum	10
Antimony	60	Nickel	0.5
Arsenic	0.5	Selenium	5
Barium	100	Silver	0.5
Beryllium	0.5	Thalllium	0.5
Boron	100	Uranium	0.1
Cadmium	1	Vanadium	50
Chromium	10	Zinc	20
Cobalt	50	Cyanide	10
Copper	0.5	Cyanide, weak acid dissociable	10
Lead	0.5	Total Residual Chlorine	33
Mercury *1	0.0005		
	0.005		
DIOXIN			
2,3,7,8-TCDD	0.00001		
VOLATILE COMPOUNDS			
Acrolein	50	1,3-Dichloropropylene	10
Acrylonitrile	20	Ethylbenzene	10
Benzene	10	Methyl Bromide	50
Bromoform	10	Methylene Chloride	20
Carbon Tetrachloride	2	1,1,2,2-Tetrachloroethane	10
Chlorobenzene	10	Tetrachloroethylene	10
Clorodibromomethane	10	Toluene	10
Chloroform	50	1,2-trans-Dichloroethylene	10
Dichlorobromomethane	10	1,1,2-Trichloroethane	10
1,2-Dichloroethane	10	Trichloroethylene	10
1,1-Dichloroethylene	10	Vinyl Chloride	10
1,2-Dichloropropane	10		
ACID COMPOUNDS			
2-Chlorophenol	10	2,4-Dinitrophenol	50
2,4-Dichlorophenol	10	Pentachlorophenol	5
2,4-Dimethylphenol	10	Phenol	10
4,6-Dinitro-o-Cresol	50	2,4,6-Trichlorophenol	10

POLLUTANTS	MQL µg/l	POLLUTANTS	MQL µg/l
	BASE/NEUTRAL		
Acenaphthene	10	Dimethyl Phthalate	10
Anthracene	10	Di-n-Butyl Phthalate	10
Benzidine	50	2,4-Dinitrotoluene	10
Benzo(a)anthracene	5	1,2-Diphenylhydrazine	20
Benzo(a)pyrene	5	Fluoranthene	10
3,4-Benzofluoranthene	10	Fluorene	10
Benzo(k)fluoranthene	5	Hexachlorobenzene	5
Bis(2-chloroethyl)Ether	10	Hexachlorobutadiene	10
Bis(2-chloroisopropyl)Ether	10	Hexachlorocyclopentadiene	10
Bis(2-ethylhexyl)Phthalate	10	Hexachloroethane	20
Butyl Benzyl Phthalate	10	Indeno(1,2,3-cd)Pyrene	5
2-Chloronapthalene	10	Isophorone	10
Chrysene	5	Nitrobenzene	10
Dibenzo(a,h)anthracene	5	n-Nitrosodimethylamine	50
1,2-Dichlorobenzene	10	n-Nitrosodi-n-Propylamine	20
1,3-Dichlorobenzene	10	n-Nitrosodiphenylamine	20
1,4-Dichlorobenzene	10	Pyrene	10
3,3'-Dichlorobenzidine	5	1,2,4-Trichlorobenzene	10
Diethyl Phthalate	10		
	PESTICIDES AND PCBS		
Aldrin	0.01	Beta-Endosulfan	0.02
Alpha-BHC	0.05	Endosulfan sulfate	0.02
Beta-BHC	0.05	Endrin	0.02
Gamma-BHC	0.05	Endrin Aldehyde	0.1
Chlordane	0.2	Heptachlor	0.01
4,4'-DDT and derivatives	0.02	Heptachlor Epoxide	0.01
Dieldrin	0.02	PCBs *2	—
Alpha-Endosulfan	0.01	Toxaphene	0.3

(MQL's Revised November 1, 2007)

Footnotes:

*1 Default MQL for Mercury is 0.005 unless Part I of your permit requires the more sensitive Method 1631 (Oxidation / Purge and Trap / Cold vapor Atomic Fluorescence Spectrometry), then the MQL shall be 0.0005.

*2 Detectable levels defined in Method 1668 must be used. MQL should be equal to or less than 0.00064 µg/l.

PART III - STANDARD CONDITIONS FOR NPDES PERMITS

A. GENERAL CONDITIONS

1. INTRODUCTION
In accordance with the provisions of 40 CFR Part 122.41, et. seq., this permit incorporates by reference ALL conditions and requirements applicable to NPDES Permits set forth in the Clean Water Act, as amended, (hereinafter known as the "Act") as well as ALL applicable regulations.

2. DUTY TO COMPLY
The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

3. TOXIC POLLUTANTS

   a. Notwithstanding Part III.A.5, if any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the Act for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition.

   b. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Act for toxic pollutants within the time provided in the regulations that established those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

4. DUTY TO REAPPLY
If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The application shall be submitted at least 180 days before the expiration date of this permit. The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date. Continuation of expiring permits shall be governed by regulations promulgated at 40 CFR Part 122.6 and any subsequent amendments.

5. PERMIT FLEXIBILITY
This permit may be modified, revoked and reissued, or terminated for cause in accordance with 40 CFR 122.62-64. The filing of a request for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

6. PROPERTY RIGHTS
This permit does not convey any property rights of any sort, or any exclusive privilege.

7. DUTY TO PROVIDE INFORMATION
The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

8. CRIMINAL AND CIVIL LIABILITY
Except as provided in permit conditions on "Bypassing" and "Upsets", nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Any false or materially misleading representation or concealment of information required to be reported by the provisions of the permit, the Act, or applicable regulations, which avoids or effectively defeats the regulatory purpose of the Permit may subject the Permittee to criminal enforcement pursuant to 18 U.S.C. Section 1001.

9. OIL AND HAZARDOUS SUBSTANCE LIABILITY
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act.

10. STATE LAWS
Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Act.

11. SEVERABILITY
The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

B. PROPER OPERATION AND MAINTENANCE

1. NEED TO HALT OR REDUCE NOT A DEFENSE
It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. The permittee is responsible for maintaining adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failure either by means of alternate power sources, standby generators or retention of inadequately treated effluent.

2. DUTY TO MITIGATE
The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

3. PROPER OPERATION AND MAINTENANCE

a. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by permittee as efficiently as possible and in a manner which will minimize upsets and discharges of excessive pollutants and will achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of this permit.

b. The permittee shall provide an adequate operating staff which is duly qualified to carry out operation, maintenance and testing functions required to insure compliance with the conditions of this permit.

4. BYPASS OF TREATMENT FACILITIES

a. BYPASS NOT EXCEEDING LIMITATIONS
The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Parts III.B.4.b. and 4.c.

b. NOTICE

(1)ANTICIPATED BYPASS
If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

(2)UNANTICIPATED BYPASS
The permittee shall, within 24 hours, submit notice of an unanticipated bypass as required in Part III.D.7.

c. PROHIBITION OF BYPASS

(1) Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

(a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and,

(c) The permittee submitted notices as required by Part III.B.4.b.

(2) The Director may allow an anticipated bypass after considering its adverse effects, if the Director determines that it will meet the three conditions listed at Part III.B.4.c(1).

5. UPSET CONDITIONS

   a. EFFECT OF AN UPSET
   An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Part III.B.5.b. are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

   b. CONDITIONS NECESSARY FOR A DEMONSTRATION OF UPSET
   A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

   (1) An upset occurred and that the permittee can identify the cause(s) of the upset;

   (2) The permitted facility was at the time being properly operated;

   (3) The permittee submitted notice of the upset as required by Part III.D.7; and,

   (4) The permittee complied with any remedial measures required by Part III.B.2.

   c. BURDEN OF PROOF
   In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

6. REMOVED SUBSTANCES
   Unless otherwise authorized, solids, sewage sludges, filter backwash, or other pollutants removed in the course of treatment or wastewater control shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.

7. PERCENT REMOVAL (PUBLICLY OWNED TREATMENT WORKS)
   For publicly owned treatment works, the 30-day average (or Monthly Average) percent removal for Biochemical Oxygen Demand and Total Suspended Solids shall not be less than 85 percent unless otherwise authorized by the permitting authority in accordance with 40 CFR 133.103.

C. MONITORING AND RECORDS

1. INSPECTION AND ENTRY
   The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by the law to:

   a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

   b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

   c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and

   d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

2. REPRESENTATIVE SAMPLING
   Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

3. RETENTION OF RECORDS
   The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the Director at any time.

4. RECORD CONTENTS
   Records of monitoring information shall include:

   a. The date, exact place, and time of sampling or measurements;

b. The individual(s) who performed the sampling or measurements;

c. The date(s) and time(s) analyses were performed;

d. The individual(s) who performed the analyses;

e. The analytical techniques or methods used; and

f. The results of such analyses.

5. MONITORING PROCEDURES

a. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit or approved by the Regional Administrator.

b. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instruments at intervals frequent enough to insure accuracy of measurements and shall maintain appropriate records of such activities.

c. An adequate analytical quality control program, including the analyses of sufficient standards, spikes, and duplicate samples to insure the accuracy of all required analytical results shall be maintained by the permittee or designated commercial laboratory.

6. FLOW MEASUREMENTS

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than 10% from true discharge rates throughout the range of expected discharge volumes.

D. REPORTING REQUIREMENTS

1. PLANNED CHANGES

a. INDUSTRIAL PERMITS

The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

(1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR Part 122.29(b); or,

(2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements listed at Part III.D.10.a.

b. MUNICIPAL PERMITS

Any change in the facility discharge (including the introduction of any new source or significant discharge or significant changes in the quantity or quality of existing discharges of pollutants) must be reported to the permitting authority. In no case are any new connections, increased flows, or significant changes in influent quality permitted that will cause violation of the effluent limitations specified herein.

2. ANTICIPATED NONCOMPLIANCE

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. TRANSFERS

This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Act.

4. DISCHARGE MONITORING REPORTS AND OTHER REPORTS

Monitoring results must be reported to EPA on either the electronic or paper Discharge Monitoring Report (DMR) approved formats. Monitoring results can be submitted electronically in lieu of the paper DMR Form. To submit electronically, access the NetDMR website at www.epa.gov/netdmr and contact the R6NetDMR.epa.gov in-box for further instructions. Until you

are approved for Net DMR, you must report on the Discharge Monitoring Report (DMR) Form EPA. No. 3320-1 in accordance with the "General Instructions" provided on the form. No additional copies are needed if reporting electronically, however when submitting paper form EPA No. 3320-1, the permittee shall submit the original DMR signed and certified as required by Part III.D.11 and all other reports required by Part III.D. to the EPA at the address below. Duplicate copies of paper DMR's and all other reports shall be submitted to the appropriate State agency (ies) at the following address (es):

EPA:
Compliance Assurance and Enforcement Division
Water Enforcement Branch (6EN-W)
U.S. Environmental Protection Agency, Region 6
1445 Ross Avenue
Dallas, TX 75202-2733

New Mexico:
Program Manager
Surface Water Quality Bureau
New Mexico Environment Department
P.O. Box 5469
1190 Saint Francis Drive
Santa Fe, NM 87502-5469

5. ADDITIONAL MONITORING BY THE PERMITTEE
If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report (DMR). Such increased monitoring frequency shall also be indicated on the DMR.

6. AVERAGING OF MEASUREMENTS
Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

7. TWENTY-FOUR HOUR REPORTING

a. The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall be provided within 5 days of the time the permittee becomes aware of the circumstances. The report shall contain the following information:

(1) A description of the noncompliance and its cause;

(2) The period of noncompliance including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and,

(3) Steps being taken to reduce, eliminate, and prevent recurrence of the noncomplying discharge.

b. The following shall be included as information which must be reported within 24 hours:

(1) Any unanticipated bypass which exceeds any effluent limitation in the permit;

(2) Any upset which exceeds any effluent limitation in the permit; and,

(3) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in Part II (industrial permits only) of the permit to be reported within 24 hours.

c. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

8. OTHER NONCOMPLIANCE
The permittee shall report all instances of noncompliance not reported under Parts III.D.4 and D.7 and Part I.B (for industrial permits only) at the time monitoring reports are submitted. The reports shall contain the information listed at Part III.D.7.

9. OTHER INFORMATION
Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

10. CHANGES IN DISCHARGES OF TOXIC SUBSTANCES
All existing manufacturing, commercial, mining, and silvacultural permittees shall notify the Director as soon as it knows or has reason to believe:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant listed at 40 CFR Part 122, Appendix D, Tables II and III (excluding Total Phenols) which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(1) One hundred micrograms per liter (100 µg/L);
(2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2, 4-dinitro-phenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;

(3) Five (5) times the maximum concentration value reported for that pollutant in the permit application; or

(4) The level established by the Director.

b. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(1) Five hundred micrograms per liter (500 µg/L);

(2) One milligram per liter (1 mg/L) for antimony;

(3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application; or

(4) The level established by the Director.

11. SIGNATORY REQUIREMENTS
All applications, reports, or information submitted to the Director shall be signed and certified.

a. ALL PERMIT APPLICATIONS shall be signed as follows:

(1) FOR A CORPORATION - by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

(a)A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation; or,

(b)The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(2) FOR A PARTNERSHIP OR SOLE PROPRIETORSHIP - by a general partner or the proprietor, respectively.

(3) FOR A MUNICIPALITY, STATE, FEDERAL, OR OTHER PUBLIC AGENCY - by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

(a)The chief executive officer of the agency, or

(b)A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

b. ALL REPORTS required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described above;

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility, or an individual or position having overall responsibility for environmental

matters for the company. A duly authorized representative may thus be either a named individual or an individual occupying a named position; and,

(3) The written authorization is submitted to the Director.

c. CERTIFICATION
Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

12. AVAILABILITY OF REPORTS
Except for applications, effluent data permits, and other data specified in 40 CFR 122.7, any information submitted pursuant to this permit may be claimed as confidential by the submitter. If no claim is made at the time of submission, information may be made available to the public without further notice.

E. PENALTIES FOR VIOLATIONS OF PERMIT CONDITIONS

1. CRIMINAL

a. NEGLIGENT VIOLATIONS
The Act provides that any person who negligently violates permit conditions implementing Section 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year, or both.

b. KNOWING VIOLATIONS
The Act provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than 3 years, or both.

c. KNOWING ENDANGERMENT
The Act provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 303, 306, 307, 308, 318, or 405 of the Act and who knows at that time that he is placing another person in imminent danger of death or serious bodily injury is subject to a fine of not more than $250,000, or by imprisonment for not more than 15 years, or both.

d. FALSE STATEMENTS
The Act provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Act or who knowingly falsifies, tampers with, or renders inaccurate, any monitoring device or method required to be maintained under the Act, shall upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment shall be by a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or by both. (See Section 309.c.4 of the Clean Water Act)

2. CIVIL PENALTIES
The Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a civil penalty not to exceed $27,500 per day for each violation.

3. ADMINISTRATIVE PENALTIES
The Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to an administrative penalty, as follows:

a. CLASS I PENALTY
Not to exceed $11,000 per violation nor shall the maximum amount exceed $27,500.

b. CLASS II PENALTY
Not to exceed $11,000 per day for each day during which the violation continues nor shall the maximum amount exceed $137,500.

F. DEFINITIONS

All definitions contained in Section 502 of the Act shall apply to this permit and are incorporated herein by reference. Unless otherwise specified in this permit, additional definitions of words or phrases used in this permit are as follows:

1. ACT means the Clean Water Act (33 U.S.C. 1251 et. seq.), as amended.

2. ADMINISTRATOR means the Administrator of the U.S. Environmental Protection Agency.

3. APPLICABLE EFFLUENT STANDARDS AND LIMITATIONS means all state and Federal effluent standards and limitations to which a discharge is subject under the Act, including, but not limited to, effluent limitations, standards or performance, toxic effluent standards and prohibitions, and pretreatment standards.

4. APPLICABLE WATER QUALITY STANDARDS means all water quality standards to which a discharge is subject under the Act.

5. BYPASS means the intentional diversion of waste streams from any portion of a treatment facility.

6. DAILY DISCHARGE means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in terms of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the sampling day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the sampling day. "Daily discharge" determination of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the "daily discharge" determination of concentration shall be arithmetic average (weighted by flow value) of all samples collected during that sampling day.

7. DAILY MAXIMUM discharge limitation means the highest allowable "daily discharge" during the calendar month.

8. DIRECTOR means the U.S. Environmental Protection Agency Regional Administrator or an authorized representative.

9. ENVIRONMENTAL PROTECTION AGENCY means the U.S. Environmental Protection Agency.

10. GRAB SAMPLE means an individual sample collected in less than 15 minutes.

11. INDUSTRIAL USER means a non-domestic discharger, as identified in 40 CFR 403, introducing pollutants to a publicly owned treatment works.

12. MONTHLY AVERAGE (also known as DAILY AVERAGE) discharge limitations means the highest allowable average of "daily discharge(s)" over a calendar month, calculated as the sum of all "daily discharge(s)" measured during a calendar month divided by the number of "daily discharge(s)" measured during that month. When the permit establishes daily average concentration effluent limitations or conditions, the daily average concentration means the arithmetic average (weighted by flow) of all "daily discharge(s)" of concentration determined during the calendar month where C = daily concentration, F = daily flow, and n = number of daily samples; daily average discharge =

$$\frac{C_1F_1 + C_2F_2 + \ldots + C_nF_n}{F_1 + F_2 + \ldots + F_n}$$

13. NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 318, 402, and 405 of the Act.

14. SEVERE PROPERTY DAMAGE means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

15. SEWAGE SLUDGE means the solids, residues, and precipitates separated from or created in sewage by the unit processes of a publicly owned treatment works. Sewage as used in this definition means any wastes, including wastes from humans, households, commercial establishments, industries, and storm water runoff that are discharged to or otherwise enter a publicly owned treatment works.

16. TREATMENT WORKS means any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage and industrial wastes of a liquid nature to implement Section 201 of the Act, or necessary to recycle or reuse water at

the most economical cost over the estimated life of the works, including intercepting sewers, sewage collection systems, pumping, power and other equipment, and their appurtenances, extension, improvement, remodeling, additions, and alterations thereof.

17. UPSET means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

18. FOR FECAL COLIFORM BACTERIA, a sample consists of one effluent grab portion collected during a 24-hour period at peak loads.

19. The term "MGD" shall mean million gallons per day.

20. The term "mg/L" shall mean milligrams per liter or parts per million (ppm).

21. The term "µg/L" shall mean micrograms per liter or parts per billion (ppb).

22. MUNICIPAL TERMS

    a. 7-DAY AVERAGE or WEEKLY AVERAGE, other than for fecal coliform bacteria, is the arithmetic mean of the daily values for all effluent samples collected during a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week. The 7-day average for fecal coliform bacteria is the geometric mean of the values for all effluent samples collected during a calendar week.

    b. 30-DAY AVERAGE or MONTHLY AVERAGE, other than for fecal coliform bacteria, is the arithmetic mean of the daily values for all effluent samples collected during a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month. The 30-day average for fecal coliform bacteria is the geometric mean of the values for all effluent samples collected during a calendar month.

    c. 24-HOUR COMPOSITE SAMPLE consists of a minimum of 12 effluent portions collected at equal time intervals over the 24-hour period and combined proportional to flow or a sample collected at frequent intervals proportional to flow over the 24-hour period.

    d. 12-HOUR COMPOSITE SAMPLE consists of 12 effluent portions collected no closer together than one hour and composited according to flow. The daily sampling intervals shall include the highest flow periods.

    e. 6-HOUR COMPOSITE SAMPLE consists of six effluent portions collected no closer together than one hour (with the first portion collected no earlier than 10:00 a.m.) and composited according to flow.

    f. 3-HOUR COMPOSITE SAMPLE consists of three effluent portions collected no closer together than one hour (with the first portion collected no earlier than 10:00 a.m.) and composited according to flow.

MINOR - SEWAGE SLUDGE REQUIREMENTS

INSTRUCTIONS TO PERMITTEES

Select only those Elements and Sections which apply to your sludge reuse or disposal practice.

The sludge conditions do not apply to wastewater treatment lagoons where sludge is not wasted for final reuse/disposal. If the sludge is not removed, the permittee shall indicate on the DMR "No Discharge".

Although reporting is not required at this time, this permit may be modified or revoked and reissued to require an annual DMR.

ELEMENT 1 - LAND APPLICATION

SECTION I: Page 2 - Requirements Applying to All Sewage Sludge Land Application

SECTION II: Page 6 - Requirements Specific to Bulk Sewage Sludge for Application to the Land Meeting Class A or B Pathogen Reduction and the Cumulative Loading Rates in Table 2, or Class B Pathogen Reduction and the Pollutant Concentrations in Table 3

SECTION III: Page 9 - Requirements Specific to Bulk Sewage Sludge Meeting Pollutant Concentrations in Table 3 and Class A Pathogen Reduction Requirements

SECTION IV: Page 10 - Requirements Specific to Sludge Sold or Given Away in a Bag or Other Container for Application to the Land that does not Meet the Pollutant Concentrations in Table 3

ELEMENT 2 - SURFACE DISPOSAL

SECTION I: Page 11 - Requirements Applying to All Sewage Sludge Surface Disposal

SECTION II: Page 15 - Requirements Specific to Surface Disposal Sites Without a Liner and Leachate Collection System

SECTION III: Page 17 - Requirements Specific to Surface Disposal Sites With a Liner and Leachate Collection System

ELEMENT 3 - MUNICIPAL SOLID WASTE LANDFILL DISPOSAL

SECTION I: Page 18 - Requirements Applying to All Municipal Solid Waste Landfill Disposal Activities

ELEMENT 1 - LAND APPLICATION

SECTION I. REQUIREMENTS APPLYING TO ALL SEWAGE SLUDGE LAND APPLICATION

A. General Requirements

1. The permittee shall handle and dispose of sewage sludge in accordance with Section 405 of the Clean Water Act and all other applicable Federal regulations to protect public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants which may be present in the sludge.

2. If requirements for sludge management practices or pollutant criteria become more stringent than the sludge pollutant limits or acceptable management practices in this permit, or control a pollutant not listed in this permit, this permit may be modified or revoked and reissued to conform to the requirements promulgated at Section 405(d)(2) of the Clean Water Act. If new limits for Molybdenum are promulgated prior to permit expiration, than those limits shall become directly enforceable.

3. In all cases, if the person (permit holder) who prepares the sewage sludge supplies the sewage sludge to another person for land application use or to the owner or lease holder of the land, the permit holder shall provide necessary information to the parties who receive the sludge to assure compliance with these regulations.

4. The permittee shall give prior notice to EPA (Chief, Permits Branch, Water Management Division, Mail Code 6W-P, EPA Region 6, 1445 Ross Avenue, Dallas, Texas 75202) of any planned changes in the sewage sludge disposal practice, in accordance with 40 CFR Part 122.41(l)(1)(iii). These changes may justify the application of permit conditions that are different from or absent in the existing permit. Change in the sludge use or disposal practice may be cause for modification of the permit in accordance with 40 CFR Part 122.62(a)(1).

B. Testing Requirements

1. Sewage sludge shall not be applied to the land if the concentration of the pollutants exceed the pollutant concentration criteria in Table 1. The frequency of testing for pollutants in Table 1 is found in Element 1, Section I.C.

TABLE 1

Pollutant	Ceiling Concentration (milligrams per kilogram)*
Arsenic	75
Cadmium	85
Chromium	3000
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
PCBs	49
Selenium	100
Zinc	7500

* Dry weight basis

2. Pathogen Control

All sewage sludge that is applied to agricultural land, forest, a public contact site, or a reclamation site shall be treated by either the Class A or Class B pathogen requirements. Sewage sludge that is applied to a lawn or home garden shall be treated by the Class A pathogen requirements. Sewage sludge that is sold or given away

in a bag shall be treated by Class A pathogen requirements.

a. Six alternatives are available to demonstrate compliance with Class A sewage sludge. All 6 options require either the density of fecal coliform in the sewage sludge be less than 1000 Most Probable Number (MPN) per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the sewage sludge be less than three MPN per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed; at the time the sewage sludge is prepared for sale or given away in a bag or other container for application to the land. Below are the additional requirements necessary to meet the definition of a Class A sludge. Alternatives 5 and 6 are not authorized to demonstrate compliance with Class A sewage sludge in Texas permits.

Alternative 1 - The temperature of the sewage sludge that is used or disposed shall be maintained at a specific value for a period of time. See 503.32(a)(3)(ii) for specific information.

Alternative 2 - The pH of the sewage sludge that is used or disposed shall be raised to above 12 and shall remain above 12 for 72 hours.

The temperature of the sewage sludge shall be above 52 degrees Celsius for 12 hours or longer during the period that the pH of the sewage sludge is above 12.

At the end of the 72 hour period during which the pH of the sewage sludge is above 12, the sewage sludge shall be air dried to achieve a percent solids in the sewage sludge greater than 50 percent.

Alternative 3 - The sewage sludge shall be analyzed for enteric viruses prior to pathogen treatment. The limit for enteric viruses is one Plaque-forming Unit per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 503.32(a)(5)(ii) for specific information. The sewage sludge shall be analyzed for viable helminth ova prior to pathogen treatment. The limit for viable helminth ova is less than one per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 503.32(a)(5)(iii) for specific information.

Alternative 4 - The density of enteric viruses in the sewage sludge shall be less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed or at the time the sludge is prepared for sale or give away in a bag or other container for application to the land.

The density of viable helminth ova in the sewage sludge shall be less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed or at the time the sewage sludge is prepared for sale or give away in a bag or other container for application to the land.

Alternative 5 - Sewage sludge shall be treated by one of the Processes to Further Reduce Pathogens (PFRP) described in 503 Appendix B. PFRPs include composting, heat drying, heat treatment, and thermophilic aerobic digestion.

Alternative 6 - Sewage sludge shall be treated by a process that is equivalent to a Process to Further Reduce Pathogens, if individually approved by the Pathogen Equivalency Committee representing the EPA.

b. Three alternatives are available to demonstrate compliance with Class B sewage sludge. Alternatives 2 and 3 are not authorized to demonstrate compliance with Class B sewage sludge in Texas permits.

Alternative 1 - (i) Seven random samples of the sewage sludge shall be collected for one monitoring episode at the time the sewage sludge is used or disposed.

(ii) The geometric mean of the density of fecal coliform in the samples collected shall be less than either 2,000,000 MPN per gram of total solids (dry weight basis) or 2,000,000 Colony Forming Units per gram of total solids (dry weight basis).

Alternative 2 - Sewage sludge shall be treated in one of the Processes to significantly Reduce

Pathogens described in 503 Appendix B.

Alternative 3 - Sewage sludge shall be treated in a process that is equivalent to a PSRP, if individually approved by the Pathogen Equivalency Committee representing the EPA.

In addition, the following site restrictions must be met if Class B sludge is land applied:

i. Food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of sewage sludge.

ii. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of sewage sludge when the sewage sludge remains on the land surface for 4 months or longer prior to incorporation into the soil.

iii. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of sewage sludge when the sewage sludge remains on the land surface for less than 4 months prior to incorporation into the soil.

iv. Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of sewage sludge.

v. Animals shall not be allowed to graze on the land for 30 days after application of sewage sludge.

vi. Turf grown on land where sewage sludge is applied shall not be harvested for 1 year after application of the sewage sludge when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by the permitting authority.

vii. Public access to land with a high potential for public exposure shall be restricted for 1 year after application of sewage sludge.

viii. Public access to land with a low potential for public exposure shall be restricted for 30 days after application of sewage sludge.

3. Vector Attraction Reduction Requirements

All bulk sewage sludge that is applied to agricultural land, forest, a public contact site, or a reclamation site shall be treated by one of the following alternatives 1 through 10 for Vector Attraction Reduction. If bulk sewage sludge is applied to a home garden, or bagged sewage sludge is applied to the land, only alternative 1 through alternative 8 shall be used.

Alternative 1 - The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent.

Alternative 2 - If Alternative 1 cannot be met for an anaerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30 and 37 degrees Celsius. Volatile solids must be reduced by less than 17 percent to demonstrate compliance.

Alternative 3 - If Alternative 1 cannot be met for an aerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge with a percent solids of two percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20 degrees Celsius. Volatile solids must be reduced by less than 15 percent to demonstrate compliance.

Alternative 4 - The specific oxygen uptake rate (SOUR) for sewage sludge treated in an aerobic process shall be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius.

Alternative 5 - Sewage sludge shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the sewage sludge shall be higher than 40 degrees Celsius and the average temperature of the sewage sludge shall be higher than 45 degrees Celsius.

Alternative 6 - The pH of sewage sludge shall be raised to 12 or higher by alkali addition and, without the addition of more alkali shall remain at 12 or higher for two hours and then at 11.5 or higher for an additional 22 hours.

Alternative 7 - The percent solids of sewage sludge that does not contain unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 75 percent based on the moisture content and total solids prior to mixing with other materials. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.

Alternative 8 - The percent solids of sewage sludge that contains unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 90 percent based on the moisture content and total solids prior to mixing with other materials. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.

Alternative 9 -

(i) Sewage sludge shall be injected below the surface of the land.

(ii) No significant amount of the sewage sludge shall be present on the land surface within one hour after the sewage sludge is injected.

(iii) When sewage sludge that is injected below the surface of the land is Class A with respect to pathogens, the sewage sludge shall be injected below the land surface within eight hours after being discharged from the pathogen treatment process.

Alternative 10 -

(i) Sewage sludge applied to the land surface or placed on a surface disposal site shall be incorporated into the soil within six hours after application to or placement on the land.

(ii) When sewage sludge that is incorporated into the soil is Class A with respect to pathogens, the sewage sludge shall be applied to or placed on the land within eight hours after being discharged from the pathogen treatment process.

C. Monitoring Requirements

All other pollutants shall be monitored at the frequency shown below:

Amount of sewage sludge* (metric tons per 365 day period)	Frequency
0 ≤ Sludge < 290	Once/Year
290 ≤ Sludge < 1,500	Once/Quarter
1,500 ≤ Sludge < 15,000	Once/Two Months

15,000 ≤ Sludge Once/Month

* Either the amount of bulk sewage sludge applied to the land or the amount of sewage sludge received by a person who prepares sewage sludge that is sold or given away in a bag or other container for application to the land (dry weight basis).

Representative samples of sewage sludge shall be collected and analyzed in accordance with the methods referenced in 40 CFR 503.8(b).

SECTION II. REQUIREMENTS SPECIFIC TO BULK SEWAGE SLUDGE FOR APPLICATION TO THE LAND MEETING CLASS A or B PATHOGEN REDUCTION AND THE CUMULATIVE LOADING RATES IN TABLE 2, OR CLASS B PATHOGEN REDUCTION AND THE POLLUTANT CONCENTRATIONS IN TABLE 3

For those permittees meeting Class A or B pathogen reduction requirements and that meet the cumulative loading rates in Table 2 below, or the Class B pathogen reduction requirements and contain concentrations of pollutants below those listed in Table 3 found in Element I, Section III, the following conditions apply:

1. Pollutant Limits

Table 2

Pollutant	Cumulative Pollutant Loading Rate (kilograms per hectare)
Arsenic	41
Cadmium	39
Chromium	3000
Copper	1500
Lead	300
Mercury	17
Molybdenum	Monitor
Nickel	420
Selenium	100
Zinc	2800

2. Pathogen Control

All bulk sewage sludge that is applied to agricultural land, forest, a public contact site, a reclamation site, or lawn or home garden shall be treated by either Class A or Class B pathogen reduction requirements as defined above in Element 1, Section I.B.3.

3. Management Practices

a. Bulk sewage sludge shall not be applied to agricultural land, forest, a public contact site, or a reclamation site that is flooded, frozen, or snow-covered so that the bulk sewage sludge enters a wetland or other waters of the U.S., as defined in 40 CFR 122.2, except as provided in a permit issued pursuant to section 404 of the CWA.

b. Bulk sewage sludge shall not be applied within 10 meters of a water of the U.S.

c. Bulk sewage sludge shall be applied at or below the agronomic rate in accordance with recommendations from the following references:

i. STANDARDS 1992, Standards, Engineering Practices and Data, 39th Edition (1992) American Society of Agricultural Engineers, 2950 Niles Road, St. Joseph, MI 49085-9659.

ii. National Engineering Handbook Part 651, Agricultural Waste Management Field Handbook

(1992), P.O. Box 2890, Washington, D.C. 20013.

iii. Recommendations of local extension services or Soil Conservation Services.

iv. Recommendations of a major University's Agronomic Department.

d. An information sheet shall be provided to the person who receives bulk sewage sludge sold or given away. The information sheet shall contain the following information:

i. The name and address of the person who prepared the sewage sludge that is sold or given away in a bag or other container for application to the land.

ii. A statement that application of the sewage sludge to the land is prohibited except in accordance with the instructions on the label or information sheet.

iii. The annual whole sludge application rate for the sewage sludge that does not cause any of the cumulative pollutant loading rates in Table 2 above to be exceeded, unless the pollutant concentrations in Table 3 found in Element I, Section III below are met.

4. Notification requirements

a. If bulk sewage sludge is applied to land in a State other than the State in which the sludge is prepared, written notice shall be provided prior to the initial land application to the permitting authority for the State in which the bulk sewage sludge is proposed to be applied. The notice shall include:

i. The location, by either street address or latitude and longitude, of each land application site.

ii. The approximate time period bulk sewage sludge will be applied to the site.

iii. The name, address, telephone number, and National Pollutant Discharge Elimination System permit number (if appropriate) for the person who prepares the bulk sewage sludge.

iv. The name, address, telephone number, and National Pollutant Discharge Elimination System permit number (if appropriate) for the person who will apply the bulk sewage sludge.

b. The permittee shall give 60 days prior notice to the Director of any change planned in the sewage sludge practice. Any change shall include any planned physical alterations or additions to the permitted treatment works, changes in the permittee's sludge use or disposal practice, and also alterations, additions, or deletions of disposal sites. These changes may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional disposal sites not reported during the permit application process or absent in the existing permit. Change in the sludge use or disposal practice may be cause for modification of the permit in accordance with 40 CFR 122.62(a)(1).

c. The permittee shall provide the location of all existing sludge disposal/use sites to the State Historical Commission within 90 days of the effective date of this permit. In addition, the permittee shall provide the location of any new disposal/use site to the State Historical Commission prior to use of the site.

The permittee shall within 30 days after notification by the State Historical Commission that a specific sludge disposal/use area will adversely effect a National Historic Site, cease use of such area.

5. Recordkeeping Requirements - The sludge documents will be retained on site at the same location as other NPDES records.

The person who prepares bulk sewage sludge or a sewage sludge material shall develop the following information and shall retain the information for five years. If the permittee supplies the sludge to another person who land applies the sludge, the permittee shall notify the land applier of the requirements for recordkeeping found in 40 CFR 503.17 for persons who land apply.

a. The concentration (mg/Kg) in the sludge of each pollutant listed in Table 3 found in Element I, Section III and the applicable pollutant concentration criteria (mg/Kg), or the applicable cumulative pollutant loading rate and the applicable cumulative pollutant loading rate limit (kg/ha) listed in Table 2 above.

b. A description of how the pathogen reduction requirements are met (including site restrictions for Class B sludges, if applicable).

c. A description of how the vector attraction reduction requirements are met.

d. A description of how the management practices listed above in Section II.3 are being met.

e. The recommended agronomic loading rate from the references listed in Section II.3.c. above, as well as the actual agronomic loading rate shall be retained.

f. A description of how the site restrictions in 40 CFR Part 503.32(b)(5) are met for each site on which Class B bulk sewage sludge is applied.

g. The following certification statement:

"I certify, under penalty of law, that the management practices in §503.14 have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices have been met. I am aware that there are significant penalties for false certification including fine and imprisonment."

h. A certification statement that all applicable requirements (specifically listed) have been met, and that the permittee understands that there are significant penalties for false certification including fine and imprisonment. See 40 CFR 503.17(a)(4)(i)(B) or 40 CFR Part 503.17(a)(5)(i)(B) as applicable to the permittees sludge treatment activities.

i. The permittee shall maintain information that describes future geographical areas where sludge may be land applied.

j. The permittee shall maintain information identifying site selection criteria regarding land application sites not identified at the time of permit application submission.

k. The permittee shall maintain information regarding how future land application sites will be managed.

The person who prepares bulk sewage sludge or a sewage sludge material shall develop the following information and shall retain the information indefinitely. If the permittee supplies the sludge to another person who land applies the sludge, the permittee shall notify the land applier of the requirements for recordkeeping found in 40 CFR 503.17 for persons who land apply.

a. The location, by either street address or latitude and longitude, of each site on which sludge is applied.

b. The number of hectares in each site on which bulk sludge is applied.

c. The date and time sludge is applied to each site.

d. The cumulative amount of each pollutant in kilograms/hectare listed in Table 2 applied to each site.

e. The total amount of sludge applied to each site in metric tons.

f. The following certification statement:

"I certify, under penalty of law, that the requirements to obtain information in §503.12(e)(2) have been met for each site on which bulk sewage sludge is applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel

properly gather and evaluate the information used to determine that the requirements to obtain information have been met. I am aware that there are significant penalties for false certification including fine and imprisonment."

g. A description of how the requirements to obtain information in §503.12(e)(2) are met.

6. Reporting Requirements - None.

SECTION III. REQUIREMENTS SPECIFIC TO BULK OR BAGGED SEWAGE SLUDGE MEETING POLLUTANT CONCENTRATIONS IN TABLE 3 AND CLASS A PATHOGEN REDUCTION REQUIREMENTS

For those permittees with sludge that contains concentrations of pollutants below those pollutant limits listed in Table 3 for bulk or bagged (containerized) sewage sludge and also meet the Class A pathogen reduction requirements, the following conditions apply (Note: All bagged sewage sludge must be treated by Class A pathogen reduction requirements.):

1. Pollutant limits - The concentration of the pollutants in the municipal sewage sludge is at or below the values listed.

Table 3

Pollutant	Monthly Average Concentration (milligrams per kilogram)*
Arsenic	41
Cadmium	39
Chromium	1200
Copper	1500
Lead	300
Mercury	17
Molybdenum	Monitor
Nickel	420
Selenium	36
Zinc	2800

* Dry weight basis

2. Pathogen Control

All bulk sewage sludge that is applied to agricultural land, forest, a public contact site, a reclamation site, or lawn or home garden shall be treated by the Class A pathogen reduction requirements as defined above in Element I, Section I.B.3. All bagged sewage sludge must be treated by Class A pathogen reduction requirements.

3. Management Practices - None.

4. Notification Requirements - None.

5. Recordkeeping Requirements - The permittee shall develop the following information and shall retain the information for five years. The sludge documents will be retained on site at the same location as other NPDES records.

a. The concentration (mg/Kg) in the sludge of each pollutant listed in Table 3 and the applicable pollutant concentration criteria listed in Table 3.

b. A certification statement that all applicable requirements (specifically listed) have been met, and that the permittee understands that there are significant penalties for false certification including fine and imprisonment. See 503.17(a)(1)(ii) or 503.17(a)(3)(i)(B), whichever

applies to the permittees sludge treatment activities.

c. A description of how the Class A pathogen reduction requirements are met.

d. A description of how the vector attraction reduction requirements are met.

6. Reporting Requirements - None.

SECTION IV. REQUIREMENTS SPECIFIC TO SLUDGE SOLD OR GIVEN AWAY IN A BAG OR OTHER CONTAINER FOR APPLICATION TO THE LAND THAT DOES NOT MEET THE MINIMUM POLLUTANT CONCENTRATIONS

1. Pollutant Limits

Table 4

Pollutant	Annual Pollutant Loading Rate (kilograms per hectare per 365 day period)
Arsenic	2
Cadmium	1.9
Chromium	150
Copper	75
Lead	15
Mercury	0.85
Molybdenum	Monitor
Nickel	21
Selenium	5
Zinc	140

2. Pathogen Control

All sewage sludge that is sold or given away in a bag or other container for application to the land shall be treated by the Class A pathogen requirements as defined above in Section I.B.3.a. above.

3. Management Practices

Either a label shall be affixed to the bag or other container in which sewage sludge that is sold or given away for application to the land, or an information sheet shall be provided to the person who receives sewage sludge sold or given away in an other container for application to the land. The label or information sheet shall contain the following information:

a. The name and address of the person who prepared the sewage sludge that is sold or given away in a bag or other container for application to the land.

b. A statement that application of the sewage sludge to the land is prohibited except in accordance with the instructions on the label or information sheet.

c. The annual whole sludge application rate for the sewage sludge that will not cause any of the annual pollutant loading rates in Table 4 above to be exceeded.

4. Notification Requirements - None.

5. Recordkeeping Requirements - The sludge documents will be retained on site at the same location as other NPDES records.

The person who prepares sewage sludge or a sewage sludge material shall develop the following information and shall retain the information for five years.

a. The concentration in the sludge of each pollutant listed above in found in Element I, Section I, Table 1.

b. The following certification statement found in §503.17(a)(6)(iii).

"I certify, under penalty of law, that the management practice in §503.14(e), the Class A pathogen requirement in §503.32(a), and the vector attraction reduction requirement in (insert vector attraction reduction option) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practice, pathogen requirements, and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

c. A description of how the Class A pathogen reduction requirements are met.

d. A description of how the vector attraction reduction requirements are met.

e. The annual whole sludge application rate for the sewage sludge that does not cause the annual pollutant loading rates in Table 4 to be exceeded. See Appendix A to Part 503 - Procedure to Determine the Annual Whole Sludge Application Rate for a Sewage Sludge.

6. Reporting Requirements - None.

ELEMENT 2- SURFACE DISPOSAL

SECTION I. REQUIREMENTS APPLYING TO ALL SEWAGE SLUDGE SURFACE DISPOSAL

A. General Requirements

1. The permittee shall handle and dispose of sewage sludge in accordance with Section 405 of the Clean Water Act and all other applicable Federal regulations to protect public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants which may be present.

2. If requirements for sludge management practices or pollutant criteria become more stringent than the sludge pollutant limits or acceptable management practices in this permit, or control a pollutant not listed in this permit, this permit may be modified or revoked and reissued to conform to the requirements promulgated at Section 405(d)(2) of the Clean Water Act.

3. In all cases, if the person (permit holder) who prepares the sewage sludge supplies the sewage sludge to another person (owner or operator of a sewage sludge unit) for disposal in a surface disposal site, the permit holder shall provide all necessary information to the parties who receive the sludge to assure compliance with these regulations.

4. The permittee shall give prior notice to EPA (Chief, Permits Branch, Water Management Division, Mail Code 6W-P, EPA Region 6, 1445 Ross Avenue, Dallas, Texas 75202) of any planned changes in the sewage sludge disposal practice, in accordance with 40 CFR Part 122.41(l)(1)(iii). These changes may justify the application of permit conditions that are different from or absent in the existing permit. Change in the sludge use or disposal practice may be cause for modification of the permit in accordance with 40 CFR Part 122.62(a)(1).

5. The permittee or owner/operator shall submit a written closure and post closure plan to the permitting authority 180 days prior to the closure date. The plan shall include the following information:

(a) A discussion of how the leachate collection system will be operated and maintained for three years after the surface disposal site closes if it has a liner and leachate collection system.

(b) A description of the system used to monitor continuously for methane gas in the air in any

structures within the surface disposal site. The methane gas concentration shall not exceed 25% of the lower explosive limit for methane gas for three years after the sewage sludge unit closes. A description of the system used to monitor for methane gas in the air at the property line of the site shall be included. The methane gas concentration at the surface disposal site property line shall not exceed the lower explosive limit for methane gas for three years after the sewage sludge unit closes.

(c) A discussion of how public access to the surface disposal site will be restricted for three years after it closes.

B. Management Practices

1. An active sewage sludge unit located within 60 meters of a fault that has displacement in Holocene time shall close by March 22, 1994.

2. An active sewage sludge unit located in an unstable area shall close by March 22, 1994.

3. An active sewage sludge unit located in a wetland shall close by March 22, 1994.

4. Surface disposal shall not restrict the flow of the base 100-year flood.

5. The run-off collection system for an active sewage sludge unit shall have the capacity to handle run-off from a 25-year, 24-hour storm event.

6. A food crop, feed crop, or a fiber crop shall not be grown on a surface disposal site.

7. Animals shall not be grazed on a surface disposal site.

8. Public access shall be restricted on the active surface disposal site and for three years after the site closes.

9. Placement of sewage sludge shall not contaminate an aquifer. This shall be demonstrated through one of the following:

   (a) Results of a ground-water monitoring program developed by a qualified ground-water scientist.

   (b) A certification by a qualified ground-water scientist may be used to demonstrate that sewage sludge placed on an active sewage sludge unit does not contaminate an aquifer.

10. When a cover is placed on an active surface disposal site, the concentration of methane gas in air in any structure within the surface disposal site shall not exceed 25 percent of the lower explosive limit for methane gas during the period that the sewage sludge unit is active. The concentration of methane gas in air at the property line of the surface disposal site shall not exceed the lower explosive limit for methane gas during the period that the sewage sludge unit is active. Monitoring shall be continuous.

C. Testing Requirements

1. Sewage sludge shall be tested at the frequency show below in Element 2, Section I.D. for PCBs. Any sludge exceeding a concentration of 50 mg/Kg shall not be surface disposed.

2. Pathogen Control

All sewage sludge that is disposed of in a surface disposal site shall be treated by either the Class A or Class B pathogen requirements unless sewage sludge is placed on an active surface disposal site, and is covered with soil or other material at the end of each operating day.

(a) Six alternatives are available to demonstrate compliance with Class A sewage sludge. All 6 alternatives require either the density of fecal coliform in the sewage sludge be less than 1000 MPN per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the sewage sludge be less than three Most Probable Number per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed; at the time the sewage sludge is prepared for sale or given

away in a bag or other container for application to the land. Below are the additional requirements necessary to meet the definition of a Class A sludge. Alternatives 5 and 6 are not authorized to demonstrate compliance with Class A sewage sludge in Texas permits.

Alternative 1 - The temperature of the sewage sludge that is used or disposed shall be maintained at a specific value for a period of time. See 503.32(a)(3)(ii) for specific information.

Alternative 2 - The pH of the sewage sludge that is used or disposed shall be raised to above 12 and shall remain above 12 for 72 hours.

The temperature of the sewage sludge shall be above 52 degrees Celsius for 12 hours or longer during the period that the pH of the sewage sludge is above 12.

At the end of the 72 hour period during which the pH of the sewage sludge is above 12, the sewage sludge shall be air dried to achieve a percent solids in the sewage sludge greater than 50 percent.

Alternative 3 - The sewage sludge shall be analyzed for enteric viruses prior to pathogen treatment. The limit for enteric viruses is one Plaque-forming Unit per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 503.32(a)(5)(ii) for specific information. The sewage sludge shall be analyzed for viable helminth ova prior to pathogen treatment. The limit for viable helminth ova is less than one per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 503.32(a)(5)(iii) for specific information.

Alternative 4 - The density of enteric viruses in the sewage sludge shall be less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed or at the time the sludge is prepared for sale or give away in a bag or other container for application to the land.

The density of viable helminth ova in the sewage sludge shall be less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed or at the time the sewage sludge is prepared for sale or give away in a bag or other container for application to the land.

Alternative 5 - Sewage sludge shall be treated by one of the Processes to Further Reduce Pathogens (PFRP) described in 503 Appendix B. PFRPs include composting, heat drying, heat treatment, and thermophilic aerobic digestion.

Alternative 6 - Sewage sludge shall be treated by a process that is equivalent to a Process to Further Reduce Pathogens, if individually approved by the Pathogen Equivalency Committee representing the EPA.

(b) Four alternatives are available to demonstrate compliance with Class B sewage sludge. Alternatives 2, 3, and 4 are not authorized to demonstrate compliance with Class B sewage sludge in Texas permits.

Alternative 1 - (i) Seven random samples of the sewage sludge shall be collected for one monitoring episode at the time the sewage sludge is used or disposed.

(ii) The geometric mean of the density of fecal coliform in the samples collected shall be less than either 2,000,000 Most Probable Number per gram of total solids (dry weight basis) or 2,000,000 Colony Forming Units per gram of total solids (dry weight basis).

Alternative 2 - Sewage sludge shall be treated in one of the Processes to significantly Reduce Pathogens described in 503 Appendix B.

Alternative 3 - Sewage sludge shall be treated in a process that is equivalent to a PSRP, if individually approved by the Pathogen Equivalency Committee representing the EPA.

Alternative 4 - Sewage sludge placed on an active surface disposal site is covered with soil or other

material at the end of each operating day.

3. Vector Attraction Reduction Requirements

All sewage sludge that is disposed of in a surface disposal site shall be treated by one of the following alternatives 1 through 11 for Vector Attraction Reduction.

Alternative 1 - The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38 percent.

Alternative 2 - If Alternative 1 cannot be met for an anaerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30 and 37 degrees Celsius. Volatile solids must be reduced by less than 17 percent to demonstrate compliance.

Alternative 3 - If Alternative 1 cannot be met for an aerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge with a percent solids of two percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20 degrees Celsius. Volatile solids must be reduced by less than 15 percent to demonstrate compliance.

Alternative 4 - The specific oxygen uptake rate (SOUR) for sewage sludge treated in an aerobic process shall be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius.

Alternative 5 - Sewage sludge shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the sewage sludge shall be higher than 40 degrees Celsius and the average temperature of the sewage sludge shall be higher than 45 degrees Celsius.

Alternative 6 - The pH of sewage sludge shall be raised to 12 or higher by alkali addition and, without the addition of more alkali shall remain at 12 or higher for two hours and then at 11.5 or higher for an additional 22 hours.

Alternative 7 - The percent solids of sewage sludge that does not contain unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 75 percent based on the moisture content and total solids prior to mixing with other materials. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or an anaerobic treatment process.

Alternative 8 - The percent solids of sewage sludge that contains unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 90 percent based on the moisture content and total solids prior to mixing with other materials. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or an anaerobic treatment process.

Alternative 9 -

(i) Sewage sludge shall be injected below the surface of the land.

(ii) No significant amount of the sewage sludge shall be present on the land surface within one hour after the sewage sludge is injected.

(iii) When sewage sludge that is injected below the surface of the land is Class A with respect to pathogens, the sewage sludge shall be injected below the land surface within eight hours after being discharged from the pathogen treatment process.

Alternative 10 - (i) Sewage sludge applied to the land surface or placed on a surface disposal site shall be incorporated into the soil within six hours after application to

or placement on the land.

(ii) When sewage sludge that is incorporated into the soil is Class A with respect to pathogens, the sewage sludge shall be applied to or placed on the land within eight hours after being discharged from the pathogen treatment process.

Alternative 11 - Sewage sludge placed on an active sewage sludge unit shall be covered with soil or other material at the end of each operating day.

4. Methane Gas Control Within a Structure On Site

When cover is placed on an active surface disposal site, the methane gas concentration in the air in any structure shall not exceed 25% of the lower explosive limit (LEL) for methane gas during the period that the disposal site is active.

5. Methane Gas Control at Property Line

The concentration of methane gas in air at the property line of the surface disposal site shall not exceed the LEL for methane gas during the period that the disposal site is active.

D. Monitoring Requirements

Methane Gas in covered structures on site - Continuous

Methane Gas at property line - Continuous

All other pollutants shall be monitored at the frequency shown below:

Amount of sewage sludge* (metric tons per 365 day period)	Frequency
0 ≤ Sludge < 290	Once/Year
290 ≤ Sludge < 1,500	Once/Quarter
1,500 ≤ Sludge < 15,000	Once/Two Months
15,000 ≤ Sludge	Once/Month

* Amount of sewage sludge placed on an active sewage sludge unit (dry weight basis).

Representative samples of sewage sludge shall be collected and analyzed in accordance with the methods referenced in 40 CFR 503.8(b).

SECTION II. REQUIREMENTS SPECIFIC TO SURFACE DISPOSAL SITES WITHOUT A LINER AND LEACHATE COLLECTION SYSTEM.

1. Pollutant limits - Sewage sludge shall not be applied to a surface disposal site if the concentration of the listed pollutants exceed the corresponding values based on the surface disposal site boundary to the property line distance:

TABLE 5

Unit boundary to property line distance (meters)	Pollutant Concentrations* Arsenic (mg/kg)	Chromium (mg/kg)	Nickel (mg/kg)	PCB's (mg/kg)
0 to less than 25	30	200	210	49
25 to less than 50	34	220	240	49
50 to less than 75	39	260	270	49
75 to less than 100	46	300	320	49
100 to less than 125	53	360	390	49
125 to less than 150	62	450	420	49
≥ 150	73	600	420	49

* Dry weight basis

2. Management practices - Listed in Section I.B. above.

3. Notification requirements

   a. The permittee shall assure that the owner of the surface disposal site provide written notification to the subsequent site owners that sewage sludge was placed on the land.

   b. The permittee shall provide the location of all existing sludge disposal/use sites to the State Historical Commission within 90 days of the effective date of this permit. In addition, the permittee shall provide the location of any new disposal/use site to the State Historical Commission prior to use of the site.

      The permittee shall within 30 days after notification by the State Historical Commission that a specific sludge disposal/use area will adversely affect a National Historic Site, cease use of such area.

4. Recordkeeping requirements - The permittee shall develop the following information and shall retain the information for five years. The sludge documents will be retained on site at the same location as other NPDES records.

   a. The distance of the surface disposal site from the property line and the concentration (mg/Kg) in the sludge of each pollutant listed above in Table 5, as well as the applicable pollutant concentration criteria listed in Table 5.

   b. A certification statement that all applicable requirements (specifically listed) have been met, and that the permittee understands that there are significant penalties for false certification including fine and imprisonment. See 503.27(a)(1)(ii) or 503.27(a)(2)(ii) as applicable to the permittees sludge disposal activities.

   c. A description of how either the Class A or Class B pathogen reduction requirements are met, or whether sewage sludge placed on a surface disposal site is covered with soil or other material at the end of each operating day.

   d. A description of how the vector attraction reduction requirements are met.

   e. Results of a groundwater monitoring program developed by a qualified ground-water scientist, or a certification by a qualified groundwater scientist may be used to demonstrate that sewage sludge placed on an active sewage sludge unit does not contaminate an aquifer.

A qualified groundwater scientist is an individual with a baccalaureate or post graduate degree in the natural sciences or engineering who has sufficient training and experience in groundwater hydrology and related fields, as may be demonstrated by State registration, professional certification or completion of accredited university programs, to make sound professional judgements regarding groundwater monitoring, pollutant fate and transport, and corrective action.

5. Reporting Requirements - None.

SECTION III. REQUIREMENTS SPECIFIC TO SURFACE DISPOSAL SITES WITH A LINER AND LEACHATE COLLECTION SYSTEM.

1. Pollutant limits - None.

2. Management Practices - Listed in Section I.B. above.

3. Notification requirements

a. The permittee shall assure that the owner of the surface disposal site provide written notification to the subsequent owner of the site that sewage sludge was placed on the land.

b. The permittee shall provide the location of all existing sludge disposal/use sites to the State Historical Commission within 90 days of the effective date of this permit. In addition, the permittee shall provide the location of any new disposal/use site to the State Historical Commission prior to use of the site.

The permittee shall within 30 days after notification by the State Historical Commission that a specific sludge disposal/use area will adversely affect a National Historic Site, cease use of such area.

4. Recordkeeping requirements - The permittee shall develop the following information and shall retain the information for five years. The sludge documents will be retained on site at the same location as other NPDES records.

a. The following certification statement found in 503.27(a)(1)(ii).

"I certify, under penalty of law, that the pathogen requirements (define option used) and the vector attraction reduction requirements in (define option used) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine the (pathogen requirements and vector attraction reduction requirements, if appropriate) have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

b. A description of how either the Class A or Class B pathogen reduction requirements are met or whether sewage sludge placed on a surface disposal site is covered with soil or other material at the end of each operating day.

c. A description of how the vector attraction reduction requirements are met.

d. Results of a ground-water monitoring program developed by a qualified ground-water scientist, or

A certification by a qualified ground-water scientist may be used to demonstrate that sewage sludge placed on an active sewage sludge unit does not contaminate an aquifer.

5. Reporting Requirements - None.

ELEMENT 3 - MUNICIPAL SOLID WASTE LANDFILL DISPOSAL

SECTION I. REQUIREMENTS APPLYING TO ALL SEWAGE SLUDGE DISPOSED IN A MUNICIPAL SOLID WASTE LANDFILL

1. The permittee shall handle and dispose of sewage sludge in accordance with Section 405 of the Clean Water Act and all other applicable Federal regulations to protect public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants that may be present. The permittee shall ensure that the sewage sludge meets the requirements in 40 CFR 258 concerning the quality of the sludge disposed in a municipal solid waste landfill.

2. If requirements for sludge management practices or pollutant criteria become more stringent than the sludge pollutant limits or acceptable management practices in this permit, or control a pollutant not listed in this permit, this permit may be modified or revoked and reissued to conform to the requirements promulgated at Section 405(d)(2) of the Clean Water Act.

3. If the permittee generates sewage sludge and supplies that sewage sludge to the owner or operator of a MSWLF for disposal, the permittee shall provide to the owner or operator of the MSWLF appropriate information needed to be in compliance with the provisions of this permit.

4. The permittee shall give prior notice to EPA (Chief, Permits Branch, Water Management Division, Mail Code 6W-P, EPA Region 6, 1445 Ross Avenue, Dallas, Texas 75202) of any planned changes in the sewage sludge disposal practice, in accordance with 40 CFR Part 122.41(l)(1)(iii). These changes may justify the application of permit conditions that are different from or absent in the existing permit. Change in the sludge use or disposal practice may be cause for modification of the permit in accordance with 40 CFR Part 122.62(a)(1).

5. The permittee shall provide the location of all existing sludge disposal/use sites to the State Historical Commission within 90 days of the effective date of this permit. In addition, the permittee shall provide the location of any new disposal/use site to the State Historical Commission prior to use of the site.

   The permittee shall within 30 days after notification by the State Historical Commission that a specific sludge disposal/use area will adversely affect a National Historic Site, cease use of such area.

6. Recordkeeping requirements - The permittee shall develop the following information and shall retain the information for five years. The sludge documents will be retained on site at the same location as other NPDES records.

   a. The description and results of the tests performed, required by the owner/operator of the MSWLF to demonstrate compliance with the 40 CFR 258 regulations.

   b. A certification that sewage sludge meets the requirements in 40 CFR 258 concerning the quality of the sludge disposed in a municipal solid waste landfill unit.

7. Reporting requirements - None.