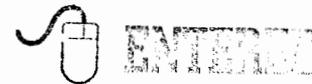


Permit 3/18/10



**STATE OF NEW MEXICO  
BEFORE THE SECRETARY OF ENVIRONMENT**

**IN THE MATTER OF:**

**APPLICATION OF THE UNITED STATES )  
DEPARTMENT OF ENERGY AND )  
LOS ALAMOS NATIONAL SECURITY, LLC )  
FOR A HAZARDOUS WASTE FACILITY )  
PERMIT FOR LOS ALAMOS NATIONAL )  
LABORATORY )**

**No. HWB 09-37(P)  
HWB 10-04(P)**

**TESTIMONY OF ANTHONY GRIEGGS**

My testimony consists of two parts. The first part includes general background information on LANL, the requirements of the Resource Conservation and Recovery Act (RCRA) and the Applicants' position on the Proposed Permit. The second part of my testimony will address the permit provisions regarding the Radioactive Liquid Waste Treatment Facility found in Permit Section 4.6.

Qualifications

My name is Anthony (Tony) Grieggs. I am group leader for the Water Quality and RCRA Group, Los Alamos National Security (LANS), LLC, at Los Alamos National Laboratory (LANL). My responsibilities include permitting and compliance oversight for LANL's RCRA and Clean Water Act (CWA) programs. I have served in this role for approximately five years. Previously, I led LANL's RCRA Compliance and Technical Support Group and provided compliance oversight for LANL's RCRA Corrective Action Program. Prior to leading the groups, I was the Team Leader for the RCRA Compliance Team. I was responsible for interpreting and implementing regulatory and permit requirements across LANL's operations. I previously negotiated two hazardous waste research and development permits with the New Mexico Environment Department (NMED). Additionally, I worked with NMED on the requirements of the corrective action Consent Order. I also coordinated with the United States Environmental Protection Agency (EPA) on RCRA permitting and compliance prior to NMED having received authorization for corrective action. During that period, I was also responsible for completing the field requirements of a compliance order for vadose zone monitoring. I have approximately 23 years of relevant experience involving permitting and regulatory requirements.

PART I: Introduction and Background Information

The primary responsibility of the LANL facility is ensuring the safety, security and reliability of the nation's nuclear deterrent. In addition to its nuclear weapons work, LANL also engages in a broad range of research and development activities, including chemical, biological and physics



research. LANL also undertakes important counter-terrorism and national security missions, that include improvised explosive device (IED) countermeasures, explosives detection and the development of methods to defeat buried mines or other explosives.

The research and development activities conducted at LANL use various types of chemicals and other materials. Once these materials are no longer useful for laboratory activities, they may be classified as waste materials. In addition, waste materials are also generated by general operations, environmental restoration activities and decontamination and decommissioning projects. Some of the waste materials are defined as hazardous waste under the New Mexico Hazardous Waste Act (HWA) and the federal Resource Conservation and Recovery Act (RCRA).

Most of the hazardous waste stored or treated at LANL consists of small amounts generated by the research laboratories and is similar to waste streams generated at other research facilities. Some of the waste generated at LANL contains an AEA-regulated radioactive component in addition to the hazardous component and is referred to as "mixed waste." The mixed waste is categorized either as low-level mixed waste or transuranic (TRU) mixed waste. TRU mixed waste is defined as "waste contaminated with alpha-emitting radionuclides of atomic number greater than 92 (that is, heavier than uranium; hence the term transuranic) and half-lives greater than 20 years in concentrations greater than 100 nanocuries per gram." (NMED FACT SHEET at 4). Low level waste (LLW) is defined as radioactive waste that is not spent nuclear fuel, high level waste or transuranic waste.

In addition to the waste that is generated by current, on-going activities, LANL stores legacy TRU mixed waste at Technical Area (TA) 54. The TRU mixed waste will eventually be shipped off-site for disposal at the Waste Isolation Pilot Plant (WIPP) located just outside Carlsbad, New Mexico.

The majority of the hazardous waste generated at LANL is accumulated under the hazardous waste generator standards (40 CFR Part 262) before being sent to an off-site disposal facility. This Proposed Permit only applies to the hazardous and mixed wastes that LANL needs to store for longer than 90 days, or in larger quantities, and to certain waste treatment operations.

The Solid Waste Disposal Act (SWDA) regulates solid wastes, which are defined in the statute. (42 U.S.C. §6903(27)). The RCRA amendments to the Solid Waste Disposal Act, passed in 1976, govern the generation, management, treatment, storage and disposal of hazardous waste, a subset of solid wastes. (42 U.S.C. §§6921 to 6931). Section 3005(a) of RCRA [42 U.S.C. 6925] requires any facility that treats, stores or disposes of hazardous waste to have a permit. New Mexico has been authorized by EPA to implement its hazardous waste program in lieu of the federal RCRA program. The hazardous waste management regulations adopted by EPA define a "cradle-to-grave" regulatory framework for hazardous waste generators, transporters and treatment, storage and disposal facilities. The regulations include specific requirements governing the treatment, storage and disposal of hazardous waste. (40 CFR Part 260 *et seq.*). For the most part, NMED has adopted the EPA regulations. (New Mexico Hazardous Waste Management Regulations, 20.4.1 New Mexico Administrative Code (NMAC)).

It is important to note that RCRA was developed with an industrial focus ranging from dry cleaners and machine shops to automotive manufacturers and chemical plants. Source, special nuclear and by-product materials at LANL are regulated under the Federal Atomic Energy Act of 1954 (AEA) and are specifically excluded from the definition of hazardous waste in RCRA. The AEA regulations for radioactive material management are administered by the Department of Energy (DOE) for government-owned federal facilities such as LANL. The hazardous component of mixed wastes are regulated under RCRA and the radioactive component under the AEA.

Owners or operators of facilities seeking a permit are required to submit a detailed permit application addressing all aspects of the design, operation, maintenance and closure of the units to be permitted. The RCRA permit requirements for hazardous waste facilities are found at 40 CFR Part 264, which were adopted by New Mexico at 20.4.1.500 NMAC. The regulations include permit requirements for waste analysis, the storage of waste in containers and tanks, inspections, personnel training, preparedness and prevention, contingency plan and emergency procedures, and recordkeeping and reporting. The regulations also include requirements for corrective action for releases of hazardous waste and the closure and post-closure care of the permitted units.

The LANL Hazardous Waste Facility Permit was issued on November 8, 1989 for a period of ten years. The 1989 permit was administratively extended after the Permittees submitted a renewal application in August, 1996. The 1989 permit, as modified, remains in effect until a permit renewal is granted. The Application has been revised several times since 1996 to reflect changes and improvements in ongoing waste management operations. Applicants seek to permit storage and treatment units.

On August 27, 2007, NMED issued a draft permit for public comment and requests for hearing. During the public comment period, NMED received extensive comments from DOE and LANS as the Applicants, from the EPA and from twelve other interested parties, including the Santa Clara and San Ildefonso Pueblos, environmental organizations and individuals. Based on requests from several commenters, the public comment period was extended through February 1, 2008. Many of the commenters, including the Applicants, requested a public hearing on the draft permit.

Based on the comments received, NMED held a number of meetings with the interested parties in an effort to resolve the numerous issues raised during the comment period. The negotiations began in July, 2008 and concluded in June, 2009. Numerous meetings were held with LANL and other participants. The participants were given the opportunity to present their concerns, provide information and discuss possible resolutions of the various issues. Many issues were resolved and, as a result of the negotiations, NMED prepared a revised draft permit, which was issued for public comment on July 6, 2009. The participants in the negotiations entered into a Stipulation on Permit Language, whereby the Applicants and the signatory Interested Parties agreed to the stipulated terms of the revised draft permit, agreed that they would not request a public hearing on the stipulated terms of the revised draft permit, and agreed that they would not appeal the stipulated terms of the revised draft permit, if approved and issued in substantially the same form. Although the Applicants agreed with the majority of the revised draft permit, there

were a few issues that were not resolved during the negotiations. These issues were included in an exceptions list that was attached to the Stipulation. Other participants also provided exception lists that were attached to the Stipulation.

The public comment period for the revised draft permit ended September 4, 2009. Extensive comments on the revised draft permit were submitted by the Applicants and other interested persons and entities. After the end of the comment period, additional meetings were held in an effort to resolve the outstanding issues. Based on the comments and additional meetings and discussions, the Department issued a revised Hazardous Waste Permit, referred to as the "Proposed Permit," on January 20, 2010. The Department, the Applicants and other participants entered into the Second Stipulation on Permit Language, on the same terms as the earlier stipulation and with exceptions again attached. Additional comments were received and resulted in NMED's public notice of the Proposed Permit on February 2, 2010, as well as NMED's notice of an "Intent to Deny a Permit" for the TA-16 open burn units.

During the course of the negotiations, the Applicants were able to agree with NMED on the majority of the terms included in the Proposed Permit. The Applicants support the issuance of the Proposed Permit, with the exception of those issues identified as part of the Second Stipulation. The Applicants will present direct testimony demonstrating that the portions of the Proposed Permit that they support meet the requirements of RCRA and are protective of human health and the environment. The Proposed Permit includes extensive operational requirements and requirements for closure, post-closure and corrective action. The Proposed Permit also includes provisions that allow for greater public involvement, including the requirement that the Applicants establish an electronic information repository, develop a community relations plan and provide e-mail notification for certain types of actions taken by the Applicants. At the hearing, the Applicants will provide a demonstration of how the electronic information repository will be accessed.

The portions of the Proposed Permit that the Applicants oppose can be divided into two categories. The first category includes provisions that the Applicants believe can be revised in order to make them consistent with the RCRA regulatory requirements and current operations at LANL. These provisions will be addressed by Gian Bacigalupa and other witnesses and proposed language changes will be presented.

The second category includes two permit requirements that the Applicants are requesting be removed from the Proposed Permit and one provision that the Applicants are requesting to have reinstated into the Proposed Permit. As discussed in the second part of my direct testimony, the Applicants are requesting that the permit condition applicable to the Radioactive Liquid Waste Treatment Facility (RLWTF), found at Permit Section 4.6, be removed. As will be discussed by other witnesses, the Applicants are also requesting that the financial assurance requirements, found at Permit Sections 2.13 through 2.16 be removed. Finally, the Applicants are requesting that the provisions allowing for the treatment of high explosive wastes at TA-16 by open burning be reinstated in the permit. The Applicants' direct testimony will discuss the importance of the TA-16 open burn units to several of the LANL missions and will demonstrate that the open burn units can be operated in a manner that complies with the RCRA/HWA regulatory requirements and that is protective of human health and the environment.

## PART II: Radioactive Liquid Waste Treatment Facility (RLWTF)

NMED proposes to include Section 4.6, a permit condition related to the Radioactive Liquid Waste Treatment Facility (RLWTF) at TA-50. The RLWTF, which treats wastewater and discharges effluent through an outfall (discharge point) into Mortandad Canyon, is operated pursuant to a National Pollutant Discharge Elimination System (NPDES) permit issued by the United States Environmental Protection Agency (EPA) under the federal Clean Water Act (CWA). Although LANL treats some hazardous wastewater at the RLWTF, it is not required to have a RCRA permit because RCRA exempts wastewater treatment units (WWTU) that store and treat wastewater in tanks or tank systems from the requirement to have a permit. 40 CFR §264.1(g)(6). The purpose of the WWTU exemption is to avoid the imposition of duplicative permitting requirements under both the CWA and RCRA. NMED acknowledges that the WWTU exemption applies to the RLWTF and that the RLWTF is permitted by EPA pursuant to Section 402 of the CWA. (Permit Section 4.6; NMED July 26, 2009 Fact Sheet at 82).

Permittees previously objected to this permit condition, and in support, filed extensive comments on the provision. These comments are incorporated by reference. (Permittees' Comment No. 20, filed September 3, 2009, AR # 31981). Permittees respectfully request that the Hearing Officer strike Section 4.6 for the reasons specified below, and including those comment previously filed.

Section 4.6 provides as follows:

*The Permittees shall discharge all treated wastewater from the TA-50 Radioactive Liquid Waste Treatment Facility (RLWTF) through the outfall permitted under Section 402 of the federal Clean Water Act, or as otherwise authorized by the terms of an applicable Clean Water Act permit that regulates the treatment and use of wastewater. If the Permittees intentionally discharge through a location other than the permitted outfall, they will fail to comply with this requirement, and as a consequence the wastewater treatment unit exemption under 40 CFR § 264.1(g)(6) will no longer apply to the RLWTF. The Permittees shall not accept listed hazardous wastes as specified at 40 CFR Part 261 Subpart D at the RLWTF.*

In its July 6, 2009 fact sheet, the Bureau explains that the purpose of the condition is to ensure that treated wastewater at RLWTF will be discharged through a permitted outfall under Section 402 of the CWA, and that an "intentional" discharge through another location will mean that the water treatment unit (WWTU) exemption "will no longer" apply. (Fact Sheet, at 82). NMED does not cite to any provision under RCRA permitting regulations at Part 270 to support this condition.

In issuing a draft permit, the Department must base its decision on the permit application and administrative record; such draft permit "shall contain all conditions, compliance schedules, monitoring requirements and technical standards for treatment, storage, and/or disposal provided in 40 CFR Part 270." 20.4.1.901(A)(1) NMAC. This is consistent with EPA's mandate that EPA-authorized state agencies, like NMED, issue RCRA draft permits based on the permit

application to meet the standards required for permitting under Part 270 (see 40 CFR § 124.6(d)(e)).

The permit condition should be removed for the following reasons:

1. The RCRA permit does not regulate compliance with Section 402 of the federal Clean Water Act.

The first sentence of the permit condition requires the Permittees to discharge all treated wastewater from the RLWTF through an outfall permitted under Section 402 of the federal Clean Water Act (CWA). The second sentence states that an "intentional" discharge through a location other than the permitted outfall means that that Permittees will "fail to comply with this [CWA] requirement." The third sentence prohibits the Permittees from treating listed hazardous wastes at the RLWTF.

Under the plain reading of this permit condition, NMED is attempting to regulate activity (wastewater treatment) that falls under an entirely different federal statute and at a facility (RLWTF) that is not the subject matter of this permit proceeding. The Applicants did not submit a RCRA permit application for any unit at the RLWTF. LANL is fully authorized to discharge its treated wastewater through an EPA-issued NPDES permit. (NPDES Permit No. NM0028355). The NPDES permit regulates the location and amount of the discharge, the type of wastewater treated and discharged, and treatment limits. If LANL fails to discharge in accordance with the NPDES permit, or is otherwise not in compliance with the conditions of the NPDES permit, it could be subject to CWA enforcement action by the EPA. It is not reasonable for LANL to also be subject to NMED enforcement action for the same facility and same activities pursuant to its hazardous waste facility permit. NMED does not have the authority to determine if LANL is in compliance with its NPDES permit. The inclusion of Permit Section 4.6 subjects LANL to duplicative permitting requirements and the potential for inconsistent regulatory interpretations and enforcement by NMED and the EPA, all of which undermines the purpose of the WWTU exemption. The permit condition is not reasonable and is not supported by NMED's hazardous waste regulations.

2. The Permit Condition Is Not Supported Under Part 270, and Misstates the Wastewater Treatment Unit (WWTU) Exemption.

There are other significant problems with this permit condition. Following is a summary of these concerns:

- NMED does not explain, or suggest, that this permit condition is supported by an administrative record as necessary to achieve compliance with Parts 270, 264 or 268 (see Permittees Comment 20, p. 7). Nor is there a notice of deficiency which led to imposing this permit condition. Instead, the permit condition arose on its own, outside this permit process, and is related to a facility (RLWTF) that is not subject to the RCRA permit proceeding.

- The permit condition inaccurately and erroneously attempts to codify the circumstances in which the WWTU exemption applies under § 264.1(g)(6). The WWTU exemption was issued to avoid dual regulation of hazardous wastewaters subject to a Section 402 CWA permit. To qualify, three criteria must be met under § 264.1: (1) the unit must be part of a wastewater treatment facility which is subject to regulation under either §§ 402 or 307(b) of the CWA; (2) the unit receives and treats or stores hazardous wastewaters as defined in § 261.3; and (3) the unit must meet the definition of a “tank” or “tank system” in § 260.10. If a facility qualifies for the WWTU exemption, it is not required to obtain a RCRA permit for treatment and storage of hazardous wastewater in tanks. If this criterion is not met, the facility can lose the WWTU exemption (e.g., a tank that no longer meets the “tank” definition due to corrosion or damage would not qualify).

The second sentence in the Permit Condition, however, could be construed to result in a permanent loss of the exemption (e.g., a failure to comply with the NPDES permit means the exemption “*will no longer apply*”). This suggests that a facility could not correct the problem that led to the loss of the exemption (e.g., repair a tank). A facility that loses the WWTU exemption may be subject to potential enforcement, but there is no regulatory basis for the sweeping conclusion that the exemption is lost permanently, and NMED provides none in its fact sheet (see Permittees Comment 20, pp. 8-9).

- The term “intentional” is vague and undefined and not present in the WWTU exemption criteria set forth under § 260.10 and § 264.1 (see Permittees Comment 20.2, pp. 8-9).
- The permit condition inappropriately attempts to regulate wastewater treated at the RLWTF. The third sentence *prohibits* Permittees from accepting listed hazardous waste at RLWTF. The Bureau provides no citation to the administrative record or technical support for this broad and significant prohibition. In fact, the type of wastewater accepted at this facility is not the subject matter of this proceeding. RLWTF operates like any other wastewater treatment facility and the type of wastewater it treats is a function of the technological treatment equipment used, including future technological improvements. The WWTU exemption at § 264.1 does not prohibit a wastewater treatment facility from accepting for treatment listed hazardous wastes (or any other type of hazardous wastewaters), and there is no basis for NMED prescribing such a limitation (see also Permittees Comment, 20, pp. 8-9).





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6  
1445 ROSS AVENUE  
DALLAS, TEXAS 75202-2733

Glenn

JUL 17 2007

CERTIFIED MAIL: RETURN RECEIPT REQUESTED (7004 1160 0003 0356 7715)

Mr. Edwin L. Wilmot, Manager  
National Nuclear Security Administrator  
Los Alamos Site Office  
Los Alamos, NM 87544

Re: NPDES Permit No. NM0028355  
Notice of Final Permit Decision

RECEIVED  
JUL 23 2007  
SURFACE WATER  
DIVISION

Dear Mr. Wilmot:

The permit recently issued to Los Alamos National Laboratory contains several typographical errors. Following regulations listed at 40CFR122.63(a), the following minor permit modifications are made:

- (1) Page 6 of Part I- The footnote (\*7) is corrected to be (\*6) for monitor of *Daphnia pulex*;
- (2) Page 11 of Part I- Total zinc is added into Footnote (\*3) for report; and
- (3) Page 21 of Part I- Delete monitoring requirement for total zinc.

Per your request, following regulations listed at 40CFR122.63(c), the following compliance reporting requirements are modified:

- (1) Part I.B.(2)(a)- Add option of end-of-pipe treatment to PCB's compliance schedule; and
- (2) Part I.B.(3)- Change progress report date from 15<sup>th</sup> to 28<sup>th</sup> so that the report may be submitted with DMRs.

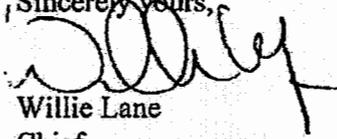
The following point source outfalls are deleted per your request, in accordance with regulations listed at 40CFR122.63(e)(2):

- (1) Outfall 03A158.

The revised Part I with adjusted page numbers and page 14 of Part II are enclosed.

If you have any questions on any aspect of this minor permit modification, please feel free to contact the permit writer, Isaac Chen, by telephone at:214-665-7364, FAX:214-665-2191, or E-mail: chen.isaac@epa.gov.

Sincerely yours,



Willie Lane

Chief

Permits & Technical Section (6WQ-PP)

Enclosure(s)

✓ cc w/Enclosure:

New Mexico Environment Department  
6EN-WC



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, Canon de Valle, and Water Canyon, 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 - 36 pages], II [Other Conditions - 22 pages], III [Standard Conditions for NPDES Permits - 8 pages], and IV [Sewage Sludge Requirements - 18 pages] hereof.

This permit supersedes and replaces NPDES Permit No. NM0028355 issued December 29, 2000.

This permit shall become effective on August 1, 2007 .

This permit and the authorization to discharge shall expire at midnight, July 31, 2012

Issued on June 8, 2007

Prepared by

Miguel I. Flores  
 Director  
 Water Quality Protection Division (6WQ)

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

# July 17, 2007 Modification

## 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

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, 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:

<u>PARAMETERS/STORET CODES</u>	<u>DISCHARGE LIMITATIONS/REPORTING REQUIREMENTS</u>			
	<u>QUANTITY/LOADING QUALITY/CONCENTRATION</u> (LBS/DAY UNLESS STATED)		<u>(mg/L UNLESS STATED)</u>	
	<u>MONTHLY AVG</u>	<u>DAILY MAX</u>	<u>MONTHLY AVG</u>	<u>DAILY MAX</u>
	Report MGD	Report MGD	****	****
Flow STORET: 50050				
TSS STORET: 00530	****	****	30	100
E. Coli (*1) STORET: 51040	****	****	Report	Report
E. Coli (*1) STORET: 51040	****	****	126 cfu/100 ml	410 cfu/100 ml
Total Residual Chlorine (*2) STORET: 50060	****	****	****	0.011
Total Aluminum (*3) STORET: 01105	****	****	Report	Report
Total Aluminum (*3) STORET: 01105	****	****	0.058	0.087
pH (Standard Units) (*4) STORET: 00400		Ranges from 6.0 to 9.0		
pH (Standard Units) (*4) STORET: 00400		Ranges from 6.6 to 8.8		
Temperature (*5) STORET: 00010	****	****	Report	Report
Temperature (*5) STORET: 00010	****	****	24°C	24°C

# July 17, 2007 Modification

PERMIT NO. NM0028355

PAGE 2 OF PART I

Total PCBs (*6) STORET: 39516	****	****	0.009 ug/l	0.014 ug/l
Total PCBs (*6) STORET: 39516	****	****	0.00064 ug/l(*7)	0.00064 ug/l(*7)

<u>PARAMETERS/STORET CODES</u>	<u>MONITORING REQUIREMENTS</u>	
	<u>FREQUENCY OF ANALYSIS</u>	<u>SAMPLE TYPE</u>
Flow	Continuous	Totalizer Record
TSS	1/Month	24-hr Composite
E. Coli	1/Week	Grab
Total Residual Chlorine	1/Week	Grab
Total Aluminium	1/Month	24-hr Composite
pH (Standard Units)	1/Week	Grab
Temperature	1/Week	Grab
Total PCBs	1/Year	24-hr Composite

## WHOLE EFFLUENT TOXICITY TESTING

<u>PARAMETERS/STORET CODES</u>	<u>DISCHARGE LIMITATIONS/REPORTING REQUIREMENTS</u>	
	<u>QUALITY (PERCENT % UNLESS STATED)</u>	
	<u>MONTHLY AVG MINIMUM</u>	<u>7-DAY MINIMUM</u>
Whole Effluent Toxicity Testing (*8) (7-Day Static Renewal)		
<u>Pimephales promelas</u>	Report	Report
<u>Ceriodaphnia dubia</u>	Report	Report

Species Quality Reporting Units: Pass = 0, Fail = 1

<u>PARAMETERS/STORET CODES</u>	<u>MONITORING REQUIREMENTS</u>	
	<u>FREQUENCY OF ANALYSIS</u>	<u>SAMPLE TYPE</u>
Whole Effluent Toxicity Testing (7-Day Static Renewal)		
<u>Pimephales promelas</u>	1/Year	24-Hr. Composite
<u>Ceriodaphnia dubia</u>	1/Year	24-Hr. Composite

# July 17, 2007 Modification

PERMIT NO. NM0028355

PAGE 3 OF PART I

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## SAMPLING LOCATION(S) AND OTHER REQUIREMENTS

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### 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 (Latitude 35°52'26"N, Longitude 106°19'09"W).

### 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.

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## FOOTNOTES

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- \*1 Logarithmic mean. Effluent limitations and monitoring requirements only apply when effluent from Outfall 13S is rerouted and discharged at Outfall 001. The discharge shall meet the *E. coli* effluent limitations within six (6) months from the effective date of the permit.
- \*2 Effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes.
- \*3 During the period beginning the effective date of the permit and lasting through three (3) years from the effective date, the concentrations of total aluminum shall be reported in the DMRs. During the period beginning the three years from the effective date through the expiration date of the permit, the discharge must meet the effluent limitations.
- \*4 During the period beginning the effective date of the permit and lasting through six (6) months from the effective date, the pH shall meet the range of 6.0 to 9.0. During the period beginning the six months from the effective date through the expiration date of the permit, the discharge shall meet the pH range of 6.6 to 8.8.

RCR00034.003

## July 17, 2007 Modification

- \*5 During the period beginning the effective date of the permit and lasting through three (3) years from the effective date, the Temperature shall be reported in the DMRs. During the period beginning the three years from the effective date through the expiration date of the permit, the discharge must meet the effluent limitations.
- \*6 EPA published Method 1668 Revision A shall be used for total PCBs analysis.
- \*7 See Part I.B.2. Compliance Schedule for PCBs.
- \*8 The WET test should occur between November 1 and March 31 when most sensitive juvenile life forms are likely to be present in the receiving water and colder ambient temperatures might adversely affected treatment processes. Critical dilution 100%, and the dilution series are 32%, 42%, 56%, 75%, 100%. See Part II, Section H. Whole Effluent Toxicity (7-Day Chronic Testing).

# July 17, 2007 Modification

PERMIT NO. NM0028355

PAGE 5 OF PART I

## OUTFALL 13S

Discharge Type: Continuous  
Latitude 35°51'08"N, Longitude 106°16'33"W

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:

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### CHEMICAL/PHYSICAL/BIOCHEMICAL

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PARAMETERS/STORET CODES	DISCHARGE LIMITATIONS/REPORTING REQUIREMENTS			
	QUANTITY/LOADING		QUALITY/CONCENTRATION	
	(LBS/DAY UNLESS STATED)		(mg/L UNLESS STATED)	
	MONTHLY AVG	DAILY MAX	MONTHLY AVG	DAILY MAX
Flow	Report MGD	Report MGD	****	****
STORET: 50050				
BOD5 (*1)	75	112	30	45
STORET: 00310				
BOD5 (*1)	80	119	30	45
STORET: 00310				
TSS (*1)	75	112	30	45
STORET: 00530				
TSS (*1)	80	119	30	45
STORET: 00530				
<i>E. Coli</i> (*2)	****	****	Report	Report
STORET: 51040				
<i>E. Coli</i> (*2)	****	****	548 cfu/100 ml	2507 cfu/100 ml
STORET: 51040				
Total Residual Chlorine (*3)	****	****	****	0.011
STORET: 50060				
pH (Standard Units)	Ranges from 6.0 to 9.0			
STORET: 00400				
Total PCBs (*4)	****	****	0.009 ug/l	0.014 ug/l
STORET: 39516				
Total PCBs (*4)	****	****	0.00064 ug/l(*5)	0.00064 ug/l(*5)
STORET: 39516				

# July 17, 2007 Modification

PERMIT NO. NM0028355

PAGE 6 OF PART I

<u>PARAMETERS/STORET CODES</u>	<u>MONITORING REQUIREMENTS</u>	
	<u>FREQUENCY OF ANALYSIS</u>	<u>SAMPLE TYPE</u>
Flow	Continuous	Totalizer Record
BOD5	1/Month	24-Hr Composite
TSS	1/Month	24-Hr Composite
<i>E. Coli</i> Bacteria	1/Month	Grab
Total Residual Chlorine	1/Week	Grab
pH (Standard Units)	1/Week	Grab
Total PCBs	1/Year	24-Hr Composite

<u>EFFLUENT CHARACTERISTIC</u>	<u>DISCHARGE MONITORING</u>	
	<u>30-Day Avg. Min.</u>	<u>48-Hr. Min.</u>

Whole Effluent Toxicity Testing  
(48 Hr. Static Renewal)

Daphnia pulex

Report

Report

<u>EFFLUENT CHARACTERISTIC</u>	<u>MONITORING REQUIREMENTS</u>	
	<u>Frequency</u>	<u>Type</u>

Whole Effluent Toxicity Testing  
(48 Hr. Static Renewal)

Daphnia pulex

1/2 Years (\*6)

3-hr Composite

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### SAMPLING LOCATION(S) AND OTHER REQUIREMENTS

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SAMPLING LOCATION(S)

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at the Parshall Flume following the chlorine contact chamber (Latitude 35°51'08"N, Longitude 106°16'33"W) and prior to discharge to either Canada del Buey at Latitude 35°51'07"N, Longitude 106°16'27"W, or into the effluent reuse line to Sandia Canyon at Latitude 35°52'29"N, Longitude 106°18'38"W, or other outfalls utilizing treated effluent in the Outfall 001 and Category 03A.

# July 17, 2007 Modification

## 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.

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## FOOTNOTES

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- \*1 The monthly average and daily maximum loads of 75 and 112 lbs/day apply from the beginning the effective date of the permit and lasting until the average discharge rate has increased to 0.318 MGD through the addition of sanitary waste water from a residential subdivision located in Los Alamos County. LANL shall notify EPA Region 6 and NMED in writing two weeks prior to the addition of residential sanitary waste water to the TA-46 treatment plant. Mass loads of 80 and 119 lbs/day apply beginning the connection of sanitary waste water from a residential subdivision located in Los Alamos County lasting through the expiration date of the permit.
- \*2 Logarithmic mean. Effluent limitations and monitoring requirements only apply when discharge is made directly to Canada del Buey. The discharge shall meet the *E. coli* effluent limitations within six (6) months from the effective date of the permit. The discharge shall comply with the monitoring requirement and effluent limitations for *E. coli* if it discharges at other outfall.
- \*3 Effluent limitations and monitoring requirements only apply when discharge is made directly to Canada del Buey. The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes.
- \*4 Effluent limitations and monitoring requirements only apply when discharge is made directly to Canada del Buey. EPA published Method 1668 Revision A shall be used. The permittee shall take efforts not to discharge PCBs contained effluent at Outfall 13S to Canada del Buey. PCBs contained effluent shall not be re-routed or reused, and/or discharged at other outfalls except Outfall 001. If the wastewater is discharge at other outfall, it shall comply with effluent limitations and monitoring requirements for PCBs.
- \*5 See Part I.B.2. Compliance Schedule for PCBs.
- \*6 When discharge is made directly to Canada del Buey. Take 1<sup>st</sup> sample in the 1<sup>st</sup> year of the permit and 2<sup>nd</sup> sample in the 3<sup>rd</sup> year of the permit. The WET test should occur between

# July 17, 2007 Modification

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%. Also see Part II, Section I. Whole Effluent Toxicity (48-hour Acute Testing).

OUTFALL 051 - Radioactive Liquid Waste Treatment Facility (TA-50)

Discharge Type: Intermittent

Latitude 35°51'54"N, Longitude 106°17'52"W

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:

PARAMETERS/STORET CODES	DISCHARGE LIMITATIONS/REPORTING REQUIREMENTS			
	QUANTITY/LOADING		QUALITY/CONCENTRATION	
	(LBS/DAY UNLESS STATED)	(mg/L UNLESS STATED)		
	MONTHLY AVG	DAILY MAX	MONTHLY AVG	DAILY MAX
Flow	Report	Report	****	****
STORET: 50050				
Chemical Oxygen Demand	****	****	125	125
STORET: 00340				
Total Suspended Solids	****	****	30	45
STORET: 00530				
Total Toxic Organics (*1)	****	****	1.0	1.0
STORET: 78141				
Ra 226+228	****	****	30 pCi/l	30 pCi/l
STORET: 11503				
Total Chromium	****	****	1.34	2.68
STORET: 01034				
Total Lead	****	****	0.423	0.524
STORET: 01051				
Total Cadmium (*2)	****	****	Report	Report
STORET: 01027				
Total Mercury (*2)	****	****	Report	Report
STORET: 71900				
Total Nickel (*2)	****	****	Report	Report
STORET: 01067				

# July 17, 2007 Modification

PERMIT NO. NM0028355

PAGE 9 OF PART I

Total Copper (*3) STORET: 01042	****	****	Report	Report
Total Copper (*3) STORET: 01042	****	****	0.14 ug/l	0.2 ug/l
Total Zinc (*3) STORET: 01092	****	****	Report	Report
Total Zinc (*3) STORET: 01092	****	****	2.2 ug/l	3.3 ug/l
Total Residual Chlorine (*4) STORET: 50060	****	****	****	0.011
Total Selenium STORET: 01147	****	****	Report	Report
Perchlorate STORET: 61209	****	****	Report	Report
pH (Standard Units) STORET: 00400	Ranges from 6.0 to 9.0			
Total PCBs STORET: 39516	****	****	Report	Report

PARAMETERS/STORET CODES

MONITORING REQUIREMENTS

	<u>FREQUENCY OF ANALYSIS</u>	<u>SAMPLE TYPE</u>
Flow	Continuous	Record
Chemical Oxygen Demand	1/Month	Grab
Total Suspended Solids	1/Month	Grab
Total Toxic Organics	1/Month	Grab
Tritium	1/Year	Grab
Ra 226+228	1/Year	Grab
Total Chromium	1/Year	Grab
Total Lead	1/Year	Grab
Total Cadmium	1/Year	Grab
Total Mercury	1/Year	Grab
Total Nickel	1/Year	Grab
Total Copper	1/Month	Grab
Total Zinc	1/Month	Grab
Total Residual Chlorine	1/Week	Grab
Total Selenium	1/Year	Grab
Perchlorate	1/Year	Grab
Total PCBs	1/Year	Grab
pH (Standard Units)	1/Week	Grab

# July 17, 2007 Modification

PERMIT NO. NM0028355

PAGE 10 OF PART I

## EFFLUENT CHARACTERISTIC

## DISCHARGE MONITORING

30-Day Avg Min.

48-Hr. Min.

Whole Effluent Toxicity Testing  
(48 Hr. Static Renewal)

Daphnia pulex

Report

Report

## EFFLUENT CHARACTERISTIC

## MONITORING REQUIREMENTS

Frequency

Type

Whole Effluent Toxicity Testing  
(48 Hr. Static Renewal)

Daphnia pulex

1/3 Months (\*5)

3-hr Composite

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## SAMPLING LOCATION(S) AND OTHER REQUIREMENTS

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### 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 (approximately at Latitude 35°51'54"N, Longitude 106°17'52"W)

### 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.

### 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.

RCR00034.010

# July 17, 2007 Modification

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## FOOTNOTES

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- \*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 Annual sample shall be taken for five (5) years until the expiration date.
- \*3 During the period beginning the effective date of the permit and lasting through three (3) years from the effective date, the concentration of total copper and total zinc shall be reported in the DMRs. During the period beginning the three years from the effective date through the expiration date of the permit, the discharge must meet the effluent limitations.
- \*4 The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes.
- \*5 Sampling frequency 1/3 Months for the 1<sup>st</sup> year of the permit. If the test passes, reduce the frequency to 1/6 Months for year 2 through year 5 of the permit. If any test fails, return frequency to 1/3 Months for remainder of the permit. 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 Testing).

# July 17, 2007 Modification

PERMIT NO. NM0028355

PAGE 12 OF PART I

## OUTFALL 05A055 - High Explosives Waste Water Treatment Plant (TA-16-1508)

Discharge Type: Intermittent  
Latitude 35°50'49"N, Longitude 106°19'51"W

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:

### PARAMETERS/STORET CODES/DISCHARGE LIMITATIONS/REPORTING REQUIREMENTS

	QUANTITY/LOADING		QUALITY/CONCENTRATION	
	(LBS/DAY UNLESS STATED)		(mg/L UNLESS STATED)	
	<u>MONTHLY AVG</u>	<u>DAILY MAX</u>	<u>MONTHLY AVG</u>	<u>DAILY MAX</u>
	Report MGD	Report MGD	****	****
Flow				
STORET: 50050				
Chemical Oxygen Demand	****	****	125	125
STORET: 00340				
Total Suspended Solids	****	****	30	45
STORET: 00530				
Oil and Grease	****	****	15	15
STORET: 00556				
Total Toxic Organics (*1)	****	****	1.0	1.0
STORET: 78141				
Trinitrotoluene	****	****	0.02	Report
STORET: 81360				
Total RDX	****	****	0.20	0.66
STORET: 81364				
Perchlorate	****	****	Report	Report
STORET: 61209				
pH (Standard Units)	Ranges from 6.0 to 9.0			
STORET: 00400				

### PARAMETERS/STORET CODES

### MONITORING REQUIREMENTS

	<u>FREQUENCY OF ANALYSIS</u>	<u>SAMPLE TYPE</u>
Flow	1/Day	Estimate
Chemical Oxygen Demand	1/Quarter	Grab

# July 17, 2007 Modification

PERMIT NO. NM0028355

PAGE 13 OF PART I

Total Suspended Solids	1/Quarter	Grab
Oil and Grease	1/Quarter	Grab
Total Toxic Organics	1/Quarter	Grab
Trinitrotoluene	1/Quarter	Grab
Total RDX	2/Month (*2)	Grab
Perchlorate	1/Year	Grab
pH (Standard Units)	1/Week	Grab

EFFLUENT CHARACTERISTIC

DISCHARGE MONITORING

30-Day Avg Min.      48-Hr. Min.

Whole Effluent Toxicity Testing  
(48 Hr. Static Renewal)

Daphnia pulex

Report

Report

EFFLUENT CHARACTERISTIC

MONITORING REQUIREMENTS

Frequency

Type

Whole Effluent Toxicity Testing  
(48 Hr. Static Renewal)

Daphnia pulex

1/5 Years (\*3)

3-hr Composite

SAMPLING LOCATION(S) AND OTHER REQUIREMENTS

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 (Latitude 35°50'49"N, Longitude 106°19'51"W).

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.

# July 17, 2007 Modification

PERMIT NO. NM0028355

PAGE 14 OF PART I

## 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.

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## FOOTNOTES

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- \*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 15<sup>th</sup> of the month and another taken after the 15<sup>th</sup> of the month.
- \*3 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, 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 I. Whole Effluent Toxicity (48-hour Acute Testing).

# July 17, 2007 Modification

PERMIT NO. NM0028355

PAGE 15 OF PART I

## OUTFALLS 03A021, 03A022, and 03A181

Discharge Type: Intermittent

Outfall 03A021: Latitude 35°52'14"N, Longitude 106°19'11"W (TA3-29)

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

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 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:

### PARAMETERS/STORET CODES DISCHARGE LIMITATIONS/REPORTING REQUIREMENTS

	QUANTITY/LOADING		QUALITY/CONCENTRATION	
	(LBS/DAY UNLESS STATED)		(mg/L UNLESS STATED)	
	<u>MONTHLY AVG</u>	<u>DAILY MAX</u>	<u>MONTHLY AVG</u>	<u>DAILY MAX</u>
	Report MGD	Report MGD	****	****
Flow				
STORET: 50050				
Total Suspended Solids	****	****	30	100
STORET: 00530				
Total Residual Chlorine (*1)	****	****	****	0.011
STORET: 50060				
Total Phosphorus	****	****	20	40
STORET: 00665				
Total Copper (*2)	****	****	Report	Report
STORET: 01042				
Total Copper (*3)	****	****	0.019	0.028
STORET: 01042				
Total Selenium	****	****	Report	Report
STORET: 01147				
pH (Standard Units)	Ranges from 6.0 to 9.0			
STORET: 00400				

### PARAMETERS/STORET CODES

### MONITORING REQUIREMENTS

	<u>FREQUENCY OF ANALYSIS</u>	<u>SAMPLE TYPE</u>
Flow	1/Day	Estimate
Total Suspended Solids	1/Quarter	Grab
Total Residual Chlorine	1/Week	Grab
Total Phosphorous	1/Quarter	Grab
Total Copper (*4)	1/Month	Grab

# July 17, 2007 Modification

PERMIT NO. NM0028355

PAGE 16 OF PART I

Total Selenium	1/Year	Grab
pH (Standard Units)	1/Week	Grab

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## SAMPLING LOCATION(S) AND OTHER REQUIREMENTS

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### 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.

### 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.

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## FOOTNOTES

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- \*1 The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes.
- \*2 Apply to Outfall 03A022 only. Effective beginning the effective date and lasting until three (3) years after the effective date.
- \*3 Apply to Outfall 03A022 only. Effective beginning three (3) years after the effective date and lasting through the expiration date.
- \*4 Apply to Outfall 03A022 only.

RCR00034.016

# July 17, 2007 Modification

PERMIT NO. NM0028355

PAGE 17 OF PART I

## OUTFALLS 03A027, 03A113, and 03A199

Discharge Type: Intermittent

03A027: Latitude 35°52'26"N, Longitude 106°19'08"W (TA3-285 & 2327)

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

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 (from Outfall 03A027 and 199) and 20.6.4.128 (from Outfall 03A113) of the Rio Grande Basin.

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

### PARAMETERS/STORET CODES DISCHARGE LIMITATIONS/REPORTING REQUIREMENTS

	QUANTITY/LOADING (LBS/DAY UNLESS STATED)		QUALITY/CONCENTRATION (mg/L UNLESS STATED)	
	MONTHLY AVG	DAILY MAX	MONTHLY AVG	DAILY MAX
	Report MGD	Report MGD	****	****
Flow				
STORET: 50050				
Total Suspended Solids	****	****	30	100
STORET: 00530				
E. Coli (*1)	****	****	Report	Report
STORET: 51040				
E. Coli (*1)	****	****	548 cfu/100 ml	2507 cfu/100 ml
STORET: 51040				
Total Residual Chlorine (*2)	****	****	****	0.011
STORET: 50060				
Total Phosphorus	****	****	20	40
STORET: 00665				
Total Copper (*3)	****	****	Report	Report
STORET: 01042				
pH (Standard Units)		Ranges from 6.0 to 9.0		
STORET: 00400				
pH (Standard Units) (*4)		Ranges from 6.6 to 8.8		
STORET: 00400				

### PARAMETERS/STORET CODES

### MONITORING REQUIREMENTS

	FREQUENCY OF ANALYSIS	SAMPLE TYPE
Flow	1/Day	Estimate

# July 17, 2007 Modification

PERMIT NO. NM0028355

PAGE 18 OF PART I

Total Suspended Solids	1/Quarter	Grab
E. Coli	1/Week	Grab
Total Residual Chlorine	1/Week	Grab
Total Phosphorous	1/Quarter	Grab
Total Copper (*3)	1/Year	Grab
pH (Standard Units)	1/Week	Grab

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## SAMPLING LOCATION(S) AND OTHER REQUIREMENTS

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### 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.

### 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.

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## FOOTNOTES

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- \*1 Logarithmic mean. Effluent limitations and monitoring requirements only apply at Outfall 03A027 when effluent from Outfall 13S is rerouted and discharged at Outfall 03A027. (Effluent from Outfall 13S shall not be discharged at Outfall 03A027 if such effluent contains detectable PCBs.)  
The discharge shall meet the *E. coli* effluent limitations within six (6) months from the effective date of the permit.
- \*2 The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes.
- \*3 Apply to Outfall 03A027 during the term of this permit period only.

RCR00034.018

## July 17, 2007 Modification

- \*4 Apply at Putfalls 03A027 and 199. During the period beginning the effective date of the permit and lasting through six (6) months from the effective date, the pH shall meet the range of 6.0 to 9.0. During the period beginning the six months from the effective date through the expiration date of the permit, the discharge shall meet the pH range of 6.6 to 8.8.

# July 17, 2007 Modification

PERMIT NO. NM0028355

PAGE 20 OF PART I

## OUTFALLS 03A130 and 03A185

Discharge Type: Intermittent

Outfall 03A130: Latitude 35°50'19"N, Longitude 106°19'33"W (TA11-30)

Outfall 03A185: Latitude 35°50'00"N, Longitude 106°18'40"W (TA15-625 & 626)

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 Water 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:

### PARAMETERS/STORET CODES DISCHARGE LIMITATIONS/REPORTING REQUIREMENTS

	QUANTITY/LOADING		QUALITY/CONCENTRATION	
	(LBS/DAY UNLESS STATED)		(mg/L UNLESS STATED)	
	<u>MONTHLY AVG</u>	<u>DAILY MAX</u>	<u>MONTHLY AVG</u>	<u>DAILY MAX</u>
Flow	Report MGD	Report MGD	****	****
STORET: 50050				
Total Suspended Solids	****	****	30	100
STORET: 00530				
Total Residual Chlorine (*1)	****	****	****	0.011
STORET: 50060				
Total Phosphorus	****	****	20	40
STORET: 00665				
Total Copper (*2)	****	****	Report	Report
STORET: 01042				
Total Copper (*3)	****	****	0.025	0.037
STORET: 01042				
Total Cyanide (*4)	****	****	Report	Report
STORET: 00720				
Total Cyanide (*5)	****	****	3.5 ug/l	5.2 ug/l
STORET: 00720				
Total Selenium	****	****	Report	Report
STORET: 01147				
pH (Standard Units)	Ranges from 6.0 to 9.0			
STORET: 00400				

# July 17, 2007 Modification

PERMIT NO. NM0028355

PAGE 21 OF PART I

<u>PARAMETERS/STORET CODES</u>	<u>MONITORING REQUIREMENTS</u>	
	<u>FREQUENCY OF ANALYSIS</u>	<u>SAMPLE TYPE</u>
Flow	1/Day	Estimate
Total Suspended Solids	1/Quarter	Grab
Total Residual Chlorine	1/Week	Grab
Total Phosphorous	1/Quarter	Grab
Total Copper	1/Month	Grab
Total Cyanide	1/Month	Grab
Total Selenium	1/Year	Grab
pH (Standard Units)	1/Week	Grab

## SAMPLING LOCATION(S) AND OTHER REQUIREMENTS

### 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.

### 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.

## FOOTNOTES

- \*1 The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes.
- \*2 Effective beginning the effective date and lasting until three (3) years from the effective date these requirements apply at Outfall 03A130 only.

RCR00034.021

## July 17, 2007 Modification

- \*3 Effective beginning three (3) years after the effective date and lasting through the expiration date these requirements apply at Outfall 03A130 only.
- \*4 Effective beginning the effective date and lasting until three (3) years from the effective date.
- \*5 Effective beginning three (3) years after the effective date and lasting through the expiration date.

# July 17, 2007 Modification

## 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:

PARAMETERS/STORET CODES DISCHARGE LIMITATIONS/REPORTING REQUIREMENTS

	QUANTITY/LOADING		QUALITY/CONCENTRATION	
	(LBS/DAY UNLESS STATED)		(mg/L UNLESS STATED)	
	MONTHLY AVG	DAILY MAX	MONTHLY AVG	DAILY MAX
Flow	Report MGD	Report MGD	****	****
STORET: 50050				
Total Suspended Solids	****	****	30	100
STORET: 00530				
Total Residual Chlorine (*1)	****	****	****	0.011
STORET: 50060				
Total Phosphorus	****	****	20	40
STORET: 00665				
Total Arsenic (*2)	****	****	Report	Report
STORET: 01002				
Total Arsenic (*3)	****	****	0.01	0.014
STORET: 01002				
Total Copper (*4)	****	****	Report	Report
STORET: 01042				
Total Copper (*5)	****	****	0.021	0.031
STORET: 01042				
pH (Standard Units)	Ranges from 6.0 to 9.0			
STORET: 00400				

# July 17, 2007 Modification

PERMIT NO. NM0028355

PAGE 24 OF PART I

<u>PARAMETERS/STORET CODES</u>	<u>MONITORING REQUIREMENTS</u>	
	<u>FREQUENCY OF ANALYSIS</u>	<u>SAMPLE TYPE</u>
Flow	1/Day	Estimate
Total Suspended Solids	1/Quarter	Grab
Total Residual Chlorine	1/Week	Grab
Total Phosphorous	1/Quarter	Grab
Total Arsenic	1/Month	Grab
Total Copper	1/Month	Grab
Total Cyanide	1/Month	Grab
pH (Standard Units)	1/Week	Grab

## SAMPLING LOCATION(S) AND OTHER REQUIREMENTS

### 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.

### 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.

## FOOTNOTES

- \*1 The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes.
- \*2 Effective beginning the effective date and lasting until three (3) years from the effective date.

RCR00034.024

# July 17, 2007 Modification

PERMIT NO. NM0028355

PAGE 25 OF PART I

- \*3 Effective beginning three (3) years after the effective date and lasting through the expiration date.
- \*4 Effective beginning the effective date and lasting until three (3) years from the effective date.
- \*5 Effective beginning three (3) years after the effective date and lasting through the expiration.

# July 17, 2007 Modification

## OUTFALLS 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:

PARAMETERS/STORET CODES DISCHARGE LIMITATIONS/REPORTING REQUIREMENTS

	QUANTITY/LOADING		QUALITY/CONCENTRATION	
	(LBS/DAY UNLESS STATED)		(mg/L UNLESS STATED)	
	MONTHLY AVG	DAILY MAX	MONTHLY AVG	DAILY MAX
	Report MGD	Report MGD	****	****
Flow				
STORET: 50050				
Total Suspended Solids	****	****	30	100
STORET: 00530				
Total Residual Chlorine (*1)	****	****	****	0.011
STORET: 50060				
Total Phosphorus	****	****	20	40
STORET: 00665				
Total Copper (*2)	****	****	Report	Report
STORET: 01042				
Total Copper (*3)	****	****	0.022	0.032
STORET: 01042				
pH (Standard Units)	Ranges from 6.0 to 9.0			
STORET: 00400				

PARAMETERS/STORET CODES

MONITORING REQUIREMENTS

	FREQUENCY OF ANALYSIS	SAMPLE TYPE
Flow	1/Day	Estimate
Total Suspended Solids	1/Quarter	Grab
Total Residual Chlorine	1/Week	Grab
Total Phosphorus	1/Quarter	Grab
Total Copper	1/Month	Grab
pH (Standard Units)	1/Week	Grab

# July 17, 2007 Modification

PERMIT NO. NM0028355

PAGE 27 OF PART I

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## SAMPLING LOCATION(S) AND OTHER REQUIREMENTS

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### 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.

### 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.

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## FOOTNOTES

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- \*1 The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes.
- \*2 Effective beginning the effective date and lasting until three (3) years from the effective date.
- \*3 Effective beginning three (3) years after the effective date and lasting through the expiration date.

RCR00034.027

# July 17, 2007 Modification

## OUTFALLS 03A021, 022, 048, 113, 130, 160, 181, and 185

Discharge Type: Intermittent

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 waters in segment number 20.6.4.128 of the Rio Grande Basin.

### EFFLUENT CHARACTERISTIC

### DISCHARGE MONITORING

30-Day Avg Min.

48-Hr. Min.

Whole Effluent Toxicity Testing  
(48 Hr. Static Renewal) (\*1)

Daphnia pulex

Report

Report

### EFFLUENT CHARACTERISTIC

### MONITORING REQUIREMENTS

Frequency

Type

Whole Effluent Toxicity Testing  
(48 Hr. Static Renewal)

Daphnia pulex

1/5 Years

3-hr Composite

(\*1) The WET test should occur between November 1 and March 31 when most sensitive juvenile life forms are likely to be present in the receiving water and colder ambient temperatures might adversely affected treatment processes. If no discharge occurs or is expected during this period, the test shall occur as soon as possible.

Critical dilution of 100% (with a dilution series of 32%, 42%, 56%, 75%, and 100%) applies to Outfall(s) 03A021, 022, 048, 113, 130, 160, 181, and 185. Also see Part II. Section I. Whole Effluent Toxicity (48-Hr Acute Testing).

If the permittee certifies that discharges from the above outfalls have passed through similar operation and treatment and effluents are similar in nature, the testing result from one representative sample at Outfall 03A130 may be reported for all other outfalls. If Outfall 03A130 sample does not represent all 03A outfalls, the permittee may select additional representative outfalls for sampling.

# July 17, 2007 Modification

PERMIT NO. NM0028355

PAGE 29 OF PART I

## OUTFALLS 03A027

Discharge Type: Intermittent

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 waters in segment number 20.6.4.126 of the Rio Grande Basin.

### EFFLUENT CHARACTERISTIC

### DISCHARGE MONITORING

30-Day Avg Min.      48-Hr. Min.

Whole Effluent Toxicity Testing  
(48 Hr. Static Renewal) (\*1)

Daphnia pulex

Report

Report

Pimephales promelas

Report

Report

### EFFLUENT CHARACTERISTIC

### MONITORING REQUIREMENTS

Frequency

Type

Whole Effluent Toxicity Testing  
(48 Hr. Static Renewal)

Daphnia pulex

1/5 Years

3-hr Composite

Pimephales promelas

1/5 Years

3-hr Composite

(\*1) Critical dilution of 80% (with a dilution series of 25%, 34%, 45%, 60%, and 80%) applies to Outfall 03A027. Also see Part II. Section I. Whole Effluent Toxicity (48-Hr Acute 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.

# July 17, 2007 Modification

PERMIT NO. NM0028355

PAGE 30 OF PART I

## OUTFALLS 03A199 Discharge Type: Intermittent

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 waters in segment number 20.6.4.126 of the Rio Grande Basin.

EFFLUENT CHARACTERISTIC	DISCHARGE MONITORING	
	<u>30-Day Avg Min.</u>	<u>48-Hr. Min.</u>

Whole Effluent Toxicity Testing  
(7-Day Static Renewal) (\*1)

<u>Ceriodaphnia dubia</u>	Report	Report
<u>Pimephales promelas</u>	Report	Report

EFFLUENT CHARACTERISTIC	MONITORING REQUIREMENTS	
	<u>Frequency</u>	<u>Type</u>

Whole Effluent Toxicity Testing  
(7-Day Static Renewal)

<u>Ceriodaphnia dubia</u>	1/5 Years	3-hr Composite
<u>Pimephales promelas</u>	1/5 Years	3-hr Composite

(\*1) Critical dilution of 35% (with a dilution series of 15%, 20%, 26%, 35%, and 47%) applies to Outfall 03A199. See Part II, Section H, Whole Effluent Toxicity (7-Day Chronic Testing).

The WET test shall 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.

# July 17, 2007 Modification

PERMIT NO. NM0028355

PAGE 31 OF PART I

## OUTFALL 02A129 (TA-21-357)

Discharge Type: Intermittent

Latitude 35°52'32"N, Longitude 106°16'31"W

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 boiler blowdown, water softener waste water, and once through cooling water 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:

### PARAMETERS/STORET CODES DISCHARGE LIMITATIONS/REPORTING REQUIREMENTS

	QUANTITY/LOADING		QUALITY/CONCENTRATION	
	(LBS/DAY UNLESS STATED)		(mg/L UNLESS STATED)	
	MONTHLY AVG	DAILY MAX	MONTHLY AVG	DAILY MAX
Flow (MGD)	Report	Report	****	****
STORET: 50050				
Total Suspended Solids	****	****	30	100
STORET: 00530				
Total Residual Chlorine (*1)	****	****	****	0.011
STORET: 50060				
Total Iron	****	****	10	40
STORET: 10145				
Total Phosphorus	****	****	20	40
STORET: 00665				
Sulfite (as SO <sub>3</sub> )	****	****	35	70
STORET: 00740				
Total Copper (*2)	****	****	Report	Report
STORET: 01042				
Total Copper (*2)	****	****	1.6 ug/l	2.4 ug/l
STORET: 01042				
pH (Standard Units)	Ranges from 6.0 to 9.0			
STORET: 00400				

### PARAMETERS/STORET CODES

### MONITORING REQUIREMENTS

	FREQUENCY OF ANALYSIS	SAMPLE TYPE
Flow	1/Day	Estimate
Total Suspended Solids	1/Quarter	Grab
Total Residual Chlorine	1/Week	Grab
Total Iron	1/Quarter	Grab

# July 17, 2007 Modification

PERMIT NO. NM0028355

PAGE 32 OF PART I

Total Phosphorous	1/Quarter	Grab
Sulfite (as SO <sub>3</sub> )	1/Quarter	Grab
Total Copper	1/Month	Grab
pH (Standard Units)	1/Week	Grab

EFFLUENT CHARACTERISTIC

DISCHARGE MONITORING

30-Day Avg Min.      48-Hr. Min.

Whole Effluent Toxicity Testing  
(48 Hr. Static Renewal)

Daphnia pulex

REPORT

REPORT

EFFLUENT CHARACTERISTIC

MONITORING REQUIREMENTS

Frequency

Type

Whole Effluent Toxicity Testing  
(48 Hr. Static Renewal)

Daphnia pulex

1/5 Years (\*3)

3-hr Composite

SAMPLING LOCATION(S) AND OTHER REQUIREMENTS

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 discharge point (Latitude 35°52'32"N, Longitude 106°16'31"W).

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.

# July 17, 2007 Modification

## 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.

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## FOOTNOTES

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- \*1 The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes.
- \*2 During the period beginning the effective date of the permit and lasting through three (3) years from the effective date, the concentration of total copper shall be reported in the DMRs. During the period beginning the three years from the effective date through the expiration date of the permit, the discharge must meet the effluent limitations.
- \*3 The WET test shall 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. Critical dilution 100%, and the dilution series are 32%, 42%, 56%, 75%, 100%. See Part II, Section I. for 48-hour Acute WET Testing.

# July 17, 2007 Modification

## B. SCHEDULE OF COMPLIANCE

1. The permittee shall comply with the following schedule of activities for the attainment of state water quality standards-based final effluent limitations for

Total Arsenic	Outfall 03A048
Total Aluminum	Outfall 001
Total Copper	Outfalls 02A129, 03A022, 03A048, 03A130, 03A158, 03A160, and 051
Total Zinc	Outfalls 051
Total Cyanide	Outfalls 03A130 and 03A185
Temperature	Outfall 001

- a. Determine exceedance cause(s) no later than twelve (12) months from the effective date of the permit;
- b. Develop control options no later than eighteen (18) months from the effective date of the permit; and
- c. Implement corrective action and attain final effluent limitations no later than three (3) years from the effective date of the permit.

2. The permittee shall use Method 1668A beginning the effective date of the permit and comply with the following schedule of activities for the attainment of state water quality standards-based final effluent limitations for PCBs:

- a. Identify all possible PCBs causes/sources or end-of-pipe treatment technologies no later than eighteen (18) months from the effective date of the permit;
- b. Develop the site specific MQL for PCBs for Method 1668A no later than twelve (12) months from the effective date of the permit;
- c. Submit a source/cause remediation plan or treatment plan to EPA R6 NPDES Programs Branch (6WQ-P) for approval and send a copy to NMED SWQB no later than twenty-four (24) months from the effective date of the permit;
- d. Start implementing corrective actions no later than six (6) months after EPA approves, in part or in whole, the source/cause remediation plan and schedules; and
- e. Complete corrective actions and comply with final effluent limitations per EPA approved schedule or one (1) day before the expiration date of the permit, whichever comes first.

3. The permittee shall submit quarterly progress reports in accordance with the following schedule. The requirement to submit quarterly progress reports shall expire when the discharge complies with final effluent limitations.

### PROGRESS REPORT DATE

January 28, April 28, July 28, and October 28

# July 17, 2007 Modification

The quarterly progress reports shall include a discussion of the interim requirements that have been completed at the time of the report and shall address the progress towards attaining the state water quality standards-based final effluent limitations no later than the dates specified in 1.c. and 2.e. of this section.

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than fourteen (14) days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

## C. REPORTING OF MONITORING RESULTS (MAJOR DISCHARGERS)

Monitoring information shall be on Discharge Monitoring Report Form(s) EPA 3320-1 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 postmarked no later than the 28<sup>th</sup> day of the month following each reporting period.

## D. APPLICATION, DMR, AND COMPLIANCE STATUS REPORT

A copy of application for permit renewal, monthly Discharge Monitoring Report, and compliance status report, if there are any, shall be sent to New Mexico Environment Department (NMED) at the mailing address listed in Part III of this permit.

# July 17, 2007 Modification

PERMIT NO. NM0028355

PAGE 1 OF PART II

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RCR00035.001

PART II - OTHER CONDITIONSA. MINIMUM QUANTIFICATION LEVEL (MQL)

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

<u>Parameters</u>	<u>MQL (µg/L)</u>
Total Residual Chlorine	100
Aluminum (Total)	100
Arsenic (Total)	10
Cadmium (Total)	1
Chromium (Total)	10
Copper (Total)	10
Lead (Total)	5
Mercury (Total)	0.2
Nickel (Total)	40
Zinc (Total)	20
Cyanide (Total)	10
PCBs	To be developed by the permittee

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:

$$\text{MQL} = 3.3 \times \text{MDL}$$

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: DAILY MAXIMUM LIMITATION VIOLATIONS

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 orally to EPA Region 6, Compliance and Assurance Division, Water Enforcement Branch (6EN-W), Dallas, Texas and NMED, Surface Water Quality Bureau (SWQB), Santa Fe, New Mexico, within 24 hours from the time the permittee becomes aware of the violation followed by a written report in five days.

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

C. COMPOSITE SAMPLING1. 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 40CFR136 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. CYANIDE EFFLUENT TEST PROCEDURES

To comply with the sampling and analysis requirements for total cyanide and cyanide amenable to chlorination, the permittee shall use an approved test procedure at 40CFR136. If the analysis of cyanide amenable to chlorination is subject to matrix interferences, the weak acid dissociable cyanide method (Method 4500 CN I - Standard Methods, latest edition approved in 40CFR136) may be substituted for this parameter. The permittee may use ion chromatographic separation - amperometric detection (IC method) as a substitute for the colorimetric detection steps in any of the above cyanide methods. No other modifications of the above methods are authorized by this provision unless such modifications are approved in writing by the permitting authority.

E. 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.

F. REOPENER CLAUSE

This permit may be reopened and modified or revoked and reissued to reflect any applicable changes to the New Mexico Water Quality Standards. In accordance with 40 CFR 122.44(d), the permit may be reopened and modified during the life of the permit if relevant portions of the State of New Mexico Standards for Interstate and Intrastate Surface Waters are revised, or new Standards are established and/or remanded by the New Mexico Water Quality Control Commission. In addition, the permit may be reopened and modified during the life of the permit, if the procedures implementing the State of New Mexico Standards for Interstate and Intrastate Surface Waters are either revised or promulgated by the New Mexico Environment Department.

In accordance with 40 CFR 122.62(s)(2), the permit may be reopened and modified if new information is received that was not available at the time of permit issuance that would have justified the application of different permit conditions at the time of permit reissuance. Permit modifications shall reflect the results of any of these actions and shall follow regulations listed at 40 CFR 124.5.

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.

G. TEST METHODS

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

EPA Methods 1668A.

EPA Methods 904.0 and 903.1

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

Determination of Trace Elements in Water and Wastes by Inductively Coupled Plasma-Atomic Emission Spectrometry: EPA Method 200.7

Determination of Metals and Trace Elements in Water and Wastes by Inductively Coupled Plasma-Atomic Emission Spectrometry: EPA Method 200.8 (OR other EPA approved method if interference occurs)

Determination of Trace Elements by Stabilized Temperature Graphite Furnace Atomic Absorption Spectrometry: EPA Method 200.9

Determination of Inorganic Anions by Ion Chromatography: EPA Method 300.0

Microwave Digestion: SW846 Method 3015

SW 846 Method 7742

Hot Plate Digestion: EPA Method 200.2

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

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): 001 and 03A199

REPORTED ON DMR AS FINAL OUTFALL: 001 and 03A199

CRITICAL DILUTION (%): 100% (Outfall 001)  
35% (03A199)

EFFLUENT DILUTION SERIES (%): Defined at PART I

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/600/4-91/002 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/600/4-91/002, 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 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. 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.

- 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 sub-lethal or lethal effects to a test species at or below the effluent critical dilution.

## 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).

### a. Part I Testing Frequency Other Than Monthly

- i. The permittee shall conduct a total of two (2) additional tests for any species that demonstrates significant lethal effects at or below the critical dilution. The two additional tests shall be conducted monthly during the next two consecutive months. The permittee shall not substitute either of the two additional tests in lieu of routine toxicity testing. The 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 one or both of the two 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 persistent significant sub-lethal effects or intermittent lethal effects at or below the critical dilution, or for failure to perform the required retests.
- iii. If one or both of the two additional tests demonstrates significant lethal effects at or below the critical dilution, the permittee shall henceforth increase the frequency of testing for this species to once per quarter for the life of the permit.
- iv. 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 be also be required due to a demonstration of persistent significant sub-lethal effects or 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. 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.

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/600/4-91/002 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/600/4-91/002 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 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., 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 4 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/600/4-91/002, 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 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 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)

- (A) 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.
- (B) Report the NOEC value for survival, Parameter No. TOP6C.
- (C) Report the NOEC value for growth, Parameter No. TPP6C.
- D. 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.
- (E) 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 NOEC value for reproduction, Parameter No. TPP3B.
- (D) 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.
- (E) Report the higher (critical dilution or control) Coefficient of Variation, Parameter No. TQP3B.

- 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."

Monitoring Frequency Reduction - Items a and b of this section apply only to the Fathead minnow only.

- a. The permittee may apply for a testing frequency reduction upon the successful completion of the first four consecutive quarters of testing for the fathead minnow 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.
- 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 FAILURES - If, during the first four quarters of testing, sub-lethal effects are demonstrated to a test species, two monthly retests are required. In addition, quarterly testing is required for that species until the effluent passes both the lethal and sub-lethal test endpoints for the affected species for four consecutive quarters. Monthly retesting is not required if the permittee is performing a TRE.
- d. SURVIVAL FAILURES - If any test fails the survival endpoint at any time during the life of this permit, two 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.
- e. This monitoring frequency reduction 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.

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) 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.).
- 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 TESTING (48-HOUR ACUTE NOEC FRESHWATER)

# July 17, 2007 Modification

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 TESTING (48-HOUR ACUTE NOEC FRESHWATER)

### 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, 051, 02A129, 05A055, 03A027, and 03A021, 022, 048, 113, 130, 160, 181 and 185.

REPORTED ON DMR AS FINAL OUTFALL: Same as above outfalls

CRITICAL DILUTION (%): Defined at PART I.

EFFLUENT DILUTION SERIES (%): Defined at PART I.

COMPOSITE SAMPLE TYPE: Defined at PART I

TEST SPECIES/METHODS: Defined at PART I / 40 CFR Part 136

Daphnia pulex acute static renewal 48-hour definitive toxicity test using EPA/600/4-90/027F, 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.

Pimephales promelas (Fathead minnow) acute static renewal 48-hour definitive toxicity test using EPA/600/4-90/027F, 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.

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, 051, 05A055, 02A129, 03A027, and 03A021, 022, 048, 113, 130, 158, 160, 181 and 185.

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Pimephales promelas (Fathead minnow) acute static renewal 48-hour definitive toxicity test using EPA/600/4-90/027F, 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.

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).

a. Part I Testing Frequency Other Than Monthly

- i. The permittee shall conduct a total of two (2) additional tests for any species that demonstrates significant lethal effects at or below the critical dilution. The two additional tests shall be conducted monthly during the next two consecutive months. The permittee shall not substitute either of the two additional tests in lieu of routine toxicity testing. The 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 one or both of the two 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 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 one or both of the two additional tests demonstrates significant lethal effects at or below the critical dilution, the permittee shall henceforth increase the frequency of testing for this species to once per quarter for the life of the permit.
- iv. 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; and Fathead minnow 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; and Fathead minnow 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 and the Fathead minnow 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/600/4-90/027F 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 4 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.
- 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 Part in accordance with the Report Preparation Section of EPA/600/4-90/027F, 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. Pimephales promelas (Fathead minnow)

- (A) 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. TEM6C.
- (B) Report the NOEC value for survival, Parameter No. TOM6C.

(C) Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQM6C.

ii. 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."

#### 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 *Daphnia pulex*).
- 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 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.
- b. SURVIVAL FAILURES - If any test fails the survival endpoint at any time during the life of this permit, two 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.
- b. This monitoring frequency reduction 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.

#### 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.

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).

PART III - STANDARD CONDITIONS FOR NPDES PERMITSA. GENERAL CONDITIONS1. 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 on Discharge Monitoring Report (DMR) Form EPA No. 3320-1 in accordance with the "General Instructions" provided on the form. 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. DMR's and all other reports shall be submitted to EPA at the following address:

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 26110  
1190 Saint Francis Drive  
Santa Fe, NM 87502

A copy of Whole Effluent Toxicity Testing results shall also be sent to

U.S. Fish and Wildlife Service  
New Mexico Ecological Services  
2105 Osuna NE  
Albuquerque, NM 87113  
Attn: Field Supervisor

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 nondomestic 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 =

$$C_1F_1 + C_2F_2 + \dots + C_nF_n$$

$$F_1 + F_2 + \dots + F_n$$

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.

## 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 5 - 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 8 - Requirements Specific to Bulk Sewage Sludge Meeting Pollutant Concentrations in Table 3 and Class A Pathogen Reduction Requirements
- SECTION IV: Page 9 - 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 10 - Requirements Applying to All Sewage Sludge Surface Disposal
- SECTION II: Page 14 - Requirements Specific to Surface Disposal Sites Without a Liner and Leachate Collection System
- SECTION III: Page 15 - Requirements Specific to Surface Disposal Sites With a Liner and Leachate Collection System

## ELEMENT 3 - MUNICIPAL SOLID WASTE LANDFILL DISPOSAL

- SECTION I: Page 16 - 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, then 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

<u>Pollutant</u>	<u>Ceiling Concentration</u> <u>(milligrams per kilogram)*</u>
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:

<u>Amount of sewage sludge*</u> <u>(metric tons per 365 day period)</u>	<u>Frequency</u>
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  
Cumulative Pollutant Loading Rate

<u>Pollutant</u>	<u>(kilograms per hectare)</u>
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  
Monthly Average Concentration  
(milligrams per kilogram)\*

<u>Pollutant</u>	<u>Monthly Average Concentration (milligrams per kilogram)*</u>
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

<u>Pollutant</u>	<u>Annual Pollutant Loading Rate</u> <u>(kilograms per hectare per 365 day period)</u>
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)(i) 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:

<u>Amount of sewage sludge*</u> <u>(metric tons per 365 day period)</u>	<u>Frequency</u>
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)	Arsenic (mg/kg)	Pollutant Concentrations*		
		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(i)(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.