UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1201 ELM STREET, SUITE 500
DALLAS, TEXAS 75270-2102

SEP 3 0 2019

CERTIFIED MAIL: RETURN RECEIPT REQUESTED (7015 1520 0003 4072 4991)

REPLY TO: 6WQ-NP

Received
10/11/19
SWQB
SB

Colonel David S. Miller, USAF
Commander
377th Air Base Wing
2000 Wyoming Blvd SE
Kirtland AFB NM 87117

Re: NPDES Permit No. NM0031216 – Kirtland Air Force Base

Dear Colonel Miller:

This package constitutes EPA's final permit decision for the above referenced facility. Enclosed are the responses to comments received during the public comment period and the final permit. According to EPA regulations at 40 CFR 124.19, within 30 days after a final permit decision has been issued, any person who filed comments on the draft permit or participated in the public hearing may petition the Environmental Appeals Board to review any condition of the permit decision.

Should you have any questions regarding the final permit, please feel free to contact Quang Nguyen of the Permitting and Water Quality Branch at the above address or by telephone: (214) 665-7238, by fax: (214) 665-2191, or by E-mail: Nguyen.quang@epa.gov. Should you have any questions regarding compliance with the conditions of this permit, please contact the Water Enforcement Branch at the above address or by telephone: (214) 665 6468.

Sincerely yours,

Charles W. Maguire
Director
Water Division

Enclosures
cc w/enclosures:
Sarah Holcomb, NMED
Pueblo of Isleta

NPDES PERMIT NO. NM0031216
RESPONSE TO COMMENTS

RECEIVED ON THE SUBJECT DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT IN ACCORDANCE WITH REGULATIONS LISTED AT 40 CFR 124.17

APPLICANT: Kirtland Air Force Base
377th Air Base Wing
2000 Wyoming Blvd SE
Kirtland AFB NM 87117

ISSUING OFFICE: U.S. Environmental Protection Agency
Region 6
1201 Elm Street, Suite 500
Dallas, Texas 75270

PREPARED BY: Quang Nguyen
Environmental Engineer
Permitting and Water Quality Branch
Water Division
VOICE: 214-665-7238
FAX: 214-665-2191
EMAIL:Nguyen.Quang@epa.gov

PERMIT ACTION: Final permit decision and response to comments received on the proposed NPDES permit publicly noticed on March 23, 2019.

DATE PREPARED: September 1, 2019

Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations, revised as of September 28, 2015.

DOCUMENT ABBREVIATIONS

In the document that follows, various abbreviations are used. They are as follows:

4Q3	Lowest four-day average flow rate expected to occur once every three years
BAT	Best available technology economically achievable
BCT	Best conventional pollutant control technology
BPT	Best practicable control technology currently available
BMP	Best management plan
BOD	Biochemical oxygen demand (five-day unless noted otherwise)
BPJ	Best professional judgment
CBOD	Carbonaceous biochemical oxygen demand (five-day unless noted otherwise)
CD	Critical dilution
CFR	Code of Federal Regulations
Cfs	Cubic feet per second
COD	Chemical oxygen demand
COE	United States Corp of Engineers
CWA	Clean Water Act
DMR	Discharge monitoring report
ELG	Effluent limitations guidelines
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FCB	Fecal coliform bacteria
F&WS	United States Fish and Wildlife Service
mg/L	Milligrams per liter
µg/L	Micrograms per liter
MGD	million gallons per day
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NMIP	New Mexico NPDES Permit Implementation Procedures
NMWQS	New Mexico State Standards for Interstate and Intrastate Surface Waters
NPDES	National Pollutant Discharge Elimination System
MQL	Minimum quantification level
O&G	Oil and grease
PCB	Polychlorinated Biphenyl
POTW	Public owned treatment works
RP	Reasonable potential
SIC	Standard industrial classification
s.u.	Standard units (for parameter pH)
SWQB	Surface Water Quality Bureau
TDS	Total dissolved solids
TMDL	Total maximum daily load
TRC	Total residual chlorine
TSS	Total suspended solids
UAA	Use attainability analysis
USGS	United States Geological Service
WLA	Wasteload allocation
WET	Whole effluent toxicity
WQCC	New Mexico Water Quality Control Commission
WQMP	Water Quality Management Plan
WWTP	Wastewater treatment plant

In this document, references to State WQS and/or rules shall collectively mean either or both the State of New Mexico and/or the Pueblo of Taos.

SUBSTANTIAL CHANGES FROM DRAFT PERMIT

1. Removing reporting requirements for following pollutants: Zinc, PCBs, Nickel, Antimony, Selenium, Tetrachloroethylene, Benzo(a)pyrene, Hexachlorobenzene, 4,4'-DDT and derivatives, Toxaphene, Heptachlor epoxide, 2,3,7,8-TCDD (Dioxin), Aldrin, Mercury, Arsenic, Thallium, Chlordane, and Dieldrin;
2. Adding Heptachlor reporting requirements;
3. Adding a permit modification/reopener clause on facility operation alteration, and;
4. Adding Best Management Practice conditions/requirements under Part II of the final permit.

STATE CERTIFICATION

In a letter from Ms. Shelly Lemon, Bureau Chief, SWQB, to Mr. David Gray, Acting Regional Administrator dated July 26, 2019, the NMED certified that the discharge will comply with the applicable provisions of Section 208(e), 301, 301, 303, 306 and 307 of the Clean Water Act and with appropriate requirements of State law.

The NMED stated that in order to meet the requirements of State law, including water quality standards and appropriate basin plan as may be amended by the water quality management plan, each of the conditions cited in the draft permit and the State certification shall not be made less stringent.

The State also stated that it reserves the right to amend or revoke this certification if such action is necessary to ensure compliance with the State's water quality standards and water quality management plan.

Comments that are not Conditions of Certification

Comment No. 1:

The New Mexico Implementation Procedure (NMIP) considers the type of facility as well as the ephemeral nature of the watercourse when determining the frequency of WET testing. USAF submitted WET testing results during the comment period that indicated 95% survivability of invertebrate at 100% effluent. NMED has not yet received Reasonable Potential (RP) results from EPA, but if the WET testing monitoring results indicate RP, the 1/year monitoring requirement from the NMIP should apply.

Response No. 1:

The permittee submitted WET testing results for 2 samples collected on May 22, 2019 and June 5, 2019 during the comment period. The results indicate they have passed both tests, and no

Reasonable Potential exists. Therefore, no WET limits will be imposed in the permit. However, the WET testing which is required to comply with the New Mexico narrative Water Quality Standard will remain in the permit. No changes were made to the draft permit in response to these comments.

Comment No. 2:

If monitoring submitted during the public comment period showed no RP for the required human health constituents, NMED supports removal of 3x week monitoring for those pollutants. Otherwise, the permit does not include a specific restriction on how long of a time the facility may discharge as an intermittent discharge and therefore includes monitoring requirements from the NMIP for daily discharge. Testing is only required in the case that the discharge occurs to the watercourse. Groundwater requirements are not relevant to the proposed surface water discharge.

Response No. 2:

The EPA has re-evaluated submitted data (i.e., Zinc, PCBs, Nickel, Antimony, Selenium, Tetrachloroethylene, Benzo(a)pyrene, Hexachlorobenzene, 4,4'-DDT and derivatives, Toxaphene, Heptachlor epoxide, 2,3,7,8-TCDD (Dioxin), Aldrin, Mercury, Arsenic, Thallium, Chlordane, and Dieldrin) for reasonable potential (RP) to cause or contribute to WQS exceedances. The results of the RP reevaluation analysis indicate no RPs exist for mentioned pollutants (see Appendix 1). For final permit, EPA will remove report requirements for Zinc, PCBs, Nickel, Antimony, Selenium, Tetrachloroethylene, Benzo(a)pyrene, Hexachlorobenzene, 4,4'-DDT and derivatives, Toxaphene, Heptachlor epoxide, 2,3,7,8-TCDD (Dioxin), Aldrin, Mercury, Arsenic, Thallium, Chlordane, and Dieldrin constituents.

Comment No. 3:

NMED requests that EPA retain the monitoring requirement for per- and polyfluoroalkyl substances (PFAS) in the permit. Sources of PFAS such as Aqueous Film Forming Foam (AFFF) were present at KAFB in the past. Though the USAF states PFAS is not present in the effluent, they did not submit any documentation that the influent or treated discharge has been sampled for PFAS and that those potential contaminants are not present. Inclusion of a monitoring requirement will provide information about whether these contaminants are present. Due to the characteristics of these contaminants (persistence in the environment and the human body, and evidence that exposure to PFAS can lead to adverse human health effects), NMED advocates taking a proactive approach to assuring the health and safety of the Tijeras Arroyo and the Rio Grande. If a limitation is needed based on monitoring data, NMED will work with EPA according to regulations provided in 20.6.4 NMAC and the New Mexico Implementation Plan (NMIP) to develop an appropriate and protective limitation for inclusion in the permit.

Response No. 3: Comment is noted. The PFAS reporting requirement will be remained in the final permit. No changes made in the final permit.

COMMENTS RECEIVED AT PUBLIC HEARING

Comments #4 through #10 were provided by participants at the public hearing held at New Mexico's Veterans Memorial located at 1100 Louisiana Blvd SE., Albuquerque, NM 87108 on June 26, 2019.

Comment No. 4:

Our concerns about the NPDES permit are that there's no detailed environmental, economic, and programmatic justification for the project.

Response No. 4: Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit. Note that no justification for having a discharge is required from applicants for a NPDES permit (see 40 CFR 122.21). Accordingly, no changes were made to the draft permit in response to these comments.

Comment No. 5:

There's currently no coordination with the Resource Conservation Recovery Facility Act. There's been no facility investigation for the – both field spill and coordination with this project.

Response No. 5: This comment is presumed to be referring to the Resource Conservation and Recovery Act. Comments regarding coordination with the Resource Conservation and Recovery Act are outside the scope of this NPDES permitting action. No changes were made to the draft permit in response to these comments.

Comment No. 6:

Kirtland AFB has an unused permit for five undeveloped underground injection wells, and they have only put in place one underground well. When do they intend to put in these other injection wells, and how much are they going to cost, and how much is this pipeline going to cost? There is no economic discussion of – of any of that.

Response No. 6: Comments regarding injection well cost and development are outside the scope of the NPDES permitting action, as is projected cost of the proposed NPDES permitted project. No changes were made to the draft permit in response to these comments.

Comment No. 7:

It's supposed to be for episodic use only, but there's no real definition of 'episodic."

Response No. 7

Kirtland AFB has two approved discharge locations (i.e., Golf Course Main Pond (GCMP) and Injection well KAFB-7) for its treated effluent. An occasional discharge of process effluent to Tijeras Arroyo may occur when infrastructure fails at underground Injection well KAFB-7 and GCMP and is necessary to ensure the uninterrupted operations of the Interim Measure. The Kirtland final permit is a non-continuous discharge permit, which has been referred to as an "episodic" discharge permit. Since it will be on an "as needed" rather than a normal batch discharge basis, EPA will not include any specific restriction on the frequency and/or how long of a time the facility may discharge its treated effluent to Tijeras Arroyo in the permit. The effluent limitations, conditions and monitoring requirements currently in Kirtland AFB permit were conservatively designed as if the facility discharges daily. In addition, EPA requires the permittee to notify EPA and NMED as soon as it knows or plans to change to continuous from its current non-continuous discharge mode. The permit could be reopened and modified accordingly based upon the notification.

Furthermore, EPA has included the following Best Management Practice conditions/requirements under Part II of the final permit to ensure that Kirtland AFB will maximize the usage of their primary disposal sites to minimize and/or prevent discharges, if feasible, to Tijeras Arroyo:

> *Permittee shall develop and implement Best Management Practice plans that incorporate all reasonable steps to minimize infrastructure failures at the Injection well KAFB-7 and GCMP. Through implementation of the managment plans, the Permittee must prevent and/or minimize the number of discharge events to Tijeras Arroyo.*
>
> *Permittee shall conduct monthly inspection with periodic cleaning and repair, as needed, on the conveyance effluent line running between the GWTS and GCMP and Injection well KAFB-7 to prevent biofoulings, irons and calcareous materials build-up.*
>
> *Proper operation and maintenance to ensure steady operation and to extend the life of equipment shall include but are not limited to: Transducers, flowmeters, control valves, alarm systems, pump, stadia rod, etc.*
>
> *If system shut down at the one of the disposal sites is needed for routine maintenance, non-routine maintenance, or any other nonemergency reason, the permittee will maximize the usage of the other sites for disposing treated effluent prior to discharging treated effluent to Tijeras Arroyo. Volume discharge to disposal sites and Tijeras Arroyo shall be logged and recorded.*
>
> *The permittee shall have the burden of proof that the discharge of treated effluent to Tijeras Arroyo is necessary. This includes logs that document and record all routine, non-routine maintenance activities and all volumes discharged to disposal sites (i.e.,*

GCMP and Injection well KAFB-7) and Tijeras Arroyo.

The Permittee shall, as soon as possible, but no later than thirty (30) days prior to discharging to Tijeras Arroyo, provide written notice to EPA and NMED of any planned physical shut down at both the Injection well KAFB-7 and GCMP discharge locations which is believed to last more than 1 week. Such notice shall include: (i) Description of and justification for the need for the anticipated discharge; (ii) the period of discharge, including anticipated dates and times; (iii) an estimate of discharge volume.

The Permittee shall, within 24 hours from the time of the discharge to Tijeras Arroyo due to infrastructure failures at both the Injection well KAFB-7 and GCMP discharge locations, notify EPA and NMED followed by a written report in five days.

The Permittee, if discharging to Tijeras Arroyo, shall limit the discharge rate so it will not cause erosion of Tijeras Arroyo or structural damage to culverts and their entrances or exits.

Comment No. 8:

Kirtland intends not to construct the underground injection wells, and simply use the pipeline for disposal. There's no engineering design for the public to review for this pipeline. The location for the disposal is not clearly identified for the public. There's no pictures for the intended disposal area. There's no tour of the disposal area available to the public. There's no safety plan.

Response No. 8:

Comments regarding the permittee's intent to construct injection wells state an opinion and do not reference specific sections of the draft permit. Accordingly, no changes were made to the draft permit in response to these comments. The outfall location is identified in the application and permit as (Latitude 35° 1' 28.86" North, and Longitude 106° 32' 55.32 West). Outfall structures are regulated under the Corps of Engineers Nationwide Permit 7 - Outfall Structures and Associated Intake Structures and are outside the scope of the NPDES permitting action. Comments regarding providing public tour of the disposal area and having a safety plan are outside the scope of the NPDES permitting action. The permittee submitted the operations and maintenance plan for the groundwater treatment system as a part of the NPDES permit application. This plan includes a health and safety plan. No changes were made to the draft permit in response to these comments.

Comment No. 9:

I'd like to see a copy of the fish and wildlife letter.

Response No. 9:

Comment noted. EPA attached a copy of the MEMORANDUM FOR ENDANGERED SPECIES ACT REQUIREMENTS in Appendix 2.

Comment No. 10:

The classification of Tijeras Arroyo as an ephemeral stream is okay. But you do have periods of time when it can handle a large snow melt, and it is going to go all the way to the Rio Grande, including the stormwater runoff, and what other contaminants in there. I haven't seen any discussion of what the relationship of this is to the Gultin [phonetic] facility that contaminated Tijeras arroyo with TCE. It may be that there's too narrow a scope for the contaminants that are being measured in relation to all the contaminants that were spilled in the jet fuel spill. For example, I don't see any reference to 1,2 DCA, which is clearly a contaminant that was present.

Response No. 10:

To be protective, Reasonable Potential analysis is done at the critical low flow where there is less dilution available in the receiving water, in this case 100% effluent. The 1,2 DCA and TCE constituents, as indicated in the application, were reported non-detect in the treated effluent and was determined to not have Reasonable Potential to exceed the water quality standards. The submitted WET testing results for 2 samples collected on May 22, 2019, and June 5, 2019 during the comment period also indicate Reasonable Potential to cause toxicity does not exist. In addition, the final permit requires the facility to conduct WET tests, which measure treated effluent's effects on specific test organisms' ability to survive, grow and reproduce, to ensure no discharge of toxic pollutants in toxic amount. No changes were made to the draft permit in response to these comments.

OTHER COMMENTS RECEIVED ON DRAFT PERMIT

Comment #11 provided in the Commissioner Charlene E. Pyskoty, District 5 in Bernalillo County, New Mexico letter to Ms. Evelyn Rosborough on July 9, 2019.

Comment #11 provided in the Commissioner Steven Michael Quezada, District 2, in Bernalillo County, New Mexico letter to Ms. Evelyn Rosborough on July 10, 2019.

Comments #12 through #22 provided in the email from Eric Nuttal, Ph.D., Emeritus to Ms. Evelyn Rosborough and Quang Nguyen on June 20, 2019.

Comments #23 through #39 and #46 provided in the email from David McCoy to Ms. Evelyn Rosborough on April 3, 2019.

Comments #40 through #45 provided in the Colonel David S. Miller, Department of the Air Force, 377th Air Base Wing (the permittee) letter to Ms. Evelyn Rosborough on June 26, 2019 and July 12, 2019.

Comment No. 11:

The Commissioners request that the U.S. Environmental Protection Agency (EPA) define "episodic" with stated limitations before issuing the permit. Also, the EPA and the applicant must ensure that they are using the highest standards and best practices for any water the Kirtland Air Force Base releases into the Tijeras Arroyo that may negatively affect Bernalillo County and its residents.

Response No. 11:

Please see response to comments No.7 and 28.

Comment No. 12:

Discharging the large quantities of water (800 gpm) to the Tijeras Arroyo is a lost water benefit. This concept is pump and waste which is counter to New Mexico State Law for beneficial water use. Beneficial uses of water for domestic and municipal uses can include: industrial uses; irrigation; mining; hydroelectric power; navigation; recreation; public parks; wildlife, and; game preserves. None of these examples of practicable alternatives for beneficial uses are considered or met by the proposed discharge that could reach over one million gallons per day on a continual basis. The Permit Application gives no indication of the duration for discharge. There is no analysis for why the Underground Injection Control Wells (DP-1839, April28, 2017) that could receive 1,440,000 gallons per day would not meet the needs of interim measures. Hence the duration of the release period should be minimized!

Response No. 12:

The permit only addresses the discharge of the processed water into the receiving stream and resulting impacts on the designated uses of those waters. The permit does not convey any other rights other than the authorization to discharge into waters of the United States. Beneficial use requirements under New Mexico state law are outside the scope of review for this NPDES permit application, so issues of water rights are outside the scope of the NPDES permitting action. See response No. 7 regarding restricting use of the surface water discharge to times when the primary and secondary disposal options are not available.

Comment No. 13:

There is no guarantee that the treated effluent from four up to eight groundwater extraction wells will not travel off Kirtland AFB from Tijeras Arroyo that is a tributary of the Rio Grande River, a navigable body of water Discharge of over one million gallons per day is a substantial quantity of water and coupled with potential storm events including microbursts, snow melt, and urban runoff has not been analyzed for perennial transport to the Rio Grande River. No Tracer Dye Study has been conducted to examine the hydrological connection between the Tijeras Arroyo and Rio Grande for the effect of over one million gallons per day disposal of effluent.

Response No. 13:

Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit. The authorized discharge is to Tijeras Arroyo, which is a tributary to the Rio Grande. It is likely that discharges to the Tijeras Arroyo will leave Kirtland Air Force Base Property under certain weather conditions, as noted in the comment, but the permit was written to be protective of water quality standards applicable to the receiving waters (both Tijeras Arroyo and the Rio Grande) and received a Clean Water Act Section 401 Certification from the New Mexico Environment Department. In addition, the Tijeras Arroyo is an ephemeral stream from which water does not always reach the Rio Grande. If all 800 GPM actually reached the Rio Grande, for those days of discharge the Critical Dilution would be 1% or less depending on other flows in the Arroyo and losses along the route. No changes were made to the draft permit in response to these comments.

Comment No. 14:

There is need for an environmental impact statement. Tijeras Arroyo is described as a nutrient impaired waterway subject to an anti-degradation policy of New Mexico. https://www. env. nm.gov/wp-content/uploads/2016/03/EPA Approved-TIJERAS-ARROYO- TMDL 101217. pdf An EIS is needed to fully assess the potential impact of an accidental EDB release and increased flow of contaminants. Tijeras Arroyo is an area of biological concern having habitat that is critical for threatened or endangered species and/or has a significant nexus that can significantly affect the chemical, physical, and biological integrity of the Rio Grande. Habitat for environmentally sensitive species are present such as, Bank Swallow (Riparia riparia) and Burrowing Owl (Athene cuculria). Tijeras Arroyo also contains habitat for several species including migratory birds. The Albuquerque International Sunport Airport and U.S. Air Force Kirtland Air Force Base is located on the north boundary of the review area, which contributes pollutants from fuels, lubricants, and other chemicals from airport/air force base operations to the Tijeras Arroyo watershed. The capacity to carry pollutants or flood waters by additional flow to the Rio Grande River is not analyzed for those contaminants such as ammonia, phosphorus, nitrates, nitrites, and orthophosphates, pesticide organics such as 1,4-dichlorobenzene, diazinon, atrazine, and thiabendazole; and radio chemicals such as uranium.

Response No. 14:

The environmental impact reviews required by the National Environmental Policy Act do not apply to the Kirtland AFB NPDES permit since it is not subject to New Source Performance Standards (40 CFR 122.29(c)). The receiving water segment Tijeras Arroyo (Rio Grande to Four Hills Bridge) is not on the EPA approved 2016-2018 State of New Mexico 303(d) list for Assessed Stream and River Reaches, and there are no applicable approved TMDLs. NMED, as part of the Antidegradation Review, requires the facility to comply with Tier I antidegradation requirements. The facility must meet or exceed water quality standards at the "end of pipe"

discharge point and use best available technology as required by permit conditions. The permit authorizes discharges subject to the limitations and conditions contained therein. The permit requirements and the limits are protective of the assimilative capacity of the receiving water, which is protective of the designated uses of that water, NMAC Section 20.6.4.8.A.2. Note that any pollutants already in Tijeras Arroyo are also subject to movement due to natural storm and snow melt events and would fall under the Non-point Source Load Allocation and not the Point Source Wasteload Allocation components of a TMDL, if developed in the future.

Comment No. 15:

The City of Albuquerque Draft "Tijeras Arroyo Biological Zone (Bio-Zone) Open Space Resource Management Plan" (Plan), dated 2007 and prepared by Marron and Associates, Inc., describes Tijeras Arroyo as the main waterway for most of the snow melt and rain flows from Tijeras Canyon and portions of the East Mountains to the Rio Grande and that it is one of the largest arroyos in the Albuquerque area. The Plan describes Tijeras Arroyo hydrology as a significant source of local aquifer recharge due to the soils well drained and excessively drained qualities and that hydrologic issues primarily concern flash flooding, surface water runoff from surrounding developments and storm drains, and contamination from pollutants. The Plan states that Albuquerque's storm water management system in areas adjacent to Tijeras Arroyo is designed to convey storm water runoff directly to the Tijeras Arroyo and then on to the Rio Grande. The Plan further states that water from municipal storm water management systems contain high levels of automotive pollutants and debris, and agricultural contaminates.

Response No. 15:

Comments regarding municipal storm water discharges are outside the scope of this NPDES permitting action. No changes were made to the draft permit in response to these comments.

Comment No. 16:

There needs to be daily monitoring of the EDB effluent concentrations to minimize the potential impact of an accidental EDB effluent release.

Response No. 16:

For consistency with the NMIP, the EDB monitoring frequency of 3 times per week will be retained in the final permit. The commenter did not provide, nor is EPA aware of, evidence that there is an elevated risk of releases of EDB above the non-detect levels provided in the permit application and considered in development of the permit. No reasonable potential to cause an exceedance of water quality standards was found for EDB. No changes were made to the draft permit in response to this comment.

Comment No. 17:

Ideally the effluent water should be held in tanks/ponds and EDB concentrations measured prior to water discharge to the Tijeras Arroyo. Consideration for seasonal variation in watershed conditions and pollutant loading must be made. 40 CFR § 130.7(c)(l).

Response No. 17:

As indicated in the application, the facility is equipped with a tank having 6000-gallon capacity for treated water storage prior to disposal. The final permit requires, when discharging occurs, monitoring frequency for EDB of three times per week after the last treatment unit prior to discharge. The EDB monitoring requirement is included in the final permit to gather information for future permitting decisions consistent with 40 CFR 122.41(h). The 40 CFR § 130.7(c)(l) refers to the development of TMDLs and individual water quality based effluent limitations. The receiving water segment Tijeras Arroyo (Rio Grande to Four Hills Bridge) is currently not on the State of New Mexico 303(d) list. No TMDL has been developed for EDB for this water segment. No changes were made to the draft permit in response to these comments.

Comment No. 18:

All underground piping should be double lined to detect piping leaks. Major accidents and costly, severe impacts to human health and the environment have occurred because piping lacked double liners with leak detection. The KAFB multi-million gallon jet fuel/aviation gas spill is a prime example. The Kinder Morgan 200,000 gallon gasoline spill near Berino, New Mexico contaminated the Elephant Butte Irrigation District, requiring evacuation of families, and purchase of their properties. (See attached news article). Blowout at natural gas well due to corroded piping in Aliso Canyo, California sickened thousands of residents for nearly four months who moved out of their homes. (See attached news article).

Response No. 18: This comment contains opinions and does not reference specific sections of the draft permit. Comments about potential releases from underground piping or past releases from pipelines carrying fuels and hydrocarbons are outside the scope of this NPDES permitting action. No changes were made to the draft permit in response to these comments.

Comment No. 19:

There are no guarantees that accidental release of EDB will not occur and no analysis for such potential accidents and possible consequences is in place. Accidents happen as is obvious from the Bulk Fuels Facility release that totals millions of gallons of fuel contaminating the Albuquerque aquifer.

Response No. 19: Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit. Comments about accidental releases from bulk

storage tanks or Kirtland AFB in general are outside the scope of this NPDES permitting action. No changes were made to the draft permit in response to these comments.

Comment No. 20:

There is a need for a comprehensive health and safety plan for workers and the public.

Response No. 20:

Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit. Worker and public health and safety plans are outside the scope of this NPDES permitting action. No changes were made to the draft permit in response to this comment.

Comment No. 21:

There is a need for a comprehensive accident response plan.

Response No. 21:

Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit. Comprehensive accident response plans for Kirtland AFB are outside the scope of this NPDES permitting action. No changes were made to the draft permit in response to this comment.

Comment No. 22:

There is the need for an engineering design for the point of disposal.

Response No. 22:

The requirement for an engineering design for the point of disposal is outside the scope of the NPDES permitting action. Construction of outfall structures may be regulated under CWA Section 404. The U.S. Army Corps of Engineers Albuquerque District is the agency responsible for reviewing and issuing CWA Section 404 permits in New Mexico. No changes were made to the draft permit in response to this comment.

Comment No. 23:

CANM requests a public hearing for the NPDES Permit No NM0031216 prior to its approval. Also an Environmental Assessment ("EA") and probably an Environmental Impact Statement ("EIS") should be performed prior to approval of the NPDES Permit.

Response No. 23:

EPA held a public hearing at New Mexico's Veterans Memorial located at 1100 Louisiana Blvd SE., Albuquerque, NM 87108 on June 26, 2019. The environmental impact reviews required by the National Environmental Policy Act do not apply to the Kirtland AFB NPDES permit since it is not subject to New Source Performance Standards (40 CFR 122.29(c)).

Comment No. 24:

The occurrence of the KAFB jet fuel/aviation gasoline spill spreading Ethylene Dibromide (EDB) and petroleum hydrocarbons throughout Albuquerque's sole source drinking water aquifer is prima facie evidence of the incompetence of the U.S. Air Force to protect the environment from serious accidents in its management of hazardous chemicals.

Response No. 25:

Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit. No changes were made to the draft permit in response to these comments.

Comment No. 25:

How does the NPDES Permit function in conjunction with RCRA requirements? KAFB has not completed a RCRA Facility Investigation ("RFI") that is competent to set a path forward for long-term remediation of the aquifer. Only interim measures have been introduced. There is no apparent co-ordination between the RCRA aspects of the NPDES draft permit or strategic plans, the need for an RFI between interim measures or what would be effective long-term remedies if an RFI were approved. There is no mention of implementing an NPDES discharge in the NMED 2019 Strategy Plan.

Response No. 25:

This comment includes opinions and does not reference specific sections of the draft permit. Requirements of the Resource Conservation and Recovery Act and any associated Strategy Plans developed by the New Mexico Environment Department are outside the scope of this NPDES permitting action. No changes were made to the draft permit in response to these comments.

Comment No. 26:

Citizen Action has repeatedly requested Strategy Plans and the RFI to contain the following items that still are missing to develop a Conceptual Site Model for the RFI:

1.Total estimated mass of EDB in each zone, i.e. vadose, LNAPL, and leading EDB GW plumes.

2.Total volume of fuel spilled (estimate) for aviation gas and jet fuel.

3.Flow direction and velocity at leading edge of the EDB plume.

4.Present effect on plume movement cause by pumping well/wells.

5.A summary of the various EDB remediation technologies.

6.The capital and annual operating cost for the remediation of the EDB.

7.Discuss the likelihood of EDB reaching the Ridge Crest or other municipal wells.

8. Discuss the comprehensive total cleanup plan for the Kirtland BFF spill (vadose, NAPL, EDB).

Response No. 26:

Comments related to requirements of the Resource Conservation and Recovery Act and any associated Strategy Plans developed by the New Mexico Environment Department are outside the scope of this NPDES permitting action. No changes were made to the draft permit in response to these comments.

Comment No. 27:

The NPDES Permit would allow 800 gallons per minute to be released into the Tijeras Arroyo that enters the Rio Grande River. On a daily basis that would be 1,152,000 gpd and 420,000,000 gpy. The permit would allow that amount of release for what could be decades into the future.

Response No. 27: The permitted discharge is expected to occur only when the both golf course and injection well disposal options are not available at the same time. A daily discharge for an entire year is not anticipated. The permit only addresses the discharge of pollutants in the processed water into the receiving stream and resulting impacts on the designated uses of those waters. The permit does not convey any rights other than the authorization, subject to permit limitations and conditions, to discharge into waters of the United States. No changes were made to the draft permit in response to these comments. (see also Response No. 7)

Comment No. 28:

What is the Safety Plan? There is no consideration of accidents and the risks that could result for direct exposure to the human environment and aquatic environment (fish, animal, plant life) downstream from the discharge location that might occur from, e.g., accidental release of water contaminated with EDB that might bypass a plugged filter. A comprehensive risk analysis should be performed giving how comprehensive monitoring will be achieved for potential causes for accidental discharges, consequences and how there will be prevention and cleanup. Further contamination of the above ground water resource is simply unacceptable. Extracted groundwater should be placed in barrels to prevent constant flow into a treatment system that may be compromised.

Response No. 28:

This comment poses questions and states opinions beyond the scope of this permit action and does not reference specific sections of the draft permit. The permit does not authorize accidental releases or releases that are not in compliance with the permit. Part III.A.2 of the final permit imposes a duty to comply with the limitations and conditions of the permit. Part III.B.3 of the final permit requires proper operation maintenance operation and maintenance of all facilities and treatment and controls (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. Part III.B.4 of the final permit prohibits bypass of any treatment unit. No changes were made to the draft permit in response to these comments.

Comment No. 29:

Environmental justice issues have not been considered in the event of accident scenarios especially involving EDB. The South Valley of Albuquerque that has a minority, low income population and could be exposed to accidental spills of EDB contaminated discharges is already the location of Superfund sites for TCE. The Isleta Pueblo water supply is downstream from the Tijeras Arroyo.

Response No. 29:

EPA disagrees. All members of the public were invited to provide comments on the proposed permit and attend the Public Hearing held at New Mexico's Veterans Memorial located at 1100 Louisiana Blvd SE., Albuquerque, NM 87108 on June 26, 2019. Kirtland AFB provided a list of approximately 46 interested parties that was also notified directly by e-mail about the permit notice, public meeting and public hearing. A Spanish version of the Public Notices was also provided. When developing the permit limits for this permit, EPA ensured that both the New Mexico and Isleta Pueblo WQS and/or designated uses of its receiving are protected, and those water quality standards are protective of all citizens. In February 2019, EPA also offered Pueblo of Isleta an opportunity to engage in government-to-government consultation on the Kirtland AFB permit issuance action. The commenter did not identify the source of the accidental EDB releases making it impossible to determine if they would even be within the scope of the NPDES permitting action. The final permit requires monitoring for EDB, but at this time no reasonable potential to require a limit was found. See also response No. 28.

Comment No. 30:

There needs to be consideration for contamination already present in the Tijeras Arroyo and whether that current or future contamination can be spread further by the discharge under the NPDES Permit. For example: former Gulton Manufacturing is a former computer chip manufacturing company that has contaminated the relatively shallow groundwater in the Tijeras Canyon area with chlorinated solvents such as TCE. Tijeras Arroyo Groundwater at Sandia National Laboratories Technical Area V is contaminated with TCE and Nitrates. What is the potential for that contamination to be spread by the NPDES Permit?

Response No. 30:

Comments related to this theme generally pose questions, state an opinion and do not reference specific sections of the draft permit. The receiving water segment Tijeras Arroyo (Rio Grande to Four Hills Bridge) is not an impaired stream for chlorinated solvents (i.e., TCE) nor on the EPA approved 2016-2018 State of New Mexico 303(d) list for Assessed Stream and River Reaches. There are no applicable approved TMDLs for the receiving water segment. The NMAC, Section 20.6.4.8 "Antidegradation Policy and Implementation Plan" sets forth the requirements to protect designated uses through implementation of the State water quality standards. The limitations and monitoring requirements set forth in the proposed permit are developed from the State water quality standards. They are protective of the assimilative capacity of the receiving water, which is protective of the designated uses of that water, NMAC Section 20.6.4.8.A.2. Pollutants in streambed sediments are legacy pollutants past the point of regulation for the NPDES permit and usually fall under Non-point Source or RCRA/CERCLA authority. No changes were made to the draft permit in response to these comments. (See also Response No. 14)

Comment No. 31:

The fact is that accidental unauthorized discharge can and has occurred at KAFB. (See, Corrective Action Report for Unauthorized Discharge at the Bulk Fuel Facility Temporary Groundwater Treatment Facility, Kirtland Air Force Base, NM,) https://hwbdocuments.env.nm.gov/Kirtland%20AFB/KAFB4341.pdf

Response No. 31:

Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit. See also responses no. 28. and 29. No changes were made to the draft permit in response to this comment.

Comment No. 32:

The justification for the NPDES Permit is lacking. There is already discharge to the KAFB Golf Course Pond for Golf Course irrigation use. There is a KAFB #7 injection well near to the Tijeras Arroyo. Other locations for injection wells have been proposed or were under

consideration for discharge. Why should they not be used?

Response No. 32:

Kirtland AFB has two approved discharge locations (i.e., Golf Course Main Pond (GCMP) and Injection well KAFB-7) for its treated effluent. The facility has and will maximize usage of their primary disposal locations. According to the application, the only time that facility will discharge its process effluent to Tijeras Arroyo (TA) is when infrastructure failures occur at underground Injection well KAFB-7 and GCMP and is necessary to ensure the uninterrupted operations of the Interim Measure (i.e., pump and treatment of contaminated groundwater). The NPDES permit is designed to ensure the facility will continue to use their primary disposal sites to the extent as feasible. See also response No.7.

Comment No. 33:

Justification is not presented for simply shutting down the pump and treat system until the underground injection problem is fixed. Currently the P & T system is operated under interim measures! There is no requirement to keep the system running and no reason provided for why "It is imperative to ... ensure the uninterrupted operation of this Interim Measure."

Response No. 33:

Decisions on how the GWTS should be operated are outside the scope of the NPDES permitting action. While the need to halt or reduce an activity is not a defense for violation of permit limits or conditions (40 CFR 122.41(c)), there is no requirement under the NPDES program to halt an activity when the discharge is in compliance with the permit. Decisions regarding the need to continuously operate the groundwater capture wells is outside the scope of the NPDES permitting action. An occasional discharge of treated effluent to Tijeras Arroyo may occur when infrastructure fails at underground Injection well KAFB-7 and GCMP and is necessary to ensure the uninterrupted operations of the Interim Measure. No changes were made to the draft permit in response to these comments.

Comment No. 34:

There is no information given for the costs of the various segmented actions taking place at KAFB. The Pump and Treat remedy is extremely expensive and is questionable when extraction of over 3,000,000 gallons of water is required for removal of one gram of EDB. NMED and KAFB have not addressed the earlier studies by both EPA and the National Academies of Science regarding the lack of effectiveness and high cost of Pump and Treat.

Response No. 34:

Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit. Decisions on the installation of the GWTS at the Kirtland AFB as an interim measure to collapse and contain the ethylene dibromide groundwater plume from the BFF site, in order to protect Albuquerque, Kirtland Air Force Base, and the U.S. Department of Veterans Affairs Medical Center drinking water supply wells, are outside the scope of the NPDES permitting action. No changes were made to the draft permit in response to these comments.

Comment No. 35:

Current maximum extraction rate of water for treatment at KAFB is 400 gpm. Allowing an NPDES Permit for twice that volume does not make sense unless there are plans for more extraction wells that have not been ordered or revealed to the public.

Response No. 35:

NPDES permits are written based on the application, which anticipates a discharge of up to 800 gpm. No changes were made to the draft permit in response to these comments.

Comment No. 36:

Since KAFB refuses to provide the mass balance of EDB in the aquifer, it is unknown if the extraction well is having any effect on the EDB plume. Shallow groundwater monitoring wells have been submerged so that an accurate assessment cannot be made for the spread and volume of EDB contamination remaining in relation to the need for the NPDES Permit.

Response No. 36:

Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit. See also response No.1. No changes were made to the draft permit in response to these comments.

Comment No. 37:

The NPDES Permit gives KAFB authority to squander more of Albuquerque's precious drinking water source after the fact that KAFB has already contaminated the aquifer -- and not only at the Bulk Fuels Facility. The NPDES Permit will allow the non-economic waste of potable treated water that costs the taxpayer for electricity, treatment, pipelines, etc. without any consideration for entities that may be willing to either pay for the treated water or accept it on a voluntary basis. There should be public noticed solicitation of those entities that could use treated water. The discharge costs and waste can be multiplied by decades.

Response No. 37:

Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit. The facility is using treated effluent for golf course irrigation during warmer months or recharging the regional aquifer under a Class V Underground Injection Control permit as the current facility's deposition methods for the treated water. An occasional discharge of treated effluent to Tijeras Arroyo may occur when infrastructure fails at underground Injection well KAFB-7 and when infrastructure failures or weather conditions prevent use of the GCMP and is necessary to ensure the uninterrupted operations of the Interim Measure. See also response No. 12. No changes were made to the draft permit in response to these comments.

Comment No. 38:

There is no consideration of "green alternatives" to provide the energy for the pumping and treatment of the water. Just how big is the Pump & Treat operation going to become at KAFB? Still no RFI to guide the remediation projects.

Response No. 38:

Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit. See also response No. 34. No changes were made to the draft permit in response to these comments.

Comment No. 39:

By and large the planning for remediation of the KAFB fuel spill have been haphazard, uncoordinated and the issuance of the NPDES Permit would be a continuation of lack of comprehensive planning that is sorely in need of independent oversight.

Response No. 39:

Comments related to this theme generally state an opinion and do not reference specific sections of the draft permit. See also response No. 34. No changes were made to the draft permit in response to these comments.

Comment No. 40:

Pursuant to EPA and USAF discussions during the public hearing held on June 26, 2019, the USAF respectfully requests that the sample be collected at the Ground Water Treatment System (GWTS) facility effluent discharge point. The proposed location will have the same characteristics for sampling at the end of the discharge pipe.

Response No. 40:

The selected sampling points must provide a representative sample of the effluent, where the monitoring point should be in order to be representative of the effluent after the last treatment unit and are safely accessible to staff. Water flows from the GWTS facility to Tijeras Arroyo via a pipe. The characteristics of the effluents sampled at the GWTS facility effluent discharge point after the last treatment unit are expected to be representative of results at the discharge point to Tijeras Arroyo. Sample collection at the Ground Water Treatment System facility effluent discharge point location is acceptable. No change to the Permit was made as a result of this comment.

Comment No. 41:

Whole Effluent Toxicity (WET) Testing (48 Hour Acute no-observed-effect concentration (NOEC) Freshwater). The Tijeras Arroyo is a dry watercourse that is ephemeral in nature and only sees flow during heavy precipitation events. The Tijeras Arroyo does eventually flow into the Rio Grande River, although it is approximately 5-6 miles from the proposed discharge point in this NPDES permit.

The USAF does not believe WET testing is warranted in this particular instance and respectfully requests that this requirement be removed prior to issuing the final NPDES permit. The ephemeral nature of Tijeras Arroyo, as outlined above, is highly unlikely to be changed by this discharge. As stated in the USAF's NPDES application, this NPDES outfall would only be used to discharge treated, non-hazardous groundwater in the unlikely event the two primary disposal methods, golf course irrigation and underground injection, are temporarily unavailable.

In the unlikely event that conditions change, the proposed NPDES permit has the reopener clause in Part II (C) that allows EPA to require additional monitoring and/or testing.

Response No. 41:

The WET testing is a requirement of State implementation procedure to comply with the New Mexico narrative Water Quality Standard. EPA cannot grant the request to remove WET testing requirement. No change to the Permit was made as a result of these comments.

Comment No. 42:

The table in Part I (A)(1) "*Final Effluent Limits*" contains numerous constituents that are not present in the effluent from the groundwater treatment plant based upon process knowledge, extensive analytical data collected pursuant to the RCRA Permit and DP-1839 and the attached analytical data from effluent samples collected on 22 May 2019 and 31 May 2019, Section V(C)(5)(C-Toxics) of the Fact Sheet states " that there is a reasonable potential for the following pollutants to be present in the effluent: Antimony, Arsenic, Nickel, Selenium, Thallium, Zinc, Mercury, 4,4'- DDT and derivatives, Toxaphene, Heptachlor, Heptachlor epoxide, Aldrin,

Dieldrin, 2,3,7,8-TCDD (Dioxin), PCB's, Benzo(a)pyrene, Chlordane, Hexachlorobenzene, Ethylene dibromide, per-and polyflouroalkyl substances (PFAS) and Tetrachloroethylene." EPA has included these constituents, along with numerous others, in Part I (A)(I) of the draft permit.

The USAF respectfully objects to the inclusion of the above referenced constituents on the analytical list (with the exception of the constituents in Table 2 "*Constituents of Concern*" in DP-1839, specifically ethylene dibromide, benzene, ethylbenzene, toluene, total xylene, iron and manganese) and the proposed sampling frequencies contained within the referenced section of the draft permit. Alternatively, the USAF proposes that samples for these contaminants be collected only once within the first two years to verify the contaminants meet discharge standards. For consistency, the USAF proposes that the sampling of ethylene dibromide, benzene, ethylbenzene, toluene, total xylene, iron and manganese coincide with the sampling frequency of the state issued DP-1839 permit with sample collection occurring monthly when discharge to the NPDES outfall occurs.

Response No. 42:

The EPA has re-evaluated Zinc, PCBs, Nickel, Antimony, Selenium, Tetrachloroethylene, Benzo(a)pyrene, Hexachlorobenzene, 4,4'-DDT and derivatives, Toxaphene, Heptachlor epoxide, 2,3,7,8-TCDD (Dioxin), Aldrin, Mercury, Arsenic, Thallium, Chlordane, and Dieldrin pollutants for reasonable potential (RP) to cause or contribute to WQS exceedances. For the reevaluation analysis, EPA used the combination of data provided during the comment period. The results of the RP reevaluation analysis indicate no RPs exist for mentioned pollutants (see Appendix 1). For final permit, EPA will remove report requirements for Zinc, PCBs, Nickel, Antimony, Selenium, Tetrachloroethylene, Benzo(a)pyrene, Hexachlorobenzene, 4,4'-DDT and derivatives, Toxaphene, Heptachlor epoxide, 2,3,7,8-TCDD (Dioxin), Aldrin, Mercury, Arsenic, Thallium, Chlordane, and Dieldrin.

EPA cannot grant the request of removing the PFAS report requirement. No submitted documentation indicated that PFAS constituents are not present. Because PFAS compounds are persistence in the environment and the human body, and evidence that exposure to PFAS can lead to adverse human health effects, the PFAS reporting requirement will be remained in the final permit to determine if these compounds are present and for the health and safety of the Tijeras Arroyo and the Rio Grande. See also comment No. 3 where NMED specifically requested continued monitoring for PFAS in the final permit.

In addition, for consistency with NMIP, EPA cannot the grant the request of changing sampling frequency to monthly (when discharging occurs) for the rest of constituents listed in the table in Part I (A)(1) "*Final Effluent Limits*" in the final permit.

Comment No. 43:

In accordance with the letter from NMED to EPA, the USAF has obtained samples for the referenced pollutants from the effluent of the groundwater treatment plant and request that EPA consider the sampling requirement for these pollutants (with the exception of Ethylene dibromide) to be satisfied and the conditions removed prior to the issuances of the final permit. The attached analytical data from effluent samples collected on 22 May 2019 and 31 May 2019 demonstrate that these pollutants are all below their respective regulatory standards for surface water discharge. As such, there is no reasonable expectation that these constituents would affect water quality in the receiving waters or their designated uses.

Response No. 43:

Please see the response to comment No. 2.

Comment No. 44:

The Fact Sheet provided with the Draft Permit does not provide any basis or explanation for inclusion of a PFAS anti-degradation sampling requirement. As such, the USAF has not been provided an adequate fact-based rationale for the requirement. Fact sheets "shall" contain an explanation of the reason "that such conditions are applicable", 40 CFR 124.56(b).

Response No. 44:

Comment noted. During the comment period, NMED requested the monitoring requirement for PFAS to be included in the permit (Comment No. 3). The permittee collected treated water samples in December 2016, September 2017, May 22, 2019 and May 31, 2019. These samples were analyzed for more than 90 different chemical compounds, but not for PFAS compounds. No submitted documentation indicated that those potential contaminants are not present or that materials containing PFAS (e.g. firefighting foam) were not used at KAFB. Because PFAS compounds are persistence in the environment and the human body, and evidence that exposure to PFAS can lead to adverse human health effects, EPA included the reporting requirement in the permit to determine if these contaminants are present and to gather information for use in subsequent permitting actions regarding the authorized discharge. Note that 40 CFR 122.41(h) establishes a duty to provide information to the Director to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit.

Comment No. 45:

The anti-degradation sampling requirement for PFAS is arbitrary. PFAS compounds are not present in the effluent and; therefore, do not pose a reasonable potential to cause or contribute to an exceedance of a water quality standard.

The New Mexico certifications requirement for PFAS is outside the scope of the State Certification authority under 40 CFR 124.53 and should not be incorporated as a NPDES permit requirement. PFAS is an unregulated contaminant for which there is currently no Federal standard. New Mexico recently adopted PFOA and PFOS as a toxic pollutant standard pursuant to 20.6.2 NMAC Groundwater and Surface Water Protection Standards in December of 2018. However, water quality standards must be approved by EPA before they are used in NPDES permitting 40 CFR 131.21.

Response No. 45:

No submitted documentation indicated that PFAS constituents are not present in the treated effluent. The final permit, which does not include PFAS limits at this time, requires monitoring to gather information for future permitting decisions consistent with 40 CFR 122.41(h). See also comment No. 3, where NMED requested (but did not make a Condition of Certification) the monitoring requirement for PFAS to be included in the permit. No changes were made to the draft permit in response to these comments.

Comment No. 46:

Mr. McCoy representing Citizen Action of New Mexico submitted a report titled "*Hidden from the Public – Secret Document About the Flawed Investigation of The Kirtland Air Force Base (FAFB) Jet Fuel and Aviation Gas Contamination of the Albuquerque Drinking Water Aquifer*" as comments on the proposed NPDES permit for Kirtland AFB.

Response No. 46:

This comment poses questions and contains statements and opinions about issues which are outside the scope of authority of the NPDES permitting program and do not reference specific sections of the draft permit. No changes were made to the draft permit in response to these comments.

EPA Permit Review Edits: In reviewing the permit as a result of comments provided during the comment period, EPA found a typo where the monitor and report requirements for Heptachlor were not included in the draft permit. The fact sheet stated "*The preliminary toxic analysis shows RPs exist for Toxaphene, Heptachlor, Heptachlor epoxide, Aldrin, and Dieldrin. Because the permittee has not met the sufficient sensitive test requirement per 40 CFR 122.21(e)(3), EPA proposes facility to monitor for these parameters along with…*" EPA will correct the typographical error in the final permit and add Heptachlor reporting requirements to the table in Part 1 Section A. 1 of the final permit.

APPENDIX 1

REASONABLE POTENTIAL SCREENING ANALYSIS

CALCULATIONS OF NEW MEXICO WATER QUALITY-BASED EFFLUENT LIMITATIONS

NMAC 20.6.4	(EPA approved site-specific criteria for aluminum, cadmium, and zinc on April 30, 2012)		
Calculations Specifications	Excel	**Revised as of July 10, 2012**	
Prepared By	Quang Nguyen		
STEP 1:	REFERENCE IMPLEMENTATION PROCEDURES	**Revised**	
	INPUT FACILITY AND RECEIVING STREAM DATA		
	LIST SOURCE OF DATA INPUT		

IMPLEMENTATION PROCEDURES

The State of New Mexico Standards for Interstate and Intrastate Surface Waters are implemented in this spread sheet by using procedures established in the current "Procedures for Implementing NPDES Permits in New Mexico"

FACILITY		DATA INPUT	
Permittee		Kirtland AFB	
NPDES Permit No		NM0031216	
Outfall No (s)		1	
Plant Effluent Flow (MGD)		1.152	For industrial and federal facility, use the highest monthly average flow
Plant Effluent Flow (cfs)		1.7856	for the past 24 months. For POTWs, use the design flow.
RECEIVING STREAM		**DATA INPUT**	
Receiving Stream Name		Tijeras Arroyo	
Basin Name		Rio Grande Basin	
Waterbody Segment Code No		20.6.4.98	
Is a publicly owned lake or reservoir (enter "1" if its a lake, "0" if not)		0	
Are acute aquatic life criteria considered (1= yes, 0= no) (MUST enter "1" for 2005 Standards)		1	
Are chronic aquatic life criteria considered (1= yes, 0=no)		1	
Are domestic water supply criteria considered (1= yes, 0=no)		0	
Are irrigation water supply criteria considered (1= yes, 0=no)		0	
Livestock watering and wildlife habitat criteria applied to all streams			
USGS Flow Station		USGS	
WQ Monitoring Station No		SJR	
Receiving Stream TSS (mg/l)		1	For intermittent stream enter effluent TSS
Receiving Stream Hardness (mg/l as CaCO3)	RANGE 0 - 400	20	For intermittent stream enter effluent Hardness (if no data, 20 mg/l is used)
Receiving Stream Critical Low Flow (4Q3) (cfs)		0	Enter "0" for intermittent stream and lake
Receiving Stream Harmonic Mean Flow (cfs)		0	Enter harmonic mean or modified harmonic mean flow data or 0.001 if no data is available
Avg. Receiving Water Temperature (C)		21.55	
pH (Avg), Receiving Stream		8.5	
Fraction of stream allowed for mixing (F)		1	Enter 1, if stream morphology data is not available or for intermittent streams
Fraction of Critical Low Flow		0	

STEP 2: INPUT AMBIENT AND EFFLUENT DATA

CALCULATE IN-STREAM WASTE CONCENTRATIONS

DATA INPUT

Input pollutant geometric mean concentration as micro-gram per liter (ug/l or ppb)

unless other unit is specified for the parameter.

Effluent value reported as "< detection level" (DL) but the DL is greater than MQL, input "1/2 DL" for calculation.

Effluent value reported as "< detection level" (DL) and the DL is smaller than MQL, no data is inputted.

If a less than MQL value is reported, input either the reported value or "0" for calculation.

The following formular is used to calculate the InstreamWaste Concentration (Cd)

See the current "Procedures for Implementing NPDES Permits in New Mexico"

Cd = [(F*Qa*Ca) + (Qe*2.13*Ce)] / (F*Qa + Qe)

Where

Cd = Instream Waste Concentration

F = Fraction of streamallowed for mixing (see "Procedures for Implementing NPDES Permits in New Mexico")

Ce = Reported concentration in effluent

Ca = Ambient stream concentration upstream of discharge

Qe = Plant effluent flow

Qa = Critical low flow of stream at discharge point expressed as the 4Q3 or harmonic mean flow for human health criteria

The following formular convert metals reported in total form to dissolved form if criteria are in dissolved form

See the current "Procedures for Implementing NPDES Permits in New Mexico"

Kp = Kpo * (TSS^a)

Kp = Linear partition coefficient, Kpo and a can be found in table below

CCt = 1/ (1 + Kp*TSS* 10^-6)

TSS = Total suspended solids concentration found in receiving stream(or in effluent for intermittent stream)

Total Metal Criteria (Ct) = Cr / (CCt)

CCt = Fraction of metal dissolved, and Cr = Dissolved criteria value

		Stream Linear Partition Coefficient					Lake Linear Partition Coefficient				
Total Metals	Total Value	Kpo	alpha (a)	Kp	CCt	Dissolved Value in Stream	Kpo	alpha (a)	Kp	CCt	Dissolved Value in Lake
Arsenic	0.67	480000	-0.73	480000	0.675675676	0.58783784	480000	-0.73	480000	0.675675676	0.5878378
Chromium III	21	3360000	-0.93	3360000	0.229357798	0.48165138	2170000	-0.27	2170000	0.315457413	0.6624606
Copper	51	1040000	-0.74	1040000	0.490196078	2.5	2850000	-0.9	2850000	0.25974026	1.3246753
Lead	0	2800000	-0.8	2800000	0.263157895	0	2040000	-0.53	2040000	0.328947368	0
Nickel	0	490000	-0.57	490000	0.67114094	0	2210000	-0.76	2210000	0.31152648	0
Silver	5	2390000	-1.03	2390000	0.294985251	1.47492625	2390000	-1.03	2390000	0.294985251	1.4749263
Zinc	0.023	1250000	-0.7	1250000	0.444444444	0.01022222	3340000	-0.68	3340000	0.230414747	0.0052995

The following formular is used to calculate hardness dependent criteria

(Please refer to State Water Quality Standards for details)

			Dissolved WQC (ug/l)	
Aluminum (T)	Acute	e(1.3695[ln(hardness)]+1.8308)	377.4565069	If StreampH < 6.5, enter 750 in cell O113
	Chronic	e(1.3695[ln(hardness)]+0.9161)	151.2229667	If StreampH < 6.5, enter 87 in cell P113
Cadmium (D)	Acute	e(0.8968[ln(hardness)]-3.5699)*CF1	0.418091688	CF1 = 1.136672 - 0.041838*ln(hardness)
	Chronic	e(0.7647[ln(hardness)]-4.2180)*CF2	0.142116028	CF2 = 1.101672 - 0.041838*ln(hardness)

			Dissolved WQC (ug/l)	
Chromium III (D)	Acute	0.316 e(0.819[ln(hardness)]+3.7256)	152.4888787	
	Chronic	0.860 e(0.819[ln(hardness)]+0.6848)	19.8356702	
Copper (D)	Acute	0.960 e(0.9422[ln(hardness)]-1.700)	2.949857764	
	Chronic	0.960 e(0.8545[ln(hardness)]-1.702)	2.263769249	
Lead (D)	Acute	e(1.273[ln(hardness)]-1.46)*CF3	10.79154489	CF3 = 1.46203 - 0.145712*ln(hardness)
	Chronic	e(1.273[ln(hardness)]-4.705)*CF4	0.420531012	CF4 = 1.46203 - 0.145712*ln(hardness)
Manganese (D)	Acute	e(0.3331[ln(hardness)]+6.4676)	1746.691001	
	Chronic	e(0.3331[ln(hardness)]+5.8743)	965.048559	
Nickel (D)	Acute	0.998 e(0.846[ln(hardness)]+2.255)	119.9374916	
	Chronic	0.997 e(0.846[ln(hardness)]+0.0584)	13.32690594	
Silver (D)	Acute	0.85 e(1.72[ln(hardness)]-6.59)	0.201924903	
Zinc (D)	Acute	0.978 e(0.9094[ln(hardness)]+0.9095)	37.02425804	
	Chronic	0.986 e(0.90947[ln(hardness)]+0.6235)	28.04834719	

					Instream Waste Concentration						Livestock &	Acute	Chronic	Human	Need
POLLUTANTS			Ambient Conc.	Effluent Conc.	Acute Aquatic	Domestic Supply	Chronic Aquatic	Human Health	Domestic Criteria	Irrigation Criteria	Wildlife Criteria	Aquatic Criteria	Aquatic Criteria	Health Criteria	TMDL
	CAS No.	MQL	Ca (ug/l)	Ce (ug/l)	2.13*Ce	Cd.dom(ug/l)	Cd (ug/l)	Cd,hh (ug/l)	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
Radioactivity, Nutrients, and Chlorine															
Aluminum, total	7429-90-5	2.5			#VALUE!	#VALUE!	#VALUE!	#VALUE!	1E+100	5000	1E+100	377.4565069	151.22297	1E+100	N/A
Barium, dissolved	7440-39-3	100		100	213	#VALUE!	#VALUE!	#VALUE!	2000	1E+100	1E+100	1E+100	1E+100	1E+100	Need TMDL
Boron, dissolved	7440-42-8	100			0	0	0	0	1E+100	750	5000	1E+100	1E+100	1E+100	N/A
Cobalt, dissolved	7440-48-4	50			0	0	0	0	1E+100	50	1000	1E+100	1E+100	1E+100	N/A
Uranium, dissolved	7440-61-1	0.1		1.8	3.834	#VALUE!	#VALUE!	#VALUE!	30	1E+100	1E+100	1E+100	1E+100.	1E+100	Need TMDL
Vanadium, dissolved	7440-62-2	50			0	0	0	0	1E+100	100	100	1E+100	1E+100	1E+100	N/A
Ra-226 and Ra-228 (pCi/l)				0.793	1.68909	1.68909	1.68909	1.68909	5	1E+100	30	1E+100	1E+100	1E+100	N/A
Strontium (pCi/l)					#VALUE!	#VALUE!	#VALUE!	#VALUE!	8	1E+100	1E+100	1E+100	1E+100	1E+100	Need TMDL
Tritium (pCi/l)					0	0	0	0	20000	1E+100	20000	1E+100	1E+100	1E+100	N/A
Gross Alpha (pCi/l)				2.45	5.2185	5.2185	5.2185	5.2185	15	1E+100	15	1E+100	1E+100	1E+100	N/A
Asbestos (fibers/l)					0	0	0	0	7000000	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Total Residual Chlorine	7782-50-5	33			0	0	0	0	1E+100	1E+100	11	19	11	1E+100	N/A
Nitrate as N (mg/l)					0	0	0	0	10	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
Nitrite + Nitrate (mg/l)				0.58	1.2354	#VALUE!	#VALUE!	#VALUE!	1E+100	1E+100	132	1E+100	1E+100	1E+100	Need TMDL
METALS AND CYANIDE															
Antimony, dissolved (P)	7440-36-0	60		0	0	0	0	0	6	1E+100	1E+100	1E+100	1E+100	640	N/A
Arsenic, dissolved (P)	7440-38-2	0.5		0.587837838	1.252094595	1.25209459	1.25209459	1.25209459	10	100	200	340	150	9	N/A
Beryllium, dissolved	7440-41-7	0.5		2	4.26	#VALUE!	#VALUE!	#VALUE!	4	1E+100	1E+100	1E+100	1E+100	1E+100	Need TMDL
Cadmium, dissolved	7440-43-9	1		0	0	0	0	0	5	10	50	0.418091688	0.142116	1E+100	N/A
Chromium (III), dissolved	16065-83-1	10			0	0	0	0	1E+100	1E+100	1E+100	152.4888787	19.83567	1E+100	N/A
Chromium (VI), dissolved	18540-29-9	10			0	0	0	0	1E+100	1E+100	1E+100	16	11	1E+100	N/A
Chromium, dissolved	7440-47-3				0	0	0	0	100	100	1000	1E+100	1E+100	1E+100	N/A
Copper, dissolved	7440-50-8	0.5		2.5	5.325	#VALUE!	#VALUE!	#VALUE!	1300	200	500	2.949857764	2.2637692	1E+100	Need TMDL
Lead, dissolved	7439-92-1	0.5		0	0	#VALUE!	#VALUE!	#VALUE!	15	5000	100	10.79154489	0.420531	1E+100	Need TMDL
Manganese, dissolved	7439-96-5				0	0	0	0	1E+100	1E+100	1E+100	1746.691001	965.04856	1E+100	N/A

POLLUTANTS	CAS No	MDL	Ambient Conc Ca (ug/l)	Effluent Conc Ce (ug/l)	Instream Waste Concentration: Acute Aquatic 2 13*Ce	Instream Waste Concentration: Domestic Supply Cd,dom (ug/l)	Instream Waste Concentration: Chronic Aquatic Cd (ug/l)	Instream Waste Concentration: Human Health Cd hh (ug/l)	Livestock & Domestic Criteria ug/l	Acute Irrigation Criteria ug/l	Chronic Wildlife Criteria ug.l	Human Aquatic Criteria ug/l	Need Aquatic Criteria ug.l	Health Criteria ug/l	TMDL
Mercury, dissolved	7439-97-6	0 005			0	0	0	0	1E+100	1E+100	1E+100	1 4	0 77	1E+100	N/A
Mercury, total	7439-97-6	0 005		0 038	0 08094	#VALUE!	#VALUE!	#VALUE!	2	1E+100	0 77	1E+100	1E+100	1E+100	Need TMDL
Molybdenum dissolved	7439-98-7				0	0	0	0	1E+100	1000	1E+100	1E+100	1E+100	1E+100	N/A
Molybdenum total recoverable	7439-98-7				0	0	0	0	1E+100	1E+100	1E+100	7920	1895	1E+100	N/A
Nickel dissolved (P)	7440-02-0	0 5		0	0	0	0	0	700	1E+100	1E+100	119 9874916	13 326906	4600	N/A
Selenium dissolved (P)	7782-49-2	5		0 47	1 0011	1 0011	1 0011	1 0011	50	130	50	1E+100	1E+100	4200	N/A
Selenium dis (SO4 >500 mg/l)		5			0	0	0	0	50	250	50	1E+100	1E+100	4200	N/A
Selenium total recoverable	7782-49-2	5			0	0	0	0	1E+100	1E+100	5	20	5	1E+100	N/A
Silver, dissolved	7440-22-4	0 5		1 474986254	3 14159292	3 14159292	3 14159292	3 14159292	1E+100	1E+100	1E+100	0 201924903	1E+100	1E+100	N/A
Thallium dissolved (P)	7440-28-0	0 5		0	0	0	0	0	2	1E+100	1E+100	1E+100	1E+100	0 47	N/A
Zinc dissolved	7440-66-6	20		0 010222222	0 021773333	#VALUE!	#VALUE!	#VALUE!	10500	2000	25000	37 02425804	28 048347	26000	Need TMDL
Cyanide total recoverable	57-12-5	10			0	0	0	0	200	1E+100	5 2	22	5 2	140	N/A
Dioxin	1764-01-6	0 00001		0	0	0	0	0	3 00E-05	1E+100	1E+100	1E+100	1E+100	5 1E-08	N/A
VOLATILE COMPOUNDS															
Acrolein	107-02-8	50			0	0	0	0	18	1E+100	1E+100	1E+100	1E+100	9	N/A
Acrylonitrile	107-13-0	20			0	0	0	0	0 65	1E+100	1E+100	1E+100	1E+100	2 5	N/A
Benzene	71-43-2	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	510	N/A
Bromoform	75-25-2	10			0	0	0	0	44	1E+100	1E+100	1E+100	1E+100	1400	N/A
Carbon Tetrachloride	56-23-5	2			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	16	N/A
Chlorobenzene	108-90-7	10			0	0	0	0	100	1E+100	1E+100	1E+100	1E+100	1600	N/A
Chlorodibromomethane	124-48-1	10			0	0	0	0	4 2	1E+100	1E+100	1E+100	1E+100	130	N/A
Chloroform	67-66-3	50		0	0	0	0	0	57	1E+100	1E+100	1E+100	1E+100	4700	N/A
Dichlorobromomethane	75-27-4	10			0	0	0	0	5 6	1E+100	1E+100	1E+100	1E+100	170	N/A
1,2-Dichloroethane	107-06-2	10			#VALUE!	#VALUE!	#VALUE!	#VALUE!	5	1E+100	1E+100	1E+100	1E+100	370	N/A
1,1-Dichloroethylene	75-35-4	10			0	0	0	0	7	1E+100	1E+100	1E+100	1E+100	7100	N/A
1,2-Dichloropropane	78-87-5	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	150	N/A
1,3-Dichloropropylene	542-75-6	10			0	0	0	0	3 5	1E+100	1E+100	1E+100	1E+100	210	N/A
Ethylbenzene	100-41-4	10			0	0	0	0	700	1E+100	1E+100	1E+100	1E+100	2100	N/A
Methyl Bromide	74-83-9	50			0	0	0	0	49	1E+100	1E+100	1E+100	1E+100	1500	N/A
Methylene Chloride	75-09-2	20			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	5900	N/A
1,1,2,2-Tetrachloroethane	79-34-5	10			0	0	0	0	1 8	1E+100	1E+100	1E+100	1E+100	40	N/A
Tetrachloroethylene	127-18-4	10		0	0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	33	N/A
Toluene	108-88-3	10			0	0	0	0	1000	1E+100	1E+100	1E+100	1E+100	15000	N/A
1,2-trans-Dichloroethylene	156-60-5	10			0	0	0	0	100	1E+100	1E+100	1E+100	1E+100	10000	N/A
1,1,1-Trichloroethane	71-55-6				0	0	0	0	200	1E+100	1E+100	1E+100	1E+100	1E+100	N/A
1,1,2-Trichloroethane	79-00-5	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	160	N/A
Trichloroethylene	79-01-6	10			0	0	0	0	5	1E+100	1E+100	1E+100	1E+100	300	N/A
Vinyl Chloride	75-01-4	10			0	0	0	0	2	1E+100	1E+100	1E+100	1E+100	24	N/A
ACID COMPOUNDS															
2-Chlorophenol	95-57-8	10			0	0	0	0	175	1E+100	1E+100	1E+100	1E+100	150	N/A
2,4-Dichlorophenol	120-83-2	10			0	0	0	0	105	1E+100	1E+100	1E+100	1E+100	290	N/A
2,4-Dimethylphenol	105-67-9	10			0	0	0	0	700	1E+100	1E+100	1E+100	1E+100	850	N/A
4,6-Dinitro-o-Cresol	534-52-1	50			0	0	0	0	14	1E+100	1E+100	1E+100	1E+100	280	N/A

POLLUTANTS	CAS No	MDL	Ambient Conc Ca (ug/l)	Effluent Conc Ce (ug/l)	Instream/Waste Concentration Acute Aquatic 2.13*Ce	Domestic Supply Cd,dom (ug/l)	Chronic Aquatic Cd (ug/l)	Human Health Cd,hh (ug/l)	Domestic Criteria ug/l	Irrigation Criteria ug/l	Livestock & Wildlife Criteria ug/l	Acute Aquatic Criteria ug/l	Chronic Aquatic Criteria ug/l	Human Health Criteria ug/l	Need TMDL
2,4-Dinitrophenol	51-28-5	50			0	0	0	0	70	1E+100	1E+100	1E+100	1E+100	5300	N/A
Pentachlorophenol	87-86-5	50			0	0	0	0	1	1E+100	1E+100	19	15	30	N/A
Phenol	108-95-2	10			0	0	0	0	10500	1E+100	1E+100	1E+100	1E+100	860000	N/A
2,4,6-Trichlorophenol	88-06-2	10			0	0	0	0	32	1E+100	1E+100	1E+100	1E+100	24	N/A
BASE/NEUTRAL															
Acenaphthene	83-32-9	10			0	0	0	0	2100	1E+100	1E+100	1E+100	1E+100	990	N/A
Anthracene	120-12-7	10			0	0	0	0	10500	1E+100	1E+100	1E+100	1E+100	40000	N/A
Benzidine	92-87-5	50			0	0	0	0	0.0015	1E+100	1E+100	1E+100	1E+100	0.002	N/A
Benzo(a)anthracene	56-55-3	5			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.18	N/A
Benzo(a)pyrene	50-32-8	5			0	0	0	0	0.2	1E+100	1E+100	1E+100	1E+100	0.18	N/A
3,4-Benzofluoranthene	205-99-2	10			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.18	N/A
Benzo(k)fluoranthene	207-08-9	5			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.18	N/A
Bis(2-chloroethyl)Ether	111-44-4	10			0	0	0	0	0.3	1E+100	1E+100	1E+100	1E+100	5.3	N/A
Bis(2-chloroisopropyl)Ether	108-60-1	10			0	0	0	0	1400	1E+100	1E+100	1E+100	1E+100	65000	N/A
Bis(2-ethylhexyl)Phthalate	117-81-7	10			#VALUE!	#VALUE!	#VALUE!	#VALUE!	6	1E+100	1E+100	1E+100	1E+100	22	N/A
Butyl Benzyl Phthalate	85-68-7	10			0	0	0	0	7000	1E+100	1E+100	1E+100	1E+100	1900	N/A
2-Chloronaphalene	91-58-7	10			#VALUE!	#VALUE!	#VALUE!	#VALUE!	2800	1E+100	1E+100	1E+100	1E+100	1600	N/A
Chrysene	218-01-9	5			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.18	N/A
Dibenzo(a,h)anthracene	53-70-3	5			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.18	N/A
1,2-Dichlorobenzene	95-50-1	10			0	0	0	0	600	1E+100	1E+100	1E+100	1E+100	1300	N/A
1,3-Dichlorobenzene	541-73-1	10			0	0	0	0	469	1E+100	1E+100	1E+100	1E+100	960	N/A
1,4-Dichlorobenzene	106-46-7	10		1	2.13	2.13	2.13	2.13	75	1E+100	1E+100	1E+100	1E+100	190	N/A
3,3-Dichlorobenzidine	91-94-1	5			0	0	0	0	0.78	1E+100	1E+100	1E+100	1E+100	0.28	N/A
Diethyl Phthalate	84-66-2	10			0	0	0	0	28000	1E+100	1E+100	1E+100	1E+100	44000	N/A
Dimethyl Phthalate	131-11-3	10			0	0	0	0	350000	1E+100	1E+100	1E+100	1E+100	1100000	N/A
Di-n-Butyl Phthalate	84-74-2	10			0	0	0	0	3500	1E+100	1E+100	1E+100	1E+100	4500	N/A
2,4-Dinitrotoluene	121-14-2	10			0	0	0	0	1.1	1E+100	1E+100	1E+100	1E+100	34	N/A
1,2-Diphenylhydrazine	122-66-7	20			0	0	0	0	0.44	1E+100	1E+100	1E+100	1E+100	2	N/A
Fluoranthene	206-44-0	10			0	0	0	0	1400	1E+100	1E+100	1E+100	1E+100	140	N/A
Fluorene	86-73-7	10			0	0	0	0	1400	1E+100	1E+100	1E+100	1E+100	5300	N/A
Hexachlorobenzene	118-74-1	5			0	0	0	0	1	1E+100	1E+100	1E+100	1E+100	0.0029	N/A
Hexachlorobutadiene	87-68-3	10			0	0	0	0	4.5	1E+100	1E+100	1E+100	1E+100	180	N/A
Hexachlorocyclopentadiene	77-47-4	10			0	0	0	0	50	1E+100	1E+100	1E+100	1E+100	1100	N/A
Hexachloroethane	67-72-1	20			0	0	0	0	25	1E+100	1E+100	1E+100	1E+100	33	N/A
Indeno(1,2,3-cd)Pyrene	193-39-5	5			0	0	0	0	0.048	1E+100	1E+100	1E+100	1E+100	0.18	N/A
Isophorone	78-59-1	10			0	0	0	0	368	1E+100	1E+100	1E+100	1E+100	9600	N/A
Nitrobenzene	98-95-3	10			0	0	0	0	18	1E+100	1E+100	1E+100	1E+100	690	N/A
n-Nitrosodimethylamine	62-75-9	50			0	0	0	0	0.0069	1E+100	1E+100	1E+100	1E+100	30	N/A
n-Nitrosodi-n-Propylamine	621-64-7	20			0	0	0	0	0.05	1E+100	1E+100	1E+100	1E+100	5.1	N/A
n-Nitrosodiphenylamine	86-30-6	20			0	0	0	0	71	1E+100	1E+100	1E+100	1E+100	60	N/A
Nonylphenol	84852-15-3				0	0	0	0	1E+100	1E+100	1E+100	28	6.6	1E+100	N/A
Pyrene	129-00-0	10			0	0	0	0	1050	1E+100	1E+100	1E+100	1E+100	4000	N/A
1,2,4-Trichlorobenzene	120-82-1	10			0	0	0	0	70	1E+100	1E+100	1E+100	1E+100	70	N/A

POLLUTANTS	CAS No	MQL	Ambient Conc Ca (ug/l)	Effluent Conc Ce (ug/l)	Instream Waste Concentration Acute Aquatic 2 13*Ce	Domestic Supply Cd,dom (ug/l)	Chronic Aquatic Cd (ug/l)	Human Health Cd,hh (ug/l)	Domestic Criteria ug/l	Irrigation Criteria ug/l	Livestock & Wildlife Criteria ug/l	Acute Aquatic Criteria ug/l	Chronic Aquatic Criteria ug/l	Human Health Criteria ug/l	Need TMDL
PESTICIDES AND PCBS															
Aldrin	309-00-2	0 01		0	0	0	0	0	0 021	1E+100	1E+100	3	1E+100	0 0005	NA
Alpha-BHC	319-84-6	0 05			0	0	0	0	0 056	1E+100	1E+100	1E+100	1E+100	0 049	NA
Beta-BHC	319-85-7	0 05			0	0	0	0	0 091	1E+100	1E+100	1E+100	1E+100	0 17	NA
Gamma-BHC	58-89-9	0 05			0	0	0	0	0 2	1E+100	1E+100	0 95	1E+100	1 8	NA
Chlordane	57-74-9	0 2		0	0	0	0	0	2	1E+100	1E+100	2 4	0 0043	0 0081	NA
4,4-DDT and derivatives	50-29-3	0 02		0	0	0	0	0	1	1E+100	0 001	1 1	0 001	0 0022	NA
Dieldrin	60-57-1	0 02		0	0	0	0	0	0 022	1E+100	1E+100	0 24	0 056	0 00054	NA
Diazinon	333-41-5				0	0	0	0	1E+100	1E+100	1E+100	0 17	0 17	1E+100	NA
Alpha-Endosulfan	959-98-8	0 01			0	0	0	0	62	1E+100	1E+100	0 22	0 056	89	NA
Beta-Endosulfan	33213-65-9	0 02			0	0	0	0	62	1E+100	1E+100	0 22	0 056	89	NA
Endosulfan sulfate	1031-7-8	0 1			0	0	0	0	62	1E+100	1E+100	1E+100	1E+100	89	NA
Endrin	72-20-8	0 02			0	0	0	0	2	1E+100	1E+100	0 086	0 036	0 06	NA
Endrin Aldehyde	7421-93-4	0 1			0	0	0	0	10 5	1E+100	1E+100	1E+100	1E+100	0 3	NA
Heptachlor	76-44-8	0 01		0 04	0 0852	0 0852	0 0852	0 0852	0 4	1E+100	1E+100	0 52	0 0038	0 00079	NA
Heptachlor Epoxide	1024-57-3	0 01		0	0	0	0	0	0 2	1E+100	1E+100	0 52	0 0038	0 00039	NA
PCBs	1336-36-3	0 2		0	0	0	0	0	0 5	1E+100	0 014	2	0 014	0 00064	NA
Toxaphene	8001-35-2	0 3		0	0	0	0	0	3	1E+100	1E+100	0 73	0 0002	0 0028	NA

STEP 3: SCAN POTENTIAL INSTREAM WASTE CONCENTRATIONS AGAINST WATER QUALITY CRITERIA AND ESTABLISH EFFLUENT LIMITATIONS FOR ALL APPLICABLE PARAMETERS

No limits are established if the receiving stream is not designated for the particular uses

No limits are established if the potential instream waste concentrations are less than the chronic water quality criteria

The most applicable stringent criteria are used to establish effluent limitations for a given parameter

Water quality criteria apply at the end-of-pipe for acute aquatic life criteria and discharges to public lakes

If background concentration exceeds the water quality criteria, water quality criteria apply And "Need TMDL" shown in the next column of Avg Mass

Monthly avg concentration = daily max / 1 5

APPLICABLE WATER QUALITY-BASED LIMITS

The following formula is used to calculate the allowable daily maximum effluent concentration See the current "Procedures for Implementing NPDES Permits in New Mexico"

Daily Max Conc = Cs + (Cs - Ca)(F*Ca/Ce) Monthly Avg Conc = Daily Max Conc / 1 5

Where Cs = Applicable water quality standard

Ca = Ambient stream concentration

F = Fraction of stream allowed for mixing (1 0 is assigned to domestic water supply and human health uses)

Ce = Plant effluent flow

Ca = Criteria Low flow (4Q3) or Harmonic Mean flow for Human Health Criteria

POLLUTANTS	CAS No.	STORET	Domestic Limits	Irrigation Limits	Livestock or Wildlife Limits	Acute Aquatic Limits	Chronic Aquatic Limits	Human Health Limits	Daily Max Conc ug/l	Monthly Avg Conc ug/l	Daily Max Total ug/l	Mon. Avg Total ug/l	Daily Max Load lb/day	Monthly Avg Load lb/day
Radioactivity, Nutrients, and Chlorine, as Total														
Aluminum, Total	7429-90-5	01105	NA	NA	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
Barium, Total	7440-39-3	01007	NA	NA	#VALUE!	NA	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
Boron, Total	7440-42-8	01022	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt, Total	7440-48-4	01037	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Uranium, Total	7440-61-1	22706	NA	NA	#VALUE!	NA	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
Vanadium, Total	7440-62-2	01087	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ra-226 and Ra-228 (pCi/l)		11503	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Strontium (pCi/l)		13501	NA	NA	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
Tritum (pCi/l)		04124	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gross Alpha (pCi/l)		80029	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Asbestos (fibers/l)			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Residual Chlorine	7782-50-5	50060	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate as N (mg/l)		00620	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrite + Nitrate (mg/l)		00630	NA	NA	#VALUE!	NA	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
METALS AND CYANIDE, as Total														
Antimony, Total (P)	7440-36-0	01097	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic, Total (P)	7440-38-2	1002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium, Total	7440-41-7	01012	NA	NA	#VALUE!	NA	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
Cadmium, Total	7440-43-9	01027	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (III), dissolved	16065-83-1	01033	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (VI), dissolved	18540-29-9	01034	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, Total	7440-47-3	01034	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper, Total	7440-50-8	01042	NA	NA	#VALUE!	2.94985776	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
Lead, Total	7439-92-1	01051	NA	NA	#VALUE!	NA	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
Manganese, dissolved	7439-96-5	01056	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury, Total	7439-97-6	71900	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury, Total	7439-97-6	71900	NA	NA	#VALUE!	NA	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
Molybdenum, dissolved	7439-98-7	1060	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Molybdenum, total recoverable	7439-98-7	01062	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel, Total (P)	7440-02-0	01067	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium, Total (P)	7782-49-2	01147	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium, Total (SO4 >500 mg/l)		01147	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium, Total recoverable	7782-49-2	01147	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver, Total	7440-22-4	01077	NA	NA	NA	0.2019249	NA	NA	0.201924903	0.201924903	0.684525421	0.6845254	0.0065767	0.006576701
Thallium, Total (P)	7440-28-0	01059	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc, Total	7440-66-6	1092	NA	NA	#VALUE!	NA	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
Cyanide, total recoverable	57-12-5	00720	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIOXIN														0
2,3,7,8-TCDD	1764-01-6	34675	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOLATILE COMPOUNDS														
Acrolein	107-02-8	34210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acrylonitrile	107-13-0	34215	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	71-43-2	34030	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	75-25-2	32104	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	32102	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

POLLUTANTS	CAS No	STORET	Domestic Limits	Irrigation Limits	Livestock or Wildlife Limits	Acute Aquatic Limits	Chronic Aquatic Limits	Human Health Limits	Daily Max Conc ug/l	Monthly Avg Conc ug/l	Daily Max Total ug/l	Mon. Avg Total ug/l	Daily Max Load lb/day	Monthly Avg Load lb/day
Chlorobenzene	108-90-7	34301	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Clorodibromomethane	124-48-1	32105	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chloroform	67-66-3	32106	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dichlorobromomethane	75-27-4	32101	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dichloroethane	107-06-2	34531	N/A	N/A	#VALUE	#VALUE	#VALUE	#VALUE	#VALUE	#VALUE	#VALUE	#VALUE	#VALUE	#VALUE
1,1-Dichloroethylene	75-35-4	34501	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dichloropropane	78-87-5	34541	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,3-Dichloropropylene	542-75-6	34561	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ethylbenzene	100-41-4	34371	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Methyl Bromide	74-83-9	34413	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Methylene Chloride	75-09-2	34423	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,1,2,2-Tetrachloroethane	79-34-5	34516	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tetrachloroethylene	127-18-4	34475	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tolune	108-88-3	34010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-trans-Dichloroethylene	156-60-5	34546	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,1,1-Trichloroethane	71-55-6		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,1,2-Trichloroethane	79-00-5	34511	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Trichloroethylene	79-01-6	39180	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	75-01-4	39175	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACID COMPOUNDS														
2-Chlorophenol	95-57-8	34586	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-Dichlorophenol	120-83-2	34601	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-Dimethylphenol	105-67-9	34606	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,6-Dinitro-o-Cresol	534-52-1	34657	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-Dinitrophenol	51-28-5	34616	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pentachlorophenol	87-86-5	39032	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Phenol	108-95-2	34694	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,6-Trichlorophenol	88-06-2	34621	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BASE/NEUTRAL														
Acenaphthene	83-32-9	34205	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Anthracene	120-12-7	34220	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzidine	92-87-5	39120	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(a)anthracene	56-55-3	34526	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(a)pyrene	50-32-8	34247	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3,4-Benzofluoranthene	205-99-2	34230	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(k)fluoranthene	207-08-9	34242	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bis(2-chloroethyl)Ether	111-44-4	34273	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bis(2-chloros opropyl)Ether	108-60-1	34283	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bis(2-ethylhexyl)Phthalate	117-81-7	39100	N/A	N/A	#VALUE	#VALUE	#VALUE	#VALUE	#VALUE	#VALUE	#VALUE	#VALUE	#VALUE	#VALUE
Butyl Benzyl Phthalate	85-68-7	34292	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Chbronapthalene	91-58-7	34581	N/A	N/A	#VALUE	#VALUE	#VALUE	#VALUE	#VALUE	#VALUE	#VALUE	#VALUE	#VALUE	#VALUE
Chrysene	218-01-9	34320	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dibenz(a,h)anthracene	53-70-3	34556	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dichlorobenzene	95-50-1	34536	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

POLLUTANTS	CAS No	STORET	Domestic Limits	Irrigation Limits	Livestock or Wildlife Limits	Acute Aquatic Limits	Chronic Aquatic Limits	Human Health Limits	Daily Max Conc ug/l	Monthly Avg Conc ug/l	Daily Max Total ug/l	Mon. Avg Total ug/l	Daily Max Load lb/day	Daily Avg Load lb/day
1,3-Dichlorobenzene	541-73-1	34566	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,4-Dichlorobenzene	106-46-7	34571	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3,3-Dichlorobenzidine	91-94-1	34631	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Diethyl Phthalate	84-66-2	34336	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dimethyl Phthalate	131-11-3	34341	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Di-n-Butyl Phthalate	84-74-2	39110	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-Dinitrotoluene	121-14-2	34611	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Diphenylhydrazine	122-66-7	34346	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fluoranthene	206-44-0	34376	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fluorene	86-73-7	34381	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hexachlorobenzene	118-74-1	39700	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hexachlorobutadiene	87-68-3	34391	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hexachlorocyclopentadiene	77-47-4	34386	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hexachloroethane	67-72-1	34396	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Indeno(1,2,3-cd)Pyrene	193-39-5	34403	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Isophorone	78-59-1	34408	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	98-95-3	34447	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n-Nitrosodimethylamine	62-75-9	34438	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n-Nitrosodi-n-Propylamine	621-64-7	34428	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n-Nitrosodiphenylamine	86-30-6	34433	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nonylphenol	84852-15-3		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pyrene	129-00-0	34469	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2,4-Trichlorobenzene	120-82-1	34551	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PESTICIDES AND PCBS														
Aldrin	309-00-2	39330	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alpha-BHC	319-84-6	39337	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Beta-BHC	319-85-7	39338	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gamma-BHC	58-89-9	39340	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chlordane	57-74-9	39350	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,4-DDT and derivatives	50-29-3	39300	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dieldrin	60-57-1	39380	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Diazinon	333-41-5	39570	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alpha-Endosulfan	959-98-8	34361	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Beta-Endosulfan	33213-65-9	34356	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endosulfan sulfate	1031-7-8	34351	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endrin	72-20-8	39390	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endrin Aldehyde	7421-93-4	34366	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Heptachlor	76-44-8	39410	N/A	N/A	N/A	N/A	0.0038	0.00079	0.00079	0.00079	0.00079	0.00079	7.5901E-06	7.59007E-06
Heptachlor Epoxide	1024-57-3	39420	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PCBs	1336-36-3	39516	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Toxaphene	8001-35-2	39400	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

APPENDIX 2

MEMORANDUM FOR ENDANGERED SPECIES ACT REQUIREMENTS

DEPARTMENT OF THE AIR FORCE
377TH MISSION SUPPORT GROUP (AFGSC)

17 December 2018

MEMORANDUM FOR ENDANGERED SPECIES ACT REQUIREMENTS

FROM: 377 MSG/CEIE
2050 Wyoming Blvd SE
Kirtland AFB NM 87117

SUBJECT: Endangered Species Act (ESA) Selected Criteria – BFF Outfall Structure (Application NM0031216 – Kirtland Air Force base)

1. The Kirtland AFB Natural Resources Program Manager (NRPM) has determined the *BFF Outfall Structure Project* will not affect ESA listed species and/or designated critical habitat.

The USFWS and NMDGF maintain lists of plant and animal species that have been classified as federally threatened or endangered or state listed by the NMDGF. Of those species known to occur in the county, no federal threatened or endangered species and two state threatened species occur on Kirtland AFB.

The five federally listed species that could occur on the installation. New Mexico meadow jumping mouse (*Zapus hudsonius luteus*). Mexican spotted owl (*Strix occidentalis lucida*). southwestern willow flycatcher (*Empidonax traillii extimus*). yellow-billed cuckoo (*Coccyzus americanus*). and Rio Grande silvery minnow (*Hybognathus amarus*) do not have suitable habitat and have not been identified on the installation). New Mexico meadow jumping mouse prefers large wet meadows within floodplains. Previous surveys conducted at Kirtland AFB did not detect the mouse or find desirable habitat for the species. Mexican spotted owl, southwestern willow flycatcher, and yellow-billed cuckoo prefer riparian and forested habitat not found on Kirtland AFB. Rio Grande silvery minnow is a riverine fish that prefers low-gradient creeks and small to large rivers with slow to moderate flow. It is only found in one reach of

Critical Habitat: Neither the NMDGF nor the USFWS has designated or identified any critical habitat on Kirtland AFB.

2. A biological survey will be conducted prior to construction. The pre-construction survey will be performed in order to ensure no Federally-listed threatened or endangered (T&E) species or their designated critical habitat(s) are active in or near the site's "action area".

3. If during construction any T&E species are inadvertently discovered, all activities shall halt and the NRPM must be notified immediately, in accordance with the Integrated Natural Resource Management Plan and the ESA. If you have any questions, please contact NRPM at 846-0226 or david.reynolds.37 @us.af.mil.

REYNOLDS.DAVID.HILL.1408909402 Digitally signed by REYNOLDS.DAVID.HILL.1408909402 Date: 2019.01.10 14:56:46 -07'00'

David H. Reynolds
Natural Resources Program Manager

Attachment:
USFWS Species List

REGION 6
1201 Elm Street, Suite 500
DALLAS, TEXAS 75270

NPDES Permit No NM0031216

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"),

United States Air Force
377th Air Base Wing
2000 Wyoming Blvd SE
Kirtland AFB NM 87117

is authorized to discharge from the facility, Kirtland Air Force Base 377 ABW located at 2000 Wyoming Blvd SE, Bernalillo County, NM. The discharge will be to receiving waters named Tijeras Arroyo in Segment No. 20.6.4.98 of the Rio Grande Basin,

the discharges are located on that water at the following coordinates:

Outfall 001: Latitude 35° 1' 28.86" North, Longitude 106° 32' 55.32 West,

in accordance with this cover page and the effluent limitations, monitoring requirements, and other conditions set forth in Part I, Part II, and Part III hereof.

This a first-time permit, prepared by Quang Nguyen, Environmental Engineer, Permitting Section (6WQ-PP), shall become effective on November 1, 2019

This permit and the authorization to discharge shall expire at midnight, October 31, 2024

Issued on September 30, 2019

Charles W. Maguire
Director
Water Division (6WQ)

PART I – REQUIREMENTS FOR NPDES PERMITS

SECTION A. LIMITATIONS AND MONITORING REQUIREMENTS

1. FINAL Effluent Limits – 800 GPM Design Flow

During the period beginning the initial discharge of new facility with design flow at 800 gpm and lasting through the expiration date of the permit (unless otherwise noted), the permittee is authorized to discharge treated water to Tijeras Arroyo, in Segment Number 20.6.4.098, from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below:

POLLUTANT	MINIMUM	MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
pH	6.6 s.u.	9.0 s.u.	Daily (*1)	Grab

POLLUTANT (*7)	30-DAY AVG	DAILY MAX	30-DAY AVG	DAILY MAX	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow to Tijeras Arroyo	Report (MGD)	Report (MGD)	***	***	Daily (*1)	Estimate (*2)
Flow to On-base Golf Course	Report (MGD)	Report (MGD)	***	***	Daily	Estimate (*2)
Flow to Regional Aquifer	Report (MGD)	Report (MGD)	***	***	Daily	Estimate (*2)
Temperature	***	***	Report (° C)	Report (° C)	Daily (*1)	Grab
Ethylene dibromide (EDB) CAS Number 106-93-4	Report (lbs/day)	Report (lbs/day)	Report (ug/L)	Report (ug/L)	3/Week (*1)	Grab
Total Residual Chlorine	***	***	***	11 ug/L	1/Week (*1)	Grab (*6)
Total Suspended Solids (TSS)	***	***	21 mg/L	33 mg/L	3/Week (*1)	Grab
Chemical Oxygen Demand	***	***	Report (mg/L)	Report (mg/L)	1/Week (*1)	Grab
BOD	***	***	26 (mg/L)	48 (mg/L)	3/Week (*1)	Grab
Oil and grease	***	***	8 (mg/L)	15 (mg/L)	3/Week (*1)	Grab
Nitrogen (NO3-NO2)	***	***	Report (mg/L)	Report (mg/L)	1/Week (*1)	Grab
Ammonia (as N)	***	***	Report (mg/L)	Report (mg/L)	1/Week (*1)	Grab
Heptachlor	***	***	Report (ug/L)	Report (ug/L)	3/Week (*1)	Grab
per- and polyfluoroalkyl substances (PFAS)	***	***	Report (ug/L)	Report (ug/L)	3/Week (*1)	Grab

WHOLE EFFLUENT TOXICITY TESTING (48-HOUR ACUTE NOEC FRESHWATER) (*3)	30-DAY AVG MINIMUM	48-HR MINIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Daphnia Pulex	Report	Report	Once/Year (*1)(*4)(*5)	Grab

Footnotes

*1 When discharging occurs.

*2 "Estimate" flow measurements shall not be subject to the accuracy provisions established at Part III.C.6. Flow may be estimated using sound analytical techniques.

*3 Monitoring and reporting requirements begin on the effective date of this permit. See Part II, Whole Effluent Toxicity Testing Requirements for additional WET monitoring and reporting conditions.

*4 This permit does not establish requirements to automatically increase the WET testing frequency after a test failure, or to begin a toxicity reduction evaluation (TRE) in the event of multiple test failures. However, upon failure of any WET test, the permittee must report the test results to EPA and NMED, Surface Water Quality Bureau, in writing, within 5 business days of notification of the test failure. EPA and NMED will review the test results and determine the appropriate action necessary, if any. See Part II of the permit for WET testing requirements.

*5 The discharge shall be tested between November 1 and April 30 after the permit effective date.

*6 The effluent limitation for TRC is the instantaneous maximum grab sample taken during periods of chlorine use and cannot be averaged for reporting purposes. Instantaneous maximum is defined in 40 CFR Part 136 as being measured within 15 minutes of sampling.

*7 See Appendix A of Part II of the permit for minimum quantification limits.

FLOATING SOLIDS, VISIBLE FOAM, GREASE AND/OR OILS

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.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the discharge from the final treatment unit prior to the receiving stream.

B. SCHEDULE OF COMPLIANCE

None

C. MONITORING AND REPORTING

1. Discharge Monitoring Report (DMR) results shall be electronically reported to EPA per 40 CFR 127.16. To submit electronically, access the NetDMR website at https://netdmr.epa.gov. Until approved for Net DMR, the permittee shall request temporary or emergency waivers from electronic reporting. To obtain a waiver, please contact: U.S. EPA-Region 6, Water Enforcement Branch, New Mexico State Coordinator (6EN-WC), (214) 665-7179. If paper reporting is granted temporarily, 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 and copies to NMED, as required (See Part III.D.IV of the permit). Reports shall be submitted monthly

2. Reporting periods shall end on the last day of the months.

3. The first Discharge Monitoring Report(s) shall represent facility operations from the effective date of the permit through the last day of the current reporting period.

4. Thereafter, the permittee is required to submit regular monthly reports as described above postmarked no later than the 15th day of the month following each reporting period.

5. NO DISCHARGE REPORTING - If there is no discharge from any outfall during the sampling month, place an "X" in the NO DISCHARGE box located in the upper right corner of the Discharge Monitoring Report.

6. If any daily maximum or monthly average value exceeds the effluent limitations specified in Part I. A, the permittee shall report the excursion in accordance with the requirements of Part III. D.

7. Any daily maximum or monthly average value reported in the required Discharge Monitoring Report which is in excess of the effluent limitation specified in Part I. A shall constitute evidence of violation of such effluent limitation and of this permit.

PART II - OTHER CONDITIONS

A. OPERATION AND MAINTENANCE

Permittee shall develop and implement Best Management Practice plans which incorporate all reasonable steps to minimize infrastructure failures at the Injection well KAFB-7 and GCMP. Through implementation of the managment plans, the Permittee must prevent and/or minimize the number of discharge events to Tijeras Arroyo.

Conduct monthly inspection with periodic cleaning and repair, as needed, on the conveyance effluent line running between the GWTS and GCMP and Injection well KAFB-7 to prevent biofoulings, irons and calcareous materials build-up.

Proper operation and maintenance to ensure steady operation and to extend the life of equipment shall include but are not limited to: Transducers, flowmeters, control valves, alarm systems, pump, stadia rod, etc.

If system shut down at the one of the disposal sites is needed for routine, non-routine maintenance, or any other nonemergency reason, the permittee will maximize the usage of the other sites for disposing treated effluent prior to discharging treated effluent to Tijeras Arroyo. Volume discharge to disposal sites and Tijeras Arroyo shall be logged and recorded.

The permittee shall have the burden of proof that the discharge of treated effluent to Tijeras Arroyo is necessary. This includes logs that document and record all routine, non-routine maintenance activities and all volumes discharged to disposal sites (i.e., GCMP and Injection well KAFB-7) and Tijeras Arroyo.

The Permittee shall, as soon as possible, but no later than thirty (30) days prior to discharging to Tijeras Arroyo, provide written notice to EPA and NMED of any planned physical shut down at both the Injection well KAFB-7 and GCMP discharge locations which is believed to last more than 1 week. Such notice shall include: (i) Description of the need for the discharge; (ii) the period of discharge, including anticipated dates and times; (iii) an estimate of discharge volume.

The Permittee shall, within 24 hours from the time of the discharge to Tijeras Arroyo due to infrastructure failures at both the Injection well KAFB-7 and GCMP discharge locations, notify EPA and NMED followed by a written report in five days.

The Permittee, if discharging to Tijeras Arroyo, shall limit the discharge rate so it will not cause erosion of Tijeras Arroyo or structural damage to culverts and their entrances or exits.

B. MINIMUM QUANTIFICATION LEVEL (MQL) & SUFFICIENTLY SENSITIVE METHODS

EPA-approved test procedures (methods) for the analysis and quantification of pollutants or pollutant parameters, including for the purposes of compliance monitoring/DMR reporting, permit renewal applications, or any other reporting that may be required as a condition of this

permit, shall be sufficiently sensitive. A method is "sufficiently sensitive" when (1) the method minimum level (ML) of quantification is at or below the level of the applicable effluent limit for the measured pollutant or pollutant parameter; or (2) if there is no EPA-approved analytical method with a published ML at or below the effluent limit (see table below), then the method has the lowest published ML (is the most sensitive) of the analytical methods approved under 40 CFR Part 136 or required under 40 CFR Chapter I, Subchapters N or O, for the measured pollutant or pollutant parameter; or (3) the method is specified in this permit or has been otherwise approved in writing by the permitting authority (EPA Region 6) for the measured pollutant or pollutant parameter. The Permittee has the option of developing and submitting a report to justify the use of matrix or sample-specific MLs rather than the published levels. Upon written approval by EPA Region 6 the matrix or sample-specific MLs may be utilized by the Permittee for all future Discharge Monitoring Report (DMR) reporting requirements.

Current EPA Region 6 minimum quantification levels (MQLs) for reporting and compliance are provided in Appendix A of Part II of this permit. The following pollutants may not have EPA-approved methods with a published ML at or below the effluent limit, if specified:

POLLUTANT	CAS Number	STORET Code
Total Residual Chlorine	7782-50-5	50060
Cadmium	7440-43-9	01027
Silver	7440-22-4	01077
Thallium	7440-28-0	01059
Cyanide	57-12-5	78248
Dioxin (2,3,7,8-TCDD)	1764-01-6	34675
4,6-Dinitro-O-Cresol	534-52-1	34657
Pentachlorophenol	87-86-5	39032
Benzidine	92-87-5	39120
Chrysene	218-01-9	34320
Hexachlorobenzene	118-74-1	39700
N-Nitrosodimethylamine	62-75-9	34438
Aldrin	309-00-2	39330
Chlordane	57-74-9	39350
Dieldrin	60-57-1	39380
Heptachlor	76-44-8	39410
Heptachlor epoxide	1024-57-3	39420
Toxaphene	8001-35-2	39400

Unless otherwise indicated in this permit, if the EPA Region 6 MQL for a pollutant or pollutant parameter is sufficiently sensitive (as defined above) and the analytical test result is less than the MQL, then a value of zero (0) may be used for reporting purposes on DMRs. Furthermore, if the EPA Region 6 MQL for a pollutant or parameter is not sufficiently sensitive, but the analytical test result is less than the published ML from a sufficiently sensitive method, then a value of zero (0) may be used for reporting purposes on DMRs.

C. 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 within 24 hours from the time the permittee becomes aware of the violation followed by a written report in five days.

None

D. PERMIT MODIFICATION AND REOPENER

In accordance with 40 CFR Part 122.44(d), the permit may be reopened and modified during the life of the permit if relevant portions of New Mexico's Water Quality Standards for Interstate and Intrastate Streams are revised, or new water quality standards are established and/or remanded.

The permittee is required to notify EPA and NMED as soon as it knows or plans to change to continuous from its current non-continuous discharge mode. In accordance with 40 CFR Part 122.62(a)(1), the permit may be reopened and modified if there are material and substantial alterations or additions to the permitted facility or activity which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit.

In accordance with 40 CFR Part 122.62(a)(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 issuance. Permit modifications shall reflect the results of any of these actions and shall follow regulations listed at 40 CFR Part 124.5.

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

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

1. SCOPE AND METHODOLOGY

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

APPLICABLE TO FINAL OUTFALL(S):	001
REPORTED ON DMR AS FINAL OUTFALL:	001
CRITICAL DILUTION (%):	100%
EFFLUENT DILUTION SERIES (%):	32%, 42%, 56%, 75%, 100%
COMPOSITE SAMPLE TYPE:	Defined at PART I
TEST SPECIES/METHODS:	40 CFR Part 136

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

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

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

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

e. This permit does not establish requirements to automatically increase the WET testing frequency after a test failure, or to begin a toxicity reduction

evaluation (TRE) in the event of multiple test failures. However, upon failure of any WET test, the permittee must report the test results to EPA and NMED, Surface Water Quality Bureau, in writing, within 5 business days of notification the test failure. EPA and NMED will review the test results and determine the appropriate action necessary, if any.

2. REQUIRED TOXICITY TESTING CONDITIONS

a. Test Acceptance

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

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

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

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

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

b. Statistical Interpretation

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

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

c. Dilution Water

- 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;

- toxicity tests conducted on effluent discharges to receiving water classified as intermittent streams; and
- toxicity tests conducted on effluent discharges where no receiving water is available due to zero flow conditions.

- If the receiving water is unsatisfactory as a result of instream toxicity (fails to fulfill the test acceptance criteria of Item 2.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 synthetic dilution water control which fulfills the test acceptance requirements of Item 3.a was run concurrently with the receiving water control;

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

- the permittee includes all test results indicating receiving water toxicity with the full report and information required by Item 3 below; and

- 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

- The permittee shall collect two **grab** samples from the outfall(s) listed at Item 1.a above.

- The permittee shall collect a second **grab** sample for use during the 24-hour renewal of each dilution concentration for the tests. The permittee must collect the **grab** 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 **grab** sample. Samples shall be chilled to 6 degrees Centigrade during collection, shipping, and/or storage.

- The permittee must collect the **grab** 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.

- 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 **grab**

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 **grab** sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report required in Item 3 of this section.

1. REPORTING

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

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

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

Daphnia pulex

- If the NOEC for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TEM3D.
- Report the NOEC value for survival, Parameter No. TOM3D.
- Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQM3D.

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

- For retest number 1, Parameter 22415, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."
- For retest number 2, Parameter 22416, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

APPENDIX A of PART II

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

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

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

(MQL's Revised November 1, 2007)

Footnotes:

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

*2 PCBs generally must be tested using Method 1668A as requested by NMED: Chlorinated Biphenyl Congeners in Water, Soil, Sediment and Tissue by High Resolution Gas Chromatography/High Resolution Mass Spectrometry (HRGC/HRMS) [EPA-821-R-00-002].

PART III - STANDARD CONDITIONS FOR NPDES PERMITS

A. GENERAL CONDITIONS

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

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

3. TOXIC POLLUTANTS

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

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

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

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

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

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

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

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

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

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

B. PROPER OPERATION AND MAINTENANCE

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

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

3. PROPER OPERATION AND MAINTENANCE

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

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

4. BYPASS OF TREATMENT FACILITIES

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

b. NOTICE

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

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

c. PROHIBITION OF BYPASS

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

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

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

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

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

5. UPSET CONDITIONS

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

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

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

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

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

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

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

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

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

C. MONITORING AND RECORDS

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

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

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

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

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

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

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

4. RECORD CONTENTS
Records of monitoring information shall include:

a. The date, exact place, and time of sampling or measurements;
b. The individual(s) who performed the sampling or measurements;

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

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

e. The analytical techniques or methods used; and

f. The results of such analyses.

5. MONITORING PROCEDURES

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

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

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

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

D. REPORTING REQUIREMENTS

1. PLANNED CHANGES

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

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

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

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

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

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

4. DISCHARGE MONITORING REPORTS AND OTHER REPORTS

Monitoring results must be reported to EPA on either the electronic or paper Discharge Monitoring Report (DMR) approved formats. Monitoring results can be submitted electronically in lieu of the paper DMR Form. To submit electronically, access the NetDMR website at www.epa.gov/netdmr and contact the R6NetDMR.epa.gov in-box for further instructions. Until you are approved for Net DMR, you must report on the Discharge Monitoring Report (DMR) Form EPA. No. 3320-1 in accordance with the "General Instructions" provided on the form. No additional copies are needed if reporting electronically, however when submitting paper form EPA No. 3320-1, the permittee shall submit the original DMR signed and certified as required by Part III.D.11 and all other reports required by Part III.D. to the EPA at the address below. Duplicate copies of paper DMR's and all other reports shall be submitted to the appropriate State agency (ies) at the following address (es):

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

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

5. ADDITIONAL MONITORING BY THE PERMITTEE

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

6. AVERAGING OF MEASUREMENTS

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

7. TWENTY-FOUR HOUR REPORTING

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

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

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

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

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

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

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

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

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

8. OTHER NONCOMPLIANCE

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

9. OTHER INFORMATION

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

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

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

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

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

(4) The level established by the Director.

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

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

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

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

(4) The level established by the Director.

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

a. ALL PERMIT APPLICATIONS shall be signed as follows:

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

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

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

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

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

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

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

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

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

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. A duly authorized representative may thus be either a named individual or an individual occupying a named position; and,

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

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

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

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

E. PENALTIES FOR VIOLATIONS OF PERMIT CONDITIONS

1. CRIMINAL

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

16. TREATMENT WORKS means any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage and industrial wastes of a liquid nature to implement Section 201 of the Act, or necessary to recycle or reuse water at the most economical cost over the estimated life of the works, including intercepting sewers, sewage collection systems, pumping, power and other equipment, and their appurtenances, extension, improvement, remodeling, additions, and alterations thereof.

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

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

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

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

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

22. MUNICIPAL TERMS

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

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

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

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

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

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