

Statement of Basis

FACILITY: F.E. Warren Air Force Base (AFB)
Missile Launch Facility (LF)

PERMIT NO: CO-0034789

RESPONSIBLE OFFICIAL: U.S. Department of the Air Force
Commander, 90th Civil Engineering Squadron
300 Velse Drive, Suite 600
F.E. Warren AFB, WY 82005
(307) 773-3600

FACILITY CONTACTS: Andy McKinley
Water Program Manager

PHONE: (307) 773-4356

PERMIT TYPE: Minimal Discharge Dewatering Permit

Background Information

This permit is for the dewatering of the Missile Launch Facilities located in Northeastern, Colorado. These facilities are under the control of F.E. Warren AFB in Wyoming, but since the discharges are in the State of Colorado and since Colorado is not delegated for federal facilities, the EPA is issuing the NPDES permit.

The Missile Launch Facilities were originally constructed about 1970. Small cracks appeared in the pad due to surface water infiltration into the expansive clay soils surrounding the pad. The dewatering is necessary to keep the facilities dry. Water that is discharged is expected to be surface water that has percolated down into the area. No industrial activities are performed at the site.

This permit authorizes discharges from the facilities to the following outfalls: 001 (L-06) located in Weld County, Colorado at latitude 40°54' and longitude 103°34', 002 (M-09) located in Weld County, Colorado at latitude 40°45' and longitude 103°37', 003 (M-11) located in Logan County, Colorado at latitude 40°47' and longitude 103°31', 004 (N-02) located in Weld County, Colorado at latitude 40°43' and longitude 103°46', 005 (N-03) located in Weld County, Colorado at latitude 40°43' and longitude 103°41', 006 (N-04) located in Weld County, Colorado at latitude

40°38' and longitude 103°40', 007 (N-09) located in Weld County, Colorado at latitude 40°41' and longitude 104°04', and 008 (O-06) located in Weld County, Colorado at latitude 40°47' and longitude 103°52'. The facilities have an average design flow capacity of 0.0134 cfs (56,500 gallons/year). The effective date and expiration date will be determined when the permit is issued.

Receiving Waters

Discharges from facilities would enter the Cedar Creek and Pawnee Creek Basins. The receiving water is in Segment 2a of the Lower South Platte River Basin. The water quality standards for the segment are contained in Colorado Regulation No. 38 Classification and Numeric Standards for South Platte River Basin, Laramie River Basin, Republican River Basin, Smoky Hill River Basin, amended April 12, 2010.

The receiving water is classified for the following beneficial uses:

- Aquatic Life Warm, Class 2
- Recreation N
- Agriculture

The following numeric standards apply to this segment:

- Physical and Biological: T=TVS(WS-II)°C, Dissolved Oxygen = 5.0 mg/L, pH = 6.5-9.0, E. Coli = 630/100mL.
- Inorganic, mg/L: Cyanide = 0.2, Boron = 0.75, Nitrite = 10, Nitrate = 100.
- Metals, ug/L: Arsenic (ac) = 340, Arsenic (ch) = 100(Trec), Beryllium (ch) = 100(Trec), Cadmium (ch) = 10(Trec), Chromium(3⁺) (ch) = 100(Trec), Chromium(6⁺) (ch) = 100(Trec), Copper (ch) = 200(Trec), Lead (ch) = 100(Trec), Nickel (ch) = 200(Trec), Selenium (ch) = 20(Trec), Zinc (ch) = 2000(Trec).
Abbreviations: TVS = table value standard, WS-II = warm stream temperature tier two (ch) = chronic (30-day), (Trec) = total recoverable.

Monitoring Data

The Integrated Compliance Information System (ICIS) limit summary with violations report shows that violations for DMR reporting overdue. The DMR reporting overdue violations were back in compliance in April 2, 2009.

F.E. Warren AFB reported several TSS exceedances from outfall 004 (98 mg/L and 2200 mg/L) and outfall 008 (61 mg/L) due the discharge pipe was filled with sediment. In their July 28, 2009 letter to EPA stated that: "The wells at the Missile Launch Facilities (LF) remove infiltrated rainwater from an underground area contained by a clay liner. In the past, when there had not been enough water to automatically trip the pump to take a sample, the sampler had manually turned on the pump to obtain a sample. During the first sampling event at LF N-02, the discharge wells had recently turned on before the sampler arrived and there was very little water to be discharged. When the sampler turns on the wells shortly after they have automatically

tripped, there are very low levels of water, which caused clay and other portions of the liner to discharge with the water, increasing the TSS in the samples.

For future permit year samples, F.E. Warren AFB will change the sampling procedures regarding wells with low-flow. When the sampler arrives, if the floats have not activated on the dewatering wells, a sample will be taken at the discretion of the sampler. The flow of the wells will be examined and average flow will be determined. The flow rates will be used to estimate when the wells discharge and the sampler will make a legitimated effort to sample the locations when the floats on the discharge pipes have activated. If the sampler arrives and there is no flow, the sampler will make the determination whether or not the pump should be turned on to take a sample.” Since the facility modified their future permit sampling technique to avoid collecting sediment, they are able to meet the TSS limits.

F.E. Warren AFB reported the following average flow for each outfall in their 2010 permit application:

Outfall Number	Average Flow (gallon/year)
001	10,000
002	18,900
003	75
004	25,000
005	8,000
006	75
007	25
008	4,000

Flow meters are installed at each site to report flow rates.

The previous permit requires F.E. Warren AFB to conduct the following special monitoring requirements during the first year of the permit:

1. Volatiles, acid, and base/neutral compounds found in Table II of 40 CFR §122 Appendix D.
2. Total metals and other toxic pollutants found in Table III of 40 CFR §122 Appendix D.
3. Analytical results for the special monitoring shall be reported to EPA as an attachment to the DMR for the 12-month period in which samples were collected and analyzed.

F.E. Warren AFB collected samples and sent them to certified lab during the first year of the permit. The lab results indicated that “standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. All laboratory quality control samples analyzed in conjunction with the samples in this project were within established control limits.”

Effluent Limits and Self-Monitoring Requirements

The following limits will be required for the outfalls:

Effluent Characteristic	Effluent Limitation		
	30-Day Average <u>a/</u>	7-Day Average <u>a/</u>	Daily Maximum <u>a/</u>
Total Suspended Solids (TSS)	30 mg/L	45 mg/L	NA
The concentration of oil and grease in any single sample shall not exceed 10 mg/L nor shall there be a visible sheen or floating oil in the discharge. <u>b/</u>			
The pH of the discharge shall not be less than 6.5 or greater than 9.0 at any time.			

a/ See Definitions, Part 1.1, for definition of terms.

b/ In the event that an oil sheen or floating oil is observed in the discharge, a grab sample shall be immediately taken, analyzed and reported. In addition, corrective action shall be taken immediately to mitigate the discharge of oil and grease.

Discussion of Effluent Limitations

The limits for TSS are carried forward from the previous permit and are based on Colorado Regulations for Effluent Limitations (Colorado Regulation No. 62).

The limit for pH is carried forward from the previous permit and is based on water quality standards (WQS) for Segment 2a of the Lower South Platte River Basin. (Colorado Regulation No. 38)

The limit for oil and grease is based on best professional judgment (BPJ). Colorado’s regulations effluent limitations also include a 10mg/L limitation on oil and grease.

The limit for BOD₅ is not needed because water that is discharged is surface water that has percolated down into the area. No industrial activities are performed at the site.

Self-Monitoring Requirements - Outfalls 001, 002, 003, 004, 005, 006, 007, and 008. At a minimum, upon the effective date of this permit, the following constituents shall be monitored at the frequency and with the type of measurement indicated; samples or measurements shall be representative of the volume and nature of the monitored discharge. If no discharge occurs during the entire monitoring period, it shall be stated on the Discharge Monitoring Report Form (EPA No. 3320-1) that no discharge or overflow occurred.

Effluent Characteristic	Frequency	Sample Type <u>a/</u>
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Flow, g.p.y., <u>b/</u> (total annual flow)	<u>b/</u>	<u>b/</u>
Total Suspended Solids, mg/L	1/year	Grab
pH, units	1/year	Grab
Oil and grease, visual <u>c/</u>	1/year	Visual <u>c/</u>

a/ See Definitions, Part 1.1, for definition of terms.

b/ The total volume of water discharged during the year shall be based on the reading of a flow meter and shall be reported in gallons. Flow measurements shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained. If there is no discharge, report “no discharge” on the DMR.

c/ If a visible sheen is detected, a grab sample shall be taken immediately and analyzed in accordance with the requirements of 40 CFR Part 136. The concentration of oil and grease shall not exceed 10 mg/L in any sample.

Reporting Requirements

The facility is required to report annually on a discharge monitoring report for all of the outfalls. If no discharge occurred during the reporting period, the report is to be marked “no discharge.”

A copy of the permit shall be kept at the F.E. Warren Air Force Base.

Duration of Permit

A five year permit is proposed

Prepared by: Qian Zhang

Reviewed by: Robert Shankland

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U.S. Environmental Protection Agency