

FACT SHEET

Groundwater Discharge Permit DP-873

February 2021

Facility Name: Cannon Air Force Base

Facility Location: 100 Air Commando Way
Cannon Air Force Base, NM
Sections 18, 19, 20, and 30, Township 02N, Range 35E and
Sections 12, 13, 24, and 25, Township 02N, Range 34E

County: Curry

Applicant/Permittee: Robert A. Masaitis, Colonel, USAF
Cannon Air Force Base
506 North Air Commando Way
Cannon AFB, NM 88103

Proposed Permitting Action: Discharge Permit Renewal and Modification

Regulatory Authority: Water Quality Control Commission's Ground and Surface
Water Protection Regulations, 20.6.2 NMAC

Issuing Agency: Ground Water Quality Bureau of the
New Mexico Environment Department

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The New Mexico Environment Department (NMED) provides this Fact Sheet to inform the public regarding NMED's proposed permitting action at Cannon Air Force Base (CAFB or Facility) to protect groundwater. Prior to issuing a permit, NMED is required by regulation to release a draft of the permit for public comment. NMED is also required to issue a Fact Sheet which serves two functions: 1) to facilitate public review of that draft permit; and 2) to provide a brief summary of the basis for draft permit conditions.

This Fact Sheet includes general information about CAFB, a description of NMED's permitting process to protect groundwater, a description of the wastewater discharged from the Facility

that could potentially impact groundwater, and a summary of the draft conditions in the groundwater discharge permit. NMED issues groundwater discharge permits in accordance with the State law, i.e., the New Mexico Water Quality Act, and State regulation, i.e., the Ground and Surface Water Protection Regulations.

Facility Background

The Facility is located at 100 Air Commando Way, approximately seven miles west of Clovis along Highway 60/84, in Sections 18, 19, 20, and 24, Township 02N, Range 35E and in Sections 12, 13, 24, 25, and 30, Township 02N, Range 34E, in Curry County.

CAFB is home to the 27th Special Operations Wing of the United States Air Force, which is assigned to the Air Force Special Operations Command. CAFB employs approximately 5,800 military and civilian personnel.

Regulatory Framework

The Ground and Surface Water Protection Regulations, 20.6.2 NMAC, establish the regulatory framework for controlling discharges onto or below the surface of the ground through the issuance of groundwater discharge permits. The purpose of the regulations pertaining to groundwater discharge permits, as stated in Section 20.6.2.3101 NMAC, is “to protect all ground water of the state of New Mexico which has an existing concentration of 10,000 mg/l or less of total dissolved solids, for present and potential future use as domestic and agricultural water supply, and to protect those segments of surface waters which are gaining because of ground water inflow, for uses designated” in the Standards for Interstate and Intrastate Surface Waters, 20.6.4 NMAC. (See the New Mexico Commission of Public Records website to view 20.6.2 and 20.6.4 NMAC: <http://www.srca.nm.gov/chapter-6-water-quality/>). The regulations establish the maximum allowable chemical concentrations in groundwater for specific contaminants, or groundwater protection standards, at Section 20.6.2.3103 NMAC.

Persons proposing to discharge effluent or leachate in such a manner that it could move directly or indirectly into groundwater must obtain and comply with a groundwater discharge permit (20.6.2.3104 NMAC). To obtain a groundwater discharge permit, an applicant must submit an application, or “discharge plan,” proposing methods/techniques to be used or processes expected to naturally occur to ensure that the discharge of water contaminants does not result in the contamination of groundwater (20.6.2.3106 NMAC).

In reviewing and approving an application, NMED must ensure that the resultant groundwater discharge permit will not result in a hazard to public health, undue risk to property, exceedance of the groundwater standards at any place of withdrawal of water for present or reasonably foreseeable future use, or violation of a stream standard (Subsections C and H of 20.6.3109 NMAC). “Hazard to public health” is defined in Section 20.6.2.7 NMAC and pertains to the exceedance of the groundwater standards in a current or potential drinking water supply.

Subsection B of 20.6.2.3109 NMAC directs the NMED Secretary to “approve, approve with conditions, or deny” a discharge permit application, after the administrative record is complete and all required information is available. This regulation authorizing permit approval “with conditions” provides the fundamental authority for NMED to issue groundwater discharge permits with conditions.

NMED’s Ground Water Quality Bureau (GWQB) is responsible for the issuance of the groundwater discharge permit (Discharge Permit or DP-873) to CAFB to control discharges from the Facility for the protection of groundwater for present and potential future use as domestic and agricultural water supply.

Discharge Permit History

NMED issued the original CAFB groundwater Discharge Permit (DP-873) on December 8, 1994, subsequently renewed the Permit on December 22, 2000, renewed and modified the Permit on January 30, 2009, amended the Permit on April 17, 2009, and last renewed and modified the Permit on March 31, 2014. The application (i.e., discharge plan) associated with this Discharge Permit consists of the materials submitted by the Permittee dated January 15, 2020 and materials contained in the administrative record prior to issuance of the draft Discharge Permit and this Fact Sheet.

The draft Discharge Permit addresses the renewal and modification of associated permit conditions. The permit modification consists of a change in the quality of the wastewater discharged from the WWTP due to the presence of perfluorinated chemicals, which NMED GWQB has regulated since December 2018.

Description of the Proposed Discharge

Described below are the activities that produce the discharge, the location of the discharge, and the quantity, quality and flow characteristics.

Categories of waste types addressed in the draft Discharge Permit include domestic and industrial wastewaters. Domestic and industrial wastewaters discharge to a mechanical wastewater treatment plant (WWTP) for wastewater treatment. Industrial wastewaters generated at CAFB include, but are not limited to, wastewaters from aircraft maintenance facilities, aircraft wash racks, aircraft corrosion control facilities, vehicle maintenance facilities, and combat arms facilities. Oil/water separators at select facilities that generate hydraulic oils process industrial wastes prior to discharging to the WWTP. Eleven facilities utilize grease trap/interceptors prior to discharging wastewater to the WWTP. Domestic wastewater, i.e., human waste, generated at CAFB include, but are not limited to, wastewaters from multi-family housing units, two Child Development Centers, and RV dump station for trailers.

The draft Discharge Permit proposes to authorize discharges to and from CAFB's wastewater treatment plant (WWTP). The WWTP is designed to receive and treat domestic and industrial wastewater at a volume of up to 1.5 million gallons per day (MGD). The draft Discharge Permit addresses the management of two synthetically lined impoundments, the Raw Wastewater Storage Basin and the Treated Wastewater Storage Basin, which temporarily store wastewater near the WWTP.

The draft Discharge Permit proposes to authorize the discharge of Class 1B reclaimed and treated wastewater, the second highest category of reclaimed wastewater with a quality suitable for uses in which public exposure is likely but excludes direct human consumption, from the WWTP at a volume up to 900,000 gallons per day (gpd) to the Treated Wastewater Storage Basin, to the Golf Course Impoundment, and to the North Playa Lake for disposal by evaporation. From the Golf Course Impoundment, reclaimed wastewater is land applied by sprinkler irrigation to 108 acres of golf course turf, 7.5 acres of golf driving range turf, 1.5 acres of softball fields, and a 0.17-acre dog park (i.e., re-use areas). The Facility uses reclaimed wastewater on a temporary basis for dust control and construction purposes. In addition, the draft Discharge Permit address the management of fourteen septic tank/leachfield systems and two holding tanks which receive and treat domestic wastewater from buildings at CAFB that are not connected to the WWTP.

Basis for Draft Permit Conditions

The conditions in this draft Discharge Permit are organized into the following Sections: Operational Plan, Monitoring and Reporting, Additional Studies Required, Contingency Plan, Closure Plan, and General Terms and Conditions. The draft Discharge Permit conditions conform to the requirements of the regulations and are generally consistent with similar conditions in other groundwater discharge permits issued by NMED.

1. Operational Plan Conditions (pages 4-12 in the draft Permit)

Conditions in this Section require the Permittee to properly operate and maintain the treatment, re-use, and disposal systems; to restrict access to the system so that unauthorized persons can neither damage the system nor be exposed to unsafe conditions; and to post appropriate advisory signs at the facility or discharge locations. The conditions are tailored to the type of discharge system.

This draft Discharge Permit contains standard operating conditions for discharge systems that include a mechanical treatment plant, impoundments, subsurface tanks, leachfields, and a reclaimed wastewater re-use system. The conditions associated with the WWTP include requirements to maintain fences and signs, to manage all solids generated by the WWTP to maintain effective operation of the system, to remove solids as necessary and in accordance with associated manufacturer's specifications, and to utilize certified operators at the appropriate level to operate the system. The conditions associated with the impoundments include requirements to appropriately maintain the synthetic impoundment liners, to maintain a specific freeboard limits within impoundments to prevent overtopping, to measure the thickness of

settled solids within impoundments and to remove those solids in accordance with all local, state, and federal regulations if storage capacity is diminished to a specific limit. The conditions associated with the subsurface septic tanks and leachfields include requirements to inspect the area above the leachfields to ensure proper maintenance, to inspect the septic tanks for the accumulation of scum and solids, and to remove those solids in accordance with all local, state, and federal regulations if storage capacity is diminished to a specific limit. The conditions associated with the reclaimed wastewater re-use system include requirements to apply reclaimed wastewater evenly throughout the re-use area such that the volume of total nitrogen applied does not exceed 200 pounds per acre in any rolling 12 month period, to follow general requirements for above-ground use of reclaimed wastewater, to meet setback requirements, access restrictions and equipment requirements for spray irrigation using Class 1B reclaimed wastewater, to meet general requirements for the temporary above-ground use of reclaimed wastewater, and to institute a backflow prevention method to protect wells and public water supplies from contamination by reclaimed wastewater. Proper operation and maintenance of the discharge system is critical for the Discharge Permit to achieve the performance criteria established in Subsection C of 20.6.2.3109 NMAC.

This draft permit establishes the following discharge limitations: 10 mg/L for total nitrogen, 63 CFU/100 mL 30-day average and 126 CFU/100 mL maximum for E. coli bacteria, 30 mg/L 30-day average and 45 mg/L maximum for biological oxygen demand (BOD₅), 30 mg/L 30-day average and 45 mg/L maximum for total suspended solids (TSS), and to monitor total residual chlorine (TRC).

2. Monitoring and Reporting Conditions (pages 12-25 in the draft Permit)

Conditions in this Section require the Permittee to monitor and report on various aspects of the discharge system in order to verify that operations are within the Discharge Permit limits and that the Discharge Permit is achieving the expected results. Subsection A of 20.6.2.3107 NMAC authorizes monitoring and reporting requirements. Approval of the draft Discharge Permit will not proceed without provision for flow measurement and sampling, pursuant to Subsection H of 20.6.2.3109 NMAC.

The draft Discharge Permit requires the submittal of quarterly monitoring reports that contain the following items: analytical results of sampling effluent and groundwater, discharge volumes, records of solids, oil, and grease disposal, land application data sheets, fertilizer logs, and groundwater potentiometric surface contour maps.

This Section requires the measurement of monthly WWTP influent volumes, monthly volumes of wastewater discharged to the North Playa Lake, to the Golf Course Impoundment, to the driving range, to the softball fields, and to the dog park, monthly volumes of wastewater conveyed from the synthetically lined storage impoundment or the stand-pipe for temporary use, and quarterly volumes discharged to the septic tank/leachfield systems.

This Section requires the Permittee to sample reclaimed wastewater for the presence of three perfluorinated chemicals (PFHxS, PFOS, and PFOA) on a monthly basis due to their documented presence at the Facility. When analytical results from three consecutive months of wastewater sampling do not exceed the EPA Human Health Advisory limit, the Permittee is authorized to conduct the required sampling on a quarterly monitoring frequency. This Section requires the Permittee sample reclaimed wastewater for total Kjeldahl nitrogen (TKN), nitrate as nitrogen, total dissolved solids (TDS), and chloride on a quarterly basis. During any week that the discharge of reclaimed wastewater occurs, the Permittee shall sample the reclaimed wastewater for E. coli bacteria, BOD₅, TSS, and TRC. On an annual basis, the Permittee shall sample four septic tanks (rotating among the fourteen systems) for TKN. On an annual basis, the Permittee shall sample the reclaimed wastewater for inorganic and organic constituents due to the industrial inputs to the WWTP.

The draft Discharge Permit requires monitoring groundwater downgradient of the following potential contaminant sources: raw and treated wastewater storage impoundments, the North Playa Lake, the Golf Course Impoundment, the golf course, and the former sewage lagoons. This Section requires the Permittee once during the first year of the Discharge Permit term to evaluate the groundwater in twelve monitoring wells for the constituents listed in Section 20.6.2.3103 NMAC and all toxic pollutants listed in the definitions of 20.6.2.7 NMAC. On a semi-annual basis, the Permittee shall sample the same twelve monitoring wells for TKN, nitrate as nitrogen, TDS, chloride, PFHxS, PFOS, and PFOA. The Permittee shall sample the monitoring wells for these constituents due to their use of reclaimed wastewater at the Facility and the known presence of perfluorinated chemicals at the Facility and in the groundwater.

The draft Discharge Permit requires the installation of four new groundwater monitoring wells to better monitor existing components of the wastewater discharge system. One monitoring well shall be installed downgradient of the North Playa Lake to replace an improperly located well. One monitoring well shall be installed downgradient of the Golf Course Impoundment to monitor the integrity of the liner. One monitoring well shall be installed downgradient of the golf course to ensure reclaimed wastewater at the golf course is utilized in a manner consistent with the conditions in the Discharge Permit. One monitoring well shall be installed downgradient of the Raw Wastewater Storage Basin in order to monitor that impoundment system.

3. Additional Studies Required (page 25 in the draft Permit)

This Section requires the Permittee to submit for NMED approval a workplan to evaluate soils in re-use areas, former sewage lagoons, the WWTP, and surrounding the North Playa Lake for the presence of perfluorinated chemicals. The Permittee's 2018 Site Investigation Report and 2020 Groundwater Discharge Permit Application document the presence of perfluorinated chemicals at the Facility and in the reclaimed wastewater.

4. Contingency Plan Conditions (pages 25-33 in the draft Permit)

This Section requires the Permittee implement specified actions, or to propose corrective actions for NMED's approval, in the case of failure of any aspect of the discharge system. The conditions, which reflect standard language used in other industrial and domestic discharge permits, address the exceedance of groundwater standards, exceedance of contaminant discharge limits, damage to impoundment liners, lack of required freeboard in impoundments, leachfield failure, and monitoring well deficiencies (e.g., improper construction, improper location for monitoring the intended source, insufficient water for sampling). If any of the conditions listed in the Contingency Plan (Section D of the draft Permit) occur, the Permittee shall submit a Corrective Action Plan resolving the issue to NMED for approval. Contingency plans are authorized by Subsection A(10) of 20.6.2.3107 NMAC. This Section also requires the Permittee to report and address unauthorized discharges in accordance with 20.6.2.1203 NMAC.

The draft Discharge Permit contains a specific contingency condition in the event that analytical results of a reclaimed wastewater sample indicate an exceedance of the Tap Water Screening Level identified in Table A-1 of the most current *NMED Risk Assessment Guidance for Site Assessments and Investigations* for perfluorinated chemicals for three consecutive sampling events. If this occurs, this Section requires the Permittee submit a proposed Corrective Action Plan resolving the discharge issue to NMED's satisfaction.

5. Closure Conditions (pages 33-39 in the draft Permit)

This draft Discharge Permit Section contains specific closure conditions requiring the submission of a detailed plan for complete closure, a detailed and complete closure cost estimate for financial assurance purposes, and a proposed financial assurance instrument(s) in accordance with Subsection A(11) of 20.6.2.3107 NMAC.

This Section prescribes measures and timeframes for closing part, or all, of the Facility so that discharges can no longer occur and so that the exceedance of groundwater standards does not occur after the cessation of the operation. NMED understands that the Permittee does not plan to close the Facility during the term of this Discharge Permit, however all discharge permits include general closure conditions. Closure requirements are authorized by Subsection A(11) of 20.6.2.3107 NMAC, which also stipulates that closure requirements survive the termination or expiration of the Discharge Permit.

Groundwater monitoring is required after a discharge ceases. This period after "closure" is commonly referred to as "post-closure" and generally continues until a minimum of eight consecutive quarters of groundwater sampling and analysis confirm no exceedance of standards. This two-year period allows for the potential movement of contaminants through the vadose zone and is consistent with the time period established in remediation programs for demonstrating that remediation is complete, e.g., 20.6.2.4103 NMAC (abatement plans) and 20.5.119.1929 NMAC (petroleum storage tank systems).

6. General Terms and Conditions (pages 39-44 in the draft Permit)

This Section's general terms and conditions are standard conditions in all discharge permits.

This Section requires the Permittee to maintain certain records and provide them if requested to NMED, as authorized by Subsections A and D of 20.6.2.3107 NMAC. The Permittee is required to notify NMED of proposed changes to the volume, location, or character of the discharge, as this may require a "discharge permit modification" as defined in Subsection D of 20.6.2.7 NMAC and is consistent with the notification requirement in Subsection C of 20.6.2.3107 NMAC.

This Section identifies the Permittee's obligations, pursuant to the Ground and Surface Water Protection Regulations, regarding the transfer of the discharge permit, permit fees, and submittal of construction plans and specifications. The Section also cites New Mexico Water Quality Act provisions allowing for inspections, civil and criminal penalties, and the duty to comply with other laws.

Comment Period / Request for Hearing

NMED will allow at least thirty days during which time the public or the Facility may submit written comments and request a public hearing regarding the draft Discharge Permit. NMED will allow for these activities after publishing notice of the availability of this draft Discharge Permit and Fact Sheet. Requests for public hearing shall be in writing and shall set forth the reasons why a hearing should be held. NMED will hold a hearing if the NMED Secretary determines that there is substantial public interest. To obtain a copy of the draft Discharge Permit, submit a comment, or request a hearing on this matter, contact the GWQB Contact listed at the beginning of this Fact Sheet.