



TREATED PRODUCED WATER PILOT PROJECT GUIDANCE:

January 30, 2023

The New Mexico Environment Department (NMED) Groundwater Quality Bureau (GWQB) has developed the Treated Produced Water Pilot Project Guidance (guidance) to be utilized in tandem with the New Mexico Produced Water Research Consortium's (NMPWRC) Guidance on Produced Water Treatment Research, Development, and Pilot-Scale Demonstrations Testing and Evaluation (NMPWRC Guidance). The purpose of the guidance is to ensure that pilot projects researching the potential use of treated produced water outside of the oil and gas sector, as identified by jurisdiction matrix table in Section 1.3, operate in a manner that is protective of ground and surface water quality, human health, and the environment. NMED intends this guidance to provide direction for any person or entity seeking a "No Discharge Permit Required" determination associated with treated produced water pilot projects. NMED technical staff will utilize this guidance to ensure consistency in the technical review process. NMED will also make this guidance document available to the regulated community and other interested parties.

SECTION 1: NMED PILOT PROJECT REGULATORY PROCESS

Section 1.1 – Definition Section:

This guidance document uses the following definitions:

Discharge Permit: a discharge permit issued by NMED based upon a proposed discharge plan.

Dwelling Unit: a structure which contains bedrooms.

Establishment: a structure used as a place of business, education, or assembly.

Groundwater: interstitial water which occurs in saturated earth material, and which is capable of entering a well in sufficient amount to be utilized as water supply.

Occupied Establishment: any establishment occupied regularly at the time of discharge.

Person: an individual or any other entity including partnerships, corporation, associations, responsible business or association agents or officers, the state or a political subdivision of the state or any agency, department, or instrumentality of the United States and any of its officers, agents, or employees.

Pilot Project: bench-scale, pilot-scale, and field-scale research, development, and demonstration projects of cost-effective treatment and discharge of produced water for different fit-for-purpose applications outside the oil and gas sector.

Produced Water: a fluid that is an incidental byproduct from drilling for or the production of oil and gas.

Treated Produced Water: produced water reconditioned by mechanical or chemical processes for the intended purpose of reuse.

Water Contaminant: any substance that could alter if discharged or spilled the physical, chemical, biological or radiological qualities of water; "water contaminant" does not mean source, special nuclear or by-product material as defined by the Atomic Energy Act of 1954.

Water Pollution: means introducing or permitting the introduction into water, either directly or indirectly, of one or more water contaminants in such quantity and of such duration as may with reasonable probability injure human health, animal or plant life or property, or to unreasonably interfere with the public welfare or the use of property.

SECTION 1.2 - PURPOSE

The New Mexico Produced Water Act, HB 546, established that the Water Quality Control Commission (WQCC) has the authority to regulate the treatment, use, discharge, storage, transportation and handling of produced water for activities unrelated to oil and gas production. The utilization of treated produced water for certain uses could reduce the demand on limited groundwater resources in the state. Pilot project research is essential to provide data for the development of protective permitting regulations for the treatment and subsequent use of treated produced water, as HB 546 requires.

This guidance allows for carefully controlled, small-scale, non-discharging pilot projects and is an interim step to regulation development. This guidance is subject to revision and modification by NMED at any time. Proposed research pilot projects will be subject to this guidance and any additional criteria NMED deems necessary to prevent effluent or leachate from moving directly or indirectly into ground and surface water. Treated produced water has the potential to contain water contaminants and to cause water pollution and is considered to be effluent or leachate.

NMED will not consider any pilot projects that propose to discharge untreated produced water to ground and surface water.

Until produced water specific regulations are promulgated, NMED will not consider any pilot projects that propose to discharge treated produced water to ground or surface water.

NMED will evaluate each pilot project proposal individually for compliance with the New Mexico Water Quality Act and the WQCC Ground and Surface Water Protection Regulations found at 20.6.2 NMAC and the Standards For Interstate And Intrastate Surface Waters found at 20.6.4 NMAC. Each pilot project is also required to submit proposed projects to the New Mexico Produced Water Research Consortium (NMPWRC) and any relevant regulatory authorities for review. All proposed pilot projects must submit analytical results of produced water and treated produced water to the NMPWRC Water Data Portal.

The GWQB currently regulates discharges of water contaminants that may affect ground or surface water directly or indirectly under existing discharge permitting regulations, in accordance with 20.6.2.1201-20.6.2.1202 and 20.6.2.3000-20.6.2.3999 NMAC. Therefore, NMED requires all persons proposing a produced water pilot project to complete and submit a Produced Water Notice of Intent (PW-NOI) in accordance with 20.6.2.1201 NMAC to NMED for review and response before the commencement of any pilot project. Persons must also provide along with the PW NOI submittal the Pilot Planning Document and Pilot Demonstration Test Plan required under NMPWRC Guidance for all Produced Water pilot projects. During the review process NMED may request additional information from the person submitting the PW-NOI.

NMED will review the PW-NOI, request additional information if needed, and if necessary schedule a meeting (virtual or in person) with the applicant. NMED will then respond with one of two determinations:

1. A letter stating that NMED will not require a Discharge Permit based on information submitted and that NMED has determined the project will not cause effluent or leachate to move directly or indirectly into ground or surface water.
2. A letter stating that the pilot project, as proposed, would require a Discharge Permit based on the information submitted, and NMED has determined the pilot project would cause effluent or leachate to move directly or indirectly into ground or surface water. At this time, NMED will not consider pilot projects that propose the discharge of treated produced water.

NMED will make decisions based on the criteria summarized in the next section of this guidance document. NMED may use information from other sources including information identified by other entities, additional information from other agencies, or other criteria not listed in this guidance document to make determinations. Alternative sources of information can include scientific journal articles published in peer reviewed journals, reports and white papers distributed by state and federal regulatory agencies, technical documents from equipment manufacturers and other technology driven industries. Additional information provided to NMED or relied upon by NMED for pilot project determinations must be supported by credible scientific evidence and data and can include other evidence appropriate under the Water Quality Act.

Section 1.3 – “No DP Required” Determination

In conjunction with the OCD, NMED will review all pilot projects and their locations to clarify jurisdiction. Jurisdiction of the pilot project will be determined using Table 1.

Table 1: Jurisdiction based on Pilot Project Location and/or Treated Produced Water End Use

		Pilot Project LOCATION	
		On Permitted O&G Facilities	Other Location (not O&G)
Treated Produced Water END USE	Uses related to O&G Production	OCD only	OCD & NMED
	Other Uses, Not related to O&G Production	OCD & NMED	NMED only

Pilot projects determined to be under NMED’s jurisdiction and that are being conducted in a manner that does not have the potential or is not likely to adversely impact ground or surface water will be issued a No Discharge Permit (DP) Required letter. NMED makes this determination on a case-by-case basis, but in general, NMED will evaluate the adequacy of the information submitted in the PW-NOI and will utilize the following criteria in order to issue a “No DP Required” determination:

1. Pilot projects must be conducted in a closed loop system and cannot propose to discharge treated or untreated produced water.
2. A pilot project must include appropriate contact and emergency response signage in the appropriate languages for the location.

3. A pilot project cannot be located within:
 1. 1000 feet of a dwelling unit or occupied establishment.
 2. a 100-year floodplain.
 3. 300 feet of a continuously flowing watercourse or irrigation ditch or 200 feet of any other watercourse, lakebed, or sinkhole.
 4. 300 feet of a spring, or an existing fresh water well used for domestic or stock watering purposes.
 5. 300 feet of a wetland or playa.
4. Proposed pilot projects must be located at sites where:
 1. depth to groundwater is greater than 300 feet
 2. direction of groundwater flow is known,
 3. groundwater quality is characterized,
 4. there are no karst features,
 5. soils are well characterized.
5. A person proposing a pilot project must consult with the appropriate regulatory, governmental, and non-governmental agencies, including municipalities or counties, and the NMED Air Quality Bureau.
6. Pilot projects must include secondary containment that is:
 1. above ground,
 2. fully inspectable,
 3. constructed of materials compatible with produced water,
 4. able to contain 1.5 times the total volume of the closed loop system.
 5. inclusive of all critical points in the treatment process.
 6. designed and approved by a New Mexico licensed Professional Engineer (P.E.)
 7. constructed and installed by a licensed professional.
7. Pilot projects must include a Site Security Plan that prevents unauthorized entry. Trained personnel must be on site at all times when a treated produced water pilot project is in operation.
8. A pilot project must include a transportation plan if the pilot project includes bringing produced water or treated produced water to the location or taking it away from the location. All facility personnel must be appropriately trained in all aspects of safety and materials handling and transportation.
9. A pilot project must dispose of all produced water or treated produced water, and permeate or brine concentrate, in a saltwater disposal (SWD) well.
10. A pilot project must employ the New Mexico Produced Water Research Consortium (PWRC) guidance document for the sampling of treated and untreated produced water, or a comparable EPA Produced Water Sampling protocol.

If GWQB issues a “No DP Required” letter, the produced water pilot project may commence as described in the submitted PW-NOI and in accordance with any conditions imposed in the “No DP Required” letter. If any of the information submitted in the PW-NOI changes or if the proposed pilot project changes in any way, the person who submitted the PW-NOI must revise the PW-NOI and re-submit it to NMED for review and determination.

Section 1.4 – “DP Required” Determination

NMED will make a “DP Required” determination if a pilot project has the potential to cause effluent or leachate to move directly or indirectly into ground or surface water. NMED is not considering any pilot projects that would require a discharge permit until produced water specific regulations are promulgated.

NMED will work with persons submitting the PW-NOI and will provide the opportunity to adjust or modify their pilot project plans and resubmit their associated PW-NOI to NMED.

At this time no discharge permits will be approved for produced water or treated produced water.