STATE OF NEW MEXICO
BEFORE THE WATER QUALITY CONTROL COMMISSION

IN THE MATTER OF PROPOSED RULE
20.6.8 NMAC – Ground and Surface Water Protection –
Supplemental Requirements for Water Reuse

No. WQCC 23-84 (R)

NEW MEXICO ENVIRONMENT DEPARTMENT
WATER PROTECTION DIVISION,
Petitioner.

ORDER AND STATEMENT OF REASONS

This matter comes before the New Mexico Water Quality Control Commission ("Commission" or "WQCC") upon a Petition filed on December 27, 2023, and an Amended Petition (Petition) filed on March 20, 2024, by the New Mexico Environment Department Water Protection Division ("Department" or "NMED") to adopt a new rule, Part 8, in Title 20, Chapter 6 – Ground and Surface Water Protection—Supplemental Requirements for Water Reuse.

The Commission hearing was held in hybrid fashion, both in person in the State Capitol Building in Santa Fe, and on a virtual platform, Cisco Webex, on eleven days in 2024: May 13-17, August 5-9, and August 13, 2024. A quorum of the Commission was present throughout the hearing, which was conducted by Hearing Officer Felicia Orth.

The Commission heard technical testimony and received exhibits from the Department; Amigos Bravos and Sierra Club (AB/SC); WildEarth Guardians (Guardians); the Center for Biological Diversity (Center); New Energy Economy (NEE); the New Mexico Oil and Gas Association (NMOGA); Select Water Solutions (SWS); individuals Samuel Sage, Daniel Tso, and Mario Atencio (Frontline Community Members); and individuals Mike Hightower and Nicholas Maxwell.

At the hearing, all interested persons were given a reasonable opportunity to submit data, views or arguments orally and in writing and to examine witnesses testifying at the hearing. The Commission received many public comments, verbally and in writing.

On April 8-9, and May 13-14, 2025, the Commission deliberated and voted to adopt the Rule as modified from the Petition for the reasons that follow:

FINDINGS OF FACT

I. THE RULE IN GENERAL

1. The New Mexico Commission adopted the Ground and Surface Water Protection Regulations found in 20.6.2 NMAC in 1977. Since that time, the Commission has adopted supplemental regulations to 20.6.2 NMAC, including changes intended to conform to amendments in the Water Quality Act (WQA). 20.6.2 NMAC, 20.6.6 NMAC, 20.6.7 NMAC.
2. In 2019, the WQA was amended by the Produced Water Act (PWA) to add Subsection P, directing that the Commission "shall adopt regulations to be administered by the department of environment for the discharge, handling, transport, storage, recycling or treatment for the disposition of treated produced water, including disposition in road construction maintenance, roadway ice or dust control or other construction, or in the application of treated produced water to land, for activities unrelated to the exploration, drilling, production, treatment or refinement of oil or gas." NMSA, 1978, Section 74- 6-4(P) (2019).
3. Because the Department has over ninety-five (95) Discharge Permits that involve some level of treated wastewater reuse, the vast majority of which are utilizing treated domestic wastewater, and the PWA and WQA require development of regulations for handling, transportation and use of treated Produced Water, the Department petitioned the Commission for the Rule to fulfill

the need for supplemental regulations specific to all types of reuse and applications. NMED Ex. 2, p. 10 (lns. 9-33), NMED Ex. 45.

4. The objective of the proposed rule (Rule) is to supplement the state's *Ground and Surface Water Protection* regulations at 20.6.2 NMAC, and the state's *Standards for Interstate and Intrastate Surface Waters* at 20.6.4 NMAC. NMED Exhibit 2, Fullam Direct Testimony, p. 22 (lns. 12-15).

5. The purpose of the Rule is to regulate the reuse of water to prevent the movement of contaminants into groundwater or surface waters of the state.

6. The Rule creates a framework in which applied science and engineering is incorporated through protective mechanisms under a public process in order to protect water quality. NMED Exhibit 2, Fullam Direct Testimony, p. 11 (lns. 20-22).

7. The Rule provides definitions for some terms that permits issued by the Bureau can reference in a consistent manner. Id., p. 13 (lns. 1-3).

8. The Rule will reduce complexity and confusion for permittees and provide consistency in regulatory oversight. Id., (lns. 3-4).

9. The Rule will provide a structural framework which the Commission can build upon in future rulemakings. Id., (lns. 4-6).

10. The need and application of water reuse in New Mexico is critical and development of regulations is necessary both to facilitate reuse, and to avoid contamination of ground and surface water. Id., (lns. 6-7).

11. This regulatory framework will aid the Commission, the public and the Department in developing future rules and best practices as wastewater reuse becomes more technically and economically feasible. Id., (lns. 7-8).

12. Having a framework in place will enable the regulated community to plan future reuse projects with increased certainty. Id., (lns. 8-9).

13. Developing the regulatory structure will reduce complexity and confusion while aiding regulatory implementation. NMED Exhibit 2, Fullam Direct Testimony, p. 13 (lns. 9-10).

14. The Rule will provide for development of a mechanism for feasibility studies involving indirect potable reuse and direct potable reuse. Id., (lns. 11-12).

15. As advancing technology makes indirect and direct potable reuse projects increasingly feasible, the Rule will allow for continued growth and study in determining the suitability of these types of reuse in New Mexico. Id., (lns. 12-14).

16. The evidence gained from pilot projects and feasibility studies is critical to determine whether wastewater reuse will be a viable option for New Mexico communities, and what constraints, protections, and applications are appropriate. Id., (lns. 14-17).

17. The Rule will allow for the development of a regulatory mechanism protective of ground and surface waters that promotes continued produced water characterization and treatment technologies. Id., (lns. 19-20).

18. Data is critical for determining source characterization, appropriate and viable treatment methodologies, management of secondary waste streams, and finding viable applications for the use or disposal of treated produced water. Id., (lns. 20-23).

19. Insufficient evidence exists at this time to ensure that discharges of untreated or treated produced water are protective of human health or the environment. NMED Exhibit 2, Fullam Direct Testimony, p. 14 (lns. 1-2).

20. Additional research is necessary to determine which treatments and applications, if any, can demonstrate a reliable treatment to allow for the discharge and reuse of produced water that is sufficiently protective of human health and the environment. Id., (lns. 3-4).

21. At the present time, there is insufficient scientific support for the proposition that any discharges of treated or untreated produced water would be protective of ground or surface water. Exhibit 6, Lucas Kamat Direct Testimony, p. 10 (lns. 5-8).

22. An industrial application of treated produced water would not be approvable under the Rule because the evidence for protection of ground and surface water has not been demonstrated in the evidence presented to the Commission. Id. (lns. 21-23) and Exhibit 176, p. 16 (ln 1).

23. The Rule is necessary to ensure protection of ground and surface water by clarifying the alignment between the PWA, to obtain a pilot project permit for uses of produced water; and the WQA, to protect and enhance water quality. Id., p. 6 (lns. 11-14).

24. The Rule provides a regulatory path for the handling, transport, storage and treatment of treated produced water in limited, controlled, safe, closed loop, pilot projects. NMED Exhibit 177, Herman Rebuttal Testimony, p. 6. (lns. 12-13).

25. The Commission does not intend to permanently prohibit produced water treatment and reuse with this Rule; the Rule includes a sunset provision of December 31, 2030 based on industry's representations that the research being conducted will in the near future provide the scientific and engineering information necessary to determine appropriate applications and water quality standards for produced water reuse, and the Department's testimony as to the time needed to develop appropriate and relevant standards. May 13 video recording beginning at 3:30.

II. EARLIER VERSIONS OF THE RULE

26. The Department has a responsibility to ensure that rules being petitioned before the Commission are within the authority of the WQA. NMED Exhibit 176, Fullam Rebuttal Testimony, p. 16 (lns. 13-140).

27. The Department recognized that the Rule as initially petitioned created a regulatory loophole that was not protective nor practically implementable and a revised petition was submitted. Id., (lns. 14-17).

28. The prohibition on discharges of untreated or treated produced water to ground or surface water in the Department's revised proposed supplemental reuse rule (NMED Exhibit 175) are crucial to the protection of human health and the environment under the state's WQA. Id., p. 22 (lns. 16-18), which must be read as part of a harmonious whole with the PWA.

III. PUBLIC PARTICIPATION AND STAKEHOLDER ENGAGEMENT

29. Based on the outreach efforts and produced water industry focus of the Rule, the Department identified six representatives within the oil and gas industry, three representatives from non-government organizations, the New Mexico Produced Water Research Consortium, five tribal representatives, and the New Mexico Energy, Minerals and Natural Resource Department (EMNRD), to serve with the Department on the Produced Water Advisory Committee (PWAC) (NMED Ex. 47). NMED Ex. 2, Fullam Direct Testimony, p. 14 (lns. 13-18).

30. As part of the Department's efforts, the Department sent letters to Tribal leaders in September 2019 (NMED Exhibit 51). Id., p. 15-16.

31. On March 12, 2020, the Department, in coordination with EMNRD and the Office of the State Engineer (OSE) gave a presentation (NMED Exhibit 52) and held a listening session with Tribes to discuss proposed actions pertaining to the PWA, NMSA 1978 § 70- 13-1 et seq. (NMED Exhibit 19).

32. The Department's Tribal Liaison emailed 37 individuals representing 22 tribes and one tribal consortium (NMED Exhibit 53).

33. On March 13, 2024, the Department's Tribal Liaison notified tribes of the public hearing with information on how to participate. (NMED Exhibit 54).

34. As part of the rulemaking process, stakeholders were engaged at several steps prior to the hearing notice. NMED Exhibit 2, Fullam Direct Testimony, p. 16 (lns. 11-12).

35. The Department, EMNRD and the OSE, held several joint public presentations on Produced Water Management. NMED Exhibit 61.

36. Beginning November 1, 2023, the Department presented the draft rule for a 30-day public comment period (NMED Exhibit 49). NMED Exhibit 2, Fullam Direct Testimony, p. 17- 18.

37. Notification was provided in both English and Spanish via the Department's Public Notice website (NMED Exhibit 62); the Department's online public calendar (NMED Exhibit 63); email to 135 identified stakeholders; email to 3,359 subscribers to the Department's Ground Water Quality General News, Produced Water and Surface Water GovDelivery listserv (NMED Exhibit 64); and publication in the Albuquerque Journal on November 1, 2023 (NMED Exhibit 65).

38. The public comment notice was also picked up by other media sources such as the Los Alamos Daily Post on November 5, 2023 (NMED Exhibit 66); the U.S. Environmental Protection Agencies Water Reuse website (NMED Exhibit 67); and the Carlsbad Current Argus dated

November 12, 2023, (NMED Exhibit 68). The Department also solicited comments through the Department's public comment portal (NMED Exhibit 69).

39. The Department engaged with stakeholders, tribes, and the public over five years using a variety of platforms at various stages of rulemaking development to ensure the Department provided ample communication and opportunities for input, particularly as it pertained to the restricted use of produced water. The Department then considered all input. NMED Exhibit 2, Fullam Direct Testimony, pp. 20-22; NMED Ex. 176.

IV. HOW RULEMAKING REQUIREMENTS WERE MET

40. The Department published the public hearing notice in the State Register on March 12, 2024, 62 days prior to the hearing (NMED Ex. 72); provided hearing notice to identified stakeholders via email on March 11, 2024, 63 days prior to the hearing (NMED Ex. 60); published the notice of the public hearing in the Albuquerque Journal (NMED Ex. 73) and the Santa Fe New Mexican (NMED Ex. 74) on March 12, 2024, 62 days prior to the hearing. NMED Ex. 2, pp.19-20.

41. The Department provided notification to each of the five District Managers for the Department's field offices by GWQB's Bureau Chief, Justin Ball, on March 11, 2024, (NMED Ex. 75); notice of the hearing was posted on the Department's Water Reuse website page (NMED Ex. 76) on March 8, 2024; notification was distributed to the Surface Water Quality Bureau, the Ground Water Quality Bureau and the Produced Water's listserv subscribers on March 12, 2024, (NMED Ex. 77); notification was posted on the Sunshine Portal on March 13, 2024, (NMED Ex. 78); and notification was provided to the Legislative Council Service on March 13, 2024, (NMED Ex. 79).

42. The Department provided notification of the proposed amendments to the Small Business Regulatory Advisory Commission ("SBRAC") (NMED Ex. 80) on March 13, 2024. The Department met with SBRAC on April 2, 2024. NMED Ex. 2.

V. DEFINITIONS

43. Currently, the Ground Water Quality Bureau oversees approximately 407 active Ground Water Discharge Permits, regulated by the Pollution Prevention Section, approximately 95 of which include an authorization for effluent reuse ("reuse permits") (NMED Exhibit 45). NMED Exhibit 2, Fullam Direct Testimony, p. 10 (lns. 9-11).

44. The Rule defines reuse water as "a treated wastewater originating from domestic, industrial, or produced water sources, that has undergone a level of treatment appropriate for an application such as agriculture, irrigation, potable water supplies, aquifer recharge, industrial processes, or environmental restoration…." NMED Exhibit 175, 20.6.8.7(R)(4).

45. The state already has conditions for Ground Water Discharge Permits specific for reuse; the conditions are largely supported by the Department's 2007 Above Ground Use of Reclaimed Domestic Reuse Guidance (NMED Exhibit 44), which, for the most part, aligns with EPA's more recently updated 2012 Guidelines for Water Reuse (NMED Exhibit 83).

46. Because these guidelines are not codified, updates and implementation of these guidelines are only subject to public participation on a case-by-case basis when a draft Discharge Permit is made available for public comment. NMED Exhibit 176, Fullam Rebuttal Testimony, p. 4 (lns. 6-9).

47. Generally, the Commission chose to avoid including definitions for terms that are not used in the proposed Rule, are used only in another definition, or are defined in statute or other rules.

Defining unused terms is unnecessary, and makes the rule longer, more complex, and confusing. Unused terms lack meaningful context. In the event future rules are developed and proposed, the definitions can be added in that rulemaking, when the terms are used and their context is clear. AB/SC SOR 20-33, AB/SC Ex. 6-7, AB/SC Ex. 9-10, 12.

48. Generally, the Commission also chose to avoid including definitions for terms that are defined in statute, insofar as it is unnecessary where the definitions are identical and ineffective where there is any difference. Tr. Vol. II, pp. 96-97.

49. The term and definition of "direct potable reuse" (20.6.8.7(D)(3)) is adopted to differentiate between two potential potable reuse scenarios that the Department and many others refer to as direct and indirect potable reuse (NMED Exhibit 84 and NMED Exhibit 85). NMED Exhibit 3, Herman Direct Testimony, p. 18 (lns. 9-11). Consistent with common industry usage, the word 'application' is replaced with the word 'reuse.'

50. "Bench scale" projects or studies are deleted throughout the proposed Rule to eliminate department oversight of small laboratory projects. Tr. Vol II, pp. 65-83.

51. "Demonstration project" is deleted throughout the proposed Rule and replaced with "pilot project" because a demonstration project could be very small scale or very large scale; it is "pilot projects" that will assist in the development of design and performance criteria needed to construct full-scale systems for produced water treatment and reuse. Tr. Vol. II, pp. 84-85, 105-109, and May 14 video recording at 1:14-1:26, 1:51-2:10, 2:15-2:25.

52. The definition of "environmental buffer" (20.6.8.7(E)(1)) is adopted to delineate between projects that introduce highly purified wastewater directly into the drinking water distribution system versus projects that introduce highly purified wastewater into an aquifer, stream or lake with

subsequent recovery of the water for additional treatment and potable reuse. Tr. Vol. II, p. 94, NMED Exhibit 3, Herman Direct Testimony, p. 20 (lns. 8-12).

53. The term "injection" (20.6.8.7(I)(4)) is defined by reference to ensure continuity across all regulatory programs implementing the Ground and Surface Water Protection regulations, and to avoid confusion with other regulatory programs that are not administered by the department. NMED Exhibit 3, Herman Direct Testimony, p. 10 (lns. 10-15); Vol. II, pp. 49-62, 100-101.

54. The definition of "National Pollutant Discharge Elimination System" ("NPDES") (20.6.8.7(N)(1)) provides clarification, aids in implementation, and maintains consistency with other state and federal regulations. NPDES is referenced in the state's *Ground and Surface Water Regulations* (20.6.2 NMAC) (NMED Ex. 27), the state's *Standards for Interstate and Intrastate Surface Waters* (20.6.4 NMAC) (NMED Ex. 28), the statewide "Water Quality Management Plan/Continuing Planning Process" (SWQB 2020) (NMED Ex. 174), and SWQB guidance documents and standard operating procedures. NMED Ex. 6, Lucas Kamat Direct Testimony, p.6 (lns. 12-18). The proposed final sentence concerning implementation by EPA is deleted following the decision by the 2025 New Mexico legislature to transition to a state discharge permit system. Tr. Vol. II, pp. 103-104.

55. The definition for "NPDES Permit" (20.6.8.7(N)(3)) is adopted because it is used in this regulation, in the state's *Ground and Surface Water Regulations* (20.6.2 NMAC) (NMED Exhibit 27), the state's *Standards for Interstate and Intrastate Surface Waters* (20.6.4 NMAC) (NMED Ex. 28), the statewide "Water Quality Management Plan/Continuing Planning Process" (SWQB 2020) (NMED Exhibit 174), which includes the state's antidegradation policy

implementation procedure (Appendix A) and total maximum daily loads ("TMDLs") (Appendix B), and SWQB guidance documents and standard operating procedures. NMED Ex. 6, Lucas Kamat Direct Testimony, p.7 (lns. 16-23) and p. 8 (lns. 1-10). Tr. Vol. II, pp. 104-105.

56. The word "potable" is defined to clarify water that is suitable for human consumption must, at a minimum, meet applicable drinking water standards. AB/SC Ex. 6, Vol. II, pp. 109-110.

57. The term "pretreatment" includes consideration of a wastewater's source, treatment, quality, and use. The definition of "pretreatment" (20.6.8.7(P)(4)) is specific and provides sufficient clarity to implement the proposed regulation and will support the implementation of future regulations. Considering the physical, chemical, or biological processes, process changes, or other technologies used to treat produced water will allow the department to regulate the many aspects of treated produced water that are important to ensuring the protection of human health and the environment. NMED Exhibit 6, Lucas Kamat Direct Testimony, p. 9 (lns. 2-8). Vol. II, p. 110.

58. The definition of "produced water" in the proposed Rule is adjusted to align with the definition of produced water in the PWA. Vol. II, pp. 95-98.

59. The definition of "reclaimed wastewater" is adopted to clarify that the wastewater used in feasibility studies is domestic. Vol. II, pp. 11-112.

60. The definition of "reuse water" is adopted without the final parenthetical clause as unnecessary. AB/SC Ex. 6, Vol. II, pp. 113-114.

61. A definition for "treated wastewater" (20.6.8.7(T)(3)) is adopted because the term is used in a broad sense that includes all sources of wastewater and only differentiates itself from other wastewaters by its having undergone treatment. This compound definition provides the

necessary detail and complexity when considering the wide array of potentially regulated sources and discharges. NMED Ex. 3, Herman Direct Testimony, p. 12 (lns. 22-23) and pg. 13 (lns. 1-4). Vol. II, p. 121.

62. The proposed definition of "treatment" is expanded to refer to "transfer, storage, disposal, or distribution" for clarity and consistent word usage. Vol. II, pp. 122-127, Vol. III, pp. 6-7.

63. The definition for "untreated produced water" differentiates between treated and untreated produced water, to aid in implementation and maintain consistency when referencing untreated produced water. NMED Ex. 4, Murphy Direct Testimony, p. 5 (lns. 1-5). Vol. III, pp. 7-8.

64. "Untreated wastewater" (20.6.8.7(U)(2)) is often called influent at domestic wastewater treatment facilities and at advanced wastewater treatment facilities used for potable reuse applications. Including this definition will promote consistency in the regulation of these facilities. NMED Ex. 3, Herman Direct Testimony, p. 14 (lns. 17-19). Vol. III, pp. 7-8.

65. The proposed definition of "water pollutant" is adjusted to refer to the definition of that term in another Commission regulation, 20.6.4 NMAC. AB/SC SOR 81-82, Vol. III, pp. 11-13.

66. The proposed definition of "water pollution" is adjusted to refer to the statutory definition in the WQA. Vol. III, pp. 13-14.

67. The proposed definition of "wastewater" is adjusted for clarity and consistent word usage. Vol. III, pp. 14-15.

VI. COMMISSION AUTHORITY FOR PRODUCED WATER

68. The PWA (NMED Ex. 19) and the WQA, NMSA 1978, § 74-6- 4(P) (NMED Ex. 16) require the Water Quality Control Commission to adopt regulations to be administered by the Department for the discharge, handling, transport, storage, recycling, or treatment for the disposition of

treated produced water. NMED Ex. 176, p. 2.

69. The WQA states that the Commission shall adopt, promulgate, and publish regulations to prevent or abate water pollution in the state. NMSA 1978, 74-6-4 (2019).

70. Regulations adopted by the Commission must give weight to, among other elements, the degree of injury to or interference with health, welfare, environment and property, and federal water quality requirements. Id.

71. The WQA does not grant authority over water volumes, crop management, or soil water conservation. NMED Ex. 176, p. 23 (lns. 15-17).

72. The Department cannot regulate activities that it does not have jurisdiction over and cannot propose adoption of or implement regulations that conflict with or circumvent existing federal or state regulations. Herman Rebuttal Testimony, Ex. 177, p. 2 (ln 13-19).

73. Known and unknown constituents associated with produced water, whether they be naturally occurring or anthropogenic, are complex. Research to characterize the water is needed to determine if there are viable and effective treatment methodologies for reuse applications outside the oil and gas sector, that are protective of human health and the environment, and to determine what constituents are concentrated in the secondary waste streams. NMED Ex. 2, Fullam Direct Testimony, p. 6 (lns. 11-14).

74. The Rule is intended to provide protection for surface and ground water through pilot projects and indirect and direct potable reuse through feasibility studies, while fostering produced water and potable water research. Id., p. 44 (lns. 1-3).

75. Based on compiled testimony, insufficient evidence exists at this time to ensure that discharges of produced water (treated or otherwise) are protective of human health or the

environment. Id., p. 14 (lns. 1-2).

76. Additional research is necessary to determine which treatment technologies and applications, if any, are viable for the discharge and reuse of produced water. Id., (lns 3-4).

77. It is the Commission's duty and responsibility under the WQA (NMED Ex. 14) to ensure protection of the state's ground and surface water resources for the protection of human health and the environment. NMED Ex. 176, Fullam Rebuttal Testimony, p. 27 (lns. 21-23) and p. 28 (ln. 1).

78. The "General Provisions" section, 20.6.8.100 NMAC, is adopted with the deletion of the unnecessary parenthetical and final sentence. AB/SC SOR87, Vol. III, pp. 15-18.

79. Although the science used for determining appropriate applications for treated produced water is of value to New Mexico, the Commission was not provided information on the source waters, extraction methodologies, influent characterization, treatment technologies, effluent quality, or regulatory framework adopted by each of the states discussed in the New Mexico Produced Water Research Consortium's Report (NMPWRC Ex. 1).

80. The PWA, NMSA 1978, § 70-13-4(D), states that a permit from the Environment Department must be obtained for uses regulated by the Water Quality Control Commission before using untreated or treated produced water, or any byproduct of the produced water. This requirement must be read in harmony with the WQA, which requires such regulations to be adopted to prevent or abate water pollution and to which the regulations may specify a standard, based on credible scientific data and other evidence including the degree of injury to or interference with health, welfare, environment and property, and federal water quality requirements. NMED Ex. 176, Fullam Rebuttal Testimony, p. 6 (lns. 3-11).

81. Due to the complexity of produced water and remaining unknowns, at this time there is no scenario where a person could discharge treated produced water in a protective, predictable, and reliably safe manner that meets the requirement sof the WQA and the PWA. NMED Ex. 3, Herman Direct Testimony, Page 25 (lns. 9 - 13).

82. The prohibitions against discharges in the produced water reuse section are sufficient to protect human health and the environment as they relate to ground and surface water protection. NMED Ex. 177, Herman Rebuttal Testimony, p. 17 (lns. 16-18).

83. The existing permitting regulations and water quality standards for groundwater discharge permits are inadequate for the complex physical and chemical of produced water and were not developed over the past half century with the intention to regulate discharges of produced water. Id., p. 9 (lns. 15-16).

84. The inclusion of requirements or language in the Rule regarding hazardous waste determinations or waste exemption under state and federal statutes are outside the scope of the WQA and the PWA. NMED Ex. 177, Herman Rebuttal Testimony, p. 3 (lns. 11-16).

VII. POTABLE WATER REUSE

85. The best path forward for potable water reuse is to authorize communities that want to explore potable reuse to complete feasibility studies at their facilities. NMED Exhibit 3, Herman Direct Testimony, p. 23 (lns. 12-13).

86. Feasibility studies are meant to provide real-life implementation of technologies and operational systems to determine if a certain method or treatment option is the best option for the given situation. Id., p. 23 (lns. 13 - 15).

87. The definition for "direct potable reuse" (20.6.8.7(D)(3)) describes a process in which wastewater is highly purified in an advanced treatment facility prior to introduction into the potable water distribution system. Id., p. 18 (lns. 12-14).

88. The primary difference between direct and indirect potable reuse is that direct potable applications do not include an Environmental Buffer as a step in the treatment and conveyance path. Direct potable reuse requires additional protection, considerations for reliability, and added redundancy built into the advanced treatment process to ensure there is adequate protection of human health. Id., p.18 (lns. 15-18).

89. Proposed Section 20.6.8.201 NMAC, relating to Direct and Indirect Potable Applications, is adopted as proposed without adjustment. Vol. III, pp. 21-36.

VIII. PROHIBITION OF DISCHARGES TO GROUND WATER OR SURFACE WATERS

90. The Rule provides that any discharge of treated or untreated produced water directly or indirectly into groundwater is prohibited and that the department shall not approve a discharge permit plan or a discharge permit plan modification that includes the discharge of treated or untreated produced water. NMED Ex. 175, 20.6. 8.400(A). Vol. III, p. 54. [Support for the prohibition of discharges to ground or surface water was provided by several parties in addition to the Department and was relied upon by the Commission: see AB/SC Closing Argument and Proposed SOR pp. 1-24 and 59-97; Center, Guardians, and Frontline Community Members Joint Closing Argument, pp. 1-16; NEE Closing Argument and Proposed SOR pp. 1-10 and 35-37.]

91. The Department is the regulatory authority, pursuant to the PWA, for untreated produced water that is used outside of the oil and gas industry. Lucas Kamat Direct Testimony, Ex. 6, p. 11 (lns. 12-16). Vol. III, pp. 42-54.

92. Existing permitting and certifying regulations in 20.6.2 NMAC and water quality standards in 20.6.4 NMAC are insufficient to regulate discharges of treated produced water to be protective of public health and the environment given the unknowns and uncertainties with produced water quality and treatment technologies at this time. Id., (lns. 17-23); AB/SC SOR 94-98, 107-282; CGFCM Joint Closing Argument pp. 1-14; NEE Closing Argument pp. 1-10, 14-20, 32-38.

93. The Rule includes an explicit prohibition of discharges of treated produced water that may directly or indirectly move into surface water because the current permitting and certifying regulations do not address the variability of water quality associated with produced water sources, and the uncertain ability to treat produced water to reliably meet stringent water quality standards. Id.

94. Due to the lack of sufficient surface water quality standards, the Rule includes a prohibition on certification of any federal permit, including National Pollutant Discharge Elimination System (NPDES) permits, that propose to discharge treated produced water to a surface water (i.e., the Department will deny certification). Id., p. 12 (lns. 1-5).

95. The Rule prohibits the discharge of produced water through the Produced Water Reuse section of the proposed regulations (20.6.8.400).

96. The Rule provides a very narrow path for the safe use of produced water in limited, highly controlled situations for research purposes in subsection 20.6.8.400(B). NMED Ex. 180, Lucas Kamat Rebuttal Testimony, p. 13 (lns. 12-27).

97. Currently, there is no scenario where a person could discharge treated produced water in a way that meets the requirements of the WQA and PWA in a protective, predictable, and reliably

safe manner. NMED Ex. 6, Lucas Kamat Direct Testimony, p. 10 (lns. 5-8).

98. Surface water quality standards are based on the narrative and numeric criteria of designated uses of receiving streams. NMED Ex. 180, Lucas Kamat Rebuttal Testimony, p. 6 (ln 8-9).

99. States have the authority under their constitutions, supported by federal acts, to promulgate regulations that serve their needs as states. Id., p. 5 (lns.22-23) and p. 6 (lns. 1-3).

100. CWA Section 401 certification process includes provisions for New Mexico to ensure that surface water quality standards are protective of downstream designated uses, including those for tribes and other states. NMED Ex. 180, Lucas Kamat Rebuttal Testimony, p. 5 (ln 22- 23), p. 6 (ln 1-3).

101. The surface water quality standards in 20.6.4 NMAC (NMED Exhibit 28) must meet the criteria for the most stringent designated uses for a water body, not just the application for which the water is intended. Id., p. 9, (lns. 10-12).

102. For an NPDES permit to be issued, State certification under the CWA Section 401 must determine that the discharge does not cause degradation that will impair any designated uses for that waterbody. Id. (lns. 13-14).

103. Treated produced water discharges should not be allowed merely because its water quality meets irrigation standards as an intended application. Id. (lns. 14-16).

104. Discharge to a surface water of treated produced water that meets irrigation standards is not consistent with the WQA, NMSA 1978, § 74-6-4 (NMED Exhibit 16) where the Commission is required to adopt regulations and standards that at a minimum protect the public health or welfare, enhance the quality of water and prevent or abate water pollution. NMED Exhibit 180, Lucas Kamat Rebuttal Testimony, p. 9 (lns. 10-21).

105. The Rule closes an important loophole in the procedures for certification of federal NPDES permits (20.6.2.201 NMAC) which do not authorize the Department to deny a Section 401 certification of a federal NPDES permit on the basis of the source, quality or type of water being discharged. Id., p. 13 (lns. 18-21).

106. If the Rule were adopted without explicit prohibitions on discharge of treated or untreated produced water, or if no rule were adopted, this would endanger New Mexico's ground and surface waters. Id., p. 13 (lns. 21-22).

IX. AUTHORIZED PRODUCED WATER PILOT PROJECTS

107. The complexity of produced water is compounded by highly variable water quality influenced by geographic location, oil or gas reservoir type, geological history, type of hydrocarbon produced, well age, and extraction methodologies. NMED Exhibit 5, Hu Direct Testimony, p. 29 (lns. 17-19).

108. Given the significant variability in produced water characteristics across and within different regions, conducting higher resolution region-specific studies is imperative for characterizing produced water. Id., (lns. 19-22).

109. These studies are essential for obtaining a comprehensive understanding of the unique physical and chemical characteristics of produced water in each area. Id., p. 30 (lns. 1-2).

110. Authorized produced water pilot projects will not discharge in a manner that may directly or indirectly affect ground or surface water, thereby posing no risk to water quality. Pilot projects will be authorized only after demonstrating that there is no potential discharge. NMED Exhibit 179, Hu Rebuttal Testimony, p. 3 (lns. 4-7).

111. The implementation of the Department's proposed regulations is essential to support produced water pilot projects in the state and drive produced water treatment research, which will

inform the development and adoption of standards specific to treated produced water. Id., p. 7 (lns. 17-19).

112. Produced water is a complex and variable mixture containing numerous constituents, some of which are toxic at very low concentrations. Further studies are necessary to fully understand its composition and potential impacts, supporting the intent of the proposed rule. Id., p. 19 (lns. 15-18).

113. The Rule will ensure that research, data collection, and technology evaluations are done in a protective and valuable way. NMED Ex. 4, Murphy Direct Testimony, p. 26 (lns. 20-22)

114. Pilot projects as identified in the proposed regulations are the necessary method by which the Department will develop the information to write defensible, viable, and sound rules based on carefully collected, high quality data. Id., p. 27 (lns. 1-2).

115. There has been limited basic produced water quality data collected for the Department and even less data that includes characterizing all constituents in produced water and treated produced water. Id., p. 27 (lns. 3-5).

116. The Rule is intended to provide clarity and consistency in supporting pilot projects for treating produced water in New Mexico, that may supplement New Mexico's water resources, while protecting human health and the environment. Id., p. 28 (lns. 3-6).

117. Pilot projects may be allowed under a pilot project permit. 20.6.8.400.B NMAC. All pilot projects are subject to several requirements: they must comply with all local, state, and federal laws, certifications, and permits, pay all fees, and meet financial assurance requirements; they shall be designed to provide information about treatment, volumes, and the quality of treated produced water; and they should have procedures to prevent releases into and onto the

ground. Vol. II, pp. 36-54, pp. 61, 68-72.

118. Additional credible scientific data must be provided in a format the Department can use to develop regulations for the discharge of treated produced water in a manner that protects ground and surface water quality. Ex. 178, Murphy Rebuttal Testimony, p. 23 (lns. 20-23); p. 24 (lns. 1-2).

119. Treatment technologies for produced water are still in an early stage of development and are not yet ready for use in full scale systems, McCurdy testimony, 8/8/24 Tr. 208:20 to 209:19 and 8/9/24 Tr. 53:23 to 54:17.

120. This Rule will support continued research through produced water pilot projects under the oversight and guidance of the Department and the NM Produced Water Consortium. NMED Ex. 178, Murphy Rebuttal Testimony, p. 24 (lns. 1-2).

121. To date, there is limited data concerning the physical and chemical characteristics of raw and treated produced water, treatment methodologies, effluent quality, and the management of treatment waste streams. Given the variability and unknowns, allowing the discharge of treated or untreated produced water into the environment is premature and cannot currently be done in a way that complies with the WQA. Ex. 5, Hu Direct Testimony, p. 30 (lns. 11-18).

122. There is limited data and experience for confirming the ability of produced water treatment systems to reliably meet ground and surface water quality standards for produced water discharge in New Mexico, and are sufficiently protective of human health and the environment. Ex. 179, Hu Rebuttal Testimony, p. 5 (lns. 12-16).

123. The limited availability of produced water quality data and information on technologies to treat produced water increases the uncertainty to a level that presently makes development

of regulations for the discharge of treated produced water infeasible. Id., p. 25-26; NMED Ex. 178, Murphy Rebuttal Testimony, p. 11 (lns. 1-3).

124. Most of New Mexico's water resources serve rural and underserved communities, and permitting discharges, without well-developed methodologies that reliably treat produced water to a high quality, and protective applications to ensure protection of ground and surface waters, would be contrary to the WQA, NMSA 1978, 74-6-1 et seq. (NMED Ex. 14). Id., p. 15 (lns. 5-8).

X. PRODUCED WATER PILOT PROJECT PERMITS

125. The Rule supports continued pilot projects through a produced water pilot project permit process. 20.6.8.400(C). A term of five years is set for each permit to avoid ambiguity in the event the Rule sunsets.

126. The permit process is the vehicle by which NMED and the citizens of New Mexico know where produced water pilot projects are occurring and ensure protection of ground water. NMED Ex. 178, Murphy Rebuttal Testimony, p. 22 (lns. 16-18).

127. The Rule aims to establish necessary restrictions, promote research projects, develop information and experience with produced water treatment technologies, and provide regulatory bodies with the essential resources to ensure that no discharges compromise the protection of surface and ground water. NMED Ex. 5, Hu Direct Testimony, p. 30 (lns. 20-22).

128. The permit required for produced water pilot projects will provide the Department with the necessary information to determine if the pilot project will pose a threat to any waters, and to determine if the pilot project activities are protective of ground or surface water. Ex. 177, Herman Rebuttal Testimony, p. 3 (lns. 11-16).

129. It is important that adjacent property owners receive notice of proposed produced water pilot projects for information about the project and its potential effects. AB/SC SOR 303-311, Vol III, pp. 74-82.

130. The public has a keen interest in the use of produced water, and it is important the department publish on its website all permit applications and other relevant information regarding proposed pilot projects. The data reporting requirements in 20.6.4.800.C NMAC are warranted. NMOGA proposal, AB/SC SOR 303-311, Vol III, pp. 74-82.

131. The public notice, public participation, public hearing, and appeal procedures in the Rule are expressly based on those found in 20.6.2.3108 through 20.6.2.3113 for clarity and consistency with other ground water permitting procedures.

132. The Rule sets out a clear regulatory mechanism, with restrictions, to encourage more research on produced water characterization and treatment while ensuring protection of the state's ground and surface waters. NMED Ex. 178, Murphy Rebuttal Testimony, p. 16 (lns. 17-20).

CONCLUSIONS OF LAW

I. LEGAL AUTHORITY FOR THE RULE

1. The Commission is authorized by the WQA to " ... adopt, promulgate and publish regulations to prevent or abate water pollution in the state or in any specific geographic area, aquifer or watershed of the state or in any part thereof, or for any class of waters .... " Section 74- 6-4(E) NMSA 1978.

2. The Rule is properly drafted to comply with the WQA and the PWA, NMSA 1978, Subsection B of Section 70-13-3 and Subsection D of Section 70-13-4.

3. The Commission's adoption of the Rule is authorized by the WQA and the PWA. Id. and NMSA 1978, Section 74-6-4 (2019).

4. The Rule applies to all persons subject to the WQA. NMSA 1978, Section 74-6-4.

5. The objective of the Rule is to supplement the general requirements of 20.6.2. 1200 through 20.6.2.2201 NMAC and the general permitting requirements of 20.6.2.3000 through 20.6.2.3114 NMAC to control the discharges of water contaminants specific to water reuse. NMED Ex. 175, 20.6.8.6.

6. The Rule allows the Department to authorize water reuse feasibility studies for direct or indirect potable applications, provided that there is no connection between a potable water system and the water being studied and no cross connections exist between feasibility study water and a community's potable water supply. NMED Ex. 175, 20.6.8.201.

7. The Rule regulates the reuse of treated or untreated produced water that is unrelated to the exploration, drilling, production, treatment, or refinement production of oil or gas. NMED Ex. 175, 20.6.8.400.

8. The Rule prohibits the discharge of treated or untreated produced water to ground or surface waters of the state. NMED Ex. 175, 20.6.8.400.

9. The Rule authorizes the Department to approve pilot projects involving treatment of produced water provided that the Department determines that there will be no discharge to ground or surface waters of the state. NMED Ex. 175, 20.6.8.400(B).

10. The Rule provides that any release of untreated or treated produced water is subject to the notifications and corrective actions in 20.6.2.1203 NMAC except releases under the authority of the Oil Conservation Commission pursuant to the provisions of the Oil and Gas Act,

NMSA 1978, Section 70-2-12 and other laws conferring power on the Oil Conservation Commission and the Oil Conservation Division of the Energy, Minerals, and Natural Resources Department to prevent or abate water pollution. NMED Ex. 175, 20.6.8.400(B)(7).

11. The Rule requires that any person intending to conduct a pilot project involving treated produced water must first submit an application for a produced water pilot project permit to the Department and specifies the information that must be provided in the application. 20.6.8.400(C).

12. The Rule prohibits any person from conducting a pilot project involving treated produced water unless and until the Department has issued a produced water pilot project permit that includes enforceable permit conditions. 20.6.8.400.

II. STATUTORY CRITERIA FOR ADOPTION

13. Amendments to the WQA adopted in 2019 specify that the Commission must require a permit for the use of produced water and required the Commission to adopt regulations to be administered by the Department for the discharge, handling, transport, storage, recycling, or treatment for the disposition of treated produced water. See NMSA 1978, 74-6-4(P).

14. The WQA states that regulations adopted by the Commission may specify a standard of performance for new sources that reflects the greatest reduction in the concentration of water contaminants that the Commission determines to be achievable through the application of the best available demonstrated control technology, processes operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants. NMSA 1978, 74-6-4(E).

15. In making regulations, the WQA specifies that the Commission shall give the weight it deems appropriate to all relevant facts and circumstances, including:

a) the character and degree of injury to or interference with health, welfare, environment, and property;

b) the public interest, including the social and economic value of the sources of water contaminants;

c) the technical practicability and economic reasonableness of reducing or eliminating water contaminants from the sources involved and previous experience with equipment and methods available to control the water contaminants involved;

d) the successive uses, including domestic, commercial, industrial, pastoral, agricultural, wildlife, and recreational uses;

e) feasibility of a user or a subsequent user treating the water before a subsequent use;

f) property rights and accustomed uses; and

g) federal water quality requirements. See NMSA 1978, 74-6-4(E).

16. The proposed Rule fulfills the mandate of the WQA and 2019 amendments in the PWA and is in compliance with the other requirements of the WQA and the PWA.

17. A public hearing was held in this matter in compliance with the procedural requirements of 20.1.6 NMAC. All public notice and public participation requirements

in the WQA and in the State Rules Act (NMSA 1978, Section 14-4-1 to -5) (2017) were met leading up to and during the public hearing for this rulemaking.

ORDER

The Rule is adopted as attached to this Statement of Reasons and the Department shall submit it to the State Records Center in a format suitable for publication in the New Mexico Register.

Signed this 24th day of May, 2025.

Signed by:
Bruce Thomson
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5/24/2025

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BRUCE THOMPSON, COMMISSION CHAIR

Certificate of Service

I hereby certify that on May 24, 2025 a copy of the foregoing was emailed to the persons listed below. A copy will be mailed first class upon request.

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