Jennifer Walker

United States

June 16, 2026

Gwen Ricco
MC 205
Office of Legal Services
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087

Re: Rule Project Number 2026-006-309-OW

Dear Ms. Ricco:

These comments are provided on behalf of the National Wildlife Federation, Sierra Club-Lone Star Chapter, The Nature Conservancy in Texas, Hill Country Alliance, Galveston Bay Foundation and Bayou City Waterkeeper (collectively, the Commenting Parties). The Commenting Parties appreciate the opportunity to provide input on this critically important rulemaking. Although we acknowledge the need to address options for disposal of produced water, the proposed rules fail to provide appropriate safeguards to ensure compliance with the requirements of SB 1145 or to ensure informed decisions that protect the state's water resources, landowners, natural resources, and the environment.

The Commenting Parties urge the Commission to pause this rulemaking process to provide for a more deliberative approach likely to result in standards and criteria more reasonably tailored to ensuring that land application of produced water happens in a way that protects all Texans and Texas waters. The Commission should extend or reopen the public comment period to provide for careful discussion and consideration of appropriate treatment, monitoring, and setback requirements for land application of produced water, consistent with the directives in SB 1145. At minimum, as discussed below, increased protections are needed for inclusion in many of the rules governing disposal of produced water.

General Comments

SB 1145, as reflected in both versions of Section 26.131 (d) of the Water Code, requires the Commission to adopt standards for the land application of water associated with various

oil and gas production-related activities, including activities resulting in produced water. Those standards are required to be adequate to prevent the pollution of surface and subsurface water. The standards referenced in Section 26.131 (d) are distinct from, and in addition to, the Commission's water quality standards, which are separately referenced in Section 26.131 (b). The rules as currently proposed do not establish standards for the land application of produced water that are adequate to prevent the pollution of surface and subsurface water. Instead, the proposed rules merely add language expressly including industrial wastewater, and more particularly produced water, to the universe of wastewater, primarily domestic wastewater, currently authorized in the rules for land application. The proposed rules do so without actually establishing standards for the land application of produced water, much less standards adequate to prevent the pollution of surface and subsurface water as a result of that land application. Although the Commenting Parties agree that specific standards, with quantitative criteria, are needed in the rules to protect water quality rather than relying entirely on professional judgment, the proposed rules fail to provide reasonable standards and criteria. Extending the current practice of relying primarily on professional judgment for developing criteria for the handling of produced water is neither consistent with SB 1145 nor adequately protective.

Instead of establishing new standards or criteria, the proposed rules, with one minor exception (a broadly applicable proposed setback from surface waters), merely apply existing criteria developed for land application of treated domestic wastewater to land application of industrial wastewater including produced water. That is a poor fit because the nature of the constituents and contaminants found in produced water—to the extent that specific information about the wide variety of those constituents and contaminants is even available—is dramatically different from and presents very different risks than the constituents and contaminants found in treated domestic wastewater. Merely applying those existing criteria to these additional waste streams is not adequate to prevent the pollution of surface and subsurface water from land application of produced water.

The Commenting Parties acknowledge the complexity of the challenge the Commission faces in developing appropriate standards adequate to protect surface and subsurface water from poorly understood risks, particularly given the uncertainty about the constituents found in produced water and about the risks associated with those constituents. However, just explicitly adding industrial waste and produced water to the rules without ensuring adequate protections appropriate for those waste streams is neither appropriate nor adequate for achieving compliance with the SB 1145 requirement to adopt standards that prevent the pollution of surface and subsurface water.

The proposed rules apply treatment criteria developed to address land application of domestic wastewater to land application of produced water. That is inappropriate and

inadequately protective. Produced water has extremely high potential—likely a near certainty for unconventional produced water—of containing persistent and potentially toxic constituents that are not commonly found in domestic wastewater and are not adequately addressed through standard secondary treatment. The effluent limitations in Section 309.1, which were developed to address domestic sewage, cannot reasonably be relied upon to protect public health, natural resources, or the environment when applied to industrial waste streams, especially produced water. Similarly, the treatment criteria set out in Section 210.33 cannot reasonably be relied upon to protect public health, natural resources, or the environment when applied to industrial wastewater, especially unconventional produced water. Those criteria solely address biological oxygen demand, turbidity, and indicator bacteria. Although appropriate considerations, they do not begin to address the spectrum of contaminants, many of which can be toxic and highly persistent, reasonably expected to be found in produced water. In order to protect surface and subsurface water, additional treatment criteria are needed that are appropriate for produced water, and other industrial wastewater, prior to land application.

As Texas launches this experiment with produced water, it is critical to ensure that adequate monitoring will occur (identifying baseline levels for proposed application areas, as well as adjacent areas, and then periodic monitoring to evaluate levels over time) to track impacts over time.

The proposed rules appear to contemplate that produced water will be land applied to areas of cropland. Depending on constituents, application to traditional crops may be inappropriate. In addition, one potential use that should be authorized, provided appropriate treatment levels, application rates, and monitoring are ensured, is restoration of native habitat without requiring harvesting of the vegetation. Rules should provide for that option, but with appropriate safeguards.

Proposed language in Chapter 309 (*e.g.,* Section 309.10) does not appear to establish adequately protective location criteria for land application areas, relying instead on criteria previously developed for domestic wastewater that would not be expected to include the types of persistent and toxic constituents potentially present in produced water. For example, a distance of 100 feet between application areas and waters of the state is not adequately protective given the potential presence of a variety of persistent, and toxic constituents.

Comments on specific aspects of the proposed rules.

Section 309.2. Rationale for Effluent Sets

As acknowledged in subsection (a) the effluent sets in Section 309.4 of the rules were developed for effluent from domestic wastewater treatment plants. This section appears to be drafted primarily for the purpose of authorizing less stringent effluent limitations than those otherwise set out in the rules. Subsection (b) does acknowledge that modifications may be considered when effluent limits more stringent than secondary treatment are required to maintain water quality. That language should be amended to provide that modifications to those effluent sets must be made as needed to maintain desired water quality levels, rather than stating it as a potential consideration.

Section 309.10. Purpose, Scope, and Applicability.

Although the proposed amendments to Subsection (a) of Section 309 make reasonably clear, although using unnecessarily ambiguous language, that the minimum standards in Subchapter B of Chapter 309 are intended to apply beyond domestic wastewater treatment facilities, the language of Subsection (b) states the purpose and scope of Subchapter B much more narrowly, referring solely to domestic wastewater treatment facilities. Ambiguous language in Subsection (a)(1) should be rectified and changes are needed in the language of Subsection (b) to reflect the expanded scope.

Section 309.10 (a)(1): The proposed language creates ambiguity by referring to minimum standards for the location of "domestic" wastewater treatment facilities and land application of industrial wastewater, including produced water under Tex. Water Code §26.131. That suggests the rules do not apply to wastewater treatment facilities for wastes other than domestic wastes or to land application of wastewater other than industrial wastewater. Presumably, both references are intended to be broader, consistent, for example, with the proposed amendments to what is now proposed to be Section 309.10 (a)(2). That broader scope could be acknowledged by rephrasing similar to: "location of wastewater treatment facilities and land application of wastewater including industrial wastewater...."

In addition, the proposed changes to add three subparts to what would now be Section 309.10 (a)(1) create unnecessary ambiguity by referring to "an application for a permit to ... (C) for obtaining approval for construction plans and specifications." That ambiguity could be minimized by rephrasing the rule language to something like: "These standards are to be applied in evaluating an application for: (A): a permit to (1) treat and dispose of domestic wastewater, or (2) treat and dispose of industrial wastewater, including produced water under Tex. Water Code §26.131; and (B) approval of construction plans and specifications.

The language of proposed Section 309.10 (b), regarding the purpose of Subchapter B, should be revised to reflect the broader scope of the Subchapter with the proposed

amendments to other provisions, beyond applicability solely to domestic wastewater treatment facilities.

§309.11. Definitions.

(6) [(5)] New facility: The existing definition of new facility as "Any domestic wastewater treatment facility subject to this chapter which is not an existing facility" seems inadequate in light of the proposed scope expansion in the rules to include treatment facilities beyond domestic wastewater treatment facilities. Proposed facilities that are not domestic wastewater treatment facilities presumably should qualify as new facilities.

§309.13. Unsuitable Site Characteristics.

§309.13 (b): The prohibition of a wastewater treatment plant unit from being located in wetlands should also apply in constructed wetlands for a wastewater treatment plant unit used to treat produced water and likely any industrial wastewater. The potential for adverse impacts from the constituents in produced water, in particular, is much greater than for a treatment plant unit used for handling domestic wastewater.

§309.13 (c): Because of the increased risk associated with industrial wastewater, especially in produced water, more protective distance requirements between wastewater treatment plant units and public and private wells are needed than those in the current rules. Also, in considering exceptions from distance requirements, protection of water sources and supplies in addition to potable sources, such as water used for watering livestock or wildlife, also should be ensured. The contaminants potentially present in industrial wastewater, and especially in produced water, pose significant risks in type and duration beyond those normally associated with domestic wastewater, necessitating more stringent protection. Because of the constituents that may be present, it may not be feasible to remediate a contaminated well or contaminated aquifer, particularly on a reasonable timeline. A doubling of the distance may be an appropriate starting point but an informed risk assessment should be undertaken.

For the same reasons discussed immediately above, greater horizontal distances should be required between wastewater treatment plant units (including wet wells and pump stations), or land where irrigation using wastewater effluent occurs that handle substantial amounts of industrial wastewater, and especially produced water, in order to protect each of the following types of facilities or resources:

water wells (§309.13 (c) (1));

potable water storage (§309.13 (c) (2));

a public water well site, spring, or other similar source of public drinking water (§309.13 (c) (3), (4)); and

surface water treatment plants (§309.13 (c) (5)).

The proposed addition of a setback requirement from waters in the state in proposed §309.13 (c) (6) is greatly needed and represents a welcome improvement. However, while a minimum distance of 100 feet may be minimally adequate between such waters and a domestic wastewater treatment plant unit or land where irrigation using only domestic wastewater effluent occurs, it is not adequately protective when industrial wastewater and particularly produced water is a predominant or substantial waste stream. Because persistent and highly toxic contaminants often will be present, a larger setback distance is needed. A minimum distance of 100 yards may be an appropriate starting point, with the potential for an increased distance based on a careful assessment of the specific wastewater stream and situation. In addition, potential flow paths by which runoff from areas where produced water would be land applied is most likely to reach waters in the state should be identified and equipped with monitoring equipment so that potential impacts can be measured and evaluated.

Section 309.20 Land Application of Treated Effluent

The proposed changes to Section 309.20 are not adequate to ensure reasonable protection against adverse effects of land application of industrial wastewater and, in particular, produced water. Basically, the only change proposed is that the criteria set out in the existing rules, which were developed for domestic sewage effluent, would also apply for any treated industrial effluent, including produced water. Pollutants generally present in sewage effluent, in addition to being reasonably well studied and understood, often are much less persistent and toxic than many of those likely to be present, potentially at high levels, in produced water or various other industrial discharges. And, the various contaminants potentially present in produced water are neither well studied nor well understood. No specific standards have been proposed for adoption to govern the land application of produced water or to prevent the pollution of surface and subsurface water resulting from such land application as required by S.B. 1145.

Examples of the inadequacy of protection in various subsections of Section 309.20 as proposed to be applied for industrial wastewater and produced water are provided below along with suggested considerations for improved protections.

Section 309.20(a)(4) Groundwater quality

Section 309.20 (4)(A): With respect to protection of groundwater, the rules only provide for monitoring of groundwater sources if monitoring wells are available.

Particularly for land application of produced water, that is not adequately protective. Before land application of produced water is authorized, unless there has been a clear demonstration that no substantial groundwater resources are present below the proposed application site or that groundwater resources which are present are protected from the risk of potential contamination by the presence of impermeable formations adequate to prevent contaminants in the produced water from reaching those resources in the foreseeable future, the installation of monitoring wells should be a prerequisite to consideration of an application.

Because potential contaminants present in produced water are largely unknown and because various contaminants potentially present are extremely persistent, the foreseeable future should be defined to ensure adequate protection based on the persistent contaminants that might be present. The constituents currently listed for monitoring in this provision, while likely appropriate for effluent consisting of domestic wastewater, are inadequate for produced water. To the extent a complete characterization of the effluent is made available as part of the application, the monitoring protocol could be adjusted appropriately to reflect those constituents, but, in the absence of such characterization, the monitoring protocol should be sufficiently extensive to detect indicators for the full spectrum of contaminants that might be present.

Groundwater monitoring should be required prior to commencement of land application for a sufficient period to establish baseline water quality conditions of all groundwater resources that could potentially be adversely affected. That monitoring should be continued on a regular basis during the period when land application takes place and, if significant downward movement of contaminants is detected, for an appropriate period thereafter.

The scope of required baseline monitoring to be undertaken also is inappropriately limited for situations when industrial wastewater, especially produced water, is being applied. The referenced constituents are those most relevant for domestic wastewater and although likely appropriate for inclusion are very inadequate for providing an adequate baseline to track potential contamination, especially from irrigation with produced water. Given the high costs associated with wastewater injection, which potentially can be avoided through land application, and the high risks and costs associated with contamination that occurs, requiring investment in extensive monitoring is reasonable, particularly until significant practical experience is gained on the impacts of such land application.

Section 309.20 (4)(B) Groundwater quality: Because of the potential presence of additional contaminants in produced water that could adversely affect livestock and wildlife provided water from groundwater sources, the protections currently set out in this

provision, referring to “domestic raw water supply,” appear to be inappropriately limited. No specific definition of “domestic raw water supply” is included or referenced. The rules should provide, or reference, an expansive definition to ensure adequate protection for water supplies, at minimum, when land application of treated produced water is at issue and expressly includes water potentially used by livestock or wildlife even if not used for other domestic purposes. In addition, because of the potential for persistent harmful constituents, groundwater sources that are hydrologically connected to any surface water that could support aquatic life also should be afforded comparable protections, especially when the effluent includes produced water. Furthermore, merely limiting application rates may be an inadequately protective approach depending on the constituents potentially present in the produced water.

Section 309.20 (a)(5) Agricultural practice: With adequate safeguards, land application of adequately treated produced water may be more appropriate for uses such as restoration of native vegetation than for growing traditional crops. However, the current rules do not appear to contemplate that type of use, focusing, instead, on crops grown for harvest. The scope of the term “agricultural practice” appears to be undefined. The potential for use for restoration of native vegetation should be considered and, with appropriate safeguards, considered for authorization. When grown with the application of produced water, careful consideration is needed of what types of crops are appropriate for such areas and for what uses. Because of the persistent contaminants that are likely to be present, those issues are very different when produced water is being used as compared to traditional sewage effluent for which the current rules were developed. The proposed rules fail to account for that.

Section 309.20 (b) Irrigation: Again, the reference here to cover crop suggests a narrow focus on crops that may not be appropriate for growing with irrigation using produced water.

Section 309.20 (b)(1) Secondary effluent: Land accessible to the general public likely would not be appropriate for use for irrigation with produced water, and, if it were allowed, under some rare circumstances, treatment levels beyond those equivalent to secondary treatment standards would be needed.

Section 309.20 (b)(2) Primary effluent: Presumably, this provision is intended to apply only to application on lands not accessible to the general public. Clearer language to that effect would be appropriate.

Section 309.20 (b)(3) Design analysis: The scope of the design analysis should be expanded for irrigation systems using industrial wastewater, especially produced water. Although the traditional water balance study is appropriate, it is not adequate for

assessing the potential for adverse impacts associated with the types of persistent constituents likely to be present and that can accumulate at the irrigation site. Additional requirements for safe effluent storage also are needed to minimize potential exposures, such as by wildlife, to stored effluent.

Section 309.20 (b)(4) Soil testing: The scope of the soil testing also is unduly limited in scope because it was designed to address constituents likely to be present in significant amounts in domestic wastewater. That scope needs to be expanded in a manner appropriate to address additional constituents likely to be present in industrial wastewater, especially produced water, that persist and can build up in the soil or groundwater.

Consideration of these comments is appreciated. The Commenting Parties acknowledge the need to find appropriate ways to handle produced water but firmly believe that, in doing so, our shared surface and groundwater resources, other natural resources, and the quality of the environment must be protected. We appreciate the Commission's efforts to address these significant challenges under difficult circumstances, but believe that the proposed rule changes are not adequate for the task. Accordingly, we urge the Commission to pause the process and develop more protective rules.

Thank you for your consideration of our comments on this important matter.

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