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September 23, 2021

Michael Regan
U.S. Environmental Protection Agency
Office of the Administrator, MC-1101A
William Jefferson Clinton Building
1200 Pennsylvania Avenue NW
Washington, D.C. 20004

Via Certified Mail, Return Receipt Requested

RE: Citizen Petition for Corrective Action or Withdrawal of NPDES Program Delegation from the State of Texas

Dear Mr. Regan,

Enclosed is a citizen petition hereby submitted on behalf of Environmental Integrity Project, Clean Water Action, Sierra Club, Public Citizen, Save Our Springs Alliance, Bayou City Waterkeeper, San Antonio Bay Estuarine Waterkeeper, Environmental Stewardship, Ingleside on the Bay Coastal Watch Association, Greater Edwards Aquifer Alliance, Simsboro Aquifer Water Defense Fund, Wimberley Valley Watershed Association, Friends of the Brazos River, Granbury Fresh, Protect Our Blanco, Friends of Dry Comal Creek, Hamilton Pool Road Matters, Hillcrest Residents Association, Friends of Hondo Canyon, Bandera Canyonlands Alliance, Caddo Lake Institute, and Environment Texas (collectively, "Petitioners").

Petitioners are requesting that the U.S. Environmental Protection Agency require that Texas correct the identified deficiencies in the Texas Pollutant Discharge Elimination System (TPDES) program. Should Texas fail to correct these deficiencies, Petitioners request that EPA withdraw Texas' delegated authority to administer the National Pollutant Discharge Elimination System (NPDES) permitting program under the Clean Water Act.

We look forward to your response.

Sincerely,

Eric Allmon

Eric Allmon

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David Gray
Acting Regional Administrator, Region 6
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Attachment: Citizen Petition for Corrective Action or Withdrawal of NPDES Program Delegation from the State of Texas

ED_006251_00000043-00002

Citizen Petition for Corrective Action or Withdrawal of NPDES Program Delegation from the State of Texas

September 23, 2021

Petitioners

Environmental Integrity Project
Clean Water Action
Sierra Club
Public Citizen
Save Our Springs Alliance
Bayou City Waterkeeper
San Antonio Bay Estuarine Waterkeeper
Environmental Stewardship[1]
Ingleside on the Bay Coastal Watch Association
Greater Edwards Aquifer Alliance
Simsboro Aquifer Water Defense Fund
Wimberley Valley Watershed Alliance
Friends of the Brazos River
Granbury Fresh
Protect Our Blanco
Friends of Dry Comal Creek
Hamilton Pool Road Matters
Hillcrest Residents Association
Friends of Hondo Canyon
Bandera Canyonlands Alliance
Caddo Lake Institute
Environment Texas

Filed by Petitioners' Representatives:

Perales, Allmon & Ice, P.C.

Earthjustice,[2] and Environmental Integrity Project

[1] Environmental Stewardship is the Waterkeeper for portions of the Texas Colorado River.
[2] Perales, Allmon & Ice represents all Petitioners with the exception of Hillcrest Residents Association. Earthjustice represents Hillcrest Residents Association for purposes of this Petition.

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I. Summary

Water pollution is a major problem in Texas, with 9,711 miles of the state's rivers, 590,214 acres of its lakes, and 1,248 square miles of its estuaries so polluted they are considered "impaired" under the federal Clean Water Act, according to a report by the Texas Commission on Environmental Quality.[3] Industrial facilities in Texas exceeded wastewater discharge permits more than any other state in the nation in 2018, according to data from the U.S. Environmental Protection Agency's Enforcement and Compliance History Online (ECHO) database.[4] In 2012, only Indiana surpassed Texas for the amount of toxic water pollution discharged to its waterways from industrial facilities, a total of 16,476,093 pounds in the Lone Star State, according to EPA's Toxic Release Inventory.[5]

To control and reduce this pollution, in 1998, EPA delegated authority to Texas to administer the state's National Pollutant Discharge Elimination System ("NPDES") program. Texas' program is referenced as the Texas Pollutant Discharge Elimination System ("TPDES") program. EPA premised delegation upon Texas' procedures and requirements as set forth in the statutes and regulations in place at the time as well as representations made by the Texas Attorney General.

Implementation of effective measures, including an effective anti-degradation policy, to protect water quality standards is a minimum requirement of a state NPDES program. TCEQ is failing to meet the requirements of the federal Clean Water Act to protect state waterways from pollution because it does not effectively implement an anti-degradation policy. Specifically, TCEQ considers all applications to fall within a "de minimis" exemption from a substantive Tier II review and in the permitting process places the burden on the public to demonstrate that more than de minimis degradation will occur.

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[3] Texas Commission on Environmental Quality online report on 2018 impairment listings, "*TCEQ Line Segments for the State of Texas as listed in Title 30, Chapter 307 of the Texas Administrative Code (TAC), also known as the Texas Surface Water Quality Standards.*" Available at: https://gis-tceq.opendata.arcgis.com/datasets/TCEQ::assessment-units-line/about.

[4] Data from EPA Enforcement and Compliance Online database, available at: https://echo.epa.gov/. Compiled by Environment America in report, "Troubled Waters: Industrial Pollution Still Threatens American Waterways," 2018. Available at: https://environmentamerica.org/sites/environment/files/reports/EA_TroubledWaters_scrn_0.pdf

[5] Data from EPA Toxic Release Inventory compiled by Environment America in report, "Wasting Our Waterways," 2014. Available at: https://environmenttexascenter.org/sites/environment/files/reports/wastingwaterways.pdf

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In addition, Texas fails to provide sufficient opportunities for judicial review. When obtaining NPDES authority, Texas claimed that a person was not required to request or obtain a contested case hearing in order to obtain judicial review, and Texas also claimed that judicial standing in Texas was as broad as Article III judicial standing. Subsequent Texas judicial decisions contradict these representations.

For these reasons, Environmental Integrity Project, Clean Water Action, Sierra Club, Public Citizen, Save Our Springs Alliance, Bayou City Waterkeeper, San Antonio Bay Estuarine Waterkeeper ("SABE Waterkeeper"), Environmental Stewardship, Ingleside on the Bay Coastal Watch Association, Greater Edwards Aquifer Alliance, Simsboro Aquifer Water Defense Fund, Wimberley Valley Watershed Association, Friends of the Brazos River, Granbury Fresh, Protect Our Blanco, Friends of Dry Comal Creek, Hamilton Pool Road Matters, Hillcrest Residents Association, Friends of Hondo Canyon, Bandera Canyonlands Alliance, Caddo Lake Institute, and Environment Texas (collectively, "Petitioners") ask that EPA withdraw Texas' delegated authority to administer the NPDES program, unless the corrective actions set forth below are implemented.

II. Petitioners' Interests

Environmental Integrity Project is a nonpartisan, nonprofit watchdog organization that advocates for effective enforcement of environmental laws. EIP strives to illustrate through objective facts and figures how the failure to enforce or implement environmental laws increases pollution and harms public health; to hold federal and state agencies, as well as individual corporations, accountable for failing to enforce or comply with environmental laws; and to help local communities obtain the protections of environmental laws.

Clean Water Action was founded initially to campaign for passage of the landmark Clean Water Act in 1972. For the past 40 years, Clean Water Action has worked to win strong health and environmental protections by bringing issue expertise, solution-oriented thinking and people power to the table. Clean Water Action has more than 31,000 members in the State of Texas.

Sierra Club is an enduring grassroots environmental organization with more than 27,000 members in the State of Texas. Sierra Club seeks to defend everyone's right to a healthy world, including access to clean water for drinking, recreation, and wildlife protection. For several decades, the Sierra Club has actively participated in Texas' water quality permitting decisions,

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rulemaking process, and water quality standards development process, as well as judicial review of TCEQ wastewater permitting decisions.

Public Citizen Texas is a Texas nonprofit advocacy organization that fights for clean energy, energy efficiency, and clean government. Towards these ends, Public Citizen Texas seeks to ensure that the quality of Texas' waterways are protected and preserved. Public Citizen has actively participated in the TCEQ wastewater permitting process on several occasions as well as judicial review of TCEQ wastewater permitting decisions. In one instance, Public Citizen was denied the right of judicial review based upon the denial of its hearing request by the TCEQ.

Save Our Springs Alliance works to protect the Edwards Aquifer, its springs and contributing streams, and the natural and cultural heritage of the Hill Country region and its watersheds, with special emphasis on Barton Springs. To further these goals, SOSA has actively participated in Texas' wastewater permitting process as well as judicial review of TCEQ wastewater permitting decisions. The TCEQ has improperly refused to consider information provided by SOSA regarding the anti-degradation review of TCEQ permits.

Bayou City Waterkeeper is a local affiliate of the Waterkeeper Alliance. Bayou City Waterkeeper seeks to ensure that the waterways of the Lower Galveston Bay Watershed are fishable, swimmable, and drinkable for all our communities. Bayou City Waterkeeper's goals include working for a future where our children can enjoy clean water, no matter where they live; where waterways are free of toxic chemicals and pollution; and where all our communities are safer, healthier places to live and work.

San Antonio Bay Estuarine Waterkeeper ("SABE Waterkeeper") is also a local affiliate of the Waterkeeper Alliance. SABE Waterkeeper is a volunteer-run, non-profit membership organization whose mission is to protect Lavaca Bay Matagorda Bay and San Antonio Bay and to educate the public about these ecologically important estuarine systems. Lavaca Bay supports a wide range of legally protected interests, including property interests, economic interests, and aesthetic interests, that are recognized and protected by the federal Clean Water Act, the Texas Water Code and by regulations implementing those statutes. These interests are threatened by lax interpretation and enforcement of those statutes by regulators, particularly, the Texas Commission on Environmental Quality. Members of SABE Waterkeeper share these interests. They walk the beaches of Lavaca Bay and swim and boat in its waters. SABE Waterkeeper

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members include commercial fisherman, shrimpers, and oystermen whose livelihoods depend upon the health of the Lavaca Bay ecosystem. SABE Waterkeeper members have deep aesthetic and recreational connections to the Bays, which connections have been developed over many years of active use of the Bays and surrounding lands; they enjoy – and, in some instances, derive financial benefit from – the wildlife and marine life that depend on the Bays' natural resources.

Environmental Stewardship is also local affiliate of the Waterkeeper Alliance. Working with local communities and landowners, Environmental Stewardship seeks to protect the quality and quantity of water within the 110-mile free-flowing section of the Colorado River in Travis, Bastrop and Fayette Counties. Environmental Stewardship also seeks to protect Matagorda and Lavaca Bays through actions such as membership in the Colorado-Lavaca Basin and Lavaca Bays Area Stakeholder Group.

IOBCWA is a Texas non-profit organization formed in 2019 by a group of concerned Ingleside on the Bay citizens who are taking action to mitigate negative effects on their bayfront community due to rising sea levels, larger and more frequent ship traffic, and rapid industrialization. IOBCWA engages with area industries, universities, and coastal communities in order to protect and preserve Corpus Christi Bay.

The Greater Edwards Aquifer Alliance (GEAA) is a nonprofit organization that promotes effective broad-based advocacy for protection and preservation of the Edwards Aquifer, its springs, watersheds, and the Texas Hill Country that sustains it.

The Simsboro Aquifer Water Defense Fund ("SAWDF") seeks to protect and preserve the quantity and quality of water in the Simsboro Aquifer. The Simsboro Aquifer is an element of the Carrizo-Wilcox Aquifer which spans across Texas from the Rio Grande River to Louisiana. This aquifer is among the most productive in Texas, and is interconnected with multiple surface waters including the Colorado River.

The Wimberley Valley Watershed Association is a non-profit organization located in the heart of the Texas Hill Country, born out of a love for water. WVWA has been working since 1996 to keep Jacob's Well, the headwaters of Cypress Creek, clean, clear, and flowing for generations to come. WVWA's vision is to create a greater understanding community-wide of the many

benefits that flow from a respectful relationship with the land: human health, ecological health, economic sustainability, enriched community life, and the renewal of the human spirit.

Friends of the Brazos River is a nonprofit corporation which seeks to restore a sound ecological environment to the Brazos River, particularly those stretches of the Brazos River between Lakes Possum Kingdom and Whitney. To this end, FBR sponsors river cleanups, sponsors habitat restoration, and works with state agencies.

Granbury Fresh seeks to protect public health, the environment, and the quality of life for residents in Hood County, Texas, with a special emphasis on Lake Granbury and waters contributing to Lake Granbury. Granbury Fresh includes multiple members who recreate in and upon Lake Granbury and contributing waters. Granbury Fresh is currently participating in the TPDES permitting process with regard to a proposed domestic wastewater discharge upstream of Lake Granbury, with multiple members that would be adversely impacted by issuance of the authorization.

Protect Our Blanco is a nonprofit organization whose mission is to protect the health, the environment, and the quality of life for residents in Kendall, Blanco and Hays counties, with a special emphasis on the Blanco River. Protect Our Blanco works to keep the Blanco River free of wastewater to ensure the health of the Blanco River and the Edwards Aquifer.

Friends of Dry Comal Creek is a grassroots nonprofit organization in Comal County, Texas created to preserve, protect, and restore the land, water, air, wildlife, and the geological formations that make the Texas Hill Country unique.

Hamilton Pool Road Matters seeks to protect and preserve water quality in Little Barton Creek and nearby areas along Hamilton Pool Road in Travis County Texas.

Hillcrest Residents Association seeks to protect public health, safety, the environment, and the quality of life for residents in the Hillcrest neighborhood and the immediately surrounding area, and to combat community deterioration. Hillcrest is a historically African American neighborhood along Corpus Christi's Northside and Refinery row, where for two generations, all African Americans who lived in Corpus Christi were required to live. HRA represents its members by participating in the decision-making process of local, state, and federal officials on issues related to pollution and protection of natural resources and other quality of life issues. Indeed,

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HRA has a long history of taking action to combat environmental injustices, including filing a civil rights complaint under Title VI of the Civil Rights Act against the City of Corpus Christi for discrimination in the siting of the city's proposed sewage treatment facility in the Hillcrest neighborhood and currently opposing water rights and TPDES permits for the City's proposed Inner Harbor desalination plant in the Hillcrest neighborhood. HRA has a keen interest in ensuring meaningful consideration of environmental justice and socio-economic impacts of TPDES permitting decisions.

Friends of Hondo Canyon is a nonprofit organization working to protect public health, the environment and the quality of life for residents in Bandera and Medina counties. Friends of Hondo Canyon aims to protect water quality in the Upper Nueces River Basin, with an emphasis on spring-fed headwater streams of Commissioners Creek and upper Hondo Creek.

Bandera Canyonlands Alliance is a nonprofit organization that works with neighbors to protect and preserve the natural and cultural resources, scenic beauty, and quality of life in Bandera Canyonlands. Bandera Canyonlands Alliance is organized and operated to support, protect and preserve the ecological systems that support the biodiversity, water resources, natural beauty and rural way of life in the Bandera Canyonlands for future generations.

Caddo Lake Institute is a non-profit scientific and educational organization founded in 1992 with the mission of protecting the unique treasure that is Caddo Lake. Caddo Lake Institute addresses issues such as the need to return healthy flows of water to the lake, restore water quality in the watershed, control invasive species, and conserve significant lands.

Environment Texas is a non-profit advocate for clean air, clean water and open spaces with about 7500 members in Texas. One of Environment Texas' goals is to protect the water we drink and the air we breathe by holding polluters accountable. This includes identifying water pollution from factory farms and stormwater runoff that causes unsafe levels of bacteria in Texas beach waters, and direct discharges that threaten our rivers with toxic chemicals.

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III. Texas Fails to Effectively Adopt and Implement Water Quality Standards, including a proper anti-degradation policy.

A. State-issued permits must contain limitations necessary to ensure discharges comply with Water Quality Standards, including an effective anti-degradation policy.

Each state must ensure that each NPDES permit issued contains any requirements necessary to achieve the state water quality standards,[6] and the failure of a state to develop an adequate regulatory program for developing water quality-based effluent limits in NPDES permits is a basis for withdrawal of approval of a state NPDES program.[7]

Each state's water quality standards must include an "anti-degradation" policy, and every NPDES regulatory decision of the state must be compliant with the state's "anti-degradation" policy. The Texas anti-degradation policy consists of a three-tiered review set forth in § 307.5 of Ch. 30 of the Texas Administrative Code.[8] Tier I applies to *all* waters in the state, and requires the protection of existing and attainable uses in all waters of the state.[9] Tier II only applies to high quality waters. The TCEQ Rules apply the Tier II review to all "fishable/swimmable" waters.[10] Tier III review requires the water quality of outstanding natural resource waters be maintained and protected;[11] Texas has no waters that have been formally designated as outstanding natural resource waters. All perennial streams, rivers, lakes and bays are presumed to be fishable/swimmable.[12] The Tier II review seeks to maintain the water quality historically existing in that water, unless the lowering of water quality can be affirmatively demonstrated as necessary for important economic or social development.[13]

The requirement for this demonstration predated the CWA itself. Every state already had water quality standards pursuant to existing federal law when the CWA was adopted in 1972, and all 50 states included anti-degradation provisions within those standards.[14] Such standards had been required pursuant to the 1965 federal Water Quality Act.[15] When implementing that 1965

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[6] 40 C.F.R. 122.44(d), applicable to states pursuant to 123.25.
[7] 40 C.F.R. 123.63(a)(5).
[8] Texas's antidegradation policy roughly parallels that of EPA. *See*, 40 C.F.R. § 131.12(a)
[9] 30 Tex. Admin. Code § 307.5(b)(1).
[10] 30 Tex. Admin. Code § 307.5(b)(2).
[11] 30 Tex. Admin. Code § 307.5(b)(3).
[12] 30 Tex. Admin. Code § 307.4(h)(3), (j)(2)(A).
[13] 40 C.F.R. § 131.12(a)(2), 30 Tex. Admin. Code § 307.5(b)(2).
[14] *PUD No. 1 of Jefferson County v. Washington Department of Ecology,* 511 U.S. 700, 718 (1994).
[15] Water Quality Act of 1965, Pub. L. No. 89-234, 79 Stat. 903 (1965), Sec. 5, (Appendix A to this Petition).

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federal law, Interior Secretary Stewart Udall enunciated the minimum requirements for each state's "non-degradation" policy:

> Waters whose existing quality is better than the established standards as of the date on which such standards become effective will be maintained at their existing high quality. These and other waters of a State will not be lowered in water quality unless and until it has been affirmatively demonstrated to the State water pollution control agency and the Department of Interior that such change is justifiable as a result of necessary economic or social development **and** will not interfere with or become injurious to any assigned uses made of, or presently possible in, such waters.[16]

As this policy statement reflects, where a regulatory decision would lower water quality in waters that exceeded the minimum standards, the anti-degradation policy requires two separate and independent showings: (1) the lowering of water quality would not be harmful to any assigned or attainable use of the receiving waters; and (2) the lowering of water quality is necessary for important economic or social development.

The requirement for these two independent demonstrations prior to the authorization of a discharge continues to this day and is embodied in both EPA's minimum standards for state permitting programs and within TCEQ's own water quality standards.

The protection of existing and attainable uses (the "Tier I" Review) is embodied in EPA's minimum standards at 40 C.F.R. § 131.12(a)(1), which requires that, "[e]xisting instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected." Texas has incorporated this minimum requirement within its own water quality standards at 30 Tex. Admin. Code § 307.5(b)(1), which provides, "Existing uses and water quality sufficient to protect those existing uses must be maintained."

The requirement that a lowering of water quality be justified as necessary for important economic or social development (the Tier II review) is set forth in EPA's minimum standards at 40 C.F.R. § 131.12(a)(2), which provides that:

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[16] Dep't of the Interior, Compendium of Dep't of Interior Statements on Non-Degradation of Interstate Waters, 1-2 (1968) (emphasis added) (available at https://www.epa.gov/sites/production/files/2014-10/documents/doiwaters.pdf, last accessed May 7, 2021) (At the time of this statement, the United States Environmental Protection Agency did not yet exist. The United States Department of the Interior held jurisdiction over water quality standards at the time.) (Excerpted in Appendix B to this Petition, with emphasis added therein).

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> Where the quality of the waters exceeds levels necessary to support the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully. Further, the State shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.

EPA's Water Quality Handbook elaborates on the purpose of this regulation, which 30 Tex. Admin. Code § 307.5(b)(2) is intended to implement:

> anti-degradation was originally based on the spirit, intent, and goals of the Clean Water Act, especially the clause 'restore and maintain the chemical, physical and biological integrity of the Nation's waters' (101(a)) and the provision of 303(a) that made water quality standards under prior law the 'starting point' for CWA water quality requirements.[17]

This published EPA guidance further notes that the showing of social and economic necessity under this regulation is intended to impose a significant burden on the applicant:

> [40 C.F.R. § 131.12(a)(2)] is intended to provide relief only in a few extraordinary circumstances where the economic and social need for the activity clearly outweighs the benefit of maintaining water quality above that required for "fishable/swimmable" water, and both cannot be achieved. The burden of demonstration on the individual proposing such activity will be very high.[18]

Of course, any state policy or provision that would allow this showing to be wholly avoided would be directly contrary to this federal policy.

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[17] Envtl. Prot. Agency, Water Quality Standards Handbook 4-1 (2d ed. 1993), (https://www.epa.gov/sites/production/files/2014-10/documents/handbook-chapter4.pdf) (Excerpted in Appendix C to this Petition with emphasis added therein) IOBCWA and HRA request that the Court take judicial notice of each document included as an appendix to this Petition.

[18] *Id.* at Section 4.5 (p. 9 of Chapter 4).

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B. TCEQ fails to require a demonstration that a discharge is necessary for important economic or social development, thereby, failing to implement an effective anti-degradation policy.

1. EPA allows states to implement a Tier II significance threshold, but it must be narrow and transparent.

Petitioners do not dispute the ability of a State to utilize a significance threshold in implementing the Tier II review required by EPA's minimum standards for a NPDES program. But, such a significance threshold cannot undermine the purposes of a Tier II review, as the *de minimis* exemption employed by Texas does.

The proper scope of a *de minimis* exemption to a Tier II water quality standard was directly addressed by the federal Sixth Circuit Court of Appeals in *Kentucky Waterways Alliance v. Johnson*.[19] In that case, Kentucky had adopted water quality standards that categorically exempted several different types of discharges from a Tier II review, including coal mining discharges and domestic discharges from single-family residences.[20] EPA approved of these exceptions based upon a finding that they were *de minimis*.[21] Several citizen groups challenged this decision, alleging that approval of the exceptions was in violation of the CWA. In considering these challenges, the United States Sixth Circuit Court of Appeals acknowledged that agencies may create unwritten exceptions to a statute or rule for *de minimis* matters.[22] However, the Court also noted that, "[t]his authority is not an ability to depart from the statute, but rather a tool to be used in implementing the legislative design."[23] The Court found that EPA's decision document had not demonstrated that dischargers that avail themselves of the exemptions would not cause significant degradation and on that basis remanded the matter to the EPA for the agency to further review the matter.[24]

The EPA itself has also addressed the proper scope of a *de minimis* Tier II exception in its own policy statements and guidance.

Ephraim S. King, Director of EPA's Office of Science and Technology, issued an agency memorandum to EPA Division directors on August 10, 2005, addressing "Tier 2 Antidegradation

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[19] *Kentucky Waterways Alliance v. Johnson,* 540 F.3d 466 (6th Cir. 2008) ("*Kentucky Waterways*").
[20] *Kentucky Waterways* at 482.
[21] *Kentucky Waterways* at 482.
[22] *Kentucky Waterways* at 491.
[23] *Id.*
[24] *Kentucky Waterways* at 490.

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Reviews and Significance Thresholds." Within that memo, he noted that, "antidegradation is an integral part of a state's water quality standards, as it provides important protections that are critical to the fulfillment of the Clean Water Act objective to restore and *maintain* the chemical, physical, and biological integrity of the Nation's waters."[25] He went on to note that states were allowed to establish significance thresholds for the performance of a Tier II review, but noted that, "it is important that states and tribes set their significance thresholds at a level that can be demonstrated to be consistent with the purpose of Tier II requirements."[26] Without this assurance, it would be possible for a new or increased discharge to result in significant degradation without public consideration of the necessity and importance of that discharge, resulting in the loss or diminishment of a valuable natural resource.[27] In the same memo, the EPA noted that it recommended that significance thresholds be established as a threshold assimilative capacity, with a cumulative cap. [28]

In addition, EPA directly addressed the proper scope of a *de minimis* exception to the Tier 2 review when revising its minimum standards for water quality standards in 2015. In the Federal Register preamble to the adoption of revised minimum standards, EPA confirmed that, "the implied de minimis provision authority is narrow in reach and tightly bounded by the need to show that the situation is genuinely de minimis or one of administrative necessity,"[29] and EPA went on to say that, "a determination of when matters are truly de minimis naturally will turn on the assessment of particular circumstances, and the agency will bear the burden of making the required showing."[30]

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[25] Memorandum from Ephriam S. King, Director of the EPA Office of Science and Technology, to Regional Water Management Division Directors on Significance Thresholds, Regions 1–10 (Aug. 10, 2005) available at https://www.epa.gov/nutrient-policy-data/tier-2-antidegradation-reviews-and-significance-thresholds-memo, at p. 1 (emphasis in original) (Appendix D to this Petition)("King Memo").
[26] *Id*, at p.2.
[27] *Id.*
[28] *Id.*
[29] Water Quality Standards Regulatory Revisions, 80 Fed. Reg. 51020, 51034 – 51035 (Aug. 21, 2015) (Excerpted at Appendix E to this Petition, with emphasis added therein) quoting *Kentucky Waterways* at 483, and *Alabama Power v. Costle*, 636 F.2d. 323, 361 (D.C. Cir. 1979).
[30] *Id., citing Kentucky Waterways and quoting Greenbaum v. U.S. Envtl Prot. Agency,* 370 F.3d 527, 534 (6th Cir. 2004).

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2. As reflected in recent cases, TCEQ's Water Quality Standards contain a "de minimis" exception to a Tier II review that TCEQ improperly applies broadly with little transparency.

i. Summary

The requirement for a demonstration that the lowering of water quality is necessary for important economic or social development has been ostensibly incorporated into the "Tier II" Review contained in the TCEQ Water Quality Standards at 30 Tex. Admin. Code § 307.5(b)(2), which provides that:

> No activities subject to regulatory action that would cause degradation of waters that exceed fishable/swimmable quality are allowed unless it can be shown to the commission's satisfaction that the lowering of water quality is necessary for important economic or social development. Degradation is defined as a lowering of water quality by more than a de minimis extent, but not to the extent that an existing use is impaired. Water quality sufficient to protect existing uses must be maintained. Fishable/swimmable waters are defined as waters that have quality sufficient to support propagation of indigenous fish, shellfish, terrestrial life, and recreation in and on the water.

The sole substantive distinction between 30 Tex. Admin. Code § 307.5(b)(2), and 40 C.F.R. § 131.12(a)(2), is TCEQ's addition of a *de minimis* exemption.

TCEQ's Water Quality Standards Implementation Procedures contain examples of where degradation is "likely to occur" or unlikely to occur based on considerations such as the consumption of the receiving water's assimilative capacity.[31] However, the situations where degradation is deemed "likely" are exceedingly narrow, and the implementation procedures state that even discharges falling within these examples may not constitute degradation.[32] Thus, the guidance set forth in the Implementation Procedures is effectively useless in providing the public an objective standard for when a discharge would be found to result in a greater than de minimis lowering of water quality.

To Petitioners' knowledge, TCEQ in practice universally finds that applications for a new or amended TPDES permits result in less-than de minimis lowering of water quality. To Petitioners' knowledge, TCEQ, thereby, exempts all TPDES applications from a demonstration

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[31] Texas Commission on Environmental Quality. "Procedures to Implement the Texas Water Quality Standards" RG-194, June 2010, at 65-66.
[32] *Id.*

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that the proposed discharge is necessary for important social or economic development. TCEQ's unreasonable interpretation of the term "*de minimis*" has created an exemption that swallows the rule.

Four cases in the last several years exemplify this error: the Commission's consideration of the Port of Corpus Christi Authority's Application for Permit No. WQ0005253001, Oak Grove Management Company's Application for Permit No. WQ0001986000, Lerin Hills Utility District's Application for Permit No. WQ0014712001, and the City of Dripping Springs Application for Permit No. WQQ0014488003.

ii. TCEQ's Consideration of the Application of the Port of Corpus Christi Authority of Nueces County is a current and ongoing example of TCEQ's erroneous application of the de minimis standard.

The TCEQ staff's application of the *de minimis* exception in consideration of Port of Corpus Christi Authority of Nueces County's (POCCA's) Application for the discharge of desalination reject brine in the quantity of 110 MGD near Harbor Island exemplified the manner in which TCEQ's overly-broad interpretation of "*de minimis*" undermines the purposes of the CWA. TCEQ's water quality standards contain no numeric criteria for salinity. Yet, high-salinity discharges can have devastating impacts upon wildlife. Water will move from areas of low salinity to high salinity. Since many aquatic wildlife in the sensitive larval stage have semi-permeable bodies, this means that a significant increase in salinity that would result from a concentrated saline discharge will tend to draw the water out of the aquatic organism, thereby dehydrating the organism in a potentially fatal manner. If a discharge creates an excessive salinity gradient, then organisms moving through this area will be harmed or killed.

The discharge of more than 100 million gallons daily of highly-concentrated brine as proposed by POCCA in its application for Permit WQ00052530001 unquestionably disrupts salinity levels in receiving waters.[33] Yet, in reviewing POCCA's application, the TCEQ staff found that the discharge would lower water quality by no more than a *de minimis* extent, thereby exempting the permit application from the Tier II requirement for a demonstration of necessity to promote important economic or social necessity. In support of this finding that the discharge

[33] See Appendix F of this Petition (Testimony of Protestants regarding impacts).

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would have only a *de minimis* impact on water quality, TCEQ's water quality standards reviewer testified that:

> **[F]or the most part, an antideg review on a new facility is a feeling**, and my feeling with its location in this dynamic environment that it was going to be okay, that this amount of hypersaline water being discharged from this facility would not degrade the environment beyond de minimis.[34]

The reviewer went on to state that:

> It's hard to do antidegradation on a new facility because it's kind of like trying to look into a gazing ball and predict the future.[35]

Such "analysis" – which typifies TCEQ's determinations that a lowering of water quality is *de minimis* – falls far short of professional judgment and lies in the realm of pure speculation. Furthermore, such statements provide no standard upon which the public can comment or evaluate TCEQ's decision that a discharge results in a less-than-de-minimis lowering of water quality. They also ignore the application of sciende and standard modeling procedures that can, in fact, predict post-discharge volumes and concentrations in receiving waters that would result from proposed new discharges.

The administrative law judge reasonably found that POCCA had failed to demonstrate that the lowering of water quality caused by the proposed discharge would be less than de minimis.[36] However, the TCEQ Commissioners in May of 2021 declined to adopt this proposal for decision and remanded the matter to SOAH for additional evidence. This continued processing of the application as if it constituted a less than de minimis impact on water quality even after it has been pending for almost three years undermines public participation.

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[34] Tex. State Office. Admin. Hearings, *Application of Port of Corpus Christi Authority of Nueces County for TPDES Permit No. WQ00052530001*, Docket No. 582-20-1895 (Feb. 5, 2021) (proposal for decision) at p. 34 (Excerpted in Appendix G to this Petition, with emphasis added therein).
[35] *Id.* at p. 34.
[36] *Id.* at 42-43.

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iii. TCEQ's consideration of nutrient discharges into Texas' Hill Country streams further exemplifies the error in TCEQ's determination that water quality impacts will be "de minimis."

Many streams in the Texas Hill Country are "phosphorus limited", meaning that they naturally have very low phosphorus levels and a very low assimilative capacity for the addition of phosphorus, before they become subject to unsightly algal growth that stifles and alters aquatic life. This impact (and the magnitude of TCEQ's error in considering this issue) can be starkly seen by comparing the water quality upstream of domestic wastewater discharges such as that from the Liberty Hill wastewater treatment plant, which was permitted by TCEQ based on a conclusion that the water quality impacts would be less than "de minimis":

Approximately 1000 feet upstream of the Liberty Hill wastewater treatment plant (WWTP) outfall on the San Gabriel River – August 19, 2019

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Approximately 250 feet downstream of the Liberty Hill WWTP outfall on the San Gabriel River – August 19, 2019

TCEQ's pattern of treating these discharges as "de minimis" defies not only the Clean Water Act, but also all logic and experience. With occasional assent of the Texas judiciary, TCEQ has cavalierly disregarded this low assimilative capacity in cases exemplified by its consideration of an application of Lerin Hills Ltd. for TPDES Permit No. WQ0014712001 and the City of Dripping Springs application for TPDES Permit No. WQ0014488001.

In 2006, Lerin Hills Ltd. ("Lerin Hills"), applied to TCEQ for a TPDES permit to discharge treated domestic wastewater into an unnamed tributary that flowed directly into a series of phosphorus-limited clear Hill Country streams that exceed fishable/swimmable standards. The proposed discharge included the addition of nitrogen as well as up to 750 pounds of phosphorus per year. TCEQ's Executive Director predicted that the minimum downstream dissolved oxygen would be lowered from a background level of 6.45 mg/L to a modeled post-discharge level of 5.03 mg/L. This change of more than 1.0 mg/L in DO is more than twice the

0.5 mg/L benchmark identified in the Water Quality Standards Implementation as guidance on whether a lowering of water quality constitutes "degradation."[37]

Rather logically, the Administrative Law Judge recommended denial of the application, writing that "it is undisputed that increased algal and plant growth could be expected" and that "these streams are phosphorus-limited with little assimilative capacity for nutrients."[38] The ALJ found that the applicant had met *neither* the Tier I nor Tier II standards.[39] TCEQ Commissioners rejected the ALJ's recommendation and issued the permit. In doing so, TCEQ found, with regard to nutrients, that an applicant should not be required to submit quantitative data on cumulative phosphorus loading over time, even when such issues were raised by the public.[40] With regard to dissolved oxygen, TCEQ's final order seems to say that the numeric change of greater than 1.0 mg/L can be entirely ignored, because that measurement is a number while the Tier II de minimis issue is a *narrative* standard.[41]

Protestants sought judicial review of this decision in a case ultimately decided by the Corpus Christi Court of Appeals.[42] The appellate court held that under TCEQ's narrative Tier II standard TCEQ could limit the information considered on the *de minimis* question to only "qualitative" or "subjective" evidence, and that the Commission was thus within its discretion to reject an administrative law judge's decision based on a "more strict, quantitative standard."[43] In other words, the court upheld the TCEQ's rejection of protestant's evidence of the quantitative

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[37] As usual, TCEQ's Water Quality Standards implementation procedures were entirely useless in determining whether this constituted a "de minimis" lowering of water quality. Those procedures then and still provide that degradation is "likely to occur" if a discharge is "projected to decrease dissolved oxygen by more than 0.5 mg/L for a substantial distance in a water body that has exceptional quality aquatic life and a relatively unique and potentially sensitive community of aquatic organisms," (IPs at p. 66) while saying that degradation is unlikely "if the dissolved oxygen in the 'sag zone' is lowered by less than 0.5 mg/L from baseline instream concentrations, and if the potentially affected aquatic organisms are not unusually sensitive to changes in dissolved oxygen."(IPs at p. 65) While the lowering of dissolved oxygen in the Lerin Hills matter far exceeded the 0.5 mg/L, the receiving water body was not formally recognized as having exceptional aquatic life with unique and potentially sensitive community of aquatic organisms. Thus, as with many instances, the language contained in the implementation procedures provided no guidance to the public as to whether the lowering of water quality qualified as "de minimis".

[38] Tex. State Office. Admin. Hearings, In the Matter of the Application by Lerin Hills, Ltd. for Texas Pollution Discharge Elimination System (TPDES) Permit No. WQ0014712001, Docket No. 582-08-0690 (Mar. 4, 2008) (proposal for decision) at p. 33-34. (Appendix H to this Petition).

[39] *Id.* at p. 34, fn. 168.

[40] Tex. Comm'n on Environmental Quality, Docket No. 2007-1178-MWD, Final order at p. 13 (July 7, 2009).

[41] Final order at 12-13.

[42] While TCEQ appeals are within the geographic jurisdiction of the Austin Court of Appeals, the Texas Supreme Court transfers certain cases to other appellate courts for the sake of "docket equalization." Thus, TCEQ appeals are not universally decided by the Austin Court of Appeals.

[43] *Rick Wood v. Tex. Comm'n on Env'l Quality,* 2015 WL 1089492, *5 (Tex. App. – Corpus Christi, 2015).

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impact of phosphorus concentrations and quantitative changes in dissolved oxygen in the receiving waters. This ongoing practice of refusing to consider any numeric information from the public, while limiting its review wholly to conclusory opinions expressed by experts for the applicant and TCEQ staff, prevents an objective examination of the impact of a discharge on the integrity of the receiving waters.

The processing of the Application by the City of Dripping Springs for Permit No. WQ0014488003 provides an instance where the Texas courts have found that TCEQ's "de minimis" exception fails to implement the anti-degradation requirement of the TCEQ rules. In October of 2015 Dripping Springs submitted its application to discharge 995,500 gpd of domestic wastewater into Walnut Springs, which is a small tributary of Onion Creek. Aquatic wildlife present in Onion Creek included the federally-endangered Barton Springs Salamander. Salamanders require well-oxygenated water for respiration and survival, which is produced by clean springflow with a relatively constant, cool temperature. Furthermore, nitrogen and phosphorus alone or in combination with other factors can harm the endangered salamanders. Dripping Springs' proposed effluent would potentially increase phosphate levels by up to 30 times the current stream concentration and allow up to 1 pound of phosphorus per day, which would potentially be toxic to salamanders and other aquatic organisms. Thus, maintenance of high water quality in Onion Creek was of paramount importance.

A contested case hearing was held on multiple issues, including whether the application complied with the TCEQ's anti-degradation requirements.[44] Onion Creek exceeds fishable/swimmable quality, and, thus, a Tier 2 anti-degradation analysis was required for that water body to determine if the discharge would result in degradation. During the hearing, it was undisputed that the proposed permit limits of 0.15 mg/L Total Phosphorus (TP) and 6 mg/L Total Nitrogen (TN) were each about thirty times average measured concentrations of these chemicals in existing, baseflow Onion Creek conditions. Considering the assimilative capacity of the receiving stream, SOSA's expert opined that the discharge would utilize 663% of Onion Creek's assimilative capacity for TP and 1041% of its assimilative capacity for TN at the critical, low flow conditions. It was undisputed that this discharge would result in Onion Creek no longer being

[44] *In Re: Application of City of Dripping Springs for New TPDES Permit No. WQ0014488003,* Docket 582-18-3000, Texas State Office of Administrative Hearings.

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oligotrophic, but, rather, in its becoming mesotrophic or eutrophic according to the boundaries between those conditions established by EPA's guidance for the specific, high-quality Hill Country streams subregion.[45] No party disputed that the discharge would result in this alteration of the trophic state of the receiving water, but the parties disputed the relevance of the change in trophic status.

The administrative law judge did not disagree that the changes in phosphorus and nitrogen were greater than "de minimis." But, the ALJ completely disregarded the presumption set forth in EPA's Water Quality Standards that new discharges or the expansion of a wastewater facility would presumably lower water quality.[46] The ALJ asserted that:

> [I]t is not enough to show that [total phosphorus] or [total nitrogen] might be impacted by more than a de minimis amount; rather, it must be shown that these changes to [total phosphorus] and [total nitrogen] then result in a lowering of water quality by more than a de minimis amount. For example, if background [total phosphorus] is 0.002 mg/L and the discharge would raise that level to 0.006 mg/L, this would be a tripling of [total phosphorus] levels – which is clearly more than de minimis. But, the impact on water quality from such a change in [total phosphorus] may be negligible, because both 0.002 mg/L and 0.006 mg/L may be extremely low. As such, there would be no degradation under [30 TAC 305.5] even though the change in [total phosphorus] level is arguably more than de minimis, because there is no significant (*i.e.,* more than de minimis) lowering in water quality. Or, the evidence could show that the addition of [total nitrogen] or [total phosphorus] might have beneficial effects on the water body. [47]

So, the ALJ placed on the permit opponents the burden to establish that an admittedly greater-than-de-minimis change in phosphorus concentrations would degrade water quality. He opined that, "such a broad generalization [i.e., negative water quality impact] is not supportable," since, "the determination of a lowering of water quality must be based on evidence demonstrating such, not a presumption that a certain type of activity will *always* lower water quality."[48] Thus, the ALJ

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[45] Environmental Protection Agency, EPA 822-B-01-013, "Ambient Water Quality Criteria Recommendations: Rivers and Streams in Nutrient Ecoregion IV" (Dec. 2001).

[46] The ALJ did not analyze the impact of SB 709 (2015 Tex. Leg. Sess.) on this EPA guidance presumption. That legislation, among other things, established a presumption that the permit application and various administrative record documents establish that the draft permit meets all regulatory standards. Consistent with the arguments One can easily imagine an argument that that legislation invalidates the EPA presumption that "new discharges or the expansion of a wastewater facility would presumably lower water quality."

[47] Texas State Office of Administrative Hearings, *In Re: Application of City of Dripping Springs for New TPDES Permit No. WQ0014488003,* Docket 582-18-3000, Proposal for Decision at p. 25 (Nov. 16, 2018). (Appendix I to this Petition)

[48] *Id.*

concluded that, "the evidence must first demonstrate a lowering of water quality that is more than de minimis before the Tier 2 requirement kicks in to show the existence of important economic and social development needs."[49]

The ALJ then went on to reject an application of a test based upon consumption of greater than 10% of a receiving streams assimilative capacity, noting that under the TCEQ's Water Quality Standards Implementation Procedures, such a threshold was not applicable to phosphorus, nitrogen, or dissolved oxygen.[50] The ALJ thus declared evidence regarding the impact of a discharge upon assimilative capacity of a receiving stream as "**irrelevant**" to a determination of whether the resulting lowering of water quality was greater than de minimis.[51]

Since TCEQ's Implementation Procedures relating to nutrients do not define "de minimis" in relationship to assimilative capacity, the ALJ likewise declared that SOS's analysis regarding the impact of the discharge on the trophic state of Onion Creek was "irrelevant" finding that the very concept of trophic states is "arbitrary," since streams near the boundary between trophic states may have similar characteristics.[52] This was despite the ALJ's recognition that the EPA recommends the consideration of trophic states as guidance in the implementation of the Clean Water Act.[53] Given that EPA had approved Texas' Implementation Procedures, which made no mention of trophic states, the ALJ felt that assertions related to the trophic states of receiving waters could, and should, be rejected as purely irrelevant.[54]

Despite the presence of multiple endangered species, the ALJ also rejected SOS's contention that Onion Creek contained "exceptional quality aquatic life and potentially sensitive community of aquatic organisms."[55] The ALJ found that TCEQ's general designation of Onion Creek as subject to "high" aquatic life use, rather than "exceptional" aquatic life use was controlling. Thus, the ALJ found that the circumstances presented did not fall within the scope of the example given in the Implementation Procedures, where degradation is considered likely if it results in an "increased loading of oxygen-demanding substances that is projected to decrease dissolved oxygen by more than 0.5 mg/L for a substantial distance in a water body that has

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[49] *Id.*
[50] *Id.* at 26.
[51] *Id*
[52] *Id.*
[53] *Id.*
[54] *Id.*
[55] *Id.*

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exceptional quality aquatic life and a relatively unique and potentially sensitive community of aquatic organisms."[56] Thus, under the ALJ's logic, a discharge would be allowed to result in the increased loading of oxygen-demanding substances that is projected to decrease dissolved oxygen in a water body with a relatively unique and potentially sensitive community of aquatic organisms. But, if the water body at issue was not formally designated in the water quality standards as subject to "Exceptional" aquatic life use, then the consequent lowering of water quality would be considered de minimis.

After this analysis, the ALJ found that the permit was compliant with all requirements of TCEQ's anti-degradation requirements, and recommended issuance of the permit. The Commission subsequently adopted the ALJ's recommendation in a final order issuing the permit.[57] SOSA pursued a judicial appeal of the decision, alleging, among other errors, that the Commission had violated its own anti-degradation rules by failing to perform a proper Tier 2 analysis.

The trial court agreed with SOS, and issued an order reversing TCEQ's decision. The trial court judge noted EPA's prior evaluation of the water bodies at issue:

> In 2001, EPA published a report, Ambient Water Quality Criteria Recommendations [for] Rivers and Streams in Nutrient Ecoregion IV. AR B Doc. 293 (Suppltl. AR). The Edwards Aquifer region, including Onion Creek where the discharge would occur, is within Ecoregion IV. The report summary explains that its recommended "ecoregional nutrient criteria address cultural eutrophication—the adverse effects of excess human-caused nutrient inputs." The report recommends nutrient limits at which stream changes occur in sensitive streams—25 micrograms per liter for Total Phosphorus and 700 micrograms per liter for Total Nitrogen. This 2001 EPA report placed Onion Creek in a group of streams with very low, naturally occurring phosphorus and nitrogen streams, known as "oligotrophic" streams. This description, and the nutrient limit recommendations in the report, were based on a statistical analysis of hundreds of streams across the country.[58]

The judge also went on to note that in the record:

> As to nitrogen, the permit allows discharged effluent to have up to 6.0 milligrams per liter (mg/L) of total nitrogen. The City's expert estimated that nitrate-nitrogen would increase from background levels in Onion Creek of 0.05 mg/L to almost 5

[56] *Id.* at 28, *see* TCEQ Procedures to Implement the Texas Surface Water Quality Standards (2010), p. 66.
[57] TCEQ Docket 2017-1749-MWD, Final Order, March 6, 2019.
[58] *SOS v. TCEQ*, Docket D-1-GN-19-003030 (459th Dist. Ct., Travis County)(Oct. 29, 2020 decision letter at p. 5)(Appendix J to this Petition).

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> mg/L with the proposed discharge. This was not disputed by other evidence. The City's expert estimated that phosphorus and nitrogen in the discharge would increase bottom-dwelling algae growth in Onion Creek tenfold, from less than 5 mg per square meter (m^2) of chlorophyll-a to 30 to 50 mg/m^2.

The District Court also found that TCEQ violated the applicable Tier I anti-degradation requirements because the proposed discharge would displace native aquatic species, in violation of the requirement to maintain existing uses.[59]

TCEQ's approach particularly undermines the explicit statutory objective of the Clean Water Act to "restore and maintain the **chemical** . . . integrity of the Nation's waters."[60] In its appellate brief, TCEQ went so far as to say, "even if background [total phosphorus] levels were to increase by clearly more than a de minimis percentage, the impact on the water body's quality from such a change in [total phosphorus] may be negligible, because [total phosphorus] levels both before and after any increase may be extremely low." This approach, wherein an admittedly significant change in the chemical integrity of the receiving waters is tolerated, is directly contrary to the purposes of the CWA.

3. Corrective Action Required: Remove or objectively define the "de minimis" exemption and require meaningful alternatives analysis.

Experience has established that the current wording of the TCEQ water quality standards, as interpreted by TCEQ and generally upheld by Texas Courts, is inadequate to ensure a proper Tier II anti-degradation review. Thus, in order to correct this deficiency, either the "de minimis" exception contained in 30 TAC § 307.5(b)(2) must be entirely removed, or the term "de minimis" must be explicitly defined by rule in an objective manner that enables meaningful evaluation and comment by the public. An approach defining "de minimis" consistent with the standard set forth in the King Memo would be a step towards resolving this issue.

Measures are also needed to ensure that performance of an alternatives analysis is embodied in TCEQ's normal processing of TPDES applications.[61] To this end, TCEQ water

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[59] *Id.* at p. 8.

[60] CWA §101(a), 33 U.S.C. § 1251(a).

[61] Contrary to the evaluation of alternatives required for a Tier II anti-degradation analysis, The TCEQ has repeatedly stated that it cannot consider or require no discharge alternatives nor alternate disposal methods or locations for proposed wastewater discharges. *See, e.g,* Response to Comments re: City of Buda and Guadalupe-Blanco River Authority Application for TPDES Permit No. WQ0011060001, p. 30 (Nov. 2, 2017), Response to Comments re: City of Granbury for TPDES Permit No. WQ0015821001, p. 31 (May 26, 2021).

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quality standards should be required to incorporate requirements analogous to those set forth in the Pennsylvania Code, which were developed in response to EPA's insistence that Pennsylvania develop a sufficient Tier 2 anti-degradation program. At 25 Pennsylvania Code (Pa. Code) § 93.4c, the Pennsylvania Code sets forth procedures for implementation of anti-degradation requirements. For High Quality or Exceptional Waters, these procedures include a requirement that an applicant, "shall evaluate nondischarge alternatives to the proposed discharge and use an alternative that is environmentally sound and cost-effective when compared with the cost of the proposed discharge."[62] Under the Pennsylvania Regulations, if a nondischarge alternative is not environmentally sound and cost-effective, a new, additional or increased discharge shall use the best available combination of cost-effective treatment, land disposal, pollution prevention and wastewater reuse technologies.[63] Such a requirement would go far towards resolving the water quality issues being experienced in clear Hill Country streams, where re-use and land application of domestic wastewater are feasible alternatives to direct discharges. The Pennsylvania Regulations establish a process which goes far towards ensuring a social and economic alternatives review is performed for new discharges into high quality waters, where the current TCEQ water quality standards provide no such assurance.

C. Texas Improperly Limits Public Participation in Application of Water Quality Standards

1. Public Participation in NPDES decisions must be provided for, encouraged and assisted.

The CWA requires that public participation be provided for, encouraged and assisted by States administering a NPDES program.[64] Furthermore, in issuing a permit, the state is to establish conditions, as required on a case-by-case basis, to provide for and ensure compliance with all applicable requirements of the CWA and regulations.[65] Public participation is specifically anticipated with regard to a determination that issuance of a permit will be consistent with the Tier II anti-degradation policy.[66]

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[62] 25 Pa. Code § 93.4c(b)(1)(i)(A). (Included within Appendix K to this Petition).
[63] *Id.*
[64] CWA § 101(e) (33 U.S.C. 1251(e)).
[65] 40 C.F.R. 122.43(a)(Applicable to state programs per 40 C.F.R. 123.25).
[66] 40 C.F.R. 122.12(a).

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2. The contested case hearing process is an integral element of public participation in the TPDES Program, and controls the respective burden of industry and the public in the Commission's final decision-making process on TPDES permits.

In considering the elements of Texas' public participation procedures, it is important to recognize the critical role of the contested case hearing process. As represented to EPA at the time of Texas' delegation, the hearing process was conducted in combination with the public comment process.[67] Participation in the contested case hearing process is a pre-requisite to seeking judicial review of a TCEQ permitting decision,[68] and, when a permit is contested, the Commission's final decision on the permit is based upon the recommendation of the administrative law judge and the information considered is limited to the record created during the hearing.[69] Chairman Niermann has noted that the Commission's authority to reverse an ALJ's recommendation is limited:

> Under Senate Bill 709, you know, as we've heard, **the Application, the Draft Permit, and the supporting documents constitute *prima facie* evidence that the applicant has met its burden. In other words, it's accepted until it's rebutted.** Of course, the Protestants can present rebuttal evidence, as they did in this case. If they do that, the Applicant as well as the Executive Director are free to present additional evidence. At that point, it's up to the administrative judges to weigh all of the evidence, to assess its credibility, and to ultimately determine whether the Applicant has indeed met its burden. And that's what they've done here in issuing their proposed decision and their proposed order. So now **it's our job to review the ALJs' work. As we've discussed before, that review is a constrained review.** We don't have unlimited discretion. The Commission can overturn a finding of fact only if we determine it was not supported by the great weight of the evidence. And we can overturn a conclusion of law only if it's clearly erroneous. **We do have more discretion when it comes to questions that are pure policy questions, but we are constrained quite a bit with respect to findings of fact and conclusions of law.**[70]

In this way, the contested case hearing process in inextricably linked to the Commission's final decision on a TPDES permit, and judicial review of that decision. Notably, when Senate Bill

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[67] A.G. Statement of Legal Authority, p. 19 ("If a contested case hearing is held, the public meeting referred to in the paragraph preceding this one shall be conducted as a part of the preliminary hearing under 30 Tex. Admin. Code § 80.105, unless the Executive Director specifies a different time and place for the public meeting. 30 Tex. Admin. Code § 55.25(b)(2). All public comment on the application received during the comment period and copies of the Executive Director's responses shall be admitted into the evidentiary record of the contested case hearing, and the parties are allowed to respond to and present evidence on each issue raised in a comment or response. 30 Tex. Admin. Code § 80.127(f).").

[68] *Sierra Club and Public Citizen v. Texas Commission on Environmental Quality,* No. 03-14-00130-CV, 2016 WL 1304928, *4 (Tex. App. – Austin, 2016).

[69] Tex. Gov't Code 2003.047(m).

[70] TCEQ Commissioner's Public Meeting, March 10, 2021. Discussion of New Business Item No. 1, commencing at approximately 2:13:30. https://www.youtube.com/watch?v=labQFZYr2Hs, last accessed July 16, 2021.

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709 was under consideration by the Texas Legislature, EPA expressed that this presumption should undergo EPA review in order to ensure compliance with federal program standards, but such a review never occurred.[71]

3. The TPDES Program violates the conditions of delegation by placing the burden on the public to demonstrate that a permit violates an applicable regulatory requirement, rather than placing the burden on the applicant and agency to demonstrate that a permit ensures compliance with all applicable requirements and regulations.

In administering the TPDES program, TCEQ bears a responsibility to ensure that permit limits established in TPDES permits comply with all applicable water quality standards.[72] The only way that such assurance can be achieved is by placing the burden upon the applicant to demonstrate that all applicable water quality standards will be complied with. Furthermore, many aspects of NPDES permits specifically place the burden upon the applicant to demonstrate that particular permit conditions are justified.[73]

For public participation to be effective, input from the public must be considered in light of this burden carried by the applicant to demonstrate compliance with the applicable water quality standards. Yet, as referenced above, Texas has created a presumption that an application meets all applicable requirements if the Executive Director's preliminary decision to issue a permit is contested.[74]

It is misleading to claim that the presumption applied in favor of the applicant is a matter limited to the contested case hearing process. As reflected by Chairman Niermann's recent comments, the creation of a *prima facie* presumption in favor of issuance of the permit carries forward to the final decision on the permit. That presumption applies to the *entire* record before the Commission at the time of the final decision, including the Commission's consideration of

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[71] March 31, 2015 Letter from David Gray of EPA Region VI to Eddie Rodriguez, Vice Chair of Texas House Committee on Environmental Regulation. (Appendix L to this Petition). By this petition, Petitioners ask that the EPA undertake the review which the EPA by this prior correspondence had indicated was necessary.
[72] 40 C.F.R. 122.44(d)(1)(vii)(A). (applicable to state programs per 40 C.F.R. 123.25).
[73] *See, e.g.,* 40 C.F.R. 125.72 (requiring certain demonstrations for variance from § 316(a) thermal discharge requirements), 40 C.F.R. 125.86 (requiring demonstration that proposed intake technology meets regulations to ensure implementation of best technology available to minimize adverse environmental impacts), 40 C.F.R. 125.63 (requiring demonstration that water quality monitoring program for secondary treatment is sufficient), 40 C.F.R. 125.45(g) (requiring demonstration that technology implemented would meet applicable technology standards in absence of pollutants in intake water).
[74] Tex. Gov't Code 2003.047(i-1)(1).

comments received during the comment period.[75] EPA's final decision on issuance of a NPDES permit is subject to no such presumption in favor of an applicant, and EPA's consideration of public comments is not subject to a presumption that the permit application meets the applicable regulatory requirements.[76]

The manner in which this presumption influences both the Commission's final decision on a permit and, even, the judicial review of a permitting decision was reflected in recent briefing by the Texas Attorney General in the pending appeal of a TPDES permit decision in the case of *Save Our Springs v. Texas Commission on Environmental Quality*.[77] In that case, the Texas Attorney General, on behalf of the TCEQ, characterized the issue on appeal as whether the *public* had demonstrated that the water quality standards would be violated:

> While SOS may have raised a question as to whether the change in the TP or TN level was more than a de minimis change in TP or TN because of where baselines were set, SOS failed to demonstrate that the change in TP or TN necessarily degrades water quality itself under Tier 2 standards.[78]

The attorney general went on to emphasize this point:

> SOS did not demonstrate what impact on water quality would likely result from the projected change in TP and TN levels. Simply put, SOS failed to demonstrate that the quality of the receiving waters would be degraded and thus failed to rebut the prima facie demonstration that the draft permit meets all state and federal legal and technical requirements.[79]

This approach, whereby the question before the Commission when finally considering a contested permit is whether the *public* has demonstrated that effluent limits violate the applicable water quality standards and whereby the question on judicial review is whether the *public* demonstrated that effluent limits violate the water quality standards, is in direct contravention of TCEQ's affirmative duty under the conditions of delegation to ensure that effluent limitations comply with the applicable water quality standards.

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[75] 30 TAC § 50.117(f).
[76] 40 C.F.R. §§ 124.15(a), 124.17(a)(2).
[77] *SOS v. TCEQ*, No. D-1-GN-19-003030 (459th Dist., Travis County).
[78] TCEQ Appellant's Brief, at p. 25.
[79] TCEQ Brief at p. 26.

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4. TCEQ undermines public participation in the permitting process by arbitrarily limiting the relevance of information by the public.

A determination of appropriate permit effluent limits requires meaningful consideration of information from the public. Yet, with regard to nutrients, TCEQ has taken the position that numeric modeling is not relevant to a determination of compliance with the water quality standards, and TCEQ, on this basis refuses, to consider numeric modeling when provided by the public.[80] Rather, TCEQ takes the position that only narrative subjective expert opinions may be considered with regard to nutrient impacts.[81] This renders the evaluation of nutrient impacts a standardless determination that prevents meaningful input from the public.

The Lerin Hills permit case offers a clear example of this.[82] There, the ALJ found phosphorus concentrations in discharge-impacted ponds were modeled to be 1.5 to as much as 12 times background (Proposed Finding 38). The ALJ noted the applicant's modeling did not address accumulation of phosphorus in the receiving waters over time (Proposed Findings 39 and 40). The ALJ noted the record contained no quantitative evidence of the mass of plant growth that would result from the increased nutrient loadings in the discharge (Proposed Finding 43). In light of these failings, the ALJ made a finding that a greater-than-de-minimis degradation had not been proven.

The TCEQ Commissioners, though having heard no evidence, themselves, deleted each of these proposed factual findings. Their rationale was:

> The Commission determined that the ALJ misapplied the Commission's policies and rules related to antidegradation, as set forth in 30 TEX. ADMIN. CODE ch. 307 and the "Procedures to Implement the Texas Surface Water Quality Standards", by requiring the Applicant to present quantitative data on cumulative loading of phosphorus over time and resulting biomass. The Commission determined that such data was not required in order for the Applicant to meet the current narrative standards for nutrients and that such data and modeling were not appropriately required of an applicant until the agency has an opportunity to develop a numeric standard in the future, after providing sufficient public notice and sound scientific vetting of that proposed new standard.

The Commissioners went on to strike references to evidence of background nutrient concentrations on the theory those data, nearly all of which had been supplied by the applicant's engineer, were

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[80] *Wood v. Texas Commission on Environmental Quality,* No. 13-13-00189, 2015 WL 1089492, *5 (Tex. App. Corpus Christi-Edinburg, 2015).
[81] *Id.*
[82] Application by Lerin Hills, LTD., for Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0014712001 (2009).

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not collected by protocols (e.g., 30+ samples gathered, at the very least, a week apart) set forth in the 2003 Implementation Procedures to establish site-specific bioavailable metals concentrations in receiving waters.[83] The Commissioners made other findings and conclusions that allowed them to state that any degradation would be de minimis.

The agency's arbitrary exclusion of evidence that has any tendency to make a fact more or less probable than it would be without the evidence renders public input almost nugatory.

5. TCEQ undermines public participation by refusing to make stormwater pollution prevention plans for permitted facilities available to the public.

Stormwater discharges have significant adverse impacts on water quality. Rather than depend entirely upon the imposition of effluent limits, authorizations for the discharge of stormwater incorporate best management practices through the development of a stormwater pollution prevention plan (SWPPP). The provisions of this plan constitute binding permit requirements that are federally enforceable by the EPA and citizens. Under the Texas Public Information Act, a governmental agency is required to provide all information to which the agency has a right of access.[84] TCEQ has a right of access to stormwater pollution prevention plans, yet refuses to provide such information to the public in response to a Public Information Act request. This failure to comply with Texas law, and the consequent denial of information to the public including the requirements applicable to a facility and a facility's self-monitoring and self-inspections, inappropriately undermines meaningful opportunities for effective citizen enforcement of stormwater discharge permit conditions.

6. TCEQ undermines public participation and effective implementation of the water quality standards by applying unwritten exceptions to compliance with water quality standards.

In reviewing water quality permit applications, TCEQ has developed certain practices without public input that are contrary to the standards published and available to the public. For example, the Texas Water Quality Standards contain a dissolved oxygen criteria of 5.0 mg/L for preservation of high aquatic life uses, which is the characterization assumed for most waterbodies in the state.[85] Yet, TCEQ only requires that an applicant present modeling demonstrating that

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[83] The 2010 Implementation Procedures, page 161, carry forward this sampling protocol.
[84] Tex. Gov't Code §§ 552.002(2)(B). 552.021.
[85] 30 TAC 307.4

dissolved oxygen concentrations will be maintained above 4.80.[86] This agency practice is strictly followed by TCEQ personnel and results in weaker effluent limits for virtually all domestic wastewater discharges considered by the TCEQ. Yet, this policy is not written in any agency document and TCEQ staff have been unable to identify any documentation to support this allowance. In effect, TCEQ has altered the key water quality standard for dissolved oxygen without any notice to the public or justification. This practice is contrary to the minimum requirement that a state ensure that permits include limits that assure compliance with the applicable water quality standards.

7. Corrective Actions Required: Modifications of agency practice and repeal of Tex. Gov't Code § 2003.047(i-1), (i-2), and (i-3); as well as repeal of 30 TAC § 80.17(c).

In order to correct TCEQ's failure to ensure that effluent limitations comply with applicable water quality standards, Texas Government Code § 2003.047(i-1), (i-2), and (i-3) must be repealed, and 30 TAC § 80.17(c) must be repealed. Correction of TCEQ's refusal to consider relevant information provided by the public in the permitting process, refusal to provide stormwater pollution prevention plans in response to public information act requests, and refusal to require compliance with all numeric water quality criteria for dissolved oxygen each require changes in agency practice. In the absence of such corrective actions, Texas' delegation to administer the NPDES program should be withdrawn.

IV. Inadequate Scope of Standing for Judicial Review.

A. Effective Judicial Review is a minimum requirement for a delegated NPDES Program.

EPA has previously observed that, "the ability to judicially challenge permits is an essential element of public participation under the Clean Water Act."[87] For this reason, EPA regulations require that a State must provide opportunity for judicial review in State Court of final approval or denial of permits in a way that is sufficient to provide for, encourage, and assist public participation in the permitting process.[88] This standard will be met if State law allows an

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[86] *In Re: Application of City of Dripping Springs for New TPDES Permit No. WQ0014488003,* Docket 582-18-3000, Texas State Office of Administrative Hearings. Testimony of applicant's expert James Miertschin (uncontested by TCEQ) ("The predicted dissolved oxygen concentration is within 0.2 mg/L of the 5.0 mg/L criterion, as allowed by TCEQ modeling protocols.") (prefiled Testimony of James Miertschin, page 58, lines 11-12).

[87] Amendment to Requirements for Authorized State Permit Programs Under Section 402 of the Clean Water Act, 61 Fed. Reg. 20772 (May 8, 1996).

[88] 40 C.F.R. 123.30.

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opportunity for judicial review that is the same as that available to obtain judicial review in federal court of a federally-issued NPDES permit.[89] The Federal Clean Air Act has similar requirements applicable to a sufficient State Implementation Plan (SIP),[90] which previously led EPA to disapprove of Virginia's Title V Program due to inadequate allowance for judicial review.[91] Virginia's applicable statute for judicial review of a Title V permitting decision required that a citizen seeking judicial review would be required to demonstrate injury to a "*pecuniary and substantial* interest."[92] EPA found that such a requirement created a standing test that was more narrow than Article III standing, and on that basis EPA disapproved of Virginia's Title V Program, noting, "The Virginia statute, as well Virginia case law does not enable a party who meets the minimum threshold standing requirements of Article III of the U.S. Constitution access to the Commonwealth's court system."[93] Virginia's Legislature then amended the governing statute to remove the requirement that a person demonstrate injury to a "pecuniary and substantial interest," while adding the language that a person may seek judicial appeal, "if such person meets the standard for obtaining judicial review of a case or controversy pursuant to Article III of the United States Constitution,"[94] which corrected that particular deficiency, and ultimately led to EPA approving of Virginia's Title V program.[95] As shown below, the TPDES program suffers from a very similar deficiency, since a recreational interest is not considered sufficient to demonstrate standing unless associated with a property interest. Due to restrictions placed upon the availability and conduct of the contested case hearing process, as well as restrictions upon recreational standing, the TPDES program fails to provide for sufficient judicial review of TPDES permits.

B. The TPDES Program makes the granting of a hearing request a requisite for judicial review and, thus, fails to provide sufficient opportunities for judicial review of TPDES permitting decisions.

In the process of delegating NPDES permitting authority to the State of Texas, both the EPA and the public had concerns that Texas law might require that persons seeking judicial review to obtain a contested case hearing in order to exhaust administrative remedies, and that a narrow

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[89] *Id.*
[90] 42 U.S.C. § 7661a(b)(6).
[91] *Commonwealth of Virginia v. Browner,* 80 F.3d 869, 873 (4th Cir. 1996) cert. denied.
[92] *Browner* at 876 (emphasis added).
[93] Clean Air Act Disapproval of Operating Permits Program; 59 Fed. Reg. 31183-01 (1994).
[94] VA Code Ann. § 10.1-1318.
[95] Clean Air Act Full Approval of Operating Permit Program; Virginia, 66 Fed. Reg. 62961-1 (2001).

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ability to obtain a contested case hearing would thereby impermissibly narrow the ability of the public to seek judicial review of a TCEQ permitting decision. Texas addressed this concern by claiming that a person was not required to obtain a contested case hearing in order to pursue judicial review of a TCEQ permitting decision, with the Texas Attorney General's Statement of Legal Authority claiming that: If a contested case hearing is not held, a person affected by a final ruling, order, or decision of the Commission may file a petition for judicial review under Code § 5.351 within 30 days after the decision is final and appealable. . . . **Requesting or participating in a contested case hearing is not among the exhaustion requirements for judicial review of discharge permit actions under Code § 5.351**.[96] It was based upon this representation that the EPA found Texas' program adequate with regard to judicial review. In doing so, EPA expressed its belief that Texas law provides two avenues of appeal of an NPDES permit: (1) the evidentiary hearing process, which is subject to appeal in accordance with Texas Administrative Procedure Act (APA), Texas Government Code Ann. §2001.001 et. seg. and (2) a direct appeal to state court based on comments pursuant to TWC §5.351.[97] EPA concluded that the "affected person" provisions of TWC §5.115(a) and 30 TAC 55.29 would apply only to evidentiary hearings and not to an appeal of an NPDES permit directly to state court based on comments, at which point the court would decide standing based on State case law.[98] Therefore, EPA explicitly stated in its approval of Texas' program:

> "**EPA is determining approval of this element of the Texas program on the basis that at a direct appeal to civil judicial courts is provided for permitting actions under Texas law and the civil courts will determine standing based on the common law. The public is not required to file for an evidentiary hearing. Therefore, there is a direct avenue of appeal via the public comment process (TWC section 5.351), and EPA is basing its evaluation of standing on that appeal right**." [99]

Texas' implementation of its program has been fundamentally contrary to the basis of EPA's finding that standing and opportunities for judicial review are adequate. In particular, Texas courts have rejected the Texas Attorney General's representation that Texas law provides "two independent avenues" for judicial review of a TCEQ decision. In the matter of *Sierra Club and*

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[96] Statement of Legal Authority for the Texas National Pollutant Discharge Elimination System Program, p. 19.
[97] State Program Requirements; Approval of Application to Administer the National Pollutant Discharge Elimination System (NPDES) Program; Texas, 63 Fed. Reg. 51164-1, 51170 – 51171 (1998).
[98] *Id.*
[99] *Id.*

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Public Citizen v. TCEQ, both the Sierra Club and Public Citizen filed comments opposing the issuance of an amendment of the TPDES permit held by Southwest Electric Power Company ("SWEPCO") for Operation of its H.W. Pirkey coal-fired power plant.[100] When the Executive Director issued a draft permit over these objections, both organizations requested a contested case hearing with regard to the permit amendment.[101] After a hearing to consider their hearing requests, the TCEQ denied both organizations' hearing requests.[102] Then, Sierra Club and Public Citizen sought to judicially appeal the Commission's decision based upon the substantive errors in issuance of the permit.[103] The Austin Court of Appeals held that such a direct appeal was unavailable, stating:

> Appellants were thus required to demonstrate that they were affected persons pursuant to Section 5.115 and fully participate in a contested case hearing before seeking judicial review of the merits of SWEPCO's permit under [Texas Water Code] Section 5.351. Absent such exhaustion of remedies, appellants were jurisdictionally barred from challenging the factual bases supporting the permit in district court.[104]

Based on *Sierra Club and Public Citizen v. TCEQ*, TCEQ has subsequently asserted in briefing to the Fifth Circuit Court of Appeals that a court may not consider a challenge to TCEQ's decision on the merits of a Clean Air Act permit unless the matter has first undergone a contested case hearing at the TCEQ.[105] This requirement that a person be granted a contested case hearing impermissibly narrows the scope of judicial review. Texas courts have held that TCEQ's decision on whether to grant or deny a contested case hearing is a discretionary decision by the Commission[106] and have held that the Commission may deny a contested case hearing based upon a consideration of the *merits* of the application.[107] This empowers the TCEQ full discretion to deny any person the right of judicial review, denies judicial review if errors alleged are pure

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[100] *Sierra Club and Public Citizen v. Texas Commission on Environmental Quality,* 2016 WL 1304928, *1 (Tex. App. - Austin, 2016)(not designated for publication).
[101] *Id.*
[102] *Id.*
[103] *Id.*
[104] *Id.* at *4, Notably, this decision was made by the court with full awareness of the representations regarding judicial review previously made by Texas to the EPA.
[105] *Shrimpers and Fisherman of the RGV and Vecinos Para El Bienestar de la Comunidad Costera v. Tex. Commission on Environmental Quality and John Niermann,* No. 19-60558, Defendant's October 9, 2019 Brief at pp. 44-45, United States Fifth Circuit Court of Appeals. (Appendix M to this Petition)
[106] *Texas Commission on Environmental Quality v. Sierra Club,* 455 S.W.3d 228, 235, (Tex. App. – Austin, 2014)("We review a TCEQ determination regarding affected-person status for an abuse of discretion.")
[107] *Id.* ("In making a decision regarding affected-person status, TCEQ enjoys the discretion to weigh and resolve matters that may go to the merits of the underlying application,").

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questions of law, and allows the denial of standing based upon the agency's determination that a permit is compliant with the applicable law – precisely the issue that persons with Article III standing should be entitled to litigate by judicial review. Furthermore, a contested case hearing may not be granted on a pure question of law,[108] meaning that Texas provides no route of judicial review for a protestant who contends that the Executive Director's draft permit is flawed as a pure matter of law (such as violating a federal regulation). It is beyond reasonable question that under these conditions the TPDES program fails to provide the opportunity for judicial review required by 40 C.F.R. § 123.30.

C. The TPDES Program Does not Provide Sufficient Opportunities for Judicial Review of a TPDES Permitting Decision, because Texas Courts reject injury to recreational interests as an independent basis for judicial standing.

The scope of judicial standing under Texas law has proven to be more narrow than Article III standing with respect to protection of recreational interests. Under federal law, a recreational interest in the environment is a well-established independent basis of standing to challenge a federal action.[109] Yet, Texas courts reject injury to a recreational interest as a valid independent basis of judicial standing. This was demonstrated in the 2010 case of *Save Our Springs Alliance v. City of Dripping Springs*.[110] In that matter, Save Our Springs Alliance ("SOSA")(a non-profit organization dedicated to protection of Barton Springs) filed suit against the City of Dripping Springs and developers who had reached agreements with the City, alleging that the development agreements exceeded the City's authority, and alleging that the City had violated the Texas Open Meetings Act in the approval of these agreements.[111]

As a basis for standing, SOSA alleged that many of its members enjoy Barton Springs pool for swimming and other recreational purposes, while one of its members also asserted a professional and educational interest in the study of the Barton Springs Salamander.[112] SOSA further alleged that the development agreements at issue would increase pollution of the Edwards Aquifer, thereby contributing to the declining health of Barton Springs which would injure the

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[108] Tex. Water Code § 5.556(d) (allowing Commission to grant a request for a contested case hearing only if the request raises a disputed question of fact).
[109] *Lujan v. Defenders of Wildlife,* 504 US 555, 562-563 (1992)("[T]he desire to use or observe an animal species, even for purely esthetic purposes, is undeniably a cognizable interest for purpose of standing.")
[110] *Save Our Springs Alliance v. City of Dripping Springs,* 304 S.W.3d 871 (Tex. App. – Austin, 2010).
[111] *SOSA at* 875.
[112] *SOSA* at 879.

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environmental, scientific and recreational interests of its members.[113] The Austin Court of Appeals categorically rejected such interests as a basis for judicial standing under Texas law. Rather, the Austin Court of Appeals found that some impact to a property interest was required, observing that, "we do not find any Texas case in which an alleged injury to a plaintiff's environmental, scientific, or recreational interests conferred standing in the absence of allegations that the plaintiff has an interest in property affected by the defendants' actions."[114] Article III standing includes no such requirement that a property interest be impacted. This limitation impermissibly limits that availability of judicial review.

D. Corrective Action Required: Amendment of Tex. Water Code § 5.351 to exclude a requirement that a person obtain a contested case hearing and acknowledge Article III Standing.

Texas Water Code § 5.351 governs judicial review of TCEQ decisions. This statute provides that, "a person affected by a ruling, order, decision, or other act of the commission" may seek judicial review of such a decision." In order to clarify that a direct route of judicial review exists under Texas Water Code § 5.351, as represented to the EPA at the time of NPDES delegation, that statute must be amended to provide that a person seeking judicial review is only required to submit comments to the Executive Director and file a request for reconsideration with the Commission but is not required to request nor participate in a contested case hearing. The Texas courts have held that § 5.351 requires that a person seeking judicial appeal demonstrate a "justiciable interest."[115] The question of whether a person has a "justiciable interest" in a matter is equivalent to the question of whether someone possesses standing in State Courts under the Texas Constitution.[116] Thus, limits imposed by the courts on State constitutional standing would be imposed upon persons seeking to exercise rights of appeal granted by Texas Water Code § 5.351. In order to remedy this situation, Texas Water Code § 5.351 should be amended to include language clarifying the scope of standing for judicial review in the same manner as Virginia's judicial review statute was amended to provide for judicial review. In particular, language should be added to Water Code § 5.351 providing that: A petitioner is considered affected if such person meets the standard for obtaining judicial review of a case or controversy pursuant to Article III of

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[113] *Id.*
[114] *SOSA* at 880.
[115] *Texas Commission on Environmental Quality v. Bonser-Lain,* 438 S.W.3d 887, 894-895 (Tex. App. – Austin, 2014) *citing Hooks v. Texas Department of Water Resources,* 611 S.W.2d 417, 419 (Tex. 1981).
[116] *Austin Nursing Center, Inc. v. Lovato*, 171 S.W.3d 845, 848 (Tex. 2005).

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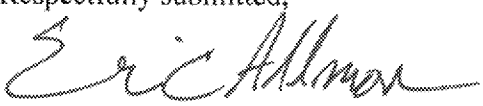
the United States Constitution. A person shall be deemed to meet such standard if (i) such person has suffered an actual or imminent injury which is an invasion of a legally protected interest and which is concrete and particularized; (ii) such injury is fairly traceable to the decision of the Commission and not the result of the independent action of some third party not before the court; and (iii) such injury will likely be redressed by a favorable decision by the court.[117]

V. Conclusion

For the reasons set forth above, the TPDES program is deficient due to the failure to ensure that permit applications comply with a Tier II review, failure to ensure that effluent limits contained in permits are demonstrated to be compliant with applicable regulations and water quality standards, and Texas' failure to recognize that an injury to recreational interests is an independent and sufficient basis for judicial standing. Petitioners ask that the EPA require that Texas implement the corrective actions identified within this petition. If Texas fails to implement these corrective actions, Petitioners request that EPA initiate proceedings to withdraw Texas' delegated authority to administer the NPDES Program within the State of Texas.

Respectfully submitted,



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[117] *cf.* VA Code § 101.1-1318.

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APPENDIX A

Public Law 89-234

AN ACT

October 2, 1965
[S. 4]

To amend the Federal Water Pollution Control Act to establish a Federal Water Pollution Control Administration, to provide grants for research and development, to increase grants for construction of sewage treatment works, to require establishment of water quality criteria, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That (a) (1) section 1 of the Federal Water Pollution Control Act (33 U.S.C. 466) is amended by inserting after the words "SECTION 1." a new subsection (a) as follows:

Water Quality Act of 1965. 70 Stat. 498.

"(a) The purpose of this Act is to enhance the quality and value of our water resources and to establish a national policy for the prevention, control, and abatement of water pollution."

(2) Such section is further amended by redesignating subsections (a) and (b) thereof as (b) and (c), respectively.

Administration.

(3) Subsection (b) of such section (as redesignated by paragraph (2) of this subsection) is amended by striking out the last sentence thereof and inserting in lieu of such sentence the following: "The Secretary of Health, Education, and Welfare (hereinafter in this Act called 'Secretary') shall administer this Act through the Administration created by section 2 of this Act, and with the assistance of an Assistant Secretary of Health, Education, and Welfare designated by him, shall supervise and direct (1) the head of such Administration in administering this Act and (2) the administration of all other functions of the Department of Health, Education, and Welfare related to water pollution. Such Assistant Secretary shall perform such additional functions as the Secretary may prescribe."

Additional Assistant Secretary of Health, Education, and Welfare.

(b) There shall be in the Department of Health, Education, and Welfare, in addition to the Assistant Secretaries now provided for by law, one additional Assistant Secretary of Health, Education, and Welfare who shall be appointed by the President, by and with the advice and consent of the Senate. The provisions of section 2 of Reorganization Plan Numbered 1 of 1953 (67 Stat. 631) shall be applicable to such additional Assistant Secretary to the same extent as they are applicable to the Assistant Secretaries authorized by that section. Paragraph (17) of section 303(d) of the Federal Executive Salary Act of 1964 (78 Stat. 418) is amended by striking out "(5)" before the period at the end thereof and inserting in lieu thereof "(6)."

5 USC 623 note.

Ante, p. 449.

SEC. 2. (a) Such Act is further amended by redesignating sections 2 through 4, and references thereto, as sections 3 through 5, respectively, sections 5 through 14, as sections 7 through 16, respectively, by inserting after section 1 the following new section:

"FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

Establishment.

"SEC. 2. Effective ninety days after the date of enactment of this section there is created within the Department of Health, Education, and Welfare a Federal Water Pollution Control Administration (hereinafter in this Act referred to as the 'Administration'). The head of the Administration shall be appointed, and his compensation fixed, by the Secretary. The head of the Administration may, in addition to regular staff of the Administration, which shall be initially provided from the personnel of the Department, obtain, from within the Department or otherwise as authorized by law, such professional, technical, and clerical assistance as may be necessary to discharge the Administration's functions and may for that purpose use funds available for carrying out such functions; and he may delegate any of his

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functions to, or otherwise authorize their performance by, any officer or employee of, or assigned or detailed to, the Administration."

Transferring officers.

(b) Subject to such requirements as the Civil Service Commission may prescribe, any commissioned officer of the Public Health Service who, on the day before the effective date of the establishment of the Federal Water Pollution Control Administration, was, as such officer, performing functions relating to the Federal Water Pollution Control Act may acquire competitive civil service status and be transferred to a classified position in the Administration if he so transfers within six months (or such further period as the Secretary of Health, Education, and Welfare may find necessary in individual cases) after such effective date. No commissioned officer of the Public Health Service may be transferred to the Administration under this section if he does not consent to such transfer. As used in this section, the term "transferring officer" means an officer transferred in accordance with this subsection.

70 Stat. 498. 33 USC 466 note.

Retirement credit.

(c) (1) The Secretary shall deposit in the Treasury of the United States to the credit of the civil service retirement and disability fund, on behalf of and to the credit of each transferring officer, an amount equal to that which such individual would be required to deposit in such fund to cover the years of service credited to him for purposes of his retirement as a commissioned officer of the Public Health Service to the date of his transfer as provided in subsection (b), but only to the extent that such service is otherwise creditable under the Civil Service Retirement Act. The amount so required to be deposited with respect to any transferring officer shall be computed on the basis of the sum of his basic pay, allowance for quarters, and allowance for subsistence and, in the case of a medical officer, his special pay, during the years of service so creditable, including all such years after June 30, 1960.

70 Stat. 743. 5 USC 2251 note.

(2) The deposits which the Secretary of Health, Education, and Welfare is required to make under this subsection with respect to any transferring officer shall be made within two years after the date of his transfer as provided in subsection (b), and the amounts due under this subsection shall include interest computed from the period of service credited to the date of payment in accordance with section 4(e) of the Civil Service Retirement Act (5 U.S.C. 2254(e)).

(d) All past service of a transferring officer as a commissioned officer of the Public Health Service shall be considered as civilian service for all purposes under the Civil Service Retirement Act, effective as of the date any such transferring officer acquires civil service status as an employee of the Federal Water Pollution Control Administration; however, no transferring officer may become entitled to benefits under both the Civil Service Retirement Act and title II of the Social Security Act based on service as such a commissioned officer performed after 1956, but the individual (or his survivors) may irrevocably elect to waive benefit credit for the service under one Act to secure credit under the other.

Ante, pp. 290, 379.

(e) A transferring officer on whose behalf a deposit is required to be made by subsection (c) and who, after transfer to a classified position in the Federal Water Pollution Control Administration under subsection (b), is separated from Federal service or transfers to a position not covered by the Civil Service Retirement Act, shall not be entitled, nor shall his survivors be entitled, to a refund of any amount deposited on his behalf in accordance with this section. In the event he transfers, after transfer under subsection (b), to a position covered by another Government staff retirement system under which credit is allowable for service with respect to which a deposit is required under subsection (c), no credit shall be allowed under the Civil Service Retirement Act with respect to such service.

(f) Each transferring officer who prior to January 1, 1957, was insured pursuant to the Federal Employees' Group Life Insurance Act of 1954, and who subsequently waived such insurance, shall be entitled to become insured under such Act upon his transfer to the Federal Water Pollution Control Administration regardless of age and insurability.

Insurance coverage.

68 Stat. 736. 5 USC 2091 note.

(g) Any commissioned officer of the Public Health Service who, pursuant to subsection (b) of this section, is transferred to a position in the Federal Water Pollution Control Administration which is subject to the Classification Act of 1949, as amended, shall receive a salary rate of the General Schedule grade of such position which is nearest to but not less than the sum of (1) basic pay, quarters and subsistence allowances, and, in the case of a medical officer, special pay, to which he was entitled as a commissioned officer of the Public Health Service on the day immediately preceding his transfer, and (2) an amount equal to the equalization factor (as defined in this subsection); but in no event shall the rate so established exceed the maximum rate of such grade. As used in this section, the term "equalization factor" means an amount determined by the Secretary to be equal to the sum of (A) 6½ per centum of such basic pay and (B) the amount of Federal income tax which the transferring officer, had he remained a commissioned officer, would have been required to pay on such allowances for quarters and subsistence for the taxable year then current if they had not been tax free.

Compensation.

63 Stat. 954. 5 USC 1071 note.

"Equalization factor."

(h) A transferring officer who has had one or more years of commissioned service in the Public Health Service immediately prior to his transfer under subsection (b) shall, on the date of such transfer, be credited with thirteen days of sick leave.

Sick leave.

(i) Notwithstanding the provisions of any other law, any commissioned officer of the United States Public Health Service with twenty-five or more years of service who has held the temporary rank of Assistant Surgeon General in the Division of Water Supply and Pollution Control of the United States Public Health Service for three or more years and whose position and duties are affected by this Act, may, with the approval of the President, voluntarily retire from the United States Public Health Service with the same retirement benefits that would accrue to him if he had held the rank of Assistant Surgeon General for a period of four years or more if he so retires within ninety days of the date of the establishment of the Federal Water Pollution Control Administration.

Special retirement provisions.

(j) Nothing contained in this section shall be construed to restrict or in any way limit the head of the Federal Water Pollution Control Administration in matters of organization or in otherwise carrying out his duties under section 2 of this Act as he deems appropriate to the discharge of the functions of such Administration.

(k) The Surgeon General shall be consulted by the head of the Administration on the public health aspects relating to water pollution over which the head of such Administration has administrative responsibility.

SEC. 3. Such Act is further amended by inserting after the section redesignated as section 5 a new section as follows:

"GRANTS FOR RESEARCH AND DEVELOPMENT

"SEC. 6. (a) The Secretary is authorized to make grants to any State, municipality, or intermunicipal or interstate agency for the purpose of assisting in the development of any project which will demonstrate a new or improved method of controlling the discharge into any waters of untreated or inadequately treated sewage or other waste from sewers which carry storm water or both storm water and

Combined sewer systems, pollution control.

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sewage or other wastes, and for the purpose of reports, plans, and specifications in connection therewith. The Secretary is authorized to provide for the conduct of research and demonstrations relating to new or improved methods of controlling the discharge into any waters of untreated or inadequately treated sewage or other waste from sewers which carry storm water or both storm water and sewage or other wastes, by contract with public or private agencies and institutions and with individuals without regard to sections 3648 and 3709 of the Revised Statutes, except that not to exceed 25 per centum of the total amount appropriated under authority of this section for any fiscal year may be expended under authority of this sentence during such fiscal year.

31 USC 529; 41 USC 5.

Grant limitations.

"(b) Federal grants under this section shall be subject to the following limitations: (1) No grant shall be made for any project pursuant to this section unless such project shall have been approved by an appropriate State water pollution control agency or agencies and by the Secretary; (2) no grant shall be made for any project in an amount exceeding 50 per centum of the estimated reasonable cost thereof as determined by the Secretary; (3) no grant shall be made for any project under this section unless the Secretary determines that such project will serve as a useful demonstration of a new or improved method of controlling the discharge into any water of untreated or inadequately treated sewage or other waste from sewers which carry storm water or both storm water and sewage or other wastes.

Appropriation.

"(c) There are hereby authorized to be appropriated for the fiscal year ending June 30, 1966, and for each of the next three succeeding fiscal years, the sum of $20,000,000 per fiscal year for the purposes of this section. Sums so appropriated shall remain available until expended. No grant or contract shall be made for any project in an amount exceeding 5 per centum of the total amount authorized by this section in any one fiscal year."

Treatment plant construction grants.
70 Stat. 502; 75 Stat. 206.
33 USC 466e.

SEC. 4. (a) Clause (2) of subsection (b) of the section of the Federal Water Pollution Control Act herein redesignated as section 8 is amended by striking out "$600,000," and inserting in lieu thereof "$1,200,000,".

(b) The second proviso in clause (2) of subsection (b) of such redesignated section 8 is amended by striking out "$2,400,000," and inserting in lieu thereof "$4,800,000,".

(c) Subsection (b) of such redesignated section 8 is amended by adding at the end thereof the following: "The limitations of $1,200,000 and $4,800,000 imposed by clause (2) of this subsection shall not apply in the case of grants made under this section from funds allocated under the third sentence of subsection (c) of this section if the State agrees to match equally all Federal grants made from such allocation for projects in such State."

(d) (1) The second sentence of subsection (c) of such redesignated section 8 is amended by striking out "for any fiscal year" and inserting in lieu thereof "for each fiscal year ending on or before June 30, 1965, and the first $100,000,000 appropriated pursuant to subsection (d) for each fiscal year beginning on or after July 1, 1965,".

(2) Subsection (c) of such redesignated section 8 is amended by inserting immediately after the period at the end of the second sentence thereof the following: "All sums in excess of $100,000,000 appropriated pursuant to subsection (d) for each fiscal year beginning on or after July 1, 1965, shall be allotted by the Secretary from time to time, in accordance with regulations, in the ratio that the population of each State bears to the population of all States."

(3) The third sentence of subsection (c) of such redesignated section 8 is amended by striking out "the preceding sentence" and inserting in lieu thereof "the two preceding sentences". 75 Stat. 206. 33 USC 466e.

(4) The next to the last sentence of subsection (c) of such redesignated section 8 is amended by striking out "and third" and inserting in lieu thereof ", third, and fourth".

(e) The last sentence of subsection (d) of such redesignated section 8 is amended to read as follows: "Sums so appropriated shall remain available until expended. At least 50 per centum of the funds so appropriated for each fiscal year ending on or before June 30, 1965, and at least 50 per centum of the first $100,000,000 so appropriated for each fiscal year beginning on or after July 1, 1965, shall be used for grants for the construction of treatment works servicing municipalities of one hundred and twenty-five thousand population or under."

(f) Subsection (d) of such redesignated section 8 is amended by striking out "$100,000,000 for the fiscal year ending June 30, 1966, and $100,000,000 for the fiscal year ending June 30, 1967." and inserting in lieu thereof "$150,000,000 for the fiscal year ending June 30, 1966, and $150,000,000 for the fiscal year ending June 30, 1967."

(g) Subsection (f) of such redesignated section 8 is redesignated as subsection (g) thereof and is amended by adding at the end thereof the following new sentence: "The Secretary of Labor shall have, with respect to the labor standards specified in this subsection, the authority and functions set forth in Reorganization Plan Numbered 14 of 1950 (15 F.R. 3176; 64 Stat. 1267; 5 U.S.C. 133z—15) and section 2 of the Act of June 13, 1934, as amended (48 Stat. 948; 40 U.S.C. 276c)." 63 Stat. 108.

(h) Such redesignated section 8 is further amended by inserting therein, immediately after subsection (e) thereof, the following new subsection:

"(f) Notwithstanding any other provisions of this section, the Secretary may increase the amount of a grant made under subsection (b) of this section by an additional 10 per centum of the amount of such grant for any project which has been certified to him by an official State, metropolitan, or regional planning agency empowered under State or local laws or interstate compact to perform metropolitan or regional planning for a metropolitan area within which the assistance is to be used, or other agency or instrumentality designated for such purposes by the Governor (or Governors in the case of interstate planning) as being in conformity with the comprehensive plan developed or in process of development for such metropolitan area. For the purposes of this subsection, the term 'metropolitan area' means either (1) a standard metropolitan statistical area as defined by the Bureau of the Budget, except as may be determined by the President as not being appropriate for the purposes hereof, or (2) any urban area, including those surrounding areas that form an economic and socially related region, taking into consideration such factors as present and future population trends and patterns of urban growth, location of transportation facilities and systems, and distribution of industrial, commercial, residential, governmental, institutional, and other activities, which in the opinion of the President lends itself as being appropriate for the purposes hereof." Increased grants for urban planning. "Metropolitan area."

SEC. 5. (a) Redesignated section 10 of the Federal Water Pollution Control Act is amended by redesignating subsections (c) through (i) as subsections (d) through (j), and by inserting after subsection (b) the following new subsection: 70 Stat. 504; 75 Stat. 208. 33 USC 466g.

"(c) (1) If the Governor of a State or a State water pollution control agency files, within one year after the date of enactment of this subsection, a letter of intent that such State, after public hearings, will before Water quality standards.

June 30, 1967, adopt (A) water quality criteria applicable to interstate waters or portions thereof within such State, and (B) a plan for the implementation and enforcement of the water quality criteria adopted, and if such criteria and plan are established in accordance with the letter of intent, and if the Secretary determines that such State criteria and plan are consistent with paragraph (3) of this subsection, such State criteria and plan shall thereafter be the water quality standards applicable to such interstate waters or portions thereof.

"(2) If a State does not (A) file a letter of intent or (B) establish water quality standards in accordance with paragraph (1) of this subsection, or if the Secretary or the Governor of any State affected by water quality standards established pursuant to this subsection desires a revision in such standards, the Secretary may, after reasonable notice and a conference of representatives of appropriate Federal departments and agencies, interstate agencies, States, municipalities and industries involved, prepare regulations setting forth standards of water quality to be applicable to interstate waters or portions thereof. If, within six months from the date the Secretary publishes such regulations, the State has not adopted water quality standards found by the Secretary to be consistent with paragraph (3) of this subsection, or a petition for public hearing has not been filed under paragraph (4) of this subsection, the Secretary shall promulgate such standards.

"(3) Standards of quality established pursuant to this subsection shall be such as to protect the public health or welfare, enhance the quality of water and serve the purposes of this Act. In establishing such standards the Secretary, the Hearing Board, or the appropriate State authority shall take into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial, and other legitimate uses.

Hearings.

"(4) If at any time prior to 30 days after standards have been promulgated under paragraph (2) of this subsection, the Governor of any State affected by such standards petitions the Secretary for a hearing, the Secretary shall call a public hearing, to be held in or near one or more of the places where the water quality standards will take effect, before a Hearing Board of five or more persons appointed by the Secretary. Each State which would be affected by such standards shall be given an opportunity to select one member of the Hearing Board. The Department of Commerce and other affected Federal departments and agencies shall each be given an opportunity to select a member of the Hearing Board and not less than a majority of the Hearing Board shall be persons other than officers or employees of the Department of Health, Education, and Welfare. The members of the Board who are not officers or employees of the United States, while participating in the hearing conducted by such Hearing Board or otherwise engaged on the work of such Hearing Board, shall be entitled to receive compensation at a rate fixed by the Secretary, but not exceeding $100 per diem, including travel time, and while away from their homes or regular places of business they may be allowed travel expenses, including per diem in lieu of subsistence, as authorized by law, (5 U.S.C. 73b-2) for persons in the Government service employed intermittently. Notice of such hearing shall be published in the Federal Register and given to the State water pollution control agencies, interstate agencies and municipalities involved at least 30 days prior to the date of such hearing. On the basis of the evidence presented at such hearing, the Hearing Board shall make findings as to whether the standards published or promulgated by the Secretary should be approved or modified and transmit its findings to the Secretary. If the Hearing Board approves the standards as published or promul-

60 Stat. 808; 75 Stat. 339, 340.

Publication in Federal Register.

gated by the Secretary, the standards shall take effect on receipt by the Secretary of the Hearing Board's recommendations. If the Hearing Board recommends modifications in the standards as published or promulgated by the Secretary, the Secretary shall promulgate revised regulations setting forth standards of water quality in accordance with the Hearing Board's recommendations which will become effective immediately upon promulgation.

Water standards violations.

"(5) The discharge of matter into such interstate waters or portions thereof, which reduces the quality of such waters below the water quality standards established under this subsection (whether the matter causing or contributing to such reduction is discharged directly into such waters or reaches such waters after discharge into tributaries of such waters), is subject to abatement in accordance with the provisions of paragraph (1) or (2) of subsection (g) of this section, except that at least 180 days before any abatement action is initiated under either paragraph (1) or (2) of subsection (g) as authorized by this subsection, the Secretary shall notify the violators and other interested parties of the violation of such standards. In any suit brought under the provisions of this subsection the court shall receive in evidence a transcript of the proceedings of the conference and hearing provided for in this subsection, together with the recommendations of the conference and Hearing Board and the recommendations and standards promulgated by the Secretary, and such additional evidence, including that relating to the alleged violation of the standards, as it deems necessary to a complete review of the standards and to a determination of all other issues relating to the alleged violation. The court, giving due consideration to the practicability and to the physical and economic feasibility of complying with such standards, shall have jurisdiction to enter such judgment and orders enforcing such judgment as the public interest and the equities of the case may require.

"(6) Nothing in this subsection shall (A) prevent the application of this section to any case to which subsection (a) of this section would otherwise be applicable, or (B) extend Federal jurisdiction over water not otherwise authorized by this Act.

"(7) In connection with any hearings under this section no witness or any other person shall be required to divulge trade secrets or secret processes."

75 Stat. 208; *Ante*, p. 907. 33 USC 466g.

(b) Paragraph (1) of subsection (d) of the section of the Federal Water Pollution Control Act herein redesignated as section 10 is amended by striking out the final period after the third sentence of such subsection and inserting the following in lieu thereof: "; or he finds that substantial economic injury results from the inability to market shellfish or shellfish products in interstate commerce because of pollution referred to in subsection (a) and action of Federal, State, or local authorities."

70 Stat. 506. 33 USC 466i.

SEC. 6. The section of the Federal Water Pollution Control Act hereinbefore redesignated as section 12 is amended by adding at the end thereof the following new subsections:

Records.

"(d) Each recipient of assistance under this Act shall keep such records as the Secretary shall prescribe, including records which fully disclose the amount and disposition by such recipient of the proceeds of such assistance, the total cost of the project or undertaking in connection with which such assistance is given or used, and the amount of that portion of the cost of the project or undertaking supplied by other sources, and such other records as will facilitate an effective audit.

Audit of books, etc.

"(e) The Secretary of Health, Education, and Welfare and the Comptroller General of the United States, or any of their duly authorized representatives, shall have access for the purpose of audit and

examination to any books, documents, papers, and records of the recipients that are pertinent to the grants received under this Act."

75 Stat. 206. 33 USC 466d.

SEC. 7. (a) Section 7(f)(6) of the Federal Water Pollution Control Act, as that section is redesignated by this Act, is amended by striking out "section 6(b)(4)." as contained therein and inserting in lieu thereof "section 8(b)(4).".

33 USC 466e.

(b) Section 8 of the Federal Water Pollution Control Act, as that section is redesignated by this Act, is amended by striking out "section 5" as contained therein and inserting in lieu thereof "section 7".

33 USC 466g.

(c) Section 10(b) of the Federal Water Pollution Control Act, as that section is redesignated by this Act, is amended by striking out "subsection (g)" and inserting in lieu thereof "subsection (h)".

(d) Section 10(i) of the Federal Water Pollution Control Act, as that section is redesignated by this Act, is amended by striking out "subsection (e)" and inserting in lieu thereof "subsection (f)".

33 USC 466h.

(e) Section 11 of the Federal Water Pollution Control Act, as that section is redesignated by this Act, is amended by striking out "section 8(c)(3)" and inserting in lieu thereof "section 10(d)(3)" and by striking out "section 8(e)" and inserting in lieu thereof "section 10(f)".

Short title.

SEC. 8. This Act may be cited as the "Water Quality Act of 1965".

Approved October 2, 1965.

Public Law 89-235

October 2, 1965 [S. J. Res. 98]

JOINT RESOLUTION

Authorizing and requesting the President to extend through 1966 his proclamation of a period to "See the United States", and for other purposes.

"See the United States," 1966. Proclamation.

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the President is authorized and requested (1) to extend through 1966 the period designated pursuant to the joint resolution approved August 11, 1964 (Public Law 88-416), as a period to see the United States and its territories; (2) to encourage private industry and interested private organizations to continue their efforts to attract greater numbers of the American people to the scenic, historical, and recreational areas and facilities of the United States of America, its territories and possessions, and the Commonwealth of Puerto Rico; and (3) to issue a proclamation specially inviting citizens of other countries to visit the festivals, fairs, pageants, and other ceremonials to be celebrated in 1966 in the United States of America, its territories and possessions, and the Commonwealth of Puerto Rico.

78 Stat. 388.

Publicity.

SEC. 2. The President is authorized to publicize any proclamations issued pursuant to the first section and otherwise to encourage and promote vacation travel within the United States of America, its territories and possessions, and the Commonwealth of Puerto Rico, both by American citizens and by citizens of other countries, through such departments or agencies of the Federal Government as he deems appropriate, in cooperation with State and local agencies and private organizations.

National chairman.

SEC. 3. For the purpose of the extension provided for by this joint resolution, the President is authorized during the period of such extension to exercise the authority conferred by section 3 of the joint resolution approved August 11, 1964 (Public Law 88-416), and for such purpose may extend for such period the appointment of any person serving as National Chairman pursuant to such section.

Approved October 2, 1965.

APPENDIX B

Federal Water Pollution Control Administration
Library
[illegible] Madison Avenue, N. W.
Washington, D. C. 20242

Compendium of Department of the Interior Statements on Non-degradation of Interstate Waters

U. S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

August, 1968

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INTRODUCTION

One of the most significant problems that the Department of the Interior and the Federal Water Pollution Control Administration have encountered in the setting of water quality standards is what has come to be known as the "non-degradation" issue. This issue arose last winter in the application of Policy Guidelines Nos. 1 and 8 of the Department's "Guidelines for Establishing Water Quality Standards for Interstate Waters."

Guideline No. 1 states in part, "In no case will standards providing for less than existing water quality be acceptable." In the Department's view, this guideline meets the Congressional intent of the Water Quality Act of 1965 to "protect the public health or welfare and to enhance the quality of water" for a variety of legitimate uses.

In order to implement the Congressional enhancement policy, Guideline No. 8 requires that all wastes "...receive the best practicable treatment or control." Most States have interpreted this to mean secondary treatment.

Secretary Udall, at a press conference on February 8, 1968, enunciated the basic policy statement on "non-degradation." Since then, Congressional committees, States, industries, and others have questioned the implications of such a policy.

This compendium brings together the interpretations of Secretary Udall and other Department of the Interior officials relating to the meaning and impact of the "non-degradation" policy. There are also attached copies of "non-degradation" statements which have been approved by the Secretary. It is designed to contribute to an increased understanding of the nature of the "non-degradation" issue and the way in which it has been resolved.

Joe G. Moore, Jr.

Joe G. Moore, Jr.
Commissioner

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FOR RELEASE ON FEBRUARY 8, 1968

WATER QUALITY DEGRADATION ISSUE RESOLVED

Secretary of the Interior Stewart L. Udall today issued the following statement in connection with the review and approval of water quality standards for interstate and coastal waters:

During the past several weeks, I have given intensive study to what has become known as "the degradation issue" in connection with the water quality standards as submitted by the States under the Water Quality Act of 1965.

I have resolved this basic policy issue in a way that I believe is fair and equitable to all concerned and, at the same time, entirely consistent with the policy and objective of the Water Quality Act, which is to protect and enhance the quality and productivity of the Nation's waters.

I have concluded that in order to be consistent with the basic policy and objective of the Water Quality Act a provision in all State standards substantially in accordance with the following is required:

> Waters whose existing quality is better than the established standards as of the date on which such standards become effective will be maintained at their existing high quality. These and other waters of a State will not be lowered in quality unless and until it has been affirmatively demonstrated to the State water pollution control agency and the Department of the Interior that such change is justifiable as a result of necessary economic or social development and will not interfere with or become injurious to any assigned uses made of, or presently possible in, such waters. This will require that any industrial, public or private project or development which would constitute a new source of pollution or an

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> increased source of pollution to high quality waters will be required, as part of the initial project design, to provide the highest and best degree of waste treatment available under existing technology, and, since these are also Federal standards, these waste treatment requirements will be developed cooperatively.

Because of the importance of this issue to the future quality of America's waters and to the Nation's further social and economic development, the decision that I have made warrants some elaboration.

On the one hand, it is imperative that there be no compromise with the Declaration of Policy as now set forth in the Federal Water Pollution Control Act. This declaration states: "The purpose of this Act is to enhance the quality and value of our water resources and to establish a national policy for the prevention, control, and abatement of water pollution."

On the other hand, it is also imperative that the water quality standards provision of the Act be administered in a way that will neither seek nor serve to stifle further economic development in areas where interstate waters are of high quality.

I am convinced that the resolution of this issue as set forth above achieves the dual purpose of carrying out the letter and spirit of the Act without interfering unduly with further economic development.

A key factor in the resolution of the degradation issue is the substantial upgrading of water quality that will be achieved as secondary treatment of municipal wastes and the equivalent for industrial wastes becomes the common practice, as it will within a few years under the water quality standards program.

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APPENDIX C

United States Environmental Protection Agency

Office of Water
EPA-823-B-12-002
2012

Water Quality Standards Handbook

Chapter 4: Antidegradation

The WQS Handbook does not impose legally binding requirements on the EPA, states, tribes or the regulated community, nor does it confer legal rights or impose legal obligations upon any member of the public. The Clean Water Act (CWA) provisions and the EPA regulations described in this document contain legally binding requirements. This document does not constitute a regulation, nor does it change or substitute for any CWA provision or the EPA regulations.

Water Quality Standards Handbook
CHAPTER 4: ANTIDEGRADATION

(40 CFR 131.12)

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CHAPTER 4 ANTIDEGRADATION

This chapter provides guidance on the antidegradation component of water quality standards, its application in conjunction with the other parts of the water quality standards regulation, and its implementation by the States. Antidegradation implementation by the States is based on a set of procedures to be followed when evaluating activities that may impact the quality of the waters of the United States. Antidegradation implementation is an integral component of a comprehensive approach to protecting and enhancing water quality.

4.1 History of Antidegradation

The first antidegradation policy statement was released on February 8, 1968, by the Secretary of the U.S. Department of the Interior. It was included in EPA's first Water Quality Standards Regulation (40 CFR 130.17, 40 F.R. 55340–41, November 28, 1975), and was slightly refined and re-promulgated as part of the current program regulation published on November 8, 1983 (48 F.R. 51400, 40 CFR 131.12). Antidegradation requirements and methods for implementing those requirements are minimum conditions to be included in a State's water quality standards. Antidegradation was originally based on the spirit, intent, and goals of the Act, especially the clause ". . . restore and maintain the chemical, physical and biological integrity of the Nation's waters" (101(a)) and the provision of 303(a) that made water quality standards under prior law the "starting point" for CWA water quality requirements. Antidegradation was explicitly incorporated in the CWA through:

- a 1987 amendment codified in section 303(d)(4)(B) requiring satisfaction of antidegradation requirements before making certain changes in NPDES permits; and
- the 1990 Great Lakes Critical Programs Act codified in CWA section 118(c)(2) requiring EPA to publish Great Lakes water quality guidance including antidegradation policies and implementation procedures.

4.2 Summary of the Antidegradation Policy

Section 131.12(a)(l), or "Tier 1," protecting "existing uses," provides the absolute floor of water quality in all waters of the United States. This paragraph applies a minimum level of protection to all waters.

Section 131.12(a)(2), or "Tier 2," applies to waters whose quality exceeds that necessary to protect the section 101(a)(2) goals of the Act. In this case, water quality may not be lowered to less than the level necessary to fully protect the "fishable/swimmable" uses and other existing uses and may be lowered even to those levels only after following all the provisions described in section 131.12(a)(2).

Section 131.12(a)(3), or "Tier 3," applies to Outstanding National Resource Waters (ONRW) where the ordinary use classifications and supporting criteria may not be sufficient or appropriate. As described in the preamble to the Water Quality Standards Regulation, "States may allow some limited activities which result in temporary and short-term changes in water quality," but such changes in

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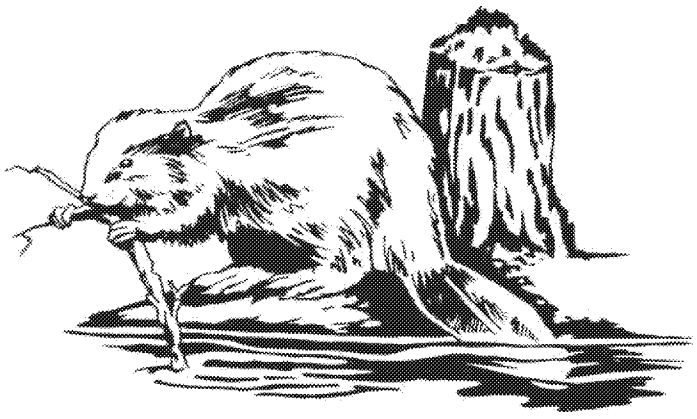
water quality should not impact existing uses or alter the essential character or special use that makes the water an ONRW.

The requirement for potential water quality impairment associated with thermal discharges contained in section 131.12 (a)(4) of the regulation is intended to coordinate the requirements and procedures of the antidegradation policy with those established in the Act for setting thermal discharge limitations. Regulations implementing section 316 may be found at 40 CFR 124.66. The statutory scheme and legislative history indicate that limitations developed under section 316 take precedence over other requirements of the Act.

As the States began to focus more attention on implementing their antidegradation policies, an additional concept was developed by the States, which EPA has accepted even though not directly mentioned in previous EPA guidance or in the regulation. This concept, commonly known as "Tier 2½," is an application of the antidegradation policy that has implementation requirements that are more stringent than for "Tier 2" (high-quality waters), but somewhat less stringent than the prohibition against any lowering of water quality in "Tier 3" (ONRWs). EPA accepts this additional tier in State antidegradation policies because it is clearly a more stringent application of the Tier 2 provisions of the antidegradation policy and, therefore, permissible under section 510 of the CWA.

The supporting rationale that led to the development of the Tier 2½ concept was a concern by the States that the Tier 3 ONRW provision was so stringent that its application would likely prevent States from taking actions in the future that were consistent with important social and economic development on, or upstream of, ONRWs. This concern is a major reason that relatively few water bodies are designated as ONRWs. The Tier 2½ approach allows States to provide a very high level of water quality protection without precluding unforeseen future economic and social development considerations.



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4.3 State Antidegradation Requirements

Each State must develop, adopt, and retain a statewide antidegradation policy regarding water quality standards and establish procedures for its implementation through the water quality management process. The State antidegradation policy and implementation procedures must be consistent with the components detailed in 40 CFR 131.12. If not included in the standards regulation of a State, the policy must be specifically referenced in the water quality standards so that the functional relationship between the policy and the standards is clear. Regardless of the location of the policy, it must meet all applicable requirements. States may adopt antidegradation statements more protective than the Federal requirement. The antidegradation implementation procedures specify how the State will determine on a case-by-case basis whether, and to what extent, water quality may be lowered.

UPDATED INFORMATION

State-Specific Water Quality Standards Effective Under the Clean Water Act- This website provides access to state, authorized tribal and territorial water quality standards, including antidegradation policies, that EPA has approved or are otherwise in effect for Clean Water Act purposes.

Federal Rules Involving Antidegradation

Water Quality Standards for Puerto Rico: Final Rule (2007) - This federal register notice promulgated methods to implement Puerto Rico's existing antidegradation policy.

Advanced Notice of Proposed Rulemaking for Water Quality Standards (1998) See pages 36779 to 36787 for an overview of antidegradation policy and EPA's thinking on program development in 1998.

Final Water Quality Guidance for the Great Lakes System: Final Rule (1995) See Appendix E for Antidegradation Provisions.

State antidegradation polices and implementation procedures are subject to review by the Regional Administrator. EPA has clear authority to review and approve or disapprove and promulgate an antidegradation policy for a State. EPA's review of the implementation procedures is limited to ensuring that procedures are included that describe how the State will implement the required elements of the antidegradation review. EPA may disapprove and federally promulgate all or part of an implementation process for antidegradation if, in the judgment of the Administrator, the State's process (or certain provisions thereof) can be implemented in such a way as to circumvent the intent and purpose of the antidegradation policy. EPA encourages submittal of any amendments to the statement and implementing procedures to the Regional Administrator for pre-adoption review so that the State may take EPA comments into account prior to final action.

If a State's antidegradation policy does not meet the Federal regulatory requirements, either through State action to revise its policy or through revised Federal requirements, the State would be given the opportunity to make its policy consistent with the regulation. If this is not done, EPA has the authority to promulgate the policy for the State pursuant to section 303(c)(4) of the Clean Water Act (see section 6.3, this Handbook).

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4.4.4 Existing Uses and Mixing Zones

Mixing zones are another instance when the entire extent of the water body is not required to be given full existing use protection. The area within a properly designated mixing zone (see section 5.1) may have altered benthic habitat and a subsequent alteration of the portions of the aquatic community. Any effect on the existing use must be limited to the area of the regulatory mixing zone.

4.5 Protection of Water Quality in High-Quality Waters - 40 CFR 131.12(a)(2)

UPDATED INFORMATION

Memo: Tier 2 Antidegradation Reviews and Significance Thresholds (2005) (PDF) - Recommendation regarding significance thresholds and lowering of water quality in high quality waters in the context of tier 2 antidegradation reviews.
Interim Economic Guidance for Water Quality Standards (1995) -- This document provides guidance for use by states and tribes in understanding the economic factors that may be considered, and the types of tests that can be used to determine if a designated use cannot be attained, if a variance can be granted, or if degradation of high-quality water is warranted.

This section provides general program guidance in the development of procedures for the maintenance and protection of water quality where the quality of the water exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water. Water quality in "high-quality waters" must be maintained and protected as prescribed in section 131.12(a)(2) of the WQS regulation.

High-quality waters are those whose quality exceeds that necessary to protect the section 101(a)(2) goals of the Act, regardless of use designation. All parameters do not need to be better quality than the State's ambient criteria for the water to be deemed a "high-quality water." EPA believes that it is best to apply antidegradation on a parameter-by-parameter basis. Otherwise, there is potential for a large number of waters not to receive antidegradation protection, which is important to attaining the goals of the Clean Water Act to restore and maintain the integrity of the Nation's waters. However, if a State has an official interpretation that differs from this interpretation, EPA will evaluate the State interpretation for conformance with the statutory and regulatory intent of the antidegradation policy. EPA has accepted approaches that do not use a strict pollutant-by-pollutant basis (USEPA, 1989c).

In "high-quality waters," under 131.12(a)(2), before any lowering of water quality occurs, there must be an antidegradation review consisting of:

- a finding that it is necessary to accommodate important economic or social development in the area in which the waters are located (this phrase is intended to convey a general concept regarding what level of social and economic development could be used to justify a change in high-quality waters);
- full satisfaction of all intergovernmental coordination and public participation provisions (the intent here is to ensure that no activity that will cause water quality to decline in existing high-quality waters is undertaken without adequate public review and intergovernmental coordination); and

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- assurance that the highest statutory and regulatory requirements for point sources, including new source performance standards, and best management practices for nonpoint source pollutant controls are achieved (this requirement ensures that the limited provision for lowering water quality of high-quality waters down to "fishable/swimmable" levels will not be used to undercut the Clean Water Act requirements for point source and nonpoint source pollution control; furthermore, by ensuring compliance with such statutory and regulatory controls, there is less chance that a lowering of water quality will be sought to accommodate new economic and social development).

In addition, water quality may not be lowered to less than the level necessary to fully protect the "fishable/swimmable" uses and other existing uses. This provision is intended to provide relief only in a few extraordinary circumstances where the economic and social need for the activity clearly outweighs the benefit of maintaining water quality above that required for "fishable/swimmable" water, and both cannot be achieved. The burden of demonstration on the individual proposing such activity will be very high. In any case, moreover, the existing use must be maintained and the activity shall not preclude the maintenance of a "fishable/swimmable" level of water quality protection.

The antidegradation review requirements of this provision of the antidegradation policy are triggered by any action that would result in the lowering of water quality in a high-quality water. Such activities as new discharges or expansion of existing facilities would presumably lower water quality and would not be permissible unless the State conducts a review consistent with the previous paragraph. In addition, no permit may be issued, without an antidegradation review, to a discharger to high-quality waters with effluent limits greater than actual current loadings if such loadings will cause a lowering of water quality (USEPA, 1989c).

Antidegradation is not a "no growth" rule and was never designed or intended to be such. It is a policy that allows public decisions to be made on important environmental actions. Where the State intends to provide for development, it may decide under this section, after satisfying the requirements for intergovernmental coordination and public participation, that some lowering of water quality in "high-quality waters" is necessary to accommodate important economic or social development. Any such lower water quality must protect existing uses fully, and the State must assure that the highest statutory and regulatory requirement for all new and existing point sources and all cost-effective and reasonable BMPs for nonpoint source control are being achieved on the water body.

Section 131.12(a)(2) does not REQUIRE a State to establish BMPs for nonpoint sources where such BMP requirements do not exist. We interpret Section 131.12(a)(2) as REQUIRING States to adopt an antidegradation policy that includes a provision that will assure that all cost-effective and reasonable BMPs established under State authority are implemented for nonpoint sources before the State authorizes degradation of high quality waters by point sources (see USEPA, 1994a.)

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Section 131.12(a)(2) does not mandate that States establish controls on nonpoint sources. The Act leaves it to the States to determine what, if any, controls on nonpoint sources are needed to provide for attainment of State water quality standards (See CWA Section 319.) States may adopt enforceable requirements, or voluntary programs to address nonpoint source pollution. Section 40 CFR 131.12(a)(2) does not require that States adopt or implement best management practices for nonpoint sources prior to allowing point source degradation of a high quality water. However, States that have adopted nonpoint source controls must assure that such controls are properly implemented before authorization is granted to allow point source degradation of water quality.

The rationale behind the antidegradation regulatory statement regarding achievement of statutory requirements for point sources and all cost effective and reasonable BMPs for nonpoint sources is to assure that, in high quality waters, where there are existing point or nonpoint source control compliance problems, proposed new or expanded point sources are not allowed to contribute additional pollutants that could result in degradation. Where such compliance problems exist, it would be inconsistent with the philosophy of the antidegradation policy to authorize the discharge of additional pollutants in the absence of adequate assurance that any existing compliance problems will be resolved.

EPA's regulation also requires maintenance of high quality waters except where the State finds that degradation is "necessary to accommodate important economic and social development in the area in which the waters are located." (40 CFR Part 131.12(a) (Emphasis added)). We believe this phrase should be interpreted to prohibit point source degradation as unnecessary to accommodate important economic and social development if it could be partially or completely prevented through implementation of existing State-required BMPs.

EPA believes that its antidegradation policy should be interpreted on a pollutant-by-pollutant and waterbody-by-waterbody basis. For example, degradation of a high quality waterbody by a proposed new BOD source prior to implementation of required BMPs on the same waterbody that are related to BOD loading should not be allowed. However, degradation by the new point source of BOD should not be barred solely on the basis that BMPs unrelated to BOD loadings, or which relate to other waterbodies, have not been implemented.

We recommend that States explain in their antidegradation polices or procedures how, and to what extent, the State will require implementation of otherwise non-enforceable (voluntary) BMPs before allowing point source degradation of high quality waters. EPA understands this recommendation exceeds the Federal requirements discussed in this guidance. For example, nonpoint source management plans being developed under section 319 of the Clean Water Act are likely to identify potential problems and certain voluntary means to correct those problems. The State should consider how these provisions will be implemented in conjunction with the water quality standards program.

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APPENDIX D

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

AUG 10 2005

MEMORANDUM

SUBJECT: Tier 2 Antidegradation Reviews and Significance Thresholds

FROM: Ephraim S. King, Director
Office of Science and Technology

TO: Water Management Division Directors, Regions 1-10

I would like to share with you OST's current recommendation regarding significance thresholds and lowering of water quality in high quality waters in the context of tier 2 antidegradation reviews. This memorandum is intended to provide the Regions with technical recommendations for your consideration as you work with states and authorized tribes and as you review antidegradation implementation methods that adopt significance thresholds. Within this context, EPA will make decisions on a state's or tribe's antidegradation policy on a case-by-case basis, guided by the applicable requirements of the Clean Water Act and implementing regulations, and taking into account best available information.

Antidegradation is an integral part of a state's or tribe's water quality standards, as it provides important protections that are critical to the fulfillment of the Clean Water Act objective "to restore and *maintain* the chemical, physical, and biological integrity of the Nation's waters." Of the three tiers of antidegradation protection, perhaps the most detailed in terms of implementation is tier 2, or high quality water protection. The intent of tier 2 protection is to maintain and protect high quality waters and not to allow for any degradation beyond a de minimis level without having made a demonstration, with opportunity for public input, that such a lowering is necessary and important. The available assimilative capacity of a waterbody - the difference between the applicable water quality criterion for a pollutant parameter and the ambient water quality for that pollutant parameter where it is better than the criterion - is a valuable natural resource. EPA's regulations provide for public participation in decisions regarding whether a lowering of water quality is necessary (i.e., there are no alternatives to allowing a new or increased discharge that will lower water quality) to accommodate important development (i.e., the activity causing the lowering will provide for important economic or social development in the area in which the waters are located). See 40 CFR 131.12(a)(2).

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We recognize that some states and tribes have chosen to target their antidegradation efforts by defining a significance threshold above which the effects on water quality require tier 2 antidegradation findings of necessity and social and economic importance. Applying antidegradation review requirements only to those activities that may result in significant degradation of water quality is a useful approach that allows states and tribes to focus their resources where they may result in the greatest environmental protection. However, it is important that states and tribes set their significance thresholds at a level that can be demonstrated to be consistent with the purpose of tier 2 antidegradation requirements. Otherwise, a new or increased discharge may result in significant degradation that will not be subject to antidegradation review, and decisions about the lowering of water quality in high quality waters may be made without public consideration of necessity and importance, resulting in the loss or diminishment of a valuable natural resource.

EPA has afforded the states and tribes some discretion in determining what constitutes a significant lowering of water quality. EPA has accepted a range of approaches to defining a Asignificance threshold@ over which a full antidegradation review is required. This issue was considered at length in the process of developing the Water Quality Guidance for the Great Lakes. Relying upon input offered during a four-year open public process involving environmental groups, industry representatives, and other experts, with numerous opportunities for public input, the directors of the eight Great Lakes states and EPA technical experts reached a consensus on a significance threshold value of ten percent (10%) of the available assimilative capacity, coupled with a cumulative cap. They determined that this threshold represented a reasonable balance between the need of the regulatory agencies to limit the number of actions involving non-BCCs (bioaccumulative chemicals of concern) that are subjected to the detailed antidegradation demonstration requirements, and the need to protect and maintain water quality. They believed that any individual decision to lower water quality for non-BCCs that is limited to 10% of the available assimilative capacity represents minimal risk to the receiving water and is fully consistent with the objectives and goals of the Clean Water Act. A ten percent (10%) value is within the range of values for significance thresholds that EPA has approved in other states as well. EPA considers this approach to be workable and protective in identifying those significant lowerings of water quality that should receive a full tier 2 antidegradation review, including public participation.

Given the different approaches states and tribes have taken recently to define significance, it is important to clarify that the most appropriate way to define a significance threshold is in terms of assimilative capacity. Other approaches for defining significance, such as considering only increases in pollutant loading, may not take into account the resulting changes in water quality, and in some cases may allow most or all of the remaining assimilative capacity of a waterbody to be used without an antidegradation review. Evaluations of significance based solely on the magnitude of the proposed increase without reference to the amount of change in the ambient condition of the waterbody need to be very carefully evaluated to determine how they translate to reduction in assimilative capacity in order to understand whether a significant decrease in assimilative capacity will occur. This analysis can be technically difficult when applied to all possible waterbody types and flow situations, thus

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making justifications of these expressions by states and tribes and approvals by EPA more challenging. Further, given the importance of public participation and transparency, it is clear that a definition of significance that directly links to the resource to be protected (assimilative capacity) is more likely to be understood by the public. Therefore, OST strongly recommends that new or revised submissions of antidegradation implementation procedures to EPA that define Asignificant@ lowering of water quality define significance in terms of assimilative capacity, unless the state or tribe demonstrates that another approach is equally or more protective of the state=s high quality water resources. Increased loadings of BCCs to surface waters of the Great Lakes System must be consistent with the Great Lakes Water Quality Initiative Antidegradation Policy (40 CFR Part 132, Appendix E, II.A. ASignificant Lowering of Water Quality@). States and tribes that are concerned that new or increased discharges would not trigger antidegradation review on large waterbodies where the assimilative capacity is great should consider other approaches to defining significance, such as a combination of use of assimilative capacity and increase in pollutant loading.

To address situations where there are multiple or repeated increases in discharges, OST recommends that states and tribes incorporate a cumulative cap on the use of total assimilative capacity (i.e., the baseline assimilative capacity of a waterbody established at a specified point in time). This approach creates a backstop so that multiple or repeated discharges to a waterbody over time do not result in the majority of the total assimilative capacity being used without a single antidegradation review. For instance, the state or tribe may choose to subject <u>any</u> lowering of water quality to antidegradation review after a certain percentage of the total assimilative capacity has been used. This ensures that where the ambient water quality is lowered closer to the criteria levels, the state or tribe will conduct an antidegradation review after a certain point to evaluate the necessity and importance of <u>each</u> lowering, regardless of the amount of assimilative capacity that would be used.

OST recommends that, where states and tribes desire to establish a significance threshold, you work with them as they develop or revise their antidegradation implementation methods to ensure that any significance thresholds are consistent with the approaches described in this memorandum.

If you have any questions or concerns, please do not hesitate to call me, or Denise Keehner, Director of the Standards and Health Protection Division, at (202) 566-1566.

cc: Robbi Savage, ASIWPCA
Water Quality Standards Branch Chiefs, Regions 1-10

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APPENDIX E

AUTHENTICATED U.S. GOVERNMENT INFORMATION GPO

FEDERAL REGISTER

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opportunities, including a public hearing, a public meeting, a public workshop, and different ways of engaging the public via the Internet, such as webinars and Web site postings. If a state or authorized tribe adopts antidegradation implementation methods as part of its WQS or other legally binding provisions, the state's or authorized tribe's own public participation requirements and 40 CFR part 25 and § 131.20(b) of the federal regulation, will satisfy this requirement.

Section 131.5(a)(3) makes explicit EPA's authority to review states' and authorized tribes' antidegradation policies and any adopted antidegradation implementation methods and to determine whether those policies and methods are consistent with § 131.12. EPA recommends states and authorized tribes adopt binding implementation methods to provide more transparency and consistency for the public and other stakeholders and to increase accountability. States and authorized tribes may find that the Continuing Planning Process provisions described at CWA section 303(e) and § 130.5 can facilitate the state's or authorized tribe's establishment and maintenance of a process for WQS implementation consistent with the requirements of the final rule.

Here, EPA clarifies the terms "antidegradation policy" and "antidegradation implementation methods." For the purposes of § 131.12, states' and authorized tribes' "antidegradation policies" must be adopted in rule or other legally binding form, and must be consistent with the requirements of § 131.12(a). EPA originally promulgated this requirement in 1983. "Antidegradation implementation methods" refer to any additional documents and/or provisions in which a state or authorized tribe describes methods for implementing its antidegradation policy, whether or not the state or authorized tribe formally adopts the methods in regulation or other legally binding form. If a state or authorized tribe does not choose to adopt the entirety of its implementation methods, EPA recommends, at a minimum, adopting in regulation or other legally binding form any antidegradation program elements that substantively express the desired instream level of protection and how that level of protection will be expressed or established for such waters in the future.

What did EPA consider?

EPA considered not adding § 131.5(a)(3). EPA rejected this option in light of commenters' suggestions to clarify the extent of EPA's authority. EPA also considered not adding § 131.12(b) or establishing § 131.12(b), as proposed. However, public involvement in the development and implementation of states' and authorized tribes' antidegradation implementation methods is fundamental to meeting the CWA requirements to restore and maintain water quality. EPA considered revising the rule to require that all states and authorized tribes adopt the entirety of their antidegradation implementation methods in regulation to improve accountability and transparency, as some commenters suggested. EPA did not make this change because it would limit states' and authorized tribes' ability to easily revise their implementation methods in order to adapt and improve antidegradation protection in a timely manner. Some states and authorized tribes have difficulty adopting their methods because of resource constraints, state or tribal laws, or complex rulemaking processes. Instead of requiring adoption of implementation methods, the final rule achieves more accountability by establishing specific requirements for states' and authorized tribes' antidegradation policies regarding two key aspects of Tier 2 implementation.

What is EPA's position on certain public comments?

Commenters requested clarification concerning whether states and authorized tribes must change their approaches to antidegradation to be consistent with the final rule. Where a state or authorized tribe already has established antidegradation requirements consistent with this rule, EPA does not anticipate the need for further changes.

Many commenters requested clarification concerning whether the proposed rule affects states' and authorized tribes' ability to use *de minimis* exclusions. Some states and authorized tribes use *de minimis* exclusions to prioritize and manage limited resources by excluding activities from Tier 2 review if they view the activity as potentially causing an insignificant lowering of water quality. This allows states and authorized tribes to use their limited resources where it can have the greatest environmental impact. Although EPA did not propose any revisions related to defining or authorizing *de minimis* exclusions, some commenters requested that EPA finalize a rule that explicitly accepts them, and others asked EPA to prohibit them. Section 131.12—including the revisions in this rule—does not address *de minimis* exclusions. States and authorized tribes can use *de minimis* exclusions, as long as they use them in a manner consistent with the CWA and § 131.12.

The DC Circuit explained in *Ala. Power* v. *Costle* that under the *de minimis* doctrine, "[c]ategorical exemptions may also be permissible as an exercise of agency power, inherent in most statutory schemes, to overlook circumstances that in context may fairly be considered *de minimis*."[39] The Court went on to explain that the authority to create a *de minimis* provision "is not an ability to depart from the statute, but rather a tool to be used in implementing the legislative design."[40] The Sixth Circuit has also explained that *de minimis* provisions are created through an "administrative law principle which allows an agency to create unwritten exceptions to a statute or rule for insignificant or '*de minimis*' matters."[41]

States and authorized tribes have historically defined "significant degradation" in a variety of ways. Significance tests range from simple to complex, involve qualitative or quantitative measures or both, and may vary depending upon the type of pollution or pollutant (*e.g.*, the approach may be different for highly toxic or bioaccumulative pollutants). EPA does not endorse one specific approach to identifying what constitutes insignificant degradation, though EPA does recognize that one potential way a state or authorized tribe could describe its *de minimis* methodology would be to identify a "significance threshold" as percentage of assimilative capacity loss for a parameter or lowering of water quality that would be considered "insignificant." EPA has not found a scientific basis to identify a specific percentage of loss of assimilative capacity or lowering of water quality that could reasonably be considered insignificant for all parameters, in all waters, at all times, for all activities. Depending on the water body's chemical, physical, and biological characteristics and the circumstances of the lowering of water quality, even very small changes in water quality could cause significant effects to the water body.

Courts have explained that the implied *de minimis* provision authority is "narrow in reach and tightly bounded by the need to show that the situation

[39] *Ala. Power.* v. *Costle*, 636 F.2d. 323, 360 (D.C. Cir. 1979).

[40] *Id.*

[41] *Ky. Waterways Alliance* v. *Johnson*, 540 F.3d 466, 483 (6th Cir. 2008).

is genuinely *de minimis* or one of administrative necessity." [42] Accordingly, this authority only applies "when the burdens of regulation yield a gain of trivial or no value." [43] Finally, a "determination of when matters are truly *de minimis* naturally will turn on the assessment of particular circumstances, and the agency will bear the burden of making the required showing." [44]

Unless a state or authorized tribe can provide appropriate technical justification, it should not create categorical exemptions from Tier 2 review for specific types of activities based on a general finding that such activities do not result in significant degradation. States and authorized tribes should also consider the appropriateness of exemptions depending on the types of chemical, physical, and biological parameters that would be affected. For example, if a potential lowering of water quality contains bioaccumulative chemicals of concern, a state or authorized tribe should not apply a categorical *de minimis* exclusion because even extremely small additions of such chemicals could have a significant effect. For such pollutants, it could be possible to apply a *de minimis* exclusion on a case by case basis, but the state or authorized tribe should carefully consider any such proposed lowering prior to determining that it would be insignificant. States and authorized tribes should also consider the potential effects of cumulative impacts on the same water body to ensure that the cumulative degradation from multiple activities each considered to have a *de minimis* impact will not cumulatively add up to a significant impact. Finally, if a state or authorized tribe intends to use *de minimis* exclusions, then EPA recommends that it describe how it will use *de minimis* in its antidegradation implementation methods. This guarantees that states and authorized tribes will inform the public ahead of time about how they will use *de minimis* exemptions.

EPA also encourages states and authorized tribes to consider other ways to help focus limited resources where they may result in the greatest environmental protection. A state or authorized tribe should consider whether it will require more effort and resources to justify a *de minimis* exemption than it would take to actually complete a Tier 2 review for the activity. EPA encourages states and authorized tribes to develop ways to streamline Tier 2 reviews, rather than seeking to exempt activities from review entirely.

E. WQS Variances

What does this rule provide and why?

This rule establishes an explicit regulatory framework for the adoption of WQS variances that states and authorized tribes can use to implement adaptive management approaches to improve water quality. States and authorized tribes can face substantial uncertainty as to what designated use may ultimately be attainable in their waters. Pollutants that impact such waters can result from large-scale land use changes, extreme weather events, or environmental stressors related to climate change that can hinder restoration and maintenance of water quality. In addition, pollutants can be persistent in the environment and, in some cases, lack economically feasible control options. WQS variances are customized WQS that identify the highest attainable condition applicable throughout the WQS variance term. For a discussion of why it is important for states and authorized tribes to include the highest attainable condition, see the preamble to the proposed rule at 78 FR 54534 (September 4, 2013). States and authorized tribes could use one or more WQS variances to require incremental improvements in water quality leading to eventual attainment of the ultimate designated use.

While EPA has long recognized WQS variances as an available tool, the final rule provides regulatory certainty to states and authorized tribes, the regulated community, and the public that WQS variances are a legal WQS tool. The final rule explicitly authorizes the use of WQS variances and provides requirements to ensure that WQS variances are used appropriately. Such a mechanism allows states and authorized tribes to work with stakeholders and assure the public that WQS variances facilitate progress toward attaining designated uses. When all parties are engaged in a transparent process that is guided by an accountable framework, states and authorized tribes can move past traditional barriers and begin efforts to maintain and restore waters. As discussed in the preamble to the proposed rule at 78 FR 54531 (September 4, 2013), a number of states have not pursued WQS variances. For WQS variances submitted to EPA between 2004 and 2015, 75% came from states covered by the "Water Quality Guidance for the Great Lakes System" rulemaking at 40 CFR part 132. EPA attributes the Region 5 states' success in adopting and submitting WQS variances to the fact that the states and their stakeholders have had more specificity in regulation regarding WQS variances than the rest of the country. This final rule is intended to provide the same level of specificity nationally.

EPA's authority to establish requirements for WQS variances comes from CWA sections 101(a) and 303(c)(2). This rule reflects this authority by explicitly recognizing that states and authorized tribes may adopt time-limited WQS with a designated use and criterion reflecting the highest attainable condition applicable throughout the term of the WQS variance, instead of pursing a permanent [45] revision of the designated use and associated criteria. WQS variances serve the national goal in section 101(a)(2) of the Act and the ultimate objective of the CWA to restore and maintain the chemical, physical, and biological integrity of the Nation's waters because WQS variances are narrow in scope and duration and are designed to make progress toward water quality goals. When a WQS variance is in place, all other applicable standards not addressed in the WQS variance continue to apply, in addition to the ultimate water quality objectives (*i.e.*, the underlying WQS). Also, by requiring the highest attainable condition to be identified and applicable throughout the term of the WQS variance, the final rule provides a mechanism to make incremental progress toward the ultimate water quality objective for the water body and toward the restoration and maintenance of the chemical, physical, and biological integrity of the Nation's waters.

This rule adds a new regulatory section at § 131.14 that explicitly authorizes the use of WQS variances when the applicable designated uses are not attainable in the near-term but may be attainable in the future. The rule clarifies how WQS variances relate to other CWA programs and specifies the information that the state and authorized tribe must adopt in any WQS variance, including the highest attainable condition. States and authorized tribes must submit to EPA supporting documentation that demonstrates why the WQS variance is

[42] *Id.* (quoting *Ala. Power.* v. *Costle*, 636 F.2d. 323, 361 (D.C. Cir. 1979)).

[43] *Id.* (quoting *Greenbaum* v. *U.S. Envtl Prot. Agency*, 370 F.3d 527, 534 (6th Cir. 2004)).

[44] *Id.* (quoting *Greenbaum* v. *U.S. Envtl Prot. Agency*, 370 F.3d 527, 534 (6th Cir. 2004)).

[45] "Permanent" is used here to contrast between the time-limited nature of WQS variances and designated use changes. In accordance with 40 CFR 131.20, waters that "do not include the uses specified in section 101(a)(2) of the Act shall be re-examined every 3 years to determine if new information has become available. If such new information indicates that the uses specified in section 101(a)(2) of the Act are attainable, the [s]tate shall revise its standards accordingly."

APPENDIX F

SOAH DOCKET NO. 582-20-1895
TCEQ DOCKET NO. 2019-1156-IWD

IN THE MATTER OF THE	§	BEFORE THE STATE OFFICE
APPLICATION OF PORT OF	§	
CORPUS CHRISTI AUTHORITY OF	§	OF
NUECES COUNTY FOR TPDES	§	
PERMIT NO. WQ0005253000	§	ADMINISTRATIVE HEARINGS

EXHIBIT PAC-5

SOAH DOCKET NO. 582-20-1895
TCEQ DOCKET NO. TCEQ. 2019-1156-IWD

APPLICATION BY PORT OF CORPUS CHRISTI AUTHORITY FOR WATER QUALITY PERMIT NO. WQ0005253000 IN NUECES COUNTY, TEXAS	§ § § § §	**BEFORE THE STATE OFFICE** **OF** **ADMINISTRATIVE HEARINGS**

PREFILED TESTIMONY

OF

ANDREW J. ESBAUGH, Ph.D.

ON BEHALF OF

PORT ARANSAS CONSERVANCY

SUBMITTED ON SEPTEMBER 25, 2020

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SOAH DOCKET NO. 582-20-1895
TCEQ DOCKET NO. TCEQ. 2019-1156-IWD

APPLICATION BY PORT OF CORPUS CHRISTI AUTHORITY FOR WATER QUALITY PERMIT NO. WQ0005253000 IN NUECES COUNTY, TEXAS	§ § § § §	**BEFORE THE STATE OFFICE** **OF** **ADMINISTRATIVE HEARINGS**

PREFILED TESTIMONY OF ANDREW J. ESBAUGH, Ph.D.

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Exhibit PAC-5 AE-2	Curriculum Vitae

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME.

A. Andrew J. Esbaugh

Q. PLEASE STATE YOUR ADDRESS.

A. 13906 Sea Anchor Street, Corpus Christi, Texas, 78418

Q. PLEASE BRIEFLY DESCRIBE YOUR OCCUPATION.

A. I am a comparative physiologist and toxicologist that focuses on the interaction between environmental factors and animal performance. I specialize in the effects of environmental stress on performance in aquatic organisms, and I have substantial expertise pertaining to the ability of marine and freshwater fishes to tolerate changing salinity. I have been studying comparative physiology for 19 years and have held a faculty position at the University of Texas Marine Science Institute (UTMSI) since September 2012.

Q. WHAT HAVE YOU BEEN ASKED TO DO IN REGARD TO SOAH DOCKET NO. 582-20-1895?

A. I have been retained by the Port Aransas Conservancy to evaluate the application of the Port of Corpus Christi Authority of Nueces County (Port of Corpus Christi) for a water quality permit for a proposed desalination facility in Nueces County, Texas, and the draft permit prepared in relation to the application. I have been asked to review documents and provide a professional assessment as to the potential effects of the activities proposed under the permit, specifically the potential effects on aquatic life. I have also been asked to prepare this prefiled testimony and to testify at the hearing related to the permit application.

Q. HAVE YOU FILED ANY COMMENT(S) WITH TCEQ OR PREPARED ANY ANALYSIS OF THE APPLICATION WHICH YOU HAVE DISTRIBUTED, OTHER THAN YOUR TESTIMONY HERE.

A. Yes.

1 **Q. PLEASE IDENTIFY THE DOCUMENT MARKED AS EXHIBIT PAC-5 AE-1.**

2 A. This is a public comment I submitted in relation to this matter.

3 *PAC offers Exhibit PAC-5 AE-1.*

4 **II. QUALIFICATIONS**

5 **Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL BACKGROUND THAT**
6 **IS A BASES FOR YOUR TESTIMONY HERE.**

7 A. I obtained my undergraduate degree (B.Sc. with Honours; Biology) from Acadia
8 University (Nova Scotia, Canada). I obtained my Ph.D. in Biology from Queen's
9 University (Ontario, Canada) where I studied the evolution of respiratory systems in
10 fishes. I gained additional educational experience as a post-doctoral fellow at the
11 University of Ottawa (Ontario, Canada) as well as the University of Miami (Florida,
12 USA). In these positions I studied the effects of environmental factors on fish and other
13 aquatic organisms.

14 **Q. PLEASE BRIEFLY DESCRIBE YOUR PROFESSIONAL EXPERIENCE THAT IS**
15 **A BASES FOR YOUR TESTIMONY HERE.**

16 A. As noted, I have been studying comparative physiology for 19 years and have held a
17 faculty position at UTMSI since September 2012. My research program examines
18 questions related to salt and water balance in fishes, and also performs toxicity-based
19 studies on marine fishes. I have published multiple papers on subjects related to ion
20 transport pathways in the gills, esophageal desalination and intestinal water processing,
21 including several papers involving hypersalinity acclimation. Therefore, my background
22 and experience includes a focus on salinity and its impact upon aquatic life. I have also
23 performed numerous studies related to developing water quality criteria for metals in
24 aquatic systems, including lead, copper and arsenic, and performed research on the
25 effects of Deepwater Horizon oil on marine fishes that included both early and juvenile
26 life stages.

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1 **Q. PLEASE IDENTIFY WHAT HAS BEEN MARKED AS EXHIBIT PAC-5 AE-2.**

2 A. This is a copy of my current Curriculum Vitae, which includes a list of my publications

3 and research grants. This reflects my expertise for the opinions provided here.

4 *PAC offers Exhibit PAC-5 AE-2.*

5 **Q. IS THIS A TRUE AND ACCURATE COPY OF YOUR RESUME?**

6 A. Yes.

7 **Q. PLEASE DESCRIBE IN MORE DETAIL YOUR WORK EXPERIENCE THAT**
8 **RELATES TO YOUR TESTIMONY HERE.**

9 A. I am a fish physiologist that has studied salt and water balance of marine fishes for much

10 of my career. I have studied these systems in local species, particularly red drum, since

11 2012, which includes work on hypersalinity acclimation. I have also studied the

12 development of ion transport systems in embryonic fishes, including red drum.

13 Additionally, I have extensive experience working as a toxicologist, which included

14 performing acute and chronic toxicity testing using methodology consistent with whole

15 effluent toxicity (WET) testing. This included developing lethality dose response tests for

16 the embryos of fast growing marine fish species, including red drum, mahi mahi and

17 cobia.

18 **Q. HAVE YOU EVER TESTIFIED AS AN EXPERT WITNESS IN A TRIAL OR**
19 **ADMINISTRATIVE HEARING**

20 A. No.

21 **Q. HAS YOUR EXPERIENCE AS A PROFESSOR RESULTED IN ANY WORK IN**
22 **OR AROUND THE CORPUS CHRISTI SHIP CHANNEL, REDFISH BAY, OR**
23 **RELATED BAYS OR ESTUARIES?**

24 A. Yes.

25 **Q. DESCRIBE THE WORK YOU HAVE PERFORMED, OR IN WHICH YOU HAVE**
26 **EXPERIENCE, IN THESE AREAS THAT IS RELATED TO YOUR TESTIMONY**
27 **IN THIS MATTER.**

28 A. My research lab is located within the UTMSI Fisheries and Mariculture Laboratory on

29 Port Street in Port Aransas, which is adjacent to the shipping channel across from Harbor

island. We routinely collect wild red drum and Atlantic tarpon that are brought into our facility for experimentation. We also collect seawater from the channel to use in our facility, and use water quality data collected from the channel through the Mission Aransas National Estuarine Research Reserve station. My lab has also performed extensive research on the physiological performance of red drum, an important local recreational fisheries species. Therefore, I am very familiar with both the substance of the issues related to discharge of effluent from the desalination facility as to its impact upon aquatic life and development, as well as the particular geographic area and aquatic life in the area in which the effluent will be discharged.

Q. WHAT MATERIALS HAVE YOU REVIEWED, IF ANY, IN DEVELOPING YOUR OPINIONS IN THIS MATTER.

A. I have reviewed TPDES Permit No. WQ0005253000, a CORMIX model output from Joe Trungale, sections of the TCEQ Chapter 307 Texas Surface Water Quality Standards pertaining to salinity in estuarine environments, salinity data from the shipping channel available from the Mission Aransas Natural Estuarine Research Reserve, the Salinity Requirements for Reproduction and Larval Development of Several Important Fishes in the Texas Estuaries final report (Texas Water Board), a report issued by the Texas Parks and Wildlife Department (TPWD) and General Land Office (GLO) regarding the designation of appropriate areas for desalination activities, as well as relevant published scientific literature pertaining to hypersaline lethality limitations.

III. SUMMARY OF OPINIONS

Q. HAVE YOU DEVELOPED ANY OPINIONS REGARDING THE APPLICATION FILED BY THE PORT OF CORPUS CHRISTI OR THE DRAFT PERMIT PREPARED BY TCEQ?

A. Yes.

Q. PLEASE STATE THOSE OPINIONS.

1 A. I have developed the following opinions:

2 (1) I have concluded that the draft permit, if issued, will present a significant threat to the
3 marine environment and aquatic life, particularly survival of the early life stages of fish
4 and invertebrates. More specifically, the necessary analysis to ensure that the effluent
5 discharges that would be allowed under the draft permit will not adversely impact the
6 marine environment and aquatic life, , including fish and invertebrate growth and survival
7 across a variety of life stages, has not been performed by the Port of Corpus Christi or the
8 Staff of the Texas Commission on Environmental Quality (TCEQ). The salinity from the
9 desalination effluent that would be allowed under the draft permit can have significant
10 adverse impacts to aquatic life as discussed more fully in my testimony.

11 (2) I have concluded that the draft permit, if issued, will present a significant threat to
12 commercial fishing and fisheries in Corpus Christi Bay and the ship channel. More
13 specifically, the potential adverse impacts to aquatic life mentioned above, if realized,
14 will result in significantly diminished fish populations in and around Corpus Christi Bay
15 and the ship channel, which will adversely impact commercial fishing and fisheries in
16 those same areas.

17 (3) I have concluded that the draft permit does not include all appropriate and necessary
18 requirements to adequately protect aquatic life from adverse, and potentially disastrous,
19 impacts from the discharge that would be allowed under the permit.

20 **Q. HAVE YOU COMMUNICATED WITH OTHER TESTIFYING WITNESSES**
21 **RETAINED BY PAC AND OFFERED AS EXPERTS IN THIS CASE REGARDING**
22 **YOUR OPINIONS?**

23 A. Yes.

24 **Q. WHICH OTHER TESTIFYING WITNESSES RETAINED BY PAC AND**
25 **OFFERED AS EXPERTS HAVE YOU COMMUNICATED WITH IN THIS CASE**
26 **REGARDING YOUR OPINIONS?**

A. Joseph Trungale, Scott Holt, Gregory Stunz, Bruce Wiland, and Brad Erisman.

Q. HAVE YOU RELIED ON THE OPINIONS, DATA, OR INFORMATION FROM THOSE OTHER TESTIFYING WITNESSES RETAINED BY PAC AND OFFERED AS EXPERTS IN FORMING YOUR OPINIONS?

A. While my opinions are not dependent upon the findings, conclusions, or opinions of any of those individuals, I have considered their opinions and conclusions and find them to be consistent with, and inform, my opinions.

IV. OPINIONS.

Q. WHY DO YOU CONCLUDE THAT THE DRAFT PERMIT, IF ISSUED, WILL PRESENT A SIGNIFICANT THREAT TO THE MARINE ENVIRONMENT AND AQUATIC LIFE, INCLUDING FISH AND INVERTEBRATE GROWTH AND SURVIVAL ACROSS A VARIETY OF LIFE STAGES?

A. Salinity has a significant impact upon aquatic life. The shipping channel and the area around Harbor Island is a very sensitive marine environment and a particularly important area for aquatic life along the Texas coast. This point cannot be overstated. Simply put, the area where the Port of Corpus Christi seeks to discharge effluent is one of the worst places that could have been chosen on the Texas coast for such an activity. It is an important and highly sensitive area from an ecological standpoint. If issued, the permit has the potential to have devastating and far-reaching consequences to the marine environment and aquatic life, both in the immediate area and beyond.

Q. PLEASE EXPLAIN THE SENSITIVE MARINE ENVIRONMENT YOU ARE REFERRING TO.

A. TWPD and the GLO have issued a report recognizing Aransas Pass (which is the pass leading directly into Harbor Island, the surrounding bay, and ship channel) as one of five major coastal passes connecting the Gulf of Mexico with Texas' bays and estuaries. As that report notes, "coastal passes function as migratory corridors connecting shallow, lower salinity habitats with oceanic Gulf waters." In that report, TPWD and GLO determined that those five passes, including Aransas Pass, are areas on the Texas coast

that should not be designated as appropriate for desalination activities. As the report further notes "Because marine organisms have complex life cycles and habitat requirements, this study highlights the importance of passes connecting Texas estuaries with the Gulf of Mexico. Estuaries are among the most productive natural systems and are important nursery areas that provide specific salinities to complete development phases, refuge from predation, and are sources of food for many species. Many aquatic species including Gulf Menhaden, flounder, redfish, shrimp, blue crab, and green sea turtles utilize major and minor coastal passes to reach habitats or food sources required during their various life stages."

Q. IS YOUR KNOWLEDGE OF THE SENSITIVE NATURE OF THE AREA BASED ON THAT REPORT?

A. No, although I have reviewed that report and considered it in forming my opinions, that report simply highlights what I know from my own experience and study.

Q. PLEASE EXPLAIN IN MORE DETAIL THE SENSITIVE NATURE OF THE AREA, AS IT RELATES TO YOUR FIELD OF STUDY AND WORK.

A. The shipping channel is critically important for larval recruitment, which is a crucial stage in the life cycle of many fisheries species. Many species, such as red drum, black drum and southern flounder, spawn in the coastal ocean at the mouths of channels. The embryos and larva enter the estuary through the channel, where they settle to the nursery habitat to feed and grow. Once they are large enough they exit the estuary to join the spawning stock biomass in the coastal oceans. The shipping channel is particularly important to the local area because the nature of the barrier island systems results in very few openings by which fish larvae can enter the estuary. The shipping channel is by far the largest and most important such site, which means that any non-protective activities will jeopardize the health of the fisheries populations.

Q. HOW DOES THE PROPOSED EFFLUENT DISCHARGE HAVE THE POTENTIAL TO IMPACT THE AQUATIC LIFE IN THIS MARINE ENVIRONMENT?

A. The aquatic life in the zone of initial dilution, as well as the mixing zone and beyond, is very sensitive to hypersalinity, and the natural salinity in the channel is close to the physiological tolerance of the most sensitive species. These two things make the safe discharge of desalination effluent a challenging endeavor in the Port Aransas shipping channel. As noted above, this sensitive ecological environment was recognized by TPWD and GLO when they intentionally did not designate it as an appropriate location for desalination discharges. Because of the hypersensitivity of aquatic life in this particular area, it is critical that a full and detailed analysis is done to ensure that this aquatic life will not be harmed. Such an analysis has not been performed here.

Q. WHY DO YOU SAY THAT SUCH AN ANALYSIS HAS NOT BEEN PERFORMED?

A. The draft permit in this case fails to account for multiple critical components. The draft permit (a) fails to supply a reasonable effluent percent concentration upon which to judge the water quality within the zone of initial dilution, (b) fails to provide a reasonable effluent salinity estimate, and (c) fails to adequately address the ambient salinity variation that will occur from the discharge of effluent. For this last concern, to determine the potential harm to the aquatic life, one needs to use non-steady state background modeling to calculate salinity-based waste load allocations and daily maximum effluent values, which has not been done in this case.

Q. PLEASE EXPLAIN WHY THESE CONCERNS ARE IMPORTANT.

A. To actually determine the impact upon aquatic life, one must look at not just overall salinity levels in the bay, but the actual salinity levels that will be expected to occur in specific locations as a result of the effluent released under the permit. Several important

pieces of information, among others, are required to properly make this assessment of the impact of desalination effluent upon aquatic life: (1) the percentage of effluent in the zone of initial dilution, because this will determine the level of direct harm to aquatic life, (2) the intake salinity prior to desalination, because this will directly influence the salinity of the effluent discharged into the receiving water, and (3) the ambient, or background, salinity in the channel, because this will determine the overall level of salinity that aquatic life will be subject to once the effluent is discharged. The modeling conducted by both the Port of Corpus Christi and the TCEQ did not properly consider these important pieces of information and, thus, the draft permit fails to properly evaluate the impact upon aquatic life.

Q. WHY DO YOU CONTEND THE DRAFT PERMIT FAILS TO PROPERLY ACCOUNT FOR THE PERCENTAGE OF EFFLUENT IN THE ZONE OF INITIAL DILUTION?

A. The results of the CORMIX modeling are highly dependent on the water flow in the channel, and the values used in the draft permit are not in line with the actual environment. Information provided by Joe Trungale demonstrates that the percent effluent presented in the draft permit (18.4%) is subject to large variations depending on the model input parameters. The draft permit utilizes a water current speed much slower than what actually occurs in the shipping channel. Actual water current characteristics will be different from what was modeled for the application and draft permit. Therefore, there is potential for a much higher percent effluent in the zone of initial dilution than stated in the draft permit. This has implications for the waste load allocation determinations for regulated toxicants, and the determination of salinity change.

Q. WHY DO YOU CONTEND THE DRAFT PERMIT FAILS TO PROPERLY ACCOUNT FOR THE INTAKE SALINITY PRIOR TO DESALINATION?

A. The draft permit uses intake salinity values that range from 18 to 22 per thousand (ppt). The intake for the desalination plant has been moved offshore, and this will impact the intake salinity significantly. The salinity further out, in the Gulf of Mexico, is much higher than in the inner estuary. Thus, the salinity of the intake water will be higher than modeled by the Port of Corpus Christi and the TCEQ. Instead of the 18 to 22 ppt utilized in the draft permit, the expected intake salinity from the currently proposed location will be in the range of 32 to 35 ppt.

Q. WHAT IS THE IMPACT OF A HIGHER INTAKE SALINITY THAN INDICATED IN THE DRAFT PERMIT?

A. The draft permit provides for a 40% recovery. With an input salinity of 35 ppt, this would result in the desalination effluent having a salinity as high as 58.5 ppt. This number is derived from an intake salinity of 35 ppt multiplied by 1.67, which is the concentration factor associated with a 40% recovery operation. A salinity this high in the effluent would be very harmful to aquatic life. The available literature allows for the determination of a predicted no-effect concentration for salinity of 37.4 ppt, based on 8 acute lethality data sets across 7 species. The natural salinity within the shipping channel already exceeds the predicted no-effect concentration for portions of the year, and as such any additional increase in salinity would jeopardize aquatic life. Given the mixing model uncertainty, the high sensitivity of local species, and the naturally high salinities already found in the shipping channel, it is impossible to suggest that this permit will be protective of aquatic species.

Q. WHY DO YOU CONTEND THE DRAFT PERMIT FAILS TO PROPERLY ACCOUNT FOR THE AMBIENT, OR BACKGROUND, SALINITY IN THE CHANNEL?

A. The draft permit uses a background salinity of 31.8 ppt. I examined a 5-year data set for salinity in the shipping channel available from the Mission Aransas National Estuarine

Research Reserve spanning 2007 to 2012. The median salinity value in this data set was 32.5 ppt, which by definition means that half of the data points in the data set exceeded 32.5 ppt under natural conditions. To be protective of aquatic life that is hypersensitive to salinity, it is not enough to use an ambient background salinity that is too low at least half of the time. This will result in salinity levels after discharge frequently being higher than predicted, which will be harmful to aquatic life.

Q. HOW DO THESE CONSIDERATIONS INFLUENCE THE IMPACT UPON AQUATIC LIFE?

A. It is important to understand that the channel acts as the main conduit between the Gulf of Mexico and the inner estuary. Many species spawn in the coastal ocean near the mouth of the channel, and the sensitive early life stages then move through the channel and settle within the estuary, which is used as a nursery ground. These species include recreationally and commercially important species, such as red drum, black drum and southern flounder. Early life stage animals tend to be the most sensitive to environmental perturbation, including salinity fluctuations. Accordingly, high salinity can result in high mortality and slower growth in larva. These impacts would likely significantly decrease aquatic life productivity in the area.

Q. YOU ALSO HAVE STATED THAT YOU BELIEVE THAT THE DRAFT PERMIT, IF ISSUED, WILL PRESENT A SIGNIFICANT THREAT TO COMMERCIAL FISHING AND FISHERIES IN CORPUS CHRISTI BAY AND THE SHIP CHANNEL. WHY DO YOU BELIEVE THIS?

A. As I have noted, increased salinity can be extremely harmful to aquatic life larva and embryos. Increased morbidity of larva and embryos is potentially likely from the increased salinity caused by the effluent discharge to be allowed under the permit would be expected to result in a significant decrease in fish populations in the waters in the area.

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This reduction in fish populations in and around Corpus Christi Bay and the ship channel will adversely impact commercial fishing and fisheries in those same areas.

Q. YOU HAVE STATED THAT YOU BELIEVE THE DRAFT PERMIT DOES NOT INCLUDE ALL APPROPRIATE AND NECESSARY REQUIREMENTS TO ADEQUATELY PROTECT AQUATIC LIFE FROM ADVERSE, AND POTENTIALLY DISASTROUS, IMPACTS FROM THE DISCHARGE THAT WOULD BE ALLOWED UNDER THE PERMIT. WHY DO YOU BELIEVE THIS?

A. Because the draft permit effluent limits are not calculated in a manner that properly accounts for necessary background salinity, nor do they calculate critical effluent percentages on the basis of final salinity in the zone of initial dilution, they are not shown to be protective of aquatic life.

Q. BECAUSE OF THE POTENTIAL HARMFUL IMPACTS FROM DESALINATION ACTIVITIES TO AQUATIC LIFE, DO YOU OPPOSE DESALINATION FACILITIES IN GENERAL?

A. I believe that desalination technology is an effective way to address water limitations in the region, provided it is done in an environmentally protective manner. Therefore, I am not opposed to desalination activities in general.

Q. DO YOU BELIEVE THE PORT OF CORPUS CHRISTI'S PROPOSED DESALINATION FACILITY IS ENVIRONMENTALLY PROTECTIVE?

A. No.

Q. WHY NOT?

A. Given that it is impossible to demonstrate that the permit conditions will protect aquatic life in the channel, the proposed activity related to this permit risks the productivity of recreational and commercial fisheries in the region.

V. CONCLUSION

Q. WHAT CONCLUSIONS OR OVERALL OPINION DO YOU HAVE ON THE QUESTION OF THE GRANTING OF THE APPLICATION OR ISSUANCE OF THE PROPOSED PERMIT.

A. First, I would note that while I am generally supportive of desalination activities, the Port of Corpus Christi has chosen a terrible location for its proposed facility. Because of this,

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1 it is incumbent on the Port of Corpus Christi and the TCEQ to be particularly cautious
2 and thorough when assessing the impacts from such activities. In my opinion, to date
3 sufficient due diligence has not been performed by either the Port of Corpus Christi or the
4 TCEQ that demonstrates the proposed activities under the permit will not harm aquatic
5 life, and subsequently the recreational and commercial fisheries that depend on aquatic
6 life. The estuary system in question is unique in that it is often naturally hypersaline
7 owing to the presence of the barrier islands, and the scientific evidence suggests that
8 these animals are already surviving near their physiological limitations. Animals will
9 have to pass through the effluent zone during their most sensitive life stages to settle in
10 the estuary, grow and become part of the spawning stock biomass that sustains
11 populations and fisheries. Granting the requested permit without a more detailed and
12 thorough analysis presents a significant risk of causing potentially devastating harm to
13 aquatic life and the sensitive ecology in the area.

14 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

15 A. Yes, although I reserve the right to supplement this testimony if I learn of information
16 that causes me to alter any opinions stated here.

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APPENDIX G

SOAH DOCKET NO. 582-20-1895
TCEQ DOCKET NO. 2019-1156-IWD

APPLICATION OF PORT OF CORPUS CHRISTI AUTHORITY OF NUECES COUNTY FOR TPDES PERMIT NO. WQ00052530001	§ § § § §	BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS

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SOAH DOCKET NO. 582-20-1895
TCEQ DOCKET NO. 2019-1156-IWD

APPLICATION OF PORT OF CORPUS CHRISTI AUTHORITY OF NUECES COUNTY FOR TPDES PERMIT NO. WQ00052530001	§ § § § §	**BEFORE THE STATE OFFICE** **OF** **ADMINISTRATIVE HEARINGS**

PROPOSAL FOR DECISION

The Port of Corpus Christi Authority of Nueces County (Applicant or Port Authority) filed an application (Application) with the Texas Commission on Environmental Quality (TCEQ or Commission) for new Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ00052530001. The Port Authority seeks the permit to discharge treated effluent from a proposed marine seawater desalination plant to be located in Nueces County, which would be the first such plant in the State of Texas. The Executive Director (ED) of the Commission recommends granting the Application and issuing the draft permit he prepared.

For reasons set out below, the Administrative Law Judges (ALJs) conclude that the evidentiary record does not support issuance of the draft permit. Accordingly, the ALJs recommend that the TCEQ deny the Application.

I. PROCEDURAL HISTORY

The Port Authority's Application was received by the TCEQ on March 7, 2018, and declared administratively complete on June 26, 2018. The ED completed technical review of the Application and prepared an initial draft permit.

The Notice of Receipt and Intent to Obtain a Water Quality Permit (NORI) was published on July 25, 2018, in the *Aransas Pass Progress*, *Ingleside Index*, and *Corpus Christi Caller-Times*. The NORI was also published on July 26, 2018 in the *Port Aransas South Jetty*. The Notice of Application and Preliminary Decision (NAPD) was published on November 21, 2018, in the *Aransas Pass Progress* and *Ingleside Index*. The NAPD was also published on

November 22, 2018, in the *Port Aransas South Jetty* and *Corpus Christi Caller-Times*. A public meeting was held on April 8, 2019, at the Port Aransas Civic Center in Port Aransas, Texas, and the public comment period ended at the close of the meeting on that date.

The Commission granted requests for a contested case hearing at an open meeting on November 6, 2019, and referred this matter to the State Office of Administrative Hearings (SOAH) on November 21, 2019.[1] The Commission established a six-month deadline from the date of the preliminary hearing for the proposal for decision (PFD) and referred nine issues, which are set out in Section III below.

The preliminary hearing was initially scheduled to be held in Port Aransas, Texas, on March 24, 2020, but due to the COVID-19 pandemic, it was rescheduled and held on July 9, 2020, via Zoom videoconference. At the preliminary hearing, the ALJs determined that SOAH had jurisdiction, named parties, and set the procedural schedule.[2] In addition, various objections were raised to the admission of the administrative record (discussed in Section V below); however, the ALJs overruled the objections at the preliminary hearing and admitted the administrative record (Exhibits AR-1 through AR-8) for all purposes.[3]

Before the hearing on the merits, various named parties withdrew. The remaining parties are: the Port Authority; ED; TCEQ's Office of Public Interest Counsel (OPIC); Audubon Texas (Audubon); Port Aransas Conservancy (PAC); the following individuals represented by counsel: James Harrison King, Tammy King, Edward Steves, and Sam Steves (collectively, represented protestants); the following aligned individuals representing themselves: Stacey Bartlett, Jo Ellen Krueger, Sarah Searight, and Lisa Turcotte (collectively, pro se group);[4] and

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[1] Ex. AR-2 (TCEQ Interim Order).

[2] SOAH Order No. 5 (July 15, 2020).

[3] *Id.*; *see also* 30 Tex. Admin. Code § 80.127(h) ("The ALJ shall admit the administrative record into evidence for all purposes.").

[4] The individuals in the pro se group were aligned with Ms. Turcotte designated as their representative, and non-party Cathy Fulton acting on their behalf at the hearing. The pro se group's closing arguments include additional evidence that was not prefiled or presented at the hearing as required. Because this information is not in the evidentiary record, it is not considered or discussed in the PFD.

Cara Denney, Aldo Dyer, and Mark Grosse. All parties participated at the hearing, except for Ms. Denney, Mr. Dyer, and Mr. Grosse. The represented protestants joined in PAC's closing arguments, and therefore, are referred to collectively with PAC as "Protestants."

The hearing on the merits convened via Zoom videoconference on November 4, 2020, and concluded on November 10, 2020. The record initially closed on December 7, 2020, after the parties submitted their final closing arguments, but was reopened for the parties to submit proposed findings of fact and conclusions of law. The record closed again on January 12, 2021.

II. BURDEN OF PROOF

The Application was filed after September 1, 2015, and the TCEQ referred it under Texas Water Code § 5.556, which governs referral of environmental permitting cases to SOAH based on a request for a contested case hearing.[5] Therefore, this case is subject to Texas Government Code § 2003.047(i-1)-(i-3),[6] which provides:

> (i-1) In a contested case regarding a permit application referred under Section 5.556 . . . [of the] Water Code, the filing with [SOAH] of the application, the draft permit prepared by the executive director of the commission, the preliminary decision issued by the executive director, and other sufficient supporting documentation in the administrative record of the permit application establishes a prima facie demonstration that:
>
> (1) the draft permit meets all state and federal legal and technical requirements; and
>
> (2) a permit, if issued consistent with the draft permit, would protect human health and safety, the environment, and physical property.
>
> (i-2) A party may rebut a demonstration under Subsection (i-1) by presenting evidence that:

[5] Tex. Water Code §§ 5.551(a), .556.

[6] Acts 2015, 84th Leg., R.S., ch. 116 (S.B. 709), §§ 1 and 5, eff. Sept. 1, 2015.

(1) relates to . . . an issue included in a list submitted under Subsection (e) in connection with a matter referred under Section 5.556, Water Code; and

(2) demonstrates that one or more provisions in the draft permit violate a specifically applicable state or federal requirement.

(i-3) If in accordance with Subsection (i-2) a party rebuts a presumption established under Subsection (i-1), the applicant and the executive director may present additional evidence to support the draft permit.

Although this law creates a presumption, sets up a method for rebutting that presumption, and shifts the burden of production on that rebuttal, it does not change the underlying burden of proof. Accordingly, the burden of proof remains with the Applicant to establish by a preponderance of the evidence that the Application would not violate applicable requirements and that a permit, if issued consistent with the draft permit, would protect human health and safety, the environment, and physical property.[7]

In this case, the Application, draft permit, and other materials listed in Texas Government Code § 2003.047(i-1) (collectively, the prima facie demonstration) were offered and admitted into the record at the preliminary hearing.[8]

III. REFERRED ISSUES

The TCEQ referred the following issues to SOAH for a contested case hearing:

A. Whether the proposed discharge will adversely impact: the marine environment, aquatic life, and wildlife, including birds and endangered or threatened species, spawning eggs, or larval migration;

B. Whether the proposed discharge will adversely impact the health of the requesters and their families, including whether fish and other seafood will be safe for human consumption;

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[7] 30 Tex. Admin. Code § 80.17(a), (c).

[8] Exs. AR-1 through AR-8. At the hearing on the merits, a portion of Ex. AR-8 (Tab F pages ED-0035 to ED-0047) was substituted without objection. Tr. Vol. 5 at 246.

C. Whether the proposed discharge will adversely impact recreational activities, commercial fishing, or fisheries in Corpus Christi Bay and the ship channel;

D. Whether the Application, and representations contained therein, are complete and accurate;

E. Whether the Applicant substantially complied with applicable public notice requirements;

F. Whether the draft permit is consistent with the Texas Coastal Management Program's goals and policies;

G. Whether the modeling complies with applicable regulations to ensure the draft permit is protective of water quality, including utilizing accurate inputs;

H. Whether the Executive Director's antidegradation review was accurate; and

I. Whether the draft permit includes all appropriate and necessary requirements.

Each of these issues are discussed in detail below, along with the allocation of transcription costs and Protestants' arguments that the administrative record should not be considered for "all purposes."

IV. DISCUSSION AND ANALYSIS

Several of the issues referred by the Commission inquire about the proposed discharge's impact on the environment and human health. These issues rely on a common set of law and facts, which are discussed first. Thereafter, each issue referred by the Commission is addressed separately. The issues related to the ED's modeling and antidegradation review (Issues G and H) have implications for the other issues related to the environment and human health, so they are taken up first, with the remaining issues following in the order laid out in the Commission's interim order.

A. Background and Applicable Law

1. Description of the Proposed Facility and Discharge

The Port Authority seeks a wastewater discharge permit for a proposed marine seawater desalination plant (the Facility) to be located on Harbor Island in Nueces County, Texas. The Facility will pump seawater from the Gulf of Mexico and use reverse osmosis to produce potable water. The draft permit prepared by the ED would authorize the discharge of treated effluent from the Facility, consisting primarily of the concentrated brine resulting from the desalination process. The draft permit specifies daily maximum and daily average flow limits of 110 million gallons per day (MGD) and 95.6 MGD, respectively. The treated effluent would be discharged via a pipeline into the Corpus Christi Ship Channel approximately 300 feet off Harbor Island's shoreline. The discharge site is identified as Outfall 001. The Port Authority plans to use a diffuser at the discharge site to enhance mixing of the treated effluent with the ambient water.

2. Texas Surface Water Quality Standards (TSWQS)

The Facility's proposed discharge is subject to the Texas Surface Water Quality Standards (TSWQS) found in title 30, chapter 307 of the Texas Administrative Code (TAC). The TSWQS identify appropriate uses for the state's surface waters (e.g., aquatic life, recreation, and public water supply), and establish narrative and numerical water quality standards to protect those uses. The TCEQ has standard procedures for implementing the TSWQS, referred to as the Implementation Procedures (IPs), which are approved by the U.S. Environmental Protection Agency (EPA).[9] The TSWQS and IPs are used to set permit limits for wastewater discharges and other activities that may have an effect on water quality.[10]

To assess the potential water quality impact of a proposed discharge, the TSWQS establish "mixing zones" in the receiving water body, which are defined areas contiguous to the permitted

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[9] 30 Tex. Admin. Code § 307.2(e); Ex. ED-MW-3 ("Procedures to Implement the Texas Surface Water Quality Standards (RG-194)").

[10] Ex. APP-RP-1 at 4.

discharge where the effluent mixes with the receiving waters.[11] Acute toxicity to aquatic organisms is not allowed in a mixing zone, and chronic toxicity to aquatic organisms is not allowed beyond a mixing zone.[12] There are three applicable mixing zones, listed here from smallest to largest and in order of their proximity to the discharge: the zone of initial dilution (ZID),[13] aquatic life mixing zone, and human health mixing zone. The ED conducts modeling, as discussed further below, to determine the percentage of effluent (the "effluent percentage" or "critical dilution") that is predicted to occur at the edge of each regulatory mixing zone. For toxic substances where adequate toxicity information is available, the TSWQS establish numerical water quality standards for acute and chronic toxicity that apply at the mixing zone boundaries.

The main constituent of concern in this case is salinity.[14] The Facility's discharge will consist primarily of the concentrated salts that remain after the desalination process. With regard to salinity, the TSWQS provide that "[c]oncentrations and the relative ratios of dissolved minerals such as chloride, sulfate, and total dissolved solids must be maintained such that existing, designated, presumed, and attainable uses are not impaired."[15] The TSWQS do not provide specific numeric criteria for salinity for Texas estuaries, but require careful consideration and that aquatic life uses be supported:

> Salinity gradients in estuaries must be maintained to support attainable estuarine dependent aquatic life uses. Numerical salinity

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[11] 30 Tex. Admin. Code § 307.3(a)(40).

[12] *Id.* Acute toxicity is defined as "[t]oxicity that exerts a stimulus severe enough to rapidly induce an effect. The duration of exposure applicable to acute toxicity is typically 96 hours or less. Tests of total toxicity normally use lethality as the measure of acute impacts. (Direct thermal impacts are excluded from definitions of toxicity.)" 30 Tex. Admin. Code § 307.3(a)(1). Chronic toxicity is defined as "[t]oxicity that continues for a long-term period after exposure to toxic substances. Chronic exposure produces sub-lethal effects, such as growth impairment and reduced reproductive success, but it may also produce lethality. The duration of exposure applicable to the most common chronic toxicity test is seven days or more." 30 Tex. Admin. Code § 307.3(a)(12).

[13] 30 Tex. Admin. Code § 307.3(a)(87) (defining the ZID as "[t]he small area at the immediate point of a permitted discharge where initial dilution with receiving waters occurs and that may not meet certain criteria applicable to the receiving water").

[14] Salinity is defined as "[t]he total dissolved solids in water after all carbonates have been converted to oxides, all bromide and iodide have been replaced by chloride, and all organic matter has been oxidized. For most purposes, salinity is considered equivalent to total dissolved salt content. Salinity is usually expressed in parts per thousand." 30 Tex. Admin. Code § 307.3(a)(55).

[15] 30 Tex. Admin. Code § 307.4(g)(1).

> criteria for Texas estuaries have not been established because of the high natural variability of salinity in estuarine systems, and because long-term studies by state agencies to assess estuarine salinities are still ongoing. Absence of numerical criteria must not preclude evaluations and regulatory actions based on estuarine salinity, and careful consideration must be given to all activities that may detrimentally affect salinity gradients.[16]

The TSWQS also generally provide that "surface waters must not be toxic to man from ingestion of water, consumption of aquatic organisms, or contact with the skin, or to terrestrial or aquatic life."[17] In addition, the TSWQS require that "[w]ater in the state must be maintained to preclude adverse effects on aquatic life."[18]

The TSWQS also require that proposed wastewater discharges undergo an antidegradation review, which is designed to ensure that standards for protecting existing uses and water quality are met.[19] The antidegradation review process for TPDES permits is described in the IPs.[20]

3. Legal Standard for Evaluating Impacts to Aquatic Organisms

The parties agree that the TSWQS apply in this case, but disagree about what legal standard applies when evaluating impacts on aquatic organisms. Protestants and OPIC contend that, as provided in 30 TAC §§ 307.6(c)(6) and 307.8(b)(2), there "must be *no lethality* to aquatic organisms that move through a ZID."[21] As further support, Protestants cite to testimony from PAC witness Dr. Andrew Esbaugh, ED witness Dr. Mary Anne Wallace, and Port Authority witness Dr. Lial Tischler confirming that the TCEQ's rules prohibit any lethality within the ZID.[22]

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[16] 30 Tex. Admin. Code § 307.4(g)(3).

[17] 30 Tex. Admin. Code § 307.4(d).

[18] 30 Tex. Admin. Code § 307.6(b)(4).

[19] 30 Tex. Admin. Code § 307.5.

[20] 30 Tex. Admin. Code § 307.5(c)(1)(A); *see also* Ex. ED-MW-3 at 55-69.

[21] Emphasis added.

[22] Tr. Vol. 3 at 57 (Esbaugh); Tr. Vol. 5 at 171, 178 (Wallace); Tr. Vol. 5 at 245 (Tischler).

C. Whether the Executive Director's antidegradation review was accurate. (Issue H)

The Commission's antidegradation policy is set out in 30 TAC § 307.5(b). In this case, Tier 1 and Tier 2 antidegradation reviews are required due to the exceptional aquatic life use designation at the outfall location.[149] Tier 1 requires that "[e]xisting uses and water quality sufficient to protect those existing uses must be maintained."[150] Tier 2 is more stringent and generally prohibits the lowering of water quality by more than a de minimis amount, as follows:

> No activities subject to regulatory action that would cause degradation of waters that exceed fishable/swimmable quality are allowed unless it can be shown to the commission's satisfaction that the lowering of water quality is necessary for important economic or social development. Degradation is defined as a lowering of water quality by more than a de minimis extent, but not to the extent that an existing use is impaired. Water quality sufficient to protect existing uses must be maintained.[151]

The antidegradation review for the Application was performed by ED witness and aquatic scientist Dr. Wallace. For both the Tier 1 and 2 reviews, Dr. Wallace concluded that the designated uses of primary contact recreation, exceptional aquatic life use, and oyster waters that apply to Segment 2481 (Corpus Christi Bay) will not be impaired. She based her conclusion primarily on the requirement in the draft permit that the effluent be discharged via a diffuser designed to achieve a salinity increase of less than 1.0 ppt at the edge of the mixing zone as compared to ambient salinity.[152] As part of Dr. Wallace's Tier 2 review, she noted that despite the designation as oyster

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[149] Ex. ED-MW-1 at 15.

[150] 30 Tex. Admin. Code § 307.5(b)(1).

[151] 30 Tex. Admin. Code § 307.5(b)(2).

[152] Ex. ED-MW-1 at 16-19. As part of her review, Dr. Wallace also concluded that the proposed discharge: (1) would not contribute to known water quality impairments of Corpus Christi beaches because they are over ten miles away, and (2) would not impact the piping plover, a threatened aquatic-dependent species found in Segment 2481, because the Facility is not a petroleum facility. *Id.* at 14-15. The finding regarding beaches was not challenged and is not discussed further. Audubon raises issues related to the endangered species review; however, these issues are addressed below in discussion of Issue A, which includes consideration of the adverse impacts to endangered or threatened species.

waters, there are no known oyster beds near the outfall location.[153] Dr. Wallace's antidegradation determination is memorialized in her memorandum dated August 20, 2018.[154]

1. Parties' Arguments

The Port Authority and ED maintain that Dr. Wallace's antidegradation review was accurate and complies with all applicable requirements in the TSWQS. Protestants and OPIC disagree, contending that the ED's antidegradation review was not based on sound science and accurate data, and is contrary to the evidence showing that additional salinity is likely to cause adverse effects to aquatic life.

First, Protestants contend that Dr. Wallace's antidegradation review was not based on sound science. In particular, they point to Dr. Wallace's deposition in which she testified that:

> [S]ometimes you can have hard data and actually run some spreadsheet numbers or models and—and really look at it from an empirical point of view. But for the most part, an antideg review on a new facility is a feeling, and my feeling with its location in this dynamic environment that it was going to be okay, that this amount of hypersaline water being discharged from this facility would not degrade the environment beyond de minimis.[155]

Dr. Wallace also noted that the lack of information made her "very uncomfortable" doing an antidegradation review for a new facility, along with "the size of the discharge, the nature of the discharge, [and] the location of the discharge" in this case.[156] She further testified that "[i]t's hard to do antidegradation on a new facility because it's kind of like trying to look into a gazing ball and predict the future."[157]

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[153] Ex. ED-MW-1 at 19.

[154] Ex. AR-8 at ED-0072.

[155] Ex. PAC-16 at 34.

[156] Tr. Vol. 5 at 186.

[157] Ex. PAC-16 at 30; *see also* Tr. Vol. 5 at 186.

In addition, because a Tier 2 review considers whether the existing water quality will be lowered, Protestants point out that it necessarily requires knowledge of the baseline water quality condition, which is determined based on "[t]he highest water quality sustained since November 28, 1975."[158] Protestants allege that this comparison was not done, citing Dr. Wallace's deposition testimony that she did not think degradation was measured against 1975 conditions, and her direct testimony that she did not do an independent review of the 1975 conditions.[159] According to Protestants, such statements are not cured by her later assertion that the TSWQS and IPs incorporate the 1975 standards. Additionally, Dr. Wallace testified that she did not have enough time to review the Application to determine whether there was more than a de minimis change.[160] Therefore, Protestants assert that Dr. Wallace did not complete the first step in a Tier 2 antidegradation review as required.

Protestants also criticize the pH screening that Dr. Wallace conducted as part of her review. They point out that for the pH part of her analysis, Dr. Wallace used a salinity concentration of 31.81 practical salinity units (psu) (a measurement equivalent to ppt),[161] which she stated she got by "just playing with numbers and not thinking about the long-range ramifications of the spreadsheet.... So, like, quite honestly, you know—probably that salinity should be higher."[162] With regard to her pH screening, Dr. Wallace also noted that when she selected a salinity input of 18 psu, she was in a hurry; that she usually uses 0.4 psu, so 18 psu was high; but that when she usually uses 0.4 psu for salinity, she was "thinking about a freshwater discharge because usually our effluents are freshwater. So there's my mistake right there."[163]

Protestants also note that Dr. Wallace did not have an opinion on the range of salinity that would support attainable estuarine-dependent aquatic life uses,[164] did not know how the 90-foot

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[158] *See* 30 Tex. Admin. Code § 307.5(c)(2)(B).

[159] Ex. PAC-16 at 37-38; Ex. ED-MW-1 at 21.

[160] Tr. Vol. 5 at 185.

[161] Ex. ED-SG-3 at 69 n.4.

[162] Ex. PAC-16 at 18; *see also* Tr. Vol. 5 at 154-55; Ex. AR-8 at ED-0047.

[163] Tr. Vol. 5 at 156, 158.

[164] Tr. Vol. 5 at 162-63.

hole beneath the diffuser would impact her analysis,[165] and was unconcerned about possible death in the ZID because she believed there was an adequate zone of passage for marine organisms.[166] Given all of these factors, Protestants argue that the evidence does not reflect a scientist using best professional judgment.[167] In addition, even though the Port Authority and ED contend Dr. Wallace complied with TCEQ's checklist of procedures for an antidegradation review, following the checklist does not assure compliance with the substantive standards.[168]

OPIC raises similar concerns and further notes that, at Dr. Wallace's deposition, she stated there would be no more than a de minimis impact on the receiving waters by considering tidal exchange, wind events, and ship traffic.[169] However, at the hearing, she testified that ship traffic did not inform her antidegradation review,[170] and she did not review any data on wind in the channel, but instead relied on her experience living and working there.[171]

Protestants and OPIC further contend that Dr. Wallace's antidegradation review relied on inaccurate modeling information. As discussed above, after this case was referred to SOAH, ED witness Ms. Cunningham discovered an error in her initial interpretation of the CORMIX modeling, which resulted in an increase in the effluent percentage at the ZID boundary from 1.95% to 18.4%. Dr. Wallace's antidegradation review was based on Ms. Cunningham's initial memorandum issued in 2018 that contained the error, and the antidegradation review was not updated to reflect the correction.[172]

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[165] Ex. PAC-16 at 29; Tr. Vol. 5 at 175.

[166] Tr. Vol. 5 at 166-67.

[167] PAC Closing Argument at 55.

[168] PAC Reply at 18-19 (citing *Save Our Springs Alliance, Inc. v. Tex. Comm'n on Envt'l Quality*, No. D-1-GN-19-003030 (345th Dist. Ct. Travis County, Tex. Oct. 29, 2020)).

[169] Ex. PAC-16 at 33.

[170] Tr. Vol. 5 at 195.

[171] Tr. Vol. 5 at 192-94.

[172] Tr. Vol. 6 at 99-100.

Furthermore, even if Dr. Wallace had relied on the updated modeling, Protestants assert that the modeling does not provide a reliable prediction of the effluent percentages at the mixing zones. Based on PAC witness Mr. Trungale's modeling runs, using more accurate velocity inputs in the CORMIX model shows up to 70% of the effluent remaining at the ZID boundary, not 18.4% as provided in Ms. Cunningham's analysis.[173] Protestants and OPIC also point out that the modeling conducted by the ED was based on a diffuser design that Port Authority witness Dr. Tischler testified cannot meet the permit requirements.

In contrast to Dr. Wallace's antidegradation review, Protestants highlight PAC witness Dr. Esbaugh's analysis, which they state demonstrates a more thorough and scientific approach to evaluating the impact of salinity on aquatic life. They note that Dr. Esbaugh assessed the existing salinity conditions in the Aransas Pass inlet and used more accurate salinity concentrations for the intake water.[174] He also determined that the natural salinity in the channel is close to the physiological tolerance of the most sensitive species (red drum), and that any increase in salinity would jeopardize aquatic life.[175] OPIC points out that Dr. Wallace stated she had no basis to disagree with Dr. Esbaugh that baseline salinity in the channel is already at the physiological tolerance of some species some of the time.[176] She also agreed that if a system were on the edge of collapse, then adding 1.34% of effluent at the edge of the mixing zone, as authorized by the draft permit, could be the tipping point.[177]

The Port Authority and ED both respond to Protestants' and OPIC's focus on the particular words Dr. Wallace used to describe her review, with the Port Authority describing it as "elevating form over substance."[178] The ED states that Dr. Wallace spoke colloquially during her deposition and cross-examination, using conversational terms instead of legal or scientific terms, but that this

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[173] Ex. PAC-2 at 16.

[174] PAC Closing Argument at 57-58.

[175] Ex. PAC-5 at 11.

[176] Tr. Vol. 5 at 205.

[177] *Id.*

[178] Port Authority Reply at 25.

does not diminish the quality of her antidegradation review, or imply she took shortcuts.[179] The ED also emphasizes Dr. Wallace's credentials as a biologist who has been employed at the TCEQ since 2009, and as an aquatic scientist since 2015. In addition, the Port Authority points out that, while Dr. Wallace admitted she feels in a hurry when doing her work, she testified that she "thought very long and hard about every single step" of her permit review and worked harder on this one than most.[180] Dr. Wallace also explained that she was uncomfortable with antidegradation reviews for new facilities because, as she stated, "I hold myself to an impossible standard."[181]

As to the antidegradation review itself, the Port Authority and ED point to Dr. Wallace's prefiled testimony, which explains each step of her analysis.[182] They emphasize that Dr. Wallace testified that her antidegradation review complied with TCEQ's guidelines and all applicable state and federal statutes and regulations.[183] The ED further asserts that Protestants did not prove that Dr. Wallace's review violated any applicable state or federal requirement.

Dr. Wallace's work was also reviewed by two TCEQ staff members, including her immediate supervisor, and they both agreed with her analysis.[184] In addition, Port Authority witness Dr. Tischler affirmed that Dr. Wallace's antidegradation review properly addressed the impact of the proposed discharge by evaluating compliance with both Tier 1 and Tier 2.[185] Dr. Tischler further noted that Dr. Wallace's antidegradation memorandum provides that Tier 2 may be revisited if new information is received. In particular, he pointed out that the ED can revisit Tier 2 after the Port Authority conducts the effluent sampling required by Other Requirement No. 7 in the draft permit.[186]

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[179] ED Reply at 6.

[180] Tr. Vol. 5 at 157.

[181] Tr. Vol. 5 at 187.

[182] Ex. ED-MW-1 at 13-15.

[183] *See* Ex. ED-MW-1 at 10, 25.

[184] Ex. ED-MW-1 at 11.

[185] Ex. APP-LT-1 at 32.

[186] *Id.*

The Port Authority and ED also assert that it was not necessary for Dr. Wallace to update the antidegradation review after the ED's CORMIX modeling analysis was corrected. Dr. Wallace's antidegradation review was based on the effluent percentage at the *mixing zone* boundary, which unlike the effluent percentage at the ZID boundary, was not impacted by the correction.[187] As to consideration of the 1975 baseline conditions, the Port Authority and ED point to Dr. Wallace's testimony that the TSWQS and IPs incorporate the 1975 conditions, and thus, were considered.[188] And with respect to the pH screening, the Port Authority contends that, even if Dr. Wallace had used the maximum potential salinity concentration for the effluent as Protestants suggest, it does not significantly alter the outcome.[189]

2. ALJs' Analysis

Dr. Wallace appears to have followed each step required by the TCEQ's IPs for antidegradation reviews.[190] However, following the procedures is not sufficient on its own to ensure that the proposed discharge complies with the substantive antidegradation standards. The Commission's referred issue requires a determination of whether the antidegradation review was "accurate," not simply whether it followed TCEQ's procedures. Protestants' and OPIC's arguments implicate whether the ED's antidegradation review meets the substantive standards, in particular whether Segment 2481's designation of "exceptional aquatic life use" will be maintained and whether water quality will not be lowered by more than a de minimis amount.

In concluding that the proposed discharge satisfies the Tier 1 and 2 antidegradation standards, Dr. Wallace relied on the draft permit's diffuser requirement, which she testified is designed to achieve a salinity increase of less than 1.0 ppt at the mixing zone boundary.[191] However, the draft permit's diffuser requirement provides an effluent limit at the ZID boundary,

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[187] Tr. Vol. 6 at 99.

[188] Ex. ED-MW-1 at 21.

[189] Port Authority Reply at 26.

[190] Ex. ED-MW-1 at 13-15.

[191] Ex. ED-MW-1 at 18-19.

not the mixing zone boundary.[192] Thus, Dr. Wallace's conclusion appears to be based on the CORMIX modeling results for the diffuser design rather than the requirements in the draft permit.

As to the CORMIX modeling, the ED discovered an error that resulted in an increase of the effluent percentage at the ZID boundary, but did not affect the effluent percentage at the mixing zone boundary, which was the value Dr. Wallace relied on for her antidegradation review. Similarly, there was testimony that the current diffuser design cannot meet the effluent limit at the ZID boundary, but it did not address the limit at the mixing zone boundary. Therefore, the ALJs conclude that the corrected modeling and alleged diffuser design changes would not have impacted Dr. Wallace's conclusions.

However, the issue is whether Dr. Wallace's analysis ensures that the Tier 1 and 2 standards are met. To determine that an increase of 1% at the edge of the mixing zone should be within acceptable salinity tolerances for spotted seatrout, Atlantic croaker, and red drum, Dr. Wallace relied on a 1989 report titled "Salinity Requirements for Reproduction and Larval Development of Several Important Fishes in Texas Estuaries, Final Report."[193] However, she did not cite to any particular finding in the report to support her conclusion, and the report summary indicates that salinity extremes can be problematic for reproduction and larval development of these species.[194] In addition, Dr. Wallace agreed that adding 1.34% of effluent at the edge of the mixing zone (as predicted by the CORMIX modeling) could be the tipping point if a system were on the edge of collapse. Thus, it is not sufficient to merely point out that the predicted increase in salinity is relatively small.

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[192] Ex. AR-8 at ED-0014.

[193] Ex. ED-MW-1 at 17.

[194] Ex. ED-MW-9 at 6 ("Salinity extremes significantly impaired all phases of reproduction and larval development examined in spotted seatrout, Atlantic croaker and red drum, from the beginning of oocyte growth to several weeks post-hatching of the larvae. Several stages of the reproductive and early life history cycles of these sciaenid fishes were particularly susceptible to salinity stress.").

The TSWQS also require that salinity gradients in estuaries must be maintained to support attainable estuarine-dependent aquatic life uses.[195] Yet, Dr. Wallace did not have an opinion on the range of salinity that would support such uses.[196] The record also does not indicate that Dr. Wallace considered the Aransas Pass inlet's key role in the life cycle of estuarine-dependent species for the Corpus Christi Bay system. As such, the ALJs conclude that Dr. Wallace's review failed to provide the "careful consideration" required by the TSWQS.[197]

In addition, by looking only at concentrations at the mixing zone boundary, Dr. Wallace's review ignores any potential impacts within the ZID and mixing zones, even though the TSWQS require "no lethality to aquatic organisms that move through a ZID."[198] The IPs provide a general guideline for antidegradation reviews that: "New discharges that use less than 10% of the existing assimilative capacity of the water body *at the edge of the mixing zone* are usually not considered to constitute potential degradation as long as the aquatic ecosystem in the area is not unusually sensitive to the pollutant of concern."[199] However, while this guideline references the assimilative capacity at the edge of the mixing zone, it does not preclude consideration of impacts within the ZID and mixing zone when appropriate. Notably, it provides an exception to the general rule when the aquatic ecosystem is unusually sensitive to the pollutant of concern. In such circumstances, potential adverse impacts within the ZID and mixing zones, such as lethality, could have cascading effects that impact the water body's designated use and quality. Moreover, Dr. Wallace testified that she did not know the existing assimilative capacity of the receiving water body.[200]

Dr. Wallace's testimony also makes clear that her antidegradation review was constrained by a lack of data because the Application is for a new discharge and that she had a limited amount of time for her review. On cross-examination, she agreed that she did not have enough time to

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[195] 30 Tex. Admin. Code § 307.4(g)(3).

[196] Tr. Vol. 5 at 162-63.

[197] *See* 30 Tex. Admin. Code § 307.4(g)(3).

[198] 30 Tex. Admin. Code § 307.8(b)(2).

[199] Ex. ED-MW-3 at 64.

[200] Tr. Vol. 5 at 232.

determine whether there was more than a de minimis change to water quality as required by Tier 2.[201]

However, the ALJs are not persuaded that Dr. Wallace failed to consider the baseline 1975 conditions of the receiving waters as part of her Tier 2 analysis. Dr. Wallace did not independently evaluate the 1975 conditions, but testified that they are incorporated into the TSWQS and IPs that she performed her review under. The IPs support her contention, stating that "[b]aseline conditions are estimated from existing conditions, as indicated by the latest edition of the Texas Water Quality Inventory or other available information, unless there is information indicating that degradation in ambient water quality has occurred in the receiving waters since November 28, 1975."[202] Protestants assert that the TCEQ was on notice that conditions have changed due to a comment submitted during the public comment phase of this proceeding that "freshwater inflows have been significantly altered by agricultural development."[203] However, this single comment is not a sufficient basis to conclude that the receiving waters at the discharge site have been degraded.

As to Dr. Wallace's pH screening, she admitted that certain inputs for salinity should have been higher. However, Protestants and OPIC did not explain how Dr. Wallace's error would impact the antidegradation review. In contrast, the Port Authority points out that even if Dr. Wallace had used the maximum potential salinity concentration for the effluent, it would not significantly alter the outcome. Accordingly, the ALJs conclude that the greater weight of the evidence supports that, despite the acknowledged errors, Dr. Wallace's inputs to the pH screening did not materially affect the antidegradation review.

After considering the evidence and arguments, the ALJs conclude that Protestants and OPIC rebutted the prima facie demonstration, and the greater weight of evidence does not support Dr. Wallace's conclusion that the proposed discharge will maintain existing uses and not lower

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[201] Tr. Vol. 5 at 185.

[202] Ex. ED-MW-3 at 63.

[203] Ex. ED-KC-6 at 48, comment 62.

water quality by more than a de minimis amount. Accordingly, the Port Authority has not met its burden of proof to show that the ED's antidegradation review was accurate.

D. Whether the proposed discharge will adversely impact: the marine environment, aquatic life, and wildlife, including birds and endangered or threatened species, spawning eggs, or larval migration. (Issue A)

The Port Authority and ED maintain that the draft permit is protective of the marine environment, aquatic life, and wildlife. Protestants, OPIC, Audubon, and the pro se group disagree.

On this issue, PAC offered the testimony of four witnesses with expertise in the fields of marine biology, ecology, wildlife, and fisheries science: Dr. Erisman, Mr. Holt, Dr. Esbaugh, and Dr. Stunz. Based on their testimony, Protestants, OPIC, Audubon, and the pro se group contend that the proposed outfall location is not appropriate for a desalination-related discharge; that salinity and other possible constituents of the discharge, including copper, may adversely affect aquatic life; and that the additional modeling performed by the Port Authority shows the discharge cannot meet the draft permit limits.

1. TPWD/GLO Desalination Study

Protestants allege that the Facility is proposed for an area that the Texas Parks and Wildlife Department (TPWD) and Texas General Land Office (GLO) have excluded from being appropriate for desalination facilities. In support, they point to a 2018 report prepared by TPWD and GLO titled "Marine Seawater Desalination Diversion and Discharge Zones Study" (the Desalination Study).[204] The purpose of the Desalination Study was "to identify zones in the Gulf of Mexico that are appropriate for the diversion of marine seawater and for the discharge of marine seawater desalination waste while taking into account the need to protect marine organisms."[205] The discharge zones identified in the Desalination Study exclude the five major passes that connect

[204] Ex. PAC-7.

[205] Ex. PAC-7 at 2.

are relevant to the analysis in this case. Thus, factor D regarding relative benefit is the primary distinguishing factor.

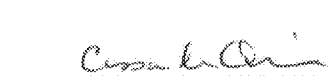
Protestants contend that the Port Authority and ED benefited from this proceeding because Protestants caught an error in the modeling. The benefit to Protestants, they argue, depends on whether the draft permit is granted or denied. If the permit is granted, they assert that the Port Authority should bear all costs, but if it is denied, then Protestants should bear no more than half of the costs. The ALJs disagree that factor D turns on whether the permit is granted or denied, and conclude that the Port Authority and Protestants benefitted equally from having a transcript.

Therefore, after considering the relevant factors, the ALJs recommend that the transcript costs be divided equally between the Port Authority and Protestants, with each responsible for $8,930.63.

VII. CONCLUSION

In conclusion, the ALJs determine that the evidentiary record does not support issuance of the draft permit, and therefore, recommend that the Application be denied. The ALJs further recommend that the Commission adopt all Findings of Fact and Conclusions of Law in the Proposed Order on these issues. The ALJs recommend that the Commission not adopt the parties' proposed Findings of Fact and Conclusions of Law that the ALJs did not include in the Proposed Order, based on the reasoning set out in the Proposal for Decision.[427]

SIGNED February 5, 2021.



CASSANDRA QUINN
ADMINISTRATIVE LAW JUDGE
STATE OFFICE OF ADMINISTRATIVE HEARINGS

REBECCA S. SMITH
ADMINISTRATIVE LAW JUDGE
STATE OFFICE OF ADMINISTRATIVE HEARINGS

[427] 30 Tex. Admin. Code § 80.252(d).

APPENDIX H

SOAH DOCKET NO. 582-08-0690
TCEQ DOCKET NO. 2007-1178-MWD

IN THE MATTER OF THE	§	BEFORE THE STATE OFFICE
APPLICATION BY	§	
LERIN HILLS, LTD.	§	OF
FOR TEXAS POLLUTANT DISCHARGE	§	
ELIMINATION SYSTEM (TPDES)	§	
PERMIT NO. WQ0014712001	§	ADMINISTRATIVE HEARINGS

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SOAH DOCKET NO. 582-08-0690
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IN THE MATTER OF THE	§	**BEFORE THE STATE OFFICE**
APPLICATION BY	§	
LERIN HILLS, LTD.	§	**OF**
FOR TEXAS POLLUTANT DISCHARGE	§	
ELIMINATION SYSTEM (TPDES)	§	
PERMIT NO. WQ0014712001	§	**ADMINISTRATIVE HEARINGS**

PROPOSAL FOR DECISION

Lerin Hills, Ltd. (Lerin Hills or Applicant) has applied to the Texas Commission on Environmental Quality (TCEQ or Commission) for Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0014712001. The permit would authorize the discharge of treated wastewater effluent from a new proposed municipal wastewater facility that would be located in Kendall County, approximately four miles west of the City of Boerne. The Commission referred the application to the State Office of Administrative Hearings (SOAH) for a contested case hearing on seven specific issues.[1] The Administrative Law Judge (ALJ) recommends that the application be denied because Lerin Hills has failed to prove that the draft permit and proposed discharge would satisfy the requirements of the Commission's antidegradation rule.

I. PROCEDURAL HISTORY

Lerin Hills filed its application for a new TPDES permit on May 3, 2006. The Commission's Executive Director (ED) declared the application administratively complete on May 26, 2006. The ED completed the technical review of the application and prepared an initial draft permit. The application was declared technically complete on August 16, 2006. The combined Notice of Application and Preliminary Decision and Public Meeting was published on September 22, 2006. A public meeting was held October 24, 2006, in Boerne. Following receipt of several requests for a contested case hearing, the Commission referred this matter to SOAH on October 24, 2007.

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[1] While Lerin Hills has also applied for, and received preliminary authorization for, a permit for use of reclaimed water under Chapter 210 of the Commission's rules, *see* Tr. at 706-707, all referred issues in this case relate solely to the application for the TPDES permit.

The Commission established a nine-month deadline for the proposal for decision (from the date of the preliminary hearing), and referred seven issues:

A. Whether the proposed discharge will be in compliance with regulations that are intended to protect groundwater and surface water;

B. Whether the effluent limitations in the draft permit are protective of water quality and the designated uses of the receiving streams;

C. Whether the permit would authorize Applicant to discharge the appropriate amount of wastewater based on the service area projections;

D. Whether the proposed facility would comply with the siting requirements in 30 Texas Administrative Code § 309.12;

E. Whether the facility will meet the rule requirements intended to reduce nuisance odor conditions;

F. Whether Applicant's compliance history is such that the permit should not be issued; and

G. Whether Other Requirement No. 1 and Operational Requirement No. 4[2] of the draft permit with regard to plant operator and safety requirements are sufficient to ensure compliant plant operations.

The preliminary hearing was held on January 8, 2008, in Austin. After determining that proper notice had been given and that the Commission and SOAH have jurisdiction over this matter, the ALJ designated the following parties: Lerin Hills, represented by Danny Worrell and Jackson Battle; the ED, represented by Kathy Humphreys and Tim Reidy; the Commission's Office of Public Interest Counsel (OPIC), represented by Amy Swanholm; and protesting party Rick Wood, represented by David Frederick and Eric Allmon.

The hearing on the merits was held in Austin on November 18, 19, and 20, 2008.[3] The record closed on January 12, 2009, with the submission by the parties of their final closing arguments.

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[2] The draft permit is at Exhibits LH-1C and ED-8.

II. PROPOSED FACILITY AND DRAFT PERMIT CONDITIONS

The proposed wastewater treatment facility would serve a new development, and would be located approximately 4 miles west of Interstate 10, as measured along State Highway 46, and then approximately 200 feet due west from that point. The draft permit would authorize the discharge of treated domestic wastewater at a daily average flow not to exceed 0.18 million gallons per day (MGD) in the Interim I Phase, 0.36 MGD in the Interim II Phase, and 0.5 MGD in the Final Phase.[4]

The effluent would discharge into an unnamed tributary, then approximately 0.5 mile to the headwaters of an impoundment on Deep Hollow Creek (the SCS impoundment)[5], then to Deep Hollow Creek, then to Frederick Creek, then to Upper Cibolo Creek in Segment No. 1908 of the San Antonio River Basin.[6] The immediate receiving stream, the unnamed tributary, is presumed intermittent due to its minimal watershed and steep gradient; the Lerin Hills discharge would probably comprise the total flow in the creek most of the time.[7] Deep Hollow Creek is an intermittent stream[8] and has an estimated low flow of 0.1 cubic feet per second (cfs).[9] There is a pond on Deep Hollow Creek upstream of where the discharge route enters the creek. There is a pond (the Hahnfeld pond) downstream of the SCS pond, prior to the confluence of Deep Hollow Creek

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[3] The hearing originally convened on June 30, 2008. On that date, at the outset of the hearing, the parties broke for negotiations and announced that they had reached an agreement in principle. The hearing was therefore abated. On August 29, 2008, the parties informed the ALJ that their negotiations had failed to yield a final settlement, and they then proposed a hearing schedule, which the ALJ adopted. The parties waived the deadline established by the Commission for the completion of the hearing process.

[4] The daily average flow amounts are based on flow amounts determined on at least four separate days within a calendar month.

[5] The SCS impoundment is also sometimes referred to in the record as the "Webster Pond."

[6] Frederick Creek joins Upper Cibolo Creek approximately seven miles downstream from the proposed discharge point.

[7] Exhibit ED-5 at 4.

[8] Exhibit LH-4 at 7-8 (Price testimony).

[9] Exhibit ED-5 at 4, 8.

with Frederick Creek; this pond is used by Mr. Wood and his family for swimming and fishing.[10] The parties dispute whether the proposed discharge site is in the contributing zone of the Edwards Aquifer.

The plant would be an activated sludge process plant operated in the complete mix mode with nitrification. Treatment units would include bar screens, aeration basins, final clarifiers, aerobic sludge digesters, sand filters, and chlorine contact chambers. According to Lerin Hills, the proposed wastewater treatment process described in the permit application will be modified to include coagulant addition facilities to precipitate phosphorus upstream of the clarifier and dechlorination facilities prior to discharge.[11]

The draft permit includes the following daily average effluent limitations: 5 milligrams per liter (mg/L) 5-day carbonaceous biochemical oxygen demand (CBOD), 5 mg/L total suspended solids (TSS), 1 mg/L ammonia nitrogen (NH_3-N),[12] 0.5 mg/L total phosphorus (P),[13] and 6.0 mg/L minimum dissolved oxygen (DO).[14] The draft permit also requires reporting of nitrate-nitrogen and total nitrogen levels.

The draft permit also includes requirements that the effluent be dechlorinated and that sludge be taken to a recycling center wastewater treatment facility for disposal. TCEQ staff added these requirements in response to public comments.

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[10] The "Hahnfeld pond" is on the "Hahnfeld property," which is owned by Mr. Wood's relatives but used by Mr. Wood and his wife and children. Mr. Wood lives on property adjacent to the Hahnfeld property. Mr. Wood's home, unlike the Hahnfeld property, is not directly on Deep Hollow Creek.

[11] Exhibit LH-1 at 5 (Harris testimony); Tr. at 429-430 (Knowles testimony).

[12] Expressed in pounds, the limit is 4.2 pounds per day (lbs/day).

[13] Expressed in pounds, the limit is 2.1 lbs/day.

[14] The daily average concentration is the average of at least four separate representative measurements within a calendar month. According to the ED, the permit parameters were developed to be protective at low flow conditions, when little or no ambient flow is occurring in the receiving stream. Exhibit ED-5 at 28.

III. BURDEN OF PROOF

Applicant has the burden to prove that the proposed discharge permit will comply with the applicable statutes and rules regarding wastewater discharges into or adjacent to the waters of the State.[15]

IV. ISSUE A: COMPLIANCE WITH REGULATIONS INTENDED TO PROTECT GROUNDWATER AND SURFACE WATER ISSUE B: PROTECTION OF WATER QUALITY AND DESIGNATED USES

Because the first and second issues referred by the Commission have substantial overlap, the ALJ considers them together. The chief contested issue in this case with respect to water quality protection is nutrient loading, and its potential to cause excessive algal and aquatic plant growth and lowered DO in surface water, and detrimental effects on groundwater.[16]

A. Protection of Surface Water

1. TCEQ Regulations and Implementation Procedures

Chapters 307 (Texas Surface Water Quality Standards) and 309 (Domestic Wastewater Effluent Limitations and Plant Siting) of the Commission's rules establish the regulatory framework for protection of surface water quality in the permitting of domestic wastewater treatment plants.[17] The issue of nutrient loading is properly analyzed with reference to the requirements of Chapter 307 concerning designated uses of water bodies, instream water quality standards, and the Commission's policy concerning antidegradation.[18]

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[15] 30 TEX. ADMIN. CODE § 80.17(a).

[16] The discussion in this Proposal for Decision focuses on matters that actually generated controversy in the hearing process.

[17] 30 TEX. ADMIN. CODE chs. 307 and 309.

[18] Contested issues under Chapter 309 are addressed under the discussions below of groundwater protection and of issues D and E referred by the Commission.

Designated uses and numerical and narrative criteria. Section 307.4 sets forth the general criteria for waste discharges, including aesthetic parameters, toxic substances, nutrients, aquatic life uses and dissolved oxygen (DO), aquatic life uses and habitat, and aquatic recreation. In particular, § 307.4(b) states, "Surface waters shall be maintained in an aesthetically attractive condition." Section 307.4(e) provides, "Nutrients from permitted discharges or other controllable sources shall not cause excessive growth of aquatic vegetation which impairs an existing, attainable, or designated use."

Further, § 307.4(h) provides, "Dissolved oxygen concentrations shall be sufficient to support existing, designated, and attainable aquatic life uses." As noted above, the immediate receiving stream for the proposed Lerin Hills facility has been deemed by TCEQ staff as an unclassified receiving water with contact recreation but no significant aquatic life uses; the corresponding DO requirement as determined by the ED is 2.0 mg/L.[19] The SCS impoundment on Deep Hollow Creek, Deep Hollow Creek itself, and Frederick Creek have been designated for contact recreation and high aquatic life uses, and the designated uses for Upper Cibolo Creek Segment No. 1908 are high aquatic life uses, public water supply, aquifer protection, and contact recreation; TCEQ staff has established a DO minimum standard of 5.0 mg/L for all of these water bodies.[20]

Section 307.4(i) states, "Vegetative and physical components of the aquatic environment will be maintained or mitigated to protect aquatic life uses." And § 307.4(j) provides, "Existing, designated, and attainable uses of aquatic recreation will be maintained, as determined by criteria that indicate the potential presence of pathogens."

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[19] Exhibit ED-9 at 6 (Schaefer testimony).

[20] Exhibit ED-9 at 6 (Schaefer testimony); Exhibit ED-12; Tr. at 547. Segment No. 1908 of Upper Cibolo Creek is the only classified stream segment in the proposed Lerin Hills discharge route. A "classified" water body is one that corresponds to a segment number and name as described in Appendix A of the Texas Surface Water Quality Standards. 30 TEX. ADMIN. CODE § 307.10; Exhibit ED-9 at 14. Appendix A indicates the uses and numerical criteria applicable to each classified stream segment. When TCEQ has before it a matter affecting a particular unclassified water body, such as a pending waste discharge application, the characteristics of the affected water body are reviewed by the agency to determine which uses are appropriate. 30 TEX. ADMIN. CODE § 307.4(l).

Antidegradation. The Commission's antidegradation rule, § 307.5, establishes a multi-tiered policy. Only two tiers are applicable to the Lerin Hills application. Tier 1 review, performed by TCEQ staff on all new and renewal permit applications, provides that existing uses and water quality sufficient to protect those uses will be maintained.

Tier 2 review is applicable only where the background level of water quality exceeds that necessary for a water body to be fishable and swimmable.[21] Tier 2 provides:

> No activities subject to regulatory action which would cause degradation of waters which exceed fishable/swimmable quality will be allowed unless it can be shown to the commission's satisfaction that the lowering of water quality is necessary for important economic or social development. Degradation is defined as a lowering of water quality by more than a de minimis extent, but not to the extent that an existing use is impaired. Water quality sufficient to protect existing uses will be maintained. Fishable/swimmable waters are defined as waters which have quality sufficient to support propagation of indigenous fish, shellfish, and wildlife and recreation in and on the water.[22]

Determinations about whether water bodies exceed fishable and swimmable quality, and about whether a proposed activity will impair existing uses or degrade water quality, are to be made in accordance with procedures set out in the standards implementation procedures.[23]

The standards implementation procedures – "Procedures to Implement the Texas Surface Water Quality Standards"[24] – provide guidance concerning the execution of the Commission's antidegradation policy.[25] According to these implementation procedures (also known as "IPs"),

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[21] 30 TEX. ADMIN. CODE § 307.5(c)(2)(b)

[22] 30 TEX. ADMIN. CODE § 307.5(b)(2).

[23] 30 TEX. ADMIN. CODE § 307.5(c). The rule goes on to say that authorized discharges will not lower water quality to a point that Texas surface water quality standards will be violated. 30 TEX. ADMIN. CODE § 307.5(b)(4). And, the anti-degradation rule states that anyone discharging wastewater which would constitute a new source of pollution will be required to provide a level of wastewater treatment consistent with the provisions of the Texas Water Code and the federal Clean Water Act. 30 TEX. ADMIN. CODE § 307.5(b)(5).

[24] Exhibit ED-11.

[25] Anti-degradation is addressed in Exhibit ED-11 at 23-37.

Tier 1 review ensures that designated uses and numerical and narrative criteria established pursuant to chapter 307 of the Commission's rules will be met. Therefore, the uses established by TCEQ staff for each affected stream segment (*e.g.*, contact recreation, high aquatic life uses, aquifer protection, or public water supply), as well as numerical criteria (*e.g.*, for DO), plus narrative criteria (*e.g.*, for aesthetics, nutrients, DO necessary to protect aquatic life, aquatic life habitat, and aquatic recreation) must all be protected under Tier 1 review.

The IPs specifically address Tier 1 review for discharges that will affect water bodies listed on the "303(d) list" as not meeting instream water quality standards.[26] The IPs state that permits for discharges to listed water bodies will not allow:

- an increase in the loading of a listed pollutant that will cause or contribute to the violation of water quality standards; or
- other conditions that will cause or contribute to the violation of water quality standards.[27]

Specifically with respect to DO, the IPs provide that effluent limitations will be established to avoid an increase in BOD loading unless it is demonstrated that water quality standards for DO will be attained in the affected area or the proposed discharge will not lower instream concentrations of DO in areas that are not meeting DO standards.

The IPs clarify that water bodies that exceed fishable/swimmable quality generally include those with presumed uses of contact recreation and high aquatic life uses. Parameters of concern for purposes of Tier 2 review include, *inter alia*, those for DO and nutrients (phosphorus and nitrogen). The IPs state that the potential for the degradation of water quality involves comparing the effect of

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[26] Segment No. 1908 was listed by TCEQ staff for "depressed dissolved oxygen" on the Texas Inventory of Impaired and Threatened waters (also known as the "Clean Water Act § 303(d) list" or "303(d) list") for 2002 and 2004. However, Segment No. 1908 has since been de-listed. Exhibit ED-3 at 2; Exhibit ED-15; Exhibit ED-12; and Exhibits LH-9 through LH-11. Subsegment 02 of Segment No. 1908 is presently listed in connection with bacteria levels. Exhibit LH-11. However, as discussed below, the evidence indicates that subsegment 02 is upstream from the confluence of Frederick Creek and Upper Cibolo Creek, and is therefore not in the discharge route.

[27] Exhibit ED-11 at 26.

the proposed discharge to baseline water conditions as of November 28, 1975. The baseline conditions are estimated from current conditions, unless there is information indicating that ambient water quality has degraded since 1975.[28]

For constituents like nutrients (for which there are no numerical criteria in the water quality standards) and for minimal DO, the IPs offer little further guidance about analyzing the potential for degradation; the only guidance is in the form of lists of short hypothetical factual scenarios entitled, "Examples Where Degradation is Unlikely to Occur" and "Examples Where Degradation is Likely to Occur."[29] Two of the "unlikely" scenarios are relevant to this case:

- Increased loading of oxygen-demanding materials – if the dissolved oxygen in the "sag zone"[30] is lowered by less than 0.5 mg/L from baseline instream concentrations, and if the potentially affected aquatic organisms are not unusually sensitive to changes in DO; and

- Increased loading of total phosphorus, nitrate, or total nitrogen – if it can be reasonably demonstrated that detrimental increases to the growth of algae or aquatic vegetation will not occur.[31]

In addition, the "likely" scenarios include:

- Increased loading of oxygen-demanding substances that is projected to decrease dissolved oxygen by more than 0.5 mg/L for a substantial distance in a water body that has exceptional quality aquatic life and a relatively unique and potentially sensitive community of aquatic organisms; and

- Increased loading of phosphorus and/or nitrogen into a reservoir that supplies public drinking water, if that loading would result in significant elevations in algae or potentially detrimental aquatic vegetation over a substantial area.[32]

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[28] Exhibit ED-11 at 31.

[29] Exhibit ED-11 at 32-34.

[30] The "sag zone" or "DO sag" is the dip in the DO level of the receiving stream that occurs at the point of discharge to some point downstream where oxygen-consuming constituents have decreased and the DO level has come back up to the normal ambient level. Tr. at 589-590 (Schaefer testimony).

[31] Exhibit ED-11 at 33.

[32] Exhibit ED-11 at 34.

Finally, the IPs briefly address the evaluation of alternatives and economic justification in cases in which degradation of water quality will be expected.[33]

2. Evidence

ED's Witnesses

Peter Schaefer, an aquatic scientist with TCEQ's Water Quality Division, performed the antidegradation review for the Lerin Hlls application. Mr. Schaefer explained that Tier 2 review would apply to all of the discharge route for the Lerin Hills project, except for the immediate receiving stream – the intermittent, unnamed tributary that enters Deep Hollow Creek.[34] In his prefiled testimony, he stated that in the context of a Tier 2 review, degradation would be a decrease, by more than a *de minimis* extent, in water quality, but not to the extent that an existing use is impaired. He defined a "*de minimis*" decrease as one that is less than noticeable.[35] Noticeability could mean visible, or ascertainable by instruments.[36]

He stated that initially, some algal growth resulting from the Lerin Hills discharge could occur. Continued sustained growth would depend on "the limiting nutrient,[37] species of algae present, temperature, light, time of day, flow, background concentrations, presence of chlorine, turbidity, suspended solids, micronutrients or any combination thereof."[38] According to Mr. Schaefer, an increase in algal growth would not necessarily mean that the receiving water had been degraded. Any change in water chemistry would have to be greater than *de minimis* to be

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[33] Exhibit ED-11 at 34-35.

[34] Tr. at 579 (Schaefer testimony).

[35] Exhibit ED-9 at 11 (Schaefer testimony).

[36] Tr. at 578 (Schaefer testimony).

[37] Deep Hollow Creek is considered "phosphorus-limited," in that phosphorus scarcity is what limits the growth of aquatic plants in the creek. Tr. at 576, 613 (Schaefer testimony).

[38] Exhibit ED-9 at 12 (Schaefer testimony).

considered degradation under Tier 2 review. Mr. Schaefer alluded to, but did not discuss, the examples in the IPs of scenarios demonstrating likely and unlikely degradation.[39]

At hearing, Mr. Schaefer testified that a Tier 1 review antidegradation ensures that existing uses will be maintained, and Tier 2 goes further and ensures no degradation beyond a *de minimis* extent.[40] However, in his discussion of Tier 2 review, he also alluded to the maintenance of uses -- saying that Tier 2 review determines whether or not fishability and swimmability would be degraded by more than a *de minimis* extent.[41] He went on to say that, even if the proposed discharge were to result in a noticeable increase in the growth of algae and macrophytes, he expected that there would be no greater than *de minimis* degradation of the fishability and swimmability of the receiving waters, such as the Hahnfeld pond.[42] He went on to say that he had no reason to believe that the Lerin Hills discharge would cause the Hahnfeld pond to be choked with vegetation.[43]

In his prefiled testimony, Mr. Schaefer stated that his Tier 1 review yielded a determination that existing water quality uses would not be impaired by the Lerin Hills project. As for the Tier 2 review, Mr. Schaefer's prefiled testimony said that, with the addition of a total phosphorus limit of 0.5 mg/L, there would be no significant degradation of the high aquatic life uses of impounded Deep Hollow Creek and Deep Hollow Creek.[44] In contrast, Mr. Schaefer testified at hearing that the phosphorus limitation was necessary in order for the Lerin Hills application to satisfy Tier 1 review.[45]

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[39] Exhibit ED-9 at 13 (Schaefer testimony).

[40] Tr. at 548-549 (Schaefer testimony).

[41] Tr. at 551 (Schaefer testimony).

[42] Tr. at 551-552 (Schaefer testimony). Mr. Schaefer clarified that there could be degradation of the water even if it were possible to catch a fish in it or swim in it. Tr. at 576-577 (Schaefer testimony).

[43] Tr. at 608 (Schaefer testimony).

[44] Exhibit ED-9 at 9-10 (Schaefer testimony). *See also* Exhibit ED-12.

[45] Tr. at 549 (Schaefer testimony).

Mr. Schaefer stated that he added an effluent limit for phosphorus because Deep Hollow Creek, including the SCS impoundment, is a clear hill country water body with limited assimilative capacity for nutrients.[46] The reporting requirements for nitrate-nitrogen and total nitrogen would provide additional protection, allowing the TCEQ to impose additional permit requirements in the future if necessary.[47] About 17 to 20 mg/L total nitrogen is what one might expect in the effluent of a wastewater discharge plant.[48]

According to Mr. Schaefer, the 0.5 mg/L phosphorus limitation is adequately protective, and a lower limitation is not necessary.[49] He could not say whether a limitation of 1.0 mg/L would be sufficient.[50] While the permit would allow the discharge of 2.1 pounds of phosphorus per day, or over 700 pounds per year, the agency staff determined that this would not be too much; according to Mr. Schaefer, staff looked at other discharge permits that discharge to clear hill country streams and how the permit limits or lack of limits have affected those streams.[51] However, he stated that staff had not actually performed any before-and-after comparative analyses.[52] He does not know the assimilative capacity of Deep Hollow Creek for phosphorus, which would vary over time.[53] He stated that, with respect to other nutrients, like total nitrogen, staff had likewise determined that there would be no detrimental increases in algal or aquatic vegetation growth, based on staff's experience with other discharges into hill country streams. However, staff had not compiled such information about other discharges.[54]

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[46] Exhibit ED-9 at 13 (Schaefer testimony). Indeed, he stated that Frederick Creek and Cibolo Creek are also clear hill country water bodies with little assimilative capacity. Tr. at 567 (Schaefer testimony).

[47] Exhibit ED-9 at 14 (Schaefer testimony).

[48] Tr. at 571-572 (Schaefer testimony).

[49] Tr. at 552 (Schaefer testimony).

[50] Tr. at 552 (Schaefer testimony).

[51] Tr. at 582 (Schaefer testimony).

[52] Tr. at 582 (Schaefer testimony).

[53] Tr. at 585, 602 (Schaefer testimony).

[54] Tr. at 591 (Schaefer testimony).

As to the scenario in the IPs stating that a DO sag of less than 0.5 mg/L might mean that degradation is unlikely, Mr. Schaefer testified that he did not look at the DO sag indicated by the modeling. Staff only uses the modeling to indicate whether numerical water quality standards will be met, and does not employ the modeling in the antidegradation review.[55]

With respect to upper Cibolo Creek, Mr. Schaefer stated that he did not attempt to establish 1975 baseline conditions against which to compare future conditions after commencement of the proposed discharge.[56]

Mary Ann Airey, an engineer with TCEQ's Water Quality Division, testified that the effluent limitations in the draft permit for TSS, BOD, ammonia nitrogen, and total phosphorus are more stringent than in most domestic wastewater permits in Texas.[57] She stated that most such permits do not include any limit for total phosphorus, and most limits for total phosphorus are based on a daily average of 1.0 mg/L (as opposed to the 0.5 mg/L limitation in the Lerin Hills draft permit).[58] The ED believes that the stringent permit limits will ensure that all numerical and narrative criteria in the Texas Water Quality Standards will be met, including those designed to protect contact recreation and high aquatic life uses.[59] Ms. Airey did acknowledge that the ED has prepared a draft permit for a facility in Hays County that includes a total phosphorus limit of 0.15 mg/L.[60]

The ED's Statement of Basis/Technical Summary and Executive Director's Preliminary Decision concerning the Lerin Hills application states:

> [A]n antidegradation review was performed. Upper Cibolo Creek Segment No. 1908 has been listed in the 2002 305(b) Texas Water Quality Inventory for nutrient

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[55] Tr. at 587-588 (Schaefer testimony).

[56] Tr. at 564, 566-567 (Schaefer testimony).

[57] Exhibit ED-1 at 15; Tr. at 491.

[58] Exhibit ED-1 at 15 (Airey testimony).

[59] Exhibit ED-5 at 25-26.

[60] Tr. at 517-519 (Airey testimony).

> enrichment concerns for Orthophosphorus.[61] Additionally, the segment is also listed on the 2002 303(d) List of Impaired Waterbodies for depressed dissolved oxygen.[62] To help preclude degradation and more closely monitor wastewater, an effluent limit of 0.5 mg/L Total Phosphorus and monitoring requirements for Nitrate-Nitrogen and Total Nitrogen are required in the draft permit. With the incorporation of these requirements in the draft permit, the Water Quality Standards Team has preliminarily determined that no significant degradation of high quality waters is expected and that existing uses will be maintained and protected.

Charles Marshall is a modeling and assessment specialist with the TCEQ's Division. He evaluates the effects of wastewater discharges on DO levels in receiving streams, and recommends permit limits on DO-demanding constituents. He performs modeling, using a program called "QUAL-TX," to arrive at permit limitations that will maintain a predetermined DO criterion. According to Mr. Marshall, the QUAL-TX model predicts instream DO concentrations that can be adjusted by changing the effluent limits for oxygen-demanding constituents. He stated that QUAL-TX is the "preeminent dissolved oxygen model in the State of Texas."[63]

Mr. Marshall's Lerin Hills modeling for DO was done in June 2006.[64] It assumed headwater flow of 0.1 cfs in Deep Hollow Creek and effluent flow of 0.5 MGD.[65] It also assumed background DO of 6.45 mg/L at the point of discharge.[66] His memo reporting his modeling results states:

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[61] This listing is still in effect for subsegment 01 of Segment No. 1908, on the draft 2008 305(b) inventory. Exhibit RW-9; Tr. at 609-610 (Schaefer testimony about draft status of 2008 list). Orthophosphorus is the form of phosphorus that is biologically available to be used by aquatic organisms. Tr. at 571 (Schaefer testimony). Subsegment 01 is also listed for having concerns related to "impaired habitat." Exhibit RW-9.

Also, subsegment 02 of Segment No. 1908 is presently listed as having concerns related to ammonia. Exhibit RW-9. Ms. Airey testified that it appears subsegment 02 is upstream of the confluence of Frederick Creek and Upper Cibolo Creek, and therefore not in the discharge route. Tr. at 537-538 (Airey testimony); see also Tr. at 413 (Slade testimony).

According to Mr. Schaefer, the 305(b) list concerns waters that might become impaired, as opposed to waters listed on the 303(d) list, which generally are already deemed impaired. Tr. at 555, 605-606 (Schaefer testimony).

[62] The listing of Segment No. 1908 on the 303(d) list for dissolved oxygen is no longer in effect. Exhibits LH-10 and LH-11.

[63] Exhibit ED-13 at 4 (Marshall testimony).

[64] The modeling outputs are at Exhibit RW-12. For the correlation between reach and element numbers in the modeling with geographic points in the receiving stream, *see* Exhibit RW-11.

[65] Exhibit ED-15. Effluent flow of 0.5 MGD is the same as 0.775 cfs. The 0.1 cfs headwater flow is the minimum assigned to perennial creeks in the State of Texas. Exhibit ED-13 at 6 (Marshall testimony).

> Based on model results, the proposed effluent set of 5 mg/L $CBOD_5$, 1 mg/L NH_3-N, and 6 mg/L DO, is adequate to ensure that the dissolved oxygen level will be maintained above the criterion established by the Standards Team for Deep Hollow Creek (5.0 mg/L).[67]

As to Segment No. 1908 of Upper Cibolo Creek, which at the time of Mr. Marshall's evaluation was on the 303(d) list for depressed dissolved oxygen, modeling indicated that the concentration of these constituents in Lerin Hills' discharge would achieve background levels before entering the impaired portion of Upper Cibolo Creek.[68] Mr. Marshall's memo went on to say that recent sampling results had led to a preliminary decision to de-list the dissolved oxygen impairment from Segment 1908 on the draft 303(d) list.[69]

Comparing his DO modeling to that of James Miertschin, Ph.D., who performed modeling on behalf of Applicant, Mr. Marshall noted that he had used an initially higher DO concentration at the point of discharge than had Dr. Miertschin. Dr. Miertshcin used 6.25 mg/L for the DO input at the point of discharge, in contrast with Mr. Marshall's 6.45 mg/L.[70] Paradoxically, in the SCS impoundment, Mr. Marshall's modeling predicted a *lower* DO sag at 5.03 mg/L, compared to the DO sag at 5.27 mg/L in Dr. Miertschin's.[71] Mr. Marshall was not sure why his modeling produced a lower DO sag, other than to surmise it might be due to some additional details about the impoundment that Dr. Miertschin added in his model.[72] Mr. Marshall acknowledged that, had he

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[66] Tr. at 634-635 (Marshall testimony).

[67] Exhibit ED-15.

[68] Exhibit ED-15. In his Response to Public Comment on the Lerin Hills application, the ED stated that, given the 7-mile distance between the discharge point and Segment No. 1908 of Cibolo Creek, "dissolved oxygen impacts to Segment 1908 from this discharge will be non-existent." Exhibit ED-5 at 11.

[69] Exhibit ED-15. As noted above, Segment No. 1908 has indeed been de-listed for dissolved oxygen. Mr. Marshall also testified that Segment No. 1908 is currently on the 303(d) list for bacteria, but this fact does not affect his DO analysis. Exhibit ED-13 at 5 (Marshall testimony).

[70] Mr. Marshall testified that in his analysis, he started with a standard default DO of 6.0 mg/L upstream in Deep Hollow Creek, but the model added oxygen through aeration, making the DO at the point of discharge 6.45 mg/L. Tr. at 635-636 (Marshall testimony).

[71] Exhibit ED-13 at 4-5; Tr. at 636-637 (Marshall testimony).

[72] Exhibit ED-13 at 4; Tr. at 637 (Marshall testimony).

used the lower DO input at the point of discharge, his prediction of the DO sag in the SCS impoundment would probably have been lower as well.[73]

Mr. Marshall stated that TCEQ staff usually does not employ the algae or phosphorus subroutines in the model; the algae subroutine does not seem very reliable, and use of both could overestimate DO.[74] He also indicated that there might be problems associated with the QUAL-TX Chlorophyll A subroutine.[75] He stated that in his June 2006 DO modeling, he did not activate any options for inclusion of phosphorus or nonconservative material.[76] Mr. Marshall testified that the model does not reflect diurnal fluctuations in DO; DO tends to go down at night because there is no sunlight to cause photosynthesis.[77] He further acknowledged that the model assumes linear downstream flow, even in reservoirs, when the flow patterns in reservoirs may in fact be more complicated.[78]

In addition to the DO modeling, Mr. Marshall performed a second, unusual modeling exercise at Mr. Schaefer's request.[79] Mr. Schaefer wanted modeling of the likely concentration of nitrate-nitrogen in the receiving stream. The modeling was done in February 2007. Using the QUAL-TX model's "nonconservative" option, Mr. Marshall modeled the concentration change of a constituent that started at 20 mg/L at the discharge point to see what concentrations might be expected, given a particular decay rate, at various points downstream.[80] Mr. Marshall used a decay rate of 0.14 per day, supplied by Mr. Schaefer.[81] A "conservative constituent" is one that remains in

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[73] Tr. at 637-638 (Marshall testimony).

[74] Tr. at 618, 620 (Marshall testimony).

[75] Tr. at 619 (Marshall testimony).

[76] Tr. at 639 (Marshall testimony).

[77] Tr. at 647 (Marshall testimony).

[78] Tr. at 645-646 (Marshall testimony).

[79] Tr. at 572 (Schaefer testimony). The outputs for this run are at Exhibit RW-13. For the correlation between reach and element numbers in the modeling with geographic points in the receiving stream, *see* Exhibit RW-11.

[80] Exhibit ED-13 at 6-7 (Marshall testimony).

[81] Tr. at 572 (Schaefer testimony); Exhibit RW-10.

the water column, with no losses due to chemical reactions or biochemical degradation. A "nonconservative constituent," in contrast, is one that is removed to some degree from the water column through transformation or decay.[82] This was a steady state modeling exercise, meaning that it did not reflect the accumulation of nutrients in the system.[83] It did, through the decay rate, reflect the removal of nutrients from the water column. Mr. Marshall testified that if you are concerned that there might be cumulative effects, you might want to revise the model to account for that.[84]

Lerin Hill's Witnesses

Dr. James Miertschin is an environmental engineer who testified for Lerin Hills concerning water quality issues associated with the proposed discharge. He stated, generally, that: he agrees with the ED's conclusions in the Tier 1 and 2 reviews, he believes that the discharge will be protective of water quality standards, he does not believe that the discharge will have a negative effect on fish and wildlife, and he sees the terms of the draft permit as protective of human health.[85] He stated that the phosphorus limitation is very stringent and "expected to preclude any potential problems with oversupply of nutrients and algal growth in the receiving stream."[86]

Dr. Miertschin conducted QUAL-TX water quality modeling,[87] similar to Mr. Marshall's modeling, and concluded that the draft permit would be protective of the applicable minimum

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[82] The modeler can employ the "nonconservative option" for any constituent subject to removal from the water column. Tr. at 626-627.

[83] Dr. Miertschin also testified about how the QUAL-TX model is steady-state rather than dynamic, and does not reflect the accumulation of constituents. Tr. at 88-90, 139-140 (Miertrschin.testimony).

[84] Tr. at 621-622 (Marshall testimony).

[85] Exhibit LH-2 at 13-14 (Miertschin testimony).

[86] Exhibit LH-2 at 13 (Miertschin testimony).

[87] The modeling was actually done by his staff, at his direction and under his supervision. Exhibit LH-2 at 15 (Miertschin testimony). The modeling results are at Exhibit LH-2E. While Applicant's closing argument states that Dr. Miertschin employed the LAQUAL model, *see* Lerin Hill Ltd.'s Closing Arguments at 7, Dr. Miertschin testified that he employed the QUAL-TX model. Exhibit LH-2 at 15 (Miertschin testimony). The two models are nearly identical.

instream standard of 5.0 mg/L for DO.[88] Dr. Miertschin explained his findings based on the modeling:

> [T]he proposed effluent discharge would not cause conditions in the receiving stream to fall below the applicable dissolved oxygen criterion. For the unnamed tributary channel that is the immediate receiving stream, the predicted minimum dissolved oxygen is 5.65 mg/L, compared to the assigned stream criterion of 2 mg/L. For Deep Hollow Creek, the predicted minimum dissolved oxygen is 5.27 mg/L, compared to the assigned criterion of 5.0 mg/L established by the TCEQ. Conditions return to background by the time water reaches the Hahnfeld pond. Therefore, for Frederick Creek, no impacts are predicted. Further, for upper Cibolo Creek, no impacts are predicted.[89]

Dr. Miertcshin's modeling also predicted total phosphorus concentrations by using a straight decay formula under the nonconservative option.[90] He explained that he used the nonconservative option rather than the model's phosphorus subroutine because the built-in phosphorus model does not produce results as accurate as those achieved using the nonconservative option; for the same reasons, Mr. Marshall chose to use the nonconservative option when modeling nitrate nitrogen.[91] Using his best professional judgment about phosphorus concentrations in streams, Dr. Miertschin assumed a background concentration of phosphorus of 0.05 mg/L.[92] Under the model, at the headwaters of the SCS impoundment the total phosphorus concentration is 0.42 mg/L, but by the time the water exits the impoundment, total phosphorus has returned to a background concentration of 0.05 mg/L.[93] In the modeling, most of the decay of phosphorus occurs in the SCS reservoir because the residence time in the reservoir is long, and the model assumes that most of the

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[88] Exhibit LH-2 at 14-15. For simulation of DO, only the BOD and ammonia nitrogen subroutines are employed. Exhibit LH-12 at 1-2 (Miertschin rebuttal testimony).

[89] Exhibit LH-2 at 15-16 (Miertschin testimony).

[90] He used a kinetic rate of 0.1 per day representing the net rate of phosphorus removal from the water column. Dr. Miertschin testified that the decay rate is based on actual water quality data collected in central Texas streams. Exhibit LH-12 at 3 (Miertschin rebuttal testimony).

[91] Tr. at 133-136 (Miertschin testimony); Exhibit LH-12 at 2-3 (Miertschin rebuttal testimony).

[92] Tr. at 94-99 (Miertschin testimony).

[93] Tr. at 100 (Miertschin testimony); Exhibit LH-2E.

phosphorus will be removed from the water column and retained in the impoundment.[94] The phosphorus really does not "decay"; the model assumes that it is removed from the water column through processes like sedimentation and biological uptake, but in fact it remains in the water body system (and is sometimes resuspended).[95]

Dr. Miertschin explained that there are dynamic, as opposed to steady-state, models that attempt to reflect changing stream conditions over time. However, since the steady-state models can reflect worst case scenario conditions – high temperatures, low flow – it is not necessary to use a dynamic model.[96] Dr. Miertschin acknowledged that those conditions are only worst case conditions for dissolved oxygen and nitrate nitrogen, and not necessarily for phosphorus.[97]

Dr. Miertschin testified that he visited the site of the proposed treatment plant. He also visited and sampled three ponds on Deep Hollow Creek: the Blanch pond upstream of the discharge, the SCS impoundment, and the Hahnfeld pond. He observed mature macrophytes in the ponds, as well as algal growth along the sides of the ponds.[98] Analysis of sampling from the SCS impoundment, about 3,000 feet below the proposed discharge, showed the following concentrations: total phosphorus of 0.035 mg/L and total nitrogen of 0.65 mg/L. Sampling of the Hahnfeld pond, located about 8,500 feet below the proposed discharge point, produced these results: total phosphorus below the detection limit of 0.02 mg/L and total nitrogen of 0.15 mg/L.[99]

According to Dr. Miertschin, the plant growth in the ponds indicates that the nutrient loading to the water is fairly high. The primary sources of nutrients under existing conditions are fecal

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[94] Tr. at 101-102 (Miertschin testimony).

[95] Tr. at 142 (Miertschin testimony); Exhibit LH-12 at 3 (Miertschin rebuttal testimony).

[96] Tr. at 137-138 (Miertschin testimony).

[97] Tr. at 140-142 (Miertschin testimony).

[98] Exhibit LH-2 at 17-18 (Miertschin testimony).

[99] Exhibit LH-2 at 16-17 (Miertschin testimony).

material from wildlife and livestock, and erosion of sediment.[100] When asked to estimate nutrient loading from these sources, he stated that the necessary data – the number of livestock and wildlife in the watershed – is unavailable. However, he did state that 100 head of cattle in the watershed would represent approximately 10 pounds of phosphorus and 30 pounds of nitrogen per day, some portion of which could be deposited into, or wash into, the water.[101] He acknowledged that he does not know how much of the fecal matter would remain in the soil or be taken up by terrestrial plants and not washed into the creek.[102] Still, because he believes that there is already a significant supply of nutrients to the stream, he does not believe the proposed discharge would cause a measurable effect. He stated, "The impoundments will continue to have aquatic macrophytes and algal mats, which will be expected to utilize most of the supplied nutrients."[103]

Dr. Miertschin stated that, as to the Lerin Hills project, he has not tried to convert the projected concentrations of nutrients in the effluent to a quantitative measure of any projected increase in the growth of aquatic plants.[104] He has made such projections in other cases, however, by attempting to correlate an assumed concentration of phosphorus in a receiving stream with a response in the aquatic community expressed in terms of chorlophyll A, which is an indicator of algal and plant biomass.[105] He did not recall any of the details about the correlations. He stated that one can try to develop a site-specific correlation between nutrient loading and resulting biomass, or one can take relationships established in the literature and use them to try to predict biomass from some concentration of a nutrient.[106] Dr. Miertschin is aware that there are rules of thumb to attempt to correlate pounds of a nutrient in a receiving stream and pounds of resulting plant growth, but he does not know the exact numbers.[107] He reiterated that, while the proposed discharge will stimulate

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[100] Exhibit LH-2 at 18-19 (Miertschin testimony).

[101] Exhibit LH-2 at 19-20 (Miertschin testimony).

[102] Tr. at 126-127 (Miertschin testimony).

[103] Exhibit LH-2 at 20 (Miertschin testimony).

[104] Tr. at 66 (Miertschin testimony).

[105] Tr. at 66 (Miertschin testimony).

[106] Tr. at 66 (Miertschin testimony).

[107] Tr. at 67-68 (Miertschin testimony).

plant growth, and he cannot say how much plant growth, he does not believe it will be significant.[108] He acknowledged that he has never performed a pre- and post-discharge analysis to measure effects on algal and plant growth.[109]

Dr. Miertschin testified that he does not believe that accumulated phosphorus will cause conditions to be different in year 2 following the start of the discharge, as opposed to year 1. This is because, he stated, the plants that grow in one year die and settle to the bottom, and new ones grow. He testified that phosphorus in the dead plant will likely accumulate in the sediment at the bottom and stay resident on the bottom. And, although the phosphorus in the sediment is available to stimulate the growth of new plants, Dr. Miertschin stated, "[Aquatic vegetation does not] build up year after year. It's a cycle of plants and nutrients each year. And what we're simulating here with the modeling analysis is what we believe will be the worst case under any of those future years."[110] He testified further:

> Q: But none of these future years, as you have modeled it, has any inkling that there was ever a year before it. There was never a predecessor year. Right?
>
> A: Well, correct. The model has no memory of those types of conditions.
>
> Q: So we're 10 years down the road on this permit and there has been – whatever that works out to be – you know, 7,500 pounds of phosphorous deposited in this SCS reservoir, and it will look just like it does today?
>
> A: That's my opinion, yes, sir.
>
> Q: Do you have any study or report, textbook, that you can actually tell me about that demonstrates what you've just told me to have happened at some other stream or river?
>
> A: The literature has articles, journal articles, reports of systems that have been enriched by nutrients and what the response has been, but I can't think of the title of any of them right offhand.

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[108] Tr. at 105-109 (Miertschin testimony).

[109] Tr. at 130 (Miertschin testimony).

[110] Tr. at 110-111 (Miertschin testimony).

> Q: Do you honestly remember having read one, even if you can't remember the name of it, that told you that there could be 750 pounds a year or 7,500 pounds in ten years of phosphorus added to a – it looks like three- or four-tenths of a kilometer pond – and not significantly change the aquatic vegetation, the density of the aquatic vegetation in the pond, do you really think you've read something like that?
>
> A: I don't know that I've read a specific report like that, but I've read the reports that have – the general science of algal growth and nutrition and phosphorous dynamics, and those are the principles that are incorporated into this modeling analysis.
>
> Q: . . . But the principles, this modeling analysis doesn't have anything about the principles of what happened in any prior year in it, does it?
>
> A: That's not what this model is designed to do.[111]

As for the phosphorus limitation of 0.5 mg/L in the draft permit, Dr. Miertschin does not believe it is necessary. He asserted that TCEQ, when it imposes a phosphorus limitation, typically sets it at 1.0 mg/L, and went on to say that he thought a limit of 1.0 mg/L would be sufficient in this case to prevent excessive nutrient loading and substantially increased algal blooms.[112]

With respect to nitrate nitrogen and total nitrogen, Dr. Miertschin characterized the proposed monitoring requirements in the draft permit as "standard" for similar treatment plants.[113] He testified that he had not, other than perhaps to review Mr. Marshall's modeling of nitrate nitrogen concentrations, done any analysis with respect to nitrate nitrogen concentrations because he did not believe they would pose an issue.[114] He acknowledged that he was unaware of any instance in which the TCEQ has imposed reporting requirements for nitrogen and then later, based on the reporting, imposed permit limitations for total nitrate or nitrate nitrogen.[115]

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[111] Tr. at 111-112 (Miertschin testimony).

[112] Exhibit LH-2 at 21 (Miertschin testimony).

[113] Exhibit LH-2 at 23 (Miertschin testimony).

[114] Tr. at 120-121 (Miertschin testimony); Exhibit RW- 8.

[115] Tr. at 124-125 (Miertschin testimony).

Paul Price is a zoologist and aquatic ecologist who testified on behalf of Lerin Hills. Mr. Price stated that he believes that the effluent limitations in the draft permit would not result in violations of the 5.0 mg/L DO stream standard and would protect the fish populations, and the increased flow in Deep Hollow Creek will benefit the flora and fauna populations, including fish.[116] He went on to state:

> Some changes in absolute and relative abundance among species may occur as a result of differential species responses to the additional water and nutrients supplied by the proposed discharge. The basic composition of the plant assemblage will not change significantly; it will remain a rooted plant-periphyton[117] community, composed primarily of green algae and diatoms,[118] assuming no changes other than the addition of the proposed discharge. . . .The potential for the development of large populations of problematic algal species is generally associated with the occurrence of an abundance of dissolved phosphorus unavailable for growth due to a lack of oxygen. This condition, given appropriate levels of light and temperature, can lead to the development of large populations of nitrogen-fixing blue-green alga. . . .However, in this case, given the very stringent phosphorus limit specified by the Draft Permit (0.5 mg/L),[119] and the levels of nitrogen commonly seen in treated wastewater effluent (i.e., 6-20 mg/L), the proposed discharge would have little potential for stimulating the growth of undesirable algal species.[120]

Mr. Price has concluded that the discharge would not adversely affect aquatic life or affect the aquatic life uses of the receiving stream.[121] When asked about nutrient loading, he stated that he

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[116] Exhibit LH-4 at 11 (Price testimony).

[117] Organisms that live in water attached to rocks and other submerged objects.

[118] A type of unicellular algae.

[119] At the hearing, Mr. Price explained that he had testified in his deposition that the phosphorus limit in the draft permit was 50 parts per billion (ppb), which would have been 0.05 mg/L. However, he stated at the hearing that he had misspoken in his deposition, and he had meant to say 500 ppb, which would have been the actual limit of 0.5 mg/L in the draft permit. Tr. at 197-200 (Price testimony).

Apparently, Mr. Price also stated in his deposition that he did not believe that the phosphorus concentration in the creek would ever get as high as 0.28 mg/L, even though he had reviewed Dr. Miertschin's preliminary modeling results. Tr. at 200 (Price testimony). The modeling showed levels as high as 0.42 and 0.28mg/L in the SCS impoundment. Exhibit LH-2E (Miertschin modeling results). In his testimony at the hearing, Mr. Price seemed to reaffirm his statement that his analysis had assumed the phosphorus concentration would not reach 0.28 mg/L. Tr. at 200.

[120] Exhibit LH-4 at 12-13 (Price testimony).

[121] Exhibit LH-4 at 14 (Price testimony).

is unaware of any rule of thumb that could predict biomass resulting from various levels of phosphorus, as the question is too site-specific.[122] He did say that very heavy loads of milligrams per liter levels will certainly result in excess algal growth, especially in impoundments.[123] According to Mr. Price, although the permit would authorize the discharge of up to 765 pounds of phosphorus per year into Deep Hollow Creek, much of that phosphorus would not be biologically available because it would be sequestered in the sediments or chemically combined with calcium.[124] The phosphorus from the Lerin Hills discharge would increase plant growth in the SCS impoundment, and although he cannot quantify the increased growth, he believes it will not be noticeable.[125] With respect to the Hahnfeld pond, he thinks there may be an increase in vegetation, but it will likely be less than would occur in the SCS impoundment because the phosphorus concentrations will be lower at the Hahnfeld pond.[126]

Mr. Price stated that he has assumed the loss rate used by Dr. Miertschin in his modeling accurately reflects the removal of phosphorus from the water column and, therefore, the loss of biologically available phosphorus.[127] Mr. Price stated that he understood Dr. Miertschin's decay rate to have been based on existing upstream/downstream data about phosphorus concentrations in several Texas streams.[128] Mr. Price did a study once measuring phosphorus loss rates in the Red River. He testified that the phosphorus concentrations declined rapidly downstream, although there was still elevation in phosphorus 20 miles downstream from the discharge.[129]

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[122] Tr. at 194-196 (Price testimony).

[123] Tr. at 195 (Price testimony).

[124] Tr. at 201, 214 (Price testimony).

[125] Tr. at 215-216 (Price testimony).

[126] Tr. at 216-220 (Price testimony). He stated that although a major rainfall event might resuspend phosphorus from the sediment of the SCS impoundment and flush it downstream to the Hahnfeld pond, its concentration would be diluted. Tr. at 220.

[127] Tr. at 208 (Price testimony).

[128] Tr. at 203 (Price testimony).

[129] Tr. at 204-206 (Price testimony). Mr. Price initially characterized the elevation in phosphorus concentration 20 miles downstream as "substantial," but then said it was just "some" elevation. *Compare* Tr. at 206 *with* Tr. at 207.

With respect to nitrate nitrogen, Mr. Price testified that he assumed that, since the receiving waters are phosphorus-limited, the phosphorus would be exhausted first, and the nitrogen would have no further fertilizing effect.[130]

Rick Wood's Witnesses

Mr. Wood, whose family uses the Hahneld pond for swimming and fishing, stated:

> We never, now, have the murky green-tinged water that one sometimes sees in ponds elsewhere, where it looks like small algae are growing [in] the water, itself (i.e., not attached to rocks or growing in the soils beneath the water). Increased algae anywhere in the pond or Creek would be especially devastating to the appearance, smell, and aquatic life in the pond, thereby eliminating our enjoyment and use of the pond and Creek.[131]

Mr. Wood went on to say that the algal growth in the pond is confined to the edges in the shallow reaches.[132] He stated that for a time an upstream landowner had a large number of horses on the property adjacent to the SCS impoundment; during that time, algal growth increased to the point that there was a fish and vegetation kill, but after the removal of the horses the system has rebounded.[133] Mr. Wood also testified that he has about 15 head of cattle on his family's 150 acres.[134]

Roger Lee, who testified on behalf of Mr. Wood, holds a Ph.D. in geochemistry and hydrology.[135] Dr. Lee reviewed Mr. Marshall's and Dr. Miertschin's modeling and had several criticisms, primarily about the phosphorus and nitrogen modeling.[136]

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[130] Tr. at 212 (Price testimony).

[131] Exhibit RW-1 at 5 (Wood testimony).

[132] Exhibit RW-1 at 7 (Wood testimony).

[133] Exhibit RW-1 at 6 (Wood testimony).

[134] Exhibit RW-1 at 7 (Wood testimony).

[135] Dr. Lee has no QUAL-TX or LAQUAL modeling experience; nor does his associate, George Krallis, who assisted him in evaluating the modeling in this case. Tr. at 279-280 (Lee testimony).

As to phosphorus, Dr. Lee testified that TCEQ's modeling did not employ either the phosphorus subroutine or the algae subroutine. Not only does this failure mean that there are no predictions for instream phosphorus concentrations, he stated, but it also means that the DO modeling done by Mr. Marshall failed to take into account the effects of phosphorus.[137] Dr. Lee also testified that Dr. Miertschin did not use the phosphorus and algae subroutines, and instead relied on the nonconservative option in modeling phosphorus. The problem with this approach, according to Dr. Lee, is that the model's phosphorus and algae options provide a more sophisticated analysis than does the nonconservative option. Dr. Lee suggested that the phosphorus and algae subroutines might yield reliable results if actual instream, site-specific data were developed and used as inputs.[138]

Further, Dr. Lee stated, he could not find any support for Dr. Miertschin's background input of 0.05 mg/L for phosphorus. Dr. Lee did, however, acknowledge that Dr. Miertschin had sampled Deep Hollow Creek upstream of the proposed discharge route and found a phosphorus concentration of 0.02 mg/L.[139] Finally, he stated that if Dr. Miertschin's modeling yielded credible phosphorus concentrations, those concentrations are "eight times background in Deep Hollow Creek immediately after the discharge enters the creek, are five times background in the SCS pond, and are more than 50 percent higher than measured background in the Hahnfeld pond."[140] Dr. Lee, who is not a biologist, opined that these increases would probably not, in the short term, cause a harmful chemical imbalance resulting in a fish kill, but suggested that long-terms effects might be greater.[141]

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[136] Dr. Lee had little criticism of the DO modeling. Tr. at 324 (Lee testimony). He acknowledges that in general the DO modeling was conservative except that he believes the modeling fails to sufficiently address the overall effects of plant growth in the ponds resulting from higher nutrient levels. Tr. at 337 (Lee testimony).

[137] Exhibit RW-2 at 3-4 (Lee testimony). On cross-examination, Dr. Lee acknowledged that turning on the phosphorus and algae subroutines of the QUAL-TX model would not necessarily be predictive of a worst case scenario for DO. Tr. at 291 (Lee testimony).

[138] Tr. at 295-297 (Lee testimony).

[139] Tr. at 297-299 (Lee testimony).

[140] Exhibit RW-2 at 7 (Lee testimony).

[141] Tr. at 300 (Lee testimony).

Concerning nitrogen, Dr. Lee again criticized the TCEQ staff's and Dr. Miertschin's modeling.[142] Dr. Lee testified that TCEQ staff had performed two sets of modeling runs concerning nitrogen – the first in February 2007 (Mr. Marshall's QUAL-TX exercise, discussed above) and the second in August 2007 (using the LAQUAL model, a model similar to the QUAL-TX model).[143] Dr. Lee stated that, while the nitrogen modeling in more credible than the phosphorus modeling done in this case, it is still insufficient.

Dr. Lee questioned the use by Mr. Marshall, in the February 2007 QUAL-TX run, of a background concentration for nitrate nitrogen of about 20 mg/L in the total nitrogen subroutine; Dr. Lee characterized this level as high and stated that it was unclear where the number came from.[144] He also stated that the model predicts a stream flow total nitrogen concentration of 18.52 mg/L entering the Hahnfeld pond, or 120 times the measured background.[145] This number, he testified, is questionable. Dr. Lee also criticized the results of Mr. Marshall's attempt to use the nonconservative option to model nitrogen. Dr. Lee stated that even if the use of the nonconservative option produced accurate results, it showed 10 times the measured present concentration in the Hahnfeld pond and 12 times the measured present concentration in the SCS pond.[146] He indicated that the accuracy of the use of nonconservative option was related to the accuracy of the decay rate chosen for the particular stream system involved.[147]

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[142] Dr. Miertschin's QUAL-TX modeling activated the ammonia nitrogen option. Exhibit LH-2E.

[143] Exhibit RW-2 at 7 (Lee testimony). The ALJ does not find the August 2007 LAQUAL exercise discussed in any testimony by TCEQ staff or experts testifying for Applicant. The LAQUAL outputs can be found at Exhibit RW-2H.

[144] Exhibit RW-2 at 7-8 (Lee testimony). On cross-examination, Dr. Lee stated that he did not know what would be a realistic estimate of the nitrogen concentration for a wastewater discharge such as the proposed Lerin Hills discharge. Tr. at 302-304 (Lee testimony). Dr. Lee also criticized Dr. Miertschin's use of a background level of zero for his nitrogen modeling. Tr. at 338.

[145] Exhibit RW-2 at 8 (Lee testimony). Under the same modeling run's nonconservative option, which has a decay rate, the predicted concentration of nitrate nitrogen is 1.64 mg/L. Tr. at 309-312 (Lee testimony).

[146] Exhibit RW-2 at 8-9 (Lee testimony).

[147] Tr. at 319-320. He also noted, however, that the model's built-in subroutines require inputs that, in the absence of actual site-specific data, must be assumed. Tr. at 320 (Lee testimony).

According to Dr. Lee, TCEQ's LAQUAL run and Dr. Miertschin's modeling assume that all nitrogen in the discharge is ammonia nitrogen and predict concentration levels in the Hahnfeld pond of about six times the present measured concentration.[148]

Dr. Lee also based his opinion on the insufficiency of the nitrogen modeling on the fact that the algae subroutine was not employed. However, he stated that he has since learned that the algae option in the model has not been calibrated, verified, or subjected to quality assurance.[149]

Dr. Lee made several more points about the modeling done by TCEQ and Dr. Miertschin.[150] First, he noted that neither activated the algae growth option. Second, he pointed out that the modeling assumes a steady flow rate for Deep Hollow Creek, which is intermittent. Finally, he stated that the modeling does not account for diurnal DO fluctuations.

Overall, Dr. Lee's primary criticism of the modeling done by the TCEQ and Dr. Miertschin was that their modeling did not employ site-specific instream data that could have made the model's built-in subroutines (for nitrogen, phosphorus, and algae growth, for example) produce results more reliable than those obtained under the nonconservative option. He acknowledged that the development of such data is expensive and, perhaps, not typically done in connection with wastewater permitting in Texas.[151]

Dr. Lee concluded that the modeling data, which he believes is incomplete and potentially unreliable, and which in any event shows high concentrations of nutrients compared to background levels, fails to show that the proposed discharge would not cause more than *de minimis* degradation of the water quality in the receiving stream.[152] He stated that he has some experience in evaluating

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[148] Exhibit RW-2 at 9 (Lee testimony).

[149] Tr. at 301-302 (Lee testimony).

[150] Exhibit RW-2 at 9-10 (Lee testimony).

[151] Tr. at 322-324 (Lee testimony).

[152] Exhibit RW-2 at 11 (Lee testimony).

the effects of nutrient loading in one water body in Texas, but no expertise in aquatic plants.[153] He further testified that he believes phosphorus loading would, over time, overload the ecosystem with plant and algal growth and impair the water quality of the SCS impoundment.[154]

Raymond Slade, Jr., is a hydrologist who testified on behalf of Mr. Wood about, *inter alia*, the potential effects of the discharge on the DO levels in Upper Cibolo Creek. He testified that Upper Cibolo Creek has been listed as impaired for dissolved oxygen for three cycles of the 303(d) program.[155] He noted that the U.S. Environmental Protection Agency designated the cause of the low DO as "organic enrichment/oxygen depletion," and he stated that the effluent, which will add nutrients to the water, could cause increased algal growth that might further lower the DO.[156] He also stated that existing data indicates the water quality of the Upper Cibolo is generally better than the permitted quality of the Lerin Hills effluent.[157] Mr. Slade stated, however, that he did not know what concentrations or mass of constituents of concern would remain in the water at the point Frederick Creek enters Upper Cibolo Creek,[158] and he had not reviewed Dr. Miertschin's phosphorus modeling.[159] Mr. Slade did note that, since the creek channel had little vegetation, he did not believe the phosphorus in the discharge would be totally taken up prior to Cibolo Creek.[160]

Daryl Knowles is a biologist who testified that there are several treatment technologies that are capable of reducing levels of phosphorus in domestic wastewater to 0.15 mg/L or less. One such technology is bioreactive filtration.[161] Mr. Knowles referenced an EPA study of wastewater

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[153] Tr. at 341, 343-344 (Lee testimony).

[154] Tr. at 342 (Lee testimony).

[155] Exhibit RW-3 at 13 (Slade testimony). He acknowledged that the segment has been de-listed. Tr. at 414-415 (Slade testimony).

[156] Exhibit RW-3 at 13-14 (Slade testimony).

[157] Exhibit RW-3 at 14-15 (Slade testimony).

[158] According to Mr. Slade, it is 6.43 stream miles from the proposed discharge point to the confluence with Upper Cibolo Creek. Tr. at 397-398 (Slade testimony).

[159] Tr. at 386-390 (Slade testimony).

[160] Tr. at 391 (Slade testimony).

[161] Exhibit RW-4 at 4-5 (Knowles testimony).

treatment plants around the country that have demonstrated exemplary phosphorus removal through their treatment processes; the permit limitations for phosphorus (and the actual concentrations of phosphorus in the effluent) for those plants were, in most cases, quite a bit lower than the 0.5 mg/L limitation for Lerin Hills.[162]

3. ALJ's Analysis

The contested issue to be decided is: would the proposed discharge cause prohibited degradation of the water quality of the receiving stream?

Unnamed Tributary

The immediate receiving stream, the intermittent unnamed tributary leading to Deep Hollow Creek, has a designated use of contact recreation (but no significant aquatic life uses) and the minimal DO requirement set by the ED is 2.0 mg/L. The evidence indicates that the proposed discharge, with its DO minimal limit of 6.0 mg/L, will not likely cause of breach of the water quality standards applicable to this stream segment. As the water quality of this stream is not deemed to exceed the fishable/swimmable level, Tier 2 protection does not apply.

Deep Hollow Creek, Frederick Creek

Mr. Wood does not seem to dispute that the draft permit would ensure Deep Hollow Creek and Frederick Creek would meet the applicable numerical stream standards. And, while he may have concerns about the draft permit's ability to maintain the narrative standards and protect existing uses, the primary thrust of his argument revolves around Tier 2 antidegradation review.[163] The waters of both Deep Hollow Creek (including the SCS impoundment and the Hahnfeld Pond) and Frederick

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[162] Tr. at 464-466 (Knowles testimony), *citing* Exhibit LH-8 at 7-8 (Advanced Wastewater Treatment to Achieve Low Concentration of Phosphorus).

[163] *See* Responsive Closing Arguments of Rick Wood at 3. OPIC may contend that the draft permit fails to maintain stream standards and protect existing uses. *See* Public Interest Counsel's Closing Argument at 4-5.

Creek – with their designated uses of contact recreation and high aquatic life uses – exceed fishable/swimmable quality. Therefore, Tier 2 antidegradation protections apply. As discussed above, Tier 2 review goes beyond assuring that insteam numerical and narrative criteria are met, and further requires that the discharge not cause or contribute to any degradation of the water quality beyond a *de minimis* extent. Mr. Wood and OPIC argue that, with respect to nutrient loading and associated DO levels, the proposed Lerin Hills discharge has not been shown to satisfy the requirements of the Commission's antidegradation rule and, in particular, the requirements of Tier 2 antidegradation review. Lerin Hills and the ED argue that the draft permit is adequately protective of water quality. The ALJ, after carefully reviewing the rule, the IPs, and the evidence, determines that Lerin Hills has failed to meet its burden of proof as to this issue.

The following matters are clear:

- modeling of the effects of the proposed discharge indicates that the lowest DO level in Deep Hollow Creek would be between 5.03 mg/L (Marshall modeling) and 5.27 mg/L (Miertschin modeling), compared to a presumed background of 6.25 mg/L (Miertschin) and 6.45 mg/L (Marshall);

- these streams are phosphorus-limited, meaning that the scarcity of phosphorus is what limits the growth of algae and aquatic plants;

- these streams have little assimilative capacity for nutrients;

- the proposed Lerin Hills discharge could (at the maximum permitted concentration) add about 750 pounds per year of phosphorus to the stream system;

- under Dr. Miertschin's modeling of the effects of the discharge,[164] the concentrations of phosphorus in the SCS impoundment would be 0.42 mg/L, 0.28 mg/L, 0.12 mg/L, and 0.05 mg/L (upstream to downstream), compared to the background of 0.035 mg/L in Dr. Miertschin's sampling of the impoundment;

[164] The ALJ is not persuaded by Dr. Lee's criticisms of the choices Dr. Miertschin made in setting up his phosphorus modeling exercise; Dr. Miertschin articulated reasoned justifications for his decision to use the nonconservative option, his decision not to employ the phosphorus and algae subroutines, his inputs, and his chosen decay rate. Nevertheless, as Dr. Miertschin himself readily acknowledged, the QUAL-TX modeling is not designed to estimate nutrient loading over time.

- under Dr. Miertschin's modeling of the effects of the discharge, the concentrations of phosphorus in the Hahnfeld pond would be 0.04 mg/L and 0.03 mg/L, compared to the background of less than the detectable limit of 0.02 mg/L in Dr. Miertschin's sampling of the pond;

- the phosphorus modeling uses a uniform decay rate to attempt to reflect removal of phosphorus from the water column, but the modeling does not attempt to reflect cumulative phosphorus loading over time;

- the record in this case includes no attempt to estimate quantitatively the amounts of phosphorus that will be biologically available in the stream system over time as the discharge continues;

- the proposed Lerin Hills discharge would also add nitrate-nitrogen, which has the potential to stimulate algal and plant growth, to the receiving stream;[165]

- an increase in plant and algal growth as a result of the proposed Lerin Hills discharge is likely;

- the record in this case includes no attempt to estimate quantitatively the amounts of algal and plant growth that may result from the increased nutrient loading from the proposed discharge.

The difficulty here is that Tier 2 antidegradation protection is extremely stringent: it prohibits *any* greater-then-*de minimis* degradation in water quality, even if the degradation has no effect on the uses of the water body. Nowhere do the rule or the IPs spell out precisely what constitutes greater-than-*de minimis* degradation, but it is clear that degradation is not merely coextensive with impairment of use. In this case, as set forth above, the evidence shows that the discharge would lower the DO level in the SCS impoundment. Further, the evidence shows that the phosphorus concentrations in the Hahnfeld pond and SCS impoundment could be as much as 150 percent to 1,200 percent of measured background.[166] It is undisputed that increased algal and plant growth

[165] There is no limitation for nitrate-nitrogen or total nitrogen in the draft permit, so it is not possible to estimate from the permit how much nitrogen would be discharged into the stream system from Lerin Hills. Mr. Wood, relying on testimony in the record that it would be reasonable to assume that the concentration of nitrogen in the discharge would be about 20 mg/L, estimates that Lerin Hills could discharge as much as 15 tons (about 30,000 pounds) of total nitrogen per year. Closing Arguments of Rick Wood at 1; Responsive Closing Argument of Rick Wood at 1.

[166] Lerin Hills argues that Dr. Miertschin's predicted phosphorus concentrations should be compared, not to the actual measured concentration of 0.035 mg/L of phosphorus in the SCS impoundment, but to the presumed background

could be expected. It is also undisputed that these streams are phosphorus-limited with little assimilative capacity for nutrients. Given these facts, the onus is on Applicant to show, and the ED to ensure through his review, that the lowered DO, and the increases in nutrient concentrations and resulting biomass, will not degrade water quality more than a *de minimis* extent.

In support of their position that there will be no greater-than-*de minimis* degradation, Lerin Hills and the ED point out that the draft permit includes a phosphorus limitation, which is unusual and has been characterized by Dr. Miertschin and Mr. Price as "very stringent." Dr. Miertschin testified that he thought, because there is already plant and algal growth indicating a significant supply of nutrients to the stream, the added nutrients in the discharge would have no measurable effect. He also stated that much of the phosphorus would be biologically unavailable due to sedimentation. Mr. Price agreed that much of the phosphorus would be sequestered in the sediment, and he also opined that the increased plant and algal growth would be less than noticeable.

There are several problems with the adequacy of Lerin Hills' evidence and arguments. First, the increases in phosphorus concentrations predicted above already account for the phosphorus limitation in the draft permit. Second, although the phosphorus limitation of 0.5 mg/L is characterized by witnesses as "very stringent," the ED has considered (and the Commission has authorized) a far more stringent phosphorus limitation (0.15 mg/L) in the context of another wastewater discharge application in the hill country.

Third, although Dr. Miertschin and Mr. Price believe that much of the nutrients added to the stream system over time will be biologically unavailable, they have not quantified how much. Nor have they tried to quantify how much biomass might result from the increased nutrients. They did no modeling of nutrient loading over time. They did not, as Dr. Miertschin apparently has in the past, try to correlate phosphorus concentrations with chlorophyll A, an indicator of algal and plant

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used by Dr. Miertschin in his phosphorus modeling. Even if one compares the predicted concentrations with the presumed background (which is 0.05 mg/L, not 0.5 mg/L, as Applicant states in its brief), the predicted concentrations in the upper and middle reaches of the SCS impoundment are still about 250% to 850% of the presumed background. *Compare* Lerin Hills, Ltd.'s Reply to Closing Arguments at 5 *with* Tr. at 98-99 (Miertschin testimony).

biomass. They offered no specific data to support their opinions about loading over time and resulting biomass. Further, Dr. Miertschin, while clearly a highly experienced and capable engineer, is not a biologist. Mr. Price is a biologist, but the reliability of his opinion was somewhat undermined by testimony in which he seemed to say that his analysis had assumed the phosphorus concentration in the creek would never get as high as 0.28 mg/L.

Lastly, Lerin Hills' arguments improperly conflate Tier 1 analysis with Tier 2 analysis. According to Lerin Hills, if the uses of a water body are protected, then any degradation is *de minimis*. Applicant's closing argument states:

> The record is replete with testimony, prefiled and live, by highly qualified professionals that, in their judgment, whatever small amount of additional aquatic plant growth might occur in the SCS Pond and, much less likely, in the Hahnfeld Pond and in the unimpounded portions of Deep Hollow Creek, *it will not be detrimental to the uses or aesthetic qualities of these waters and that, therefore, any lowering of water quality will be de minimis.*[167]

As discussed above, the Commission's antidegradation rule prohibits even degradation that does *not* rise to the level of impairing uses.[168] Since the record in this case shows that the water chemistry of the receiving stream will be affected and increased algal and plant growth is likely to occur, Lerin Hills must show that these changes, even if they do not affect the water's uses, would be so trifling as to be subject to being disregarded under the law.[169] Without showing how much nutrient loading and how much increased biomass growth there is likely to be, Lerin Hills cannot persuasively demonstrate that the changes will be trifling.

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[167] Lerin Hils, Ltd.'s Reply to Closing Arguments at 6 (emphasis added).

[168] Further, given the lack of evidence about nutrient loading over time and the resulting quantity of biomass, the ALJ cannot find with confidence that the narrative standards for aesthetics and nutrients/excessive aquatic vegetation would be protected by the draft permit. 30 TEX. ADMIN. CODE § 307.4(b) and (e).

[169] "De minimis" is Latin for "trifling." Webster's New Millennium Dictionary of English, Preview Edition (v 0.9.7), Copyright 2003-2009 Dictionary.com, LLC.

As for the ED's evidence, Mr. Schaefer's testimony suggests that the ED did not perform a Tier 2 analysis that strictly complies with the Commission's rule. In his written prefiled testimony, Mr. Schaefer correctly stated that the rule prohibits greater-then-*de minimis* degradation even if uses are not impaired. He also offered a working definition of greater-than-*de minimis* degradation as that which is "noticeable." However, in his discussion at hearing of Tier 2 review, he spoke of uses, and specifically testified that even if the proposed discharge were to result in a noticeable increase in the growth of algae and plants, he expected there would be no greater-than-*de minimis* degradation of the "fishability" and "swimmability" of the receiving stream.[170] Mr. Schaefer's testimony indicates that his Tier 2 review did not add meaningfully to his Tier 1 analysis of protection of uses. Like Dr. Miertschin and Mr. Price, Mr. Schaefer also opined generally that 700 pounds of phosphorus per year would not be too much. In support of his opinion, he cited to the TCEQ staff's experience with permit limitations and hill country streams. However, he acknowledged that staff had not actually performed any before-and-after comparative analyses, and he offered no quantitative data in support of his opinion.

Finally, the "degradation unlikely" and "degradation likely" scenarios in the IPs do not answer the question whether there would be prohibited degradation in this case, because the circumstances of the proposed Lerin Hills discharge do not precisely match any of the examples given. As for the "degradation unlikely" scenarios, one provides that degradation is unlikely if the DO in the sag zone is lowered by less than 0.5 mg/L from baseline stream conditions and if potentially affected aquatic organisms are not unusually sensitive to changes in DO. The predicted DO level in the sag zone in the SCS impoundment is indeed lowered by *greater than* 0.5 mg/L from the presumed background. Another "degradation unlikely" scenario provides that there probably will

[170] Further, the ED's closing argument seems to assert that the ED, in his antidegradation review, is not required to ensure that a proposed discharge would not degrade the quality of the receiving stream over time. Rather, states the ED, he must only ensure that "a discharge will not lower water quality to the extent that the [Texas Surface Water Quality Standards] are not attained." Executive Director's Reply to Rick Wood's and OPIC's Closing Arguments at 4-5. This position by the ED ignores the clear language of the antidegradation rule's Tier 2 portion: "No activities subject to regulatory action which would cause degradation of waters which exceed fishable/swimmable quality will be allowed unless it can be shown to the commission's satisfaction that the lowering of water quality is necessary for important economic or social development. Degradation is defined as a lowering of water quality by more than a de minimis extent, but not to the extent that an existing use is impaired." 30 TEX. ADMIN. CODE § 307.5(b)(2).

not be prohibited degradation from increased loading of phosphorus and nitrogen *if* it can be reasonably demonstrated that detrimental increases in algal or aquatic vegetation growth will not occur; as discussed above, the ALJ has determined that Lerin Hills failed to make such a showing. Among the "degradation likely" scenarios is one involving increased loading of oxygen-demanding substances projected to decrease DO by more than 0.5 mg/L for a substantial distance in a water body that has exceptional quality aquatic life and a relatively unique and potentially sensitive community of aquatic organisms. While the DO sag in this case will likely exceed 0.5 mg/L, Mr. Price's testimony suggests that the receiving stream does not have exceptional or potentially sensitive organisms. In sum, the evidence concerning the Lerin Hills discharge falls somewhere in between the clear "unlikely" and "likely" scenarios.

The ALJ appreciates the difficulty that Applicant and the ED face in trying to ensure that Tier 2's stringent, yet vague, standard is met. Furthermore, the rule imposes on Lerin Hills the challenging task of proving a negative: that there will be no greater-than-*de minimis* degradation.[171] The burden of proof on this issue is substantial. The ALJ cannot, based on this record, find that there will be no prohibited degradation of the water quality of Deep Hollow Creek and Frederick Creek as a result of the proposed discharge.[172]

Upper Cibolo Creek

Upper Cibolo Creek, below the confluence with Frederick Creek, is part of the receiving stream.[173] Because Upper Cibolo Creek is about seven miles downstream from the proposed

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[171] Because Lerin Hills asserts that there will be no degradation, it has not offered evidence to attempt to show that the lowering of water quality is necessary for an important economic or social development. 30 TEX. ADMIN. CODE § 307.5(b)(2).

[172] OPIC makes a general argument that the evidence fails to show the draft permit will adequately protect water quality. Based on evidence in the record that tighter parameters are technologically feasible, OPIC urges the ALJ to recommend permit limitations of 0.2 mg/L for total phosphorus(down from 0.5 mg/L), 2 mg/L for TSS (down from 5 mg/L), and 2 mg/L for CBOD (down from 5 mg/L). The ALJ declines to adopt this approach, as there is no basis in the record for OPIC's recommended permit parameters.

[173] Earlier in the Lerin Hills application process – in 2002 and 2004 – Segment 1908 was on the 303(d) list as impaired for DO. Such a listing would have affected the antidegradation review of the Lerin Hills project; however, the segment has been de-listed.

discharge point, the effects of nutrient loading will likely be attenuated. Still, the same gaps that characterize Applicant's case concerning Deep Hollow Creek and Frederick Creek – the lack of specific evidence estimating nutrient loading over time and predicting resulting biomass – are likewise fatal to a an antidegradation review of the effects of the proposed discharge on Upper Cibolo Creek. Further, the fact that Segment No.1908 is presently on the draft 2008 305(b) list for concerns about orthophosphorus lends weight to the need to examine the effects of nutrient loading on that portion of the stream system.

Lerin Hills argues that the seven-mile distance from the discharge to Upper Cibolo Creek is so great that there should be some reason to suspect that the lowering of water quality in Segment No. 1908 is a realistic possibility before a full-blown Tier 2 analysis is triggered.[174] The ALJ agrees that a permit should not be denied because a Tier 2 analysis was not performed on a highly remote, obviously unaffected segment downstream of a discharge. However, the ALJ is not sure that Segment No. 1908 is so remote and obviously unaffected. The ED specifically talked about Segment No. 1908, and the orthophosphorus in that segment, in the Statement of Basis/Technical Summary and Executive Director's Preliminary Decision concerning the Lerin Hills application. Applicant's own witness, Mr. Price, testified that he did a study once measuring phosphorus loss rates in the Red River. He stated that the phosphorus concentrations were still elevated 20 miles downstream from the discharge. Given that there are currently concerns about phosphorus levels in Segment 1908,[175] the ALJ cannot conclude that it is unnecessary for Segment No. 1908 to undergo, and pass, a Tier 2 review in connection with the Lerin Hills application.[176]

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[174] Lerin Hills, Ltd.'s Reply to Closing Arguments at 9 ("[A] rigorous Tier 2 antidegradation review does not have to be conducted on every downstream segment from Deep Hollow Creek to the Gulf of Mexico.")

[175] *See* Exhibit RW-9.

[176] One of the designated uses of Upper Cibolo Creek is "aquifer protection." This issue is addressed under the discussion of groundwater issues, below.

B. Protection of Groundwater

1. TCEQ Regulations

There are two primary rules relating to the protection of groundwater at issue in this case. First is the antidegradation rule, discussed above, that requires that the existing uses of a water body be protected.[177] One of Upper Cibolo Creek's designated uses is "aquifer protection."[178]

The second rule of importance, rule 309.12, addresses the siting of domestic wastewater effluent and plants and reads:

> The commission may not issue a permit for a new facility or for the substantial change of an existing facility unless it finds that the proposed site, when evaluated in light of the proposed design, construction or operational features, minimizes possible contamination of surface water and groundwater. In making this determination, the commission may consider the following factors:
>
> (1) active geologic processes;
>
> (2) groundwater conditions such as groundwater flow rate, groundwater quality, length of flow path to points of discharge and aquifer recharge or discharge conditions;
>
> (3) soil conditions such as stratigraphic profile and complexity, hydraulic conductivity of strata, and separation distance from the facility to the aquifer and points of discharge to surface water; and
>
> (4) climatological conditions.[179]

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[177] 30 TEX. ADMIN. CODE § 307.5(b)(1).

[178] Mr. Wood asserts that Applicant must show the Lerin Hills discharge would not cause greater-than-*de minimis* degradation *as to aquifer protection.* Rick Wood's Closing Arguments at 18. This is a misreading of the rule. Applicant must show as part of the Tier 1 antidegradation analysis that the "aquifer protection" use will be protected by the draft permit, but the very stringent greater-then-*de minimis* standard is part of the Tier 2 analysis, and is separate and apart from the question of protection of existing uses.

[179] 30 TEX. ADMIN. CODE § 309.12. Compliance with this rule's requirements concerning erosion is discussed below under Section VI.

2. Evidence

Lerin Hill's Witness

Robert Kier, Ph.D., is a geologist who testified on behalf of Lerin Hills. Dr. Kier testified that the groundwater resources in the area of the proposed facility and discharge site are: the Upper Trinity Aquifer, comprising the Upper Glen Rose Formation; the Middle Trinity Aquifer (including the Lower Glen Rose formation); and the Lower Trinity Aquifer.[180] According to Dr. Kier, in general the Upper Glen Rose in the vicinity of the site yields only small quantities of highly mineralized water. There are several shallow wells in the Upper Glen Rose near the site, and they are most likely drawing from perched groundwater zones that provide water of better quality. These perched groundwater zones, Dr. Kier testified, discharge to surface water as springs and seeps and support a base flow to streams and tanks in the area of Deep Hollow Creek. They are not hydraulically connected to the Upper Trinity, and recharge it only slowly by seepage through strata of low permeability. Dr. Kier believes that the Middle Trinity Aquifer is the source for the two wells on the Hahnfeld property. He stated that although the Trinity Aquifer System as been described as "leaky," in fact the amount of transfer from the Upper Trinity to the Middle Trinity is miniscule.

A third rule protecting groundwater that applies to this case relates to unsuitable site characteristics for domestic wastewater effluent and plants. 30 TEX. ADMIN. CODE § 309.13. This rule prohibits the location of such plants in proximity to floodplains, wetlands, public water wells, and the like. It provides that a wastewater treatment plant unit may not be located closer than 250 feet from a private water well. No one disputes that the private water wells at issue in this case are farther than the required 250 feet from the treatment plant, and no one has raised any other issue about the requirements of this rule in connection with the Lerin Hills application. For testimony generally supporting Applicant's compliance with this rule, *see* Exhibit LH-1 at 11-12 (Harris testimony). For a discussion of this rule's requirements concerning nuisance odors, see Section VII below.

In addition, the Commission has promulgated a special set of rules for the protection of the Edwards Aquifer. 30 TEX. ADMIN. CODE ch. 213. Because Cibolo Creek crosses the San Antonio segment of the Edwards Aquifer and is a source of recharge to the Edwards Aquifer, the Deep Hollow Creek watershed can be seen as in the contributing zone of the Edwards Aquifer. Exhibit LH-3 at 9 (Kier testimony). However, the Commission's rules define the contributing zone in such a way as to exclude Kendall County. 30 TEX. ADMIN. CODE § 213.22(2). Further, the Commission's Edwards Aquifer rules requiring particular permit parameters for wastewater treatment plants for dischargers upstream of the discharge zone are not applicable here because the site of the proposed Lerin Hills discharge is over five miles from the recharge zone. 30 TEX. ADMIN. CODE § 213.6(c). Nevertheless, the parameters in the draft permit are equal to or more stringent than those required by § 213.6(c).

[180] Exhibit LH-3 at 6-8 (Kier testimony).

Dr. Kier went on to say that water infiltrating the surface in the area of Deep Hollow Creek does not truly recharge the Upper Trinity Aquifer, but rather moves into perched aquifers that again become surface water through seeps and springs.[181] In the absence of solution channels or open fractures, which were not observed along Deep Hollow Creek, the vertical hydraulic conductivity of the unweathered Upper Glen Rose is very low.[182] He testified that water from the discharge point would have to move vertically through 400 to 500 feet of Upper Glen Rose before reaching the upper part of the Middle Trinity Aquifer, the principal local water supply.[183] Indeed, he calculated that it would take more than 100,000 years for a constituent in the discharge to reach the top of the lower Glen Rose.[184]

Cibolo Creek, stated Dr. Kier, flows across the lower Glen Rose and may discharge the Middle Trinity Aquifer. However, Dr. Kier noted that this is at least four to five miles downstream from the discharge point.[185] Cibolo Creek then crosses and recharges the Edwards Aquifer. The distance between the proposed discharge and the Edwards Aquifer Recharge Zone is 12-15 miles, and the distance to the Edwards Aquifer about 20-25 miles.[186]

Dr. Kier believes that the draft permit will protect groundwater resources in the area. He cites to several reasons: the low conductivity of the unweathered Upper Glen Rose (such that constituents are not likely to reach the Middle Trinity Aquifer); the treatment levels required in the draft permit (which are equal to or more stringent than those required of dischargers closer to the Recharge Zone); the fact that Dr. Miertschin and the TCEQ determined that surface water quality standards will be met; the fact that TCEQ staff has determined nitrate concentrations in Deep Hollow Creek will meet maximum contaminant levels (MCLs) for drinking water; the lack of observed

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[181] Exhibit LH-3 at 8-9 (Kier testimony).

[182] Exhibit LH-3 at 9 (Kier testimony).

[183] Exhibit LH-3 at 11 (Kier testimony).

[184] Exhibit LH-3 at 11 (Kier testimony).

[185] Exhibit LH-3 at 9 (Kier testimony).

[186] Exhibit LH-3 at 10 (Kier testimony).

recharge features or active geologic processes in the area; and the fact that the facility will not employ surface impoundments.[187]

Specifically with regard to the wells on the Hahnfeld and Wood property, Dr. Kier stated that there are three such wells. Well H1 (just south of the Hahnfeld pond) is 141 to 150 feet deep. Dr. Kier stated that it appears to be hydraulically connected to one of the shallow perched water zones in the upper Glen Rose. He does not believe that it is the same perched water zone that discharges into Deep Hollow Creek, because in 2006 Mr. Wood reportedly made a statement that the well was dry, but at that time the Hahnfeld pond on Deep Hollow Creek contained water.[188] Further, the direction of the groundwater flow causes Dr. Kier to believe that H1 does not receive water from the direction of Deep Hollow Creek or the proposed discharge.[189] For these reasons, Dr. Kier does not believe the discharge would affect the well. He acknowledged that if a cone of depression were to form around the well, there would be a potential for surface water to reach the well; however, given the nature of the flow in the aquifer and where he thinks the well is screened, Dr. Kier does not believe that a cone of depression is likely.[190]

Well H2 (just north of the Hahnfeld pond) is the water supply well for the Hahnfeld house and is 635 feet deep. According to Dr. Kier, it appears to be completed in the Middle Trinity Aquifer.[191] Well W1 (on Mr. Wood's property, west of Deep Hollow Creek) is the water supply well for the Wood house and is 765 feet deep. It also taps the Middle Trinity Aquifer.[192] Dr. Kier does not believe there is any discernable possibility that the discharge would affect either well.[193]

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[187] Exhibit LH-3 at 10-12 (Kier testimony).

[188] Exhibit LH-3 at 16 (Kier testimony). Dr. Kier, when asked to assume that H1 had never gone dry, testified that it would make no sense for it never to have gone dry, because it is in a perched aquifer higher than the level of the rest of the Glen Rose around it. Tr. at 161-165 (Kier testimony).

[189] Exhibit LH-3 at 16-17 (Kier testimony).

[190] Tr. at 155-157 (Kier testimony).

[191] Exhibit LH-3 at 17 (Kier testimony).

[192] Exhibit LH-3 at 17-18 (Kier testimony).

[193] Exhibit LH-3 at 18 (Kier testimony).

Dr. Kier further testified that, in groundwater, nitrate is a fairly persistent contaminant in that it does not tend to degrade. As for phosphorus in groundwater, there is a debate concerning the degree of its persistence.[194]

ED's Witnesses

Ms. Airey testified that, because the proposed discharge would not be located in the Edwards Aquifer Contributing Zone as defined by the Commission's rules, the chapter 213 Edwards Aquifer rules do not apply to this application.[195] She noted that the effluent limitations for $CBOD_5$, TSS, ammonia nitrogen, and phosphorus in the Lerin Hills draft permit are equal to or more stringent than those required in Chapter 213 for dischargers within five miles upstream of the recharge zone.[196]

Stephanie Saldaña is a TCEQ staff geologist who ordinarily reviews "no discharge" permits but who was asked to assist in responding to public comments concerning groundwater in connection with the Lerin Hills application. In particular, Ms. Saldaña was asked to prepare a response to concerns voiced by Mr. Robert Webster regarding his shallow wells located near Deep Hollow Creek,[197] as well as to questions related to groundwater conditions at the plant and discharge sites.[198]

According to Ms. Saldaña, the plant and discharge are over the upper Glen Rose formation of the Trinity Aquifer, and the discharge route (Cibolo Creek) reaches the edge of the Edwards Aquifer Recharge Zone[199] more than 14 miles from the discharge point. Further, she stated that the discharge route moves over the Edwards Aquifer at a point about 30-35 stream miles from the discharge

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[194] Tr. at 167 (Kier testimony).

[195] Exhibit ED-1 at 17 (Airey testimony). Mr. Marshall said the same thing. Exhibit ED-13 at 5 (Marshall testimony).

[196] Exhibit ED-1 at 17-18 (Airey testimony).

[197] Mr. Webster owns the property where the lower portion of the SCS impoundment is located. Exhibit LH-1B, Exhibit No. 3 (Affected Landowners map and accompanying list).

[198] Exhibit ED-16 at 6 (Saldaña testimony).

[199] Ms. Saldaña uses the definition of "Edwards Aquifer Recharge Zone" in chapter 213 of the Commission's rules. 30 TEX. ADMIN. CODE § 213.3(27).

point.[200] Using the definition of "Edwards Aquifer Contributing Zone" in chapter 213 of the Commission's rules, Ms. Saldaña calculated that the discharge point is over 15 miles from the contributing zone.[201] She also stated that neither published sources nor the applicant's and protestant's experts had identified any recharge features in the area of the discharge. However, she noted that the actual watercourse could be considered a recharge feature to shallow, perched groundwater.[202] She opined that the proposed discharge would not negatively affect the Trinity or Edwards Aquifer. As to the Edwards, she cited the 14-mile distance to the recharge zone and the fact that nitrate concentrations would be less than MCL just 0.5 mile downstream of the discharge point. With respect to the Trinity, she noted that no recharge features were observed and she stated that the effluent limits in the draft permit are protective.[203]

On cross-examination, Ms. Saldaña stated that, although in her written prefiled testimony she had opined that the draft permit appears to meet the rules and regulations pertaining to the discharge, she had not reviewed the permit for compliance with TCEQ rules; she could only refer to the fact that her colleagues had issued a draft permit so they must have decided that it complied with the applicable rules.[204] She was unable to say whether the Commission considers perched aquifers to be "groundwater," although she stated that in reviewing "no discharge" permits she did consider groundwater not contained in aquifers.[205] She stated that she did not look at MCL levels for any constituents other than for nitrate, although other constituents could be harmful.[206] She did not consider the direction of groundwater flow.[207] Further, she was unsure whether the ED performs reviews to ensure that a segment's designated use of "aquifer protection" would be protected.[208]

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[200] Exhibit ED-16 at 9 (Saldaña testimony).

[201] Exhibit ED-16 at 11 (Saldaña testimony).

[202] Exhibit ED-16 at 12 (Saldaña testimony).

[203] Exhibit ED-16 at 12-13 (Saldaña testimony).

[204] Tr. at 653-654 (Saldaña testimony).

[205] Tr. at 655-657 (Saldaña testimony).

[206] Tr. at 657 (Saldaña testimony).

[207] Tr. at 658 (Saldaña testimony).

[208] Tr. at 661-662 (Saldaña testimony).

The ED's response to Mr. Webster's inquiry, to which Ms. Saldaña alluded in her testimony, was as follows:

> ED staff generally agrees that Mr. Webster's wells are shallow, not fully cased, and one is located within 20 feet of Deep Hollow Creek. Therefore, the groundwater that supplies the wells may be hydraulically connected to the creek. Water quality modeling indicated that a first order decay constituent (such as nitrate), assuming a starting concentration of 20 [mg/L], a discharge would travel 900 meters to the impoundment on Mr. Webster's property [sic]. The Executive Director's staff estimates that the when [sic] Lerin Hills is discharging, the concentration of the constituent in the impoundment will be 3.76 mg/L. At the outlet from the impoundment dam into Deep Hollow Creek, approximately 200 meters upstream from Mr. Webster's well, the concentration is estimated at 1.64 mg/L. These concentrations are less than the [MCL] for nitrate, 10 mg/L and contamination of the wells is not expected. However, it is not advisable to use untreated surface water as a drinking water source, regardless of whether or not there is a permitted discharger into the waterbody.[209]

Rick Wood's Witnesses

Mr. Wood testified about the wells on his and the Hahnfeld property.[210] He stated that there is one (about 765 feet deep) on his property, about 2,200 feet north-northeast of the discharge point, used for domestic household purposes.[211] There are two wells on the Hahnfeld property. One is about 3,300 feet northeast of the discharge point, and is used as an emergency well to fill tanks on the property and has been used in the past for irrigation.[212] The other well (about 650 feet deep), located about 3,600 feet northeast of the discharge point, is used for domestic purposes.[213] In response to Dr. Kier's assertion that Mr. Wood had once stated to someone that well H1 was dry, he testified that in fact the well has never been dry during his residence on the property dating back to

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[209] Exhibit ED-5 at 7.

[210] Exhibit RW-1 at 4-5 (Wood testimony); Tr. at 264-265 (Wood testimony).

[211] The ALJ believes this is well "W1."

[212] The ALJ believes this is well "H1."

[213] The ALJ believes this is well "H2."

1997.[214] Mr. Wood also stated that H1 has the potential to produce water from very near the surface, and that the groundwater elevation in the well is about eight to ten feet above the water level in the adjacent pond.[215] Further, Mr. Wood agreed with Dr. Kier that perhaps usual groundwater flow in the area is from the well toward the stream, but when the well is pumping it pulls water toward the pump.[216] Mr. Wood acknowledged that he had never seen the level of the Hahnfeld pond do down in response to pumping at the H1 well.[217]

Mr. Slade testified that the proposed discharge point is in the contributing zone of the Edwards Aquifer, in that the effluent flows to and mixes with local runoff in Cibolo Creek and discharges to the Edwards Aquifer recharge zone, where most of the total discharge in Cibolo Creek enters the Edwards Aquifer.[218] Maps attached to Mr. Slade's prefiled testimony show Deep Hollow Creek, Frederick Creek, and Cibolo Creek in proximity to the Edwards Aquifer recharge zone; they indicate that, from the confluence of Frederick Creek with Cibolo Creek, it is 7.61 miles to the upstream end of the recharge zone.[219] Mr. Slade summarized the stream distances cumulatively as follows:

> Cumulative miles via main streambed from the effluent discharge point to its first encounter with the Edwards aquifer recharge zone are as follows: Stream mile 0.5 miles to the confluence with Deep Hollow Creek; stream mile 2.22 to the confluence

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[214] Exhibit RW-1 at 7 (Wood testimony).

[215] Exhibit RW-1 at 8 (Wood testimony).

[216] Exhibit RW-1 at 8-9 (Wood testimony). Mr. Wood acknowledged that he is not providing expert testimony in this case. Tr. at 262 (Wood testimony).

[217] Tr. at 267-268 (Wood testimony).

[218] Exhibit RW-3 at 6 (Slade testimony). He noted that under the narrative definition of "contributing zone" in rule 213.22(2) ("[t]he area or watershed where runoff from precipitation flows downgradient to the recharge zone of the Edwards Aquifer"), the discharge point is included. However, he also noted that on the map that is part of the definition in § 213.22(2), Kendall County is not included. Tr. at 364 (Slade testimony). But Mr. Slade also pointed out that, according to a map that is part of a 2006 report of hydrologic data issued by the Edwards Aquifer Authority, southern Kendall County, where the Lerin Hills plant would be located, is in the "drainage area" – i.e., contributing zone – of the Edwards Aquifer, although not within the jurisdictional area of the Adwards Aquifer Authority. Exhibit RW-E at 21; Tr. at 406-408 (Slade testimony).

[219] Exhibit RW-3C and RW-3D.

with Frederick Creek; stream mile 6.43 to the confluence with Cibolo Creek and then stream mile 14.04 to the upstream end of the Edwards aquifer recharge zone.[220]

Mr. Slade went on testify that recharge from Cibolo Creek represents about 16 percent of total recharge to the Edwards Aquifer. By comparing the flow at United States Geological Survey streamflow gages, Mr. Slade determined that about 79 percent of the flow of Cibolo Creek is lost to recharge downstream of Boerne.[221] Looking at data about how often the lower-end gage was dry, Mr. Slade determined that about 90 percent of the time, all the Lerin Hills effluent entering the recharge zone would be lost as recharge to the Edwards Aquifer.[222] Further, he stated that if there are faults in the Trinity Aquifer west of the Edwards Aquifer recharge zone, water from Cibolo Creek could recharge the Edwards Aquifer without reaching the portion of Cibolo Creek that crosses the mapped recharge zone.[223] He agreed that the "aquifer protection" use of Cibolo Creek only applies to those parts of the creek that are found in the contributing zone, recharge zone, or transition zone of the Edwards Aquifer as defined in chapter 213 of the Commission's rules.[224]

According to Mr. Slade, major contaminants of concern with respect to the Edwards Aquifer are BOD, TSS, nitrogen, and phosphorus.[225] As to these four constituents, he stated, the water quality in Upper Cibolo Creek is generally better than the permitted values in the Lerin Hills draft permit; in other words, most of the time the existing water quality in Upper Cibolo Creek is better than that of the effluent.[226] Mr. Slade acknowledged that he did not consider the question of how much the concentrations of those constituents might decrease through decay prior to the discharge's entry into Cibolo Creek.[227] He stated that if the overflow of untreated effluent or the rupture of a

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[220] Exhibit RW-3 at 8 (Slade testimony).

[221] Exhibit RW-3 at 9-10 (Slade testimony).

[222] Exhibit RW-3 at 11 (Slade testimony).

[223] Tr. at 354-355 (Slade testimony).

[224] Tr. at 424-425 (Slade testimony).

[225] Exhibit RW-3 at 11 (Slade testimony).

[226] Exhinit RW-3 at 15 (Slade testimony).

[227] Tr. at 382 (Slade testimony).

pipe occurred at the treatment plant location, additional pollutant loading to the Edwards Aquifer could result.[228]

Mr. Slade calculated that, assuming the maximum permitted average discharge of 0.5 MGD, the Lerin Hills discharge would constitute about 0.5 percent of the mean annual recharge to the Edwards Aquifer of Cibolo Creek.[229]

In addition, in response to Dr. Kier's testimony that the water in Deep Hollow Creek meets the nitrate MCL, Mr. Slade stated that the MCLs do not address the four water quality constituents that are limited by the draft permit for Lerin Hills.[230] Further, there are MCLs for other constituents, too, that may or may not be met by the water in Deep Hollow Creek.[231]

3. ALJ's Analysis

Applicant has adequately shown that the draft permit and proposed discharge comply with the applicable rules concerning the protection of groundwater.

As to the Edwards Aquifer, Lerin Hills must show two things: (1) that the siting of the facility will minimize the contamination of groundwater; and (2) that Cibolo Creek's "aquifer protection" use will not be impaired.[232] The evidence shows that, in a hydrological sense, the location of the

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[228] Exhibit RW-3 at 15. He acknowledged that the draft permit requires measures to safeguard against spills of untreated or partially treated effluent during electrical failures. Tr. at 400-401 (Slade testimony).

[229] Tr. at 379 (Slade testimony). Mr. Slade cautioned, however, that the percentage could be higher in dry periods when the mean flow would not be occurring. Tr. at 379-380 (Slade testimony). He also agreed that some of the discharge might be lost to evaporation and transpiration upstream of the Cibolo, although constituents like nutrients do not evaporate. Tr. at 380-381, 409 (Slade testimony).

[230] Tr. at 352 (Slade testimony).

[231] Tr. at 352 (Slade testimony). And, he testified that ammonia nitrogen in the Lerin Hills discharge could decay into nitrite, for which EPA has an MCL of 1.0 mg/L. Tr. at 356 (Slade testimony). However, the nitrite could then decay into nitrate with further oxygen. Tr. at 356-357 (Slade testimony).

[232] As discussed above, the Tier 2 antidegradation standard (that there must be no greater-than-*de minimis* degradation) is not applicable to this inquiry.

plant and proposed discharge is in the contributing zone of the Edwards Aquifer. However, the following factors strongly indicate that contamination of the Edwards by the Lerin Hills discharge would be minimal:

- the discharge site is at least 14 miles from the Edwards Aquifer recharge zone;
- the effluent limitations in the draft permit for $CBOD_5$, TSS, ammonia nitrogen, and phosphorus are equal to or more stringent than those required in chapter 213 for dischargers located only up to five miles upstream of the Edwards Aquifer recharge zone;
- the Lerin Hills discharge, assuming maximum flow and assuming that all of it reached Cibolo Creek, would constitute about 0.5 percent of the mean annual recharge volume to the Edwards over the length of Cibolo Creek;[233] and
- recharge from Cibolo Creek represents 16 percent of total recharge to the Edwards Aquifer.

Mr. Wood argues that the proximity of the Lerin Hills site to the Edwards Aquifer means that available treatment technology must be employed to drive the phosphorus concentrations in the effluent to levels of 0.2 mg/L or lower. This, argues Mr. Wood, would minimize contamination of groundwater, as required. However, Mr. Wood's argument ignores the fact that the Commission has determined a limitation for phosphorus of 1.0 mg/L – twice as high as the limitation in the Lerin Hills draft permit – is adequate for dischargers just zero to five miles upstream from the recharge zone.

According to the ED, the "aquifer protection" use only applies to those portions of Cibolo Creek located in the contributing, recharge, or transition zones of the Edwards Aquifer. Executive Director's Reply to Rick Wood's and OPIC's Closing Arguments at 7-8, *citing* 30 TEX. ADMIN. CODE § 307.10, Appendix A, footnote 3 to Table of Designated Segments in the San Antonio River Basin. As there seems to be a difference between the boundaries of the contributing zone as defined for jurisdictional purposes in the Commission's rules and the boundaries based on hydrological data, the ALJ assumes for the sake of analysis that all of Upper Cibolo Creek downstream from its confluence with Frederick Creek has the use of "aquifer protection."

[233] Mr. Wood argues that mean or median flows are not relevant here, and instead the frequent low-flow conditions in Cibolo Creek are more important. He correctly notes that the Texas surface water quality standards require compliance in low-flow conditions. Responsive Closing Arguments of Rick Wood at 5-6. But the analysis here is about groundwater quality, and the point is that the Lerin Hills discharge would be but a small percentage of the overall annual recharge to the aquifer from Cibolo Creek. Low flow conditions are important with respect to the analysis of surface water conditions, but, again, this portion of the analysis concerns groundwater.

With respect to the Trinity Aquifer, Lerin Hills has likewise shown that the siting of the facility minimizes contamination of groundwater. The record indicates that the plant and discharge site is situated over the upper Glen Rose formation, which has a depth of 400 to 500 feet and relatively low vertical hydraulic conductivity. The principal local water supply, the Middle Trinity, lies below the upper Glen Rose. Wells W1 and H2 draw their water from the Middle Trinity. No expert in the case found, through personal observation or literature research, any recharge features in the area relating to the Trinity Aquifer.

When it comes to the matter of shallow perched groundwater in the area, the case is a bit closer. Dr. Kier and Ms. Saldaña agree that the area of Deep Hollow Creek has perched groundwater zones unconnected to the Trinity. Of particular significance is the fact that these perched zones communicate with Deep Hollow Creek. However, the key to whether the discharge in Deep Hollow Creek is likely to contaminate perched groundwater in the area is Dr. Kier's repeated testimony that Deep Hollow Creek in the area of the discharge is a "gaining stream." This means that it is topographically lower than the nearby perched zones, and receives water from them but does not communicate surface water to them.[234]

For these reasons, the ALJ determines that Applicant has met its burden of proof as to groundwater protection.

V. ISSUE C: WHETHER THE PERMIT WOULD AUTHORIZE APPLICANT TO DISCHARGE THE APPROPRIATE AMOUNT OF WASTEWATER BASED ON THE SERVICE AREA PROJECTIONS

Teague Harris, a consulting engineer on the Lerin Hills project, testified about Lerin Hills' projected service area. He stated that Lerin Hills owns approximately 866 acres of land that is proposed to be developed into single-family homes, an elementary school, and some commercial

[234] LH-3 at 6-7, 8-9, 16, 18 (Kier testimony). Ms. Saldaña stated that Deep Hollow Creek could be considered a recharge feature to local, perched groundwater. However, the ALJ finds Dr. Kier's testimony more credible because Ms. Saldaña's review did not seem very thorough, and she testified that she did not consider the direction of groundwater flow in the area. Exhibit ED-16 at 12; Tr. at 658 (Saldaña testimony).

development, with a projected number of 1,667 equivalent development units (EDUs) (1,475 EDUs for single family housing, 45 EDUs for the school, and 147 EDUs for commercial development). According to Mr. Harris, the proposed average daily flow at build-out for the 1,667 EDUs is 500,000 gallons per day (GPD) (300 GPD per EDU).[235] Mr. Harris testified that he selected the 300 GPD/EDU number based on his experience, and based on the fact that the San Antonio Water System uses this criterion.[236] He believes that the 500,000 GPD authorization would be sufficient for the proposed service area. The ED argues that the estimated flows appear consistent with wastewater usage rates in the Commission's rules.[237] As Applicant has put forth a prima facie case on this issue and Mr. Wood has not offered any specific evidence or argument that this discharge amount would be inappropriate for the service area,[238] the ALJ determines that Lerin Hills has met its burden as to this issue.

VI. ISSUE D: WHETHER THE PROPOSED FACILITY WOULD COMPLY WITH THE SITING REQUIREMENTS IN 30 TEXAS ADMINISTRATIVE CODE § 309.12

As noted above, § 309.12 of the Commission's rules provides:

> The commission may not issue a permit for a new facility or for the substantial change of an existing facility unless it finds that the proposed site, when evaluated in light of the proposed design, construction or operational features, minimizes possible contamination of surface water and groundwater. In making this determination, the commission may consider the following factors:
>
> (1) active geologic processes;
>
> (2) groundwater conditions such as groundwater flow rate, groundwater quality, length of flow path to points of discharge and aquifer recharge or discharge conditions;

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[235] Exhibit LH-1 at 5, 15 (Harris testimony).

[236] Exhibit LH-1 at 15-16 (Harris testimony).

[237] Executive Director's Closing Argument at 11, *citing* 30 TEX. ADMIN. CODE §§ 285.91(3), 317.4(a).

[238] Mr. Wood does argue that the likely nature of the influent was not adequately considered by Lerin Hills, but the argument does not seem to address the amount of influent. *See* Rick Wood's Closing Arguments at 29-31.

(3) soil conditions such as stratigraphic profile and complexity, hydraulic conductivity of strata, and separation distance from the facility to the aquifer and points of discharge to surface water; and

(4) climatological conditions.[239]

Applicant's compliance with this rule as it specifically pertains to groundwater protection is discussed under Section IV.B above. Mr. Wood has, however, made the additional argument that Lerin Hills has failed to demonstrate its compliance with this rule as it concerns erosion.

As Mr. Wood points out, the Commission's rules define "active geologic processes" as including erosion.[240] Mr. Wood argues that both the construction of the facility and the effluent flow – with a permitted peak of 2 MGD – create the potential for erosion. He points to a photo of the unnamed tributary and asserts that it shows soil.[241] Mr. Harris testified that he did not do any specific evaluation of the potential for erosion, other than to make a site visit, at which he concluded that the area is not susceptible to excessive erosion.[242] Dr. Kier testified that he examined photos of the area of the discharge and concluded that the upper reaches of the receiving stream, on the Lerin Hills property, was mostly rock and would not have much erosion. However, he said that if he were wrong it would be comparatively easy to install erosion controls like rock berms or silt fences. Closer to the SCS impoundment, he stated, there is erosion from storm events and the discharge would have a negligible effect on that process. With respect to the treatment plant site, he stated that there is little soil, but at the time of excavation and construction erosion control measures can be put in place.[243]

The ALJ concludes that Applicant has met its burden to show the proposed facility and discharge site fulfills the requirements of rule 309.12. Both Mr. Harris and Dr. Kier testified that

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[239] 30 TEX. ADMIN. CODE § 309.12.

[240] 30 TEX. ADMIN. CODE § 309.11(1).

[241] See Exhibit LH-1B, Exhibit 5, at 2.

[242] Tr. at 33, 48-49 (Harris testimony).

[243] Tr. at 152-154 (Kier testimony).

they do not believe the site is susceptible to much erosion because there is little soil at the site. Indeed, the photo cited to by Mr. Wood shows a rocky location with apparently limited topsoil. The preponderance of the evidence supports a finding that the siting of the facility at the proposed location would minimize water contamination due to erosion.[244]

VII. ISSUE E: WHETHER THE FACILITY WILL MEET THE RULE REQUIREMENTS INTENDED TO REDUCE NUISANCE ODOR CONDITIONS

Commission rule 309.13(e) requires applicants to adopt one of several specified alternatives to abate and control nuisance odors prior to construction of a new wastewater treatment plant unit.[245] A plant like the proposed Lerin Hills facility would be required to maintain a 150-foot buffer from the nearest property line. The evidence shows that the planned facility will beet the 150-foot buffer requirement; the plant site and required buffer zone are owned by Lerin Hills and therefore Lerin Hills does not have to acquire easements or other property interests. If for some reason the entire buffer zone is not conveyed to the Lerin Hills MUD, then Lerin Hills will dedicate a buffer zone easement to the MUD.[246] Mr. Wood offered no evidence or argument on this issue, other than to assert that he and his family would suffer.[247] Based on this record, the ALJ concludes that Lerin Hills has met its burden to show that it would comply with the requirements intended to reduce nuisance odor conditions.

VIII. ISSUE F: WHETHER APPLICANT'S COMPLIANCE HISTORY IS SUCH THAT THE PERMIT SHOULD NOT BE ISSUED

Ms. Airey prepared the compliance history for Lerin Hills, which received a classification "average by default" because the facility does not yet exist.[248] Mr. Wood agrees that this applicant

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[244] And, the ED has pointed out Lerin Hills would be required to comply with the general permit requirements for discharges from a construction site into surface waters. Exhibit ED-5 at 22.

[245] 30 TEX. ADMIN. CODE § 309.13(e).

[246] 30 TEX. ADMIN. CODE § 309.13(e)(1), (e)(3). *See* Exhibit LH-1 at 11-12 (Harris testimony).

[247] Rick Wood's Closing Arguments at 28.

[248] Exhibit ED-4; Exhibit ED-1 at 9-10 (Airey testimony); Tr. at 504 (Airey testimony).

has no compliance history.[249] There is no indication in the record that Applicant's compliance history is such that a permit should not be issued.

IX. ISSUE G: WHETHER OTHER REQUIREMENT NO. 1 AND OPERATIONAL REQUIREMENT NO. 4 OF THE DRAFT PERMIT WITH REGARD TO PLANT OPERATOR AND SAFETY REQUIREMENTS ARE SUFFICIENT TO ENSURE COMPLIANT PLANT OPERATIONS

A. Draft Permit Provisions

Other Requirement No. 1 of the draft permit reads:

> The permittee shall employ or contract with one or more licensed wastewater treatment facility operators or wastewater system operations companies holding a valid license or registration according to the requirements of 30 TAC [Texas Administrative Code] Chapter 30, Occupational Licenses and Registrations and in particular 30 TAC Chapter 30, Subchapter J, Wastewater Operators and Operations Companies.
>
> This Category C facility must be operated by a chief operator or an operator holding a Category C license[250] or higher. The facility must be operated a minimum of five days per week by the licensed chief operator or an operator holding the required level of license or higher. The licensed chief operator or operator holding the required level of license or higher must be available by telephone or pager seven days per week. Where shift operation of the wastewater treatment facility is necessary, each shift which does not have the on-site supervision of the licensed chief operator must be supervised by an operator in charge who is licensed not less than one level below the category for the facility.[251]

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[249] Rick Wood's Closing Arguments at 28.

[250] There are four categories of operator license, with Class C being third in terms of required education and experience required. 30 TEX. ADMIN. CODE § 30.340(a).

[251] Exhibit LH-1C at 23.

Operational Requirement No. 4 of the draft permit reads:

> The permittee is responsible for installing prior to plant start-up, and subsequently maintaining, adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failures by means of alternate power sources, standby generators, and/or retention of inadequately treated wastewater.[252]

B. Design Issues Raised by Mr. Wood

Mr. Wood raises design issues potentially affecting the performance of the facility that, he argues, are not resolved by the above operational requirements. The issues are: that the application in general includes only conceptual design features, with details to be worked out later; that the application does not include the details of a pressurized pipe that would transport the effluent from the treatment plant to the higher discharge point; that Applicant used an assumed BOD strength[253] for the influent instead of seeking actual data from nearby developments (and Applicant's assumed number failed to account for the planned restaurants in the development); that the peak capacity of facility elements has not been determined; and that the plant may not have much excess storage capacity in the first interim phase.

Lerin Hills contends that Mr. Wood's arguments about facility design are beyond the scope of the Commission's referred issues. Further, Lerin Hills argues that particular design issues, including calculation of influent BOD strength, are properly addressed by the ED in his review of the plans and specifications under chapter 217 of the Commission's rules regarding design criteria for domestic wastewater systems.

The ALJ agrees with both of Lerin Hills' points. The issues referred by the Commission cannot fairly be read to include the design matters raised by Mr. Wood. Further, the Commission's

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[252] Exhibit LH-1C at 10.

[253] The assumed number is 200 parts per million.

rules specifically state, "An owner is not required to submit collection system or treatment facility plans and specifications for approval prior to the commission issuing the facility's wastewater permit."[254] The design of the pressurized effluent pipe, the BOD strength of the influent, and the capacity of various treatment units are issues properly addressed in the design phase. Under chapter 217, a successful wastewater discharge permit applicant must submit to the ED for approval the detailed plans and specifications of the facility. The rules provide, "A treatment facility's plans and specifications must be based on a design that will produce effluent that will at least meet the requirements and effluent limits in the associated wastewater permit."[255]

C. Adequacy of the Draft Permit Provisions

1. Other Requirement No. 1

Specifically with respect to Other Requirement No. 1, which establishes requirements for the plant operator, Mr. Wood makes two arguments: (1) the lack of design detail for the facility and concerning peak capacity justifies a greater level of operational attention than is required by the draft permit, which does not mandate 24-hour attendance by an operator;[256] and (2) the proposed use of effluent filters, which are not standard, requires a more skilled operator. Neither of these arguments is persuasive. As discussed above, the lack of design detail at this stage is contemplated by the process; that the facility has not yet been designed is not justification for a higher level of operational attention. And there is nothing in evidence supporting the argument that the filtration at the proposed plant is so unusual as to necessitate a more educated and experienced operator. Mr. Harris testified that a Category C operator is appropriate for this facility, and his testimony was uncontroverted.[257] The ALJ therefore determines that Other Requirement No. 1 is adequate to ensure compliant plant operations.

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[254] 30 TEX. ADMIN. CODE § 217.6(a).

[255] 30 TEX. ADMIN. CODE § 217.6(b).

[256] Tr. at 476 (Knowles testimony).

[257] Exhibit LH-1 at 19 (Harris testimony).

2. Operational Requirement No. 4

Mr. Wood argues that Operational Requirement No. 4, which requires alternate power sources, standby generators, and/or retention of inadequately treated wastewater, is inadequate. First, Mr. Wood noted that during the hearing Applicant indicated it was willing to install standby generators and to agree to a permit requirement to that effect.[258] Mr. Wood urges that the draft permit, accordingly, include such a requirement. Second, Mr. Wood points to Mr. Knowles' testimony that even with on-site generators, plant upsets can occur due to equipment failure.[259] Given this fact, asserts Mr. Wood, the draft permit should require additional retention capacity to allow the facility to hold untreated or partially treated wastewater during the event of an equipment failure. Mr. Wood asks that the language of the permit provision be altered to read:

> The permittee is responsible for installing prior to plant start-up, and subsequently maintaining, adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failures by means of alternate power sources *such as standby generator(s), and retention capacity for inadequately treated wastewater.*[260]

OPIC urges that the draft permit be altered to require enough backup electricity generation to power the facility for at least 24 hours.[261]

Lerin Hills responds that equipment failures unrelated to electrical outages are not germane to the issues referred to SOAH by the Commission. Further, Lerin Hills points to numerous provisions in the chapter 217 design criteria rules that require redundancy as to various elements of the treatment system.[262] One of the cited chapter 217 requirements mandates an explanation of bypass control measures in the final engineering design report, including:

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[258] Tr. at 30 (Harris testimony).

[259] Rick Wood's Closing Argument at 35, *citing* Tr. at 466 (Knowles testimony).

[260] Rick Wood's Closing Argument at 35 (emphasis added).

[261] Public Interest Counsel's Closing Argument at 9.

[262] Lerin Hills, Ltd.'s Reply to Closing Arguments at 38 and Attachment B.

> (i) information and data describing features to prevent bypassing such as auxiliary power, standby and duplicate units, holding tanks, storm water clarifiers, or flow equalization basins; and
>
> (ii) operational arrangements such as flexibility of pipes and valves to control flow through the treatment units and reliability of power sources to prevent unauthorized discharges of untreated or partially treated wastewater.[263]

Because Lerin Hills is agreeable to the inclusion in the permit of a provision requiring a standby generator or generators, the ALJ recommends that any permit issued include such a requirement. Even if the issue of possible upsets caused by equipment failures other than power outages is within the scope of Commission Issue G, successful permit applicants are required to develop, in the context of their facility design, measures to prevent bypasses and unauthorized discharges. Therefore, the ALJ finds no reason to recommend the provision requiring additional retention capacity urged by Mr. Wood.

X. TRANSCRIPTION COSTS

Lerin Hills argues that a 50-50 allocation of transcription costs between itself and Mr. Wood would be reasonable. Mr. Wood contends that Lerin Hills should bear all of the transcription costs in this case.

The Commission's rules require consideration of the following factors in assessing transcription costs:

> (A) the party who requested the transcript;
>
> (B) the financial ability of the party to pay the costs;
>
> (C) the extent to which the party participated in the hearing;
>
> (D) the relative benefits to the various parties of having a transcript;

[263] 30 TEX. ADMIN. CODE § 217.10(f)(2)(E).

(E) the budgetary constraints of a state or federal administrative agency participating in the proceeding;

(F) in rate proceedings, the extent to which the expense of the rate proceeding is included in the utility's allowable expenses; and

(G) any other factor which is relevant to a just and reasonable assessment of costs.[264]

Both Applicant and Mr. Wood participated in the hearing and benefitted from having a transcript. Lerin Hills is a business partnership, while Mr. Wood is a private individual; under ordinary circumstances, it would make sense to assume that Lerin Hills would have a much greater capacity to pay than would Mr. Wood. However, there is evidence that an unspecified amount of Mr. Wood's legal expenses in this case are being paid by Tapatio Springs, a development in Kendall County.[265] Lerin Hills asserts that Tapatio Springs is a rival to Lerin Hills. While the record does not reflect how much of Mr. Wood's expenses are being covered by Tapatio Springs, the involvement of this other development does militate toward a greater share of the costs being assessed to Mr. Wood than would otherwise be the case.

Based on the available information, the ALJ recommends that 85 percent of the costs of transcription be assessed to Lerin Hills, and 15 percent to Mr. Wood.

XI. CONCLUSION

The ALJ determines that Lerin Hills has failed to prove that the draft permit and proposed discharge would satisfy the requirements of the Commission's antidegradation rule in connection with the waters of Deep Hollow Creek, Frederick Creek, and Cibolo Creek. The ALJ further determines that Lerin Hills has met its burden of proof with respect to all other issues referred to SOAH by the Commission. Because the ALJ concludes that Lerin Hills has not met its burden to show that the draft permit would protect water quality to the degree required by the Commission's

[264] 30 TEX. ADMIN. CODE § 80.23(d).

[265] Tr. at 271 (Wood testimony).

rules, the ALJ recommends that the application be denied. If the permit is issued, however, the ALJ recommends that it include a requirement that the permittee will install, prior to plant start-up, a standby generator sized to provide adequate power to the facility during electrical power failures. The ALJ further recommends that the Commission adopt all Findings of Fact and Conclusions of Law in the Proposed Order on these issues.

SIGNED March 4, 2009.

SHANNON KILGORE
ADMINISTRATIVE LAW JUDGE
STATE OFFICE OF ADMINISTRATIVE HEARINGS

APPENDIX I

SOAH DOCKET NO. 582-18-3000
TCEQ DOCKET NO. 2017-1749-MWD

APPLICATION BY THE	§	**BEFORE THE STATE OFFICE**
CITY OF DRIPPING SPRINGS	§	
FOR NEW TPDES PERMIT	§	**OF**
NO. WQ0014488003	§	
	§	**ADMINISTRATIVE HEARINGS**

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SOAH DOCKET NO. 582-18-3000
TCEQ DOCKET NO. 2017-1749-MWD

APPLICATION BY THE	§	**BEFORE THE STATE OFFICE**
CITY OF DRIPPING SPRINGS	§	
FOR NEW TPDES PERMIT	§	**OF**
NO. WQ0014488003	§	
	§	**ADMINISTRATIVE HEARINGS**

PROPOSAL FOR DECISION

The City of Dripping Springs (Applicant or the City) has applied to the Texas Commission on Environmental Quality (TCEQ or Commission) for new Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0014488003. The permit would authorize the discharge of up to 822,500 gallons per day (gpd) of treated wastewater into a small tributary, Walnut Springs, which flows into Onion Creek in Hays County, Texas. The TCEQ referred the application to the State Office of Administrative Hearings (SOAH) for a contested case hearing on twelve issues. After considering those twelve issues, in light of the evidence and arguments presented by the parties, the Administrative Law Judge (ALJ) recommends that the application be approved and the permit issued.

I. PROCEDURAL HISTORY

The City filed its application for a TPDES permit on October 20, 2015. The TCEQ's Executive Director (ED) completed technical review of the application and prepared an initial draft permit. The application was declared administratively complete on December 7, 2015. The Notice of Receipt and Intent to Obtain a Water Quality Permit (NORI) was published in the *Austin American-Statesman* on December 24, 2015, and in Spanish in the *Ahora Si* in Hays County, Texas, that same day.

The Commission granted requests for a contested case hearing at an open meeting on March 7, 2018, and referred this matter to SOAH on March 12, 2018. The Commission established a six-month deadline for the proposal for decision (from the date of the preliminary hearing) and referred twelve issues, which are set out in Section II below.

The preliminary hearing was held on May 21, 2018, in Austin, Texas. After determining that proper notice had been given and that TCEQ and SOAH have jurisdiction over this matter, the presiding ALJs designated many parties. Eventually all protesting parties except Save our Springs Alliance (SOS) settled and withdrew from the case. By the time of the hearing, only the following parties remained in this case: the City; the ED; SOS; and the TCEQ's Office of Public Interest Counsel (OPIC).

The hearing on the merits convened in Austin, Texas, on August 20, 2018, and concluded on August 22, 2018. The record initially closed on September 24, 2018, with the submission by the parties of their final closing arguments, but was re-opened for the parties to submit proposed findings of fact and conclusions of law. Thus, the record finally closed on November 12, 2018.

II. THE COMMISSION'S REFERRED ISSUES

As noted above, the Commission identified twelve issues in its order referring this case to SOAH for a contested case hearing. Those twelve issues are:

A) Whether the draft permit contains sufficient provisions to prevent nuisance odors, protect the health of the requesters and wildlife in the area, and be protective of the requesters' use and enjoyment of their property;

B) Whether the discharged effluent will violate the aesthetic parameters in 30 Texas Administrative Code § 307.4(b);

C) Whether the draft permit will be protective of water quality and the uses of the receiving waters under the applicable Texas Surface Water Quality Standards;

D) Whether the proposed discharge will comply with the applicable antidegradation requirements;

E) Whether the draft permit is protective of groundwater in the area;

F) Whether the draft permit should include a requirement for biomonitoring or Whole Effluent Toxicity testing;

G) Whether the proposed treatment process can satisfy the effluent limits in the draft permit;

H) Whether the modeling analysis of the proposed effluent discharge is sufficient;

I) Whether the draft permit will protect against the creation of algal blooms;

J) Whether the Commission should deny or alter the terms and conditions of the draft permit based on consideration of need under Texas Water Code (TWC) § 26.0282, and the general policy to promote regional or area-wide systems under TWC § 26.081;

K) Whether the Applicant's compliance history raises issues regarding the Applicant's ability to comply with the material terms of the permit that warrant denying or altering the terms of the draft permit; and

L) Whether the Applicant substantially complied with all applicable notice requirements.[1]

Each of these issues is further discussed and analyzed under Section IV below. As the ALJ notes there, the evidentiary record in regard to each of these issues supports issuance of the requested permit.

III. BURDEN OF PROOF

This case arises under Senate Bill 709 (SB 709). SB 709 implemented significant changes to the contested case hearing process for permits such as the one sought in this case. Under SB 709, the TCEQ's draft permit and certain documents comprising the administrative record constitute a *prima facie demonstration* that the draft permit "meets all state and federal legal and technical requirements" and that a permit issued consistent with the draft permit "would protect human health and safety, the environment, and physical property."[2] Opposing parties have the opportunity to present evidence rebutting that prima facie demonstration.[3] If opposing parties do so, the applicant and the ED have the opportunity to present additional evidence in support of the draft permit.[4]

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[1] TCEQ's Interim Order of March 12, 2018, at 3-4.

[2] Tex. Gov't Code § 2003.047(i-1).

[3] Tex. Gov't Code § 2003.047(i-2).

[4] Tex. Gov't Code § 2003.047(i-3).

Under this analysis, there is no need to go beyond the administrative record and the prima facie presumption favoring issuance of the permit if the opposing parties present no evidence sufficient to raise a genuine concern the permit may not satisfy all applicable requirements. However, the ALJ does not believe that SB 709 shifts the burden of proof to protesting parties.

The language of SB 709 is somewhat confusing. It provides that a protesting party may rebut the prima facie demonstration by presenting evidence that "demonstrates one or more provisions in the draft permit violate a specifically applicable state or federal requirement."[5] If this is read as placing a burden of persuasion on protesting parties, then the demonstration they make would be dispositive (because it would show the permit "violates" a requirement). Then the only remedy would be to deny the draft permit or alter it in such a way as to make it compliant, and this is what the additional evidence from the ED and applicant would address. This does not appear to be the legislative intent. Rather, it appears the legislature intended for the additional evidence from the ED and the applicant to be considered for the purpose of demonstrating the draft permit would not violate applicable requirements.[6] If so, then the protesting parties' evidence would not actually prove the draft permit would "violate" a requirement. Rather, it would merely raise a genuine issue of fact as to whether the draft permit would do so. As such, SB 709 sets out a burden of production on protesting parties, not a burden of persuasion. This is how the ALJ construes the somewhat confusing language of SB 709.

As applied to this case, with regard to issues on which SOS has presented no controverting evidence at all to rebut the prima facie demonstration, the ALJ stops the analysis there. The lack of any controverting evidence on an issue means the prima facie demonstration controls and satisfies the City's burden of proof.

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[5] Tex. Gov't Code § 2003.047(i-2).

[6] Tex. Gov't Code § 2003.047(i-3) (" . . . the applicant and the executive director may present additional evidence *to support the draft permit*.") (emphasis added).

However, with regard to issues on which SOS presented controverting evidence, the ALJ generally did not conduct a linear analysis. Namely, he did not first determine whether the evidence is sufficient to rebut the prima facie demonstration, thus allowing additional evidence from the City or the ED to support the draft permit on the issue. Rather, in making his recommendation on an issue for which SOS has presented controverting evidence, the ALJ analyzed the evidence in the record regarding the issue and determined what the totality of the record, including the prima facie demonstration, shows regarding the issue. The approach used ultimately makes no difference in this case, as the ALJ concludes that the totality of the record clearly supports issuance of the permit in regard to every issue referred by the Commission. The manner of getting there is less significant.[7]

IV. DISCUSSION AND ANALYSIS

The Commission has referred twelve discrete issues to be addressed. However, many of the Commission's referred issues overlap and are intertwined. For example, SOS argues that nutrient loading from the effluent discharge will result in increased algal growth, which will also impact aquatic life in Onion Creek, a receiving stream. This argument implicates at least five different issues (A, B, C, D, and I). Thus, it was not always easy to segregate arguments and evidence by issue. The ALJ attempted to do so as much as possible, but for many issues the Commission will have to consider the entirety of the PFD when deciding them.

To assist the Commission, the ALJ briefly provides an overview of this case here and discusses the separate issues below. SOS is the only remaining party opposed to issuance of the permit. All other parties previously opposed to the permit have settled and withdrawn their opposition. The ED and OPIC both support issuance of the permit.

[7] Technically speaking, the City correctly argues it has no duty to produce evidence on an issue at the hearing if no other party has first presented evidence to rebut the prima facie demonstration. And, when analyzing the evidence after the hearing, it would be acceptable for the ALJ to conduct a linear "burden-shifting" analysis that first analyzes the controverting evidence to see if it rebuts the prima facie demonstration before turning to the City's and ED's evidence to see if it sufficiently supports the draft permit on the issue. But, this would present a much longer and less readable PFD. Legally, the ALJ sees no requirement to discuss and analyze the evidence in such a linear fashion in the PFD, provided that his discussion of the evidence reaches the same outcome that would be reached under a strict burden-shifting analysis.

SOS contends that the proposed discharge is likely to result in significant nutrient loading—especially of phosphorus and nitrogen—which will lead to degradation of water quality in Onion Creek. This degradation will purportedly result in increased algae growth, a lowering of dissolved oxygen (DO) levels, and resulting sub-lethal or lethal harm to endangered salamander species in the area. SOS claims that the water quality of Onion Creek will be dramatically lowered, with the expected discharge changing Onion Creek's current clear condition and causing its trophic state to change.

After considering the totality of the record, the ALJ concludes that SOS's concerns lack a sufficiently reliable foundation. While SOS's experts are knowledgeable in their respective fields, their expertise does not extend to the applicable standards and rules related to wastewater permitting. Rather than demonstrating that the applicable Commission rules or processes were violated, SOS's experts essentially used alternative methodologies to try to demonstrate potential problems that may result from the expected discharge under the proposed permit. However, their testimony was frequently conclusory, speculative, and based upon limited and sometimes unreliable background sources.

In a nutshell, this case boils down to conflicting conclusions between SOS's experts and the City's and the ED's experts. After considering the totality of the record, the ALJ finds the testimony of the ED's and the City's experts to be more compelling and reliable. The City's and the ED's witnesses have extensive experience with the issues and analyses involved in this case, whereas SOS's experts lack that experience. For example, Lili Murphy, one of the ED's experts who reviewed the application and made revisions to the draft permit, is an aquatic scientist with more than 19 years of experience with the TCEQ. In her employment, she has reviewed more than 2,000 wastewater discharge permits. In contrast, SOS's experts lacked experience on the applicable water quality standards and models used for evaluating the potential impact of wastewater discharges.

Moreover, SOS's experts based much of their testimony not on their own experience, but on conclusions they drew from the reports and studies of others. Such is appropriate, but their

persuasive value is outweighed by the site-specific evaluations and modeling done by the City's and the ED's experts. The testimony of the City's and the ED's experts, along with other evidence in the record, establishes that the proposed permit will satisfy the applicable water quality standards and is expected to be fully protective of wildlife, water quality, and the other concerns identified by the rules and the Commission's referred issues. Accordingly, the ALJ recommends that the permit be issued. With that general understanding, the ALJ now turns to the specific issues referred by the Commission.

A. Whether the draft permit contains sufficient provisions to prevent nuisance odors, protect the health of the requesters and wildlife in the area, and be protective of the requesters' use and enjoyment of their property.

No parties presented arguments challenging the draft permit's ability to prevent nuisance odors or to ensure protection of the requestors' use and enjoyment of their property. Rather, the arguments under this issue related solely to the draft permit's ability to protect the health of humans and wildlife. Those arguments are discussed below.

1. SOS's Arguments

SOS contends that the draft permit will not protect wildlife in the area because it has the high probability of harming endangered salamander species.[8] SOS primarily relies on the testimony of two biology professors from Texas State University, Dr. Caitlin Gabor and Dr. Westin Nowlin.[9] Both witnesses testified that they anticipate the draft permit will present a danger to the Barton Springs salamander, which was listed as an endangered species in 1997. The Barton Springs salamander inhabits the springs in and around the Barton Springs pool, and the Barton Springs segment of the Edwards Aquifer is recharged by Onion Creek. As noted, the discharged effluent will flow first into Walnut Springs and then into Onion Creek. Accordingly,

[8] SOS discusses two salamander species: the Austin Blind salamander and the Barton Springs salamander. However, the bulk of its arguments and evidence focuses on the Barton Springs salamander, so the ALJ focuses his discussion on that species. Ultimately, the ALJ concludes that neither salamander will be adversely affected if the draft permit is issued.

[9] SOS's third expert, Dr. Ross, also presented some testimony related to this issue.

SOS asserts the discharged effluent will flow into the habitat of the Barton Springs salamander, thus impacting it.

Further, SOS alleges the Barton Springs salamander has been documented in springs issuing from the Trinity Aquifer within Onion Creek.[10] Thus, even apart from the fact that Onion Creek recharges Barton Springs, SOS asserts the discharged effluent will impact the Barton Springs salamander. SOS alleges that the discharge allowed under the draft permit will add significant amounts of phosphorus and nitrogen to Onion Creek, thus increasing the growth of algal blooms in the stream. According to SOS, the growth will have lethal or sub-lethal effects on the salamander, including lowering DO levels to an unsafe level for the salamander.[11]

TCEQ's implementation procedures (IPs) address endangered species and sensitive ecosystems,[12] and SOS asserts these provisions require the ED to do a more detailed analysis in a situation such as this where there may be an unusually sensitive aquatic ecosystem or where endangered species may be impacted. SOS alleges that the ED did not do any additional analysis even though it was called for under the IPs.

SOS also argues that the standards utilized by the ED are inadequate for measuring the impact upon endangered species. The ED used monthly or daily averaging to measure levels such as DO, which SOS contends can obscure short-term DO overloads or shortages that can harm sensitive species like salamanders. As such, SOS disagrees with the City and the ED that the minimum DO criterion of 5.0 milligrams a liter (mg/L) is adequate to protect the endangered salamanders, and argues that more analysis is needed regarding the DO fluctuations and likely impact of the effluent discharge. SOS presented evidence indicating that DO concentrations could drop below 2.0 mg/L, which can be lethal to salamanders.[13]

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[10] SOS Ex. 5 at 10 and attached Exhibit C; SOS Ex. 19; Ex. APP-4-02 at 80.

[11] SOS Ex. 5 at 11-12.

[12] Ex. ED-LM-3.

[13] SOS Ex. 13 at 17.

In addition to the impact upon DO levels, SOS asserts the effluent discharge may increase phosphate levels up to 30 times the existing background concentration,[14] thus creating a toxic condition for salamanders and other aquatic organisms. Dr. Nowlin's testimony focused to a great degree on the likelihood that total phosphorus (TP) would increase significantly under the proposed discharge. He stated that this increase would have significant harmful effects—including an increase in algae growth, a decrease in water quality, and a detrimental impact to the sustainability of aquatic life.[15]

SOS also takes issue with the flow rate used by the ED in its modeling. Under applicable modeling guidance, a harmonic mean flow is determined for all perennial streams and streams that are intermittent with perennial pools.[16] In this case, the ED used a harmonic flow rate of 1.44 cubic feet per second (cfs) for Onion Creek.[17] SOS contends this is well above the flow rates displayed in other TCEQ data for Onion Creek. Specifically, SOS cites to TCEQ data showing 30 years of flow data from four gaging stations on Onion Creek. For those four gaging stations, the harmonic mean flows are 0.79 cfs, 0.24 cfs, less than 0.10 cfs, and 0.61 cfs.[18] SOS argues that using a higher flow rate in modeling results in greater apparent dilution of pollutants than will actually occur, resulting in the prediction of less harmful effects than will occur if the effluents are discharged and a lower flow rate exists in reality. SOS notes similar discrepancies in the flow rates used for Onion Creek in regard to other modeling done for the draft permit as well. With these unexplained differences in the flow rates used by the ED in the modeling, SOS argues that the draft permit has not been shown to protect human and wildlife health.

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[14] SOS Ex. 5 at 11; SOS Ex. 7 at 24-25.

[15] SOS Ex. 13 at 10-17.

[16] Ex. ED-LM-3 at 81. The harmonic mean flow is a measure of average flow in a water course calculated by applying a specific equation using individual flow measurements. 30 Tex. Admin. Code § 307.8(29). The use of the harmonic mean flow is intended to reduce the potential skewing effects of outlier data.

[17] Administrative Record (AR), Tab G at 3, 10.

[18] Ex. ED-LM-3 at 223.

2. The City's Arguments

The City disputes the reliability of the studies and data relied on by SOS in arguing the threat to wildlife posed by the discharge. The City points out that the proper permitting standards designed to ensure protection of wildlife have already been set by the state, and those standards are what govern—not studies that apply different standards or analyses. Thus, the City asserts that if the draft permit is shown to satisfy the Texas Surface Water Quality Standards (TSWQS), aquatic life will be protected.

The City also takes issue with the reliability of SOS's witnesses Dr. Gabor and Dr. Nowlin, pointing out that they both conceded they had reviewed only portions, and not the entirety, of the draft permit. Accordingly, the City argues that they are not in a position to testify as to its ability to satisfy applicable requirements because they are not familiar with all of its terms. The City also points to the fact that another of SOS's experts, Dr. Lauren Ross, admitted she was not a biologist or an expert in biology. As such, the City contends that her testimony on this and other issues related to biology is unreliable and not persuasive.

The City argues that Dr. Nowlin's opinions on the increased loading of phosphorus may not be relied upon because he testified that "one of the essential parts of [his] calculations relies on samples that [he] took . . . [to] the Aquatic Ecology Lab."[19] That laboratory is not accredited by the National Environmental Laboratory Accreditation Program (NELAP).[20] TCEQ rules require that an environmental testing laboratory must be accredited according to NELAP if the laboratory provides analytical data used for a Commission decision relating to a permit (among other things).[21] Thus, data from a non-accredited lab may not be relied upon by the Commission in deciding whether to issue a permit, unless certain exceptions apply.[22] None of the exceptions apply to this case.

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[19] Transcript (Tr.) at 527; SOS Ex. 13 at 11.

[20] Tr. at 527.

[21] 30 Tex. Admin. Code § 25.4(a)(1).

[22] The exceptions are found in 30 Texas Administrative Code § 25.6.

The City's witness, Dr. James Miertschen, testified that a NELAP-certified lab would use only the level of quantification in its measurements. When applying those standards used by a NELAP-certified lab, he found that the background TP in Onion Creek averaged 0.049 mg/L,[23] which is more than double Dr. Nowlin's estimate that it was much less than 0.02 mg/L for the majority of the time. Thus, Dr. Nowlin's conclusions are not only improper because they come from a non-NELAP-certified lab, but they are also skewed because his methodology was not consistent with that used by NELAP-certified labs.

The City also contends that Dr. Ross's calculations were based on erroneous background data. Specifically, for her modeling, Dr. Ross determined background TP in Onion Creek to be .005 mg/L normally, and .044 mg/L for a storm event.[24] However, she obtained this background concentration from information supplied by the City of Austin, which was based on data from a single date of March 12, 2014.[25] She used this single data point rather than the 30 years of data contained in the TCEQ's database for Onion Creek.[26] The City argues this shows that her calculations are unreliable, as it was improper for her to base her opinions on modeling that relied on a single data sampling point, rather than years of data compiled by the TCEQ. Dr. Ross also did not look at any of the City's collected data regarding background concentrations in Onion Creek in forming her opinion.[27] Further, the City claims that she misconstrued the data collected by the City of Austin on which she relied, misunderstanding what was reflected by some of the data points that were below the practical quantification limit (PQL). Namely, the City's expert, Dr. Miertschen, testified that the values displayed as less than the PQL of 0.02 mg/L were estimates and not precise measurements, and Dr. Ross was mistaken to use the lower level of .008 mg/L (which was the level of detection, but which was not utilized to give

[23] Ex. APP-12 at 3. In its closing arguments, the City erroneously states the number as 0.49 mg/L, but the evidence reflects it as 0.049 mg/L.

[24] Tr. at 476.

[25] Tr. at 475.

[26] Tr. at 479.

[27] Tr. at 480.

precise measurements at amounts below 0.02 mg/L).[28] The City argues that this further erodes the reliability of Dr. Ross's testimony.

Similarly, the City challenges the reliability of Dr. Gabor, who based her opinions on the analyses by Dr. Ross and Dr. Nowlin. The City points out that Dr. Gabor performed no underlying calculations herself, but based her opinions on the calculations of Dr. Ross and Dr. Nowlin. Thus, if their calculations are unreliable, Dr. Gabor's testimony is necessarily unreliable as well.

The City also presents more detailed criticisms of the opinions of each of SOS's witnesses, but the ALJ will discuss those concerns more in the analysis section when discussing the evidence, rather than here.

3. The ED's Arguments

The ED asserts that the draft permit contains very stringent effluent limits—limits that are more stringent than those required under the Edwards Aquifer Rule[29] or those specific to Onion Creek and its tributaries in the Colorado River Watershed Rule,[30] which are among the most stringent effluent limits contained in any watershed rule in the state. According to the ED, these stringent effluent limits will ensure that both human health and aquatic wildlife will be protected from harm.

The ED disputes that its harmonic flow calculations were incorrect. First, the ED notes that SOS presented no evidence on this issue nor questioned the ED's witnesses at the hearing regarding the harmonic mean flow used. Accordingly, the ED contends the prima facie demonstration has not been rebutted. Regardless, the ED states that it based the harmonic flow rate on data from 2002 to 2012 collected from Surface Water Quality Monitoring (SWQM)

[28] *See* Tr. at 634-638.

[29] 30 Tex. Admin. Code § 213.6.

[30] 30 Tex. Admin. Code § 311.43.

station 12454, which is upstream of the of the point of discharge. The ED notes that when determining critical conditions, it uses a hierarchy of flow sources, including United States Geological Survey (USGS) gages both up and downstream of the outfall, upstream dischargers, and SWQM stations. In this case, none of the four gaging stations noted by SOS were upstream of the discharge point. In fact, the closest USGS gage is 20 kilometers downstream from the discharge point. In calculating the 1.44 cfs flow rate, the ED used the SWQM station data and removed zero flows.

The ED also explains the other flow rate calculations, noting that the most conservative values were generally used by the ED's staff in determining critical conditions. Under the circumstances, and with a lack of controverting evidence in the record, the ED asserts there is no basis for remanding this matter to the ED for further explanation of the flow rate calculations.

The ED notes that, because of the potential impact upon the endangered salamander species, the application was sent to both the United States Environmental Protection Agency (EPA) and the United States Fish and Wildlife Service (USFWS) for review.[31] Although EPA initially objected to the application, it later withdrew its objections after the concerns it raised were addressed.[32] Similarly, USFWS submitted comments, which were addressed by the ED.[33] The ED asserts that its analysis of the application was proper and ensures that discharges under the permit will not harm human health or wildlife.

4. OPIC's Arguments

OPIC asserts that the weight of the evidentiary record supports a finding that the draft permit will protect water quality and the use of the receiving water—and thus will protect humans and wildlife, including salamanders. Therefore, OPIC supports issuance of the permit.

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[31] Ex. ED-LM-1 at 14-15; Ex. ED-JC-1 at 10-12.

[32] Ex. ED-JC-1 at 11.

[33] Ex. ED-JC-1 at 12.

5. The ALJ's Analysis

After considering the evidence and arguments presented, the ALJ finds the draft permit contains sufficient provisions to prevent nuisance odors, protect the health of the requesters and wildlife in the area, and be protective of the requesters' use and enjoyment of their property. No controverting evidence was presented regarding nuisance odors or the use and enjoyment of property. Therefore, the prima facie demonstration of the administrative record has not been rebutted and no further analysis is necessary on those issues. The ALJ's discussion is therefore limited to the draft permit's impact on the health of the requesters and wildlife in the area.

In regard to the ED's harmonic flow calculations, the ALJ finds that there is no basis for finding the ED's calculations incorrect. Under SB 709, the administrative record establishes a prima facie demonstration of the sufficiency of the draft permit, which would include the modeling and other calculations used to support it. SOS has presented no evidence to demonstrate that the flow calculations are wrong. Rather, it merely cites to other TCEQ data as being inconsistent and asserts that such inconsistency requires a remand for further explanation and justification. The ALJ disagrees. Under the legal framework of this case, it was incumbent on SOS to do more than merely identify concerns or supposed inconsistencies in the modeling. Instead, SOS was required to present evidence sufficient to rebut the prima facie demonstration. It has not done so on this issue. Therefore, the ALJ concludes the prima facie demonstration supports the ED's modeling. Moreover, in its closing arguments, the ED persuasively explained how the flow rate calculations were performed and the ALJ finds the ED's explanation sufficiently addresses SOS's concerns.[34]

In regard to the danger presented to salamander species, the ALJ finds the evidence presented by SOS to be unreliable, whereas the evidence presented by the City and the ED satisfies applicable TCEQ criteria, is reliable, and demonstrates the permit will protect wildlife

[34] The ALJ recognizes that the ED's statements in closing briefing are not "evidence" per se. However, by not presenting controverting evidence on the issue, not questioning the ED's witnesses at the hearing on the issue, and not raising the issue until closing arguments, SOS negated the ED's ability to address this concern in the evidentiary record. Thus, the ALJ takes the ED's explanations in closing arguments as similar to judicial admissions by the ED.

species. Although not the exclusive basis of its arguments, much of SOS's evidence is based on its experts' opinion that the effluent discharges under the draft permit will increase nutrient loading in Onion Creek to unsafe levels, which also will bring DO levels down to unsafe levels, thus presenting harm to salamander species.

First, the ALJ notes the evidence indicates the permit will comply with the TSWQS, as the ED has implemented them through the IPs. The TSWQS are designed to ensure that the waters of the state will not be toxic to aquatic life. Thus, compliance with the TSWQS is generally protective of all aquatic life.

To the extent that overloading of TP or total nitrogen (TN) could be harmful to salamander species, the ALJ concludes that the evidence proffered by SOS is speculative and outweighed by the evidence offered by the City. In its closing arguments, SOS did not argue in detail that nitrogen levels could endanger salamanders, but at least one of its experts asserted that in her testimony.[35] However, the ALJ finds that there is no persuasive evidence in the record demonstrating this potential harm. The City's evidence indicates that nitrogen at permitted levels will be protective of salamander species. Of particular relevance, the Crow Study[36] specifically evaluated the response of salamanders to nitrogen. Two of the City's witnesses, Dr. Michael Forstner and Dr. Miertschen, reviewed the Crow Study and testified that it indicated that salamanders will not be sensitive to the concentrations of nitrate associated with the effluent authorized by the draft permit.[37] SOS argues that the Crow Study was based on a small sample size, looked only at lethal impacts (ignoring sub-lethal impacts), and had other limitations. While SOS's points may have some validity regarding the Crow Study's shortcomings, it—coupled with the testimony of Dr. Forstner and Dr. Miertschen—is still the most reliable evidence in the record regarding nitrogen's impact upon salamanders.

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[35] SOS Ex. 5 at 11.

[36] Ex. APP-4-03

[37] Ex. APP-10 at 37; Ex. APP-4 at 10-12. For purposes of this PFD, nitrate and nitrogen are interchangeable terms.

In contrast, Dr. Gabor's limited opinion was conclusory and unsupported by specific data or studies indicating a genuine threat to salamanders from the nitrogen levels anticipated under the authorized discharges in the draft permit. In fact, one of the studies cited by SOS actually supports the conclusion that the additional nutrients associated with wastewater can be beneficial to aquatic life use in streams with low background nutrient levels. Specifically, the Mabe Report[38] concluded the following:

> Benthic invertebrate ALU [aquatic life use] scores generally were High to Exceptional in study streams despite the influence of urbanization or wastewater. Reductions in ALU scores appeared related to low flow conditions and the loss of riffle habitats. *Benthic invertebrate ALU scores and several of the metrics used to compute composite ALU scores tended to increase with increasing total nitrogen concentrations*. These positive relations likely are caused by nutrient enrichment increasing productivity in what are naturally low nutrient streams.[39]

The report goes on to discuss the positive impact of wastewater on aquatic life in providing "nutrient enrichment" and "consistently stable streamflow," which led to greater "species richness."[40] As such, the mere increase in TN does not automatically cause harm to aquatic life.

Given the weight of the evidence, especially the testimony of the City's and the ED's witnesses and the Crow Study, the ALJ concludes that the record demonstrates that the nitrogen levels expected under the draft permit will not be harmful to humans or aquatic life.

Next, the ALJ turns to the TP levels expected under the draft permit. This is where SOS's experts focused the bulk of their testimony. The draft permit limit for TP is 0.15 mg/L. Dr. Nowlin opined that at this discharge level, the ambient concentration of TP would more than triple, from .008 to .029 mg/L.[41] Dr. Nowlin then cited studies which he claims indicate that a criterion of .02 mg/L or less is required to maintain natural algal assemblages not composed of

[38] SOS Ex. 7, attached Exhibit O.

[39] SOS Ex. 7, attached Exhibit O at 35 (emphasis added).

[40] SOS Ex. 7, attached Exhibit O at 36.

[41] SOS Ex. 13 at 12.

weedy and nuisance algal species and to limit densities of invasive fishes.[42] Dr. Nowlin continually used this .02 mg/L threshold in discussing the limit at which harm might likely occur from TP. Because he found that discharges of 0.15 mg/L TP would change the ambient concentration of TP in Onion Creek above the .02 mg/L threshold, he concluded there is the potential for significant increase in nuisance algae and a decrease in water quality, both of which will harm aquatic life.

The studies relied on by Dr. Nowlin do not fully support his position, however. For example, the King (2009b) report[43] cited by Dr. Nowlin simply identifies .02 mg/L TP as the point at which a biological response will occur "needing further investigation to establish thresholds for nutrient management."[44] It does not conclusively establish that TP level as an absolute threshold of the types of harms expressed by Dr. Nowlin, but merely a point at which further investigation is needed. That investigation was conducted by both the City and the ED, and their experts determined that the level of TP will be protective of the existing aquatic life. The King (2009b) report also discusses a much higher level of TP at which the stream may begin to exhibit characteristics of "poor water quality." Specifically, the report states that "Streams exceeding 200-500 μg/L [0.2 to 0.5 mg/L] may represent another threshold of biological response, with more consistent nuisance algal growth and additional losses of algal, macroinvertebrate and fish species and replacement with species associated with poor water quality."[45] This threshold of 0.2 mg/L identified in the King (2009b) report is higher than the 0.15 mg/L limit for TP in the draft permit and much higher than Dr. Nowlin's expected ambient level of .029 mg/L TP in Onion Creek with the anticipated discharges.

Thus, the King (2009b) report identifies two thresholds of biological response: (a) 0.02 mg/L TP, at which the stream may experience some changes that could impact aquatic life and result in a higher potential for algal growth, thus necessitating further investigation, and

[42] SOS Ex. 13 at 12.

[43] Ex. APP-14.

[44] Ex. APP-14 at 73.

[45] Ex. APP-14 at 73.

(b) 0.20 mg/L TP, which is the point at which "more consistent nuisance algal growth" and aquatic life species "associated with poor water quality" are expected. The draft permit limit for TP is below this second threshold associated with expected nuisance algae and poor water quality, and the ambient concentrations of TP calculated by Dr. Nowlin in light of the draft permit's TP limit are only slightly above the first threshold that necessitates further investigation. The City's and ED's experts conducted this further investigation and concluded that expected TP levels will not present a danger to aquatic life, and the ALJ finds their testimony reliable.

Lastly, the ALJ turns to DO levels. The City has presented voluminous compelling evidence that the DO levels required by the draft permit will protect aquatic life, including salamanders. The draft permit requires 6.0 mg/L minimum DO, a maximum 5-day carbonaceous biochemical oxygen demand (CBOD) of 5.0 mg/L, and an ammonium nitrogen limit of 1.2 mg/L. These standards were developed to maintain the existing Onion Creek DO standard of 5.0 mg/L even at the location of maximum potential impact, which is approximately 19 miles upstream of the edge of the Edwards Aquifer recharge zone.[46] The Barton Springs Edward Aquifer Conservation District's Habitat Conservation Plan notes that "salamanders exposed to DO concentrations at or higher than 4.4 mg/L are not expected to be adversely affected."[47] Given the distance to the Edwards Aquifer recharge zone from the maximum potential impact of the effluent discharge and the draft permit requirements designed to maintain DO levels at or above 5.0 mg/L, the evidence clearly indicates that DO levels are not expected to be impacted in a way detrimental to salamanders. This conclusion is supported by numerous expert witnesses.[48]

Dr. Nowlin's speculation that DO levels might drop at times below 2.0 mg/L is unsupported, and he provided no explanation or detailed support for this bare assertion.[49] He speculated it could happen, but even one of SOS's other experts, Dr. Ross, testified that the DO

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[46] Ex. APP-7 at 18.

[47] Ex. APP-7 at 18; Ex. APP-4-02 at 98-99.

[48] Ex. APP-4 at 8-9 (Dr. Forstner); Ex. APP-7 at 18 (Mr. Price); Ex. APP-9 at 12-14 (Mr. Callegari); Ex. ED-JC-1 at 15 (Mr. Centeno); Ex. ED-LM-1 at 16, 30 (Ms. Murphy).

[49] At the hearing, no party asked Dr. Nowlin about this and he provided no further justification for this assertion.

levels in the draft permit were acceptable.[50] Thus, the ALJ finds Dr. Nowlin's statement in this regard to be unpersuasive. Similarly, the ALJ finds no authority for Dr. Nowlin's contention that DO should be analyzed more frequently than the daily and monthly analysis that was done. There is no regulatory requirement for more frequent analysis and, beyond his speculation, the evidence does not indicate that such is necessary to ensure protection of the salamander species involved.

After considering the totality of the evidence, the ALJ concludes that the draft permit contains sufficient provisions to prevent nuisance odors, protect the health of the requesters and wildlife in the area, and be protective of the requesters' use and enjoyment of their property. The ED did the required analysis to ensure protection of the endangered salamander species, and the EPA subsequently withdrew its prior objections to the proposed permit. The draft permit limits satisfy the TSWQS, which are designed to protect aquatic life. The totality of the evidence simply does not justify a finding that the permit will present a danger to humans or aquatic life, and no evidence has been presented regarding nuisance odors or use and enjoyment of property.

B. Whether the discharged effluent will violate the aesthetic parameters in 30 Texas Administrative Code § 307.4(b).

SOS contends that the discharged effluent will violate the aesthetic parameters set out in the rule, primarily because it is likely to lead to significant algae growth. However, SOS addresses this issue most significantly in Sections D and I, related to antidegradation and the potential for creation of algal blooms. Therefore, the ALJ will address the issue in more detail there. However, as noted in those sections, the ALJ concludes that the evidence does not indicate that the effluent discharge will result in significant algae growth and, thus, will not violate the aesthetic parameters in 30 Texas Administrative Code § 307.4(b). The ED and OPIC agree with this conclusion.

[50] Ex. APP-13 at 65.

C. Whether the draft permit will be protective of water quality and the uses of the receiving waters under the applicable Texas Surface Water Quality Standards.

As noted by SOS in its briefing, this issue overlaps with and encompasses the matters identified in Issues A, B, D, E, and I. Therefore, rather than addressing this issue in detail in its briefing, SOS cites to its evidence and arguments on those other specific issues. By way of summary, SOS asserts that the draft permit will not be protective of water quality and will not protect uses of the receiving waters under the TSWQS because it would allow significant increases in nutrient pollutants to be discharged into Onion Creek, leading to reduced DO, algae blooms, and harm to existing aquatic communities. Further, SOS asserts the Tier 1 and Tier 2 antidegradation standards would be violated and aquatic communities and sensitive species, including endangered salamanders, would be harmed; thus, existing aquatic life uses would not be protected. Finally, SOS contends that groundwater would not be protected by allowing the discharge of up to 6 mg/L TN into Onion Creek, where dye tracing has shown it will flow, allegedly with limited dilution, directly into groundwater supplies used for both public and private drinking water wells.

In contrast, the City, ED, and OPIC all assert the draft permit will be protective of water quality and the uses of the receiving waters under the applicable TSWQS. Both the City's and the ED's expert witnesses clearly testified that the draft permit complies with the TSWQS. The City points out that only one of SOS's experts, Dr. Ross, indicated she was knowledgeable and an expert in the TSWQS, yet she applied the wrong version of the IPs for those standards. Thus, the City argues her testimony should be considered unpersuasive.

Because the concerns raised by SOS in regard to this issue are subsumed in other more specific issues, the ALJ does not analyze SOS's contentions here. Rather, the ALJ analyzes the stated concerns under the issues directly related to them. However, as noted in the other sections of this PFD related to those issues, the ALJ concludes that SOS's concerns lack sufficient evidentiary support and are outweighed by controverting evidence. Accordingly, after considering the totality of the evidence, the ALJ finds that the draft permit will be protective of water quality and the uses of the receiving waters under the applicable TSWQS.

D. Whether the proposed discharge will comply with the applicable antidegradation requirements.

1. The Parties' Arguments

The Commission's antidegradation policy is set out in 30 Texas Administrative Code § 307.5(b). Under that rule, Tier 1 requires that "existing uses and water quality sufficient to protect those existing uses must be maintained."[51] Tier 2 requires that:

> No activities subject to regulatory action that would cause degradation of waters that exceed fishable/swimmable quality are allowed unless it can be shown to the commission's satisfaction that the lowering of water quality is necessary for important economic or social development. Degradation is defined as a lowering of water quality by more than a de minimis extent, but not to the extent that an existing use is impaired. Water quality sufficient to protect existing uses must be maintained.[52]

ED witness Lili Murphy testified that she performed both a Tier 1 and Tier 2 review for the proposed discharge.[53] Because Onion Creek is impaired in regard to sulfates, Ms. Murphy ensured in her Tier 1 review that the proposed discharge will not cause or contribute to the impairment.[54] The Tier 2 analysis was required because Onion Creek exceeds fishable or swimmable quality. In conducting her nutrient screening as part of the Tier 2 analysis, Ms. Murphy determined that a TP limit was needed and implemented one accordingly.[55] Otherwise, she concluded the proposed discharge complied with the applicable standards under Tier 1 and Tier 2 of the antidegradation requirements.[56]

SOS argues that the ED's antidegradation analyses were not properly conducted and that the proposed discharge will violate both the Tier 1 and Tier 2 standards. SOS argues that Tier 1

[51] 30 Tex. Admin. Code § 307.5(b)(1).

[52] 30 Tex. Admin. Code § 307.5(b)(2).

[53] Ex. ED-LM-1 at 9-17.

[54] Ex. ED-LM-1 at 30.

[55] Ex. ED-LM-1 at 18.

[56] Ms. Murphy also recommended a TN limit to address concerns regarding protection of drinking water quality. Ex. ED-LM-1 at 18.

is violated because the evidence indicates that water quality sufficient to protect existing uses will not be maintained. But, SOS focuses the bulk of its arguments on Tier 2. SOS notes that Tier 2 prohibits a degradation of waters unless such is necessary for economic or social development. Degradation is defined as "a lowering of water quality by more than a de minimis extent."[57] SOS asserts that degradation will occur because TP and TN loading of Onion Creek will increase significantly, *i.e.*, more than a de minimis amount, under the draft permit, and DO levels will be reduced significantly, again more than a de minimis amount. Therefore, SOS argues that degradation will occur, and this is only permissible upon a showing that such is necessary for important economic or social development—which has not been shown by the City in this case.

SOS also argues that the discharge will change the quality of Onion Creek from an "oligotrophic stream" with low nutrient concentrations, low algae growth, and high clarity, to a lesser quality trophic designation, based on the high nutrient loading that is likely to occur from the discharge.[58] According to SOS, this change is more than de minimis and thus must be evaluated as such under the TCEQ's antidegradation policies.

The City asserts that the prima facie demonstration from the administrative record, as well as the testimony of the ED's witness, Ms. Murphy, establishes that a proper antidegradation review was conducted and the proposed discharge will comply with the applicable antidegradation requirements. The City contends that SOS has presented no reliable evidence to the contrary, and simply arguing that Ms. Murphy's analysis was incorrectly done is not enough to overcome the prima facie demonstration.

In regard to SOS's evidence, the City points out that both Dr. Nowlin and Dr. Gabor admitted to lacking prior expertise with the TSWQS. Dr. Gabor testified that she had "not

[57] 30 Tex. Admin. Code § 307.5(b)(2).

[58] There are essentially three trophic states of streams recognized in the studies and literature: oligotrophic, mesotrophic, and eutrophic. These designations are intended to reflect the water quality in the streams (with eutrophic being the worst quality).

worked with the water quality standards to any significant degree."[59] In her deposition, Dr. Gabor admitted she could not say what the TSWQS were, was not an expert on them, and had done no analysis to determine whether the permit would be compliant with the TSWQS.[60] She also stated in her deposition that she was not going to testify on whether the proposed discharge would comply with the applicable antidegradation requirements.[61] However, after a break in the deposition and consultation with counsel for SOS, she reversed that statement and indicated that she would provide testimony related to that issue, even though she could not identify the applicable antidegradation requirements.[62] Given this prior testimony from Dr. Gabor, the City asserts that her testimony on this issue is unreliable and should be given no weight, because she is clearly not an expert on the antidegradation requirements.

Similarly, Dr. Nowlin testified that he had "not worked in a significant way with the water quality and antidegradation standards."[63] In his deposition, he testified that he was not an expert in the application of the TSWQS and was not going to testify whether the permit complied with the TSWQS.[64] But, like Dr. Gabor, he later modified his testimony and indicated that his testimony might address some of the antidegradation standards, even though he admitted he was not an expert in the Tier 2 assessment and could not testify as to how it should be conducted.[65] Given his statements, the City argues that his testimony is not reliable on this issue, because he also lacks the necessary expertise.

The City also argues that SOS's only other expert, Dr. Ross, lacks the necessary expertise to address this issue. The City notes that Dr. Ross applied the wrong IPs (the implementation procedures) for the TSWQS. Specifically, in conducting her analysis and rendering an opinion, Dr. Ross applied the 2012 IPs, which have never been adopted. Rather, the 2003 and 2010 IPs

[59] SOS Ex. 5 at 11-12.

[60] Ex. APP-16 at 19.

[61] Ex. APP-16 at 20.

[62] Ex. APP-16 at 34-36.

[63] SOS Ex. 13 at 17.

[64] Ex. APP-15 at 16-17.

[65] Ex. APP-15 at 73.

are the applicable IPs, as they are the only ones that have been adopted.[66] Further, although Dr. Ross indicated she had expertise in regard to the TSWQS and the antidegradation analysis, the City points out that her past experience is limited to one project, for which she could not remember the details.[67] The City contends there is an insufficient basis to qualify her as an expert, especially because she did not apply the correct IPs. Based on this, the City asserts that her testimony lacks persuasive value. And, because all of SOS's experts allegedly lack the necessary expertise, their testimony on this issue allegedly is not reliable and does not rebut the prima facie demonstration.

In addition to the City, both the ED and OPIC conclude that a proper antidegradation analysis was performed. They argue that it shows that the proposed discharge will comply with the applicable antidegradation requirements.

2. The ALJ's Analysis

After considering the evidence and arguments, the ALJ finds the proposed discharge will comply with the applicable antidegradation requirements. In reaching this conclusion, the ALJ notes that SOS misinterprets the applicable antidegradation rule. SOS asserts that the increases in TP and TN and the change in DO are more than a de minimis amount. This, however, is not the standard. Rather, the standard for degradation is whether there is "a lowering of water quality by more than a de minimis extent."[68] The mere increase in TP or TN, standing alone, does not establish a lowering of water quality.[69] In fact, as discussed previously, some studies have shown that wastewater can have a beneficial effect on low-flow, low-nutrient streams by bringing more regularity to the flow and by increasing nutrients that can benefit aquatic life.

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[66] Ex. ED-LM-1 at 7; Tr. at 498.

[67] Ex. APP-13 at 26.

[68] 30 Tex. Admin. Code § 307.5(b)(2).

[69] Certainly, increases of those nutrients may be the primary factor in lowering water quality (and a primary indicator of lower water quality), but a mere increase, standing alone without additional evidence of its specific impact, does not equate to a lowering of water quality.

Accordingly, it is not enough to show that TP or TN might be impacted by more than a de minimis amount; rather, it must be shown that those changes to TP and TN then result in a lowering of water quality by more than a de minimis amount. For example, if background TP is .002 mg/L and the discharge would raise that level to .006 mg/L, this would be a tripling of TP levels—which is clearly more than de minimis. But, the impact on water quality from such a change in TP may be negligible, because both .002 mg/L and .006 mg/L may be extremely low. As such, there would be no degradation under the rule, even though the change in TP level is arguably more than de minimis, because there is no significant (*i.e.*, more than de minimis) lowering in water quality. Or, the evidence could show that the addition of TN or TP might have beneficial effects on the water body. So, ultimately, the issue is whether the evidence demonstrates more than a de minimis lowering of water quality. The ALJ concludes that SOS's evidence does not make this showing.

SOS cites to the EPA's Water Quality Standards Handbook for the contention that any new discharges or expansion of a wastewater facility would presumably lower water quality.[70] However, such a broad generalization is not supportable. The determination of a lowering of water quality must be based upon evidence demonstrating such, not a presumption that a certain type of activity will *always* lower water quality. The ALJ construes that statement in the EPA handbook to be a generality and not a requirement that important economic and social development needs must be shown in every wastewater permit application (which would be the case if the ALJ were to read the handbook as SOS asserts it should be read). Thus, the ALJ finds that the evidence must first demonstrate a lowering of water quality that is more than de minimis before the Tier 2 requirement kicks in to show the existence of important economic and social development needs.

SOS has not presented evidence showing that the ED incorrectly applied the IPs in conducting the antidegradation review. None of SOS's experts have any meaningful experience with the TCEQ's antidegradation policies. Two of SOS's witnesses acknowledged their lack of experience, and one (Dr. Ross) stated that she was familiar with the policies from one prior case,

[70] SOS's Closing Argument at 13-14.

but could provide no details about that case or even its outcome.[71] This limited experience does not establish Dr. Ross as an expert in the appropriate antidegradation review. The Commission has framed this issue as whether the proposed discharge "will comply with the applicable antidegradation requirements." These requirements are set out by the TCEQ, and the ED's expert, Ms. Murphy, is the witness most knowledgeable on them, having worked at the TCEQ for 19 years and reviewed more than 2,000 wastewater permits. While arguing with her approach generally, SOS's experts do not point to any clear, specific errors in Ms. Murphy's review. Rather, SOS's experts attempted to conduct an alternative review to demonstrate there will be a lowering of water quality. The ALJ finds that analysis to be lacking, however.

Part of the analysis relied upon by SOS's experts is based upon the assimilative capacity of Onion Creek. SOS notes that the TCEQ has used a 10% threshold in regard to assimilative capacity in its IP documents to determine whether there will be degradation. Namely, if a new discharge will use 10% or greater of the existing assimilative capacity of the stream, further evaluation is required.[72] The IPs provide a method for calculating this 10% threshold, but go on to state that "[t]his screening procedure is not applicable to dissolved oxygen, pH, or temperature. The screening procedure for nutrients is explained in a previous chapter of this document in the section entitled 'Nutrients.'"[73] Thus, the IPs do not apply the stated 10% assimilative capacity threshold analysis to DO, TP, or TN impacts, but rather use a different screening procedure.[74] SOS argues this 10% threshold should serve as a good measurement of what is considered "de minimis," but the ALJ finds that such a conclusion is not warranted, as nothing in the Commission's rules or guidance require it or apply it in the way SOS seeks to apply it. Therefore, SOS's evidence regarding the impact of the proposed discharge on Onion Creek's assimilative capacity for TN and TP is not relevant to the antidegradation analysis.

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[71] Contrary to SOS's assertion, the ALJ does not see SOS's experts' lack of experience with the antidegradation policies as merely a lack of legal knowledge of a rule. Those policies represent practical environmental procedures.

[72] Ex. ED-LM-3 at 63-64.

[73] Ex. ED-LM-3 at 64.

[74] Ex. ED-LM-3 at 26, *et seq.*

Moreover, the ALJ finds SOS's assertions regarding the trophic state of Onion Creek to be irrelevant to the analyses required in this case. The TCEQ's rules and IPs do not address a stream's trophic classification in the antidegradation policies.[75] In fact, the very use of trophic state designations is rather arbitrary. The evidence demonstrates that when the trophic state categorizations were developed, they were not based upon meeting certain defined standards, but were simply delineations based upon "thirds." Namely, the broad spectrum of water bodies that were studied were lumped together and then divided into three equal groups based upon their characteristics, with the delineations marked as oligotrophic, mesotrophic, and eutrophic in the original study underlying these designations.[76] The distinction between the stream at the highest end of the oligotrophic designation and the lowest end of the mesotrophic designation is not based upon specific differentiating characteristics, but simply where they fell in the overall spectrum of streams studied. If three more streams had been included in the data, all falling at the higher end of the overall range, the lowest mesotrophic stream would likely have been categorized as oligotrophic based not on any change in its characteristics, but simply where it fell in the spectrum of overall streams. The boundaries for the trophic categories were then based upon this division, and not upon specific defining characteristics. As such, the ALJ finds that the mere change in trophic state alone, based upon those categorizations, does not equate to a lowering of water quality necessitating a Tier 2 review.

Furthermore, the trophic boundary limits were actually based upon the mean levels of the identified nutrients. So, for example, the oligotrophic boundary of .025 mg/L of TP is the mean or "average" for the oligotrophic group.[77] Thus, even in the oligotrophic group, there will be streams with higher TP levels than .025 mg/L, as that level is not the maximum for the group, but simply the mean.[78] Therefore, even if Onion Creek does have ambient TP levels of

[75] Tr. at 602-03. While the TCEQ's screening procedures look at the potential for "eutrophication" (an excessive amount of nutrients in a water body), this is different from assigning a trophic state designation and evaluating for changes in trophic states generally.

[76] Tr. at 482-84.

[77] Tr. at 630-31.

[78] Tr. at 631.

.029 mg/L, this does not mean it automatically would no longer be considered oligotrophic, according to the original study underlying such classifications.

Even the guidance from the EPA discusses trophic state designations as simply guidance and a starting point for states to use when considering how to implement the Clean Water Act (CWA).[79] Texas has adopted its own methods for implementing the CWA, and EPA has accepted those methods; they do not include trophic state characterizations or analyses as part of the review. Therefore, the ALJ concludes that the alleged change in trophic state that SOS asserts will occur has not been adequately demonstrated to occur and, even if it had, is not a determinative consideration in evaluating whether the proposed discharge will comply with the applicable antidegradation requirements.

The ALJ also finds unpersuasive SOS's contention that Dr. Miertschen's own calculations showed more than a de minimis lowering of DO levels, thus demonstrating degradation. SOS points to the fact that Dr. Miertschen reported base line DO levels in Onion Creek between 6.89 mg/L and 8.42 mg/L, with a background DO level at critical temperature of 6.44 mg/L.[80] His DO modeling estimated a low, 24-hour average of 4.87 mg/L.[81] SOS argues this change of more than 1.0 mg/L in DO levels is clearly more than de minimis and is a situation in which the TCEQ's guidance documents indicate "degradation is likely to occur," citing the TCEQ's own IPs.[82]

However, the example cited in the TCEQ's documents is for a "water body that has exceptional quality aquatic life and a relatively unique and potentially sensitive community of aquatic organisms."[83] SOS concedes that Onion Creek is rated "high" and not exceptional; thus the example does not directly apply. Moreover, as noted previously in this PFD, even SOS's own expert, Dr. Ross, conceded that the DO limits in the draft permit are acceptable. While the

[79] Tr. at 484-85; SOS Ex. 7, attached Exhibit Q at iii and 27.

[80] AR, Tab C, Miertschen Technical Memorandum at 4.

[81] AR, Tab C, Miertschen Technical Memorandum at 8.

[82] Ex. ED-LM-3 at 66.

[83] Ex. ED-LM-3 at 66.

change in DO levels may be significant in SOS's opinion, they have not been shown to correlate to a lowering of water quality by more than a de minimis amount. Again, the evidence discussed in Section IV.A shows that the DO levels in the draft permit are protective of aquatic life, and any changes have not been demonstrated to constitute a *lowering of water quality* in a significant way, which is the focus of a Tier 2 antidegradation review.

Ultimately, the ALJ concludes that the ED conducted the proper analysis under the antidegradation requirements in the TCEQ rules. In contrast, SOS's experts do not have expertise on those requirements and did not conduct their analysis consistent with the Commission's antidegradation requirements and applicable IPs. After considering the persuasive evidence in the record, and the prima facie demonstration established under the law, the ALJ finds the proposed discharge will comply with applicable antidegradation requirements.

E. Whether the draft permit is protective of groundwater in the area.

SOS presented one witness directly on this issue, Dr. Ross, who testified regarding the connection between surface water and groundwater in the area. However, while she expressed concern about the possibility of contamination, she did not provide any analysis or supporting evidence demonstrating that groundwater will be negatively impacted by the discharged effluent.

In its closing arguments, SOS alleges that the draft permit will not protect groundwater in the area because it will allow discharge of TN up to 6 mg/L into a stream that has baseline TN levels of approximately 0.5 mg/L, and such stream is connected to wells supplying drinking water. Thus, SOS asserts that groundwater as a drinking water supply in Dripping Springs will be substantially degraded by TN concentrations in the wastewater, especially during times of low flow when the wastewater may provide most of the flow. SOS further notes that, in the event of spills, local drinking water supplies could be seriously contaminated. SOS concedes in its briefing that "drinking water standards for TN will likely not be violated,"[84] but it argues that

[84] SOS's Closing Argument at 24.

local water well quality will be significantly degraded if the draft permit is approved and implemented.

The City argues that no evidence has been offered on this issue to rebut the prima facie demonstration established by the administrative record. Moreover, the City cites the testimony of numerous witnesses and other significant evidence in the record as demonstrating that groundwater will be protected under the draft permit.[85] Further, the City notes the draft permit does not allow "spills," so such an occurrence would violate the draft permit and should not be considered when analyzing whether "the draft permit is protective of groundwater in the area."

Both the ED and OPIC contend the draft permit is protective of groundwater in the area. Both note that the effluent limits in the draft permit are more stringent than the effluent limits in the Edwards Aquifer rules and the local watershed rules. OPIC notes that the draft permit will protect surface water quality and, because the groundwater is recharged by the surface water, the groundwater will necessarily be protected as well.

Given the lack of controverting evidence on this issue, the ALJ concludes that the prima facie demonstration from the administrative record has not been rebutted. Thus, the administrative record demonstrates that the draft permit is protective of groundwater in the area. Moreover, there is significant evidence in the hearing record to demonstrate this as well.[86] Even SOS has conceded in its closing arguments that TN levels under the draft permit are not expected to exceed drinking water standards. Thus, the totality of the record clearly establishes that the draft permit is protective of groundwater in the area.

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[85] *See* City's Closing Statement at 41 for a detailed listing of the significant evidence on this issue.

[86] Ex. ED-JC-1 at 19-20; Ex. APP-5 at 9; Ex. APP-6 at 11-13; Ex. APP-8 at 5-7; Ex. APP-10 at 49-51.

F. Whether the draft permit should include a requirement for biomonitoring or Whole Effluent Toxicity testing.

The draft permit has a design flow of less than one million gpd and will not include any significant industrial contributors.[87] Therefore, biomonitoring or Whole Effluent Toxicity (WET) testing would not ordinarily be required.[88] SOS has presented no arguments and little evidence on this issue.[89] The limited evidence presented by SOS is sparse, unsupported, and does not rebut the prima facie demonstration of the administrative record. Therefore, the ALJ concludes that the record supports a finding that there is no need to include a requirement in the draft permit for biomonitoring or WET testing. The ED and OPIC agree with this determination.

G. Whether the proposed treatment process can satisfy the effluent limits in the draft permit.

SOS has presented no evidence or arguments on this issue. Because no evidence has been presented to rebut the prima facie demonstration of the administrative record, the ALJ concludes that the record supports a finding that the proposed treatment process can satisfy the effluent limits in the draft permit.[90] The ED and OPIC agree with this determination.

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[87] Ex. ED-JC-1 at 21; Ex. APP-10 at 51-52.

[88] 30 Tex. Admin. Code § 307.6(e)(2)(A); Ex. ED-LM-3 at 102 (the IPs for TSWQS).

[89] In her prefiled testimony, Dr. Ross identified additional requirements that would apply if the draft permit allowed discharge of 1 million gpd (which it does not), and she opined it would be "important and protective to incorporate these requirements into" the draft permit. SOS Ex. 7 at 36-37. One of these requirements is WET testing. However, Dr. Ross offered no substantiating basis for her opinion other than it would provide additional protection. That something provides additional protection—without a foundational justification for why such additional protection is needed—is not a persuasive basis for requiring the additional protection. Further, in her deposition, Dr. Ross stated that she did not intend to testify on this issue. Ex. APP-13 at 79. Therefore, the ALJ concludes her testimony should be given limited weight.

[90] In addition to the administrative record's prima facie demonstration, the evidentiary record from the hearing also establishes that the proposed treatment process can satisfy the effluent limits in the draft permit. Ex. APP-3 at 5; Ex. ED-JC-1 at 21-24.

H. Whether the modeling analysis of the proposed effluent discharge is sufficient.

The ED's modeling analysis of the proposed effluent discharge was performed by James Michalk,[91] using the QUAL-TX model. In its closing arguments, SOS argues that the City has not shown that Mr. Michalk's modeling was reliable and sufficient. However, SOS has presented no evidence that Mr. Michalk's modeling analysis or the QUAL-TX model itself are deficient and unreliable for modeling proposed effluent discharge.

In closing arguments, SOS contends it is not required to present evidence because the ALJ implicitly or explicitly rejected that requirement by denying the City's motion for partial summary disposition prior to the hearing. The ALJ disagrees with SOS on this point. The ALJ's ruling was a pragmatic one, finding that prudence and efficiency warranted denying the motion because it was raised in such close proximity to the hearing. The ALJ did not make a finding there was, in fact, an issue for which evidence was required from either the City or the ED at the hearing.[92]

The draft permit creates a prima facie presumption that all applicable requirements are satisfied, warranting issuance of the permit. SOS offered no evidence to rebut this demonstration. Therefore, the ALJ finds the record establishes the modeling analysis of the proposed effluent discharge is sufficient. The ED and OPIC agree with this determination.

I. Whether the draft permit will protect against the creation of algal blooms.

This issue is addressed briefly under prior sections. However, the ALJ has reserved the bulk of the discussion of the potential for algal growth for this section.

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[91] Ex. ED-JC-1 at 24.

[92] In fact, at the prehearing conference, the ALJ stated, "I am denying that motion not on its merits but more as a matter of procedural efficiency . . . I'm going to roll this issue into the arguments that the parties present in terms of their closing briefing and will address it in the final proposal for decision." Prehearing conference transcript at 5.

SOS argues that the significant increase in TP in Onion Creek from the effluent discharge will result in a drastic increase in algae growth. SOS points to photos taken by Dr. Miertschen showing algae in Walnut Springs from an unknown source as predictive for how Onion Creek will look if the draft permit is approved. Moreover, SOS notes that even Dr. Miertschen's QUAL2K modeling indicated there would be an order of magnitude increase in benthic (bottom) algae in Onion Creek below the discharge point. Despite this, Dr. Miertschen concluded that such algae growth will not impair aesthetic values of Onion Creek. SOS disagrees with this conclusion, faulting Dr. Miertschen's assumptions. For one, Dr. Miertschen assumed a baseline flow of 0.3 cfs, which is above the TCEQ's finding that critical low flows would be 0.12 cfs. This has the effect of diluting the TP levels in Dr. Miertschen's modeling, which also then results in a prediction of lower algae growth than would occur at the lower flow rate of 0.12 cfs. Moreover, SOS points out that Dr. Miertschen ran his model for only 30 days, whereas discharges under the draft permit would essentially be continuous for many years. Thus, SOS argues that Dr. Miertschen's analysis is flawed and does not accurately predict the potential for algae growth under the draft permit.

SOS's experts, Dr. Nowlin and Dr. Ross, both testified that .02 mg/L TP is the necessary limit to maintain the natural algal assemblages and to prevent weedy and nuisance algal species.[93] They base this conclusion upon studies performed by King and Taylor.[94] Because Dr. Nowlin predicts ambient TP as being at .029 mg/L with the wastewater discharge, he concludes that algae will grow to an unhealthy extent and become a nuisance.[95] Although he acknowledges that the discharge point is approximately 500 meters upstream from Onion Creek, he noted that the record was devoid of evidence showing the assimilative capacity of Walnut Springs to handle the phosphorus discharged. He concluded that, given the short distance and the relatively small size of Walnut Springs, phosphorus would reach Onion Creek.[96] Citing a City of Austin study, he opined that discharge of treated wastewater at the proposed location will lead to elevated

[93] SOS Ex. 13 at 13-14; SOS Ex. 7 at 23-24.

[94] SOS Ex. 7, attached exhibits S and T.

[95] SOS Ex. 13 at 12-15.

[96] SOS Ex. 13 at 14-15.

phosphorus concentrations up to six miles downstream from the discharge point and increase algal concentrations to eutrophic levels.[97]

The City disputes the testimony of SOS's experts and asserts the only evidence directly addressing the potential for algae blooms was presented by the City's experts, especially Dr. Miertschen and Paul Price, an aquatic ecologist. Dr. Miertschen's QUAL2K modeling predicted nutrient concentrations and algal growth at critical low flow and temperature conditions and presuming a discharge at the full permitted effluent flow.[98] His modeling indicated that bottom algae growth will be approximately 44 milligrams of "Chlorophyll a" per square meter (mg Chl-a/m2) as an average value in the stream,[99] which, in his opinion, was "well below a visual threshold that would be deemed undesirable."[100]

Mr. Price similarly opined he did not expect any visible algal blooms to be created from the discharges.[101] He testified Onion Creek currently has low phosphorus levels because of local biological and geochemical processes that remove phosphorus from the water column in many Hill Country streams, and he noted these processes will continue to act upon the phosphorus levels in any effluent discharge.[102] He opined that SOS's experts did not account for these local conditions and processes when they conducted their "simple dilution model" of expected phosphorus levels.[103] He testified a proper analysis must account for the local conditions and, when they are accounted for, there is not expected to be algal blooms created by the discharges.

The ED notes that the TSWQS address the potential for algal growth and are designed to ensure that nutrients from permitted discharges do not cause excessive growth of aquatic

[97] SOS Ex. 13 at 14-15.

[98] Ex. APP-10 at 27.

[99] Ex. APP-10 at 30.

[100] Ex. APP-10 at 32.

[101] Ex. APP-7 at 23.

[102] Ex. APP-7 at 12-14.

[103] Ex. APP-7 at 12-14, 26.

vegetation (such as algae).[104] The IPs for the TSWQS set out the TCEQ's procedures for ensuring compliance with the TSWQS. The ED's expert, Ms. Murphy, testified that she followed the IPs and performed nutrient screening to ensure that excessive algal growth would not occur.[105] As a result of her screening, she required a strict TP limit of 0.15 mg/L be added to the draft permit, and this limit is more stringent than that required by the Edwards Aquifer rule and the Colorado River Watershed rule. Ms. Murphy concluded that this strict TP standard, coupled with the TN standard, will protect against the creation of algal blooms.[106]

OPIC supports the ED's position on this issue, finding that the ED properly considered the possibility of nutrient loading leading to algae growth and added a stringent limit for TP that is sufficient to prevent algal blooms.[107] Given the ED's nutrient screening and inclusion of a strict TP limit, as well as the other evidence in the record, OPIC asserts the weight of the evidence indicates the draft permit will protect against the creation of algal blooms.

After considering the evidence, the ALJ concludes that the draft permit is not expected to result in the creation of algal blooms. The various studies relied upon by SOS's experts do convincingly indicate that .02 to .025 mg/L TP is a point at which algae assemblage structures may be impacted and change. Below that range, the studies indicate that there will likely be synchronous declines in the frequency and cell densities of many algae species.[108] However, those studies present general parameters, and they recognize merely the possibility for change in algae frequency based upon TP levels above .02 mg/L. They do not, standing alone, mean that any ambient TP levels above .02 mg/L will automatically lead to algal blooms or nuisance algae.

As Mr. Price noted in his testimony, the changes that may occur (that are discussed by the studies) at issue in this case are relatively small, requiring a microscope to observe, and not

[104] 30 Tex. Admin. Code § 307.4(e).

[105] Ex. ED-LM-1 at 17-18, 32-33.

[106] Ex. ED-LM-1 at 32-33.

[107] Ex. ED-LM-1 at 32.

[108] SOS Ex. 7, attached exhibit T at 1, at summary point 3; SOS Ex. 7, attached exhibit S at 7.

observable in a natural setting.[109] While changes of this nature can still impact other aspects of aquatic life, this specific issue referred by the Commission addresses the potential for the creation of algal blooms—which are observable levels of algae that would be excessive and detrimental to aquatic life and create nuisance conditions. Given the relatively low predicted level of ambient TP and even using SOS's experts' simple calculations, the reports cited by those experts merely indicate that a closer evaluation is required.

In this case, the City's and the ED's experts conducted more detailed analyses and found that the expected TP levels would not lead to algae blooms. In contrast, SOS's experts simply relied upon the studies and opined that TP levels above .02 mg/L are expected to lead to algal blooms. Such is not persuasive in the face of the more detailed analyses and modeling done by the City's and the ED's experts specifically for the proposed discharge and water body involved.

Chlorophyll is a primary measure for algae.[110] Dr. Miertschen analyzed the predicted mean benthic chlorophyll, and his modeling showed the anticipated levels to be a maximum of 50 mg/m2. Dr. Ross accepted his calculations and relied on them in her testimony, and SOS offered a graph of his findings as an exhibit.[111] SOS argued that exceeding 20 mg/m2 indicated that the water body was moving to the mesotrophic category. However, on rebuttal Dr. Miertschen pointed out that, according to the oligotrophic characterization study by Dodds, the highest level of chlorophyll for the oligotrophic group was 60 mg/m2.[112] Thus, Dr. Miertschen concluded that Onion Creek, even with 50 mg/m2 of chlorophyll, would still be within the oligotrophic group.[113]

Given the evidence, the ALJ concludes SOS's experts have not persuasively shown that algal blooms will occur due to the expected effluent discharges; they have merely shown a concern exists. The ED's and the City's experts addressed this concern by conducting site-

[109] Ex. APP-7 at 25-26.

[110] Tr. at 284-85.

[111] SOS Ex. 9.

[112] Tr. at 632.

[113] Tr. at 632-33.

specific analyses and lowering the TP limit for the draft permit. The additional analyses and modeling done, especially by Dr. Miertschen, demonstrates that algal blooms are not expected to be created, and the ALJ finds that evidence to be persuasive. Therefore, the ALJ finds the discharged effluent will not result in degradation of water quality or significant algae growth.

J. Whether the Commission should deny or alter the terms and conditions of the draft permit based on consideration of need under Texas Water Code § 26.0282, and the general policy to promote regional or area-wide systems under Texas Water Code § 26.081.

SOS contends the Commission should deny the permit because the City has failed to demonstrate a need for the treatment capacity sought. The City is currently discharging about 90,000 gpd of wastewater, but the draft permit would allow discharge of 822,500 gpd. SOS alleges that the City's own expert estimated that five-year growth projections would result in the City discharging 180,000 gpd—well below the 822,500 gpd allowed under the draft permit.[114] Further, SOS notes that the City already has the permitted ability to treat up to 350,000 gpd of wastewater and then land-apply that treated sewage under a "no discharge" mandate.[115]

SOS notes that Section 402 of the CWA requires a five-year permitting cycle for state-delegated National Pollutant Discharge Elimination System (NPDES) permits as well as EPA permits, and that this five-year cycle is intentional and designed to encourage and facilitate the adoption of new technology as it becomes available. Given this, SOS argues the permitted amount should reflect the need during that time period—not the potential need decades in the future. SOS contends that there is simply no evidence warranting the discharge capacity sought to be permitted by the City in this case.

[114] Tr. at 241. In actuality, the witness estimated flows could double to 180,000 gpd or even triple (which would take them to 270,000 gpd).

[115] Tr. at 31.

The City disagrees with SOS's analysis and asserts that this five-year analysis was rejected by the Commission in a recent TPDES proceeding.[116] There, the Commission specifically made findings that (1) authorizing only the additional capacity needed in the next five years would put the applicant in a continuous cycle of applying for permit amendments; (2) waiting too long to expand discharge capacity can be detrimental to water quality; (3) planning and building capacity to treat and discharge wastewater well ahead of the need for it is prudent; and (4) where additional discharge capacity would be needed in the future, the requested increases in discharge flow were warranted.[117] Thus, the City argues that the draft permit should not be limited to just those flows that are expected in the next five years.

The City also has agreements to cancel some developers' wastewater treatment permits if this permit is issued. Specifically, the Arrowhead Development will receive wastewater treatment from the City if this permit is issued, and Hays County Development District No. 1 has agreed to cancel its wastewater discharge permit and will be receiving treatment services from the City going forward.[118] Given this, as well as future projected growth needs in the City and surrounding area, the City argues that it should be granted the discharge capacity it seeks.

In regard to this issue, OPIC and the ED both assert the draft permit should not be denied or altered based on the consideration of need. The ED has determined that the draft permit would comply with the regionalization policy set out in Texas Water Code § 26.081, and that there is a demonstrated need for the facilities and discharge rates sought by the City.[119]

After considering the evidence and arguments, the ALJ finds the Commission should not deny or alter the terms and conditions of the draft permit based on consideration of need under

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[116] *Application of New Braunfels Utilities to Amend TPDES Permit No. WQ001023200,* TCEQ Docket No. 2015-0840-MWD, SOAH Docket No. 582-16-0149.

[117] *Application of New Braunfels Utilities to Amend TPDES Permit No. WQ001023200,* TCEQ Docket No. 2015-0840-MWD, Final Order at 7, FOFs 55-58 (Feb. 1, 2017).

[118] Ex. APP-9 at 24.

[119] Ex. ED-JC-1 at 25-26.

Texas Water Code § 26.0282 or the general policy to promote regional or area-wide systems under Texas Water Code § 26.081.

First, in regard to regionalization, granting the permit will actually encourage the statute's goals. Texas Water Code § 26.081 provides:

> . . . it is necessary to the health, safety, and welfare of the people of this state to implement the state policy to encourage and promote the development and use of regional and area-wide waste collection, treatment, and disposal systems to serve the waste disposal needs of the citizens of the state and to prevent pollution and maintain and enhance the quality of the water in the state.

The City is seeking additional capacity so it can handle expected growth in the area, and also so it can assume existing wastewater treatment obligations from other entities with wastewater discharge permits. This is exactly the concept envisioned by the statute—a primary wastewater treatment facility and provider in the area, rather than numerous different permitted facilities. Thus, the draft permit clearly is consistent with regionalization goals.

In regard to need, the ALJ agrees that the evidence does not indicate that the City "needs" the full amount of discharge capacity it is currently seeking. The City is not likely to utilize that capacity within the next five years. The City's original projections in its preliminary engineering report indicated that slightly more than 500,000 gpd would be needed by 2022.[120] This is clearly much less than the 822,500 gpd allowed in the draft permit. But, the ALJ does not construe the statute as requiring a clear demonstration of need for the precise capacity being sought. Texas Water Code § 26.0282 provides:

> In considering the issuance, amendment, or renewal of a permit to discharge waste, the Commission may deny or alter the terms and conditions of the proposed permit, amendment, or renewal based on consideration of need, including the expected volume and quality of the influent and the availability of existing or proposed areawide or regional waste collection, treatment, and disposal systems . . . .

[120] AR, Tab C at 693.

This statute does not require an applicant to demonstrate a precise need amount; rather, it allows the Commission to deny or alter a permit based on considerations of need.

As the ALJ reads the statute, it allows the Commission to consider need as a factor in determining whether to issue or alter a permit. For example, if there is a highly-demonstrated and urgent need, this might justify loosened permit requirements if permissible. Alternately, if there is a demonstration of a complete lack of need or a limited need, this might justify outright denial or tightening of permit requirements where permissible. But, the statute does not require any demonstration that the permitted amount is designed to precisely satisfy an existing or anticipated need before a permit will be issued. Rather, it is a more generalized analysis.

As noted by the City, the Commission has previously recognized that it is prudent to engage in longer-term planning for wastewater needs. Where it is anticipated that additional discharge capacity will be needed in the future, it is appropriate to grant increases in discharge flow beyond those immediately needed.[121] In this case, the evidence establishes that the wastewater treatment needs in and around the City have been growing and are expected to continue to grow significantly in the coming years. While such needs may not currently exist or be anticipated in the next five years, the ALJ concludes it is prudent for the Commission to grant the draft permit so the City can prepare for and anticipate expected future needs, especially within the confines of regionalization. Issuing the permit with the expanded capacity encourages regionalization because it creates a wastewater treatment facility permitted and able to handle future needs in the area, thus limiting the likelihood that other entities will need or attempt to obtain a wastewater treatment permit to handle those needs.

Therefore, the ALJ recommends the Commission not deny or alter the draft permit based on consideration of need under Texas Water Code § 26.0282 or the general policy to promote regional or area-wide systems under Texas Water Code § 26.081.

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[121] *Application of New Braunfels Utilities to Amend TPDES Permit No. WQ001023200,* TCEQ Docket No. 2015-0840-MWD, Final Order at 7, FOFs 55-58 (Feb. 1, 2017).

K. Whether the Applicant's compliance history raises issues regarding the Applicant's ability to comply with the material terms of the permit that warrant denying or altering the terms of the draft permit.

SOS has not presented any evidence or arguments on this issue, and both OPIC and the ED have determined that the City's compliance history is acceptable and does not warrant denying or altering the draft permit. As noted previously, the legal framework of SB 709 provides a prima facie presumption that all standards are met with the issuance of the draft permit. Further, the evidence demonstrates that the City's compliance history is satisfactory.[122] Therefore, the ALJ finds that both the affirmative evidence in the record, as well as the lack of any controverting evidence on this issue, supports a finding that the City's compliance history raises no concerns regarding its ability to comply with the material terms of the draft permit that warrant denying or altering the terms of the draft permit.

L. Whether the Applicant substantially complied with all applicable notice requirements.

Under Commission rules, an applicant for a waste discharge permit must include in the required notice of application and preliminary decision (NAPD) "a general description of the location of each existing or proposed discharge point and the name of the receiving water."[123]

SOS contends that the City failed to provide sufficient notice because it did not provide an adequate description of the proposed discharge point in the public notices. SOS asserts that the alleged failure to adequately identify the proposed discharge point deprived members of the public of the ability to meaningfully participate in the hearing and protect their interests. The notices in issue described the discharge point as:

- The discharge route is from the plant site via pipe to Walnut Springs; thence to Onion Creek. (the NORI)[124]

[122] Ex. APP-1 at 7-8.

[123] 30 Tex. Admin. Code § 39.551(c)(4)(B).

[124] AR, Tab A at 4-5, 57-58.

- The treated effluent will be discharged to Walnut Springs; thence to Onion Creek in Segment No. 1427 of the Colorado River Basin." (the NAPD and Notice of Hearing)[125]

SOS points out that neither description gives an address for the discharge point, a description of the specific discharge point, or a distance or direction of the discharge point from the wastewater treatment plant site. SOS contends the discharge point is actually over a mile away from the treatment plant, and thus may affect residents who might not realize the permit's impact on them given the treatment plant's distance from them. In fact, when reviewing the permit, USFW staff requested clarification of the discharge point because they could not find the location on a map.[126] Given that those officials could not determine the discharge point, SOS asserts an ordinary member of the public would not be able to either, thus rendering the notices clearly deficient.

In response, the City notes that the rules require only a "general description of the location" of the discharge point, not a specific address. The City points out that the notices identify that the discharge will occur into Walnut Springs, a small tributary that flows into Onion Creek, and that "Walnut Springs" is a term used on USGS Quadrangle maps as the proper name for the receiving stream.[127] The City asserts that this adequately satisfies the requirement that a "general description" of the discharge point and the receiving stream be provided in the notice.

Both the ED and OPIC agree the City has complied with all applicable notice requirements. The ED points out the precise outfall location will be on property owned by Development Solutions CAT LLC, and both the NORI and NAPD were mailed directly to that entity. Further, the precise coordinates of the outfall location were provided by the City in the application materials and could be readily reviewed by anyone wishing to do so.[128]

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[125] AR, Tab A at 101-103.

[126] SOS Ex. 16.

[127] AR, Tab C at 669.

[128] AR, Tab C at 622.

After considering the evidence and arguments presented, the ALJ concludes that the City has substantially complied with all applicable notice requirements. First, the rules require only a "general description" of the discharge point and an identification of the receiving water. In this case, the City provided notice that the discharge would travel by pipe to Walnut Springs, and then into Onion Creek. Although the segment of Onion Creek identified is large, that is irrelevant, as the City identified that Onion Creek would be a receiving waterbody at the precise point that Walnut Springs flowed into it.

Moreover, Walnut Springs is an identified tributary on USGS maps.[129] It is relatively short in length and is known in the Dripping Springs area, as the record shows that a bridge that spans it is named the Walnut Springs Creek Bridge, and the developers for the Caliterra Subdivision identified Walnut Springs in the Concept Plan for the subdivision. The area of the discharge point has few natural descriptors that would have made any description more specific.[130] Although the City could have used the precise coordinates in the notice, they likely would have not been more helpful to average citizens. Moreover, those precise coordinates were available in the application materials, and the notices advised interested persons where they could access those application materials. There is no evidence that anyone was misled by the description of the discharge point, or that anyone would have participated in the hearing but chose not to because they misunderstood where the discharge point was.

Under the circumstances, the ALJ finds the description given by the City of the discharge point in the various notices satisfies the applicable notice requirements. The City provided a general description of the discharge point and clearly identified the receiving waters. Accordingly, the ALJ finds that the City substantially complied with all applicable notice requirements.

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[129] Tr. at 235; AR, Tab C at 669.

[130] *See* SOS Ex. 17.

V. TRANSCRIPT COSTS

The City argues that SOS should bear 100% of the transcript costs because it was the sole reason a hearing was necessary. The City points out that it settled with all other parties, and argues that SOS was unwilling to discuss any reasonable settlement possibilities. In contrast, SOS argues that the relevant factors set out in the applicable rule support the City bearing all of the transcript costs. Neither the ED nor OPIC may be assessed transcript costs, so the costs may be apportioned only among the City and SOS.

The Commission's rules require consideration of the following factors in assessing transcription costs:

> (A) the party who requested the transcript;
>
> (B) the financial ability of the party to pay the costs;
>
> (C) the extent to which the party participated in the hearing;
>
> (D) the relative benefits to the various parties of having a transcript;
>
> (E) the budgetary constraints of a state or federal administrative agency participating in the proceeding;
>
> (F) in rate proceedings, the extent to which the expense of the rate proceeding is included in the utility's allowable expenses; and
>
> (G) any other factor which is relevant to a just and reasonable assessment of costs.[13]

Both the City and SOS participated in the hearing and requested a copy of the transcript. The City ordered a rush copy of the transcript, causing additional costs to be incurred, whereas SOS did not. The City has more resources than SOS, as SOS is a small non-profit. However, both parties have the financial ability to cover the costs associated with the transcript. All parties benefitted equally from having a transcript, although the City certainly has more at stake in this proceeding.

[13] 30 Tex. Admin. Code § 80.23(d).

After considering the relevant factors, the ALJ recommends that SOS be required to reimburse the City the sum of $1,000 for transcript costs. The City has spent $7,447.30 for transcript costs,[132] while SOS has spent approximately $1,400.[133] This means that currently, the City has borne approximately 85% of the transcript costs while SOS has borne approximately 15%. The City's costs should be higher since it ordered a rush copy of the transcript. But, it should not have to bear as high a percentage as it has thus far. A reimbursement adjustment of $1,000 will result in the City bearing approximately 72% of the transcript costs and SOS bearing approximately 28% of those costs. Given the City's deeper financial resources, the ALJ finds this is a fair allocation.

VI. CONCLUSION

In conclusion, the ALJ determines that the evidentiary record has demonstrated satisfaction of all applicable requirements and supports issuance of the permit sought. The ALJ further recommends that the Commission adopt all Findings of Fact and Conclusions of Law in the Proposed Order on these issues. The ALJ recommends that the Commission not adopt the parties' proposed Findings of Fact and Conclusions of Law which the ALJ did not include in the Proposed Order, based on the reasoning set out in the Proposal for Decision.[134]

SIGNED November 16, 2018.

CRAIG R. BENNETT
ADMINISTRATIVE LAW JUDGE
STATE OFFICE OF ADMINISTRATIVE HEARINGS

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[132] See Exhibit A to Applicant's Closing Statement.

[133] SOS's Closing Argument at 39.

[134] 30 Tex. Admin. Code § 80.252(d).

APPENDIX J

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Re: Cause No. D-1-GN-19-003030; *SOS v. TCEQ*; in the 459th Judicial District Court of Travis County, Texas

Dear All:

On June 25, 2020, this Court heard argument in this case. Plaintiff Save Our Springs Alliance ("SOS"), Defendant Texas Commission on Environmental Quality ("TCEQ," or "the Agency") and Intervenor City of Dripping Springs ("City"), appeared through counsel and announced ready for trial.

The Court, after hearing argument of counsel, considered and denied the motion of Defendants to strike the brief filed by Amici Curiae Stephanie Ryder Morris et al.

This case is an appeal of a final agency order and is governed by the Administrative Procedure Act (APA), Tex. Gov't Code §§ 2001.001-.903. TCEQ's final order, entered following a contested case hearing before the State Office of Administrative Hearings, granted the City a permit

authorizing the discharge of up to 822,500 gallons per day of treated municipal wastewater into Onion Creek in Hays County. Plaintiff timely appealed the order. This is a review based on the administrative record, which was entered into evidence at the hearing, in accordance with Tex. Gov't Code § 2001.175(d).

The Court, after reviewing the pleadings, administrative record, briefing, and argument of counsel, finds that the TCEQ's order approving the City of Dripping Springs's wastewater discharge permit is not supported by the law or substantial evidence and should be reversed. Specifically, the Court finds the following conclusions of TCEQ unsupported by substantial evidence: (1) that the proposed discharge complies with the Agency's "Tier 2" anti-degradation rule requiring that the City's discharge must not cause more than a *de minimis* lowering of water quality in Onion Creek unless there is a showing that such lowering of water quality is necessary for important economic or social development; (2) that the proposed discharge would not impair existing high quality aquatic life uses of Onion Creek; and (3) that the information in the public notices of the proposed wastewater discharge permit sufficiently identified the location of the proposed discharge point.

OVERVIEW OF THE CASE

TCEQ approved the City's wastewater discharge permit pursuant to provisions of the Texas Water Code and TCEQ's implementing rules. TCEQ's authority to issue the permit, while set out in Texas statutes, was also delegated to the Agency by the U.S. Environmental Protection Agency (EPA) pursuant to the federal Clean Water Act and EPA's implementing rules. TCEQ's actions, and its rules applicable in this case, must be interpreted in the context of the Clean Water Act, and must be consistent with, and at least as protective of water quality, as EPA's applicable rules. 33 U.S.C. § 1342(b); 40 C.F.R. § 123.25.

The Clean Water Act's stated objective is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a). Towards this objective, the Act establishes a national goal that discharges of pollutants into the Nation's waters be eliminated by 1985. *Id.* § 1251(a)(1). Where discharges are not fully eliminated, the Act sets a goal of achieving water quality "which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water." *Id.* § 1251(a)(2). These two goals of the Act—to protect aquatic life and recreation "in and on the water," known as keeping our water "fishable" and "swimmable"—are met primarily through two types of regulations: water quality standards and discharge standards. Permitted discharges must ensure that water quality standards that maintain "fishable/ swimmable" are met. *Id.* §§ 1311, 1312(a). To that end, discharge permits must set sufficiently protective limits on total volume of the discharge and on concentrations and amounts of specific pollutants. *Id.* §§ 1311, 1312(a), 1342.

In order to qualify for delegation of Clean Water Act administration, Texas adopted the required legislation and rules. The Texas Water Code declares the State's policy "to maintain the quality of water in the state consistent with the public health and enjoyment, the propagation or protection of terrestrial and aquatic life, and the operation of existing industries, taking into consideration the economic development of the state… and to require the use of all reasonable methods to implement this policy." Tex. Water Code § 26.003. TCEQ "may refuse to issue a permit when the commission finds that issuance of the permit would violate the provisions of any state or federal law or rule or regulation promulgated thereunder, or when the commission finds that issuance

of the permit would interfere with the purpose of this chapter." Tex. Water Code § 26.027. It is against the backdrop of these statutory purposes that the permit at issue must be considered.

Plaintiff primarily challenges whether the permit approved by TCEQ violates a subset of Texas's water quality standards that apply to Onion Creek. TCEQ has designated the portion of Onion Creek that would receive the City's discharge as "high aquatic life use," along with other uses of primary contact recreation, water supply, and aquifer recharge. TCEQ Order, AR A Doc. 169, at 5 ¶30.

Because Onion Creek is designated as "high aquatic life use" it is subject to a two-tiered EPA-required "anti-degradation policy." Although titled as a "policy," it is a mandatory rule that must be interpreted consistent with both EPA's anti-degradation rule and the Clean Water Act. 40 C.F.R. § 131.12; 30 Tex. Admin. Code § 307.5.

Plaintiff's first claim is that TCEQ's final order approving the City's permit violates the more stringent of TCEQ's two-part anti-degradation rule, known as Tier 2 anti-degradation review, as a matter of law or as an abuse of discretion. Plaintiff's second claim is that TCEQ misapplied the less stringent "Tier 1" anti-degradation rule, which applies to all waters of the state, by considering improper factors, failing to consider required factors, and failing to make required underlying findings of fact that connect to the agency's ultimate conclusions, thereby demonstrating reasoned decisionmaking that is transparent and subject to judicial review.

Plaintiff's third claim is that the public notice given for the proposed permit failed to identify the location of the proposed discharge with sufficient accuracy to provide for public input and participation in the agency's decisionmaking process.

STANDARDS OF REVIEW

The Texas Administrative Procedure Act sets out the standards of review applicable in this case. This Court "shall reverse or remand the case for further proceedings if substantial rights of the appellant have been prejudiced because the administrative findings, inferences, conclusions, or decisions are:

(A) in violation of a constitutional or statutory provision;
(B) in excess of the agency's statutory authority;
(C) made through unlawful procedure;
(D) affected by other error of law;
(E) not reasonably supported by substantial evidence considering the reliable and probative evidence in the record as a whole; or
(F) arbitrary or capricious or characterized by abuse of discretion or clearly unwarranted exercise of discretion."

Tex. Gov't Code § 2001.174(A)-(F). These grounds for reversal are collectively referenced, in shorthand, as the "substantial evidence rule."

Review of an agency's final decision or action under the substantial evidence rule involves the following two component inquiries:

(1) whether the agency made findings of underlying facts that logically support the ultimate facts and legal conclusions establishing the legal authority for the agency's decision or action and, in turn,
(2) whether the findings of underlying fact are reasonably supported by the evidence.

TCEQ v. Maverick Cnty., 2019 Tex. App. LEXIS 9981 at *7-8. The first inquiry may entail questions of law, while the second inquiry is highly deferential to the agency's determination. *Id.* at *8. An agency acts arbitrarily if it has not "genuinely engaged in reasoned decisionmaking" by making a decision without regard for the facts, relying on fact findings that are not supported by any evidence, or if there does not appear to be a rational connection between the facts and the decision. *Heritage on the San Gabriel Homeowners Ass'n v. TCEQ*, 393 S.W.3d 417, 423 (Tex. App.—Austin, 2012); *City of Waco v. TCEQ*, 346 S.W.3d 781, 819 (Tex. App.—Austin 2011), *rev'd on other grounds*, 413 S.W.3d 409 (Tex. 2012)(citations omitted).

Even if supported by substantial evidence, however, an agency order may be arbitrary and capricious if the agency has improperly based its decision on non-statutory criteria or failed to consider relevant factors. *Tex. Dep't of Ins. v. State Farm Lloyds*, 260 S.W.3d 233, 245 (Tex. App.—Austin 2008); *City of El Paso v. Pub. Util. Comm'n*, 883 S.W.2d 179, 184 (Tex. 1994).

Administrative rules are interpreted like statutes, under traditional principles of statutory construction. *Tex. Comm'n on Envtl. Quality v. Maverick Cnty.*, No. 03-17-00785-CV, 2019 Tex. App. LEXIS 9981 at *12 (Tex. App.—Austin Nov. 15, 2019, pet. filed). The "primary objective in both statutory and rule construction is to ascertain and give effect to the drafters' intent." *Id.* That intent is determined from the plain meaning of the words chosen when it is possible to do so. *Id.* "If there is vagueness, ambiguity, or room for policy determination in the regulation 'we normally defer to the agency's interpretation unless it is plainly erroneous or inconsistent' with the rule's language." *Id.* (quoting *TGS-NOPEC Geophysical Co. v. Combs*, 340 S.W. 3d 432, 438 (Tex. 2011)). However, "no deference is due where an agency's interpretation fails to follow the clear, unambiguous language of its own regulations." *Id.*

DISCUSSION

a. Plaintiff's Anti-Degradation Claims

TCEQ's Anti-degradation rule provides:
(1) Tier 1. Existing uses and water quality sufficient to protect those existing uses must be maintained. Categories of existing uses are the same as for designated uses, as defined in § 307.7 of this title (relating to Site-Specific Uses and Criteria).
(2) Tier 2. No activities subject to regulatory action that would cause degradation of waters that exceed fishable/swimmable quality are allowed unless it can be shown to the commission's satisfaction that the lowering of water quality is necessary for important economic or social development. Degradation is defined as a lowering of water quality by more than a *de minimis* extent, but not to the extent that an existing use is impaired. Water quality sufficient to protect existing uses must be maintained. Fishable/swimmable waters are defined as waters that have quality sufficient to support propagation of indigenous fish, shellfish, terrestrial life, and recreation in and on the water.

30 Tex. Admin. Code § 307.5 (emphasis added).

Thus, degradation is defined as "a lowering of water quality by more than a *de minimis* extent." *Id.*

Onion Creek has water quality exceeding the fishable and swimmable standard; therefore both a Tier 1 and Tier 2 anti-degradation review were required. In arguing that the permit violates the Tier 2 prohibition against lowering water quality by more than *a de minimis* amount, Plaintiff relies on the framework and evidence, which is undisputed in the record, as summarized here.

Compliance with water quality standards is measured at a critical low flow level, which for the stretch of Onion Creek that would receive the discharge is 0.12 cubic feet per second (cfs). The permit authorizes the City to discharge up to 822,500 gallons per day of treated wastewater, which equals 1.27 cfs. Thus, at the regulatory flow level and the permitted discharge, Onion Creek would consist of one parts background Onion Creek flow and ten parts treated sewage. The water quality conditions as of November 28, 1975 define baseline conditions that must be protected.

Total phosphorus is the primary limiting nutrient, meaning the primary control on algae growth, but nitrogen is also a recognized pollutant that threatens aquatic life and other uses and is therefore regulated by water quality and discharge standards. Onion Creek is a phosphorus limited stream, with very low naturally occurring concentrations of total phosphorus which are below the level of detection in TCEQ-certified labs.

Experts of Plaintiff, TCEQ, and the City agreed that the best estimate of baseline total phosphorus levels in Onion Creek is in the range of 2 to 9 micrograms per liter (μg/L). A report by the United States Geological Survey measured total phosphorus at 3 μg/L in Onion Creek. By contrast, TCEQ's final order approves wastewater discharge containing up to 150 μg/L total phosphorus. At the regulatory low flow level and the permitted discharge rate, total phosphorus in Onion Creek would increase to above 100 μg/L.

In 2001, EPA published a report, *Ambient Water Quality Criteria Recommendations [for] Rivers and Streams in Nutrient Ecoregion IV*. AR B Doc. 293 (Suppltl. AR). The Edwards Aquifer region, including Onion Creek where the discharge would occur, is within Ecoregion IV. The report summary explains that its recommended "ecoregional nutrient criteria address cultural eutrophication—the adverse effects of excess human-caused nutrient inputs." The report recommends nutrient limits at which stream changes occur in sensitive streams—25 micrograms per liter for Total Phosphorus and 700 micrograms per liter for Total Nitrogen. This 2001 EPA report placed Onion Creek in a group of streams with very low, naturally occurring phosphorus and nitrogen streams, known as "oligotrophic" streams. This description, and the nutrient limit recommendations in the report, were based on a statistical analysis of hundreds of streams across the country.

Since 2001, TCEQ has funded studies that would help Texas set specific phosphorus and nitrogen water quality standards, but TCEQ has so far not adopted numeric nutrient water quality standards. Several of these studies were introduced into the record. One such study from 2009, introduced by the City, concludes that there is "overwhelming evidence" of "consistent biological changes in streams with greater than 20 μg/L" total phosphorous. King & Winemiller, Development of Biological Indicators of Nutrient Enrichment for Application in Texas Streams, AR B Doc. 241, at

67. TCEQ procedures and TCEQ's final order make clear the agency must consider phosphorus and nitrogen when determining compliance with the anti-degradation water quality standards.

As to nitrogen, the permit allows discharged effluent to have up to 6.0 milligrams per liter (mg/L) of total nitrogen. The City's expert estimated that nitrate-nitrogen would increase from background levels in Onion Creek of 0.05 mg/L to almost 5 mg/L with the proposed discharge. This was not disputed by other evidence.

The City's expert estimated that phosphorus and nitrogen in the discharge would increase bottom-dwelling algae growth in Onion Creek tenfold, from less than 5 mg per square meter (m2) of chlorophyll-a to 30 to 50 mg/m2.

In addition to nutrients and algae growth, maintaining dissolved oxygen levels that protect aquatic life is also important. Baseline levels of Dissolved Oxygen (DO) in Onion Creek range from 6.89 mg/L to 8.42 mg/L, as measured by the City's expert. TCEQ's modelling found that the proposed discharge would cause DO levels in Onion Creek to drop down to at or near the 5.0 mg/L DO criterion assigned for its high-aquatic life use. The City's expert conducted modelling estimating a low of 4.87 mg/L DO resulting from the permitted discharge.

In applying the Tier 2 rule to this undisputed evidence, Plaintiff first notes, and the parties agree, that the City made no effort to show important social and economic development needs that would allow a discharge resulting in more than a *de minimis* lowering of water quality. Thus, the City, as applicant, bore the burden of showing that the permitted discharge would not lower water quality in Onion Creek more than a *de minimis* amount.

Plaintiff argues that the undisputed increases in nutrient pollution, lowered dissolved oxygen, increase in algae growth, and conversion of Onion Creek, at low-flow conditions to one part clean creek-water to ten parts treated sewage violates the no more than a *de minimis* lowering of water quality Tier 2 standard as a matter of law.

Plaintiff further argues that Defendants failed to interpret the Tier 2 standard correctly by: (a) requiring a showing of harm to existing uses, thereby collapsing the Tier 2 *de minimis* standard into the Tier 1 standard requiring that uses, not quality, must be maintained; (b) ignoring, and writing out of the rule, the provision that if there is to be more than *de minimis* lowering of water quality, a showing of important social and economic necessity must be made; and (c) considering, in both the Tier 2 and Tier 1 analyses, improper factors (primarily that "nutrient enrichment," increased biological productivity, species diversity, and stream flow "stabilization" from the discharge indicated a positive effect on the stream rather than pollution of the stream).

Defendants respond that TCEQ correctly applied the rule in this case, and that the Agency's findings that the anti-degradation standards were met and are supported by substantial evidence and reasoned decisionmaking. Defendants also argue the Court should defer to TCEQ's expertise and judgment on matters of conflicting expert opinion and evidence, among other points.

The Court agrees with Plaintiff that the evidence shows as a matter of law that the permitted discharge will lower water quality in Onion Creek more than a *de minimis* amount.

The EPA anti-degradation rule provides that TCEQ must adopt a rule that "at a minimum" is consistent with EPA's rule, which states in pertinent part that where "the quality of waters exceed levels necessary to support the protection and propagation" of aquatic life, "that quality shall be maintained and protected unless the State finds . . . that allowing lower water quality is necessary to accommodate important economic or social development." 40 C.F.R. § 131.12 (emphasis added).

TCEQ's rules, like EPA's, must also be interpreted consistent with the purposes of the Clean Water Act and the plain language of the rule. *See Cnty. of Maui v. Haw. Wildlife Fund*, 140 S. Ct. 1462 (2020). The Clean Water Act's purpose, among others, is to "maintain" the "chemical" integrity of our Nation's waters, including Onion Creek. *See* 33 U.S.C. § 1251.

"*De minimis*" is defined in Black's Law Dictionary as "1. trifling, minimal; 2. (Of a fact or thing) so insignificant that a court may overlook it in deciding an issue or case." There is no technical or other definition that would supplant or modify this plain language definition of *de minimis*.

Given the plain language of the TCEQ rule, the EPA rule, and the Clean Water Act, and the undisputed evidence, the Court declines to give deference to TCEQ's implied interpretation of the Tier 2 anti-degradation rule. That interpretation is implied because the Agency's final order avoids interpreting the *de minimis* lowering of water quality language in favor of more general findings that the rule has been met. As in the recent U.S. Supreme Court Clean Water Act case of *County of Maui v. Hawaii Wildlife Fund*, accepting TCEQ's position would conflict with the plain language of the rule and open a major loophole in the Act's mandate to protect and maintain the quality of our Nation's waters. *See* 140 S. Ct. 1462, 1474 (2020) ("But here, as we have explained, to follow EPA's reading would open a loophole allowing easy evasion of the statutory provision's basic purposes. Such an interpretation is neither persuasive nor reasonable.")

The limited case law on anti-degradation supports this conclusion. *See Ky. Waterways Alliance v. Johnson*, 540 F.3d 466, 483 (6th Cir. 2008); *Columbus & Franklin Cnty. Metro. Park Dist. v. Shank*, 600 N.E.2d 1042 (Ohio 1992); *Robertson Cnty.: Our Land, Our Lives v. TCEQ*, No. 03-12-00801-CV, 2014 WL 3562756 (Tex. App.—Austin July 17, 2014, no pet.); *Greater Yellowstone Coal. v. EPA*, 2013 U.S. Dist. LEXIS 59661 (D. Idaho 2012). The Sixth Circuit explains in *Kentucky Waterways Alliance*:

> This Tier II standard may also be described as protecting the water body's "assimilative capacity" which is the amount by which the water body exceeds the quality level necessary to support its designated uses. Under the regulation, a pollution increase that would decrease a water body's assimilative capacity would need to be justified by the necessity of the pollution for achieving important economic and social development.

540 F.3d 466, n 4. Defendants' positions ignore the necessity of protecting this buffering, or assimilative, capacity of Onion Creek while having no answer for how such enormous increases in the key nutrient pollutants would not lower water quality by more than a *de minimis* amount. The Agency's approach, as suggested by the final order's findings of fact, would require a showing of impairment to the designated uses of Onion Creek. The Tier 2 standard, unlike Tier 1, does not require a showing of impairment of uses; it requires that water quality not be lowered by more than a *de minimis* amount absent a showing of important social and economic development need. The City

chose not to attempt such showing and the undisputed evidence establishes that TCEQ's final order approving the permit violates the Tier 2 anti-degradation standard.

Under Tier 1 of the anti-degradation policy, existing uses, and water quality sufficient to protect those existing uses, must be maintained. 30 Tex. Admin. Code § 307.5. This includes maintaining water-quality levels sufficient to support existing, designated, presumed, and attainable aquatic life uses. 30 Tex. Admin. Code § 307.4(h).

Plaintiff argues, with support from Amici, that TCEQ's interpretation of the Tier 1 standard protecting existing uses is based on consideration of improper factors while ignoring the required factors that define "aquatic life use" and maintenance of that aquatic life. Plaintiff disputes TCEQ arguments that the anti-degradation rule (both Tier 1 and Tier 2) are met if the agency follows its anti-degradation review procedures and that anti-degradation compliance takes a "whole water" approach rather than a constituent-by-constituent approach. Plaintiff further argues that the absence of underlying findings of baseline chemical and biological conditions, resulting conditions triggered by the proposed discharge, and how these resulting conditions will assure that the high aquatic life use of Onion Creek will be maintained constitutes arbitrary and capricious decisionmaking.

The Court generally agrees with these arguments and would remand this case for reconsideration by the agency on the Tier 1 standard absent the above conclusion that the TCEQ-approved permit violates the Tier 2 antidegradation standard and is reversed for that reason.

Review of the TCEQ's final order and the Administrative Law Judge's Proposal for Decision on which it relies reveals several problems. In the Tier 1 protection of uses analysis, TCEQ only considered whether nutrient stimulation of algae growth would impair recreational uses. It did not consider whether the amount and kind of algae growth would harm aquatic life uses.

TCEQ's and EPA's anti-degradation rule sets out substantive standards: following TCEQ's checklist of procedures for anti-degradation review does not assure compliance with these substantive standards.

TCEQ's rules, its "Implementation Procedures" manual, or IP's, for implementing its water quality standards, and its final order make clear that nutrient pollutants and other specific pollutants are considered in the anti-degradation analysis individually and not on a "whole water" basis.
EPA guidance on anti-degradation explains:

> No activity is allowable under the antidegradation policy which would partially or completely eliminate any existing use whether or not that use is designated in a State's water quality standards. The aquatic protection use is a broad category requiring further explanation. *Non-aberrational resident species must be protected, even if not prevalent in number or importance. Water quality should be such that it results in no mortality and no significant growth or reproductive impairment of resident species. Any lowering of water quality below this full level of protection is not allowed.*

EPA, Water Quality Standards Handbook (2012) at § 4.4.2. (emphasis added).

In other words, avoiding impairment of aquatic life uses requires protecting the species assemblages that are present, as long as they are not an aberration. Plaintiff, and to some extent the

City and TCEQ, introduced evidence indicating that aquatic species adapted to the low-nutrient conditions of Onion Creek would be harmed by the proposed discharge. This evidence was disputed by TCEQ and the City's experts. However, this evidence was not considered as relevant to the Tier 1 inquiry.

The Proposal for Decision (PFD) provides the findings of fact, conclusions of law and underlying reasoning for those findings and conclusions incorporated into TCEQ's final order. The PFD's analysis leans heavily on a study by Jeff Mabe and others, quoting the study's finding that increasing nitrogen concentrations is associated with higher aquatic life diversity scores. PFD, AR A Doc. 162, at 16-17, 26-29. The Administrative Law Judge (ALJ) wrote:

> The [Mabe] report goes on to discuss the positive impact of waste- water on aquatic life in providing 'nutrient enrichment' and 'consistently stable streamflow,' which led to greater 'species richness.'

PFD at 16. This statement is made in the context of evaluating potential impacts to endangered species. *Id.* In analyzing the anti-degradation standard, the ALJ returns to this report, saying "as discussed previously, some studies have shown that wastewater can have a beneficial effect on low-flow, low-nutrient streams by bringing more regularity to the flow and by increasing nutrients that can benefit aquatic life." *Id.* at 24.

The ALJ concludes that "SOS's evidence regarding the impact of the proposed discharge on Onion Creek's assimilative capacity for TN and TP is not relevant to the anti-degradation analysis." *Id.* at 26. The ALJ then states that "SOS's assertions regarding the trophic state of Onion Creek to be irrelevant to the analyses required in this case" because the "rules and IPs do not address a streams trophic classification in the antidegradation policy." *Id.* at 27.

As Plaintiff and Amici argue, this approach converts municipal wastewater discharges into benefits that should be encouraged rather than, as the Clean Water Act provides, pollutants to be eliminated from our Nation's waters. While adding nutrient fertilizer in the form of municipal wastewater to Onion Creek would increase biological productivity (more algae growth) and would stabilize low flows, these results are either irrelevant or harmful to determining whether existing aquatic life uses will be maintained. Increased species richness (diversity) is also irrelevant. The rules call for protecting the assemblage of species that are found in the stream.

TCEQ rules define "high quality aquatic life uses", at 30 TAC § 307.7(b)(3)(A), Table 3, in relevant part, as having "species assemblages" that are "usual associations of regionally expected species," that "sensitive species" are present, and that the "trophic structure" is "balanced to slightly unbalanced." The species make up—not biological productivity, abundance, or species diversity—is what is important for protecting existing aquatic life. Consistent with the rule defining the high quality aquatic life use, the IPs make clear that "eutrophication," is to be avoided. *See, e.g.,* Implementation Procedures, AR B Doc. 257 at 27, 47.

By relying on the City's arguments that the wastewater discharge will "enrich" Onion Creek, making it more biologically productive, while deeming as irrelevant the effects of the discharge on native aquatic species adapted to the very low nutrient conditions of Onion Creek and other Hill Country streams, the Agency really has turned the Clean Water Act upside down. This approach allowed the ALJ and the Agency to ignore as irrelevant the multiple scientific studies introduced into

the record concluding that increasing phosphorus in Texas streams above 20 to 25 μg/L would lead to a displacement of native aquatic species by more nutrient-tolerant and lower dissolved oxygen tolerant species. As noted above, it is undisputed that the proposed discharge would increase background Onion Creek flows from 2 to 8 μg/L total phosphorus to over 100 μg/L under low flow conditions where compliance with the anti-degradation standard must be measured.

The Agency's final order reflects that it relied upon irrelevant factors while ignoring powerful evidence that the approved discharge would harm native aquatic life species in Onion Creek. The order also fails to make underlying findings of fact that support the ultimate conclusions of compliance with the Tier 1 and Tier 2 standards, thereby demonstrating the agency engaged in genuine, reasoned decisionmaking.

The Court recognizes that wastewater return flows can and often do benefit Texas stream flows in important ways. The Court also recognizes that TCEQ has not set numeric nutrient water quality standards. However, these facts do not relieve the agency from compliance with the Clean Water Act and the federally required antidegradation standards.

b. Plaintiff's Notice Claim

Plaintiff's third claim is that the notices of the proposed wastewater discharge application and permit provided to the public failed to adequate identify the location of the proposed point of discharge. Text of public notices for discharge permits must include, among other things, "a general description of the location of each existing or proposed discharge point and the name of the receiving water." 30 Tex. Admin. Code § 39.551(c)(4)(B). Identical mandatory language is found in the applicable federal regulation, 40 C.F.R. § 124.10(d)(1)(vii).

The public notices are in the administrative record, and their text is not disputed. The Notice of Receipt of Application and Intent to Obtain Water Quality Permit stated: "The discharge route is from the plant site via pipe to Walnut Springs; thence to Onion Creek."
The Notice of Application and Preliminary Decision and the Notice of Hearing provided stated: "The treated effluent will be discharged to Walnut Springs; thence to Onion Creek in Segment No. 1427 of the Colorado River Basin."

While all of the notices provide the address of the existing wastewater treatment plant, which will be expanded under the approved permit and state that it is located in Hays County, there is no address, set of coordinates, or reference to nearby street crossings given for the discharge point despite the focus in the regulations on identifying the location of the where the pollutants will be released into public waters.

There is also no hint that this location is nowhere near the treatment plant.

TCEQ and the City contend that these notices meet the requirements because they identify Walnut Springs as the point of discharge, a small tributary that runs for less than half a mile before its confluence with Onion Creek.

The regulations do not state specifically how a proposed discharge point should be described, e.g., by coordinates, address, etc. But use of the conjunctive "and" in the regulation indicate that identifying the receiving waters is not enough—the notice must include both a description of the

proposed discharge point's location *and* the name of the receiving water. The public notices made no attempt to describe the location of the discharge point.

The proposed point of discharge is a long distance away from the identified location of the wastewater treatment facility. The wastewater will be piped to a point 1.5 miles away (as the crow flies), across a highway (RR 12) and beyond a couple of neighborhoods, to its point of discharge upstream of and nowhere near the treatment plant. Plaintiff presented evidence that staff with the federal U.S. Fish and Wildlife Service could not tell from the public notices where the discharge point would be. TCEQ responded with more specific information to the federal agency. AR B Doc. 278 (SOS Ex. 16). The public never had the benefit of that more specific information.

For these reasons TCEQ's conclusion that notice was legally adequate is not reasonably supported by substantial evidence considering the record as a whole, and is arbitrary and capricious and characterized by an abuse of discretion. *See* Tex. Gov't Code § 2001.174.

Therefore for all the above reasons and any other supporting reasons even if not listed here, in a separate order I do reverse the TCEQ order and enjoin Dripping Springs from taking actions in reliance on the unlawful agency order.

Very Truly Yours,

Maya Guerra Gamble
Judge, 459th District Court

Ms. Velva L. Price, Travis County District Clerk

APPENDIX K

(5) Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life uses.

(6) Controls more stringent than those required by sections 301(b) and 306 of the Federal Clean Water Act would result in substantial and widespread economic and social impact.

(c) *Redesignation of water.* Waters considered for redesignation may not be redesignated to less restrictive uses than the existing uses.

Authority

The provisions of this § 93.4 amended under sections 5(b)(1) and 402 of The Clean Streams Law (35 P. S. §§ 691.5(b)(1) and 691.402); and section 1920-A of The Administrative Code of 1929 (71 P. S. § 510-20).

Source

The provisions of this § 93.4 amended February 11, 1994, effective February 12, 1994, 24 Pa.B. 832; amended July 16, 1999, effective July 17, 1999, 29 Pa.B. 3720; amended November 17, 2000, effective November 18, 2000, 30 Pa.B. 6059. Immediately preceding text appears at serial pages (258050) to (258051).

Cross References

This section cited in 25 Pa. Code § 93.1 (relating to definitions); 25 Pa. Code § 93.7 (relating to specific water quality criteria); 25 Pa. Code § 250.309 (relating to MSCs for surface water); and 25 Pa. Code § 250.406 (relating to relationship to surface water quality requirements).

ANTIDEGRADATION REQUIREMENTS

§ 93.4a. Antidegradation.

(a) *Scope.* This section applies to surface waters of this Commonwealth.

(b) *Existing use protection for surface waters.* Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

(c) *Protection for High Quality Waters*—The water quality of High Quality Waters shall be maintained and protected, except as provided in § 93.4c(b)(1)(iii) (relating to implementation of antidegradation requirements).

(d) *Protection for Exceptional Value Waters*—The water quality of Exceptional Value Waters shall be maintained and protected.

Authority

The provisions of this § 93.4a issued under sections 5(b)(1) and 402 of The Clean Streams Law (35 P. S. §§ 691.5(b)(1) and 691.402); and section 1920-A of The Administrative Code of 1929 (71 P. S. § 510-20).

Source

The provisions of this § 93.4a adopted July 16, 1999, effective July 17, 1999, 29 Pa.B. 3720.

Cross References

This section cited in 25 Pa. Code § 96.3 (relating to water quality protection requirements).

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§ 93.4b. Qualifying as High Quality or Exceptional Value Waters.

(a) *Qualifying as a High Quality Water.* A surface water that meets one or more of the following conditions is a High Quality Water.

(1) *Chemistry.*

(i) The water has long-term water quality, based on at least 1 year of data which exceeds levels necessary to support the propagation of fish, shellfish and wildlife and recreation in and on the water by being better than the water quality criteria in § 93.7, Table 3 (relating to specific water quality criteria) or otherwise authorized by § 93.8a(b) (relating to toxic substances), at least 99% of the time for the following parameters:

dissolved oxygen	aluminum
iron	dissolved nickel
dissolved copper	dissolved cadmium
temperature	pH
dissolved arsenic	ammonia nitrogen
dissolved lead	dissolved zinc

(ii) The Department may consider additional chemical and toxicity information, which characterizes or indicates the quality of a water, in making its determination.

(2) *Biology.* One or more of the following shall exist:

(i) *Biological assessment qualifier.*

(A) The surface water supports a high quality aquatic community based upon information gathered using peer-reviewed biological assessment procedures that consider physical habitat, benthic macroinvertebrates or fishes based on *Rapid Bioassessment Protocols for Use in Streams and Rivers: Benthic Macroinvertebrates and Fish*, Plafkin, et al., (EPA/444/4-89-001), as updated and amended. The surface water is compared to a reference stream or watershed, and an integrated benthic macroinvertebrate score of at least 83% shall be attained by the referenced stream or watershed.

(B) The surface water supports a high quality aquatic community based upon information gathered using other widely accepted and published peer-reviewed biological assessment procedures that the Department may approve to determine the condition of the aquatic community of a surface water.

(C) The Department may consider additional biological information which characterizes or indicates the quality of a water in making its determination.

(ii) *Class A wild trout stream qualifier.* The surface water has been designated a Class A wild trout stream by the Fish and Boat Commission following public notice and comment.

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(b) *Qualifying as an Exceptional Value Water.* A surface water that meets one or more of the following conditions is an Exceptional Value Water:

(1) The water meets the requirements of subsection (a) and one or more of the following:

(i) The water is located in a National wildlife refuge or a State game propagation and protection area.

(ii) The water is located in a designated State park natural area or State forest natural area, National natural landmark, Federal or State wild river, Federal wilderness area or National recreational area.

(iii) The water is an outstanding National, State, regional or local resource water.

(iv) The water is a surface water of exceptional recreational significance.

(v) The water achieves a score of at least 92% (or its equivalent) using the methods and procedures described in subsection (a)(2)(i)(A) or (B).

(vi) The water is designated as a "wilderness trout stream" by the Fish and Boat Commission following public notice and comment.

(2) The water is a surface water of exceptional ecological significance.

Authority

The provisions of this § 93.4b issued under sections 5(b)(1) and 402 of The Clean Streams Law (35 P. S. §§ 691.5(b)(1) and 691.402); and section 1920-A of The Administrative Code of 1929 (71 P. S. § 510-20).

Source

The provisions of this § 93.4b adopted July 16, 1999, effective July 17, 1999, 29 Pa.B. 3720.

Notes of Decisions

Designation; Protection

Waterways which have been designated as "High Quality, Cold Water Fishery, Migratory Fishery Waters" are entitled to special protection. *Leeward Construction Co. v. Department of Environmental Protection*, 821 A.2d 145 (Pa. Cmwlth. 2003).

Cross References

This section cited in 25 Pa. Code § 93.1 (relating to definitions); and 25 Pa. Code § 96.3 (relating to water quality protection requirements).

§ 93.4c. Implementation of antidegradation requirements.

(a) *Existing use protection.*

(1) *Procedures.*

(i) Existing use protection shall be provided when the Department's evaluation of information (including data gathered at the Department's own initiative, data contained in a petition to change a designated use submitted to the EQB under § 93.4d(a) (relating to processing of petitions, evaluations

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and assessments to change a designated use), or data considered in the context of a Department permit or approval action) indicates that a surface water attains or has attained an existing use.

(ii) The Department will inform persons who apply for a Department permit or approval which could impact a surface water, during the permit or approval application or review process, of the results of the evaluation of information undertaken under subparagraph (i).

(iii) Interested persons may provide the Department with additional information during the permit or approval application or review process regarding existing use protection for the surface water.

(iv) The Department will make a final determination of existing use protection for the surface water as part of the final permit or approval action.

(2) *Endangered or threatened species.* If the Department has confirmed the presence, critical habitat, or critical dependence of endangered or threatened Federal or Pennsylvania species in or on a surface water, the Department will ensure protection of the species and critical habitat.

(b) *Protection of High Quality and Exceptional Value Waters.*

(1) *Point source discharges.* The following applies to point source discharges to High Quality or Exceptional Value Waters.

(i) *Nondischarge alternatives/use of best technologies.*

(A) A person proposing a new, additional or increased discharge to High Quality or Exceptional Value Waters shall evaluate nondischarge alternatives to the proposed discharge and use an alternative that is environmentally sound and cost-effective when compared with the cost of the proposed discharge. If a nondischarge alternative is not environmentally sound and cost-effective, a new, additional or increased discharge shall use the best available combination of cost-effective treatment, land disposal, pollution prevention and wastewater reuse technologies.

(B) A person proposing a new, additional or increased discharge to High Quality or Exceptional Value Waters, who has demonstrated that no environmentally sound and cost-effective nondischarge alternative exists under clause (A), shall demonstrate that the discharge will maintain and protect the existing quality of receiving surface waters, except as provided in subparagraph (iii).

(ii) *Public participation requirements for discharges to High Quality or Exceptional Value Waters.* The following requirements apply to discharges to High Quality or Exceptional Value Waters, as applicable:

(A) The Department will hold a public hearing on a proposed new, additional or increased discharge to Exceptional Value Waters when requested by an interested person on or before the termination of the public comment period on the discharge.

(B) For new or increased point source discharges, in addition to the public participation requirements in §§ 92a.81, 92a.82, 92a.83 and 92a.85,

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the applicant shall identify the antidegradation classification of the receiving water in the notice of complete application in § 92a.82 (relating to public notice of permit applications and draft permits).

(iii) *Social or economic justification (SEJ) in High Quality Waters.* The Department may allow a reduction of water quality in a High Quality Water if it finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the Commonwealth's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. A reduction in water quality will not be allowed under this subparagraph unless the discharger demonstrates that the High Quality Water will support applicable existing and designated water uses (other than the high quality and exceptional value uses) in § 93.3, Table 1 (relating to protected water uses).

(2) *Nonpoint source control.* The Department will assure that cost-effective and reasonable best management practices for nonpoint source control are achieved.

(c) *Special provisions for sewage facilities in High Quality or Exceptional Value Waters.*

(1) *SEJ approval in sewage facilities planning and approval in High Quality Waters.* A proponent of a new, additional, or increased sewage discharge in High Quality Waters shall include an SEJ impact analysis as part of the proposed revision or update to the official municipal sewage facilities plan under Chapter 71 (relating to administration of sewage facilities planning program). The Department will make a determination regarding the consistency of the SEJ impact analysis with subsection (b)(1)(iii). The determination will constitute the subsection (b)(1)(iii) analysis at the National Pollutant Discharge Elimination System (NPDES) permit review stage under Chapter 92a (relating to National Pollutant Discharge Elimination System permitting, monitoring and compliance), unless there is a material change in the project or law between sewage facilities planning and NPDES permitting, in which case the proponent shall recommence sewage facilities planning and perform a new social or economic justification impact analysis.

(2) *SEJ for sewage facilities in High Quality Waters correcting existing public health or pollution hazards.* A sewage facility, for which no environmentally sound and cost-effective nondischarge alternative is available under subsection (b)(1)(i)(A), proposed to discharge into High Quality Waters, which is designed for the purpose of correcting existing public health or pollution hazards documented by the Department, and approved as part of an official plan or official plan revision under § 71.32 (relating to Department responsibility to review and act upon official plans), satisfies the SEJ requirements in subsection (b)(1)(iii).

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(3) *Public participation requirements for official sewage facilities plans or revisions to official plans in High Quality or Exceptional Value Waters.* A proponent of a sewage facility in High Quality or Exceptional Value Waters seeking approval of an official plan or revision shall comply with the public participation requirements in § 71.53(d)(6) (relating to municipal administration of new land development planning requirements for revisions).

Authority

The provisions of this § 93.4c issued under sections 5(b)(1) and 402 of The Clean Streams Law (35 P. S. §§ 691.5(b)(1) and 691.402); and section 1920-A of The Administrative Code of 1929 (71 P. S. § 510-20); amended under sections 5(b)(1) and 402 of The Clean Streams Law (35 P. S. §§ 691.5(b)(1) and 691.402); and section 1920-A of The Administrative Code of 1929 (71 P. S. § 510-20).

Source

The provisions of this § 93.4c adopted July 16, 1999, effective July 17, 1999, 29 Pa.B. 3720; corrected July 30, 1999, effective July 16, 1999, 29 Pa.B. 4063; amended July 19, 2013, effective July 20, 2013, 43 Pa.B. 4080. Immediately preceding text appears at serial pages (343945) to (343946) and (352675) to (352676).

Cross References

This section cited in 25 Pa. Code § 92a.48 (relating to industrial waste permit); 25 Pa. Code § 92.61 (relating to public notice of permit application and public hearing); 25 Pa. Code § 93.4a (relating to antidegradation); 25 Pa. Code § 96.3 (relating to water quality protection requirements); 25 Pa. Code § 102.4 (relating to erosion and sediment control requirements); and 25 Pa. Code § 102.8 (relating to PCSM requirements).

§ 93.4d. Processing of petitions, evaluations and assessments to change a designated use.

(a) *Public notice of receipt of petition, or assessment of waters, for High Quality or Exceptional Value Waters redesignation.* The Department will publish in the *Pennsylvania Bulletin* and by other means designed to effectively reach a wide audience notice of receipt of a complete petition which has been accepted by the EQB recommending a High Quality or Exceptional Value Waters redesignation, or notice of the Department's intent to assess surface waters for potential redesignation as High Quality or Exceptional Value Waters. The assessments may be undertaken in response to a petition or on the Department's own initiative. The notice will request submission of information concerning the water quality of the waters subject to the evaluation, or to be assessed, for use by the Department to supplement any studies which have been performed. The Department will send a copy of the notice to all municipalities containing waters subject to the petition or assessment.

(b) *Combined public meeting and fact-finding hearing.* As part of its review of an evaluation or performance of an assessment, the Department may hold a combined public meeting and fact finding hearing to discuss the evaluation or

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assessment, including the methodology for the evaluation or assessment, and may solicit information, including technical data, to be considered in the Department's evaluation or assessment.

(c) *Submission to EQB to alter designated use.* Upon the completion of its assessment or review of a complete evaluation, and the satisfaction of the other applicable requirements of this section, the Department will submit the results of its assessment or review to the EQB for proposed rulemaking following review and comment by the petitioner, if applicable, in accordance with Chapter 23 (relating to Environmental Quality Board policy for processing petitions—statement of policy).

Authority

The provisions of this § 93.4d issued under sections 5(b)(1) and 402 of The Clean Streams Law (35 P.S. §§ 691.5(b)(1) and 691.402); and section 1920-A of The Administrative Code of 1929 (71 P.S. § 510-20); amended under sections 5(b)(1) and 402 of The Clean Streams Law (35 P.S. §§ 691.5(b)(1) and 691.402); and section 1920-A of The Administrative Code of 1929 (71 P.S. § 510-20).

Source

The provisions of this § 93.4d adopted July 16, 1999, effective July 17, 1999, 29 Pa.B. 3720; amended July 19, 2013, effective July 20, 2013, 43 Pa.B. 4080. Immediately preceding text appears at serial pages (352676) and (343949).

Cross References

This section cited in 25 Pa. Code § 92.61 (relating to public notice of permit application and public hearing); 25 Pa. Code § 93.4c (relating to implementation of antidegradation requirements); and 25 Pa. Code § 96.3 (relating to water quality protection requirements).

§ 93.5. [Reserved].

Source

The provisions of this § 93.5 amended through February 15, 1985, effective February 16, 1985, 15 Pa.B. 544; amended March 10, 1989, effective March 11, 1989, 19 Pa.B. 968; amended February 11, 1994, effective February 12, 1994, 24 Pa.B. 832; reserved November 17, 2000, effective November 18, 2000, 30 Pa.B. 6059. Immediately preceding text appears at serial pages (258057) to (258061).

Notes of Decisions

The Department of Environmental Resources was not required to consider the economic consequences to a discharger in establishing water quality based effluent limitations in a National Pollutant Discharge Elimination System (NPDES) Permit. *Mathies Coal Co. v. Department of Environmental Resources*, 559 A.2d 506, 511 (Pa. 1989).

The water quality criteria do not preclude the allowance of a reasonable mixing zone if there is no significant effect on the ambient temperature of the stream outside the mixing zone. *Bartram v. Parrish*, 74 Pa. D. & C.2d 627, 649 (1974).

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APPENDIX L

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TEXAS 75202 – 2733

March 31, 2015

The Honorable Eddie Rodriguez
Texas House of Representatives
Vice Chair
Texas House Committee on Environmental Regulation

Dear Mr. Rodriguez:

I am writing in response to your letter dated March 27, 2015, in which you asked for EPA's input regarding legislation that has been filed this session with the Texas Legislature that would alter the Texas Commission on Environmental Quality's (TCEQ's) permitting processes, and what impact, if any, these proposed statutory changes might have on the EPA's approval or authorization of federal programs in the State. In particular, you asked for input regarding House Bills 1865 and 1247, which would create a presumption during contested case hearings that the draft permit meets all applicable federal and state legal and technical requirements.

As you are aware, federal environmental programs that are approved or authorized to be operated by state agencies must be operated consistent with federal law. EPA is concerned that as currently drafted, House Bills 1865 and 1247 could be read to impact the applicability of federal requirements to federal permit programs being implemented by the TCEQ. These proposed bills appear to shift the burden of proof during a contested case hearing away from the party seeking the permit to those potentially impacted by the permittee's operations, thereby affecting Texas' public participation process. Although a contested case hearing process is not required as part of a federally-approved program, EPA needs to ensure that state processes and legislation do not impede or conflict with federal law. Thus, the changes suggested by House Bills 1865 and 1247 should be reviewed by EPA to ensure they do not interfere with federal requirements or alter the basis for one or more program approvals.

As noted in your letter, the EPA has a long history of consulting with the Texas Legislature in regard to the potential impacts of statutory proposals on the EPA's approval or authorization of federal programs in the State of Texas. We have long enjoyed a productive relationship with the Texas Legislature and are always available to engage in discussions with you about this bill or any other legislation being considered by the Legislature.

Thank you for your consideration in this matter.

Sincerely,

David W. Gray, Director
External Affairs

APPENDIX M

No. 19-60558

In the United States Court of Appeals For the Fifth Circuit

SHRIMPERS AND FISHERMEN OF THE RGV AND VECINOS PARA EL BIENESTAR DE LA COMUNIDAD COSTERA,

PETITIONERS,

V.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, AND JON NIERMANN, IN HIS OFFICIAL CAPACITY AS CHAIRPERSON OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY,

RESPONDENTS.

ON APPEAL FROM THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

BRIEF OF RESPONDENTS TCEQ AND JON NIERMANN IN HIS OFFICIAL CAPACITY AS CHAIRPERSON OF THE TCEQ

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No. 19-60558

In the United States Court of Appeals For the Fifth Circuit

SHRIMPERS AND FISHERMEN OF THE RGV AND VECINOS PARA EL BIENESTAR DE LA COMUNIDAD COSTERA,

PETITIONERS,

V.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, AND JON NIERMANN, IN HIS OFFICIAL CAPACITY AS CHAIRPERSON OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY,

RESPONDENTS.

ON APPEAL FROM THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
DOCKET NO. 2018-1304-AIR

CERTIFICATE OF INTERESTED PERSONS

The undersigned counsel of record certifies that the following listed persons and entities as described in the fourth sentence of the Fifth Circuit Rule 28.2.1 have an interest in the outcome of this case. These representations are made in order that the judges of this Court may evaluate possible disqualification or recusal:

Petitioners

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Vecinos Para El Bienestar de la Comunidad Costera

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/s/ Mark A. Steinbach
Mark A. Steinbach

STATEMENT REGARDING ORAL ARGUMENT

Oral argument is not necessary. TCEQ's determination on whether a person is entitled to a contested-case hearing is governed by settled state law. Likewise, Petitioners' claims regarding error in issuing the air-quality permit at issue are not properly before the Court. If the Court grants Petitioners' request for oral argument, the Respondents request to be heard as well.

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GLOSSARY OF ACRONYMS AND ABBREVIATIONS

BACT	Best Available Control Technology
CAA	Federal Clean Air Act
ED	Executive Director
ESLs	Effect Screening Levels
GHGs	Greenhouse Gas Emissions
LNG	Liquified Natural Gas
NAAQS	National Ambient Air Quality Standards
NO_2	Nitrogen Dioxide
NSR	New Source Review
PSD	Prevention of Significant Deterioration
Rio Grande	Rio Grande LNG, L.L.C.
Shrimpers	Shrimpers and Fishermen of the RGV
SIL	Significant Impact Level
SIP	State Implementation Plan
SOAH	State Office of Administrative Hearings
TCAA	Texas Clean Air Act
TCEQ	Texas Commission on Environmental Quality
Vecinos	Vecinos para el Bienestar de la Comunidad Costera

No. 19-60558

In the United States Court of Appeals For the Fifth Circuit

SHRIMPERS AND FISHERMEN OF THE RGV AND VECINOS PARA EL BIENESTAR DE LA COMUNIDAD COSTERA,

PETITIONERS,

V.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, AND JON NIERMANN, IN HIS OFFICIAL CAPACITY AS CHAIRPERSON OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY,

RESPONDENTS.

ON APPEAL FROM THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
DOCKET NO. 2018-1304-AIR

BRIEF OF TEXAS COMMISSION ON ENVIRONMENTAL QUALITY AND JON NIERMANN IN HIS OFFICIAL CAPACITY AS CHAIRPERSON OF THE TCEQ

TO THE HONORABLE U.S. COURT OF APPEALS FOR THE FIFTH CIRCUIT:

INTRODUCTION

This appeal concerns an air-quality permit the Texas Commission on Environmental Quality ("TCEQ" or "Commission") issued to Rio Grande LNG, L.L.C. ("Rio Grande") to construct and operate a natural gas liquefication facility and liquefied natural gas ("LNG") export terminal. In the order granting Rio Grande's permit, TCEQ also found that individuals and associations seeking to

challenge the issuance of the permit were not "affected persons" entitled to a contested-case hearing. Two of these associations, Shrimpers and Fishermen of the RGV ("Shrimpers") and Vecinos para el Bienestar de la Comunidad Costera ("Vecinos"), brought this appeal of TCEQ's order. The contested-case hearing is a feature of the Texas Clean Air Act that goes beyond the requirements for public participation established under the federal Clean Air Act. The Texas Legislature provided limited use of contested-case hearings in TCEQ permitting decisions and authorized TCEQ to make the threshold determination on whether a requesting person qualifies as an "affected person."

The named members of Petitioners' associations live miles from the proposed site—nearly 18 miles from the site in one case. It was not an abuse of discretion for the Commission to find that expected impacts from the proposed facility at these distances and the members' travel on public roads both failed to show an interest distinct from that of the general public. Furthermore, Petitioners failed to produce evidence to the Commission showing an interest not shared by the general public.

The Commission's order denying Petitioners' request for a hearing was based on factors set in TCEQ rules, evidence of impacts presented by the requestors, the responses of the other parties to the decision, and the merits of the application. The decision is entitled to substantial-evidence review as a fact finding made at TCEQ within its area of expertise. The TCEQ's order is supported by substantial evidence

and was not arbitrary or capricious. Petitioners' complaints about the merits of TCEQ's order granting Rio Grande's permit are not before this Court.

ISSUES PRESENTED

1. Texas law provides that "affected persons" are entitled to a contested-case hearing to challenge the issuance of an air-quality permit. Did the TCEQ act arbitrarily and capriciously in denying requests for a contested-case hearing to Petitioners who live and work miles from the proposed site and asserted only unspecific concerns?

2. If Petitioners were entitled to a contested-case hearing, should the Court reach the merits of TCEQ's order granting Rio Grande's permit given that the Court must remand the proceeding to the TCEQ to develop a new a record? If the Petitioners were not entitled to a contested-case hearing, should the Court reach the merits of TCEQ's order?

STATEMENT OF THE CASE

I. Regulatory background and public participation in permitting decisions under the federal Clean Air Act.

The TCEQ regulates air quality in Texas in accordance with the Texas Clean Air Act ("TCAA") and federal Clean Air Act ("CAA"). The CAA "establishes a comprehensive program for controlling and improving the nation's air quality through state and federal regulation." *BCCA Appeal Grp. v. U.S. EPA*, 355 F.3d 817, 821–22 (5th Cir. 2003). The CAA requires EPA to identify pollutants that endanger the public and to establish maximum permissible concentrations of these pollutants in the ambient air. 42 U.S.C. §§ 7408-7409. These concentrations are known as the National Ambient Air Quality Standards ("NAAQS"). *Id.* While EPA sets NAAQS,

the states have primary responsibility for determining how to achieve and maintain the NAAQS. *Id.* §§ 7401(a)(3), 7407(a).

The CAA requires each state to submit to the EPA for approval a state implementation plan ("SIP") that specifies how the state will attain and maintain the NAAQS. *Id.* § 7407(a). The approved plan and all plan revisions comprise the approved SIP. The EPA has approved a SIP for Texas. 40 C.F.R. § 52.2270.

The CAA provides states wide discretion in formulating SIPs. *Luminant Generation Co., L.L.C. v. U.S. EPA*, 675 F.3d 917, 921 (5th Cir. 2012). "[S]o long as the ultimate effect of a State's choice of emission limitations is compliance with the national standards for ambient air, the State is at liberty to adopt whatever mix of emission limitations it deems best suited to its particular situation." *Id.* (*quoting Train v. Nat. Res. Def. Council, Inc.* 421 U.S. 60, 79 (1975)). While the CAA and the EPA provide the goals and basic requirements of SIPs, the states have broad authority to determine the methods and control strategies they will use to achieve federal requirements. *Id.* at 922.

Among other elements, the CAA requires SIPs to include provisions regulating the construction and modification of certain stationary sources of air pollutants. *See, e.g.*, 42 U.S.C. § 7410(a)(2)(C). These provisions are known as new source review ("NSR"). Two of the NSR programs are relevant to this case: the Prevention of Significant Deterioration ("PSD") program for "major" sources of air

pollution under Part C, Title I of the CAA, and the minor NSR program required under CAA Section 110(a)(2)(C).

States implementing the CAA must include a PSD program. *Texas v. U.S. EPA*, 690 F.3d 670, 675 (5th Cir. 2012). This program is designed to allow construction of new or modified sources of air pollution while preventing significant deterioration of air quality in areas that comply with the NAAQS. *See* 42 U.S.C. § 7470(1). Under EPA's "Tailoring Rule," amended in 2016, greenhouse gas emissions ("GHGs") are also regulated under the PSD program for sources that would already be subject to PSD review for NAAQS emissions. 40 C.F.R. §§ 51.166(b)(48) and 52.21(b)(49).

The PSD program is applicable to "major" sources of air contaminants. 42 U.S.C. § 7475(a). For PSD permitting, a major source is a facility that emits 100 tons or more of a regulated pollutant per year for sources belonging to certain specified industrial categories or 250 tons per year for all other sources. *Id.* § 7479(1). Sources that fall below thresholds are considered "minor" sources. *See Id.* § 7410(a)(2)(C).

States implementing the PSD program must meet the minimum criteria established in the CAA. *Id.* § 7410(k)(3). PSD permitting for major sources requires the application of emissions limitations based on "best available control technology" ("BACT"). *Id.* § 7475(a)(4). Applicants for PSD permits must conduct a detailed

analysis of potential impacts on air quality and the surrounding environment. 40 C.F.R. § 51.166. They must also apply BACT for each relevant pollutant. *Id.* § 51.166(j)(2).

State SIPs must also include a minor source NSR program. *Texas*, 690 F.3d at 675. A minor source is any source that is not a major source. The CAA's requirements for a minor source NSR program are more general than those for major sources. For minor NSR, the Act requires only that each SIP "include . . . regulation of the modification and construction of any stationary source within the areas covered by the plan as necessary to assure that [NAAQS] are achieved." 42 U.S.C. § 7410(a)(2)(C).

States must also provide for public participation in permitting decisions, including PSD permitting decisions. Specifically, states must provide public notice of a permit application, an opportunity to submit written comments, and an opportunity request a public hearing. *Id.* § 7475(a)(2); 40 C.F.R. § 51.166(a)(5). As the term is used in the CAA, a public hearing is a non-evidentiary hearing at which the public may present oral or written comments. 42 U.S.C. § 7475(a)(2). The EPA also interprets the CAA to require states to provide state judicial review of permitting decisions. *Cleancoalition v. TXU Power*, 536 F.3d 469, 473 (5th Cir. 2008) (*quoting* Approval and Promulgation of Air Quality Implementation Plans; Commonwealth

of Virginia—Prevention of Significant Deterioration Program, 61 Fed. Reg. 1880 (Jan. 24, 1996)).

II. Public participation in the PSD program under Texas law.

The TCAA meets the minimum requirements for public participation in the CAA, and goes beyond these requirements.[1] Texas law provides public notice of a proposed permit, a public comment period, an opportunity for a public meeting, and judicial review. In addition to these required elements, the Texas program provides for a contested-case hearing in permitting decisions for requestors who meet certain requirements. Public participation in the PSD program is provided in 30 Texas Administrative Code, Chapter 39, Subchapters H and K, and Chapter 55, Subchapters E and F; Texas Water Code, Chapter 5; and Texas Health and Safety Code, Chapter 382. The general requirements for a permit under the Texas PSD program are codified in Title 30 of the Texas Administrative Code, Chapter 116.

Under Texas law, an applicant for a PSD permit must first publish notice of intent to obtain a permit once the TCEQ's Executive Director ("ED") determines the application is administratively complete. Tex. Health & Safety Code § 382.056(a); 30 Tex. Admin. Code §§ 39.418, 39.603. After TCEQ finds the application

[1] Approval and Promulgation of Implementation Plans; Texas; Control of Air Pollution by Permits for New Construction or Modification; Permits for Specific Designated Facilities, 79 Fed. Reg. 551, 553 (EPA finding that "the public participation provisions as submitted in four separate revisions to the [Texas] SIP satisfy the minimum federal requirements for public participation consistent with the CAA and EPA regulations" and agreeing with TCEQ that "some provisions of the Texas public participation process … go beyond the minimum requirements… .").

administratively complete, the TCEQ conducts a technical review of the application to ensure that it meets all applicable rules and requirements. Once the technical review is complete, the applicant must publish public notice of the preliminary decision and the availability of a draft permit for public review. Tex. Health & Safety Code § 382.056(a), (b), (g) and (i); 30 Tex. Admin. Code § 39.419. The applicant must publish both of these notices in a newspaper of general circulation in the municipality in which the site is to be located. 30 Tex. Admin. Code §§ 39.603(a) and (b). The applicant may, in certain instances, be required to publish notice in an alternative language newspaper. Tex. Health & Safety Code § 382.056(a); 30 Tex. Admin. Code § 39.405(h). Additionally, the applicant must post a sign at the proposed site declaring the filing of an application. Tex. Health & Safety Code § 382.056(c); 30 Tex. Admin. Code § 39.604. The applicant must make a copy of the application available for review and copying at a public place in the county in which the facility is located. Tex. Health & Safety Code § 382.056(d).

The TCEQ then accepts public comments on the application and draft permit. *Id.* § 382.056(g); 30 Tex. Admin. Code §§ 55.150, 55.152. The TCEQ's ED must respond to all timely, relevant, and material or significant public comments. Tex. Health & Safety Code § 382.056(*l*); 30 Tex. Admin. Code § 55.156(b). The TCEQ must also hold a public meeting if requested by an interested member of the public or a member of the Texas Legislature. Tex. Health & Safety Code § 382.056(k); 30

Tex. Admin. Code § 55.154(c)(1)-(3). In addition, the TCEQ may grant a contested-case hearing for a permit application. Tex. Health & Safety Code § 382.056(n) (incorporating Tex. Water Code §§ 5.556, 5.557). Finally, Texas law provides state judicial review over any NSR permit decision. Tex. Health & Safety Code § 382.032.

A contested-case hearing is a trial-type hearing "in which the legal rights, duties, or privileges of a party are to be determined by a state agency after an opportunity for adjudicative hearing." Tex. Gov't Code § 2001.003(1). The Texas State Office of Administrative Hearings ("SOAH") conducts contested-case hearings for TCEQ permitting decisions. *Id.* § 2003.047(a). If a contested-case hearing is granted, the Commission will identify the disputed issue or issues for determination at SOAH before acting on the application. Tex. Water Code § 5.556(e); 30 Tex. Admin. Code § 50.115(b).

The availability of a contested-case hearing is limited. If the applicant or the TCEQ's ED request a hearing, the Commission must refer the matter to SOAH for a hearing. Tex. Water Code § 5.557(a); 30 Tex. Admin. Code § 55.211(c)(1). However, members of the public must qualify as an "affected person" before the Commission may grant them a hearing. Tex. Water Code § 5.556(c); 30 Tex. Admin. Code §§ 55.201(b), 55.211(c)(2). If the Commission finds a requestor to be an affected person, it may refer a matter to SOAH only if an issue raised by an affected

person is a disputed question of fact or a mixed question of law and fact; the issue was raised during the public comment period by an affected person whose hearing request was granted; was not withdrawn; and is relevant and material to the decision on the permit application. Tex. Water Code § 5.556(d); 30 Tex. Admin. Code § 55.211(c)(2)(A)(III).

Because contested-case hearings greatly increase the time and resources required for permitting decisions, the Texas Legislature has carefully defined the category of affected persons who may obtain a hearing, the factors the Commission must consider in determining whether a person qualifies, and the procedures a hearing-requestor must follow. By statute, an "affected person" is

> a person who has a personal justiciable interest related to a legal right, duty, privilege, power, or economic interest affected by the administrative hearing. An interest common to members of the general public does not qualify as a personal justiciable interest.

Tex. Water Code § 5.115(a).

If the requestor is a group or association, additional requirements for associational standing apply. Among other requirements, an association must identify, "by name and physical address in a timely request for a contested case hearing, a member of the group or association who would be an affected person in the person's own right." *Id.* § 5.115(a-1)(2)(A).

The hearing request must also identify the person's personal justiciable interest affected by the application, including the requestor's location and distance

relative to the proposed facility and why the requestor believes he or she will be adversely affected in a manner not common to members of the general public. 30 Tex. Admin. Code § 55.201(d)(2). The burden of producing evidence to demonstrate affected-person status rests with the person seeking a hearing. *TCEQ v. City of Aledo*, No. 03-13-00113-CV, 2015 WL 4196408, at *4 (Tex. App.—Austin July 8, 2015, no pet.) (finding the "burden of offering evidence to support a showing on any given factor must necessarily rest on the person seeking to be admitted as a party."). The ED, TCEQ's Office of Public Interest Counsel, and the applicant may each file a response to the request. 30 Tex. Admin. Code § 55.209(d).

The legislature identified materials the TCEQ may consider when making an affected-person decision, including:

- the merits of the underlying application, including whether the application meets the requirements for permit issuance;
- the likely impact of regulated activity on the health, safety, and use of the property of the hearing requestor;
- the administrative record, including the permit application and any supporting documentation;
- the analysis and opinions of the ED; and
- any other expert reports, affidavits, opinions, or data submitted on or before any applicable deadline to the commission by the ED, the applicant, or a hearing requestor.

Tex. Water Code § 5.115(a-1)(1)(A)-(E).

The legislature also required the TCEQ to adopt rules establishing factors that must be considered when determining whether a requestor is an affected person. *Id.* § 5.115(a-1). The TCEQ must apply all relevant factors, including seven prescribed by rule:

- whether the interest claimed is one protected by the law under which the application will be considered;
- distance restrictions or other limitations imposed by law on the affected interest;
- whether a reasonable relationship exists between the interest claimed and the activity regulated;
- likely impact of the regulated activity on the health and safety of the person, and on the use of property of the person;
- likely impact of the regulated activity on use of the impacted natural resource by the person;
- for a hearing request on an application filed on or after September 1, 2015, whether the requestor timely submitted comments on the application that were not withdrawn; and
- for governmental entities, their statutory authority over or interest in the issues relevant to the application.

30 Tex. Admin. Code § 55.203(c)(1)-(7).

With these tools, the legislature has given TCEQ the authority to make the critical "threshold determination" of whether a requestor is an affected person. *TCEQ v. City of Waco*, 413 S.W.3d 409, 417 (Tex. 2013); *see also Sierra Club v. TCEQ*, 455 S.W.3d 214, 221 (Tex. App.—Austin 2014, pet. denied). The legislature

granted TCEQ this discretion based on the agency's expertise on environmental permits within its jurisdiction. *Id.* at 223.

Requests for contested-case hearings are considered at a regularly scheduled open meeting of the Commission. 30 Tex. Admin. Code § 55.209(b)(2). If the commissioners determine that a requestor has met the requirements for an affected person, they may grant the request for a hearing and refer the contested issues to SOAH. *Id.* § 55.211(b)(3). If they do not find that the requestor is an affected person, the commissioners may act on the permit application without a SOAH hearing. *Id.* § 55.211(b)(2).

III. Procedural History

Rio Grande applied for an air-quality permit associated with a proposed LNG export facility.[2] The proposed facility is to be located near Brownsville, Texas, along the Brownsville Ship Channel and State Highway 48.[3] Rio Grande's application sought authorization for air emissions regulated under the PSD, GHG, and the minor-source NSR permitting programs. After TCEQ declared the application administratively complete, Rio Grande published notice of the application in English and Spanish in newspapers in Rio Grande Valley.[4] After TCEQ determined Rio Grande's permit was technically complete, Rio Grande published the required notice

[2] ROA.1365.
[3] ROA.1380.
[4] ROA.1846-1873.

of its draft permit.[5] A public meeting on the application was held in Brownsville, Texas, on March 8, 2018.[6]

Shrimpers and Vecinos submitted written comments and requested a contested-case hearing.[7] In their joint hearing request, Shrimpers identified Lela Burnell as a member with standing in her own right to request a hearing.[8] Ms. Burnell stated that she lives 18 miles from the proposed facility and works five miles from the proposed facility at Shrimp Outlet on the Brownsville Ship Channel.[9] Ms. Burnell further stated that the crews on Shrimp Outlet boats travel along the Brownsville Ship channel past the proposed facility.[10] She expressed concern that emissions from the Rio Grande facility will negatively impact her health and her crews' health, and that her crews' safety will be threatened by the risk of accidents and explosions at the facility.[11] Ms. Burnell also expressed concern about negative impacts of the proposed facility on Shrimp Outlet from potential customers who do not return due to health and aesthetic concerns, and concerns about air pollution causing current customers to distrust the quality of the local shrimp.[12]

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[5] ROA.6957-6964.
[6] ROA.8375.
[7] ROA.9319.
[8] ROA.9324.
[9] *Id.*
[10] *Id.*
[11] *Id.*
[12] *Id.*

Vecinos identified Erika Avila as a member with standing in her own right to request a hearing.[13] Ms. Avila resides in Laguna Vista, Texas, approximately 5.5 miles from the proposed site.[14] Ms. Avila works as a kitchen preparer at a seafood restaurant on South Padre Island.[15] She takes State Park Road 100 to work and travels through Port Isabel approximately three miles from the facility on a daily basis.[16] Ms. Avila stated that she also travels on Highway 48 to Brownsville weekly for shopping and family activities.[17] Ms. Avila expressed concern about the impacts of increased air pollutants and risk of accidents and explosions from the proposed facility on her health and safety.[18]

After the comment period closed, the ED issued a response to comments, including responses to comments submitted by Shrimpers and Vecinos.[19] The ED also issued a response to the hearing request submitted by Petitioners and other groups and individuals.[20] The ED specifically addressed the potential effects of the proposed facility on Ms. Burrell and Ms. Avila. In his analysis, the ED noted that "distance from the proposed facility is particularly relevant to the issue of whether there is a likely impact of the regulated activity on a person's interests because of

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[13] ROA.9323.
[14] *Id.*
[15] *Id.*
[16] *Id.*
[17] *Id.*
[18] *Id.*
[19] ROA.7097.
[20] ROA.7577.

the dispersion and effects of individual air contaminants emitted from a facility."[21] Because of the distance the named members of Shrimpers and Vecinos lived from the proposed facility, the ED argued that their health and safety would not be impacted in a manner different from the general public and recommended that the Commission not grant a contested-case hearing.[22]

Rio Grande also filed a response to the requests for a contested-case hearing.[23] Rio Grande noted that Ms. Burnell's concerns are common to the general public because she is not the only shrimper in the general area.[24] Other members of the public use the Brownsville Ship Channel for commercial and recreational purposes.[25] Rio Grande also noted that Ms. Burnell did not allege any illness that would make her particularly vulnerable to air contaminants.[26] Regarding Ms. Avila's claimed interest, Rio Grande noted that her activities, including shopping and working in the general area around Brownsville, South Padre Island, Laguna Heights, and Laguna Vista are not different from the general public.[27] Many people live and work in these communities and drive on roads in the area.[28] Likewise, Rio

[21] ROA.7587, 7589.
[22] *Id.*
[23] ROA.7728.
[24] ROA.7749.
[25] *Id.*
[26] *Id.*
[27] ROA.7748.
[28] *Id.*

Grande argued that Ms. Avila did not identify any illness or health concern that would make her particularly vulnerable to air contaminants.[29]

Rio Grande also pointed to the State Health Effects Analysis it conducted as part of its application to show that health impacts for the Petitioners are unlikely.[30] This analysis compared modeled emissions of non-criteria pollutants (i.e., emissions not included in the NAAQS) from the proposed facility against the effect screening levels ("ESLs").[31] ESLs are screening levels used in TCEQ's air permitting process to evaluate air dispersion modeling's predicted impacts. They are used to evaluate the potential for effects as a result of exposure to concentrations of constituents in the air. ESLs are based on data concerning health effects, the potential for odors to be a nuisance, and effects on vegetation. If predicted airborne levels of a constituent do not exceed the screening level, adverse health or welfare effects are not expected.[32] Rio Grande's modeling established that no pollutants will exceed ESLs at the fenceline of the proposed facility.[33] In addition, Rio Grande's application demonstrated that emissions at the fenceline of the facility will not cause or contribute to an exceedance of the NAAQS limits for all criteria pollutants.[34]

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[29] *Id.*
[30] ROA.7758
[31] ROA.6370.
[32] TCEQ, About Effects Screening Levels (ESLs), *available at* https://www.tceq.texas.gov/toxicology/esl.
[33] ROA.6370-6371.
[34] ROA.6368.

Petitioners filed a reply to the responses filed by the ED and Rio Grande.[35] In their reply, Petitioners raised new issues regarding potential effects on their members. They argued that Rio Grande's modeling shows that the one-hour concentration of nitrogen dioxide ("NO_2") attributable to the facility will exceed the significant impact level ("SIL") 22.8 kilometers from the facility.[36] However, they did not present any facts connecting SILs to specific health or safety issues for their members. Petitioners also introduced an affidavit from Ms. Burnell with additional claimed impacts and additional members who claimed to be affected, including Jaime Garcia and Amber Thomas, but these individuals were not included in their hearing request.[37] In their reply, Petitioners also pointed to previous air quality permit applications that had been referred to SOAH for a hearing in which parties who lived within four to five miles of the proposed facility were admitted as affected persons and admitted as parties to the hearing by the administrative law judge.[38]

After all interested persons submitted responses to the requests for hearing, the matter was placed on commissioners' agenda for consideration at a regularly scheduled open meeting. The commissioners denied all requests for a contested-case

[35] ROA.8176.
[36] ROA.8177.
[37] ROA.8186-8187.
[38] ROA.8180.

hearing and granted Rio Grande's permit under Air Quality Permit No. 140792, PSDTX1498, and GHGPSDTX158.[39]

Petitioners filed a motion for rehearing required to exhaust their administrative remedies.[40] The TCEQ did not act on the motion within 55 days after the order was signed.[41] As a result, the motion was overruled by operation of law. 30 Tex. Admin. Code §§ 55.211(f), 80.272(e)(1). Petitioners timely filed this petition for review of the TCEQ order. *See Sierra Club v. U.S. Dep't of the Interior*, 899 F.3d 260, 267–68 (4th Cir. 2018) (applying the four-year statute of limitations in 28 U.S.C. § 1658(a) to a petition for review filed under the Natural Gas Act).

SUMMARY OF THE ARGUMENT

The TCEQ decision to deny a contested-case hearing to Petitioners is supported by substantial evidence and was not arbitrary or capricious. The decision should be upheld on any reasonable basis supported in the record. Contrary to Petitioners' assertion, only one individual from Shrimpers and Vecinos was named in their request for a contested-case hearing. Under TCEQ rules, the Petitioners had the burden of demonstrating their members are affected persons. Based on the two named individuals and the bases for finding an affected-person advanced in the request, the TCEQ reasonably found that Petitioners failed to meet their burden.

[39] ROA.8306.
[40] ROA.8347.
[41] ROA.8372.

Specifically, the Petitioners failed to demonstrate a likely impact from the proposed facility on the health, safety, or use of property of one of their members. They also failed to demonstrate a likely impact on natural resources used by their members.

The TCEQ's finding was consistent with Texas cases applying the affected-person statute and Article III standing principles. The Petitioners' members live and work miles away from the proposed facility and did not allege specific impacts that may affect their health, safety, or other interests. The state cases Petitioners cited do not apply the current affected-person statute. Furthermore, the TCEQ did not require Petitioners to prove the merits of their complaints against the draft permit. While the likely health effects from the proposed site are relevant to the issuance of the permit, the legislature expressly included consideration of the merits of the underlying application in the affected-person analysis. The Article III cases Petitioners cited do not apply here. The proposed facility is miles away from the named members of Shrimpers and Vecinos, and the dispersion of air contaminants from Rio Grande's operations undermines any reasonable geographical nexus for the Petitioners to demonstrate an injury from the proposed site.

Finally, the Court should not reach the merits of Petitioners' complaints about Rio Grande's permit. The Petitioners must first exhaust their administrative remedies, which include the contested-case hearing process. If TCEQ erred in not granting Petitioners' request for a contested-case hearing, the remedy is to remand

to the TCEQ to conduct a contested-case hearing. The permit application will then proceed on a new record based on the contested-case hearing. If the Court finds that the TCEQ did not err in denying Petitioner's request for hearing, they must pursue further review to exhaust their administrative remedies.

STANDARD OF REVIEW

The Natural Gas Act provides exclusive jurisdiction in the U.S. court of appeals to review air-quality permits associated with LNG facilities issued by state agencies pursuant to federal law. 15 U.S.C. § 717r(d). Although the statute does not specify the standard of review for review of state-agency proceedings, courts have applied the standard state agencies would receive under state law. *Twp. of Bordentown, N.J. v. Fed. Energy Regulatory Comm'n*, 903 F.3d 234, 270 (3d Cir. 2018). Accordingly, the Court should look to Texas law to determine the standard of review.

The order in this case was issued pursuant to the TCAA in Chapter 382 of the Texas Health and Safety Code. The statute provides a right to judicial review for commission orders and defines the standard of review as "whether the action is invalid, arbitrary, or unreasonable." Tex. Health & Safety Code § 382.032(a), (e). Texas courts have interpreted this statute as incorporating the standard for suits for judicial review under the Texas Administrative Procedure Act. ("APA"). *United Copper Indus., Inc. v. Grissom*, 17 S.W.3d 797, 801 (Tex. App.—Austin 2000, pet.

dism'd); *Smith v. Hous. Chem. Services, Inc.*, 872 S.W.2d 252, n.2 (Tex. App.—Austin 1994, writ denied).

Under the Texas APA, the reviewing court determines whether administrative findings, inferences, conclusions, or decisions are in violation of a constitutional or statutory provision; in excess of the agency's statutory authority; made through unlawful procedure; affected by other error of law; not reasonably supported by substantial evidence; or are arbitrary or capricious or characterized by abuse of discretion or clearly unwarranted exercise of discretion. Tex. Gov't Code § 2001.174(2).

Under substantial-evidence review, the reviewing court may not substitute its judgment for that of the agency on the weight of the evidence on matters committed to agency discretion. *Slay v. TCEQ*, 351 S.W.3d 532, 549 (Tex. App.—Austin 2011, pet. denied). "'Substantial evidence' does not mean a large or considerable amount of evidence, but such relevant evidence as a reasonable mind might accept as adequate to support a conclusion of fact." *Id.* The test is not whether the agency made the correct conclusion, but whether some reasonable basis exists in the record for the agency's action. *Id.* The reviewing court should uphold an agency's finding even if the evidence preponderates against it, so long as enough evidence suggests the agency's determination was within the bounds of reasonableness. *Id.* The court should consider the reliable and probative evidence in the record as a whole when

testing an agency's findings, inferences, conclusions, and decisions to determine whether they are reasonably supported by substantial evidence. *Heritage on San Gabriel Homeowners Ass'n v. TCEQ*, 393 S.W.3d 417, 424 (Tex. App.—Austin 2012, pet. denied). Courts presume that the agency order is supported by substantial evidence. The party challenging the order has the burden of proving otherwise. *Id.*

TCEQ's finding on whether a person is an affected person is reviewed under the abuse-of-discretion standard. *Sierra Club*, 455 S.W.3d at 222. An agency's decision is arbitrary or results from an abuse of discretion if the agency failed to consider a factor the legislature directs it to consider, considers an irrelevant factor, or weighs only relevant factors that the legislature directs it to consider but still reaches a completely unreasonable result. *City of El Paso v. Pub. Util. Comm'n of Tex.*, 883 S.W.2d 179, 184 (Tex. 1994). Furthermore, "the existence of substantial evidence in the record supporting TCEQ's decision is a factor—often a dispositive factor—in determining whether TCEQ abused its discretion." *Sierra Club*, 455 S.W.3d at 224.

ARGUMENT

I. Petitioners failed to show they were persons affected by Rio Grande's application for an Air Quality Permit, and the ED's draft permit.

a. Oral comments made during the Commission's open meeting are not reviewable; the Court may affirm based on any reasonable basis in the record.

Petitioners reference statements made by the TCEQ commissioners during their deliberations as the "basis" for TCEQ's decision to deny Petitioners "affected person" status. *See* Pet. Br. at 30-31. But this argument ignores established Texas law holding that the remarks of an agency's individual commissioners do not bind the agency. The Austin Court of Appeals summarily rejected the attempt to review an agency order based on statements made by individual commissioners on the record of the hearing. The court held that "it is immaterial what a commissioner may have said or thought in the process of arriving at his decision." *City of Frisco v. Tex. Water Rights Comm'n*, 579 S.W.2d 66, 72 (Tex. App.—Austin 1979, writ ref'd n.r.e.). TCEQ's written order is the measure of what the agency decided. In the order, TCEQ commissioners determined that Petitioners were not "affected persons" pursuant to Chapter 55 and accordingly denied their hearing requests.[42]

On judicial review of an agency final order, the reviewing Court must consider whether some "reasonable basis exists in the record for the action taken by the

[42] ROA.8196.

agency." *City of El Paso*, 883 S.W.2d at 185.[43] Reviewed under this standard, the TCEQ's order is reasonably supported by substantial evidence even though Petitioners describe the TCEQ Commissioners comments as creating an "unlawfully high bar for proving harm at the standing phase." Pet. Br. 31. The Petitioners' singular focus on the commissioners' comments ignores the other evidence in the record that provides reasonable support for the decision. The inquiry for the Court is whether some reasonable basis exists in the record for the agency's action.

b. Petitioners' request for a hearing included only two individuals; additional materials included in reply briefs were not properly raised in the hearing request.

To find that an association is an affected person, the associations must identify by name and physical address one or more individual members with standing to request a hearing in their own right. 30 Tex. Admin Code § 55.205(b)(2). The hearing request must also identify the person's personal justiciable interest affected by the application and why the requestor believes he or she will be adversely affected in a manner not common to members of the general public. 30 Tex. Admin. Code § 55.201(d)(2). This rule ensures a full and fair hearing of the facts supporting the hearing requestor's status as an affected person. Without this rule, hearing requestors

[43] *See also Collins v. Tex. Nat. Res. Conservation Comm'n*, 94 S.W.3d 876, 882 (Tex. App.—Austin 2002, no pet.) ("We will affirm this determination if there is substantial evidence in the record of any permissible ground set out in [the statute authorizing a contested case].").

could wait until their reply to put on the substance of their claims, and thereby deprive the ED, the Office of Public Interest Counsel, and the applicant of the opportunity to respond.

In Petitioners' joint hearing request, they identified Lela Burnell as a member of Shrimpers and Erika Avila as a member of Vecinos as individuals with standing in their own right to request a hearing.[44] The materials related to Ms. Burnell and Ms. Avila in Petitioners' original hearing request were properly before the TCEQ.

However, in their reply to the ED's response to their hearing request, Petitioners identified additional members as persons with standing in their own right to request a hearing, including Jamie Garcia and Amber Thomas.[45] These new claimants were not properly raised in a hearing request, and cannot be considered by the Court. Because Ms. Burnell and Ms. Avila were the only individuals identified by Petitioners in their initial request as the members that would otherwise have standing to request a hearing, TCEQ could only consider Petitioners' request based on facts about these two individuals.

Petitioners also rely on "additional facts and affidavits" included in their reply. Pet. Br. at 21. But this new material was also not properly raised in their original hearing request insofar as it raised new bases to find the hearing requestors

[44] ROA.9323, 9324.
[45] ROA.8190, 8191.

were affected persons. In particular, Petitioners' argument about effects on members based on exceedances of the SIL for one-hour NO_2 was not included in the original request. This Court should consider whether substantial evidence supports TCEQ's finding based on the facts Ms. Burnell and Ms. Avila raised in the Petitioners' original hearing request.

c. TCEQ properly applied the affected-person factors to deny the hearing request submitted by Shrimpers and Vecinos.

The commissioners' decision to deny a contested-case hearing to Petitioners is supported by substantial evidence and was not arbitrary or capricious. The commissioners applied the relevant factors to determine that the Petitioners were not affected persons, and the decision does not reach an unreasonable result. The relevant factors include an analysis for interests that are not common to the general public, the likely impact of the regulated activity on the health and safety of the requestor and on the use of property of the person, and the likely impact of the regulated activity on natural resources used by the person. Tex. Water Code § 5.115(a); 30 Tex. Admin. Code § 55.203(c).

i. The named members of Shrimpers and Vecinos did not demonstrate an interest distinct from that of the general public.

The Commission's decision is supported by evidence that Ms. Burnell and Ms. Avila lived and worked at distances from the facility that made any potential impacts indistinguishable from the general public. Ms. Burnell lives 18 miles from

the facility,[46] and Ms. Avila lives approximately 5.5 miles from the facility.[47] The radius covering Ms. Burnell's proximity to the site would include a large portion of Cameron County. Reducing the radius to 5.5 miles would still include the entirety of the City of Laguna Heights and City of Port Isabel.[48] Thus, the Commission could reasonably conclude that, given the distances Ms. Avila and Ms. Burnell live from the proposed facility, their interests were common to members of the general public.

The named members of Shrimpers and Vecinos also claimed impacts based on work, travel, and shopping in the area of the facility. Ms. Burnell works five miles from the proposed facility at her family's shrimping business, Shrimp Outlet.[49] Ms. Burnell stated that crews on Shrimp Outlet boats travel along the Brownsville Ship Channel past the proposed facility.[50] But she did not indicate that she is on board these boats. Her statement provides only that she works at Shrimp Outlet and docks her boats there.[51] Nevertheless, the Brownsville Ship Channel is used by many other individuals and businesses. Ms. Avila works at a seafood restaurant on South Padre Island, miles away from the proposed facility.[52] She travels on State Highway 48 past the proposed facility to conduct various activities and State Park Road 100 to

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[46] ROA.9324.
[47] ROA.9323.
[48] ROA.7609. A higher quality version of the map included in the ED's Response to Hearing Requests is attached to this brief as Appendix 1 and is incorporated herein by reference.
[49] ROA.9324.
[50] *Id.*
[51] *Id.*
[52] ROA.9323.

work.[53] But again, use of a public highway is not distinct from an interest shared by the general public.

Although the other individuals identified in Petitioners' reply were not properly identified in a request for hearing, these individuals also failed to establish an interest distinct from the general public. Amber Thomas indicated that she works at Burnell Marine Supply and travels on State Highway 48 for work and other activities.[54] Jaime Garcia stated that he is a commercial fisherman who uses the Brownsville Ship Channel every night and passes by the proposed site.[55] The use of the public roads and the channel near the facility does not distinguish their interests from the general public.

Petitioners also cited to several cases in which the administrative law judge at a SOAH proceeding admitted requestors who lived four to five miles from a proposed facility.[56] The facts of these cases are not in the record and were not before the commissioners. TCEQ did not consider prior permitting decisions for different facilities. Moreover, the affected-person decisions Petitioners cited were made at SOAH, not by the TCEQ commissioners in determining whether to grant or deny a hearing request. With the material properly raised by the Petitioners and other

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[53] *Id.*
[54] ROA.8191.
[55] ROA.8190.
[56] ROA.8180.

parties, the commissioners could reasonably conclude that Petitioners failed to satisfy the requirement for impacts that are not common to the general public.

ii. The named members of Shrimpers and Vecinos did not show a likely impact of the regulated activity on their health and safety.

The Petitioners' request for hearing included concerns about health effects from the proposed facility. Evidence in the record supports a finding that impacts of the regulated activity on the health and safety of the requesting person are unlikely.

The person seeking a contested-case hearing has the burden of offering evidence to the Commission to support a showing on any of the factors TCEQ is required to consider. *City of Aledo*, 2015 WL 4196408, at *4.[57] Ms. Burnell and Ms. Avila included no evidence of specific health concerns or ailments that might be affected by emissions from the proposed facility. Ms. Burnell stated only that she "is concerned that the LNG facility's emissions will have a negative impact on her and her crews' health and that her safety will be threatened by the risk of accidents and explosions."[58] Ms. Avila likewise expressed concern "about the impacts of increased air pollutants and risk of accidents and explosions from the proposed

[57] *See also TCEQ v. Bosque River Coal.*, 413 S.W.3d 403, 408 (Tex. 2013) (finding "no indication that the Commission refused to consider any evidence tendered to substantiate the[ ] asserted deficiencies" in the permit application); *Sierra Club*, 455 S.W.3d at 224 (finding that substantial evidence supporting the TCEQ's finding on affected person status is often dispositive "as long as the hearing requestor was afforded its regulatory rights to express his dissatisfaction with the proposed license and the agency did not refuse to consider the **evidence offered** in support of that dissatisfaction.") (emphasis added).
[58] ROA.9324.

facility on her health and safety."[59] These general statements did not provide the Commission any evidence to find likely health effects for the named individuals of Vecinos and Shrimpers, such as specific ailments or sensitivities to the type of emissions anticipated from the proposed facility.

In their reply, the Petitioners added additional health-effect concerns, and arguments based on the SIL screening tool used in the permitting process. Even if this additional evidence were properly raised in a hearing request, the commissioners could reasonably find that the information did not demonstrate a likely health effect.

First, Ms. Burnell's affidavit stated: "I am concerned that air pollution from the facility will impact my health."[60] Ms. Thomas' affidavit stated: "I have concerns about the air quality impacts of the LNG facility because of their potential health effects on me and my family."[61] Mr. Garcia's affidavit stated: "I am concerned about the impact on wildlife and my health."[62] Again, these general statements do not show any specific health effects to be likely as a result of the proposed facility.

Second, Petitioners pointed to Rio Grande's modeling that showed an expected exceedance of the SIL for one-hour NO_2 extending 22.98 kilometers from the proposed facility.[63] However, this screening analysis conducted as part of the

[59] ROA.9323.
[60] ROA.8189.
[61] ROA.8191.
[62] ROA.8190.
[63] ROA.5336.

modeling cannot support a finding that emissions from the Rio Grande facility will have an impact on the Petitioners' health or safety.

EPA developed the SILs as a screening tool. The first step in a NAAQS analysis under the PSD program is to compare modeled predictions associated with project emissions under a worst-case-scenario to the SIL level. If the modeled predictions are under the SIL, the NAAQS demonstration is complete.[64] If the modeled predictions exceed the SIL, the applicant must conduct a full NAAQS analysis.[65] The SILs are not intended as a measure of health effects. The EPA sets primary NAAQS at levels "the attainment and maintenance of which in the judgment of the Administrator, . . . allowing an adequate margin of safety, are requisite to protect the public health." 42 U.S.C. § 7409(b)(1). The SIL for one-hour NO_2 is four percent of the primary NAAQS.[66] The SIL calculation for Rio Grande showed the maximum predicted ground-level NO_2 concentration at roughly twice the SIL, which is still just a small fraction of the NAAQS.[67]

The effects and proper uses of air modeling analysis are within the expertise of the Commission. It was not an abuse discretion for the Commission to find that emissions exceeding the *de minimis* SIL, under worst-case conditions, were

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[64] TCEQ, Air Quality Modeling Guidelines (September 2018) pp. 19-20, available at https://www.tceq.texas.gov/assets/public/permitting/air/Modeling/guidance/airquality-mod-guidelines6232.pdf.
[65] *Id.*, p. 20.
[66] ROA.6365.
[67] ROA.6366.

insufficient to show likely health effects for the Petitioners' members. Moreover, as noted above, this claimed health effect was not raised in Petitioners' request for hearing, but only in their reply.[68] By not stating concerns based on the SIL analysis until their reply, Petitioners failed to raise the issue in their request for hearing.

iii. The named members of Shrimpers and Vecinos did not show a likely impact of the regulated activity on their use of property.

The Petitioners' request for hearing included concerns about effects on the proposed facility on the use of property. Evidence in the record supports a finding that impacts of the regulated activity on the property of the requesting persons are unlikely.

Ms. Burnell and Ms. Avila included no evidence of an impairment to their use of property from emissions authorized under TCEQ's permit. Ms. Burnell stated that she is concerned that "the negative aesthetic, health, and safety impacts of the proposed Rio Grande LNG facility will harm her shrimp business by leading to a reduction in the number of people who come in to buy shrimp."[69] However, this alleged harm to her business is speculative. In addition, the factor related to the use property allows the TCEQ to consider the "likely impact **of the regulated activity** … on the use of property of the person." 30 Tex. Admin. Code § 55.203(c)(4)

[68] ROA.8183-8188.
[69] ROA.9324.

(emphasis added). The potential impacts concerning market effects raised by Ms. Burnell are attenuated and derivative of the regulated activity.

Ms. Burnell also mentioned that she docks her boats at the Shrimp Outlet.[70] But she did not describe how use of her boats will be impaired. The permit TCEQ issued does not authorize any discharges or impacts to Brownsville Ship Channel or other waterways. Ms. Avila did not list any concerns related to the use of property in the request for hearing.

In their reply, Petitioners included additional property concerns. Although not properly raised in their hearing request, these concerns also failed to show a likely impact to the use of property. Ms. Burnell repeated her concerns about effects on her family's business from the loss of customers.[71] Mr. Garcia stated that he passes the proposed facility when fishing in the channel.[72] But again, these statements do not show an effect on property from the regulated activity.

Petitioners raised no evidence to support a finding of a likely impact of the regulated activity on the use of their property. The commissioners reasonably found no likely effects on the use of property owned by the requestors.

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[70] *Id.*
[71] ROA.8189.
[72] ROA.8190.

iv. The named members of Shrimpers and Vecinos did not show a likely impact of the regulated activity on the members' use of natural resources.

Finally, the Petitioners did not raise any issue regarding impacts on natural resources used by their members. In their hearing request, Ms. Burnell stated concern about the "negative aesthetic, health, and safety impacts of the proposed Rio Grande LNG facility."[73] But these concerns were connected to her customer's aesthetic interests in the area. For a group or association to qualify as an affected person, it must identify by name and physical address one or more member that would have standing to make the request in their own right. 30 Tex. Admin. Code § 55.205(b)(2). Ms. Burnell did not identify any impacts on natural resources that she used. Ms. Avila did not state any concerns based on the use of natural resources.

Although not properly raised in the hearing request, Ms. Burnell stated in her affidavit attached to Petitioners' reply that "members of [Shrimpers] are recreational fisherman who fish in the Ship Channel close to the proposed facility and rely on that fishing for food."[74] She also stated concern about customers "who visit the area for its clean environment."[75] Again, these are impacts on other, unnamed individuals. Jaime Garcia stated that he is a commercial fisherman who uses the

[73] ROA.9324.
[74] ROA.8189.
[75] *Id.*

Brownsville Ship Channel for fishing every night and passes by the proposed site.[76] He also expressed concern about impacts to wildlife.[77] But again, the use of the ship channel is not impaired under Rio Grande's permit, and Mr. Garcia did not identify any specific resources that would likely be impacted by the proposed facility. The permit does not authorize any impacts on the Brownsville Ship Channel. Ms. Thomas also stated that members of Shrimpers use the ship channel for fishing.[78] But again, this failed to show a personal impact. Thus, Petitioners raised no evidence to support a finding of a likely impact of the regulated activity on natural resources used by the requestor. The commissioners could reasonably find no likely impacts on natural resources used by the requestors.

d. TCEQ did not require Petitioners to prove the merits of their complaints against the decision to issue the permit; cases cited by Petitioners did not apply the current law.

Petitioners argue that the commissioners applied the wrong legal standard in denying the hearing requests based on evidence that the permit is "protective of public health and the environment at the fenceline." Pet. Br., p. 31. Petitioners cited several Texas cases for the proposition that they were not required to prove the merits of their claims to qualify as affected persons. This argument fails for two reasons.

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[76] ROA.8190.
[77] *Id.*
[78] ROA.8191.

First, as shown above, the Court does not review the decision based on oral comments made at TCEQ's meeting. The order must be upheld on any reasonable grounds supported in the record. Rio Grande's demonstration that emissions would not cause or contribute to an exceedance of the NAAQS or exceed any of the ESLs at the fenceline was certainly relevant to the analysis. *See* Tex. Water Code § 5.115(a-1)(1)(A) (allowing the Commission to consider "the merits of the underlying application"). The emissions modeling included in the application was relevant for likely health impacts, not just for the ultimate issue of whether Rio Grande met the PSD requirements for a permit. There is nothing in the record to suggest that the Commission required Petitioners to prove that the draft permit was not protective of NAAQS. In addition, Petitioners failure to produce evidence of impacts on their health, property, or natural resources not common to the general public, as well as their distance from the proposed facility, provided the Commission independent grounds to find Petitioners were not affected persons.

Second, these cases did not apply the most recent changes to the statute enacted in 2015 intended to limit the number of contested-case hearings. Nevertheless, the analysis of affected-person claims in these cases supports TCEQ's decision. In 2015, the legislature amended Section 5.115 by adding (a-1)(1), which expressly authorized the Commission to consider the merits of the underlying application, insofar as they are relevant to the affected-person analysis, the analysis

of the ED, as well as the likely impact of the regulated activity on the health and safety of the requestor, and the use of property.[79] Under subsection (a-1)(2), the 2015 amendments also codified the associational standing principles and added the limitation for hearing requests to individuals who had also submitted public comments.[80]

In *Heat Energy Advanced Tech., Inc. v. W. Dall. Coal. for Envtl. Justice*, 962 S.W.2d 288, 295 (Tex. App.—Austin 1998, pet. denied), the hearing requestor demonstrated clear and immediate impacts that TNRCC ignored. One member of the organization testified that his home was one and a half blocks from the facility, that he was already subject to odors from the facility, and that he had sought medical attention for throat problems caused by the odors. *Id.* The company was seeking to renew its permit under the Solid Waste Disposal Act to continue the same activities. *Id.* at 289. Such specific and direct impacts from Rio Grande's proposed facility are absent from the record before this Court.

In *United Copper Indus., Inc. v. Grissom*, 17 S.W.3d 797, 804 (Tex. App.—Austin 2000, pet. dism'd), the court reversed denial of a contested-case hearing made under a provision allowing TCEQ's predecessor agency to deny a hearing it determined to be "unreasonable," even if requested by an affected person. The court

[79] Act of May 23, 2015, 84th Leg., R.S., ch. 116, § 2, 2015 Tex. Gen. Laws 116, 116.
[80] *Id.*

took issue with the agency's denial of the request on this "unreasonable" basis without providing the requestor an opportunity to put on evidence. *Id.* at 804. This case is no longer applicable because the legislature repealed that provision in 1999.[81] Moreover, in this case TCEQ provided an opportunity for Petitioners to put on evidence in their hearing request.

In *Collins*, the court affirmed the agency in a decision denying a contested-case hearing for a permit to install a wet waste-management system at a poultry operation. *Collins v. Tex. Nat. Res. Conservation Comm'n*, 94 S.W.3d 876, 879 (Tex. App.—Austin 2002, no pet.). While the court repeated the proposition that the requestor is not required to prove they will prevail on the merits of their claims against the permit, citing *Grissom*, it also recognized the requestor's burden to present specific evidence of impacts on the permissible grounds set by statute. *Id.* at 882. Even though Collins' home was only 1.3 miles from the proposed facility, the court found that his concerns for air quality were unfounded because the facility qualified for a standard air permit that did not allow for a contested-case hearing. *Id.* at 883. His concerns for groundwater contamination were likewise unfounded because the agency had competent evidence from the applicant indicating that the proposed lagoon system was environmentally superior to the existing system at the

[81] Act of May 30, 1999, 76th Leg. R.S., ch. 1350, § 1, 1999 Tex. Gen. Laws 4570, 4570 (striking a sentence from Tex. Water Code § 5.115(a)).

site. *Id.* Even though these cases did not apply the current version of Texas law on contested-case hearings, they support TCEQ's order in this case where the requestors live miles from the proposed facility and failed to identify specific impacts that differentiated them from the general public.

Finally, *Save Our Springs All., Inc. v. Lowry*, 934 S.W.2d 161, 162 (Tex. App.—Austin 1996, orig. proceeding) does not apply because this case involved a statutory grant of standing in the Texas Open Meetings Act, which provided a cause of action to enforce the act to an "interested person." The *Lowry* court recognized that the act conferred "more expansive standing" than provided under the general rule. *Id.* at 163. As a result, the plaintiff organization was not required to show that its members would be impacted differently from the general public. *Id.* The legislature intended the opposite in this case by expressly providing that affected persons must demonstrate an interest that is not common to members of the general public. Tex. Water Code § 5.115(a).

e. Petitioners did not put forward evidence of a justiciable interest distinct from the general public to satisfy Article III.

Petitioners also argue that they demonstrated a sufficient injury and connection to the site to satisfy Article III standing requirements. The cases cited by Petitioners are not applicable.

In *LaFleur v. Whitman*, the petitioners challenged the EPA's decision not to object to the issuance of an operating permit to a refuse-to-fuel facility. 300 F.3d

256, 270 (2d Cir. 2002). The facility owner challenged one petitioner's standing on the ground that emissions from the facility would not exceed the NAAQs. *Id.* at 269. The Second Circuit rejected this argument and held that the petitioner who worked in a shopping center directly adjacent to and lived only a few blocks away from the proposed facility had shown an injury-in-fact. *Id.* at 270. But in this case, the Petitioners' members live and work miles from the proposed facility. The commissioners could reasonably find that at such distances, the impacts from the proposed facility were indistinguishable from the general public. Also, *LeFleur* and the other Article III cases Petitioners cited did not involve a fact-finding by an agency with expertise in the subject matter like this case.

Environmental interests can only support an injury in fact if they have actually been harmed or imminently will be. *Ctr. for Biological Diversity v. U.S. EPA*, 937 F.3d 533, 537 (5th Cir. 2019). Petitioners cite to language in two federal Clean Water Act citizen suit cases for purposes of defining the bounds of standing for recreational, aesthetic, and economic interests: *Friends of the Earth, Inc. v. Laidlaw Envtl. Servs.*, 528 U.S. 167 (2000) and *Sierra Club v. Cedar Point Oil Co. Inc.*, 73 F.3d 546, 555-56 (5th Cir. 1996). But these cases are not applicable. In *Cedar Point Oil*, two of the plaintiff group members lived in the area of unlawful discharges into Galveston Bay and all used the bay for recreational activities. 73 F.3d at 556. These specific activities were impaired by unlawful discharges into the water. But in this

case, Petitioners have not identified any specific recreational or aesthetic interests of their members that will be impaired by air emissions from the proposed Rio Grande facility.

Moreover, in *Cedar Point*, the Court analyzed standing to bring a Clean Water Act citizen suit for pollution from the defendant's drilling activities. The Court required the plaintiffs to demonstrate that the defendant: 1) discharged some pollutant in concentrations greater than allowed by its permit; 2) into a waterway in which the plaintiffs have an interest that is or may be adversely affected by the pollutant; and that 3) the pollutant causes or contributes to the kinds of injuries alleged by the plaintiffs. *Id.* at 557. In this case, Petitioners focused on the requirements for a geographical nexus to show an injury-in-fact, but they ignored the first and third parts of the test. And on those points, Petitioners arguments fail: Rio Grande's proposed facility has not yet been constructed, and therefore cannot produce emissions in exceedance of its permit; and Petitioners have not shown evidence of imminent injury from the proposed facility's emissions.

In *Center for Biological Diversity*, several of the petitioners failed to meet the geographical nexus requirement for Article III standing because they alleged recreational interests in the western and central portions of the Gulf of Mexico. The Court found these interests too broad to confer standing. *Ctr. for Biological*

Diversity, 937 F.3d at 539. Likewise, Petitioners in this case lack a geographical nexus to a source of air emissions that is 5.5 miles and 18 miles from their members.

Petitioners relied on the truism that any emissions from Rio Grande's facility would adversely impact their health. This reasoning is the same as the reasoning posited by plaintiffs in *Friends of the Earth, Inc. v. Crown Cent. Petroleum Corp.*, 95 F.3d 358, 362 (5th Cir. 1996) where plaintiff argued that because water necessarily flows downstream, its members would be negatively impacted by a refinery's discharges at least 18 miles upstream. This Court rejected that inferential argument: "At some point this common sense observation becomes little more than surmise. At that point certainly the requirements of Article III are not met." *Id.* at 361. Here, Ms. Burnell lives 18 miles and works five miles away from the proposed facility, and Ms. Avila is located 5.5 miles from the facility.[82] They allege that they will travel around the proposed facility. But these factors are not sufficiently different from those of the general public.

Finally, *Northern Arapaho Tribe v. Ashe*, 925 F. Supp. 2d 1206 (D. Wyo. 2012) doesn't apply because the suit concerned the tribe's ability to procure eagles for religious purposes. The agency being sued had delayed the issuance of eagle take permits, and the tribe alleged that it was harmed by this action because the tribe had to incur additional travel expenses to procure eagles. *Id.* at 1214. Here, the

[82] ROA.9324.

Petitioners are not bearing additional expenses, travel or otherwise, as a result of Rio Grande's proposed facility.

II. The merits of TCEQ's order granting Rio Grande's air quality permit are not before the Court.

In their second issue, Petitioners seek to reverse TCEQ's permit based on alleged deficiencies under the PSD program, including additional impacts analysis, emissions estimates, and BACT analysis. Pet. Br., pp. 41-54. The issue before the Court is whether TCEQ erred in denying Petitioners request for a contested-case hearing. However the Court decides that issue, the merits of the permit are not before the Court. If the Court determines that TCEQ erred in denying Petitioners a contested-case hearing, the matter must be remanded so that a hearing can be conducted. If the Court determines that TCEQ did not commit error, then the order should stand because the permit was properly handled as an uncontested matter.

Where, as here, the Texas Legislature has given an administrative agency the authority to make an initial determination, the complaining party must exhaust all available administrative remedies to the fullest extent before seeking judicial relief. *Tex. Educ. Agency v. Cypress-Fairbanks Indep. Sch. Dist.*, 830 S.W.2d 88, 90 (Tex. 1992); *see also Sierra Club v. TCEQ*, No. 03-14-00130-CV, 2016 WL 1304928, at *4 (Tex. App.—Austin Mar. 31, 2016, no pet.) ("Because TCEQ has exclusive original jurisdiction over this dispute and the Legislature has provided for the contested case hearing remedy, appellants were required to fully participate in that

hearing before seeking judicial review… ."). This requirement is jurisdictional, and failure to exhaust deprives courts of subject matter jurisdiction over a claim. *See Subaru of Am., Inc. v. David McDavid Nissan, Inc.*, 84 S.W.3d 212, 221 (Tex. 2002).

Texas courts may not consider a party's challenge to the merits of a permit if those issues have not been tried first in a contested-case hearing. *See Chocolate Bayou Water Co. v. Tex. Nat. Res. Conservation Comm'n,* 124 S.W.3d 844, 855 (Tex. App.—Austin 2003, pet. denied) ("This Court may not properly review appellants' complaints because they were not first brought in a contested-case hearing"); *see also Rawls v. TCEQ*, No. 11-05-00368-CV, 2007 WL 1849096, at *3 (Tex. App.—Eastland June 28, 2007, no pet.) (holding that the comment procedure was not a substitute for a contested case hearing in obtaining judicial review).[83] Further, in an appeal brought under the Natural Gas Act, the only remedy provided is remand to the agency.[84] 15 U.S.C. § 717r(d)(3).

If Petitioners succeed on their challenge to TCEQ's denial of their contested-case hearing request, their merits issues will be properly considered in a contested-

[83] Federal law on exhaustion of remedies provides the same: "Generally, when an agency's regulations require issue exhaustion in administrative appeals, an issue not presented to the administrative body cannot be asserted for the first time in federal court." *AAA Bonding Agency, Inc. v. U.S. Dep't of Homeland Security*, 447 Fed. App'x 603, 612 (5th Cir. 2011) (citing *Sims v. Apfel,* 530 U.S. 103, 108 (2000).

[84] Specifically, the act provides that, where the state determination cannot be upheld, this Court should remand the proceeding with directions to "take appropriate action consistent with the order of the Court … ." 15 U.S.C. § 717r(d)(3).

case hearing at the TCEQ. Therefore, this Court should reject Petitioners challenges to the merits of Rio Grande's permit and limit its review to TCEQ's denial of Petitioners contested-case hearing request.

CONCLUSION

The TCEQ's decision denying a contested-case hearing to Shrimpers and Vecinos was not arbitrary or capricious and is supported by substantial evidence in the record. The Court should affirm TCEQ's order denying Petitioners' request for a contested-case hearing and affirm issuance of Rio Grande's permit.

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CERTIFICATE OF SERVICE

I certify that on October 9, 2019, the foregoing document was served, via the Court's CM/ECF Document Filing System, https://ecf.ca5.uscourts.gov/, upon the following registered CM/ECF users:

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